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## **Section 1.0 Introduction**

### **1.1 Introduction**

Condor Environmental Planning Services, Inc. (Condor) was retained by Santa Barbara County Planning & Development Department in March 2003 to prepare a planning study for the Gaviota Coastal Trail. This trail is planned by Santa Barbara County and the State of California to be one segment in the De Anza Trail, also known as “The California Coastal Trail”, which is proposed to extend along the entire coast of California. The objective of this study is to determine several feasible options for the 14.5 mile segment of the trail between the Bacara Resort in western Goleta, and Canada San Onofre, near Gaviota State Park. The northern boundary of the study area is approximately 1,000 feet north of U.S. Highway 101, and the southern boundary is the mean high tide line of the Pacific Ocean (Figure 1-1). The study is funded by two grants from the State of California Resources Agency.

#### ***1.1.1 Federal Mandate***

In recognition of the historic route taken by Spanish explorer Captain Juan Bautista de Anza, the United States Congress amended the National Trail System Act (16 USC 1244(a)) on August 15, 1990 with Public Law 101-365. This law authorizes the National Park Service to coordinate implementation of the Coastal Trail.

Between 1775 and 1776, the De Anza expedition traveled 1,200 miles overland from Sonora, Mexico to San Francisco, California. Making their way down the Santa Clara River in Ventura County, the expedition reached the coast at Ventura and traveled north to Rincon Point along the approximate route of present day U.S. 101. According to “Font’s Complete Diary”, the trail followed the beach and bluff top from Rincon Point to Tajiguas Creek. When they reached “Rancheria Nueva” (Tajiguas Creek), the group followed the bluff top until they reached “Gaviota” (Sea Gull) Canyon, which is the present day site of Gaviota State Park.

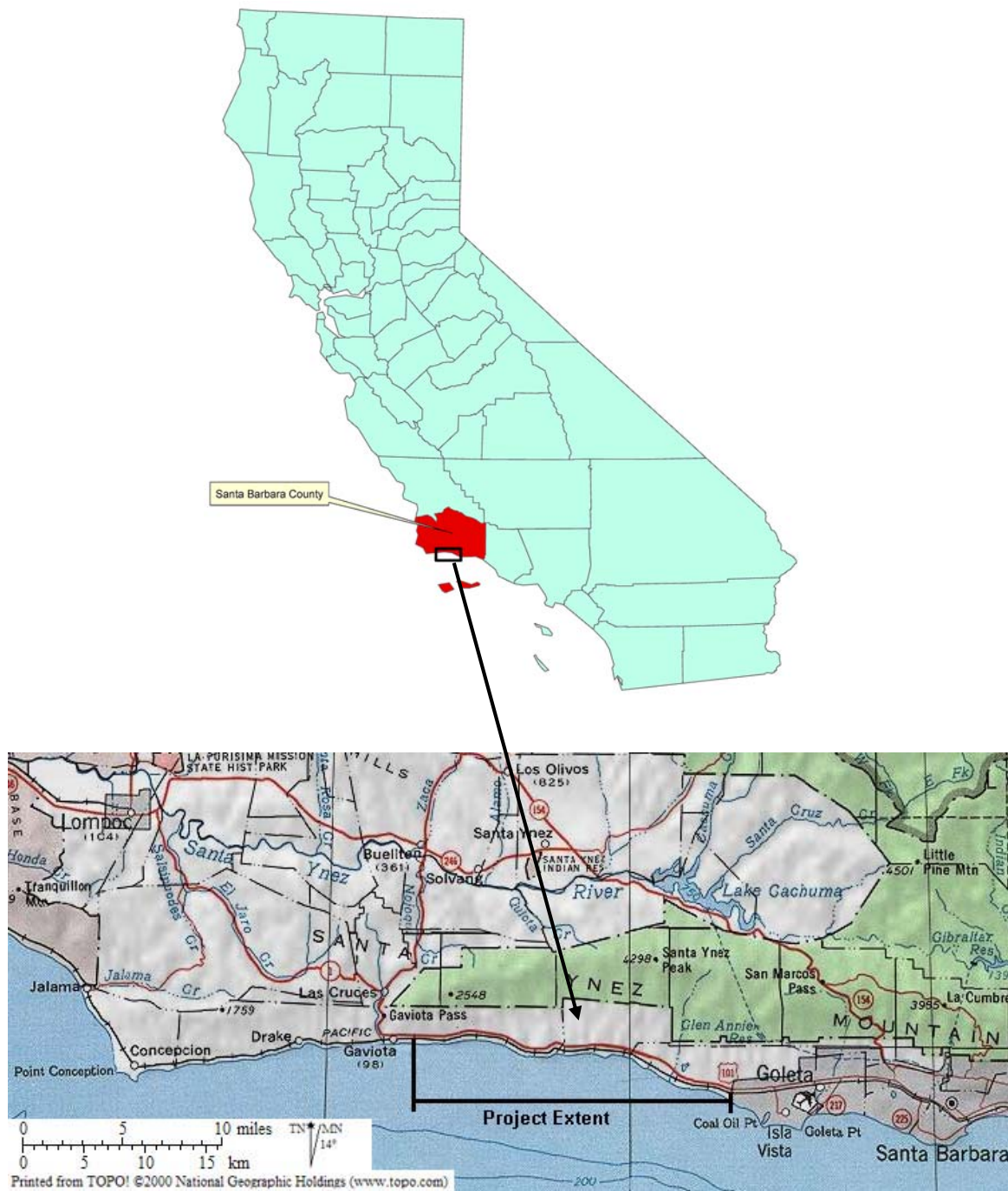


Figure 1-1: Regional Map of the Gaviota Coast, showing the project extent.



### **1.1.2 State Mandate**

The State of California has mandated construction of “The Coastal Trail”, a trail for pedestrian, equestrian, bicyclist, and other non-motorized travel for public enjoyment along the entire coast of California. This is identified in California Public Resources Code, Sections 31408 and 31409 (See Appendix 1.). The Coastal Trail Working Group (comprised of the Coastal Commission, State Parks, Coastal Conservancy and Coastwalk, Inc.) approved a definition of the trail and its objectives on August 28, 2001. These are quoted below.

#### **California Coastal Trail Project Goals and Objectives**

Approved August 28, 2001 by the Coastal Trail Working Group\*

\*Coastal Commission, State Parks, Coastal Conservancy, Coastwalk, Inc.

#### Definition of the Coastal Trail

A continuous public right-of-way along the California coastline; a trail designed to foster appreciation and stewardship of the scenic and natural resources of the coast through hiking and other complementary modes of non-motorized transportation.

#### The Goal of the Coastal Trail Project

The goal of the Coastal Trail Project is to complete the California Coastal Trail. To that end, the Coastal Trail Project will bring together public agencies and private organizations to create a statewide program to design, fund and implement the Coastal Trail.

#### Coastal Trail Project Objectives

1. Provide a continuous trail as close to the ocean as possible, with vertical access connections at appropriate intervals and sufficient transportation access to encourage public use.
2. Foster cooperation between State, local and federal public agencies in the planning, design, signing and implementation of the Coastal Trail.
3. Increase public awareness of the costs and benefits associated with completion of the Coastal Trail.
4. Assure that the location and design of the Coastal Trail is consistent with the policies of the California Coastal Act and local coastal programs, and is respectful of the rights of private landowners.
5. Design the California Coastal Trail to provide a valuable experience for the user by protecting the natural environment and cultural resources while providing public access to scenic vistas, wildlife viewing areas, recreational or interpretive facilities and other points of interest.
6. Create linkages to other trail systems and to units of the State Park system, and use the Coastal Trail system to increase accessibility to coastal resources from urban population centers.

### **1.1.3 Santa Barbara County Policy**

The Coastal Trail has been a part of the County’s Comprehensive Plan and Local Coastal Plan since their respective legislative adoptions in 1980 and 1982, as shown on the County’s Parks, Recreation, and Trails (PRT) Map. This map illustrates the proposed location of the coastal trail along most of the county’s coastline, namely, from Rincon



Point to Jalama Beach County Park. The County's proposed Coastal Trail corresponds closely with the historic De Anza Trail.

The proposed *equestrian* portion of the trail relies on beachfront throughout most of the urban areas of Santa Barbara, moving up on to the bluffs on the Gaviota Coast, just as De Anza's expedition, because of the narrow rocky beaches. Avoiding Vandenberg Air Force Base entirely, from Jalama Beach, the trail would head north along Jalama Road to Highway 1 and continue north along the highway to Guadalupe. The adopted PRT map also shows proposed trails up to the mountains along Las Varas, Arroyo Hondo, and San Onofre Canyons, and at Gaviota State Park.

Once the segment from Rincon Point to Gaviota State Park is completed, the Coastal Trail will be approximately 43 miles long, travel through three cities (Carpinteria, Santa Barbara and Goleta), and along side or through the Carpinteria Bluffs, Tar Pits Park near Carpinteria State Park, Carpinteria City Beach, Carpinteria Salt Marsh Reserve, the Andree Clark Bird Refuge, Santa Barbara City College, near the historic Mission of Santa Barbara, Goleta Slough, the University of California, Isla Vista, Devereux Slough, the Ellwood Mesa, El Capitan State Park, Refugio State Park and Gaviota State Park. Much of this route will take in views to the south of Channel Islands National Park, the Pacific Ocean, a National Marine Sanctuary, and views to the north of the Los Padres National Forest. The trail will provide local users and visitors with an incomparable coastal experience.

The terms "*De Anza Trail*", "*California Coastal Trail*", and "*Coastal Trail*" are used interchangeably in this document since all three names are commonly used.

#### **1.1.4 Objective of the Study**

*The objective of this study is to determine feasible options for the route of the California Coastal Trail between Bacara Resort and Canada San Onofre on the Gaviota Coast. Because the section between El Capitan Ranch and Refugio State Beach is already constructed, it is not evaluated in this study.*

The specific tasks that are undertaken in this study are:

- ❖ Locate and describe several trail alignment options.
- ❖ Identify existing public roads and other public rights-of-way that can be used.
- ❖ Identify affected property owners.
- ❖ Describe the relevant policies of the State and County.
- ❖ Describe the environmental constraints on each of the alignments.
- ❖ Estimate the costs of construction and easement acquisition.
- ❖ Recommend and prioritize specific trail alignments.



### ***1.1.5 Progress to Date***

Santa Barbara County has been working on planning, acquisition, and construction of the trail since the 1970s. The 14 mile segment between the Andrea Clark Bird Refuge in the City of Santa Barbara and Isla Vista has been completed. Furthermore, the 4.5-mile segment between the east side of El Capitan Ranch and Refugio State Beach has been completed by the State Department of Parks and Recreation and the Santa Barbara County Parks Department. Finally, a new segment through Gaviota State Park and the to-be-decommissioned Gaviota Marine Terminal is currently in its final engineering design phase.

An informal network of intermittent trails currently extends westerly from Isla Vista through the Ellwood-Devereux area out to Santa Barbara Shores Park owned by the City of Goleta, approximately 1.5 miles east of the Bacara Resort. The future location of the Coastal Trail through the Ellwood-Devereux area, including Santa Barbara Shores Park will be determined by a joint planning process of the City, County, and UCSB currently under way.

### ***1.1.6 Next Steps***

The next segment to be completed is the Gaviota Coast between the Bacara Resort and Canada San Onofre, a distance of 14.5 miles. The realization of the Coastal Trail will require a funded, persistent and deliberate effort from the County and State.

### ***1.1.7 Project History***

Much of the work presented in this report was performed by John V. Stahl and Associates (JVSA) in 2002. JVSA was hired by the County to identify potential trail alignments for the trail between the Bacara Resort and Arroyo Hondo. Condor has been retained by the County to refine JVSA's work, to extend the geographic extent of the study 2.5 miles to the west to Canada de San Onofre, and to complete the feasibility analysis portion of the trail planning effort (Figure 1-2).



Figure 1-2: Project Extent.



### ***1.1.8 JVSA Methodology***

JVSA mapped the extent from Bacara to Arroyo Hondo utilizing the latest technology available in aerial surveying. The study area was flown at a metric scale of 1 meter: 2,000 meters utilizing ground control based on NAVD 88 and NAD 83.

An Autocad 14-computer program was used to incorporate layers of map data requested by the County. Digital contours and planimetric features were mapped at a two-meter contour interval.

After initial mapping efforts were completed, JVSA, under direction of Planning & Development and in consultation with County Parks Department and the State Department of Parks and Recreation, prepared several potential trail alignments through the Bacara to Arroyo Hondo study area.

After these alignments were prepared, JVSA and County staff met with affected property owners to receive their initial comments on the trail alignments proposed on or along their property. (As is usual in the case of constructing public trails across or adjacent to private property, the property owners were not very receptive to these proposals. The County of Santa Barbara's intentions are to work with the property owners to establish acceptable trail alternatives, which meet public goals.)

JVSA provided a programmatic level of environmental analysis of the potential impacts caused by the construction of the Coastal Trail. This environmental analysis used only environmental documents that existed prior to 2001. No new environmental analysis was done by JVSA. The analysis covered the following issue areas: Geology and Soils, Water Resources and Flooding, Transportation and Circulation, Air Quality, Biological Resources, Historical and Cultural Resources, Noise, Land Use, and Aesthetics and Visual Resources. Both the existing environmental setting and the impacts associated with acquisition and construction were evaluated. Mitigation measures to minimize impacts were recommended to the County.

JVSA identified two specific areas between the Bacara Resort and Arroyo Hondo that require a specific engineering survey and analysis to confirm that construction at these locations are actually feasible. These design studies were done by JVSA. One of these is included in this report and the other was rejected as it is not feasible.

### **1.1.9 Condor Methodology**

Condor Environmental conducted an analysis of the feasibility of constructing a paved bike path between the highway and the railroad between Refugio and San Onofre Canyons. In so doing, Condor prepared preliminary engineering feasibility and cursory environmental analyses for this section. Condor also conducted an analysis of the feasibility of constructing the equestrian trail between Refugio and Canada San Onofre on the north side of the highway. The methodology for each of these components is described separately below.

#### **Engineering Feasibility Analysis and Trail Design**

MAC Design, Inc. (MAC), as a subconsultant to Condor, evaluated the conceptual engineering feasibility of the study. MAC also conducted a preliminary survey with Condor to identify potential locations for the equestrian trail on the north of the U.S. 101. MAC contacted Caltrans. Condor followed this up with contacting Caltrans, Union Pacific Railroad, and the Public Utilities Commission to determine pertinent information, such as their respective rights of way and policies regarding construction of trails next to the highway and railroad, and crossing the railroad.

MAC visited the site in April 2003 and March 2004 to determine if it is feasible to build the bike path between the highway and the railroad, and to identify critical areas for additional analysis.

The County provided topographic contour information for the Arroyo Hondo to San Onofre extent from NOAA. MAC obtained contour lines, at 2m intervals from the NOAA LIDAR dataset ([www.csc.noaa.gov/crs/tcm/instructions.html](http://www.csc.noaa.gov/crs/tcm/instructions.html)) and used the contours and the aerial photograph to plot a conceptual trail alignment of the Class I bike path between Arroyo Hondo and Cañada San Onofre between the railroad and the highway.

Condor mapped two trail alignments for the equestrian trail north of the highway. The two alternatives for the equestrian trail north of the Highway are designed at a gross conceptual level using aerial photographs and available topographic information (LIDAR contours and USGS topographic maps at 1 inch = 2,000 foot scale). One route is contained within Caltrans Right of Way close to the highway, and the other is located further from the highway, using public and private roads where they exist. In some segments, these two alignments are in the same location. Pedestrians could use either of the two equestrian trail options, or the bike path south of the highway. The entire length of the bike path would be ADA accessible; whereas, the equestrian trail would be consistent with ADA guidelines by being accessible over most of its route, except where steep terrain cannot be avoided. (ADA guidelines are discussed later in this document.)



Using AutoCAD 2000, MAC generated six cross sections in order to demonstrate the feasibility of constructing a paved bike path between the railroad and the highway. These are provided in Section 2.0. Two of these are located between the Bacara Resort and Arroyo Hondo, and four are located between Arroyo Hondo and San Onofre.

#### **Cross Section Locations**

1. 1000 feet east of the Tajiguas Beach turnoff
2. 1,750 feet east of Tajiguas Beach turnoff (The narrowest section of the route.)
3. Arroyo Hondo
4. Between Canada de la Posta and Guillermo Canyon
5. Molino Canyon
6. Canada de Las Zorrillas

#### **Environmental Analysis and Planning**

Condor conducted a preliminary environmental review of the Arroyo Hondo to Cañada San Onofre extent. With the assistance of County staff, Condor obtained data from the County for the Arroyo Hondo to Cañada San Onofre section. These data include sensitive and listed plant and animal species located on the County's DER digital map and the California Department of Fish and Game's California Natural Diversity Database (CNDDB). County data also included geology, land ownership, National Wetlands Inventory, and digital aerial photo (1994 and September 2002).

Resource and environmental constraints, including property ownership and rights-of-way, biological, geological and archaeological resources and main topographic features were identified and mapped using this data. The following table summarizes the data sources used in this study. Topographic data better than 1:24,000 does not exist and the available digital air photo coverage of the project extent (resolved to 1:161) is not accurately georeferenced. Therefore, the Arroyo Hondo to Cañada San Onofre data was line-mapped on the USGS Digital Ortho Quarter Quads (DOQQ) 1994 aerial photograph.

Condor incorporated the data from JVSA for the Bacara Resort to El Capitan Ranch segment, as well as the segment between Refugio and Arroyo Hondo. These data have been incorporated into Arcview to create a single GIS of the entire project length from the Bacara to Cañada de San Onofre.

**Field Surveys.** Condor conducted two cursory field surveys on March 27, 2003 and March 19, 2004. These cursory surveys focused on the Arroyo Hondo to Cañada San Onofre section between U.S. 101 and the railroad. During the first visit, the entire length was walked; and on the second, parts were walked and others were observed while driving slowly alongside the highway. Vertical access trails to the beach were walked on March 19, 2004 at San Onofre and Molino Canyons, and viewed from the top of the





bluff between Molino and Tajiguas Canyons and at Arroyo Hondo. The objectives of the site visits were: 1) to observe and record the presence of sensitive habitats in the vicinity, 2) to provide preliminary notes on the feasibility of locating the bike/equestrian path between the highway and the railroad, and 3) to provide recommendations regarding vertical access to the beach.

Condor also conducted a field visit on the north side of the highway on March 19, 2004 between Refugio and San Onofre Canyons in order to view potential routes for the equestrian trail.

**Table 1-1  
Data used in this Study**

Data Type	Data Source	Data Reference	Trail Segment
Autocad Maps	JVSA	-	Bacara to Arroyo Hondo
Air Photos	JVSA	-	Bacara to Arroyo Hondo
USA Air Photo (Sept 2002)	County of Santa Barbara	-	Entire Project Extent
DOQQ Air Photo (1994)	County of Santa Barbara	-	Entire Project Extent
Environmentally Sensitive Habitat	County of Santa Barbara	-	Entire Project Extent
View Corridor Overlay	County of Santa Barbara	-	Arroyo Hondo to Canada San Onofre
California Natural Diversity Database	County of Santa Barbara	California Department of Fish and Game	Arroyo Hondo to Canada San Onofre
National Wetlands Inventory	County of Santa Barbara	U.S. Fish and Wildlife Service	Arroyo Hondo to Canada San Onofre
DER maps	County of Santa Barbara	-	Arroyo Hondo to Canada San Onofre
Contours	NOAA	LIDAR website (www.csc.noaa.gov/crs/tc m/instructions.html)	Arroyo Hondo to Canada San Onofre
Roads	County of Santa Barbara		Arroyo Hondo to Canada San Onofre
Parcel boundaries	County of Santa Barbara		Entire Project Extent
Archaeology	Condor digitized from hardcopies	DER maps	Arroyo Hondo to Canada San Onofre
Wetland locations	Condor digitized from hardcopies	Chambers Group, 1999 (Level 3 Communications Study)	Arroyo Hondo to Canada San Onofre

Condor's analysis was combined with the work of JVSA to provide an integrated study for the Coastal Trail between Bacara to Canada San Onofre. Condor reanalyzed the JVSA trail routes based on refined criteria and provided recommendations for route selection, easement acquisition, trail development opportunities and trail construction.



## Section 2.0 Trail Design, Rights-of-Way, and Railroad Issues

### 2.1 Trail Design Standards

#### 2.1.1 *Standards for Paved Bike Paths Next to Highways*

For most of the length of the proposed Coastal Trail on the Gaviota Coast, U.S. Highway 101 is defined as a “highway” rather than a “freeway”. The basic definition of a “highway” is where there are at-grade crossings. A “freeway” has grade-separated crossings, such as the bridges at Winchester Canyon, Refugio, and Mariposa Reina.

#### *Caltrans Bike Path Standards*

Where the trail is within Caltrans right-of-way of U.S. Highway 101, the trail must be at least consistent with the Caltrans Highway Design Manual minimum specifications listed below. The following statements are excerpts from the Caltrans Highway Design Manual (2001). The full text can be found at the following website.

<http://www.dot.ca.gov/hq/oppd/hdm/pdf/chp1000.pdf>.

- The minimum paved width for a two-way Class I bike path shall be 8 feet. A minimum 2 foot wide graded area shall be provided adjacent to the bike path pavement. (Chapter 1000: Bikeway Design);
- A minimum 2 foot horizontal clearance to obstructions shall be provided adjacent to the pavement [of the bike path]. (Chapter 1000: Bikeway Design);
- Shoulder width [of the highway] shall be a minimum of 10 feet. (Chapter 300: Geometric Cross Section);
- Separation distance between edge of pavement [of the highway] and bike path shall be a minimum of 5 feet.
- Bike paths closer than 5 feet from the edge of the [highway] shoulder shall include a physical barrier to prevent bicyclists from encroaching onto the highway. Bike paths within the clear recovery zone of *freeways* [emphasis added] shall include a physical barrier separation (Chapter 1000: Bikeway Design).

### ***County Bike Path Standards (including standards for mixed-use trails)***

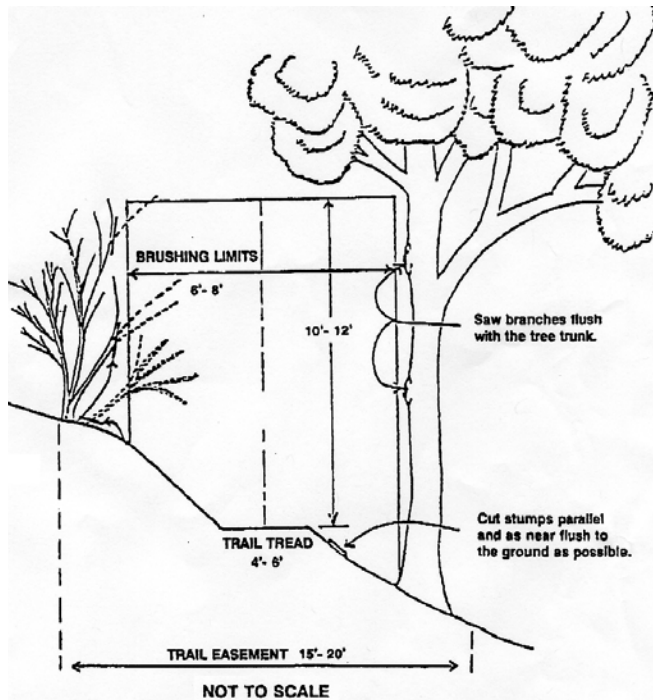
Where the trail is proposed outside of Caltrans right-of-way, the County can use its own standards for construction of the trail. The Santa Barbara County Parks Department uses a more flexible standard for recreational bike path and trail design in rural areas to accommodate recreational riders, steep slopes and other environmental constraints, and to avoid expensive bridges where possible. These recreational bike ways in rural areas are *generally* designed to have the following components. Note: This is a guideline and is intended to be flexible to accommodate actual conditions in the field.

- Two 4-foot travel lanes (wider if there is room);
- An 8-foot separation between the bikeway and the adjacent equestrian/pedestrian trail;
- A 2-foot minimum shoulder between the trail and an adjacent road.

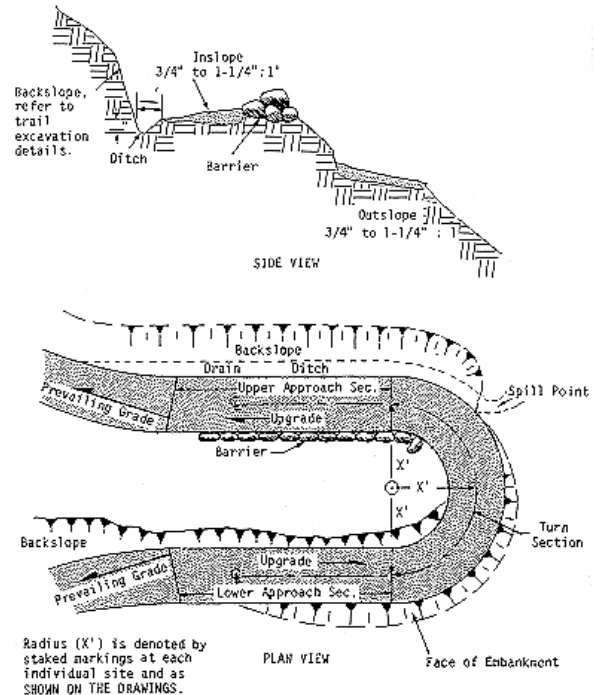
### ***County Equestrian Trail Standards***

The Santa Barbara County Parks Department uses the following general guidelines for construction of separate equestrian trails as illustrated in Figure 2-1 (Garciaclay *pers comm* 2004). In addition, an example of a switchback for an equestrian trail is shown in Figure 2-2, and a document prepared by the State Department of Parks and Recreation: “Trail Shorts: A cursory look at trail maintenance”, is provided in Appendix 2.

- A 4 to 6 foot wide unpaved equestrian trail, within an 6 to 8 foot wide clear area (see Figure 2-1). Height clearance at 10 to 12 feet.
- Slope of trail ranges from 6-7% ideally; however up to 10% slope acceptable for higher levels of equestrian users. Slopes of 10% and greater have a high potential for erosion and may require either erosion control measures or regular trail maintenance.
- To climb and descend steep slopes, the equestrian trail should utilize switchbacks (Figure 2-2).



**Figure 2-1:** Typical Equestrian Trail Dimensions (Santa Barbara County Parks Department). The specific trail dimensions shown are averages only, and can change according to site constraints and anticipated types of use. All trails will be constructed to Park Department standards.



**Figure 2-2:** Example of switchback for equestrian trail (<http://www.sahale.com/trail%20design.htm>).

### 2.1.2 Proposed Bike Path and Equestrian Trail Designs

There are three types of trails proposed for the Gaviota Coastal Trail. The design specifications are summarized in Table 2-1 below.

**Table 2-1  
Trail Specifications**

Trail Type	Total Easement Width	Bike and Ped Path Width	Distance between Bike Path and Equestrian Trail	Equestrian Trail Width	Ground Treatment of Equestrian Trail	Unpaved Shoulder Width	Use
<b>Class I</b>	26 feet	8 to 10 feet	2 feet	12 feet	No pavement; 90% Compaction	2 feet both sides	No road; Stable Soil Wide area
<b>Class III*</b>	Existing road width	Same as Road	None	Same as Road	Existing road base and pavement	Same as Road	On existing road where no road repairs necessary
<b>Equestrian</b>	15 to 20 feet	None	None	4 to 6 feet	None, other than erosion control bars on steep slopes	2 to 4 feet both sides	Rural terrain away from roads

*\* In later sections of this document, in addition to a Class III trail, the text refers to a Class IIIA trail. This type of trail consists of the same design as the Class III described in this table. A Class IIIA trail simply means that the existing road bed needs a significant amount of work to make it passable on a bicycle..*

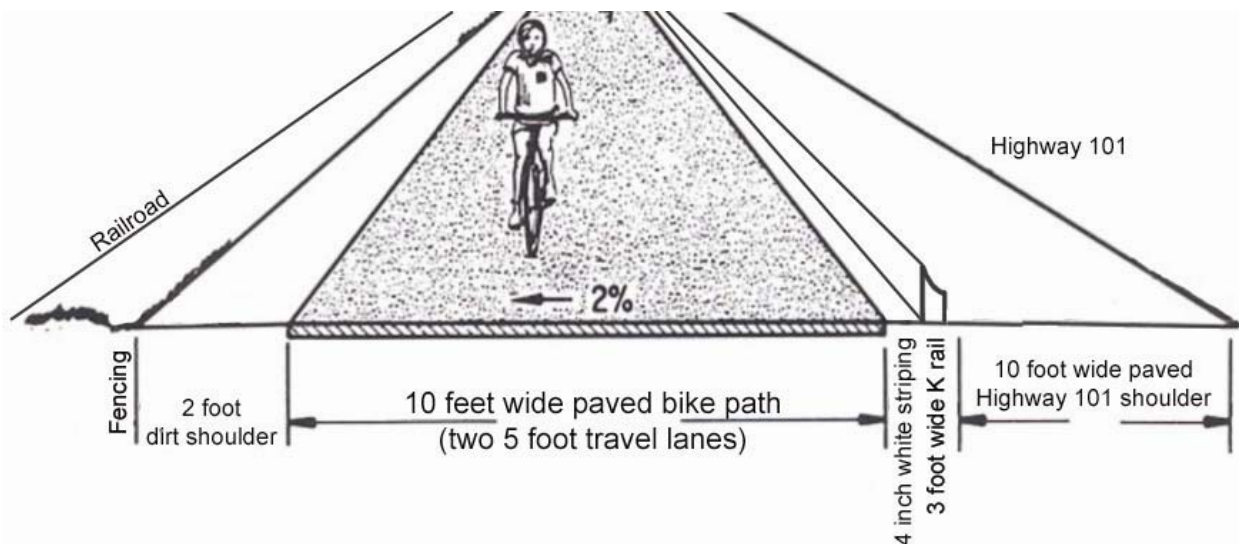
#### **Bike Path Design**

The proposed design for the bike-pedestrian path is two 5-foot paved bicycle travel lanes and 2-foot shoulders on both sides. (This exceeds the Caltrans minimum of two 4-foot travel lanes.) In the narrowest section of the bike path (between Refugio and Tajiguas) the proposed path could be narrowed to 8 feet, but the segment is wide enough to accommodate a total of 10 feet of paved path (two 5-foot travel lanes).

Caltrans recommends that the 2-foot horizontal clearance area adjacent to obstructions to bicycles (such as vegetation) be graded in order to prevent accidents. Therefore this area is proposed to be paved. If a wide path is paved contiguous with a continuous fixed object, such as the concrete barrier, a 4 inch white edge stripe, 1 foot from the fixed object is recommended by Caltrans (Caltrans Highway Design Manual, 2001) to minimize the likelihood of a bicyclist hitting it. An alternative design could include bike lanes that are only 4 feet wide with a two foot separation from the K rail. This would make two feet available for landscaping if desired. The 10-foot wide design is recommended for increased safety.

**Barrier Between Path and Highway.** Between Refugio and Canada San Onofre, a concrete barrier, such as the Type 50 concrete barrier proposed (K-Rail) is required to provide the necessary separation between the highway and the proposed bike path. In addition, the existing highway shoulder would need to be widened to 10 feet, as it is currently 8 feet wide. This would involve saw cutting and removal of 1 foot of existing shoulder to provide a clean edge and then construction of 3 feet of shoulder to provide the required 10 feet. Several breaks in the k-rail would need to be provided to accommodate continuation of existing use by the public for parking off of the highway in order to access the beach (for example, at San Onofre and Molino Canyons).

Caltrans was consulted and reported that if the existing shoulder is structurally inadequate, the shoulder would need to be removed and a new 10 foot wide shoulder be constructed as part of the project. Shoulder condition was not recorded in this study and would require a more detailed survey (outside of the current scope of work) to determine the extent of shoulder replacement that is needed. The cost estimate assumes shoulder replacement is needed in some places.



**Figure 2-3:** Illustration of proposed bike path specifications for the section between Refugio and San Onofre Canyons (Adapted from Caltrans Highway Design Manual, 2001). The same design would be used between Bacara and Refugio except that the k-rail and fence would not be required.

**Barrier Between Path and Railroad.** A physical separation barrier is also required between the path and the railroad. This barrier may include a retaining wall, fencing or other as of yet discussed method. Several breaks in the fencing would need to be provided to accommodate continuation of existing use by the public in order to access the beach (for example, at San Onofre and Molino Canyons). Retaining walls are proposed on the highway side of the path in several locations, at Canada de la Posta and Canada de las Zorrillas (Figures 2-16 and 2-18).

**Grade Separation.** Final grade of the bicycle path has not yet been developed; in most cases it will either be level with the highway or just below its grade. Cut and fill will occur throughout the project extent.

**Parking at San Onofre and Molino.** Construction of the bike-pedestrian path between the railroad and the highway would probably not require the removal of existing informal parking spaces adjacent to the highway east of Canada de San Onofre and Molino that people use to access the State beaches below. In order to retain the informal parking spaces, gaps in the fencing and k-rail would be required and the path could be built close to the highway and cars could drive over the path to park between it and the railroad. The road base beneath the path should therefore be thicker in this and other similar sections to support the wear and tear from vehicle parking.

**Utility Poles.** Although there is a long row of utility poles on Caltrans right-of-way, the bike path could be designed to be narrowed to 8 feet near them, to avoid the expense of having to move the poles, and then widened back to 10 feet between poles, or kept to 8 feet in width the entire distance (Figure 2-5; See Figure 3-1 for power pole locations).

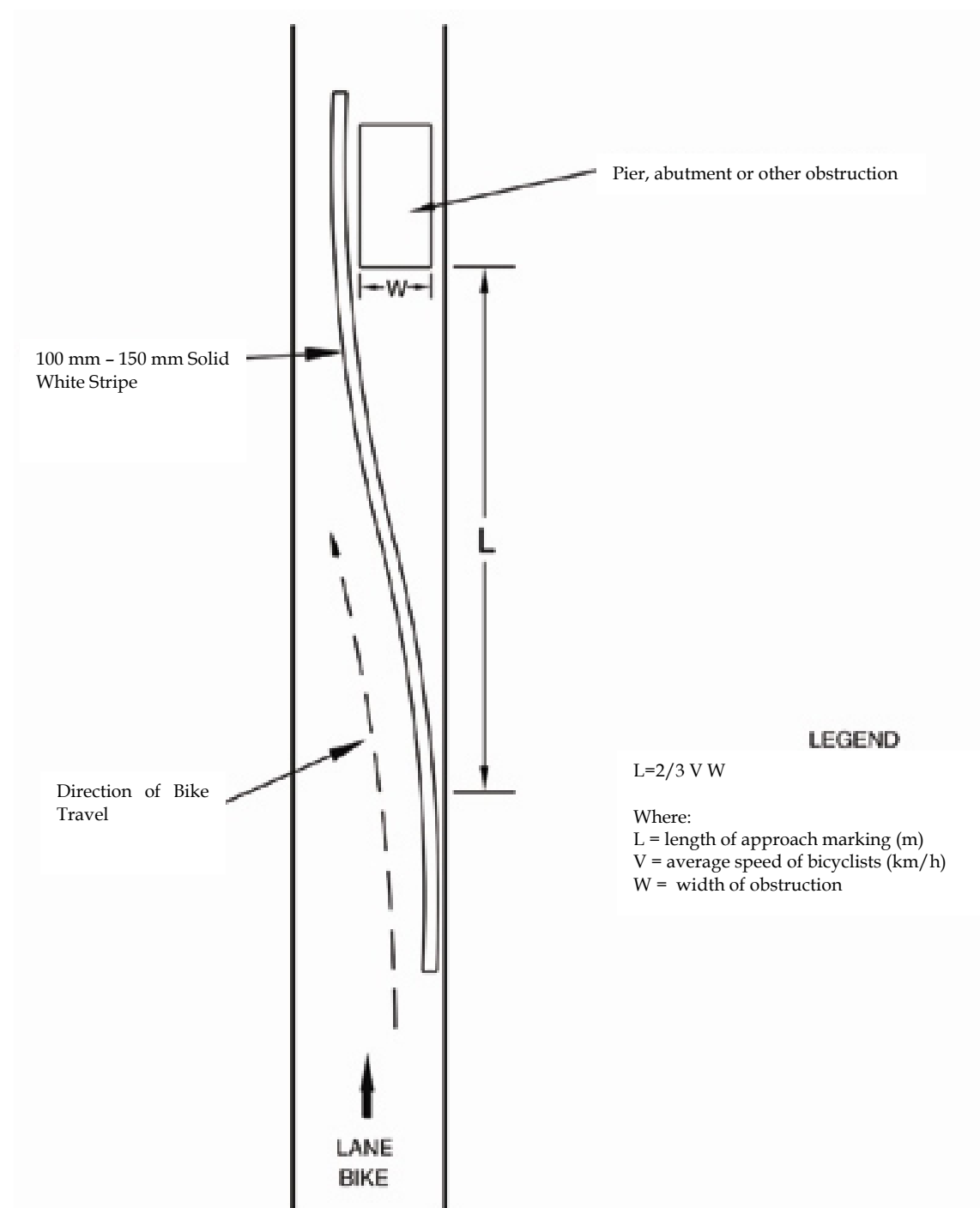
### *Special Designs Proposed for Eagle Canyon and Tajiguas Beach*

Burke Land Surveys and JVSA prepared specific design recommendations for Eagle Canyon and Tajiguas Beach.

**Eagle Canyon.** A new bridge will have to be built over Eagle Canyon because the old bridge burned down in the 1970s. The headwalls of the old bridge are still in place, but they may have to be removed or bypassed to support a new bridge. After discussions with bridge manufacturers JVSA determined that the creek can be spanned with a single span laminated wooden bridge (Figure 2-12).

**Tajiguas Beach.** JVSA conducted a special survey of this area and designed a trail that would run between the railroad and the beach. Unfortunately, this design was not feasible, given the construction costs and potential for erosion.





**Figure 2-4:** Illustration of obstruction avoidance and markings. (Taken from Caltrans Highway Design Manual, 2001).

### ***Proposed Equestrian Trail Design***

The equestrian trail is proposed to be 8 to 10 feet wide and unpaved. The trail would be constructed using no surface material other than native soil. Cut or fill and retaining walls will be required in some of the steep locations, as shown in the cross sections (Figures 2-13 to 2-18). In most cases the trail is located a substantial distance from the highway such that separation barriers would not be required. However, at Canada de la Posta and Arroyo Hondo the trail is relatively close to the highway and may require a barrier of some kind.

### ***PSR and Design Modifications.***

The estimated cost of the bike path and the fact that it is not a “local project” (as defined by Caltrans) dictates the preparation of a project study report (PSR) for the project which will need to be reviewed and approved by the Caltrans office in Sacramento, rather than San Luis Obispo. The PSR will include any requested modifications to Caltrans standard design parameters. Engineers in the local office have indicated that exceptions to the standard separation would probably be acceptable if the K-rail or similar safety barrier is provided as a part of the project. The final determination on this subject would occur as part of Caltrans approval of the PSR. The County will be required to pay for Caltrans’ PSR review, as is routinely required of project applicants.

### ***Effects of Design on Cost***

The costs shown in Section 6.0 are preliminary estimates based upon limited topographical information. In order to obtain a more refined estimate, Condor recommends that the entire route be flown and highly accurate topographic maps made having a scale of: 1 inch = 40 horizontal feet, and 1 foot vertical contour intervals. This is equivalent to about 1/3 meter intervals. Using 1/2 meter intervals would be roughly equivalent to 1.5 foot intervals which is less information and is inadequate in situations such as the narrow segment between Refugio and Tajiguas where the difference in vertical distance between the highway and the railroad tracks is very minimal. In order to do real engineering and accurate cost estimates, one simply needs the most accurate information possible.



## Figure 2-6 Stahl Eagle Canyon X section



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## **2.2 Feasibility and Preliminary Design: *Refugio to San Onofre***

Condor Environmental and MAC Design prepared a feasibility analysis of locating the bicycle-pedestrian path between the railroad and the highway between Arroyo Hondo and Canada San Onofre. Based on this analysis, Condor and MAC determined that this bike path can be constructed consistent with ADA (Americans with Disabilities Act) accessibility guidelines entirely within Caltrans Right-of-Way given the existing width between the edge of pavement of the highway and the railroad right-of-way. Condor and MAC found that an equestrian trail would not be feasible between the railroad and the highway, but would be feasible north of U.S. Highway 101 either within the Caltrans Right-of-Way, or outside of it on portions of the Old Highway (publicly owned) and on privately-owned ranches.

Condor and MAC Design prepared a preliminary design of the routes of the two trails and prepared a total of six cross sections of the narrowest locations between Refugio and San Onofre (two between Refugio and Tajiguas, and four between Arroyo Hondo and San Onofre). These cross sections, shown in Figures 2-8 to 2-13, demonstrate the feasibility of constructing the bike path between the highway and the railroad between Refugio and San Onofre (See Figures 2-6 and 2-7 for cross section locations).

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Figure 2-7 Cross Section Locations – Refugio to Tajiguas



Figure 2-8 Cross Section Locations – Arroyo Hondo to Canada San Onofre



Figure 2-9: Cross section 1,000 feet east of the Tajiguas Beach turnoff



Figure 2-10: Cross section 1,750 feet east of Tajiguas Beach turnoff



Figure 2-11: Cross section at Arroyo Hondo



Figure 2-12: Cross section Between Canada de la Posta and Guillermo Canyon



Figure 2-13: Cross section at Molino Canyon



Figure 2-14: Cross section at Las Zorrillas





## 2.3 Rights-of-Way

### 2.3.1 *Existing Public Roads and Easements*

In 2001, JVSA and the County Surveyor's Office reviewed existing road ownership, rights-of-way and easements along the proposed trail routes to determine if any are already publicly owned and could be used a public trail in order to minimize cost.

**Road Right-of-Way.** JVSA and the County found that several publicly-owned roads that it could use as a trail. The vast majority of these are highway frontage roads along U.S. 101, where the right-of-way is owned either by the State or the County. All publicly-owned roadways, easements, and other Rights-of-Way are shown on Figures 3-1 and 3-2.

Use of the existing public roads would avoid acquisition costs and minimize construction costs because much of the existing road surface or base is paved and can be driven currently. In most cases only an overlay of asphalt paving would be needed. Construction of the equestrian and hiking trail in these areas can in most instances be accommodated on the existing road shoulder.

**Disputed Right-of-Way.** There is one major disputed road right-of-way. This road is the old highway between Dos Pueblos Ranch and U.S. 101, as shown in Figure 3-1. It runs parallel to and immediately south of U.S. Highway 101. The ranch has gated this entire section of the frontage road, so that it is presently inaccessible to the public. However research done by JVSA and the County of Santa Barbara Surveyors office has shown that the entire length of this road (with the exception of 1,800 feet (549 meters) immediately west of Dos Pueblos Creek) is owned by Caltrans and the County.

**Railroad Right-of-way.** The Union Pacific railroad right-of-way is contiguous with the Caltrans right-of-way between Refugio and San Onofre Canyons. The trail is not proposed to be located in any part of the Railroad ROW, except for the two proposed crossings on Las Varas Ranch. It is proposed to be located entirely within Caltrans ROW between Refugio and San Onofre. Existing crossings that have long been used by beach goers, and are informal in nature, including those at or near San Onofre and Molino canyons, would remain unchanged. The names and contact information of representatives of Union Pacific, Caltrans and the Public Utilities Commission are provided in Appendix 3.

**Utility Easements.** Several utility lines lie buried in the ground parallel to U.S. Highway 101 on the Gaviota Coast. Two of these are public utilities (gas and electric). The others are oil and natural gas, and telecommunication lines. The lines themselves

are located within easements, as discussed in detail below. The names and contact information of representatives of the utilities are provided in Appendix 3.

These easements in and of themselves do not offer any development opportunities for the coastal trail because these public utility easements do not include the right of public access. Because the easements exist, in part, to allow for maintenance of the lines, use of the easement areas would have to be negotiated with the utility as well as the underlying property owner. However, purchasing the right of public access within these easements (such as in the Avocado Alternative) might reduce the severance costs associated with the trail easement purchases because the area to be acquired for the trail easement would already be impacted by the pipeline easement. The reason for this is that it may cost less to purchase because some of the value of that strip of land may have been diminished already by the utility easement.

### **Southern California Edison Electric Lines**

The majority of the electric lines belonging to Southern California Edison are on the north side of Highway 101. However, there are a few lines on the south side that may intersect with the bike path south of the highway (Denise Papurello, Southern California Edison, Santa Barbara Planning Department, *pers comm.* 2004). Condor suspects that this includes (but may not be limited to) lines to serve the Arroyo Quemado community, and active ranches on the south side of the highway including Rancho Dos Pueblos and Las Varas Ranch. The only way to learn the exact location of the lines is to submit a written request to the company's Facilities Mapping Office in Santa Ana, California. Hard copies of maps can be provided at a cost of \$12.60 per map or AutoCAD DWG formatted digital copies are available at \$97.20 per map. Because of the breadth of the route, many maps would need to be acquired.

Southern California Edison's electric lines are buried 30 inches deep. Assuming that these lines are still 30 inches deep, the bike path crossing over the electric lines would not affect the lines. However, because some lines may have shifted upward, and because it is important to avoid hitting the lines during construction, all points where SCE lines cross the route must be identified prior to beginning construction, and located during construction in order to maintain a minimum of 30 inches of fill (earth, gravel, asphalt, etc...) over the lines. With this condition, it is acceptable to construct a paved path over the line (Denise Papurello, Southern California Edison, Santa Barbara Planning Department, *pers. comm.* 2004).

### **Natural Gas**

Southern California Gas Company's gas line is located entirely on the north side of U.S. Highway 101 except in two locations where lines cross the highway (Tim Mahoney, Southern California Gas Company, *pers. comm.*, 2004). According to Mr. Mahoney, these crossing points are clearly marked. Condor and the Gas Company believe that these two gas lines cross Highway 101 outside the bike path route. However, because these



lines are high pressure conduction lines, Southern California Gas Company must be absolutely certain of the bike path location in relation to the gas line. The company's pipes are buried 4 to 6 feet beneath the surface, but because of ground movement, pipes have been known to shift upward to as little as 2 feet beneath the ground surface. Therefore, extreme care must be taken when excavating near these crossing points and, certainly, on the north side of the highway.

### **Oil and Natural Gas**

**Venoco Oil Company** does not have any oil pipelines on the north side of the railroad tracks, and therefore, no pipe lines would be impacted by construction of the bike path between the railroad and the highway (Steve Greig, Venoco, *pers. comm.* 2004).

**Exxon-Mobil** does not own oil or natural gas pipe lines on the north side of the railroad tracks. The only claim Exxon-Mobil has along the route is the right of access to lines on the south side of the railroad tracks (Greg Diotte, Exxon-Mobil *pers comm* 2004).

**All-American Pipeline Company** has no lines on the south side of Highway 101. The pipeline does not cross the highway until west of San Onofre Canyon to the west of the bike path (Jordan Janak, All-American Pipeline, *pers comm* 2004).

### **Fiber Optics**

The **Level 3 Communications** line is located entirely within the Union Pacific right-of-way on the Gaviota Coast, except in the immediate vicinity of the Gaviota Pass where it crosses U.S. Hwy 101 and then turns west toward Lompoc alongside U.S. Highway 1 (Andy Bahnken, Level 3, *pers comm.* 2004). Regarding the depth of excavation of 6 inches of soil for the proposed bike path, the Level 3 line is buried deep enough to avoid needing to make any adjustments to the path (Andy Bahnken, Level 3, *pers comm.* 2004).

**QWEST, AT&T, Sprint, and MCI** have fiber optic lines in the vicinity of the bike path, but we anticipate that they are within the Union Pacific right-of-way or on the north side of Highway 101. Only signage for QWEST and AT&T was observed in the Union Pacific right-of-way. If the bike path were to cross any fiber optic lines, those lines should be buried at a minimum of 18 inches, though the likelihood is that they will be buried at greater than 24 inches (Chris Doolittle, SB County Public Works, *pers comm.* 2004).

### 2.3.2 Railroad – Bike Path Issues

A consortium of the U.S. Department of Transportation, the Federal Highways Administration, the Federal Railroad Administration, the National Highway Traffic Safety Administration and the Federal Transit Administration published a report April 1, 2002, entitled *Rails-with-Trails: Lessons Learned*. According to this report, approximately 65 ‘rails-with-trails’ (RWTs) exist today encompassing 239 miles in 30 states. These trails are located adjacent to active rail lines ranging from a few slow-moving short-haul freight trains weekly, to high-frequency Amtrak trains traveling as fast as 140 miles per hour.

Meanwhile, dozens of RWTs are proposed or planned. While most are located on public lands leased to private railroads, many are on privately-owned railroad property. Hundreds of kilometers of RWTs traverse Western Australia, Canada, and Europe (U.S. DOT, 2002).

**Railroad Design.** New railroad beds are generally 12 feet wide built on a 24-foot wide flat embankment. Older railroad beds may not be as wide. The railroad beds are designed and maintained to have a 2:1 slope that directs water runoff down away from the tracks toward a swale that conveys water, and a 14-foot horizontal clear zone from the center line of the track.

**Liability.** Advocates of RWTs and railroad companies offer contrasting viewpoints. Trail planners note that legal protections exist in all states, and that a litany of successful RWTs provides some level of comfort and security. California has a recreational use statute (Civil Code §846) that protects operators, railroads and adjacent property owners from liability for allowing the public to use their land at not cost for recreational purposes. Railroad company representatives respond that the court system has not yet tested the lease and/or use agreements for existing RWTs.

**Jurisdiction Over Proposed Bike Paths.** Union Pacific Railroad (UPRR) has no authority to prohibit construction of a bicycle path or other trail outside of its property (Bomar 2004, Peterson 2004, Kerr 2004, Petrossian 2004, *pers comms.*) (The proposed “Railroad Route” is proposed to be located entirely within Caltrans Right-of-Way, and would not be within the railroad Right-of-Way at all. Caltrans Division of Rail provides recommendations to the California Public Utilities Commission (PUC) regarding proposed trails within railroad Right-of-Way. Caltrans prefers and recommends that paths and trails be located at least 25 feet from the centerline of the railroad track. The PUC is an appointed State commission, which is supported by PUC staff. The PUC is ultimately responsible for determining and ensuring public safety. The PUC requires an absolute minimum of 8.5 feet of clearance (no obstructions) from the centerline of the railroad tracks.



**Railroad Crossings.** Only two new at-grade crossings of the railroad are proposed as a part of this project. These are both located on Las Varas Ranch. Both Caltrans and the PUC have a policy to oppose any proposals for new at-grade railroad crossings, and to reduce the number of at-grade crossings by 25 percent (Bomar 2004, Petrossian 2004). The reason is public safety; Amtrak trains travel at 79 miles per hour and freight trains travel at 60 miles per hour. At these speeds, trains need between  $\frac{1}{2}$  and  $\frac{3}{4}$  of a mile to stop; and as technology advances, the trains are becoming quieter. Furthermore, from the perspective of someone standing on the tracks, trains do not look like they are coming very fast, and therefore they can be upon someone crossing the tracks very quickly. Accidental deaths have occurred at railroad crossings.

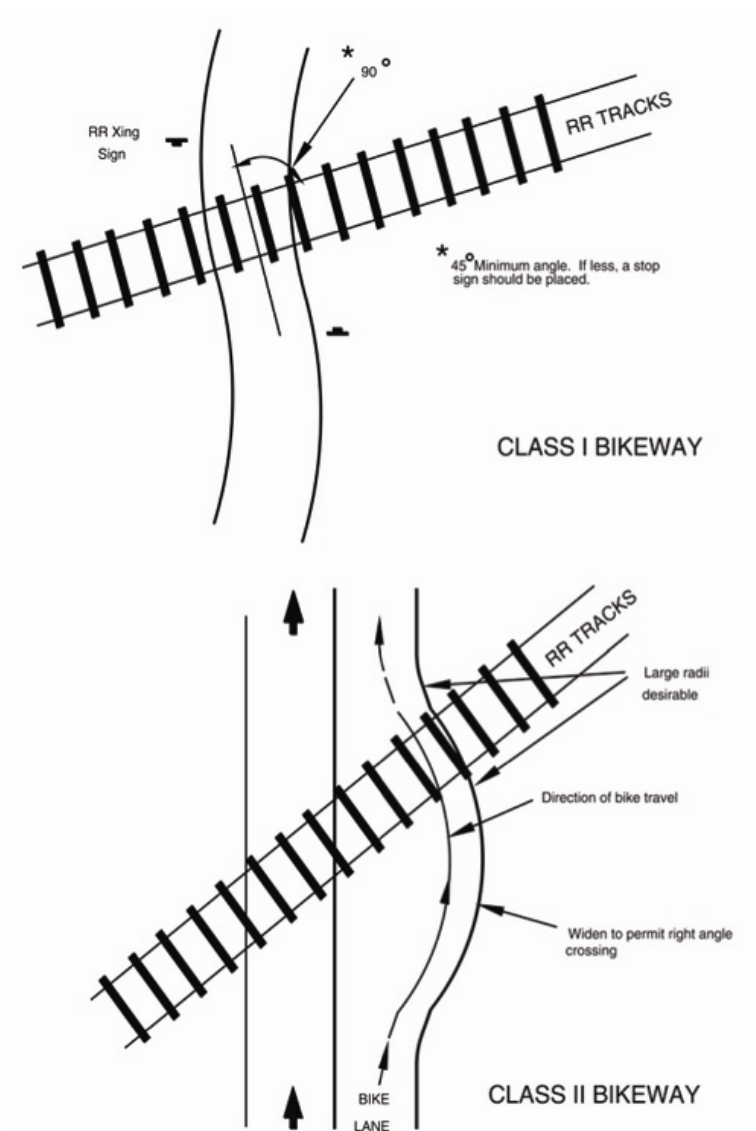
The PUC sometimes allows at grade crossings if it makes an existing crossing situation better. An application would need to be filed with the PUC, at which time, staff would conduct an analysis of the proposal. Questions that would be considered include whether the number of crossings is being reduced, are the safety features, what is the line of sight, and will the proposed fencing be effective, among others. Ultimately, approval is required by the California Public Utilities Commission (PUC). The PUC will probably require a traffic light on both sides, but may be able to approve a crossing without a swinging gate. For further information regarding the information required for submittal of an application for a trail crossing the railroad, the reader is referred to Rule #38 on the PUC website shown below.

([www.cpuc.ca.gov/PUBLISHED/RULES\\_PRAC\\_PROC/26592-12.htm#P1438\\_165190](http://www.cpuc.ca.gov/PUBLISHED/RULES_PRAC_PROC/26592-12.htm#P1438_165190))

When proposals for at-grade crossings are presented to Caltrans, the Division of Rail is most strongly opposed to new crossings on curves where there is minimal site distance. When the proposed at-grade crossing is on a “straight-away”, Caltrans is likely to be opposed to the crossing, consistent with its policy, but there is a greater likelihood of a recommendation for approval if: 1) the crossing is on a straight-away, 2) the crossing is narrow, so that there is only one channelized crossing rather than several uncontrolled crossing points, 3) the inaccessible portions are restricted by a physical barrier such as chain link fencing or a k-rail, and ideally, although not always required, 4) lights and, sometimes, a swinging gate are installed on both sides of the tracks (Clem Bomar, Caltrans Division of Rail, Chief of the Office of Rail Equipment and Track Construction, *pers. comm.* 2004).

Although Union Pacific Railroad is adamantly opposed to construction of any trails within its right-of-way, and will probably oppose any at-grade crossing, even with lights and gates and other improvements (Peterson 2004, Kerr 2004), exceptions are made occasionally (Peterson 2004). The names and contact information of representatives of Union Pacific, Caltrans and the Public Utilities Commission are provided in Appendix 3.





**Figure 2-5:** Example of preferred bike path railroad crossings (Taken from Caltrans Highway Design Manual, 2001).



## Section 3.0 Trail Route Descriptions

Route selection was based upon several factors including land ownership, the presence of public and private roads (Figure 3-1), environmental constraints, topography, vertical access potential as well as proximity to the coast. Four trail routes have been identified between Bacara and Canada San Onofre as well as several alternative segments (Figure 3-2). This section describes the County proposed routes and the alternative segments.

Two trail routes are proposed between Bacara and Las Llagas Canyon (a bike way currently exists between El Capitan Ranch and Refugio Beach State Park). These trail routes are multi-use with a paved bike-pedestrian path and an adjacent unpaved equestrian trail. One trail route is located primarily on an existing road that was the Old Highway 1 before construction of US Highway 101. This route is referred to as Trail Route 1 - "The Old Highway Route". Most of this road is publicly owned, but there are segments of this route that are in private ownership. The second trail route is located close to the ocean bluffs, which is referred to as "The Bluff Top Route". The second route is mostly on private property. The segment between Arroyo Quemado and Arroyo Hondo, south of the highway, was not studied as this segment is anticipated to be incorporated as part of the proposed highway realignment project by Caltrans.

The third trail route, referred to as the "Railroad Route", is proposed between Refugio Beach State Park and Canada San Onofre. This route is a bike-pedestrian path only. The paved bikeway is located south of the highway, between the highway and the railroad, within Caltrans Right-of-Way. This location allows continuation of existing coastal access from the bike path. The bike-pedestrian path is anticipated to be consistent with ADA guidelines. The location of this path between the railroad and the highway is not suitable for an equestrian trail due to the noise and close proximity of moving traffic which has the potential to spook horses.

The fourth route, the "Equestrian Route" is proposed to be an unpaved trail on the north side of the highway, outside of the Caltrans Right-of-Way. Three alternatives for the equestrian trail are also proposed within the Caltrans Right-of-Way.



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## Figure 3-1 Public and Private Road Map



## Figure 3-2: Trail Route Map



### 3.1 Old Highway Route Trail Description

The characteristics of each segment of proposed Trail Route 1 (referred to as the “Old Highway Route”) is discussed below and summarized in Table 3-1 below. Vertical access points and segment alternatives are discussed in subsequent sections.

**Table 3-1  
Old Highway Route Characteristics**

Segment	Description	Ownership	Distance		Segment Number
<b>Winchester Canyon to Farren Road</b>	From Goleta, begin heading west on north side of 101 at Winchester Canyon Road. Trail would be a Class III on existing County-owned frontage road.	Public	1,524 m	5,000 ft	1-1
<b>Parsons Ranch Farren Road to Santa Barbara Ranch</b>	From Farren Road, continue west on the old Highway through the Parsons Ranch. Where the highway has fallen into disrepair, new paving and re-grading is needed to construct a Class I Trail.	Private	1,614 m	5,300 ft	1-2
<b>Santa Barbara Ranch to Underpass at Dos Pueblos Ranch</b>	Use a private dirt road immediately north of 101 as a Class III or build a Class I next to it. May need to pave dirt road.	Private	1,524 m	5,000 ft	1-3
	Use an existing County road through the ranch as a Class III.	Public	446 m	1,465 ft	
<b>Dos Pueblos Ranch Underpass</b>	Cross under 101 on existing State owned underpass to old Hwy 1	Public	200 m	660 ft	1-4
<b>Dos Pueblos Ranch to Las Varas Ranch</b>	Use Old Highway 1 as a Class III. The road needs repairs to shoulder and fencing to prevent trespass on ranch. Less than 100 ft west of the underpass is public. The bridge over Dos Pueblos Creek is privately owned.	Mostly Private	1,555 m	5,100 ft	1-5
	Use Old Hwy 1 as a Class III. Would need to remove gate to allow public access to road.	Public	1,341 m	4,400 ft	
<b>Las Varas Ranch to El Capitan Ranch</b>	Use existing private frontage road as Class III. Install fencing to prevent trespass. The road turns south at Gato Canyon. Install a gate to prevent trespass to the south.	Private	1,920 m	6,300 ft	1-6
	Construct a new Class I across Las Varas Ranch using private road, south of 101 from Gato Canyon to existing underpass at El Capitan Ranch. Install fencing to prevent trespass.	Private	1,463 m	4,800 ft	
	Utilize the existing crossing underneath 101 owned by Caltrans to get to the north side of the highway.	Public	91 m	300 ft	
	Use Calle Real as Class III to connect with existing Class I in front of El Capitan Ranch	Public	51 m	170 ft	
<b>El Capitan Ranch to El Capitan State Park</b>	Use existing Class I Trail until it ends at County frontage Road. Continue west on frontage road to crossing under 101 at El Capitan Canyon. Continue south on State Parks road as a Class III to the parking lot where an existing Class I begins.	Public	6,220 m	20,400 ft	1-7
<b>El Capitan State Park to Refugio State Park</b>	Head west on existing Class I along the ocean bluff between El Capitan and Refugio State Parks.	Public	-	-	1-8



**1-1. Winchester Canyon to Farren Road:** The Old Highway Route would start east of the Bacara Resort, at the Winchester Canyon - U.S. 101 overpass at Hollister Avenue. The trail would cross over U.S. 101 to the north side on the overpass and turn west, utilizing an existing County-owned frontage road, Calle Real. This is the old highway. This trail segment would be a Class III bike path using existing paving in both directions, as there is not enough road width to stripe. The foot/horse trail would be located on the north side of Calle Real. The trail would continue west to Farren Road on Calle Real for 1,524 meters (5,000 feet).

**1-2. From Farren Road through the Parsons Ranch:**

At Farren Road the trail would enter private property: the Parsons Ranch. This segment would cross the Parsons Ranch using Old Highway One, now a private road, as a Class I trail for 1,616 meters (5,300 feet) to the boundary of the Santa Barbara Ranch. The old highway right-of-way in this section is in poor condition. New paving and re-grading of the road base material would be needed.



*Photo No. 1 Parsons Property, north of US 101, looking west.*

**1-3. Through Santa Barbara Ranch to Underpass at Dos Pueblos Ranch:** From the eastern boundary of Santa Barbara Ranch a new Class I trail would be built across 1,524 meters (5,000 feet) of Santa Barbara Ranch. The trail would be located immediately north of U.S. 101 in an area that currently contains a dirt road and the Gas Company's main transmission lines.

The trail would leave the Santa Barbara Ranch at the east fork of Dos Pueblos Creek and continue as a Class III trail on an existing County-owned frontage road on the north side of US 101 for 610 meters (2,000 feet) to Dos Pueblos Canyon.

**1-4. Dos Pueblos Ranch Underpass:** At Dos Pueblos canyon, the trail would cross under U.S. 101 to the south side of the highway on an existing State-owned road (approximately 204 meters, 670 feet long). Once on the south side of the highway, the trail would turn west on the Old Highway that is now a frontage road.

**1-5. Dos Pueblos Ranch to Las Varas Canyon:** At the main (west) branch of Dos Pueblos Canyon the trail enters the Dos Pueblos Ranch and continues on old Highway One for 2,896 meters (9,500 feet). The Old Highway road is gated and the initial 549 meters (1,800 feet) is private property. Beyond this point, the old Highway is closed to the public by a private gate, but initial research by JVSA has shown that 1,341 meters (4,400 feet), is still owned by the County and the State. The remaining 3,300 feet after this public section is private. The old Highway continues west to Las Varas Canyon where it enters Las Varas Ranch, privately owned by the Doheny family. This road ends at Las Varas Canyon.

**1-6. Las Varas Canyon to El Capitan Ranch:** The Las Varas Ranch has an existing paved private frontage road immediately south of U.S. 101. It continues west from the termination of the old Highway at Las Varas Canyon. The trail would utilize this existing road for 1,006 meters (3,300 feet) as a Class III trail until reaches Gato Canyon.



*Photo 2 Old Highway Route on Dos Pueblos Ranch, looking west. State road that has been closed to public.*



*Photo 3 Old Highway Route. West end of Dos Pueblos Ranch, looking east. Note: locked gate on State road.*



*Photo 4 Old Highway Route, looking west, Las Varas Ranch*

At Gato Canyon a new Class I trail would continue west on the Las Varas Ranch immediately south of U.S. 101 for 1,524 meters (5,000 feet) to El Capitan Ranch at Las Llagas Canyon. It would turn north and utilize the existing Caltrans road to access the Caltrans crossing under U.S. 101. The trail would be on the road that goes under the highway and link to the existing Coastal trail on El Capitan Ranch on the north side of the highway.



*Photo 5 Old Highway Route at Gato Canyon, Las Varas Ranch, looking west.*

**1-7. El Capitan Ranch to El Capitan State Park:** The route would then continue west on the existing Class I heading toward El Capitan State Park. The trail ends at a County frontage Road and continues west on the frontage road to cross under 101 at El Capitan Canyon. The trail continues south on a State Parks road as a Class III to the parking lot where an existing Class I begins.



*Photo 6 Looking east from Refugio Beach along the existing El Capitan to Refugio Beach Trail System*

**1-8. El Capitan State Park to Refugio State Park:** The trail heads west on the existing Class I along the ocean bluffs between El Capitan State Park and Refugio State Park. From Refugio Beach State Park the trail connects with Trail Route 3.

### ***3.1.1 Old Highway Route Beach Access Points***

A vertical beach access point is proposed along this trail route. It is located on **Las Varas Ranch** (Doheny Property) leading to the beach at Gato Canyon. It would connect the Old Highway Route to an existing ranch road (870 meters (2,854 feet)). This would be a Class III trail. It would open an area of beach at the mouth of the canyon to public access.



*Photo 7 Old Highway Route Vertical Access to Gato Canyon, looking south at main entrance to Las Varas Ranch.*

**Table 3-2**  
**Old Highway Route: Summary**  
(excluding existing El Capitan to Refugio Trail segment)

Item	Current Ownership	Trail Length
Class I Trail Construction	Public	0
	Private	3,077 m, 10,100 ft
	Total	3,077 m, 10,100 ft
Class III Trail Construction	Public	4,987 m, 16,359 ft
	Private	1,920 m, 6,300 ft
	Total	5,573 m, 18,279 ft
Class IIIA Trail Construction	Public	0
	Private	3,079 m, 10,100 ft
	Total	3,079 m, 10,100 ft
Equestrian Trail	Constructed as part of Class I, Class III and Class IIIA trails (same lengths)	
Total Route Length (excluding Vertical Access)	Public	3,653 m, 11,982 ft
	Private	8,076 m, 26,489 ft
	Total	11,729 m, 38,471 ft
Vertical Access Trail Length	Gato Canyon	870 m, 2,854 ft



### 3.1.2 Old Highway Route Alternatives

This section describes possible segment alternatives for the Old Highway Route. Generally, the alternatives continue in an east-west direction and are proposed in areas where it may be desirable to have several options due to environmental or ownership issues.

#### **Avocado Bike-Pedestrian-Equestrian Alternative**

**(A4):** At Dos Pueblos Canyon, this alternative would continue on the north side of the highway to the existing trail at El Capitan Ranch, for a total distance of 4,298 meters (14,000 feet). The alternative would enter the Dos Pueblos Ranch (Schulte property) and cross the west tributary of Dos Pueblos Creek by a new 125-foot long single span wood-laminated bridge constructed for the trail. The trail would continue west across the private Dos Pueblos Ranch for 1,188 meters on an

existing private road (3,900 feet) This area is planted in avocado trees and some trees may be removed in trail construction. New fencing would have to be installed along this segment to protect the orchard. This segment is very hilly and does not provide any potential beach access. The trail would then connect to an existing County frontage road. It would continue west on the frontage road for 976 meters (3,200 feet) where it terminates, just west of Las Varas Canyon. This segment would be established as a Class III trail.

The trail would continue west 469 meters (1,500 feet) as a new trail across the Las Varas Ranch (Doheny property) to Gato Canyon, immediately north of US 101. It would connect to an old portion of Highway One that is now privately owned. The trail would utilize the old Highway One for 1,372 meters (4,500 feet) to Las Llagas Canyon near the east end of El Capitan Ranch. There it would utilize a 305 meter (1,000 foot) segment of existing County frontage road to connect with the existing Las Llagas to El Capitan-Refugio Beach County/State Trail system.



*Photo 8 Avocado Alternative, north of US 101. Looking east across Dos Pueblos Ranch.*



*Photo 9 Avocado Alternative, north of US 101. Looking west across Las Varas Ranch.*

**Table 3-3  
Avocado Route Alternative Characteristics**

Segment	Description	Current Ownership	Distance
<b>Dos Pueblos Canyon to Las Varas Ranch</b>	New 125-foot bridge to be constructed over creek; New Class I Trail through existing avocado orchard (some tree removal will be required)	Private	1,188 m, 3,900 ft
	Class III Trail on existing County frontage Road	Public	976 m, 3,200 ft
<b>Las Varas Ranch to El Capitan Ranch</b>	New Class I construction	Private	457 m, 1,500 ft
	Class III on Old Hwy 1	Private	1,372 m, 4,500 ft
	Class III on existing County frontage Road	Public	305 m, 1,000 ft
<b>Total</b>			<b>4,298 m, 14,100ft</b>

### 3.1.3 Old Highway Route Connectors

This section describes possible connectors for the Old Highway Route. Generally, the connectors are in a north-south direction and are proposed to connect route segments to other routes or alternatives.

**Highway Bike-Pedestrian-Equestrian Connector (C3):** At Gato Canyon this connector trail would cross under US101 to the north side, utilizing an existing public underpass. It would then connect to the Avocado Alternative (A4). This connector would reduce construction costs and have less impact on the ranch property, compared to the Old Highway Route, as it utilizes an existing road. This would be a Class III trail on an existing public road. It also provides the potential for a vertical beach access point from the Avocado Alternative, if connected to the Gato Bike-Pedestrian-Equestrian Connector (C4).

**Gato Bike-Pedestrian-Equestrian Connector (C4):** This connector is located on Las Varas Ranch (Doheny Property) and would connect the Old Highway Route to the Bluff Top Route using an existing ranch road that is privately owned. This trail is also described in the vertical access section, as the trail can be used to provide vertical access to the beach at Edwards Point. This would be a new Class I trail because the property would have to be purchased unless it was part of a future development proposal.



*Photo 10 Gato Connector at Las Varas Ranch, looking south.*

**Table 3-4**  
**Old Highway Route Alternatives: Summary**  
(excluding existing El Capitan to Refugio segment)

Item	Current Ownership	Trail Length		
		Avocado Alternative (A4)	Highway Connector (C3)	Gato Connector (C4)
Class I Trail Construction	Public	-	-	-
	Private	1,645 m, 5,400 ft	-	-
	Total	1,645 m, 5,400 ft	-	-
Class III Trail Construction	Public	1,281 m, 4,200 ft	198 m, 650 ft	-
	Private	1,372 m, 4,500 ft	-	-
	Total	2,653 m, 8,700 ft	198 m, 650 ft	-
Class IIIA Trail Construction	Public	-	-	-
	Private	-	-	900 m, 2,950 ft
	Total	-	-	900 m, 2,950 ft
Equestrian Trail		Constructed as part of Class I, Class III and Class IIIA trails (same lengths)		
Total Route Length (excluding Vertical Access)	Public	1,281 m, 4,200 ft	-	-
	Private	3,017 m, 9,900 ft	-	-
	Total	4,298 m, 14,100 ft	-	-
Vertical Access Existing Informal Trail Length	Gato Canyon	870 m, 2,854 ft	-	-

### 3.2 Bluff Top Route Trail Description

This route is basically a coastal bluff route, which would allow the trail to follow the coastal bluff from Goleta to El Capitan Ranch, providing the maximum coastal access possible. This route would provide the public with access to a beautiful segment of the California coastline and it would provide access to beaches that have long been inaccessible to the public. A summary of trail characteristics for each segment of the Bluff Top Route is presented in Table 3-5.

**Table 3-5  
Bluff Top Route Characteristics**

Segment	Description	Current Ownership	Distance	Segment Number
<b>Bacara Resort to Ellwood Pier</b>	Existing Class III Trail on frontage road	Public	915 m, 3,000 ft	2-1
<b>Ellwood Pier to Eagle Canyon (Parsons Ranch)</b>	New Class I Trail on existing paved road; Two other alternatives to cross property, should be worked out with owners	Private	610 m, 2,000 ft	2-2
<b>Eagle Canyon to Tomate Canyon</b>	New Class I Trail follows existing abandoned oil road along the bluff then turns up to and follows railroad just before Tomate Canyon where it enters Naples Property	Private	1,830 m, 6,000 ft	2-3
<b>Tomate Canyon to Dos Pueblos Creek</b>	New Class I Trail follows ocean bluff through Naples Property	Private	1,220 m, 4,000 ft	2-4
<b>Dos Pueblos Creek to Dos Pueblos Ranch to Las Varas Ranch</b>	New Class I Trail enters and crosses creek using ranch summer crossing	Private	610 m, 2,000 ft	2-5
	New Class I Trail follows existing ranch road from creek to west	Private	152 m, 500 ft	
	New Class I Trail reconstructed along blufftop, then swings north over railroad on new crossing to be constructed	Private	457 m, 1,500 ft	
<b>Las Varas Canyon to Gato Canyon</b>	New Class I Trail, plus new 23 m (75 ft) bridge to cross Las Varas Creek; passes through monarch butterfly ESH;	Private	1,830 m, 6,000 ft	2-6
	New Class I Trail with a new railroad crossing; new 23 m bridge to cross Gato Creek	Private	300 m, 1,000 ft	
<b>Gato Canyon to El Capitan Ranch</b>	New Class I Trail from Gato Creek with an existing private railroad crossing	Private	915 m, 3,000 ft	2-7
	New Class I Trail north of railroad to Las Llagas Cyn and US 101	Private	457 m, 1,500 ft	
<b>El Capitan Ranch to Arroyo Hondo</b>	Same as Old Hwy Route (#1)	Public, some Private	13,812 m, 45,300 ft	2-8

**2-1. Bacara Resort to Ellwood Pier:** The Bluff Top Route would begin at the east end of the Bacara Resort, east of Eagle Canyon. The first trail segment would utilize a 550 meter (1,800 foot) Class III trail along the existing frontage road from the hotel area to the entrance to the Ellwood pier.



*Photo 11 Bacara Resort, looking west.*

**2-2. Ellwood Pier to Eagle Canyon (Parsons Ranch):** At the entrance to the Ellwood pier the trail would become a Class I trail where it crosses onto private property, the Parsons Ranch. The trail would utilize an existing paved private road for 610 meters (2,000 feet) to Eagle Canyon.



*Photo 12 Parsons Ranch, ocean bluff, looking west.*

At Eagle Canyon a new bridge will have to be built to span the creek. (The old bridge burned down in the 1970s.) This creek crossing is estimated to be 37 meters (120 feet) in length and will be crossed utilizing a single span laminated wood bridge. No center support will be necessary in the streambed. This crossing is one of the special design studies that JVSA completed (See Figure 2-12).

**2-3. Eagle Canyon to Tomate Canyon:** This segment is located on the Dos Pueblos Golf Course property. The new Class I trail would follow an existing private abandoned oil service road for 6,000 feet along the bluff to 1,000 feet west of Tomate Canyon. The existing private road turns north to the railroad right of way.

**2-4. Tomate Canyon to Dos Pueblos Creek:** The trail would continue west for 850 meters (2,788 feet) on an existing private road and enter the Naples property. It would cross the Naples property generally following the ocean bluff with northerly swings in alignment to avoid significant arroyos for 1,220 meters (4,000 feet) to connect with an existing County road just east of the east branch of the Dos Pueblos Creek. Several culverts and or small wood bridges may have to be constructed to cross minor drainages. The trail would follow the County road for 152 meters (500 feet) to the east branch of Dos Pueblos Creek.



*Photo 13 County Road - Naples, looking west.*



**2-5. Dos Pueblos Creek to Las Varas Canyon:** At the east branch of Dos Pueblos Creek the trail would enter the Dos Pueblos Ranch (Schulte Property) south of the railroad. It would descend the eastern side of the canyon on a new trail (approximately 152 meters (500 feet) in length) to the mouth of the creek and cross the creek using an existing summer crossing installed by Dos Pueblos Ranch. This creek crossing may have to be upgraded to a bridge crossing once a design analysis has been completed. The trail would cross the mouth of Dos Pueblos Canyon and ascend the west bank using an existing paved private road for 90 meters (300 feet). Once the trail reaches the top of the bluff on the western side of the canyon it continues west across the bluff top of Dos Pueblos Ranch for 610 meters (2,000 feet).

The trail enters Dos Pueblos Orchid Company property mid-way between Dos Pueblos Creek and the east branch of Las Varas Creek, south of the railroad. Just east of the east branch of Las Varas Creek the trail swings north across the railroad. This would require a new railroad crossing, approximately 35 meters (115 feet) long. The trail then crosses the Dos Pueblos Orchid Company property 152 meters (500 feet) to Las Varas Canyon where it would enter the Las Varas Ranch (Doheny Property).

**2-6. Las Varas Canyon to Gato Canyon:** After entering the Las Varas Ranch the trail would cross the mouth of Las Varas Creek by constructing a new 23-meter laminated wood bridge. The trail would then cross an area adjacent to existing eucalyptus groves. These groves are known monarch butterfly roosts, so care will have to be given to the exact trail location and fencing will need to be installed to prohibit trespass into these environmentally sensitive areas. The trail would then ascend the west branch of Las Varas Canyon and continue along the bluff, avoiding other eucalyptus groves where possible, for 1,829 meters (6,000 feet). Approximately 300 meters (1,000 feet) east of Gato Canyon the trail would turn south and cross the railroad. This would require a new railroad crossing. The trail would then follow the ocean bluff top for 457 meters (1,500 feet) to Gato Canyon. The trail would cross Gato Creek by constructing a new 23-meter wood laminated bridge.

**2-7. Gato Canyon to Las Llagas Canyon:** After crossing Gato Canyon at its mouth, the trail would continue west for 1,067 meters (3,500 feet), still on the Las Varas Ranch, along the bluff and then turns north across existing grazing land. At this point it would cross the railroad at an existing private road crossing. The trail would continue across the remainder of the Las Varas Ranch north of the railroad tracks on a new trail for 167 meters (550 feet), then on an existing private road for 265 meters (870 feet) and a new trail for 228 meters (750 feet) to Las Llagas Canyon and US101 at El Capitan Ranch.

**2-8. Las Llagas Canyon to El Capitan Ranch:** At Las Llagas Canyon this trail connects with the existing Class I heading toward El Capitan State Park and Refugio Beach State Park.



### **3.2.1 Bluff Top Route Beach Access Points**

The Bluff Top Route provides the most new beach access points of all the alternatives studied. New beach access could be provided at Eagle Canyon, Tomate Canyon, Dos Pueblos Canyon, Las Varas Canyon, Gato Canyon, and Tajiguas Beach.

At **Eagle Canyon** a new wooden staircase access point along the west side of the creek, avoiding direct access to the stream area could be built. This would provide access to a beach that is very popular with surfers.

At **Tomate Canyon** a wooden staircase access point to the beach could also be built. This is a seal haulout and breeding area. Educational signage will be needed to alert the public to the importance of the area.

A new beach access point could also be located at the mouth of **Dos Pueblos Canyon** under this trail route. This is a sandy beach that would be very attractive to beach users. Day use facilities, including restroom facilities would most likely have to be installed to handle the number of visitors to this unique beach. Additionally, fencing would have to be installed to protect existing ranch facilities from public trespass.

At **Las Varas Canyon** another new beach access point could be provided. Day use facilities, including restroom facilities also would be needed at this location. Educational displays and fencing should be installed to keep visitors out of the eucalyptus grove located in the area to protect monarch butterfly roosting areas. Additionally, fencing would have to be installed to protect existing ranch facilities from public trespass.

The beach access point to be provided at **Gato Canyon** would also require site-specific design work to assure the protection of the Environmentally Sensitive Habitats in this area. This area is known to have a red-legged frog population, and the stream is designated as Steelhead Trout Habitat. Fencing would also be needed at this location to protect existing ranch facilities from public trespass.



**Table 3-6**  
**Bluff Top Route Summary**  
(excluding existing El Capitan to Refugio Trail segment)

Item	Current Ownership	Trail Length
Class I Trail Construction	Public	-
	Private	8,384 m, 27,500 ft
	Total	8,384 m, 27,500 ft
Class III Trail Construction	Public	915 m, 3,000 ft
	Private	-
	Total	915 m, 3,000 ft
Class IIIA Trail Construction	Public	-
	Private	-
	Total	-
Equestrian Trail	Constructed as part of Class I, Class III and Class IIIA trails (same lengths)	
Total Route Length (excluding Vertical Access)	Public	915 m, 3,000 ft
	Private	8,384 m, 27,500 ft
	Total	9,298 m, 30,500 ft
Vertical Access Trail Length	Bacara Resort	312 m, 1,026 ft
	Eagle Canyon	36 m, 120 ft
	Tomate Canyon	300 m, 985 ft
	Dos Pueblos Canyon	33 m, 110 ft
	Las Varas Canyon	105 m, 345 ft
(Note: Gato Canyon access is similar to Old Highway Route)	Gato Canyon	120 m, 390 ft

### 3.2.2 *Bluff Top Route Alternatives*

This section describes possible segment alternatives for the Bluff Top Route. Generally, the alternatives continue in an east-west direction and are proposed in areas where it may be desirable to have several options due to environmental or ownership issues.

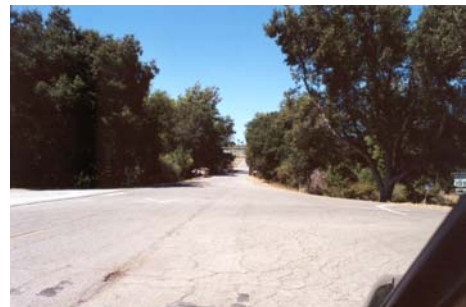
**Parsons North Alternative (A1):** This alternative is located on the Parsons property. The trail would swing to the north of the proposed route, located adjacent to the Union Pacific Railroad. This would be a new Class I trail.

**Parsons South Alternative (A2):** This is the second alternative for the Parsons property. This alternative would swing to the south of the proposed route, and would follow the bluff top. It is recommended that the County work with the property owner to determine which segment alternative across the property is most acceptable. This would be a new Class I trail.

**Langtry-Railroad Alternative (A3):** This alternative is located adjacent to the railroad for one portion and utilizes an existing County road: Langtry Ave for the other portion (see Table 3-7). The alternative is 3,330 meters (10,800 feet) long and, in addition to traveling east-west, it also provides a link to the Old Highway Route. A detailed description of this alternative follows.

This alternative would enter private property, the Dos Pueblos Golf Course, and utilize an existing paved road out of Eagle Canyon to the top of the bluffs. The trail would be constructed as a Class I trail. The trail will swing north to the railroad tracks to follow the existing road, but will remain on the south side of the tracks. The trail would follow the railroad tracks west immediately adjacent to the railroad right of way. The trail traverses the Dos Pueblos Golf Course property for 1,829 meters (6,000 feet). This segment was originally designed as part of the proposed Dos Pueblos Golf Course project. The project was denied by the Coastal Commission. This segment is still included because future development projects may arise that could utilize it or the County could purchase the land which would enable construction of this segment.

At the west end of the golf course property, west of Tomato Canyon, the trail would enter the Naples property. A proposal for development on this property is currently being processed by the County. It would continue west 457 meters (1,500 feet) immediately south of the railroad right of way to Langtry Avenue, an existing County-owned road. The trail would turn north on Langtry Avenue and cross the railroad at an existing publicly owned surface crossing. It would utilize



*Photo 14 Junction of this alternative with the Old Highway Route, at entrance to Dos Pueblos Ranch, looking west.*

Langtry Avenue for 427 meters (1,400 feet) where it reaches a County frontage road, south of US101. The segment that follows Langtry Avenue will be a Class III trail unless the County decides to open Langtry Avenue to vehicular traffic, which would make it a Class III trail segment. An existing County-controlled locked gate will have to be removed for trail users to connect from Langtry Avenue to the frontage road. The trail would then follow the County frontage road west 610 meters (2,000 feet) to the western tributary of Dos Pueblos Creek. This would be a Class III trail along this section.

**Table 3-7**  
**Langtry-Railroad Alternative: Characteristics**

Segment	Description	Ownership	Distance
<b>Eagle Cyn to Dos Pueblos Golf Course</b>	New 37m (120 ft) bridge needed to cross Eagle Cyn; Swings N to follow railroad tracks	Private	1,830 m, 6,000 ft
<b>Naples Property to Dos Pueblos Ranch</b>	New Class I Trail immediately S of the railroad ROW; Crosses railroad at existing public crossing	Private	430 m, 1,400 ft
	Class III Trail as a connector on County owned Langtry Ave; County locked gate needs to be removed	Public	430 m, 1,400 ft
	Class III Trail along existing County frontage road	Public	610m, 2,000 ft
<b>Total</b>			<b>3,300 m, 10,800 ft</b>

### **3.2.3 Bluff Top Route Connectors**

This section describes possible connectors for the Bluff Top Route. Generally, the connectors are in a north-south direction and are proposed to connect to other routes or alternatives.

**Golf Course Connector (C1):** This short connector (190 meters, 620 feet) is located just west of Tomate Canyon on the Dos Pueblos Golf Course Property. This connector links the Bluff Top Route with the western portion of the Langtry-Railroad Alternative. This would enable the trail to follow the bluffs until this point and connect to the alternative at Langtry Ave to utilize the public road. This connector, from the Bluff Top Route follows the existing private road north to the railroad right of way. At the railroad right of way the connector would turn west, immediately south of the railroad right of way. It would enter the Naples (Morehart) property and would connect to the Langtry-Railroad Alternative. This would be a Class III trail on an existing road.

**Naples Connector (C2):** This connector links the Bluff Top Route with the Langtry-Railroad Alternative. The connector follows the eastern bank of Dos Pueblos Creek, staying on the Naples property, north to the Langtry-Railroad Alternative along the US101 frontage road. This connector would utilize the bluff top Naples property without crossing into Dos Pueblos Ranch.

**Table 3-8**  
**Bluff Top Route Alternatives Summary**  
(excluding existing El Capitan to Refugio segment)

Item	Current Ownership	Trail Length				
		Parsons North Alternative (A1)	Parsons North Alternative (A2)	Langtry-Railroad Alternative (A3)	Golf Course Connector (C1)	Naples Connector (C2)
Class I Trail Construction	Public	-	-	-	-	-
	Private	521 m, 1,710 ft	460 m, 1,510 ft	2,260 m, 7,400 ft	-	708 m, 2325 ft
	Total	521 m, 1,710 ft	460 m, 1,510 ft	2,260 m, 7,400 ft	-	-
Class III Trail Construction	Public	-	-	1,040 m, 3,400 ft	-	-
	Private	-	-	-	190 m, 620 ft	-
	Total	-	-	1,040 m, 3,400 ft	-	-
Class IIIA Trail Construction	Public	-	-	-	-	-
	Private	-	-	-	-	-
	Total	-	-	-	-	-
Equestrian Trail		Constructed as part of Class I, Class III and Class IIIA trails (same lengths)				
Total Route Length (excluding Vertical Access)	Public	-	-	1,040 m, 3,400 ft	-	-
	Private	521 m, 1,710 ft	460 m, 1,510 ft	2,260 m, 7,400 ft	190 m, 620 ft	708 m, 2325 ft
	Total	521 m, 1,710 ft	460 m, 1,510 ft	3,300 m, 10,800 ft	190 m, 620 ft	708 m, 2325 ft
Vertical Access Existing Informal Trail Length	-	-	-	-		

### 3.3 Railroad Route Description

A summary of characteristics of each segment of proposed Trail Route 3 (referred to as the “Railroad Route”) is discussed below and summarized in Table 3-9. Vertical access points and segment alternatives are discussed in subsequent sections.

**Table 3-9**  
**Railroad Route Characteristics**

Segment	Description	Current Ownership	Distance		Segment Number
<b>Refugio State Park to Tajiguas Canyon</b>	Exit main park area and turn west on State Parks Service Road as Class III. Turn left, off main road onto gravel covered road, still part of State Park. Pave as Class I. From end of road, build new path that will connect to Refugio-Tajiguas Segment close to 101.	Public	915 m	3,000 ft	3-1
	New Class I construction between Highway 101 and railroad.	Public	2,256 m	7,400 ft	
<b>Tajiguas Canyon to Arroyo Quemado</b>	Class III on County-owned frontage road: “Fish Hatchery Road”	Public	1,067 m	3,500 ft	3-2
	Class I from Fish Hatchery Road westerly terminus to Arroyo Quemado between highway 101 and railroad.	Public	610 m	2,000 ft	
<b>Arroyo Quemado to Arroyo Hondo</b>	Class I using existing Caltrans bridge over Arroyo Quemado and part of south bound lanes of highway 101. Continues as Class I using Vista Point Road (east of Arroyo Hondo)	Public	1,982 m	6,500 ft	3-3
	Utilizes historic Arroyo Hondo Bridge	Public	164 m	540 ft	
<b>Arroyo Hondo to San Onofre Canyon</b>	New Class I between railroad and highway.	Public	4,387 m	14,390 ft	3-4

### 3-1. Refugio State Park to Tajiguas Creek:

From the existing trail (ending at Refugio State Park) the bike path would turn north along an existing park road and cross under the railroad, utilizing an existing underpass. This road leads to the Park headquarters. The trail would branch off of this road approximately 122 meters (400 feet) west of Refugio Creek. The bike trail would branch off onto an existing dirt maintenance road owned by State Parks, located below the park headquarters. It is proposed to pave this road for the bike path. This would be a new Class III bike trail, heading west for 1,085 meters (3,560 feet). The trail would follow this road until it ends. From its terminus, a new Class I would be built heading west-northwest toward Highway 101.

The proposed location of the bike trail in this segment would be between the highway and the railroad, entirely within Caltrans right-of-way. Although the width of the right-of-way in this segment is extremely narrow (3 to 4 meters (12 to 14 feet) wide in some places), construction of the trail in this entire segment appears to be feasible, as illustrated in two cross sections (Figures 2-13 and 2-14). The trail continues west as a new Class I trail between US101 and the railroad for 2,027 meters (6,650 ft). Safety fencing would be required on the railroad side of the trail and a k-rail would be required on the highway side of the trail in this segment.

### 3-2. Tajiguas Creek to Arroyo Quemado Creek:

The trail will connect to and continue west on an existing County-owned frontage road (the old highway), also called “Fish Hatchery Road” for 1,677 meters (5,500 feet) to the east side of Arroyo Quemado Creek. The road is in relatively good condition and is useable in its present state.



*Photo 15 Old Highway Route. Start of western segment, Refugio State Beach, looking west.*



*Photo 16 Old Highway Route looking west from Refugio State Park along the existing State Parks dirt maintenance road.*



*Photo 17 Old Highway Route, west of Refugio between the highway and the railroad, looking west.*



*Photo 18 Old Highway Route, looking west along “Fish Hatchery Road”, west of Tajiguas Creek.*



### 3-3. Arroyo Quemado Creek to Arroyo Hondo:

Between Arroyo Quemado and Arroyo Hondo, Caltrans plans to replace the existing bridge over Arroyo Quemado and move the existing U.S. 101 southbound lanes north onto a new bridge. This would provide space to allow the coastal trail to pass through this extremely tight area of the coast. (This project has been postponed indefinitely due to budgetary constraints.) Once Caltrans' construction is completed, the bike trail will utilize the existing U.S. 101 southbound bridge over Arroyo Quemado and a portion of the existing southbound travel lane. The existing bridge will be retained for trail use. The County and the California Coastal Commission will work with Caltrans to ensure this right-of-way between Arroyo Quemado and Arroyo Hondo for the trail will be made available at some unscheduled time in the future. The trail would head west utilizing this portion of the Caltrans right-of-way for 2,134 meters (7,000 feet) until it reaches Arroyo Hondo.

The bike path would cross Arroyo Hondo Canyon using the existing old highway bridge (Photo 21) that is not currently being used. Caltrans wrote to Wilson Hubbell of Santa Barbara County Public Works Department on November 22, 2000, stating that "Caltrans has no objection to relinquishing the Arroyo Hondo Bridge to the County. Because the bridge has not been seismically retrofitted (and we have are no plans to do that), we would have to negotiate a state of good repair with the County for relinquishment of that bridge." (Pat Mickelson, Caltrans, email to Wilson Hubbell 2/23/2004).



*Photo 19 Old Highway Route, looking west. Arroyo Quemado Bridge to remain as a bike bridge.*



*Photo 20 Old Highway Route, looking west - Trail will use a portion of an existing U.S. 101 lane.*



*Photo 21 The Old Highway Route will cross Arroyo Hondo using the Old Highway Bridge (looking west).*

**3-4. Arroyo Hondo to Canada San Onofre:** From the bridge, the bike path would continue west between the railroad and highway, for 4,003 meters (13,130 feet) to an informal beach parking area at Canada San Onofre. The initial section of the path (52 meters, 170 feet) would be on the old roadbed. This area is completely overgrown with vegetation and no base exists, however the area is relatively flat and would require only minimal grading. Beyond this point, the bike path would be continue to be located between the highway and railroad tracks, entirely within Caltrans right-of-way (Figure 3-2). This would be a new Class I trail. There are several areas between the railroad and the highway that are extremely narrow (eg: 16 meters, 52 feet wide) and four cross sections have been prepared for these areas (Figures 2-15 to 2-18), illustrating that it appears to be feasible.

At the beach parking area, the bike path would skirt around the inside edge (closer to the railroad, but remaining within the ROW) of the parking area, for approximately 120 meters, 400 feet. A small portion of this segment would not have a continuous k-rail or fencing in order to allow continued vertical access to the trail and the beach. The bike path would continue west for 243 meters (800 feet) to Canada San Onofre. From Canada San Onofre westward to Gaviota State Beach parking lot engineering of the trail is planned and funded on State Park Property south of highway 101. State Parks is implementing this particular project. The exact location of this trail is yet to be determined, but the two trails are proposed to connect.

### 3.3.1 Railroad Route Beach Access Points

Vertical beach access points are proposed at three locations along this trail route. The first is provided at **Tajiguas Beach**, on the west side of Tajiguas Canyon. People currently use an informal trail to cross the railroad tracks and access the beach. The western access trail is 100 meters (326 feet) long. The access point is immediately adjacent to the trail route and may require an at grade crossing of the railroad. This trail provides access to a spectacular beach that is currently being used by the public.



*Photo 22 West of Arroyo Hondo the path will be located between the US101 and the railroad ( looking west).*



*Photo 23 Parking area and approximate location of the bike path at Canada San Onofre, looking east along railroad tracks with approaching train.*



*Photo 24 Old Highway Route looking west towards Tajiguas Beach.*

Existing vertical access will continue at **Molino Canyon** and **San Onofre Canyon**, which provide access to the popular beaches below. The informal trails are approximately 206 meters (677feet) and 218 meters (714 feet) respectively. No trail improvements are proposed. The Local Coastal Plan includes polices that require protection of the sensitive habitat in these canyons.

Vertical access at Arroyo Hondo was considered, but the descent is precipitously steep and long, and the beach is rocky. Vertical access at this location is therefore not recommended.



*Photo 25 Vertical access trail in San Onofre Canyon.*

**Table 3-10**  
**Railroad Route: Summary**  
(excluding existing El Capitan to Refugio Trail segment)

Item	Current Ownership	Trail Length
Class I Trail Construction	Public	10,314 m, 33,290 ft
	Private	0
	Total	10,314 m, 33,290 ft
Class III Trail Construction	Public	1,231 m, 4,040 ft
	Private	0
	Total	1,231 m, 4,040 ft
Class IIIA Trail Construction	Public	0
	Private	0
	Total	0
Total Route Length (excluding Vertical Access)	Public	12,552 m, 40,636 ft
	Private	12,170 m, 39,917 ft
	Total	24,722 m, 80,553 ft
Vertical Access Trail Length (note: access points follow currently used informal trails).	Tajiguas Beach	80 m, 265 ft
	Molino Canyon	206 m, 677 ft
	San Onofre Canyon	218 m, 714 ft

### 3.4 Equestrian Route Trail Description

A summary of trail characteristics, for each segment of the proposed Trail Route 4, referred to as the “Equestrian Route”, is discussed below and summarized in Table 3-11 below. Segment alternatives are discussed in following sections.

**Table 3-11  
Equestrian Route Characteristics**

Segment	Description	Ownership	Distance		Segment Number
<b>Refugio State Park to Tajiguas Canyon</b>	Equestrian trail on north side of highway on private property using existing private roads and new trail construction.	Private	3,258 m	10,687 ft	4-1
<b>Tajiguas Canyon to Arroyo Quemado</b>	Equestrian trail on north side of highway on existing County Road.	Public	2,398 m	7,866 ft	4-2
<b>Arroyo Quemado to Arroyo Hondo</b>	Equestrian trail on north side of highway on County roads.	Public	1,007 m	3,306 ft	4-3
	Equestrian trail on north side of highway on private roads.	Private	1,034 m	3,394 ft	
<b>Arroyo Hondo to San Onofre Canyon</b>	Equestrian trail on north side of highway within Caltrans Right-of-Way.	Private	1,227 m	4,026 ft	4-4
	Equestrian trail on north side of highway on existing private road.	Private	4,251 m	13,944 ft	

The equestrian trail would be separate from the bike trail beginning either at El Capitan Ranch (at the proposed Bill Wallace Trailhead) or at Refugio State Beach. An equestrian staging area is proposed at the Bill Wallace Trail Trailhead on El Capitan Ranch. From this staging area, equestrians could head west on Calle Real (on the north side of the highway) to Refugio Road, or turn south under the highway at El Capitan Canyon to the State Beach and then west along the existing trail to Refugio if permitted by the State Park. At Refugio, equestrians would turn north and be on an informal dirt trail that goes under the highway.

Heading west from Refugio Road, the equestrian trail is proposed to be north of the Caltrans ROW for most of its length. Exceptions (where it is within Caltrans ROW) include where an existing publicly owned road is parallel to the highway, yet still at a comfortable distance from the highway. This is intended to maximize the comfort, safety and enjoyment for equestrian users. Other details are provided below.



**4-1. Refugio State Beach to Tajiguas Canyon:** A parking and staging area is proposed in this project on the east side of Refugio Road, near the bottom of the northbound onramp, on an existing dirt parking area, within Caltrans right-of-way. The staging area would be located on the opposite side of the road of the start of the proposed trail route. The trail begins on the west side of Refugio Road using an existing private paved road on the Freeman property. The trail continues west on this road for 515 meters (1,692 feet). It crosses Canada del Refugio using an existing private bridge. When the existing road turns north, a new trail to the west will be constructed for approximately 162 meters (534 feet) along side and north of the Caltrans ROW. The trail will then ascend Refugio Hill on a new trail using switchbacks (243 meters, 798 feet). The trail would connect with an existing private road on top of Refugio Hill and would follow this road for 580 meters (1,903 feet). At the termination of this road, a new trail would be constructed heading west for 807 meters (2,649 feet) until the unnamed canyon. This trail would be 54 meters (178 feet) from Highway 101.



*Photo 26 Existing bridge crossing at Canada del Refugio.*

The trail crosses a small canyon with an at grade crossing and connects with an existing private unpaved road on the west side of the canyon. The trail follows this existing road for 275 meters (902 feet). At the unnamed canyon the trail descends and crosses it with an at grade crossing (62 meters, 206 feet) and again connects with an existing private road on the western side of the canyon. The trail follows this existing unpaved private ranch road for 610 meters (2,003 feet), before connecting with a County owned road, approximately 1,000 feet east of Tajiguas Canyon.



*Photo 27 Existing County road, east of Tajiguas Canyon, looking east.*

**4-2. Tajiguas Canyon to Arroyo Quemado:** The equestrian trail follows the existing County road for approximately 2398 meters (7,866 feet). This road would wind the trail past Tajiguas Canyon and a small housing community (See Photo 28). The equestrian trail would enter the Baron Ranch owned by Santa Barbara County on the existing County-owned frontage road and turn north at Arroyo Quemado still on the County road.



*Photo 28 Looking west along County road, houses to the right.*

**4-3. Arroyo Quemado to Arroyo Hondo:** From the end of the County road, the equestrian trail would follow an existing public unpaved road to descend the east side of Arroyo Quemado. It would follow the road for a short distance, cross the canyon and then switchback up the west side to the top, then continue on a new trail for 679 meters (2,230 feet). The trail would connect with a County road approximately 1,200 feet east of Canada de la Pila. This road is on the landfill property.



*Photo 29 County road along side Baron Ranch, looking east.*

The trail would follow the County road for 481 meters (1,579 feet) in a westerly direction crossing Canada de la Pila, before turning south for 64 meters (210 feet) and then heading west for 462 meters (1,517 feet). The trail would drop down into and cross Canada de la Huerta, and continue west on an existing unpaved private road for 354 meters (1,164 feet).

**4-4. Arroyo Hondo to Canada San Onofre:** The equestrian trail would head west from Canada de la Huerta and descend the north side of the steep hill on the east side of Arroyo Hondo using switchbacks. This new trail would be entirely within Caltrans Right of Way. The distance of the new trail that would extend from the road west of Canada de la Huerta, across Arroyo Hondo, and connect to the road at Canada de Guillermo is 1,227 meters (4,026 feet).



*Photo 30 Unpaved road in Arroyo Quemado.*

The trail would connect with an existing private road and follow it for 202 meters (665 feet) to Canada de Guillermo. From Canada de Guillermo the trail would head northwest and cross the canyon on an existing unpaved private road. The trail would use a short publicly owned segment of the frontage road in front of the Richards and Brown properties, and then continue west on the private road across the Brown property for 733 meters (2,405 feet).



*Photo 31 Looking east from entrance to the Arroyo Hondo Preserve.*

The trail would continue on the existing private ranch road to cross Canada de la Posta. The segment would be approximately 334 meters (1,097 feet). The trail would continue to follow the existing private road west for 911 meters (2,898 feet). It would cross a couple of minor, unnamed canyons on the Brinkman property using existing switchbacks and would cross Canada del Molino using an at grade crossing before connecting with an existing private road. At Canada del Molino, the trail would follow a well defined paved private road, which may have been part of the Old Highway. The trail would continue west on this private road for 2,097 meters (6,879 feet) across the Brinkman and Chevron properties to Canada San Onofre.



*Photo 32 Private road at Canada del Molino, looking east.*

The existing road crosses Canada San Onofre and terminates at the western Chevron property line. It is anticipated that the equestrian trail could continue on the north side of the Highway to Mariposa Reina, where it could utilize the existing public over pass to connect with the planned State Park trail, however, this is outside of the scope of work of this study.

**Table 3-12**  
**Equestrian Route: Summary**  
(excluding existing El Capitan to Refugio Trail segment)

Item	Ownership	Trail Length
Equestrian Trail	Public	3,405 m, 11,172 ft
	Private	9,772 m, 32,051 ft
	Total	13,177 m, 43,223 ft
Total Route Length (excluding Vertical Access)	Public	3,405 m, 11,172 ft
	Private	9,772 m, 32,051 ft
	Total	13,177 m, 43,223 ft



### 3.4.1 Equestrian Route Alternatives

**Equestrian East Alternative (A5):** This equestrian alternative is proposed entirely within the Caltrans right-of-way between Refugio and Tajiguas Canyons, north of Highway 101. From Refugio Road (north side of Refugio Beach State Park) the trail alternative would begin approximately 10 meters (28 feet) from edge of pavement of the Highway onramp, south of the Freeman property. This alternative would head west on the existing paved State Park access trail for approximately 10 meters (32 feet). The trail would then head west on a new 100 foot long bridge to cross Refugio Creek. The trail alternative would continue west along the northern fence line of the Caltrans ROW and would follow the gas pipeline within the right-of-way to ascend the bank of the onramp (357 meters; 1,170 feet long). The trail alternative would continue west within the right-of-way above US101 for 192 meters (630 feet) to Refugio Hill.



*Photo 33 Existing State Park access trail on Refugio Road, looking west (On ramp visible).*

At Refugio Hill the trail alternative would ascend this steep hill using switchbacks at a slope of approximately 8% to the top of the hill and then follow the Right-of-Way boundary line to descend the west side of the hill. This alternative continues in a westerly direction for 2,307 meters (7,567 feet) within the Caltrans ROW to Tajiguas Canyon where it connects with an existing County Road. This section is close to the Highway (approximately 50 feet from edge of pavement) in several locations. At Tajiguas Canyon, this alternative connects with the proposed equestrian route.



*Photo 34 Refugio Hill, looking west.*

**Equestrian Middle Alternative (A6):** This second equestrian alternative is also located entirely within the Caltrans ROW. It leaves the County owned road at Arroyo Quemado to cross the canyon on a new trail. The trail heads west across the canyon using switchbacks (length is approximately 248 meters; 813 feet and slope is approximately 8%). From Arroyo Quemado the alternative continues west for 1,827 meters (5,993 feet) to Arroyo Hondo where it meets the proposed equestrian route.

**Equestrian West Alternative (A7):** This alternative is also located completely within the public Caltrans Right-of-Way. This equestrian trail alternative begins at Canada de Guillermo and heads west within the Caltrans ROW. It descends major canyons, Canada de Molino and Canada de la Posta, using switchbacks and continues west for 4,917 meters (16,128 feet) to just east of Canada San Onofre. Sections of this alternative are within 60 feet of edge of pavement of Highway 101.





**Table 3-13**  
**Equestrian Route Alternatives: Summary**  
(excluding existing El Capitan to Refugio Trail segment)

Item	Ownership	Trail Length		
		Equestrian East Alternative (A5)	Equestrian Middle Alternative (A6)	Equestrian West Alternative (A7)
Equestrian Trail		2,858 m, 9,376 ft	2,075 m, 6,806 ft	3,485 m, 11,431 ft
Total Route Length (excluding Vertical Access)	Public	2,858 m, 9,376 ft	2,075 m, 6,806 ft	3,485 m, 11,431 ft
	Private	-	-	-
	Total	2,858 m, 9,376 ft	2,075 m, 6,806 ft	3,485 m, 11,431 ft
Vertical Access Trail Length	-	-	-	-

### 3.5 Trail Route Comparison

A comparison of the construction requirements of each route is presented below.

**Table 3.14**  
**Statistical Comparison of Trail Routes**  
(excluding existing El Capitan to Refugio segment)

			Bacara Resort to Las Llagas Canyon		Refugio State Beach to Canada San Onofre	
			Old Highway Route Mixed Use	Bluff Top Route Mixed Use	Railroad Route	Equestrian Route
Length	Total	Meters	11,729	9,298	11,545	13,177
		Feet	38,471	30,500	37,330	43,223
	Public	Meters	3,653	915	11,545	3,405
		Feet	11,982	3,000	37,330	11,172
	% Public of Total Length		31%	10%	100%	26%
	Private	Meters	8,076	8,384	-	9,772
		Feet	26,489	27,500	-	32,051
% Private of Total Length		69%	90%	-	74%	
Class I Trail Construction Class I	New	Meters	3,077	8,384	10,314	-
		Feet	10,100	27,500	33,290	-
Class III Trail Construction		Meters	5,573	915	1,231	-
		Feet	18,279	3,000	4,040	-
Class IIIA Trail Construction		Meters	3,079	-	-	
		Feet	10,100	-	-	
Vertical Access		Number	1	6	3	-
		Meters	870	906	504	-
		Feet	2,854	2,976	1,656	-
New Bridges		Number	-	2	-	1
		Meters	-	82	-	30
		Feet	-	270	-	100

### **3.6 Parking Areas**

Several locations along the trail routes may be suitable for vehicle parking for trail users to begin and end their hike or ride. One existing parking area is at Haskell's Beach (the "Bacara Resort"). Additional parking areas could be established within County or State Right-of-Way alongside the frontage roads at Naples, Dos Pueblos Ranch, and Tajiguas (Figure 3-2). The existing informal parking areas at Molino and San Onofre Canyons will remain.

An equestrian staging area is proposed at the Bill Wallace Trail Trailhead on El Capitan Ranch (Figure 3-2). A second staging area is possible at Refugio Road on the north side of US101. In addition, Caltrans owns property adjacent to and west of the entrance to Las Varas Ranch entrance, immediately south of US101. This area could also be used as a staging area for trail users in this area. If this area is developed, then adequate fencing will have to be installed to protect the adjacent avocado groves.

#### **3.6.1 Recommendations Regarding Parking Areas**

The parking areas should be restricted to daylight use only (no overnight camping allowed) for safety reasons and to minimize impacts to adjacent property owners. Parking areas adjacent to private property should be fenced to keep trail users from trespassing onto private property. Parking should be restricted to one side of these frontage roads to ensure adequate room for emergency vehicles. Additionally, trash receptacles and regular trash pick up should be included if these areas are developed.



## **Section 4.0 Environmental Analysis**

### **4.1 General Environmental Analysis**

#### **4.1.1 *Geology and Soils***

The proposed trail is located in the western Transverse Ranges Physiographic Province of California. The Transverse Ranges are characterized by east-west trending physiography and geologic structure. The Santa Ynez Mountains consist of a homoclinal south-dipping sequence of consolidated sedimentary rocks of Mesozoic through Late Tertiary age, locally overlain by unconsolidated deposits of Quaternary age. The consolidated rocks are predominantly sandstones and shales of marine origin, whereas the unconsolidated rocks are composed of various mixtures of clay, silt, sand, and gravel of both non-marine and marine origin (Dibblee 1950, 1966).

The Santa Ynez Mountains are characterized by an east-west trending structural grain and have been uplifted along their northern margin in association with the Santa Ynez Fault. Tectonic forces have warped the range into an east-west trending anticline with the north limb almost entirely truncated by the Santa Ynez fault system. This fault system splits into two distinct branches in the northwestern corner of the range: the North Branch/Pacific fault zone and the South Branch Santa Ynez Fault.

#### **Faults and Seismicity**

Information pertaining to faults and seismicity relative to the trail alignments is based on reports by Geotechnical Consultants (1994, 1996). The project site is located in a seismically active area near the western end of the Transverse Range geomorphic province. One active fault is known to exist in the vicinity of the trail alignments. It is the Eagle Canyon Fault. This area is classified as a high seismic risk area in the Santa Barbara County Seismic Safety and Safety Element (1972), as is the majority of Santa Barbara County.

#### **Thresholds of Significance**

Significant geologic impacts could occur from proposed trail construction if:

- Unique geologic features of unusual or scientific value were adversely affected or destroyed.
- Geologic processes such as landslides or erosion were triggered or accelerated.
- Earthquake-induced ground motion resulted in substantial damage to site structures.
- Near-surface geologic conditions are sufficiently unstable or otherwise susceptible to failure such that soils and geologic engineering measures proposed by the applicant or discerned, as feasible mitigation measures do not reduce the potential of geologic hazards to a level of insignificance.

The County's *Environmental Thresholds and Guidelines Manual* for Santa Barbara County (1995) state that a significant impact would occur if:

- trail construction would result in potentially hazardous geologic conditions such as the construction of cut slopes exceeding a grade of 1.5' horizontal to 1' vertical.
- trail construction involves a cut slope over 15' in height as measured from the lowest finished grade.
- the trail construction is located on slopes exceeding 20 percent grade.

## Impacts

### 1. Erosion and Sedimentation

Grading for the proposed trail would cause a short-term increase in the amount of soil exposed to wind and water erosion. The impervious trail surface would concentrate water flow and could lead to long-term erosion. In addition, long-term erosion from severe changes in topography could also result from project grading. The trail routes will traverse moderately steep canyon walls in several locations. These could lead to increased erosion and sedimentation in local creeks and drainages. Improper construction adjacent to bluff tops could increase bluff retreat due to impacts on surface water drainage. These short- and long-term impacts would be *significant but mitigable (Class II)*.

### 2. Slope Failure

Slopes within several canyons are moderately steep, and construction on these slopes could result in superficial slope failure. These failures typically occur at depths shallower than four to five feet. This would be a *significant but mitigable impact (Class II)*.

### 3. Expansive Soils

Much of the trail would be constructed through the Rincon formation which is highly expansive. Trail construction and maintenance can be difficult due to continued shrinking and swelling of the soils. The expansion potential is *significant but mitigable* with appropriate construction and design.

### 4. Earthquakes

One known fault is the Eagle fault located near the trail alignment in the vicinity of Dos Pueblos Canyon to Gato Canyon, running in a south-westerly direction. Surface fault rupture at the site could occur, but damage to the 8 to 10-foot wide trail or injuries to trail users due to earthquake damage to the trail would be insignificant because any injuries would likely be insignificant and because the structural damage to the trail could be easily repaired. Conversely, significant impacts and injury could occur due to earthquake's damage to bridges (*Class II*).



## 5. Ground Failure

Types of ground failure that pose potential constraints to the trail, include liquefaction, soil settlement, lurching, and different settlement rates. These failures are typically caused by strong seismically induced ground motion. Loose granular soils are most susceptible to ground failure by liquefaction, a process whereby granular sediments lose strength by transformation from a solid to liquid state. Soil settlement is the compaction of granular soils due to a reorganization of soil grains and reduction of pore space caused by strong ground motion. Lurching is the lateral movement of surficial soils in response to strong ground motion.

Given the geology of the area, soils along the route are not expected to be subject to liquefaction or other types of ground failure. Impacts are expected to be *insignificant (Class III)*.

## Mitigation Measures

**Geology-1. Erosion Control, and Revegetation Plan.** A final grading plan shall be designed to minimize erosion and shall include the following:

- a) Methods such as diversion structures, spot grading, silt fencing and hay bales shall be used to reduce siltation into adjacent streams during grading and construction activities.
- b) Grading on slopes steeper than 5:1 shall be designed to minimize surface water runoff.
- c) Temporary storage of construction equipment shall be designated on the final trail plans.
- d) A drainage plan illustrating impervious conduits that channel surface water to engineered bioswales prior to dropping into existing drainages. This plan shall also include a maintenance and inspection program to ensure proper functioning.
- e) The final grading plan shall be submitted to the County of Santa Barbara Planning and Development Department, Building and Safety Division and Public Works Department, for review and approval.
- f) Grading shall be limited to the dry season (i.e., April 15 to November 1) unless a P&D approved erosion control plan is in place and all measures therein are in effect.
- g) Soil shall be kept damp during grading activities to reduce the effects of dust generation.
- h) All exposed graded surfaces shall be reseeded with native ground cover to minimize erosion. This requirement shall be noted on all grading and building plans. Graded surfaces shall be reseeded within 60 days of grading completion.
- i) Excess topsoil to be stockpiled on site shall be segregated from other soils to facilitate future land restoration by saving the seed bank.

- j) Where fill is placed upon a natural or excavated slope steeper than 20 percent, a base key shall be constructed at the toe of the fill and the fill shall be benched into the existing slope. A soils engineer shall monitor keying and benching operations.
- k) The maximum height and steepness of all cut and fill slopes shall comply with the County of Santa Barbara Grading Ordinance.
- l) Cut slopes shall be constructed no steeper than 1.5:1, and fill slopes shall be constructed no steeper than 2:1, unless topographic constraints prevent this possibility. Then special design features shall be incorporated to protect the trail.
- m) Areas to receive fill shall be stripped of vegetation, organic topsoil, debris, and other unsuitable material. Engineered fill shall be placed in layers not exceeding 8" in loose thickness, properly moistened and compacted, and tested for 90 percent compaction.
- n) Where fill is placed upon a natural or excavated slope steeper than about 4:1, a base key shall be constructed at the toe of the fill and the fill shall be benched into the existing slopes. The base key shall be embedded at least 2' into competent inorganic soils. The fill shall then be benched horizontally into the existing slope at least 2' normal to the slope as the fill is brought up in layers.

### **Geology-2. Slope Failure.**

Excavations shall not be permitted where conventional fills would not provide adequate slope stabilization. If slope stabilization impacts cannot be avoided, detailed plans of the excavation (with limits of cut and fill and slope restoration method) shall be submitted for review and approval prior to construction.

### **Geology-3. Expansive Soils.**

Soil analyses shall be completed for expansion potential. Once project design has been developed, the soils engineer shall review the mitigation measures and modify them as appropriate. If further measures are necessary to mitigate problems posed by expansive soils, the following alternatives shall be considered:

- a. Over-excavation of expansive soils and replacement with non-expansive fill.
- b. Support of structures on drilled shaft foundations.
- c. Lime treatment of the expansive subgrade.
- d. Project support facilities such as bridge foundations shall be sited on cut pads to provide relatively uniform foundation support and reduce differential settlement. Alternatively, structure foundations shall be designed to tolerate potential differential settlement.

- e. Project grading and earthwork shall be observed and tested by a geotechnical engineer to verify compliance with these mitigation measures.

**Geology-4. Earthquakes.**

Trail facilities such as bridges shall be designed to withstand maximum credible earthquakes and associated peak ground accelerations expected in the area.

Adoption of the above mitigation measures is expected to reduce residual impacts to insignificance.





#### **4.1.2 Water Resources and Flooding**

The Santa Barbara County South Coast is part of the Transverse Range province of California, locally dominated by the Santa Ynez Mountains. The Santa Ynez Range is a south-dipping homocline, exposing sandstone and shale rock formations that range in age from Cretaceous to Quaternary. One of these formations, the Vaqueros Formation, is a cemented sandstone, and is one of the primary aquifers or groundwater sources in the area. The Vaqueros Formation is exposed on the south flank of the range approximately at the contact between the grassland and chaparral in the foothills of the local area.

The sandstone and shale of the Sespe Formation stratigraphically underlie the Vaqueros Formation and are exposed to the north of the Vaqueros outcrop. To the south, overlying the Vaqueros Formation, are the clay-rich Rincon Formation shales and the siliceous shales of the Monterey Formation. Though not reliable, the Sespe and Monterey formations can occasionally provide groundwater to wells, usually at lesser pumping yields and often of a quality that requires reverse osmosis treatment to meet state and local Health Department standards for domestic drinking waters. The predominantly clay-rich, and hence nearly impermeable, nature of the Rincon Formation almost always precludes its use as a groundwater supply. The Rincon Formation generally acts as a barrier to the downward migration of groundwater.

Flooding occasionally takes place in the bottoms of the larger streams that the proposed trail will cross. At the majority of these larger stream crossings the trail will utilize existing bridges or culverts that have proven to carry stream capacity in the past. In the case where the trail has to cross an existing stream in an area that does not have an existing bridge or culvert, final design of the trail will have to calculate the 100 year storm flow and the new bridge or culvert will then be designed to handle this volume.

#### **Thresholds Of Significance**

##### **Surface Water:**

Significant impacts to surface water could occur if:

- Degradation of water quality results from project construction or operation including increased runoff and sedimentation, biochemical degradation, or thermal pollution.
- Project activities expose new or existing developments to flood hazards.
- Project activities require future flood control protective works or result in alteration of stream or wetland environments.
- Alterations of surface water flows occur that would influence existing downstream flows.

### **Groundwater:**

Significant impacts could occur if trail construction-related activities substantially degrade the quality of known or potential aquifers within the vicinity of the project site to levels which do not meet State drinking water standards.

### **Impacts: Surface Water**

**Water Quality.** Potential impacts to surface water quality such as increased turbidity could occur during construction of the trail. Short-term sedimentation impacts could be significant given the steepness of some of the existing slopes and disturbance of creek bottoms during trail construction. These impacts are considered significant but mitigable (Class II). Excavation and grading could disturb existing ground cover and could replace some vegetated areas with impervious surfaces, thereby increasing long-term soil erosion and runoff. These long-term impacts could *be significant (Class II)*.

**Water Flow.** The proposed trail system will cross numerous creeks along its route. Where possible the proposed trail will utilize existing bridges and culverts. Any new bridges would be constructed to allow free passage of water in the creeks. Therefore, creek-crossing construction is not anticipated to cause a significant change in the current or course of direction of water movement in the creeks, nor is the project anticipated to have a significant effect on the amount of surface water in any water body. Therefore the impacts are anticipated to be *insignificant (Class III)*.

**Flooding.** The project proposes to utilize existing bridges and culverts, or sizing new ones to handle the capacity of a 100-year storm event. Exposure of the trail to flooding is not expected (*Class III*).

### **Impacts: Groundwater**

Pumping of water wells near flowing creeks and streams can affect creek biota by lowering the water table to the point where creek flow is reduced or interrupted. The wells, which are most likely to provide water for the construction project make use of the Vaqueros aquifer. This aquifer is typically plentiful. The anticipated demand for construction would not exceed 10 Acre Feet per Year. Therefore, an effect on stream flow is not expected. Pumping from these wells for the short duration of construction will *not produce a significant adverse impact (Class III)* on stream flow.

### **Mitigation Measures**

**Water and Flooding-1.** Mitigation measures specified in the Geology Section would adequately address erosion and sedimentation impacts.

**Water and Flooding-2.** At stream crossings that require new bridges or culverts, the County shall determine the appropriate size of these facilities to assure that they can withstand a 100-year storm.

Adoption of these measures would reduce residual impacts to insignificant levels.

#### **4.1.3 Transportation/Circulation**

The proposed trail is located on the Gaviota Coast, a narrow corridor between the Santa Ynez Mountains and the Pacific Ocean. The only continuous highway passing through the project area is U.S. Highway 101. The Union Pacific Railroad main line is parallel and to the south of Highway 101. Construction access to the project site would be obtained from Highway 101 and local frontage roads. The following are brief descriptions of the principal roadways in the vicinity of the proposed trail alignments.

- **Highway 101** - Highway 101 travels in an east-west direction along the trail alignments. Grade-separated interchanges are present at Refugio Road and El Capitan Beach. With the exception of the six lanes in the immediate vicinity of the Refugio Road interchange, Highway 101 provides four travel lanes with a landscaped median divider along the Gaviota Coast.
- **Refugio Road** - Refugio Road is a two-lane road beginning at Refugio State Beach and traveling northward to the Santa Ynez Valley. A grade-separated interchange is provided at Highway 101.
- **Calle Real** - Calle Real is a two-lane frontage road paralleling the north side of Highway 101 for about three miles between El Capitan State Beach and Refugio State Beach. The Calle Real approaches at the intersections with Refugio Road and El Capitan are controlled by stop signs.
- **Calle Real** is also used as a road name for various segments of frontage road that exist north and south of US 101 generally following the old Highway 1 route.

#### **Existing Railroad Facilities**

A main line for the Union Pacific Railroad runs parallel and adjacent to the coast and Highway 101 within close proximity to the proposed trail. The railway carries both passenger and freight traffic with three Amtrak trains per day in each direction and seven regularly scheduled freight trains per day. In addition, there may be other scheduled freight trains on the line in peak demand periods.

#### **Existing Transit Operations**

There is no existing transit service in the vicinity of the proposed trail routes other than commuter buses that to and from Lompoc and Santa Maria during the morning and afternoon peak hours.

## Thresholds of Significance

The traffic/circulation impacts of the proposed trail would be considered significant if one or more of the following conditions were to occur as a result of the construction or operation of the proposed trail project. These criteria are based on Appendix G of the CEQA Guidelines and Santa Barbara County's 1995 Thresholds and Guidelines Manual.

- The addition of project traffic to an intersection increases the volume to capacity (V/C) ratio by the value provided below or sends at least 5, 10, or 15 trips to a LOS of D, E, or F.

Level Of Service (including project)	Increase In V/C Greater Than
A	0.20
B	0.15
C	0.10
	<i>or the addition of:</i>
D	15 trips
E	10 trips
F	5 trips

- Trail access to a major road or arterial road would require a driveway that would create an unsafe situation or a new traffic signal or major revisions to an existing traffic signal.
- Trail construction adds traffic to a roadway that has design features (e.g., narrow width, roadside ditches, sharp curves, poor sight distance, inadequate pavement structure) or receives use which would be incompatible with substantial increases in traffic (e.g., rural roads with use by farm equipment, livestock, horseback riding, or residential roads with heavy pedestrian or recreational use, etc.) that will become potential safety problems with the addition of construction or cumulative traffic. Exceedence of a roadway's designated Circulation Element Capacity may indicate the potential for the occurrence of the above impacts.
- Construction traffic would utilize a substantial portion of an intersection's capacity where the intersection is currently operating at an acceptable LOS (A-C); but, with cumulative traffic, would degrade to or approach a LOS of D (V/C 0.811) or lower. Substantial is defined as a minimum change of 0.03 for intersections that would operate from 0.80 to 0.85, a change of 0.02 for intersections which would operate from 0.886 to 0.90, and 0.01 for intersections operating at anything lower.

## Impacts

This section addresses the potential impacts on vehicular traffic associated with the proposed trail project. Attention is focused primarily on **roadway and intersection conditions** in the immediate vicinity of the potential trail.

Impacts are also evaluated related to the trails relationship to US101 and the Union Pacific Railroad, including surface crossings of the railroad. The analysis is based on the following assumptions:

*Impact Generators.* The major impact is assumed to come from construction worker commuter traffic and from truck traffic associated with equipment and material deliveries during construction.

*Trips and Trip Ends.* A trip is defined as a single or one-direction vehicle movement with either origin or destination (exiting or entering) inside the study site. Trip ends are the total of all trips entering plus all trips leaving a designated land use or building type over a given period of time.

### Construction Impacts

Construction of the various trail segments is expected to last thirty to ninety days for each segment, over a period of several years.

*Highway 101.* Traffic impacts on Highway 101 are expected to be comprised of approximately 30 trips (for construction worker and supply vehicles). This number of trips on the highway will be insignificant as it would not contribute significantly to the V/C ratio currently on Highway 101.

### Long-term Operational Impacts

*Union Pacific Railroad.* Fast-moving trains could endanger trail users in areas where the trail runs closely parallel to the railroad or where the trail would cross the railroad surface. Three to five surface crossings of the railroad are possible, depending on which trail route is selected. Several of these are in the Naples-Doheny area and the others are west of Refugio State Beach. In these areas visibility is excellent so crossing impacts are expected to be relatively few. Even so, this is expected to be a significant safety hazard and a *potentially significant impact (Class II)*.

*Trail Parking - Ingress and Egress.* During the long-term, ingress and egress on and off the highway could cause significant but *mitigable (Class II)* safety impacts on Highway 101 as vehicles on the highway come to a quick stop at a coastal trail parking area. In addition, parking by trail users on the sides of County roads may increase as trail use increases. This might result in trash being left behind, which may be significant but *mitigable*.



## **Mitigation Measures**

**Transportation-1.** Heavy construction equipment shall arrive on site after the hours of 9:00 AM and leave by 4:00 PM to avoid heavy commuter traffic on Highway 101.

**Transportation -2.** During the periods of construction, traffic safety coordination for construction in vehicles and personnel shall be implemented. Measures shall include but may not be limited to: warning flags/signs, flashing lights on vehicles, a person stationed on road at point of ingress/egress.

**Transportation-3.** Surface crossings of the railroad shall be signed, warning trail users of the dangers of oncoming trains. The County should seek special grant funding to provide remote warning of train arrivals such as flashing lights or barricades that lower upon a train's approach.

**Transportation-4.** All automobile parking areas for trail access shall be restricted to day use only.

**Transportation-5.** The County shall work with Caltrans to develop a safe ingress and egress design for trail staging areas.

**Transportation -6.** The County shall monitor the trail for trash and other effects. If trash and other problems are evident, the County shall implement a trash collection system and/or signs requesting citizen participation in keeping the area clean.

Implementation of these measures would reduce residual impacts to less than significant levels.



#### **4.1.4 Air Quality**

The proposed trail would be located within the South Central Coast Air Basin (SCCAB). Emissions that would result from construction of this trail are subject to the rules and regulations of the Santa Barbara County Air Pollution Control District (SBAPCD). Rules and Regulations of the SBAPCD are designed to achieve air quality standards that were established to protect public health. To that purpose they limit the emissions and the permissible impacts from projects, and specify emission controls and control technologies for each type of emitting source in order to ultimately achieve the air quality standards.

In this section, we describe the climate and meteorology of the Gaviota Coast area, the existing ambient air quality, and the regulatory framework for impact assessment.

#### **Climate and Meteorology of the Gaviota Coast**

Santa Barbara County has a Mediterranean climate characterized by mild winters when most rainfall occurs and warm, dry summers. The regional climate is dominated by a strong and persistent high-pressure system, which frequently lies off the Pacific coast (generally referred to as the Pacific High). The Pacific High shifts northward or southward in response to seasonal changes or the presence of cyclonic storms. In its usual position to the west of Santa Barbara County, the High produces an elevated temperature inversion. Coastal areas are characterized by early morning southeast winds, which generally shift to northwest later in the day. Transport of cool, humid marine air onshore by these northwest winds causes frequent fog and low clouds near the coast, particularly during night and morning hours in the late spring and early summer months.

*Temperature Inversion.* Atmospheric stability is a primary factor that affects air quality in the region. Atmospheric stability regulates the amount of air exchange (referred to as mixing) both horizontally and vertically. Restricted mixing (that is, a high degree of stability) and low wind speeds are generally associated with higher pollutant concentrations. These conditions are typically related to temperature inversions that cap the pollutants emitted below or within them. An inversion is characterized by a layer of warmer air above cooler air near the ground surface. Normally, air temperature decreases with altitude. In an inversion, the temperature of a layer of air increases with altitude. The inversion acts like a lid on the cooler air mass near the ground, preventing pollutants in the lower air mass from dispersing upward beyond the inversion "lid." This results in higher concentrations of pollutants trapped below the inversion.

Because of its coastal location and the adjacent mountains and inland valleys, the coastal strip (south of the Santa Ynez Mountains) is susceptible to sea-land temperature variations and compressional heating which often are associated with inversion conditions. The Southern California coastal region has some of the lowest daytime and nighttime mixing heights in the United States (Holzworth, 1972).



Air quality is determined by measuring ambient concentrations of pollutants that are known to have deleterious effects. The degree of air quality degradation is then compared to health-based standards. The current California and National Ambient Air Quality Standard (CAAQS and NAAQS) are listed in Table 4-1. A summary of the attainment status of all the air basin affected by the trail construction is provided in Table 4-2. Ambient air quality in Santa Barbara County is generally good (i.e., within applicable ambient air quality standards), with the exception of ozone ( $O_3$ ), fine particulates ( $PM_{10}$ ).

*Photochemical Pollutants.* Ozone is formed in the atmosphere through a series of complex photochemical reactions involving oxides of nitrogen ( $NO_x$ ), reactive organic compounds (ROC), and sunlight occurring over a period of several hours. Since ozone is not emitted directly into the atmosphere, but is formed as a result of photochemical reactions, it is classified as a secondary or regional pollutant. Because these ozone-forming reactions take time, peak ozone levels are often found downwind of major source areas.

*Inert Pollutants.* Carbon monoxide is formed primarily by the incomplete combustion of organic fuels. Santa Barbara County is in attainment of the California and National one-hour carbon monoxide (CO) standards. High values are generally measured during winter when dispersion is limited by morning surface inversions. Summer values are much lower due to increased mixing. The County is in attainment of the California and National 8-hour CO standard.

Nitric oxide (NO) is a colorless gas formed during combustion processes which rapidly oxidizes (within minutes) to form nitrogen dioxide ( $NO_2$ ), a brownish gas. Santa Barbara County is in attainment for all the California and National nitrogen dioxide standards. The highest nitrogen dioxide values are generally measured in urbanized areas with heavy traffic. Downtown measurements are well below the California and National standards.



**Table 4-1  
National and California Ambient Air Quality Standards**

Pollutant	Averaging	California <sup>3</sup>	National Standards	
	Time	Standards <sup>1</sup>	Primary <sup>4</sup>	Secondary <sup>3,5</sup>
Ozone (O <sub>3</sub> )	1 hour	0.09 ppm (180 µg/m <sup>3</sup> )	0.12 ppm (235 µg/m <sup>3</sup> )	0.12 ppm (235 µg/m <sup>3</sup> )
Carbon Monoxide (CO)	8 hour	9.0 ppm (10 mg/m <sup>3</sup> )	9.0 ppm (10 mg/m <sup>3</sup> )	NS <sup>6</sup>
	1 hour	20.0 ppm (23 mg/m <sup>3</sup> )	35 ppm (40 mg/m <sup>3</sup> )	NS
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Avg.	NS	0.053 ppm (100 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )
	1 hour	0.25 ppm (470 µg/m <sup>3</sup> )	NS	NS
Sulfur Dioxide (SO <sub>2</sub> )	Annual Avg.	NS	80 µg/m <sup>3</sup> (0.03 ppm)	NS
	24 hour	0.05 ppm <sup>7</sup> (131 µg/m <sup>3</sup> )	365 µg/m <sup>3</sup> (0.14 ppm)	NS
	3 hour	NS	NS	1300 µg/m <sup>3</sup> (0.5 ppm)
	1 hour	0.25 ppm (655 µg/m <sup>3</sup> )	NS	NS
Suspended Particulate Matter (PM <sub>10</sub> )	Ann.Geo.Mean	30 µg/m <sup>3</sup>	NS	NS
	Ann.Arith.Mean	NS	50 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>
	24 hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
Sulfates (SO <sub>4</sub> )	24 hour	25 µg/m <sup>3</sup>	NS	NS
Lead (Pb)	30-day Avg. Calendar Qtr.	1.5 µg/m <sup>3</sup>	NS	NS
		NS	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>
Hydrogen Sulfide (H <sub>2</sub> S)	1 hour	0.03 ppm (42 µg/m <sup>3</sup> )	NS	NS
Vinyl Chloride	24 hour	0.010 ppm (26 µg/m <sup>3</sup> )	NS	NS
Visibility Reducing Particles	1 Observation	Insufficient amount to reduce the prevailing visibility <sup>8</sup> to less than 10 miles when the relative humidity is less than 70 percent (CA only)		

Note: µg/m<sup>3</sup> = Microgram/cubic meter

1. California standards for O<sub>3</sub>, CO, SO<sub>2</sub> (1 hour), NO<sub>2</sub>, and PM<sub>10</sub> are values that are not to be exceeded. SO<sub>4</sub>, Pb, H<sub>2</sub>S, Vinyl Chloride, and visibility-reducing particles standards are not to be equaled or exceeded.
2. National Standards, other than ozone and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The O<sub>3</sub> Standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon reference temperature of 25°C and a reference pressure of 760 mm of mercury. All measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar); ppm in this table refers to ppm by volume or micromolus of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health. Each state must attain the primary standards no later than three years after that state's implementation plan is approved by the EPA.
5. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the implementation plan is approved by the EPA.
6. NS = No Standard.
7. At locations where state standards for ozone and/or PM<sub>10</sub> are violated.
8. Prevailing visibility is defined as the greatest visibility, which is attained or surpassed around at least half of the horizon circle, but not necessarily in continuous sectors.

**Table 4-2**  
**Attainment Status of Affected Air Basins**

Air Basin	O <sub>3</sub>		CO		NO <sub>2</sub>		SO <sub>2</sub>		PM <sub>10</sub>	
	State	Fed	State	Fed	State	Fed	State	Fed	State	Fed
Santa Barbara County	N	N	A	U/A	A	U/A	A	U/A	N	U
San Luis Obispo County	N	A	A	U/A	A	U/A	A	U/A	N	U
Ventura County	N	N	A	U/A	A	U/A	A	U/A	N	U

Source: ARB, *Summary of 1993 Air Quality Data, Gaseous and Particulate Pollutants*. 1994.  
ARB, *Air Quality Designation for State and National Ambient Air Quality Standards*, 1993

Notes

A = Attainment of Standards  
N = Non-Attainment  
U = Unclassified  
U/A = Unclassified/Attainment  
P = Partial Attainment

Sulfur dioxide (SO<sub>2</sub>) is a gas produced primarily from the combustion of sulfurous fuels by stationary sources and by mobile sources. Santa Barbara County has been in attainment of the California and National 1-hour, 3-hour, 24-hour and annual sulfur dioxide standards over the past 10 years (APCD, 2000).

PM<sub>10</sub> is particulate matter with an aerodynamic diameter of ten microns or less. The largest PM<sub>10</sub> emissions in the County appear to originate from soils (via roads, construction, agriculture, and natural windblown dust). Other sources of PM<sub>10</sub> include sea salt, particulate matter released during combustion processes, such as those in gasoline and diesel vehicles, and wood burning. Also, nitrogen oxides (NO<sub>x</sub>) and sulfur oxides (SO<sub>x</sub>) are precursors in the formation of secondary PM<sub>10</sub>. While the County is in attainment for the National annual PM<sub>10</sub> standard, both the California 24 hour and annual PM<sub>10</sub> standards are exceeded in the County.

Lead is a heavy metal that in ambient air occurs as a lead oxide aerosol or dust. Primary sources of this pollutant are automotive emissions, lead processing, and the manufacturing of lead products. There are few lead emissions in Santa Barbara and, as a result, the County is in attainment for the California and National lead standards.

Sulfates are aerosols (i.e., wet particulates) that are formed by sulfur oxides in moist environments. They exist in the atmosphere as sulfuric acid and sulfate salts. The primary source of sulfate is sulfur oxide precursors from the combustion of sulfurous fuels. Santa

Barbara County is in attainment for the California sulfate standard, and there has been a steady decrease since the last violation in 1984.

Hydrogen sulfide (H<sub>2</sub>S) is an odorous, toxic, gaseous compound that can be detected by humans at low concentrations. The gas is produced during the decay of organic material and is also found naturally in petroleum. The County is in attainment of the H<sub>2</sub>S standard.

*Toxic Air Contaminants.* Toxic air contaminants (TAC) are hazardous air pollutants that are known or suspected to cause cancer, genetic mutations, birth defects, or other serious illness to people. TACs come from three basic types of sources: industrial facilities, internal combustion engines (stationary and mobile), and small "area sources" (such as solvent use).

Generally, TACs behave in the atmosphere in the same way as inert pollutants (those that do not react chemically, but preserve the same chemical composition from point of emission to point of impact). The concentrations of inert and toxic pollutants are therefore determined by the concentrations emitted at the source and the meteorological conditions encountered as those pollutants are transported away from the source. Thus, impacts from toxic pollutant emissions tend to be site specific and their intensity is subject to constantly changing meteorological conditions. The worst meteorological conditions that affect short-term impacts (low wind speeds, highly stable air mass, and constant wind direction) occur relatively infrequently.

#### **4.1.5 Applicable Regulations, Plans and Standards**

*National and State Regulations.* National, state, and regional agencies have established standards and regulations that may affect the construction of the trail. The following National and State regulatory considerations apply to the project and to all alternatives.

Federal Clean Air Act of 1970 directs the attainment and maintenance of National Ambient Air Quality Standards (NAAQS). The 1990 Amendments to this Act affect attainment and maintenance of NAAQS (Title I), motor vehicles and fuel reformulation (Title II), hazardous air pollutants (Title III), acid deposition (Title IV), facility operating permits (Title V), stratospheric ozone protection (Title VI), and enforcement (Title VII).

The U.S. Environmental Protection Agency (EPA) implements the Federal Clean Air Act and established the NAAQS for criteria pollutants.

California Air Resources Board (CARB) has established the California Ambient Air Quality Standard (CAAQS), which determine State attainment status for criteria pollutants.

The California Clean Air Act (CCAA) went into effect on January 1, 1989. The CCAA mandates achieving the health-based CAAQS at the earliest practicable date.

*Santa Barbara County APCD Rules And Regulations.* The SBAPCD has jurisdiction over air quality attainment in the Santa Barbara County portion of the SCCAB. The SBAPCD was the principal author of the 1991 Air Quality Attainment Plan (AQAP), the 1993 Rate of Progress Plan (ROP), and the 1994 Clean Air Plan (CAP), which contains strategies for locally attaining State and National ozone standards.

The SBAPCD (District) has numerous regulations, each of which includes a number of rules. District permit requirements are given in Regulation II. Persons constructing or modifying sources of air contaminants are required to obtain (1) an Authority to Construct permit (ATC) before initiating construction or modification of a source; and (2) a Permit to Operate (PTO) prior to beginning operations. However, this project will not need an ATC or a PTO because the only emissions associated with the project will be construction emissions, which will be well below permitting thresholds of the APCD. See analysis below.

#### **Thresholds of Significance**

The California Environmental Quality Act, Santa Barbara County, and the SBAPCD have each established guidelines for determining the significance of environmental impacts. Not all the significance criteria are the same. The Santa Barbara County air criteria have been used since they are the lead agency. Where there are differences, the more stringent criteria were used in the analysis. The following significance criteria were used to evaluate

air quality impacts.

### ***SBAPCD Significance Criteria For Construction***

Emissions from construction are normally short term. Currently, neither the County nor the District have daily or quarterly quantifiable emission thresholds established for short-term construction emissions. PM<sub>10</sub> impacts from dust emissions should be discussed and mitigation measures proposed as per AQAP policies. However, should the construction emissions exceed 25 tons per year of any criteria pollutant, the owner of the stationary source would have to provide offsets per APCD Rule 202; and the SBAPCD would find this to be significant. Construction of the coastal trail will result in emissions well below 25 tons per year of any criteria pollutant.

### ***Significance Criteria for Operations***

The County has developed a significance threshold for ozone precursors. The long-term air quality threshold of significance is 25 pounds per day of either nitrogen oxides emissions or reactive organic compounds (SBC, 1995). This threshold includes both mobile and stationary sources. CO impacts should be modeled if greater than 800 peak hour vehicle trips are anticipated. Operational significance levels will not apply to the Coastal Trail Project, as the emissions associated with maintenance of the trail will be well below APCD threshold levels.

## **Impacts**

### **Trail Construction**

Construction of the trail and upgrading existing roads that will be used as trails, will take approximately 90 days per segment. Total construction of the trail will take place over a four-year period.

*Construction Emissions.* Construction emissions can be distinguished as *onsite* and *offsite*. Onsite air pollutant emissions during construction would consist principally of exhaust emissions from heavy-duty diesel and gasoline-powered construction equipment, and fugitive particulate matter from soil disturbed during grading and trenching. Offsite exhaust emissions would result from workers commuting to and from the job site, as well as from trucks delivering materials and equipment. Table 4-3 describes the total construction emissions for onsite, offsite, and fugitive dust emission sources.

The installation of the trail involves the use of a number of pieces of construction equipment. The project proposes using one D-8 caterpillar tractor, one motor tractor, one motor grader, one scraper and one small backhoe to create the trail. The construction of the trail would take approximately three months to complete, per yearly segment. Several other motorized pieces of equipment would be used in the construction of bridges and stream crossings.

The emissions from onsite construction activities were calculated using Santa Barbara Air Pollution Control District's uncontrolled emission factors for construction equipment (AP-42 assuming load factor of 100%) for the Molino Gas Pipeline Project and scaling these figures up by a factor of four, because of increased construction time.

**Table 4-3**  
**Proposed Trail Construction Emissions Per Year**

	ROC	NO <sub>x</sub>	SO <sub>2</sub>	CO	PM <sub>10</sub>
<b>CONSTRUCTION STAGE</b>					
Onsite Exhaust Emissions	0.48	2.84	0.56	2.36	0.48
Fugitive Dust Emissions	--	--	--	--	9.60
Offsite Exhaust Emissions	0.04	0.08	0.00	0.60	0.00
<b>TOTAL EMISSIONS</b>	<b>0.13</b>	<b>1.73</b>	<b>0.14</b>	<b>0.74</b>	<b>2.52</b>
Significance Criteria	25	25	25	25	25

Emissions associated with the construction of the coastal trail would fall *below the significance* thresholds for construction emissions. However, any addition of ROC, NO<sub>x</sub>, or PM<sub>10</sub> emissions within Santa Barbara County would cumulatively exacerbate the existing ozone and PM<sub>10</sub> exceedances. As a result, these temporary emissions from construction would be considered *potentially significant*.

**Operations:** Emission levels associated with operation of the trail will be *minimal and insignificant*. Only emissions from occasional repairs and maintenance to the trail would occur. These emissions levels are so low that they will not trigger any APCD permit requirements.

### Mitigation Measures

**Air Quality-1** Water sprays shall be applied to all disturbed active construction areas a minimum of two times per day, except when soil water content would exceed the level recommended by the soils engineers for compaction or when weather conditions warrant a reduction in water application. Additionally, adequate dust control shall be used to keep fugitive dust from being transmitted outside of the trail right-of-way. Increased dust control watering shall be performed when wind speeds exceed 15 miles per hour. The amount of additional watering would depend upon soil moisture content.

**Air Quality-2** Any disturbed area that would not be covered with base or paving within 14 days after completion of disturbing activities shall be stabilized using soil coating mulch, dust palliatives, compaction, reseeding, or other approved methods. Soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucked soil loads shall be covered in transit.

**Air Quality-3** The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to land use clearance.

**Air Quality-4** Prior to construction, the County shall include these dust control requirements as a note on a separate information sheet to be recorded with the site construction plans. All requirements shall be shown on grading and building plans.

**Air Quality-5** Streets shall be swept at the end of the day, if visible soil material is carried onto paved roads.

**Air Quality-6** Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.

**Air Quality-7** Catalytic converters shall be installed on all gasoline-powered equipment.

**Air Quality-8** High-pressure injectors on Caterpillar engine types 3306 and 3406 DITA shall be installed to reduce NO<sub>x</sub> emissions.

**Air Quality-9** The sulfur content in diesel fuels shall be limited to 0.05 percent.

**Air Quality-10** Engines and emission systems shall be maintained in proper operating condition.

Adoption of these measures is expected to reduce residual impacts to less than significant levels.



#### **4.1.6 Biological Resources**

The trail is located on the Gaviota coast, on the gentle south-facing coastal terraces between the foothills of the Santa Ynez Mountains and the Pacific Ocean. These terraces are incised by a series of canyons created by southward flowing streams. The major drainages, from east to west in the study area are Eagle Canyon, Dos Pueblos Canyon, Las Varas Canyon, Gato Canyon, Las Llagas Canyon, Refugio Canyon, Tajiguas Canyon, Arroyo Quemado, Arroyo Hondo, an unnamed canyon, Molino Canyon, and Canada de San Onofre. Areas of potential impact are between the Pacific Ocean and the 200-foot elevation north of US 101.

Biological resources along the Gaviota coastal terrace have been well studied as a result of numerous EIRs, mitigation and planning studies, and ongoing monitoring through the County's Environmental Quality Assurance Program (EQAP) for oil and gas projects in the Gaviota area (e.g., ADL 1998; Aspen 1993; ERT 1984a,b; ADL 1984; State Lands Commission 1986; Dames & Moore 1991; Envicom 1992; Storrer and Semonsen 1991; SAIC 1984; Energy Division 1992; Rooney et al. 1991), and Storrer 2001.

For the purpose of this analysis, biological resources are divided into (1) habitats, and (2) sensitive species.

#### **Habitats**

Biological features along the trail alternatives were mapped onto the GIS overlay system utilizing information obtained from the above sources, the County's ESH and DER maps, the California Department of Fish and Game's NDDDB maps, the U.S. Fish and Wildlife Service Wetland Inventory Maps, and site visits conducted for this study between Arroyo Hondo and Canada San Onofre. The resulting map is shown on the GIS mapping system. Brief descriptions of habitats located along the trail route are provided below.

#### **Ruderal and Annual Grassland**

This habitat occurs in recently or chronically disturbed areas, especially in the Naples area and the Las Varas Ranch (Rindlaub, 2000). This habitat is associated with heavy livestock grazing, and vehicular disturbance along dirt roads. The vegetation is dominated by weedy, non- native grasses such as wild oats (*Avena barbata*, *A. fatua*), red brome (*Bromus madritensis* ssp. *rubens*), ryegrass (*Lolium* spp.), and ripgut brome (*Bromus diandrus*); and other herbaceous weeds such as bur clover (*Medicago polymorpha*), milk thistle (*Silybum marianum*), Italian thistle (*Carduus pycnocephalus*), filaree (*Erodium cicutarium*), and mustard (*Brassica* spp.). In the absence of disturbance these ruderal assemblages might give way to the grassland/coastal scrub vegetation that typifies less-disturbed parts of the coastal terrace.



Wildlife associated with this habitat in the Gaviota coastal area includes regionally common species that are tolerant of agricultural disturbance and/or thrive in weedy vegetation. Examples include western fence lizard, gopher snake, western rattlesnake, brown-headed cowbird, white-crowned sparrow (wintering), turkey vulture, red-tailed hawk, western meadowlark, California vole, valley pocket gopher, California ground squirrel, brush rabbit, and coyote (Molino Gas Project Final EIR, ADL, 1998). This habitat is also used on a transient basis by wildlife more closely associated with adjoining coastal scrub/grassland, oak woodland, and riparian habitats (see below).

### **Annual Grassland and Coastal Scrub**

Several areas along the proposed trail alternatives support a mixture of grassland and coastal scrub vegetation. Overall, this habitat is less disturbed and has higher species diversity than the ruderal/non-native grassland areas, but it is also associated with fine sandy loam soils and canyon slopes that may be less susceptible to dominance by weeds than are the clayey soils that are more prevalent in ruderal grass land areas. The grassland component of this habitat type includes elements of non-native grassland as well as frequent stands of native bunchgrass (*Nassella pulchra*, *N. lepida*, and *Melica imperfecta*). Native grassland, operationally defined on the basis of greater than 10 percent relative cover of native grasses, and greater in area than ¼ of an acre may be considered significant.

The coastal scrub component of the vegetation is represented by California sagebrush (*Artemisia californica*), coastal goldenbush (*Isocoma menziesii* var. *vernonioides*), sawtooth goldenbush (*Hazardia squarrosa*), and coyote brush (*Baccharis pilularis*). Coyote brush tends to be more frequent on disturbed sites, on clayey soils, and along drainages. This habitat also supports a variety of native and non-native forbs, including lupine (*Lupinus bicolor* and *L. succulentus*), California figwort (*Scrophularia californica*), owl's clover (*Castilleja exerta*), and non-native rose clover (*Trifolium hirtum*).

Wildlife of the grassland/coastal scrub habitat includes all the species occurring in ruderal/non-native grassland habitats, as well as species more typical of coastal scrub and relatively undisturbed grassland habitats. The latter include western skink, southern alligator lizard, side-blotched lizard, western whiptail, striped racer, western kingbird, California thrasher, Anna's hummingbird, California towhee, dusky footed woodrat, brush rabbit, long-tailed weasel, badger, and mule deer. Wildlife of oak and riparian woodlands (see below) may also forage in adjacent grassland/coastal scrub habitats.

### **Oak Woodland**

Oak woodlands along the trail are represented by coast live oaks (*Quercus agrifolia*) that occur on the slopes of canyons or smaller drainages, intergrading with both grassland/coastal scrub and riparian habitats. The oaks are of varying density and cover. Oak woodland understory species in the trail areas include grassland and coastal scrub species, as well as a few characteristic shrubs and herbs such as toyon (*Heteromeles*



*arbutifolia*), elderberry (*Sambucus mexicana*), poison-oak (*Toxicodendron diversilobum*), mugwort (*Artemisia douglasiana*), California blackberry (*Rubus ursinus*), and hummingbird sage (*Salvia spathacea*).

Wildlife characteristic of oak woodland habitat in the trail areas include arboreal salamander, slender salamander, ensatina, common king snake, silvery legless lizard, acorn and Nuttall's woodpeckers, great-horned owl, screech owl, western flycatcher, scrub jay, oak titmouse, bushtit, Hutton's vireo, orange-crowned warbler, house wren, Bewick's wren, rufous-sided towhee, opossum, California mouse, striped skunk, raccoon, and bobcat. Because the oak woodlands of the project area are intermingled with grassland/coastal scrub and riparian habitats, most of the wildlife species associated with these other habitats also occur in oak woodlands.

### **Eucalyptus Woodland**

Eucalyptus have been planted in numerous locations along the trail route, and in places, seedlings and saplings have become established. Several species of Eucalyptus are represented, including blue gum (*Eucalyptus globulus*), river red gum (*E. camaldulensis*), Lemon-scented Gum (*E. citriodora*), silver dollar gum (*E. polyanthemos*), red iron bark (*E. sideroxylon*), and bushy yate (*E. conferruminata*). Eucalyptus provides roost sites for resident and migratory raptors including turkey vultures, hawks and owls, among them sensitive species such as Cooper's hawk and sharp-shinned hawk (Rooney et al. 1991). White tailed kites may use these areas for hunting perches, but they are not used for roosting sites (Rindlaub 2002). Eucalyptus trees are critical habitat for wintering monarch butterflies, a locally sensitive species. Butterflies use groves of eucalyptus trees as aggregation sites during the winter months.

### **Riparian Woodland and Scrub**

Riparian habitat occurs in the canyons. The riparian corridors are Environmentally Sensitive Habitat. Riparian woodlands are classified as southern sycamore-alder riparian woodland (Holland 1986; Rindlaub 1994), but the oak woodlands bordering these streams are also considered a component of the riparian habitat.

Sycamore-alder riparian woodlands in the area are dominated by tall, broad-leafed, winter-deciduous trees including western sycamore (*Platanus racemosa*), alder (*Alnus rhombifolia*), black cottonwood (*Populus balsamifera ssp. trichocarpa*), and arroyo willow (*Salix lasiolepis*). Understory diversity is usually high, with the species composition dependent on the amount of sunlight penetrating the canopy. Typical understory species are mugwort (*Artemisia douglasiana*), California blackberry (*Rubus ursinus*), poison-oak (*Toxicodendron diversilobum*), and canyon sunflower (*Venegasia carpesioides*). Freshwater marsh, characterized by emergent plants such as horsetail (*Equisetum* sp.), cattails (*Typha* spp.), rushes (*Juncus* spp.), and sedges (*Scirpus* spp.), also occurs in places along stream courses.

Riparian habitats are critical to wildlife in southern California because they provide a relative abundance and diversity of food resources, as well as cover, water, and structural features such as rock outcrops and snags. Most of the region's riparian habitats have been degraded by development or surrounding land uses. As a result, riparian habitats support a number of rare or endangered species. Among the habitats crossed by the proposed trail alternatives, the riparian zones are the most complex, and are most likely to support sensitive species.

Vertebrate taxa associated with riparian habitat include the black-bellied slender salamander, ensatina, western fence lizard, gopher snake, common kingsnake, Anna's hummingbird, scrub jay, mourning dove, Cooper's hawk, red-shouldered hawk, bushtit, oak titmouse, common flicker, tree swallow, warbling vireo, Wilson's warbler, black-headed grosbeak, broad-footed mole, California mole, California pocket mouse, various bat species, gray fox, coyote, and mule deer.

Several of the streams located along the trail are mapped as perennial on the USGS 7.5 minute maps although many of them may be seasonally dry during drought years. Several wetlands were previously recorded in the project extent.

### **Sensitive Species**

Sensitive plant species include taxa listed as rare or endangered, or as candidates for such listing, by the U.S. Fish and Wildlife Service or California Department of Fish and Game. Also included are plants listed as rare, threatened or endangered by, or otherwise of special local concern to the California Native Plant Society or other authorities such as the Santa Barbara Botanic Garden.

The most recent comprehensive treatments of sensitive plants in the Gaviota area include the Molino Gas Project Final EIR, ADL 1998), the Pacific Pipeline EIR (Aspen 1993), the Level-3 monitoring reports (Storrer Environmental Services 2001). Also reviewed was information gathered for the monitoring program for the Level Three fiber optic cable, which was installed adjacent to the Union Pacific Railroad along the Gaviota Coast in 2001. Review of these and other, earlier sources, in conjunction with recurrent field observations by local biologists over the past 15 years, indicate that there are as many as 26 sensitive plant species in the Gaviota Coastal area.

### **Sensitive Animal Species**

Surveys for sensitive wildlife species have not been conducted for the proposed trail alternatives, but recent sensitive species surveys conducted for other projects on the Gaviota coast contain considerable information relevant to the proposed project. A thorough biological assessment of the area was included in an EIR for the Pacific Pipeline (Aspen 1993), and additional information was prepared by Storrer Environmental Services for the Level Three fiber optic cable project. The following accounts of species that may occur in the trail route areas rely primarily on these sources.



## Federally Listed Animal Species of Special Concern

This section discusses animals that are listed or are proposed for listing by the U.S. Fish and Wildlife Service as either threatened or endangered species. These species are protected throughout their habitat under the provisions of the Endangered Species Act of 1973.

**Tidewater Goby** (*Eucyclogobius newberryi*). (*In review for removal from listing.*) Tidewater gobies are small fish that are federally listed as endangered and are California species of special concern. They live primarily in brackish water lagoons at the mouths of streams. They have a large range along the California coast, from Del Norte to San Diego Counties. All life stages of tidewater gobies are completed in waters with low salinity; they have no marine stage. The mouths of Bell Canyon, Eagle Canyon, Refugio Canyon, Arroyo Quemado, and Arroyo Hondo have streams that may be crossed by the trail alternatives. These areas support tidewater gobies (Storrer 2001).

**Southern Steelhead** (*Oncorhynchus mykiss*). An anadromous form of coastal trout, is listed as endangered by the USFWS. Coastal streams that could potentially support populations of steelhead are designated as critical habitat for this species. All of the coastal streams along the Trail Route are designated Critical Habitat (Storrer 2001).

**California Red-Legged Frog** (*Rana aurora draytonii*). Due to introduced predators and habitat modification associated with urbanization and agriculture, California red-legged frog populations have declined dramatically in Southern California. This species was recently listed by USFWS as Threatened north of the Santa Clara River (Rindlaub 2000).

According to Aspen (1993), and Storrer (2001) red-legged frog habitat in the project region occurs along both perennial and intermittent streams where there are permanent pools of fresh water (salinity < 4.5 percent). Emergent vegetation immediately adjacent to pools of moving water is a necessary component of the habitat, because it provides a refuge from predators and helps maintain cooler water temperatures. Introduced aquatic predators (bullfrogs and large-mouth bass) that feed on tadpoles are now common in the historic range of the red-legged frog and quickly deplete native frog populations (Aspen 1993). Red-legged frogs are present in the creeks and adjacent areas that the trail would cross.

Specifically, streams in the following canyons are known to be used by Red-Legged Frog: Eagle, Dos Pueblos, Gato, Refugio, Tajiguas, Arroyo Quemado, and Arroyo Hondo (Storrer 2001). Areas adjacent to the creeks are where some juveniles spend spring and summer months in ground squirrel burrows.



**Southern Bald Eagle** (*Haliaeetus leucocephalus*). Several former nesting sites of the southern bald eagle (Federal Endangered, California Endangered) occurred in Santa Barbara County, including Dos Pueblos Ranch, (Lehman 1994). There is a small population of regular winter visitors at Cachuma Lake, with a few recent breeders (Lehman 1994). Howald et al. (1984) reported that southern bald eagles are rare transients along the South Coast, with one recent record from Vandenberg Air Force Base. Bald eagles are unlikely to occur even as transients in the Gaviota coast area.

**American Peregrine Falcon** (*Falco peregrinus anatum*). Peregrine falcons (Federal Endangered, California Endangered) are rare transients and winter visitors along the southern Santa Barbara County coast. These birds hunt in open country, including marshes, river mouths, grasslands, and seacoasts. An annual average of three or four sightings has been recorded in recent years in the project region (Lehman 1994). As more captive-bred birds are released, it is likely that they will begin to recolonize historic nesting sites in the Gaviota coastal area during the life of the trail system (Aspen 1993). Historic nest sites included Gaviota Pass, San Onofre Canyon, Las Flores Canyon, and Arroyo Hondo (Lehman 1994).

**Southwestern Willow Flycatcher** (*Empidonax traillii extimus*). Willow flycatchers (Federal Endangered, California Endangered) occur in riparian habitats, particularly in willow thickets, although they will use weedy and brushy areas during fall migration. They are uncommon fall transients in the Gaviota coast region and are even less common in the spring. Fall migrants generally pass through the area between late August and early October and spring transients have been seen from the middle of May to early June. Most sightings have been along rivers and at dams and reservoirs (Lehman 1994)

Willow thickets occur along many of the creeks in the area, which are crossed by the proposed trail routes. The nearest known breeding site to the Gaviota coast area is on the other side of the mountains along the Santa Ynez River just west of Buellton. Willow flycatchers are a possible transient species along the trail route, but they are unlikely to breed here.

**Least Bell's Vireo** (*Vireo bellii pusillus*). The least Bell's vireo (Federal Endangered, California Endangered) is found in well-developed streamside riparian habitats with a healthy understory. In Santa Barbara County, it breeds along the upper portion of the Santa Ynez River. Howald et al. (1984) reported two records of migrants at Gaviota State Park and one bird was heard singing along the Santa Ynez River near Lompoc in 1991 (Lehman 1994). Least Bell's vireos may occur on the Gaviota coastal area as casual fall migrants (Lehman 1994).



## California Listed and Animal Species of Special Concern

Species listed by the California Department of Fish and Game as endangered or threatened are protected under the provisions of the California Endangered Species Act (CESA), 1970. Protection is also extended to species designated by biologists as Species of Special Concern under the provisions of Section 15380 of the California Environmental Quality Act (CEQA). There are three birds that are state-listed or considered Species of Special Concern that may occur as transients or visitors in the Gaviota coastal region: Swainson's hawk, western yellow-billed cuckoo, and tricolored blackbird. None of these are expected to be affected by the trail

## Federal Candidate Species

Federal candidate species are ones under consideration by the U.S. Fish and Wildlife Service for inclusion in the lists of endangered or threatened species. These candidates are those for which sufficient information is available to justify their recognition as Federal Special Concern species. Even if not listed these species are protected under Section 15380 of the CEQA guidelines.

**Southwestern Pond Turtle** (*Clemmys marmorata pallida*). Although federal listing was recently refused for this species, the southwestern pond turtle remains a Federal and State Species of Special Concern species, and it remains vulnerable to loss of habitat, habitat fragmentation, and predation by introduced species, exploitation, and pollution. The southwestern pond turtle uses a number of different types of wet habitats, ranging from natural wetlands to irrigation ditches and agricultural ponds. Preferred habitat for this species includes quiet backwaters in lakes, ponds, and low-flowing streams that have a dense growth of aquatic vegetation, a diverse aquatic invertebrate fauna, and protected basking sites (Aspen 1993). Pond turtles move up to 0.3 mile away from streams to lay eggs so successful reproduction requires a band of relatively undisturbed habitat on either side of the creek (Aspen 1993). Southwestern pond turtles are known to occur in a number of creeks between Goleta and Gaviota. Along the proposed trail route there are documented occurrences in Eagle Creek, Corral Creek, Tajiguas Creek, Arroyo Quemado, and Arroyo Hondo (Storrer 2001).

**Coast Patch-Nosed Snake** (*Salvadora hexalepis virgulata*). Coast patch-nose snakes (Federal Special Concern species) occur in a variety of habitats including chaparral, coastal sage scrub, and grassland habitats. Their range occurs from the southern Santa Barbara County coast south to Baja California and extends inland to the Carrizo Plain. It is very uncommon in Santa Barbara County and is not expected to occur in the Gaviota coastal area (Aspen 1993).

**California Newt** (*Taricha torosa*). The California newt is a semi-aquatic salamander. The average adult is approximately 6 inches in length. The dorsum is dark orange to brown, and the skin is rugose or bumpy. The ventral surface is pumpkin-orange. The California

newts occur in several streams along the coast. They are most often found in streams with exposed bedrock pools. There are documented occurrences in Gato Creek and Arroyo Hondo along the proposed trail routes (Storrer 2001).

**Two-Striped Garter Snake** (*Thamnophis hammondi*). The two-striped garter snake (Federal and State Species of Special Concern) is an aquatic species that is typically found along both permanent and semi-permanent streams with rocky beds that are bordered by riparian vegetation. This snake also may be found in lakes and artificial habitats such as stock ponds and reservoirs. Garter snakes hibernate during the winter in animal burrows or crevices in rocks. They emerge from hibernation in early spring and peak activity levels occur in June. Food includes tadpoles, frogs, fish and fish eggs, invertebrates and occasional small mammals (Aspen 1993). Two-striped garter snakes are known to occur in Arroyo Quemado and in Gaviota Creek to the west (Aspen 1993), and Arroyo Hondo (Storrer 2001).

**Ferruginous Hawk** (*Buteo regalis*). Ferruginous hawks (Federal and State Species of Special Concern) no longer nest in California, but are occasional fall and winter visitors to open habitats such as grasslands and agricultural fields in Santa Barbara County. They may visit the project area during the fall and winter to hunt for rabbits, ground squirrels, mice, and snakes, which are common in the grassland habitat along the Gaviota coastal plain.

**Southern California Rufous-Crowned Sparrow** (*Aimophila ruficeps canescens*). Southern California rufous-crowned sparrows (Federal Species of Concern) are uncommon residents in open coastal sage scrub and chaparral habitats along the south coast of Santa Barbara County. They prefer patchy mosaics of brush and grassland on steep, rocky, well-drained slopes. There are historic nesting records from less than one mile from the coast in the Hollister Ranch, Gaviota, and Refugio areas (Lehman 1994). Recent studies have shown the range of this sensitive sub species does not extend into the Santa Barbara/Gaviota area. (Collins/Rindlaub, personal communication 1998).

**Bell's Sage Sparrow** (*Amphispiza belli*). Sage sparrows (Federal Category 2 Candidate) inhabit a number of habitats in Santa Barbara County, ranging from semi-desert scrub to chaparral to pine forests. This species is an unusual resident in the maritime chaparral near Vandenberg Air Force Base and La Purisima Mission. Individuals also have been sighted on the Hollister Ranch (Lehman 1994). Typically, this species resides in short, thick, brushy vegetation. Suitable breeding habitat does not occur in the area that the proposed trail would traverse.





**Townsend's Big-Eared Bat** (*Plecotus townsendii*). Townsend's big-eared bat (Federal and State Species of Special Concern) is found in many different habitats, but has specific roosting requirements. This species roosts in caves, mine shafts, buildings and other structures, but not in crevices. A freshwater source must be located nearby. Townsend's big-eared bats are particularly susceptible to disturbance; they have been known to desert a roost site if visited by a single person (Aspen 1993).

Two subspecies of Townsend's big-eared bat potentially occur in Santa Barbara County. The Pacific western big-eared bat (*P. t. townsendii*) is known from the coastal area of northern and central California and the remainder of California is the range for the pale big-eared bat (*P. t. pallescens*). No collections have been made in the area, and they are unlikely to roost there (Aspen 1993). The Pacific western big-eared bat is a Category 2 candidate for federal listing and both subspecies are CDFG Species of Special Concern (Aspen 1993).

Caves and overhangs in the sandstone ledges at much higher elevations above the trail routes may provide habitat for this species if water is available. Although there are no records for this species Townsend's big-eared bat could forage in this area.

**San Diego Black-Tailed Jackrabbit** (*Lepus californicus bennettii*). The geographic range of this subspecies of black-tailed jackrabbits (Federal Species of Special Concern) extends from the western base of the Coast Ranges along the coast from southern Santa Barbara County south into northwestern Baja California. There are no records for this subspecies in the Gaviota area, which is close to (or beyond) the northern limit of its coastal distribution (Aspen 1993). It is unlikely to occur in this area.

**San Diego Desert Woodrat** (*Neotoma lepida intermedia*). This subspecies of the desert woodrat (Federal Species of Concern) is found along the coastal slope of the Coast Ranges from San Luis Obispo County to northern Baja California. Desert woodrats build their nests in cactus, against rock crevices, and in rock piles. Desert woodrat nests were found in Cañada San Onofre and Cañada del Leon during surveys for the Pacific Pipeline (Aspen 1993). This species has a home range size of no more than 0.5 acre in coastal sage scrub habitats, and it may be as little as 0.1 acre (Aspen 1993).

### **Regionally Rare or Declining Wildlife Species**

In addition to the listed, proposed and candidate wildlife species discussed above, an additional 24 sensitive wildlife species are known from habitats in the region. The distribution, status, and habitat affinities of these regionally rare or declining species are summarized in Attachment C of Aspen (1993), the Biological Assessment for the Pacific Pipeline. Specimen and sighting records are listed in Attachment D of the same document. Eighteen of these are California Department of Fish and Game "Special Concern" species, or "fully protected species." Six species are considered as regionally rare or declining by local biologists (Aspen 1993).



Six species of special concern (white-tailed kite, Cooper's hawk, sharp-shinned hawk, prairie falcon, merlin, and tree swallow) could occasionally forage over the trail right of way but are not expected to nest or breed in the project area. Breeding, foraging and/or roosting habitat for 11 regionally rare or declining species (Monarch butterfly, California horned lizard, burrowing owl, loggerhead shrike, yellow warbler, yellow-breasted chat, blue grosbeak, grasshopper sparrow, mountain lion, and badger) occurs in the area.

Temporary (overnight) roost and feeding sites for monarch butterflies are located in several areas along the proposed trail alternatives, and monarchs commonly forage out over the surrounding area on calm days. Migrating yellow warblers, yellow-breasted chats, and blue grosbeaks may occasionally forage and roost in the well-developed riparian habitats along the trail routes. Mountain lions are known from the chaparral habitat to the north of the trail alignments, and are likely to occasionally follow prey down onto the coastal terraces or move along drainages. Inactive badger burrows have been reported from the area (Aspen 1993). Occasional road kills demonstrate that badgers occupy the Gaviota coastal area, although the incidence of these has declined in recent years. (Storrer/Rindlaub, personal communication, 2000)

### **Thresholds of Significance**

The significance of impacts on biological resources is based on the scale and intensity of the impacts, their duration (short or long-term), and on the ecological and regulatory status of the affected resource in the project area. For the proposed trail alternatives, impact analyses and decisions on significance are consistent with the County's Thresholds and Guidelines for Biological Resources, as approved September 27, 1994, and with CEQA Guidelines (Appendix G), which state that a project will normally have a significant effect on the environment if it will:

- a) Conflict with locally adopted environmental plans and goals of the community where it is located;
- b) Substantially affect a rare or endangered species of animal, plant, or the habitat of the species;
- c) Interfere substantially with the movement of any resident or migratory fish or wildlife species; or
- d) Substantially diminish habitat for fish, wildlife or plants.

The determination as to whether an impact is "substantial" is based on County Thresholds and Guidelines as alluded to above, and on scientific judgment.

## Impacts

### Habitat Impacts

1. Work above or on the edges of the coastal bluff, streams or wetlands could cause landslides resulting in the localized burial of stream and wetland habitats, and increased siltation downstream. This would be *significant, but mitigable (Class II)*.
2. During trail construction, the spillage of motor vehicle fuels, lubricants, coolants, hydraulic fluids, etc., into streams or wetlands, or into endangered species habitats, could degrade these sensitive habitats. The impacts are *significant but mitigable*.
3. The project may require the removal, or otherwise cause the loss, of one or more oak trees larger than 6-inches diameter at breast height, and damage to other trees. These impacts would be *significant but mitigable (Class II)*.
4. Full development of the trail, including vertical access corridors would eliminate several acres of mixed native grassland and coastal scrub habitat. This impact can be reduced to *insignificant (Class II)*.
5. Noise and human activity associated with usage of the trail could disturb wildlife in the riparian areas. This impact is considered *adverse but not significant (Class III)*, due to the typical short duration of this impact.
6. Trail construction through the riparian zones may disrupt stream-flow or cause downstream sedimentation. This short-term impact is *significant but mitigable (Class II)*.

### Sensitive Plant Species

Eighteen sensitive plant species have been reported from the project area and listed in Table 4-4.

One federal and state listed endangered species, Gaviota Tarplant (*Dienandra increscens* ssp. *villosa*), an annual member of the sunflower family, is found in the project area and was observed by Condor scientists during their field reconnaissance on the north side of Highway 101 on the east side of San Onofre Canyon. This rare plant is endemic to Santa Barbara County, and is found primarily in grassland and coastal sage scrub at Gaviota, Hollister Ranch, and in the Burton Mesa – Lompoc – Vandenberg – Casmalia area.

Five additional species are designated as rare (List 1B) by the California Native Plant Society. These include the Gaviota Tarplant, Refugio Manzanita (*Arctostaphylos refugioensis*), Southern Tarplant (*Centromadia parryi* ssp. *australis*), Santa Barbara Honeysuckle (*Lonicera subspicata* var. *subspicata*), and Black-flowered Figwort (*Scrophularia atrata*). As mentioned, the Gaviota Tarplant was observed along the proposed

trail routes. None of the other species were located during this study, and two (Refugio Manzanita and Black-flowered Figwort) are highly unlikely.

Downy Wood Fern (*Thelypteris puberula* var. *sonorensis*) is on the California Native Plant Society's List 2: Rare, threatened, or endangered in California, but more common elsewhere in Mexico). It is found in a moist riparian habitat up Arroyo Hondo Canyon and is unlikely in the immediate project area.

Four additional plants are listed by the California Native Plant Society on Lists 3 or 4 as plants of limited distribution or for which more information is needed. These plants are Plummer's Baccharis (*Baccharis plummerae* ssp. *plummerae*), Catalina Mariposa Lily (*Calochortus catalinae*), Cliff-aster (*Malacothrix saxatilis* var. *saxatilis*), and Hoffmann's Bitter Gooseberry (*Ribes amarum* var. *hoffmannii*). None of these were observed during this study, but all have the potential of being found in the project area.

The remaining plant species listed in Table 4-4 have been recognized by the County of Santa Barbara and/or local botanists as species of local concern because of their rarity in local habitats.

**Table 4-4  
Sensitive Plants in the Project Area**

Common Name	Scientific Name	Habit	Federal Status	State Status	CNPS Status	County Status	Distribution in Project Area	Potential for Occurrence along Trail Routes
Gaviota Tarplant	<i>Dienandra increscens</i> ssp. <i>villosa</i> *	Annual	Endangered	Endangered	List 1B	Rare Endemic	Found in project area in grassland and coastal sage scrub(see map)	Present
Hoffmann's Purple Nightshade	<i>Solanum xanti</i> var. <i>hoffmannii</i>	Small shrub	None	None	None	Endemic	Found in project area in coastal sage scrub (see map)	Present
Nuttall's Snapdragon	<i>Antirrhinum nuttallianum</i> ssp. <i>subsessile</i>	Annual	None	None	None	Rare	Reported north of Highway 101 on Santa Barbara Ranch, Goleta, Hollister Ranch in dune and coastal scrub habitats (sunny openings)	Potential, not found on Trail Routes during this study
Refugio Manzanita	<i>Arctostaphylos refugioensis</i>	Shrub	None	None	List 1B	Sensitive	Observed in chaparral in Arroyo Hondo Canyon, Refugio Canyon, Gaviota, Hollister Ranch	Unlikely. Known from sandstone substrates at higher elevations than the Trail Routes.
Santa Barbara Locoweed	<i>Astragalus trichopodus</i> var. <i>trichopodus</i>	Herbaceous perennial	None	None	None	Rare	Reported from Refugio State Beach and west of El Capitan State Beach in dune, coastal scrub and woodland habitats; may be confused with <i>A. trichopodus</i> var. <i>phoxus</i>	Potential, not found on Trail Routes during this study
Plummer's Baccharis	<i>Baccharis plummerae</i> ssp. <i>plummerae</i>	Shrub	None	None	List 4	Sensitive	Observed in local canyons from Santa Barbara to Gaviota in coastal sage scrub, chaparral, and woodland.	Potential, not found on Trail Routes during this study.
Catalina Mariposa Lily	<i>Calochortus catalinae</i>	Herbaceous perennial	None	None	List 4	Sensitive	Observed in Goleta, Refugio Canyon in grassland, coastal sage scrub, and chaparral habitats	Potential, not found on Trail Routes during this study.



Common Name	Scientific Name	Habit	Federal Status	State Status	CNPS Status	County Status	Distribution in Project Area	Potential for Occurrence along Trail Routes
Island Morning Glory	<i>Calystegia macrostegia</i> ssp. <i>macrostegia</i>	Herbaceous perennial vine	None	None	None	Endemic	Reported from Dos Pueblos Golf Course. Easily confused with the more common <i>Calystegia macrostegia</i> subsp. <i>cyclostegia</i> in coastal scrub and chaparral	Potential, but the mainland subspecies ( <i>Calystegia macrostegia</i> subsp. <i>cyclostegia</i> ) was observed; it is not likely that the island form would be found along the Trail Routes
Southern Tarplant	<i>Centromadia parryi</i> ssp. <i>australis</i> **	Annual	None	None	List 1B		Reported east of Naples, Dos Pueblos Ranch, Glen Annie Canyon, Goleta, Isla Vista in grassland and wetland (vernal pool) habitats	Potential, not found on Trail Routes during this study
Cooper's Lip Fern	<i>Chelianthes cooperae</i>	Herbaceous perennial fern	None	None	None	Regionally Important	Documented from crevices of calcareous rock in Tajiguas Canyon	Not likely, regionally rare plant.
Rigid Bird's Beak	<i>Cordylanthus rigidus</i> ssp. <i>rigidus</i>	Annual	None	None	None	Sensitive	Reported from Santa Barbara to Refugio Canyon and beyond in coastal scrub, chaparral, and woodland habitats	Potential, not found on Trail Routes during this study.
Santa Barbara Honeysuckle	<i>Lonicera subspicata</i> var. <i>subspicata</i>	Shrub	None	None	List 1B	Endemic	Reported from project area, Refugio Canyon in coastal sage scrub and chaparral	Potential, not found on Trail Routes during this study
Cliff-aster	<i>Malacothrix saxatilis</i> var. <i>saxatilis</i>	Herbaceous perennial	None	None	List 4	Rare Rare, sensitive	Reported from project area in Refugio Canyon, Dos Pueblos Ranch in dune and coastal scrub habitats; can be confused with <i>M. saxatilis</i> var. <i>tenuifolia</i>	Possible, but most likely the common variety, <i>M. saxatilis</i> var. <i>tenuifolia</i> , is definitely present
Grass-of-Parnassus	<i>Parnassia californica</i>	Herbaceous perennial	None	None	None	Regionally rare	Found locally only once, 900 feet in Dos Pueblos Canyon.	Unlikely.



Common Name	Scientific Name	Habit	Federal Status	State Status	CNPS Status	County Status	Distribution in Project Area	Potential for Occurrence along Trail Routes
Hoffmann's Bitter Gooseberry	<i>Ribes amarum</i> var. <i>hoffmannii</i>	Shrub	None	None	List 3		Observed (documented with herbarium specimens) from Goleta, Refugio Canyon, Tajiguas Canyon, Gaviota in woodland habitats	Potential in canyons, not found on Trail Routes during this study
Water-pimpernel	<i>Samolus parviflorus</i>	Herbaceous perennial	None	None	None	Regionally Important	Reported from Goleta, Dos Pueblos Ranch and east of El Capitan State Beach in seeps and marshy areas	Not likely, but possible. Not found during this study.
Black-flowered Figwort	<i>Scrophularia atrata</i>	Herbaceous perennial	None	None	List 1B	Endemic	Reported west of San Onofre Canyon and in Arroyo Quemado; often found on diatomaceous soil and sand in coastal scrub, chaparral, bishop pine forest	Not likely in the soil types observed along the Trail Routes of this area
Downy Wood Fern, Sonoran Maiden Fern	<i>Thelypteris puberula</i> var. <i>sonorensis</i>	Herbaceous perennial fern	None	None	List 2		Observed in wooded riparian zone up Arroyo Hondo Canyon; also reported from Arroyo Quemado and Tajiguas Canyons.	Not likely, but possible. Known from moister sites upstream in shaded riparian areas.

**Sources:** California Department of Fish and Game *List of Sensitive Plants and Animals*, updated Jan 2003; California National Diversity Database; County of Santa Barbara Planning & Development Department *DER Map; Listed and Candidate Wildlife and Plant Species of Santa Barbara County*, No date.  
California Native Plant Society *Inventory of Rare and Endangered Plants*, 2002.  
List 1B – Rare, Threatened or Endangered in California and elsewhere; List 2 - Rare, Threatened or Endangered in California, more common elsewhere; List 3 – More information about species is required (Review List); List 4 – Limited distribution (Watch List).  
*A Flora of the Santa Barbara Region, California*, by Clifton F. Smith, 1998.

**Note:** \* Gaviota Tarplant has been reclassified from the genus *Hemizonia* to *Deinandra*.  
\*\* Southern Tarplant has been reclassified from the genus *Hemizonia* to *Centromadia*.





## **Sensitive Wildlife Species**

As discussed in Section 4.1.6, there are a large number of sensitive wildlife species that could occur in the vicinity of the proposed trail. These species fall into several impact categories based on their distribution in the region and the potential severity of impacts:

1. Species that are not known or expected to occur in potential impact areas based on the distribution of the species and/or the lack of suitable resources, impacts would be insignificant. The California condor, southern bald eagle, San Diego black-tailed jackrabbit, and San Diego desert woodrat are in this category.
2. Species that may forage in the area on a transient basis, but are not known or expected to breed or roost in areas of potential impact, based on lack of previous records and the absence of suitable habitat, impacts are potentially adverse (due to loss of foraging habitat) but less than significant (Class III). This category includes monarch butterfly, southwestern willow flycatcher, least Bell's vireo, American peregrine falcon, ferruginous hawk, Townsend's big-eared bat, white-tailed kite, Cooper's hawk, sharp-shinned hawk, prairie falcon, merlin, burrowing owl, tree swallow, yellow-breasted chat, badger, and mountain lion.
3. Species that could possibly occur in trail impact areas, but are widely distributed and/or associated with other habitats, the localized impacts of the project may be adverse, but are not considered to be of sufficient magnitude to be significant (Class III). This category includes coast patch-nosed snake, coast range newt, California horned lizard, and loggerhead shrike.
4. Species that may be considered threatened or endangered, and could breed within potential impact areas, impacts of mortality or disruption of breeding are potentially significant (Class II), and should be mitigated through pre-construction surveys to assess the occurrence of the species (all species), the avoidance of disturbance to breeding sites (all species), and the relocation of by qualified individuals out of impact areas (amphibians and reptiles only). This category includes southwestern pond turtle, California red-legged frog, two-striped garter snake, Southern Steelhead, Bell's sage sparrow, yellow warbler, blue grosbeak, and grasshopper sparrow.

## Thresholds of Significance

The significance of impacts on biological resources is based on the scale and intensity of the impacts, their duration (short or long-term), and on the ecological and regulatory status of the affected resource in the project area. For the proposed trail alternatives, impact analyses and decisions on significance are consistent with the County's Thresholds and Guidelines for Biological Resources, as approved September 27, 1994, and with CEQA Guidelines (Appendix G), which state that a project will normally have a significant effect on the environment if it will:

- a) Conflict with locally adopted environmental plans and goals of the community where it is located;
- b) Substantially affect a rare or endangered species of animal, plant, or the habitat of the species;
- c) Interfere substantially with the movement of any resident or migratory fish or wildlife species; or
- d) Substantially diminish habitat for fish, wildlife or plants.

The determination as to whether an impact is "substantial" is based on County Thresholds and Guidelines as alluded to above, and on scientific judgment.

## Impacts

### Habitat Impacts

1. Work above or on the edges of the coastal bluff, streams or wetlands could cause landslides resulting in the localized burial of stream and wetland habitats, and increased siltation downstream. This would be *significant, but mitigable (Class II)*.
2. During trail construction, the spillage of motor vehicle fuels, lubricants, coolants, hydraulic fluids, etc., into streams or wetlands, or into endangered species habitats, could degrade these sensitive habitats. The impacts are *significant but mitigable*.
3. The project may require the removal, or otherwise cause the loss, of one or more oak trees larger than 6-inches diameter at breast height, and damage to other trees. These impacts would be *significant but mitigable (Class II)*
4. Full development of the trail, including vertical access corridors would eliminate several acres of mixed native grassland and coastal scrub habitat. This impact can be reduced to *insignificant (Class II)*
5. Noise and human activity associated with usage of the trail could disturb wildlife in the riparian areas. This impact is considered *adverse but not significant (Class III)*, due to the

typical short duration of this impact.

6. Trail construction through the riparian zones may disrupt stream-flow or cause downstream sedimentation. This short-term impact is *significant but mitigable (Class II)*

## Mitigation Measures

**Biology-1** A site-specific restoration, erosion control, and revegetation plan (RCRP) shall be prepared for the entire ROW. These plans shall be submitted for approval to Planning & Development and the Regional Water Quality Control Board prior to issuance of a Coastal Development Permit. The Plan shall incorporate the following specific measures:

1. Construction across canyons shall only occur during the dry season, generally April 1 to November 1. After construction is finished, the streambed and banks shall be restored to their previous condition (slope, soil compaction, and substrate type). Canyon slopes shall be temporarily stabilized with jute or other materials as necessary, and seeded or planted for long-term stabilization with locally obtained native riparian, oak woodland, and coastal sage scrub species. Non-native species shall not be used. During the ensuing rainy season, the crossing locations shall be checked for erosion problems. All necessary erosion control and repairs shall be implemented prior to the next rainy season. All activities in canyons shall be in conformity with the conditions of a Streambed Alteration Agreement obtained from the CDFG and a Section 404 permit from the U.S. Army Corps of Engineers. Copies of permit applications and permits shall be provided to the County.
2. Silt fencing and hay bails or other barriers shall be installed above the top-of-bank of the edges of canyons to limit deposition of sand, silt and debris from falling into the streambed. Debris that does fall into the streambed shall be immediately removed if feasible.
3. In all areas of grading and excavation, the fine sandy loam topsoil associated with the Concepcion and Milpitas-Positas soils shall be segregated from clay subsoil and rock materials. Topsoil shall be used in re-surfacing impacted areas. Subsoil and rock materials shall not be disposed on the surface but may be used to re-fill utility trenches, stabilize gullies, or provide base material for the trail if appropriate. Native plant material should be salvaged for later transplanting.

4. All graded and excavated areas shall be stabilized and re-seeded with locally obtained seed. The seeding shall be done immediately after construction unless alternate timing would be more likely to succeed.

**Biology-2** All native trees, regardless of size, shall be avoided to the maximum extent feasible.

**Biology-3** Prior to commencement of construction, the driplines of all individual native trees within 10 feet of the construction ROW shall be fenced. Clumps of native trees can be fenced together, as long the intention of the condition is met which is avoidance of compaction of the roots beneath the dripline.

**Biology-4** Any native trees greater than 6" dbh that are removed, killed, or significantly damaged as a result of the project, shall be replaced the same type of habitat at a ratio of 10 healthy saplings grown for each tree removed.

**Biology-5** Only native plant materials collected from the Gaviota coastal terrace shall be used in the revegetation of grassland and coastal scrub vegetation. A County-approved botanist shall review the species to be used in seed mixes and the sources of materials prior to implementation, and shall monitor their application.

**Biology-6** Non-native weeds shall be controlled in disturbed sites using manual or chemical means as necessary to ensure the successful establishment of native plants. All weeding or use of herbicides shall be monitored by a County-approved biologist.

**Biology-7** Loss of native grassland shall be mitigated by revegetation of disturbed areas with perennial native grasses and associated native grassland species on a 1.5:1 area basis.

**Biology-8** Prior to construction, an Accident Response Plan shall be developed for prevention and clean-up of habitats of construction accidents such as fuel spills, fires, etc. The Plan shall include the following measure: Fueling, overnight parking and maintenance of construction equipment shall be confined to designated areas more than 100 feet from streams or wetlands. The Plan shall also provide for training of construction personnel. In addition, site-specific measures shall be developed for all creek crossings.

**Biology-9** Trail construction shall begin after August 1 and end prior to March 15 to avoid impacts to breeding birds. If it is desirable to begin construction of the trail earlier, a qualified wildlife biologist acceptable to state and local agencies shall survey creek crossings and other habitat for sensitive breeding birds. If no sensitive breeding bird species are found in or within 300 feet of the trail corridor, construction may proceed.

**Biology-10** A pre-construction survey shall be conducted by a qualified wildlife biologist to locate active badger dens, desert woodrat nests, raptor nests, and other sensitive wildlife species on the construction ROW prior to construction. Active badger dens and desert woodrat nests shall be flagged and avoided to the maximum extent feasible. Construction within 100 feet of an active raptor nest shall be avoided until fledglings have left the nest (anticipated by August 1).

**Biology-11.** A biologist approved by P&D and State agencies shall be retained to monitor and report on compliance with the biological protection measures.

**Biology-12.** A training for all construction personnel shall be held prior to beginning construction. The training should include identification of sensitive species, protected trees, accident response, and coordination with the environmental monitor.

**Biology-13.** Construction Vehicle Maintenance and Refueling Zones shall be identified on the construction drawings. These areas should be a minimum of 100 feet from wetlands where spills can be contained and rapidly cleaned up. A construction spill cleanup and restoration plan shall be prepared prior to construction that will be applicable to the types of small spills (diesel fuel, oil, hydraulic fluids) that could occur at the construction site (Class II).

**Biology-14.** If mature native trees are lost they shall be replaced using local stock at a ratio of 10 to one, established in appropriate habitat on the Gaviota coast.

**Biology-15.** Revegetation efforts shall only use seeds and cuttings collected from the Gaviota Coast. Seeds should be collected at or next to the construction zone prior to construction.

**Biology-16.** Sedimentation shall be minimized as much as possible by adjusting the construction schedule to coincide with periods of minimal stream-flow, by fluming creeks across the construction zones, and by installing silt fences immediately downstream of the construction areas.

### **Residual Impacts**

Incorporation of these measures would reduce impacts to biological resources to a less than significant level.



#### ***4.1.7 Historical and Cultural Resources***

The project site is located within the Santa Barbara Channel cultural area, which includes evidence of human occupation dating back roughly 12,000 years ago. Occupation has been subdivided into four periods: Paleo-Indian, 12,000 to 8,000 years before the present (BP); Early, 8,000 to 3,350 BP; Middle, 3,350 to 800 BP; and Late, 800 to 150 BP. Due to the area's rich food resources found on land and in the sea, Native American populations grew over time and their social organization became more complex. Marine resource hunting using plank canoes, expanding trade with other Native Americans throughout the state, and concentration of populations along the channel coast characterize this development. Areas adjacent to the coastline where creeks empty into the Pacific Ocean were typical locations for permanent village settlements. Smaller campsites that may have been used seasonally, or for the gathering of specific food resources, have been found along drainages and prominent ridges that provided views for hunting.

The coastal trail route passes along several Chumash villages that were inhabited in the late 1700s. Most of these villages are preserved relatively well. Notably, the village of Mikiw, the largest of the Chumash towns, and one of the largest in coastal California, had approximately 1,000 residents during this time. Based on the Spanish explorer's estimates, nearly 3,000 Chumash people lived in the eleven villages that existed along the Gaviota Coast. The locations of these villages are not shown in this document in order to protect them from vandalism and other disturbances.

Portions of the trail routes have been the subject of archaeological studies related to development activities (see Table 4-5). Surveys for the Pacific Pipeline, All American Pipeline Coastal Segment, ARCO Golf Course, and Level 3 Fiber Optic Communication Line located a number of sites in the area. A research of records at UCSB by Larry Spanne has identified a large number of archaeological and historic sites located along the proposed trail routes. Historic sites include Naples Depot Water Tower and Site, Dos Pueblos Highway and Railroad Bridges, El Capitan Railroad Bridge, Refugio Railroad Bridge, Arroyo Hondo Railroad and Highway Bridges.

Resources that have been found and recorded are comprised of remains and artifacts left from past human occupation, including tools, ornaments, utensils, food refuse, etc. Those remains predating the Spanish occupation of California are classified as prehistoric, while those dating after that time are considered historic because the remains can be interpreted together with written records. Historic remains are normally standing architectural structures or features such as walls, fences, trash dumps, or landscaping associated with an historic activity.



Many contemporary Chumash peoples consider prehistoric archaeological sites and certain topographic areas, features, plants, animals and minerals to be important aspects of their heritage and want them to be protected.

### **Threshold of Significance**

#### **CEQA Appendix G, Significant Effects**

Significance criteria that apply to private and public projects within the state of California are listed in the California Environmental Quality Act (CEQA) Appendix G.

A project will normally have a significant effect on the environment if it will:

- (j) Disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group; or a paleontological site except as a part of a scientific study.
- (w) Conflict with established recreational, educational, religious or scientific uses of the area.

#### **Santa Barbara County Cultural Resource Thresholds of Significance; Cultural Resource Guidelines**

Santa Barbara County has developed two mechanisms for implementing CEQA Appendix G and Supplement J criteria. The thresholds of significance incorporate the criteria into a process for evaluating cultural resources potentially affected by development. The Cultural Resource Guidelines, revised in 1993, expand upon the CEQA Appendix G and Supplement J criteria. The Archaeological Element contains a framework for developing research questions relevant to the understanding of Santa Barbara County prehistory.

### **Impacts**

Trail construction and operation could result in direct and indirect impacts to cultural resources. Direct impacts include excavation and disturbance of these materials. Indirect impacts are those actions such as increased access to sites by construction personnel and the public that could result in illegal collection of artifacts and vandalism.

The potential for disturbing cultural material is considered a significant impact on Native American values. The potential for encountering human remains in archaeological sites is also a primary concern. The desire of the local Chumash peoples is to be involved with archaeological surveys and deciding how impacts can be minimized.



**Table 4-5**  
**Archaeological and Historic Sites**  
**Summary Table**

Site #	Location	Trail Route	Site Age/ Time Period	Site Significance	Source Citation	Comments
SBA 76	***** Canyon	3	Middle to Late Period	Residential /Village High Significance	Rogers, 1929; Spanne 1974 SR; Svenson, Osland & Peterson SR	Possible impacts
SBA 2441	***** Canyon	3	Early Period	Low density lithics, shell & ground stone Unknown Significance	Imwalle & Wilcoxon, 1991 SR	Possible impacts
SBA 2442	***** Canyon	3	Recent historic	Residential Remains (location of residential structure) Unknown Significance	Imwalle & Wilcoxon, 1991 SR	Trail avoids site
SBA 1322	***** Canyon, west side	3	Early Period ?	Low density lithics, shell & ground stone, moderately disturbed Unknown significance	Spanne 1974 SR; Imwalle & Wilcoxon, 1991 SR	Trail avoids site
SBA 1323	*****	3	Early Period ?	Low density lithics, shell & ground stone, moderately disturbed Unknown significance	Spanne, 1974 SR; Ehmann & Perez, 1975 SR	Trail avoids site
SBA 2440	*****	3	Early Period	Low density lithics	Imwalle & Wilcoxon, 1991 SR	Trail avoids site
SBA 2439	*****	2 & 3	Prehistoric/ Unknown Age	Low density lithics & shell Unknown Signif.	Imwalle & Wilcoxon, 1991 SR	Route 2 – possible impacts Route 3 – avoids site
SBA 144	***** Creek	5A	Early Period ?	Residential/Unknown Significance	P.L., 1959 SR	Possible impacts
SBA 77	***** Creek	5	Late Period & Protohistoric	Residential/Village High Significance	Rogers 1929; W.M.H. 1967 SR	Possible impacts



Site #	Location	Trail Route	Site Age/ Time Period	Site Significance	Source Citation	Comments
SBA 78	***** Creek	Bluff Top	Later Period & Protohistoric	Residential/Village High Significance	Rogers, 1929; 1959 Site Record	Possible impacts
SBA 1564	US101 – west side, ***** Creek	Old Highway	Early Period ? Historic ?	Residential high Significance	King & Craig, 1977 SR	Possible impacts
SBA 1690	South US101-***** Creek	Old Highway	Early Period ?	Camp Site/Location ? Unknown Signif.	Serena, 1980 SR	Possible impacts
SBA 1803	***** Canyon	Bluff Top	Prehistoric/ Unknown Age	Low density lithics & shell Unknown Signif.	Moss & Erlandson, 1983 SR	Possible impacts
SBA 1650	South US101, east side ***** Canyon	Old Highway and Avocado Alternative	Early & Middle Periods	Residential High Significance	Macko & Erlandson, 1978 SR	Possible impacts
SBA 139	North of US101, east side of ***** Canyon	Avocado Alternative	Early Period ? Late Period ?	Residential/ Low to Medium Signif.	Sheets, 1991 SR; DeBarros, 1986 SR; W.M.H., 1960 SR	Trail is on Old Highway 1 – no impacts
SBA 81	***** Canyon	Bluff Top	Middle Period	Residential/Village High Significance		Trail avoids site
SBA 82	***** Canyon	Bluff Top	Late Period	Residential/Village High Significance	Rogers, 1929	Trail avoids site
SBA 83	***** Canyon	Bluff Top	Middle Period ?	Residential/Village High Significance	Rogers, 1929; Hines, Rivers & Wheeler 1989 SR; Sheets 1991 SR	Possible impacts
SBA 87	***** Beach	Old Highway	Later Period & Protohistoric	Residential/Village High Significance	Rogers, 1929; Klug, 1960 SR; Stickel 1981 SR; Hines, Rivers & Wheeler, 1989 SR	Site has been destroyed by US101 & RR
SBA 88	***** Beach	Old Highway	Early Period	Residential/Village High Significance	Rogers, 1929; Klug, 1960 SR; Hines, 1989 SR	Trail avoids site

Site #	Location	Trail Route	Site Age/ Time Period	Site Significance	Source Citation	Comments
SBA 1899	North side of US101, ***** Beach	Old Highway	Prehistoric/ Unknown Age	Low density Lithics & shell Unknown Significance	Macko, Berry, Buehler & Sespe, 1984 SR	Trail avoids site
SBA 89	East side, ***** Canyon	Old Highway	Middle Period ?	Residential/Village high Significance	Rogers, 1929; D'Altroy 1979 SR	Possible impacts
SBA 90	North of US101, west side *****Canyon	Old Highway	Middle to Late Period	Camp Site (?) Medium Signif.	Rogers, 1929	Trail avoids site
SBA 1766	400 meters west of *****Canyon	Old Highway	Late Period & Historic	Residential/Village (some disturbance) High Significance	Stickel, 1982 SR	Trail is on frontage road – no impacts
SBA 1900	North of US101, east side of *****	Old Highway	Early Period (3500 yrs. B.P.)	Residential High Significance	Amme, 1984 SR; Cagle & Lausten, 1984 SR	Trail avoids site
SBA 1152	Between US101 north and southbound lanes	Old Highway	Prehistoric/ Unknown Age	Low density lithic deposit. Highly disturbed Low significance.	Johnson 1980 SR	Trail avoids site
SBA 91	South of US101, west side of *****	Old Highway	Late Period	Residential/Village High Significance	Rogers, 1929	Trail avoids site
SBA 92	North side of US101, 400 meters west of *****	Old Highway	Early Period	Residential/Village Unknown Signif.	Rogers, 1929; D'Altroy 1979; DeBarros 1986 SR	Trail avoids site
SBA 1990	North of US101, west side of ***** road	Old Highway	Prehistoric/ Unknown Age	Camp Site (disturbed) Unknown Significance	Toren, Santoro & Hazeltine, 1992 SR	Trail avoids site
SBA 1979	North of US101, east side of *****	Old Highway	Early Period ?	Camp Site Unknown Significance	Santoro, Toren & Hazeltine, 1992 SR	Trail avoids site
SBA 1204	South of US101, east side of *****	Old Highway	Early Period ?	Residential (partially buried. High Significance	Erlandson, 1981 SR	Trail is on US101 shoulder – no impacts
SBA	West side of *****	Old Highway	Prehistoric/	Camp Site (?)	Johnson, 1980 SR;	Trail segment stops.

Site #	Location	Trail Route	Site Age/ Time Period	Site Significance	Source Citation	Comments
1151			Unknown Age	Unknown Signif.	Quillen, 1983 letter	Potential future impacts
SBA 2038	North of US101, west side of *****	Old Highway	Early to Middle Period	Camp Site Medium Significance	Santoro, Toren & Hazeltine, 1991 SR	Trail avoids site
<b>Historic Sites</b>						
	Naples – Morehart property		Langtry-Railroad Alternative	Late 1800's	Railroad water tower and depot site for town of Naples	Trail avoids site
	Dos Pueblos Highway 1 Bridge		Old Highway	1930	Old Highway 1 steel bridge	Trail avoids site
	Dos Pueblos Railroad Bridge		Old Highway	?	Railroad Steel Bridge	Trail avoids site
	Arroyo Hondo Adobe		Old Highway	?	Historic Adobe	Trail avoids site
	Arroyo Hondo Highway 1 Bridge		Old Highway	?	Old Highway 1 Concrete Arch Bridge	Trail crosses, no impact
	Arroyo Hondo Railroad Bridge		Old Highway	?	Railroad Steel Bridge	Trail avoids site

Notes: SR is Site Record. 2. B.P. is years before present (A.D. 1950).. 3. Age of prehistoric time periods listed in table is as follows. 4. Because an exhaustive record search was not performed for this project, information on the archaeological sites was taken primarily from the archaeological site records. Some information in the table is based on L. Spanne's personal observations and materials in his library. \*\*\*\*\* **Specific locations of sites deleted. See restricted cultural**

**resource maps for locations.**

Early Holocene: 8000-6000 B.C.

Early Period: 6000-1400 B.C.

Middle Period: 1400 B.C – A.D. 1150

Late Period: A.D. 1300-1782

Protohistoric: Period of initial Spanish contact from A.D. 1542-1782

Historic: 1782 to the present day.



## **Mitigation Measures**

The following measures are proposed to reduce potentially significant direct and indirect impacts on cultural resources.

- Arch-1**      A Phase One survey shall be conducted along the route of the selected trail alignment. Special care shall be given to the areas previously identified as existing sites. If initial Phase One work discovers any previously unidentified cultural materials then a Phase Two survey shall be conducted.
- Arch-2**      Ground disturbances in all areas shall be monitored by a County-approved archaeologist to ensure that any outstanding resources previously unidentified in Phase 1, 2, or 3 investigations are recorded. In the event these types of resources are encountered, construction will be temporarily stopped and redirected until the find can be evaluated and recorded, pursuant to County Cultural Resource Guidelines (1993).
- Arch-3**      Local Native American representatives shall be retained by the trail developer to monitor all ground disturbances, including archaeological investigations, within cultural resource areas. Native Americans will be provided results of additional archaeological investigations or significance assessments and be consulted in determining ways to avoid cultural resources by project redesign.
- CR-4**        The County and State Parks shall conduct a pre-construction workshop with cultural resource specialists, Native American monitors, and construction workers/personnel, stressing the importance of cultural resources and discussing penalties for their illicit disturbance.

## **Residual Impacts**

Adoption of these mitigation measures is expected to reduce residual cultural and historical impacts to less than significant levels.

#### **4.1.8 Noise**

The effects of noise are considered in two ways: how a proposed project may increase existing noise levels and affect surrounding land uses; and how a proposed land use may be affected by existing surrounding land uses. Only particular types of land uses listed in the Santa Barbara County Comprehensive Plan Noise Element are considered when measuring the effects of noise. These "sensitive receptors" include residences, transient lodging (hotels, motels, etc.), hospitals, nursing homes, convalescent hospitals, schools, libraries, houses of worship, and public assembly places. The proposed trail development project is not considered a sensitive receptor.

#### **Community Noise**

Noise refers to unwanted sound, which is heard by people or wildlife. Levels of noise are typically expressed in decibels on the A-weighted scale (dBA). The A-weighted scale is obtained by a frequency filtering of the noise so as to approximate the response of the human ear. On this scale, the normal range of human hearing extends from about 0 to 140 dBA. The A-weighted noise levels correlate closely with human perceptions of noise or annoyance and can be characterized statistically or by average levels. Noise levels fluctuate throughout the day; spatial variation of noise is due to different kinds and intensities of human activity. To measure community noise levels, several rating scales have been developed for time-averaged measurements.

The three most commonly used descriptors are the energy equivalent noise level ( $L_{eq}$ ), and the day-night noise level ( $L_{dn}$ ), and the Community Noise Equivalent Level (CNEL). The  $L_{eq}$  is a measure of the average energy content of noise over any given period of time. The  $L_{eq}$  for one hour is the average noise based on the acoustic energy content of the sound rather than the average sound pressure level.  $L_{eq}$  is not measured directly but rather calculated from sound pressure levels measured in dBA. This descriptor is the basis for the  $L_{dn}$  and CNEL scales. The  $L_{dn}$  is the summation of hourly  $L_{eq}$  readings over a 24-hour period using a time-weighted noise scale. A Time-weighted@ means that noise occurring during certain sensitive time periods (i.e., evening and early morning hours) is weighted more heavily in calculations. This time-weighted scale adds a 10 dBA Penalty@ to nighttime noise levels (10 p.m. to 7 a.m.) to account for the greater sensitivity of people to noise during the night. The predominant rating scale now used in California for land use compatibility assessment is the CNEL scale, which represents a time-weighted 24-hour average noise level. CNEL accounts for noise source, distance, single event duration, single event occurrence frequency, and time of day. CNEL has the same 10-dBA penalty for noise occurring between 10 p.m. to 7 a.m. as  $L_{dn}$ , but also adds a 5-dBA penalty for the evening time period (7 p.m. to 10 p.m.).

Human response to noise is subjective and varies considerably from individual to individual. The effects of noise can range from interference with sleep and concentration, to causing physiological and psychological stress. At higher intensity levels, noise can cause hearing loss.

### **Sensitive Receptors and Ambient Noise Levels**

Few sensitive noise receptors are within the vicinity of the proposed project area. The majority of the project area is zoned for agricultural use, with 100 and 320-acre minimum parcel sizes. This zoning results in a very low residential density surrounding these areas. Receptors near the proposed project site are limited to individual homes, the Arroyo Quemado residential community, and Refugio State Park. Sensitive receptors include park offices and camping areas adjacent to some of the trail routes.

The ambient sound levels currently in the neighborhood of the proposed trail routes are created by two sources. The dominant component arises from the traffic on U.S. Highway 101. A lesser contribution is made by the operations of the Union Pacific Railroad.

The alternative trail routes, in many instances, are located adjacent to US101, a four-lane divided highway, that acts as an unshielded line source of noise extending for large distances. The CalTrans Traffic Count Records show that the average daily total (ADT) on the highway in the project vicinity is more than 28,000 vehicles. Approximately 12 percent of these vehicles are trucks of which 59 percent are 5+ axle. Using the U.S. Department of Transportation Traffic Noise Prediction Model, the CalTrans hourly volume counts, and the truck traffic percentages, CNEL is estimated to be 65 dBA at 300' from the highway. This level is affected by the local conditions, topography and ground cover at any specific location.

The Union Pacific Railroad operates both passenger and freight services on the tracks that run parallel to U.S. 101 on the southern side of that highway. Currently, three passenger (Amtrak) trains pass the site each afternoon. There are seven regularly scheduled freight trains per day. To estimate the noise impact of the trains, the following is adopted as a representative daily freight train schedule:

1. Three heavy freight trains between 7:00 AM and 7:00 PM
2. Two light freight trains between 7:00 AM and 7:00 PM
3. One heavy freight train between 10:00 PM and 7:00 AM
4. One light freight train between 10:00 PM and 7:00 AM

On the basis of these schedules, there are approximately five train trips on the railroad every day. It is estimated that the CNEL produced by the Union Pacific Railroad operations at a distance of 100' from the rail bed is in the range 55 to 60 dBA. This impact is mainly on the south side of the highway and is subject to considerable modification due



to the changing topography, cuts and embankments along the route. However, some of the route alternatives are within 50 feet of the rail bed. The noise within 50 feet of the rail bed as the trains go by five times per day might be as high as 90 dBA.

The noise output of the construction phase of the project would be subject to several influences. Due to the distances from the source to the nearest residences these influences can be important. They include the following:

1. *Geometrical Divergence*. This effect theoretically provides a 6-decibel reduction in the sound level for each doubling of distance from the source.
2. *Ground Effect*. This attenuating influence depends on the nature of the ground cover over which the sound travels. The presence of extensive grassy areas increases the absorptive reaction of the ground. The principal influence of foliage is to increase the ground effect.
3. *Atmospheric Absorption*. This form of sound absorption is most effective over large distances and at high frequencies. It therefore would be a strong influence in reducing high frequency random components of traffic noise.
4. *Surface Topography*. Changes in surface elevations can provide considerable shielding of sound sources, either increasing or decreasing the 6-decibel reduction caused by geometrical divergence.
5. *Surface Meteorology*. Wind speed and direction, atmospheric turbulence and thermal gradients all influence the long-distance propagation of sound. Their effects are complex and difficult to quantify. Thermal inversions in the late evening and early morning hours can, by refracting downwards sound waves that would in normal conditions propagate upwards into the atmosphere, produce noticeable effects by increasing the intensity of the sound propagating into areas that would not otherwise be affected.

### **Threshold of Significance**

The Santa Barbara County Noise Thresholds (1993) provide the basis for defining potential significant impacts, which are in part based on the County's Comprehensive Plan Noise Element policies. A significant impact would be caused by any one of the following:

1. If noise levels produced by a project and experienced by sensitive receptors exceed 45 dBA CNEL in interior living areas.
2. If noise levels produced by a project and experienced by sensitive receptors exceed 65 dBA CNEL in exterior living areas (including open patios, porches, decks, etc.



adjacent to residential structures).

3. If a project substantially increases ambient noise levels in adjoining areas, even if the noise level remains less than 65 dBA CNEL.
4. Construction equipment activity would occur within 1,600' of sensitive receptors.

### Noise Impacts

The proposed project includes the construction and maintenance of a coastal trail system between Ellwood and Arroyo Hondo on the Gaviota Coast. Construction of the trail would involve the use of heavy construction equipment. A list of heavy construction equipment and their associated noise levels is shown in Table 4-6 below.

**Table 4-6**  
**Representative Project Construction Equipment Noise**

Equipment Type	Engine Type	Power Rating (hp)	dBA at 50 feet	dBA at 1,600 feet
Dozer	D	250	89	59
Air compressor	D	50	86	56
Backhoe	D	100	86	56
Ditcher	D	100	86	56
Track hoe	D	250	89	59
Loader	D	150	75	45
Dump truck	D	200	77	47
Fuel truck	D	100	77	47
Pickup truck	G	100	77	47
Flatbed truck	D	100	77	47
Welding truck	G/D	50	76	46
Water truck	D	100	77	47
Shoring truck	D	100	77	47

Source: Molino Gas Project, Gaviota, California, Final Application 1994.

Notes: G = gasoline; D = diesel

### Impact Assessment Methodology

Determining the average noise levels due to construction and operation is complex due to the varying number, usage, and distribution of equipment at any given time. The average sound level emitted from the equipment associated with construction and operation of the proposed project is determined using a standard site noise level model [Engineering



Research Laboratory (CERL, 1976)]. This average sound level is defined as the A equivalent sound level@ ( $L_{eq}$ ) and is expressed in A weighted decibel units (dBA). Averaged over the daytime hours (7:00 a.m. to 7:00 p.m.). The  $L_{eq}$  is equal to the  $L_D$ .  $L_{eq}$  represents the same integrated total amount of acoustic energy as time varying sound but applied at a constant rate.  $L_{eq}$  is a useful measure of noise exposure and forms the basis of several noise impact ratings in current use, including the EPA Sound Level Guidelines.

In the construction site noise model, the equivalent sound level,  $L_{eq}$ , is estimated as follows:

$$L_{eq} = 10 \log_{10} \Sigma (N_i * D_i * F_i * 10^{(L_{pi}/10)})$$

where

- $L_{pi}$  = maximum A-weighted sound pressure level in dBA from an equivalent unit of the  $i^{th}$  type at a prescribed measurement distance.
- $N_i$  = number of equivalent units of the  $i^{th}$  type in use during a workday.
- $D_i$  = daily usage factor, or percent of a workday in which equipment of the  $i^{th}$  type is in operation.
- $F_i$  = equipment usage factor, or percent of time that the equipment of the  $i^{th}$  type is operating in its noisiest mode.
- $k$  = number of different types of equipment in use during the workday.

This equation allows the estimation of the equivalent sound level at a prescribed distance from each equipment unit. However, as a simplifying assumption, it is customary to use the center of construction activities for the reference source point (CERL, 1976). The construction site noise model used for this analysis has been tested by various researchers and has been found to agree well with measured time-average sound levels at various construction sites (CERL, 1976).

The noise levels due to construction and operation of the trail near the source and at sensitive receptors located at a given distance away from the source can be estimated as follows:

$L_{pr} = L_{px} - 20 \log (r/x)$  where:

$L_{pr}$  = Sound level in dBA at the desired receptor.

$L_{px}$  = Sound level in dBA at a distance  $x$  away from the source.

$r$  = Distance from the source to the receptor location.

$x$  = Distance from the source to the receptor with sound level  $L_{px}$ .

As can be seen from this equation, a doubling of the distance from the source will drop the sound level by 6 dBA

### Summary of Noise Impacts

The only identified noise sensitive land uses near the proposed project is the Refugio State Park Beach offices located adjacent to one of the proposed trail routes, and the Arroyo Quemado residential community and scattered individual homes. Noise levels for the various noise generating activities were calculated at fixed distances from the project site to demonstrate the incremental reduction of noise intensity.

Based on peak equipment operation, trail construction noise levels, when averaged with background levels, are expected to be 67 dBA at 1,000' and 65 dBA at 1,500' away from the construction corridor. Thus, the above sensitive receptors will be subjected to temporary noise impacts. Construction activity would include grading, excavation and placement of asphalt. Construction would take approximately 90 days for each trail segment. As this is not a stationary activity, noise exposure at any one location is limited to approximately three days.

Operational noise from use of the trail and trail maintenance activities is expected to have no adverse impacts on any sensitive receptors. Because of ambient noise levels from US101 and the Union Pacific Railroad, noise related to maintenance activities would be minimal.

Because of the distance between the construction noise and the sensitive receptors, noise impacts associated with the project are considered significant but mitigable (Class II).

Impacts of the train noise on trail users five times per day is adverse but not significant (Class III) due to the short duration of the impact.

### **Mitigation Measures**

- Noise-1** Mufflers shall be maintained on all internal combustion engines to reduce noise emissions.
- Noise-2** Project grading and construction involving heavy equipment and power tools shall be limited to the hours of 9:00 AM to 4:00 PM, Monday through Friday, excluding State holidays.

### **Residual Impacts**

Adoption of these measures is expected to reduce residual noise impacts to less than significant levels.

#### **4.1.9 Land Use Compatibility**

The proposed project is situated along the Gaviota Coast of Santa Barbara County west of the urban center of Santa Barbara and Goleta. This coastal strip is designated as a rural region in the Santa Barbara County Local Coastal Program (LCP).

The Gaviota Coast contains a variety of features ranging from coastal bluffs and beaches to inland mountains and forests, thus offering many opportunities for passive and active recreation. The principal land uses consist of recreation, transportation (U.S. Highway 101 and the Union Pacific Railroad), and agriculture (grazing and orchards). Residential development is not a dominant land use; it comprises a few single-family residences on large agricultural properties and one rural residential community known as Arroyo Quemado, comprised of 12 residences.

The Gaviota Coast also contains the industrial operations of oil and gas processing facilities and marine terminals (Chevron's Gaviota processing plant and Exxon's Las Flores Canyon facility).

Coastal access and recreation are priority uses under the California Coastal Act. The natural environment of the Gaviota coast, as well as the existence of three developed state parks and beaches, provides a setting for ocean-oriented recreation opportunities including the proposed project.

The three state parks within the Gaviota Coast area include: Gaviota Beach State Park, Refugio State Beach, and El Capitan Beach. The coastal location and scenic qualities of these parks make them very popular to both local and out of area visitors. During the peak use months of the summer (June through August), all three parks operate at or near 100 percent capacity (State Parks, 2000). Because of the high demand for both day and overnight use, overcrowding occurs at the parks on a regular basis. Even during off-season months the parks are operated at a 50 - 75 percent capacity. There is one private campground in the area, El Capitan Canyon, which is developed with about 100 campsites.

Activities at the state park facilities include swimming, surfing, windsurfing, diving, fishing, hiking, horseback riding, and bicycling. In addition to the developed parks, there are numerous undeveloped vertical beach access points from Highway 101. Offshore recreational activities in the study area include sport fishing, diving, and recreational boating. Boat launch facilities are provided at the Gaviota pier for trailered boats.

## **Thresholds of Significance**

Project significance criteria are based upon CEQA Guidelines. Significant land use impacts would occur when there is a:

1. Permanent preclusion of a permitted use on nearby property or long-term disturbances that diminish the quality of a particular land use;
2. Permanent or long-term preemption of a recreational use or temporary preemption or conflicts during peak use season;
3. Long-term loss or degradation (extending beyond the construction period) of the recreational value of a major recreational use;
4. Inclusion of public uses or sensitive land use receptors within the footprint of a hazardous area; or
5. Conflict with adopted environmental plans and goals of the community where the project is located (pursuant to Appendix G of the CEQA Guidelines).

## **Impacts**

There are three components of the proposed trail project: 1) the location of the trail, 2) the actual physical construction, and 3) the use of the trail.

### **Short – Term Impacts**

1. Since the area surrounding the trail alignments is rural, with few nearby homes, construction impacts (i.e., noise, dust, odors, and traffic) are not expected to affect many people, and those that are affected would only be affected for about three days, which would be adverse but not significant.
2. Agricultural operations could be disturbed during project construction due to construction traffic and dust, but the impact is not expected to be significant due to its short duration.

### **Long – Term Impacts**

1. Use of the trail could increase the number of incidents of trespass and other interference in agricultural operations. It may also remove some agricultural land from production. These may be significant impacts, depending on the route chosen.
2. The potential risk to public safety for users of the trail may be significant due to the proximity of hazards including high speed automobiles on the highway, fast-moving trains, and the steep slope of the coastal bluff. However, depending upon its ultimate location it might improve the safety of bicycling in the area by reducing the



number of cyclists on the highway. The overall impact to public safety might be beneficial depending on its location.

### **Mitigation Measures**

**Land Use-1** Fencing and signage shall be installed to discourage trespassing and to maximize safety to trail users.



#### **4.1.10 Aesthetics and Visual Resources**

The scenic resources of Santa Barbara County's coastline are of considerable value both in terms of providing a pleasurable environment for the local populace and in stimulating tourism as visitors drive through the area on Highway 101. The coastline between Point Conception and Ellwood is characterized as an area of unique scenic features, heightened by the contrast between the ocean, mountains and the coastal terrace. Farmhouses and orchards frequently occur in the canyon bottoms, ridgelines and hillsides. Infrastructure of various kinds, such as utility power lines and oil processing plants, and campgrounds are also in this region.

#### **Visual Setting**

One of the dominant features on the landscape of the Gaviota Coast are the crest of the Santa Ynez Mountains. The mountains are characteristically rugged and steep, covered in chaparral, with rocky sandstone outcrops forming a scenic backdrop to the north. The steep mountain wall is intersected by numerous canyons whose steep walls are vegetated by oak and sycamore trees. The second dominant feature is the Coastal Terrace with rolling grasslands typically grazed or planted in orchards. The third dominant feature is the Santa Barbara Channel of the Pacific Ocean to the south with the adjacent vertical sea cliffs and narrow beaches.

#### **Santa Barbara County Local Coastal Program (LCP)**

The County's Local Coastal Plan states, in part:

"The scenic resources of Santa Barbara's coastal zone are of incalculable value to the economic and social well-being of Santa Barbara County. The beauty of the Santa Barbara coastline is world-renowned; it is the basis of the County's strong tourist and retirement economies and is a source of continuing pleasure for the local populace. The visual resources of the coastal zone include its beaches, sand dunes, coastal bluffs, headlands, wetlands, estuaries, islands, hillsides and canyons, upland terraces and plains, and its rivers and streams. These resources are vulnerable to degradation through improper location and scale of building development, blockage of coastal views, alteration of natural landforms by poor cutting, grading and filling practices, and by poor design or placement of roadside signs and utility lines. The primary concern of the Coastal Act is to protect views to these scenic resources from public areas such as highways, roads, beaches, parks, coastal trails and access ways, and vista points".

#### **Thresholds of Significance**

The County has established significance thresholds for visual resources. These thresholds address impacts to public views, not private views. Impacts are considered significant if the proposed action would have the potential to degrade or interfere with the public's



enjoyment of: (1) scenic highway corridors; (2) parks and recreational areas; (3) views of coastal bluffs, streams, lakes, estuaries, water sheds, mountains, and cultural resource sites; and (4) scenic areas.

### **Impacts**

The proposed trail will not cause any significant impacts to the visual quality of the area because it will be built on relatively flat terrain, will not protrude vertically and will be relatively inconspicuous. The trail will provide significant positive visual impacts by opening up new areas of the Gaviota Coastline for public viewing.

### **Mitigation Measures**

No mitigation measures are recommended.

## 4.2 Site Specific Environmental Analysis

This section evaluates the individual environmental constraints and impacts of the two proposed trail routes and alternatives. The general environmental impacts associated with trail construction are discussed the General Environmental Analysis section. As an example, both trail routes will have air quality, noise, water resources and other impacts. These generic impacts and associated mitigation measures recommended are discussed in the general analysis section. *All of the mitigation measures recommended are assumed to be incorporated in this analysis to minimize the impacts of each trail route.* Only specific impacts of each trail route and alternative are discussed in this section. This evaluation builds on the environmental information outlined in the General Environmental Analysis section. See Section 3.0 for detailed route descriptions and routes locations in Figure 3-2.

### 4.2.1 Old Highway Route Impacts

The Old Highway Route has the least specific environmental impacts because a high proportion of segments would be on the existing pavement of the old highway. Several segments of roads need extensive work to construct the trail, but the majority of the impacts occurred when the roads were initially built. Thus, using this route avoids most biological and archaeological and other environmental impacts.

#### 1-1 Winchester Canyon to Farren Road

##### *Route Description*

The first segment of the trail from Winchester Canyon to Farren Road would be located along the existing U.S. 101 frontage road, Calle Real.

##### *Impact Summary*

Biological, archaeological and air quality impacts are not expected to result from construction of a 2-3 foot wide trail through grassland next to Calle Real. The site-specific impact of adding horses, pedestrians and bicycles to the existing road shoulder is not expected to significantly affect traffic circulation on the street due to the low numbers of existing and expected future vehicular trips on the road and because slow moving horses and pedestrians would be setback from the road.

#### 1-2 Farren Road to Parsons Ranch

##### *Route Description*

The next segment crosses the Parsons Ranch north of U.S. 101 on an existing private road that used to be the old Highway One right-of-way. This segment is in very poor repair and will have to be completely rebuilt as a Class I path.



### *Impact Summary*

There will be minimal environmental impacts from construction and use of this segment, because the old roadbed still exists. There will be no biological impacts to the ESH area of Eagle Canyon because the trail crosses on the existing old Highway Bridge. This segment swings north, away from the highway so that Aesthetics, Visual, and Noise impacts to trail users are minimal. Impacts to agriculture via trespassing of trail users into areas of private agricultural operations may occur in this segment.

## **1-2 Parsons Ranch to Santa Barbara Ranch**

### *Route Description*

This segment crosses the Santa Barbara Ranch (Osgood-Morehart Property) immediately north of the highway on a new trail parallel and close to the highway, at the foot of an orchard.

### *Impact Summary*

The ground is generally bare dirt at the base of the orchard and therefore biological and archaeological impacts would not occur. Construction would generate dust in the short term. Impacts to agriculture could result from potential trespass.

## **1-3 Santa Barbara Ranch to the underpass on Dos Pueblos Ranch**

### *Route Description*

The trail crosses the east branch of Dos Pueblos Creek utilizing an existing frontage road that bridges the creek.

### *Impact Summary*

The trail would avoid any adverse impacts to biological resources (ESH area in the creek) or the water resources of the creek by using the existing bridge.

## **1-4 Dos Pueblos Ranch to Las Varas Ranch**

### *Route Description*

This segment utilizes an existing road for its entire length.

### *Impact Summary*

Because the trail would be on the existing frontage road and bridge crossing over Dos Pueblos Creek, there would be no new ground disturbance and no impacts to Biology (ESH Area) or Water Resources would occur. The trail crosses four additional areas designated as ESH areas on the Dos Pueblos and Las Varas Ranches. Since the trail is utilizing existing frontage roads in these areas, the only impact anticipated is the potential for trespass and resulting conflict with agriculture.

## **1-6 Las Varas Ranch to El Capitan Ranch**

### *Route Description*

This segment crosses Las Varas Ranch on an existing private road to Gato Canyon. At Gato Canyon a new trail would be constructed across the remainder of the Las Varas Ranch to Las Llagas Canyon at El Capitan Ranch.

### *Impact Summary*

This section may impact Biological Resources, the ESH area associated with Gato Canyon. County and Coastal Commission policies allow construction of trails in sensitive ESH areas because of their overall importance in providing beach access.

This segment crosses foraging areas of the white-tailed kite (Aspen, 1993). The close proximity of the trail to US 101 suggest that the impact should be minimal.

There are no known cultural resource sites along this segment.

Adverse geological impacts (Rincon soil) from the new Class I trail in this area may occur. The Rincon soil formation is located in this area and becomes extremely slick when wet. Care must be taken to build this section during dry periods. Also extra base material should be installed to prevent trail failure during use.

This segment has vertical access opportunities which help reduce impacts to Land Use, but vertical access from this segment is not fully consistent with Coastal policies regarding access. The area that this vertical access segment traverses is used for cattle grazing, so impacts to Land Use, specifically agricultural operations, could be minimized by proper fencing of the trail. Other impact categories such as Noise and Visual would be less in this area as the trail moves away from the highway towards the coastal bluffs. Biological impacts would be minimal because the trail would use existing roads and railroad crossing. This is an important segment because of its beach access provisions.

## **1-7 and 1-8 El Capitan Ranch to Refugio Beach**

This section of the trail has been constructed.

#### **4.2.2 Old Highway Route Beach Access Points Impacts**

##### **Gato Canyon**

###### *Route Description*

A short vertical beach access trail would cross the Las Varas Ranch, at Gato Canyon, along an existing ranch road.

###### *Impact Description*

The vertical access trail crosses the ESH area at Gato Canyon, north of the railroad. It also crosses foraging areas of the white-tailed kite on the Las Varas Ranch, partly utilizing an existing private road and railroad crossing. The trail is designed to leave the existing road to the east of another ESH area north of the railroad on the Las Varas Ranch on a new trail and the section of the trail south of the railroad would also be on a new trail. The access trail will end at the ESH area at the mouth of Gato Canyon. Impacts from this section may be to the ESH areas and white-tailed kite foraging areas from the new trail construction.

#### **4.2.3 Old Highway Route Alternatives Impacts**

##### **Avocado Alternative (A4)**

This alternative remains north of US101 after Dos Pueblos Creek, until the El Capitan Beach trail. This alternative is the least desirable from a public policy/land use perspective. Additionally this alternative may have significant impacts to existing agricultural orchards.

Dos Pueblos Creek to Las Varas Canyon:

###### *Route Description*

The trail would cross the west tributary of Dos Pueblos Creek by a new bridge constructed. The trail would continue west across the Dos Pueblos Ranch. West of Dos Pueblos Creek the trail connects to an existing County frontage road to Las Varas Canyon.

###### *Impact Summary*

The Dos Pueblos Creek is designated an ESH area and is would be crossed by a new bridge and access grades in and out of the creek area. Adverse impacts may occur to Biological (ESH) and Water resources if the County chooses this alternative. If the County selects this alternative, additional biological work will be needed to assess specific impacts and appropriate mitigation in this area.

The Dos Pueblos Ranch area is planted in avocado trees and some of the trees may be impacted by trail construction. Adverse impacts to agriculture (Land Use) and Biology



from tree removal, soil compaction, trespassing and the potential spread of root rot fungus need to be evaluated further if this alternative is selected. At a minimum this area should be fenced and signed to prevent impacts to the orchards.

Specific environmental impacts associated with using the existing frontage road would be minimal.

Las Varas Canyon to Gato Canyon to Las Llagas Canyon:

*Route Description*

The trail would continue west across the Las Varas Ranch along the existing County frontage road to just east of Gato Canyon. West of the frontage road the trail would have to cross of avocado orchard land (762 meters (2,500 feet)). The trail would cross Gato Canyon utilizing an existing private road. From Gato Canyon west to El Capitan Ranch the trail would utilize old Highway 1 until it connected to the existing Las Llagas/El Capitan-Refugio Beach County/State Trail system.

*Impact Summary*

As with the Dos Pueblos Ranch, the section across the Las Varas Ranch could have significant impacts to Land Use and Biology because of the trail construction impacts and the impacts associated with trail usage. At a minimum the entire area would have to be fenced and signed to protect existing crops.

The ESH area at Gato Canyon is crossed using an existing private road, so there would be no adverse impacts associated with this ESH crossing. There would be no site-specific significant environmental impacts from Gato Canyon to El Capitan Ranch as the trail would use an existing roadbed.

#### **4.2.4 Old Highway Route Connectors Impacts**

##### **Highway Connector (C3)**

###### *Route Description*

The Highway Connector trail would connect the Old Highway Route to the Avocado Alternative on the north side of US101 using an existing public underpass.

###### *Impact Description*

The Highway Connector has no adverse impacts as it utilizes an existing public road and underpass.

##### **Gato Connector (C4)**

###### *Route Description*

The Gato Connector would cross the Las Varas Ranch, at Gato Canyon, along an existing ranch road, connecting the Old Highway Route and the Bluff Top Route.

###### *Impact Description*

The Gato Connector crosses the ESH area at Gato Canyon, north of the railroad. It also crosses foraging areas of the white-tailed kite on the Las Varas Ranch, partly utilizing an existing private road and railroad crossing. The trail is designed to leave the existing road to the east of another ESH area north of the railroad on the Las Varas Ranch on a new trail and the section of the trail south of the railroad would also be on a new trail. The access trail will end at the ESH area at the mouth of Gato Canyon. Impacts from this section may be to the ESH areas and white-tailed kite foraging areas from the new trail construction.

#### **4.2.5 Bluff Top Route Impacts**

This route is basically a coastal bluff route, which would allow the trail to follow the coastal bluff from Goleta to El Capitan Ranch, providing the maximum coastal access possible. This route would provide the public with access to a beautiful segment of the County coastline and it would provide access to beaches that have long been inaccessible to the public. This alternative most closely complies with County and State policies regarding public access to the shoreline and beaches.

#### **2-1 and 2-2 Bacara Resort to Eagle Canyon (Parsons Ranch)**

##### *Route Description*

The segment from the Bacara Resort utilizes the existing frontage road. The route is proposed to cross the Parsons Ranch using the existing paved road through the property. Eagle Canyon would be crossed by rebuilding the bridge over the creek.

##### *Impact Summary*

The alignment following the existing road would have the least environmental impacts because the existing road could be used. This parcel has an extensive cover of native bunch grass that could be disturbed by use of the route alternatives (A1 and A2). If one of these alternatives is selected then a Bunch Grass Mitigation Plan should be prepared and implemented as part of the trail construction.

Additionally, a cultural site in this area could be adversely impacted by either the route alternatives. Any work on this parcel should include all of the cultural mitigation measures found in Section 4 of this report. (See restricted cultural resource site map for location of the site.)

This property also may be an important habitat for the endangered California Red Legged Frog (*Rana aurora draytoni*). The frog is known to inhabit Eagle Creek, which forms the boundary between the Parsons property and the Dos Pueblos Golf Course property (Aspen, 1993).

The trail in this area crosses the ESH area of Eagle Canyon. The crossing of this ESH area can be accomplished in an environmentally sound manner, if the mitigation measures outlined in the Biological and Water Resources divisions and the recommendations in the special design study are adopted by the County. Additionally, work in this creek will require the County to obtain a 1601 permit (Streambed Alteration Agreement) from the California Department of Fish and Game, a 404 permit from the U.S. Army Corps of Engineers and a 401 permit from the RWQCB.



### **2-3 Eagle Canyon to Tomate Canyon (Dos Pueblos Golf Course)**

#### *Route Description*

At the top of the Eagle Canyon bluff the trail would follow an existing oil service road along the bluff to just west of Tomate Canyon where the existing road turns north to the railroad right of way. This segment is located on the Dos Pueblos Golf Course property.

#### *Impact Summary*

Since this entire segment would be constructed on an existing oil service road environmental impacts would be minimized. However, impacts to cultural sites may occur. (See restricted cultural resource map for location of sites).

There would be no other specific significant environmental impacts associated with construction and operation of this segment of the trail.

Additional beneficial impacts to Land Use, reduction of Noise Impacts, increased enjoyment of Aesthetics/Visual Resources will be associated with this alternative in comparison to the Old Highway route as the trail is closer to the coastal bluff and away from the railroad right of way.

### **2-4 Tomate Canyon (Dos Pueblos Golf Course) to Dos Pueblos Creek (Dos Pueblos Ranch)**

#### *Route Description*

This trail alternative enters the Naples property and proceeds west along the immediate bluff top. The trail follows this route to the eastern branch of Dos Pueblos Canyon where it descends into the canyon and onto Dos Pueblos Ranch.

#### *Impact Summary*

The Naples property has long been used as a cattle-grassing operation. Biological Resources have been reduced significantly by this operation. Construction of the trail in this area would have little if any impact on Biological Resources.

However, several areas of the beach at the base of the coastal bluffs are a haul out zone for seals and other pinipeds (Stahl, personal observation, 2000). The trail would put additional public pressure on these areas. If this segment is built then an important part of the operational phase of the trail will be a public educational program to assist in protecting this valuable resource. An example is a similar haul out area in Carpinteria at the base of the Venoco Pier. This area receives a large amount of public pressure and the public has been successfully educated to leave the animals undisturbed.

There are known cultural resource sites in this area of the trail (see restricted cultural resource map for locations of sites). The trail should be able to avoid impacts to these sites.

## **2-5 Dos Pueblos Creek to Las Varas Canyon**

### *Route Description*

At the east branch of Dos Pueblos Creek the trail descends the eastern side of the canyon and crosses the creek using an existing summer crossing installed by the Dos Pueblos Ranch. The trail would cross the western canyon using an existing paved private road. Once the trail reaches the top of the bluff on the western side of the canyon it continues west across the bluff top of the Dos Pueblos Ranch.

The trail enters Dos Pueblos Orchid Company property between the Dos Pueblos Creek and the Las Varas Creek. East of Las Varas Creek the trail crosses the railroad at a new railroad crossing. The trail then crosses the Dos Pueblos Orchid Company property to Las Varas Canyon where it would enter the Las Varas Ranch (Doheny Property).

### *Impact Summary*

The trail descends into the ESH area of Dos Pueblos Creek (east). The southern portion of this ESH area has been developed, by the ranch, into a pond and recreation area. A modular summer home has been developed on the west side of the creek. The trail would have to ascend the steep western bank of the ESH area by means of an existing road utilizing switchbacks to reach the top of the bluff on the west. Utilizing the existing roads in this area can minimize Biological and Water Resource impacts to this ESH area crossing. Land Use impacts to the existing ranch may be significant and adverse and fencing and signage would be needed to minimize impacts. The County would most likely have to adopt findings of overriding consideration to these impacts.

The trail reaches the next ESH area on the Dos Pueblos Orchid Company property after the surface crossing of the railroad. This ESH area and the one immediately to the west consist mainly of large groves of eucalyptus trees. These groves are sites of monarch butterfly roosts and are feeding areas for the monarch (County Resource Map, Gaviota Coast). The trail in this area should be designed to avoid the roosting sites to minimize impacts.

Between these ESH areas the trail would travel north of the railroad and south of existing orchards. Fencing of the trail in this area would be needed to protect existing farm crops and orchards.

## **2-6 Las Varas Canyon (Las Varas Ranch) to Gato Canyon**

### *Route Description*

At Las Varas Canyon this trail alternative would leave Dos Pueblos Orchid Company land and enter the Las Varas Ranch. The trail would travel north of the railroad right of way and south of the existing ranch orchards. East of Gato Canyon the trail would cross the railroad at a new surface crossing and continue west along the coastal bluffs to Gato Canyon.

### *Impact Summary*

Gato Canyon and creek is a significant Biological, Water and Cultural Resource site. The creek is recorded as an endangered Southern Steelhead and Red Legged Frog site (County Resource Map, Gaviota Coast). Las Varas Creek is designated as Southern Steelhead Habitat area. The stream at Gato Canyon can be bridged at a site that will minimize impacts to Biological and Water Resources. The vertical access ways and day use facilities at Gato Canyon (ESH area) and Las Varas Canyon (Monarch Butterfly Roost) should be carefully planned and constructed to minimize environmental impacts. Access to the immediate stream area should be restricted as much as possible. Again, public education through signs and patrolling by park rangers would be essential to protect this resource. There may be a safety impact with construction of a new railroad crossing on Las Varas Ranch, this would require careful planning to address the safety issue.

This segment also contains significant cultural resources (see restricted cultural resource map for site locations). The trail can be routed to avoid the cultural resource site.

## **2-7 Gato Canyon to Las Llagas Canyon**

### *Route Description*

The trail would continue west from Gato Canyon, still on the Las Varas Ranch, along the bluffs until it swings north to the railroad right of way where it crosses at an existing private railroad crossing. The trail would continue northwest across grassland to connect with the existing El Capitan Ranch trail system.

### *Impact Summary*

The ESH areas on the Las Varas Ranch also contain roosting sites for the monarch butterfly (County Resource Map, Gaviota Coast). Final trail design should avoid monarch roosts. Additionally the grasslands are a foraging site for the white-tailed kite and other raptors (Aspen, 1993). However, it is not expected that the small amount of grassland removed will adversely impact the kite's habitat or its foraging patterns.



## **2-8 Las Llagas Canyon to El Capitan State Beach to Refugio Beach State Park**

From this location the trail would connect to the existing bike path between El Capitan Ranch and Refugio Beach State Park.

### ***4.2.6 Bluff Top Route Beach Access Points Impacts***

#### **Eagle Canyon**

##### *Route Description*

A vertical beach access trail would descend Eagle Canyon, using a wooden staircase along the west side of the creek, avoiding direct access to the stream area.

##### *Impact Description*

The trail crosses the ESH area at Eagle Canyon. Riparian woodland and scrub habitats may be impacted by the trail. Care needs to be taken during construction of the staircase to minimize impacts to vegetation in the canyon and erosion of the bluffs.

#### **Tomate Canyon**

##### *Route Description*

A vertical beach access trail would descend Tomate Canyon, using a wooden staircase.

##### *Impact Description*

This is a seal haulout and breeding area; impacts may occur from public use. Careful planning will be required if access is implemented in this area due to the presence of marine mammals. Placement of access at other points further up or down the coast from Tomate Canyon should be considered. Other options include construction of barriers to comply with the spirit and restrictions of the Marine Mammal Protection Act ([http://www.nmfs.noaa.gov/prot\\_res/laws/MMPA/MMPA.html](http://www.nmfs.noaa.gov/prot_res/laws/MMPA/MMPA.html)), as well as educational signage to educate the public about the importance of marine mammals and the need to comply with protection statutes. Care also needs to be taken during construction of the staircase to minimize impacts to vegetation in the canyon and erosion of the bluffs.



## **Dos Pueblos Canyon**

### *Route Description*

A short vertical beach access trail would provide access to the Beach at Dos Pueblos Canyon.

### *Impact Description*

The vertical access trail crosses the ESH area at Dos Pueblos Canyon. The trail may impact riparian woodland and scrub habitats of the canyon. The trail avoids the creek area to the east which is recorded as a red-legged frog and steelhead habitat. Careful planning is needed to minimize impacts to these sensitive habitats and species. Impacts may also occur from increased public use.

## **Las Varas Canyon**

### *Route Description*

A new, short vertical beach access trail would cross Las Varas Canyon.

### *Impact Description*

The vertical access trail would cross the ESH area at Las Varas Canyon. The trail may impact riparian woodland and scrub habitats of the canyon. The trail avoids a monarch roosting grove to the east. Careful planning is needed to minimize impacts to these sensitive habitats and species.

## **Gato Canyon**

### *Route Description*

A short vertical beach access trail would cross Las Varas Ranch, at Gato Canyon, along an existing ranch road. This is similar to the vertical access proposed in the Old Highway Route.

### *Impact Description*

The vertical access trail crosses the ESH area at Gato Canyon, north of the railroad. It also crosses foraging areas of the white-tailed kite on the Las Varas Ranch, partly utilizing an existing private road and railroad crossing. The trail is designed to leave the existing road to the east of another ESH area north of the railroad on the Las Varas Ranch on a new trail and the section of the trail south of the railroad would also be on a new trail. The access trail will end at the ESH area at the mouth of Gato Canyon. Impacts from this section may be to the ESH areas and white-tailed kite foraging areas from the new trail construction.

#### **4.2.7 Bluff Top Route Alternatives Impacts**

##### **Parsons North Alternative (A1) and Parsons South Alternative (A2)**

###### *Route Description*

These alternatives are proposed for crossing the Parsons Ranch using a new trail to the north following the railroad alignment or to the south along the bluff top.

###### *Impact Summary*

The Parsons Property has an extensive cover of native bunchgrass that could be disturbed by use of these alternatives. If one of these alternatives is selected then a Bunch Grass Mitigation Plan should be prepared and implemented as part of trail construction.

The environmental impacts described above in the route Description section for the cultural site and California Red Legged Frog (*Rana aurora draytoni*) habitat also impact these alternatives.

##### **Langtry-Railroad Alternative (A3)**

###### *Route Description*

The trail enters the Dos Pueblos Golf Course property east of the bridge crossing of Eagle Creek. The trail follows an existing paved oil field road out of Eagle Canyon to the railroad corridor. A new trail would be constructed following the railroad tracks west, immediately adjacent to the railroad right of way.

###### *Impact Summary*

The trail would cross an area of relatively undisturbed grassland and coastal sage habitat. Impacts to this habitat by trail construction can be mitigated.

This segment may impact cultural resources. (See restricted cultural resource map for location of sites.) Adoption of the Cultural mitigation measures are required to reduce impacts to levels of insignificance.

This route has beneficial environmental impacts associated with Land Use and Aesthetic/Visual Resources. Provision of vertical access ways opens new areas of the coast to visitor uses. Location of the trail in the vicinity of the coastal bluff provides for added visual enjoyment by the public.

## **Dos Pueblos Golf Course to Dos Pueblos Creek**

### *Impact Summary*

The trail across the Naples property would cross an area of pastureland that has been heavily grazed by cattle. There are no known impacts to critical Biological species along this segment. No other impacts are expected along this segment. Environmental impacts along the Dos Pueblos and Las Varas Ranch frontage roads would be the same as those described in the Old Highway Route segment.

### **4.2.8 Bluff Top Route Connectors Impacts**

#### **Golf Course Connector (C1)**

##### *Impact Summary*

This short connector trail has no adverse impacts as it utilizes an existing private road.

#### **Naples Connector (C2)**

##### *Impact Summary*

The specific impacts of construction of this new connector trail have not been analyzed.

#### **4.2.9 Railroad and Equestrian Route Impacts**

Potential environmental impacts resulting from construction of the *Railroad and Equestrian Route* are discussed *together* as they are proposed in the same segment between Arroyo Hondo and San Onofre Canyon.

##### **3-1 & 4-1 Refugio State Beach to Tajiguas Creek**

###### *Route Description*

This segment starts at Refugio State Beach and would utilize an existing State Parks access road. The trail would branch off of the access road west of Refugio Creek. A new trail would be built along an existing park service road and a portion of old Highway One. A new trail would be constructed in an extremely narrow area between the Highway and the Union Pacific Railroad to Tajiguas Creek, avoiding the bluff top.

###### *Impact Summary*

No site-specific environmental impacts are expected from establishing the **bike path** on the State Parks access road. Environmental impacts will be minimized by utilizing an existing park service gravel road.

Biological, Water, and Cultural resource impacts may be associated with the new **bike path**. Coastal sage scrub and native bunch grass habitats would be impacted in this segment in the Caltrans right-of-way. An environmental analysis of the **equestrian trail**, north of Highway 101, between Refugio Beach State Park and Arroyo Hondo is outside of the scope of the project.

Positive environmental impacts are associated with this segment of the **bike path**. These include public access to the beach (Land Use) and visual enjoyment of the coastline (Visual/Aesthetics).

##### **3-1, 3-3, 4-2 & 4-3 Tajiguas Creek to Arroyo Quemado to Arroyo Hondo**

###### *Route Description*

The trail would cross Tajiguas Canyon between the highway and the railroad. It travels west and connects with an existing County frontage road and old Highway One. The trail would utilize the 'to be abandoned' Caltrans bridge and right of way until it reaches Arroyo Hondo. The equestrian trail would follow an existing County road.

###### *Impact Summary*

Environmental Impacts in this area are minimal as the **bike path** utilizes existing public roads and the disturbed area between the highway and railroad. The road may require repaving, but this should not have any impact as the road already exists. Other environmental impacts associated with this segment will result from the Caltrans highway realignment project between Arroyo Quemado and Arroyo Hondo. These

impacts are expected to be evaluated in the Caltrans project environmental assessment.

An environmental analysis of the **equestrian trail**, north of Highway 101, between Refugio Beach State Park and Arroyo Hondo is outside of the scope of the project.

### **3-4 & 4-4 Arroyo Hondo to Cañada de San Onofre**

The **bike path and equestrian trail** would cross seven canyons. Three contain well-defined creeks with perennial flow in most years, Arroyo Hondo, Molino and San Onofre; and three canyons have creeks with ephemeral flows, Gallina, Guillermo and Zorrillas. The seventh, Posta, is a blue line stream but is probably ephemeral.

The southern edge of the Caltrans ROW is delineated by a single row of mature toyon (*Heteromeles arbutifolia*) and eucalyptus trees. The remainder of the vegetation along the potential **bike path** is comprised of native and non native trees, shrubs, grasses, and forbs found in a mixture of planted landscapes, natural habitats, including disturbed grassland, coastal sage scrub, riparian woodland, and freshwater marsh. Some sensitive species may be located here (see Biological Resources section below). There is no riparian vegetation located between the railroad and the highway due to railroad and highway bridges that pass over rather than through the canyons.

Riparian woodland occurs in several of the canyons on the north side of the highway. The undisturbed portion of the ROW on the north side of the highway is dominated by Coastal Sage Scrub. The land north of the ROW is dominated by annual grassland. These canyons and creeks may be impacted by the equestrian trail on north side. The bike path is not expected to impact the habitat in the canyons as the path would be located between the Highway and the Railroad.

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*Figure 4-1: Environmental Constraints*





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### *Construction Impacts*

The majority of the **bike path** between Arroyo Hondo and San Onofre would be located within Caltrans ROW; the only encroachment into railroad ROW might be temporary during construction grading. Virtually all of the toyon and eucalyptus trees (approximately 178 trees) within the Caltrans ROW between Arroyo Hondo and Canada San Onofre. Most of the length of the proposed **equestrian trail** would be located outside of the Caltrans ROW on the north side of the highway, using existing roads where available. Three separate alternatives along the route are provided entirely within Caltrans ROW on the highway's north side.

### Biological Resources

#### *Sensitive Habitats*

The **bike path** would pass through ruderal and annual grassland, native grassland and coastal sage scrub. The bicycle path would be above or near, but not go through oak woodlands, oak-sycamore riparian forests, streams and estuaries. The **bike path** would be adjacent to several areas that are classified as U.S. Army Corps of Engineers jurisdictional wetlands, and several that are considered jurisdictional Waters of the U.S. (Chambers Group 1999).

The **bike path** would also be adjacent to a degraded lateral wetland that is within the railroad ROW. This lateral wetland contains non-native wetland species such as Italian rye grass and prickly ox tongue. This wetland was created by grading for the railroad, and provides only marginal habitat function. This issue was discussed at length by the County of Santa Barbara during the Level(3) Communications Fiber Optic project that was constructed in 2003 between the railroad and the highway along this location.

**Native Grassland.** Approximately 2.25 acres of purple needlegrass (*Nassella pulchra*) and foothill needlegrass (*Nassella lepida*) are located in this segment, spread over eight patches. Of the eight patches encountered, two are 0.9 and 0.5 acre, respectively. The remaining six patches are smaller than 0.25 acre.

**Coastal Sage Scrub.** Approximately 30 percent of the 2.5 mile segment between Arroyo Hondo and San Onofre Canyon is vegetated by coastal sage scrub. Common species encountered include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), golden yarrow (*Eriophyllum confertiflorum*), chaparral morning glory (*Calystegia macrostegia* ssp. *cyclostegia*), cliff-aster (*Malacothrix saxatilis*), and numerous non-natives. This vegetation is narrowly restricted to a 15 to 20-foot band in between the highway and the railroad. It is discontinuous; it is commonly interspersed with toyon (*Heteromeles arbutifolia*) and eucalyptus trees, and native bunchgrasses and non-natives including grasses, fennel and thistles. There are substantially larger and more contiguous extents of coastal sage scrub habitat south of the railroad, in the center divider between the highway travel lanes and north of the highway.



Vegetation on the north side of the highway within the Caltrans ROW is predominantly Coastal Sage Scrub, dominated by Coyote Brush (*Baccharis pilularis*). Most of the land north of the Caltrans ROW is annual grassland that is used for livestock grazing.

The San Diego desert woodrat, a Federal Candidate for listing, is known to occur in coastal sage scrub within the project area. Removal of coastal sage scrub would impact this species. Refer to *Section C, Wildlife* for additional information.

**Toyon and Other Natives.** The toyon (*Heteromeles arbutifolia*) and a few scattered Mexican elderberry (*Sambucus mexicana*) are native, but do not constitute a native habitat by themselves, and are therefore not considered significant. However, these toyons, probably planted in the 1960s, are remarkable specimens considering that they are robust trees sometimes taller than 20 feet high with an average diameter-at-breast-eight of greater than six inches.

**Non Native Grassland.** Ruderal and non native annual grasslands are ubiquitous through the project extent area and are not sensitive.

**Oak Woodland, Riparian Forests and Aquatic Habitats.** Since the **bike path** would be on existing bridges, culverts and fill, elevated above and isolated from the oak woodlands, the riparian forests, creeks, and estuaries, operation of the linear bicycle path would not impact these habitats. However, construction could significantly impact these aquatic habitats through improper grading that could lead to erosion and sedimentation in the creeks and ephemeral drainages. In addition, vertical access to the beach could significantly impact oak woodland, riparian forest, and aquatic habitats in the canyons and estuaries formed at the mouths of the canyons. Careful siting of these trails and educational signage will be necessary to avoid impacts.

**Potential Wetlands.** A feature that may be a wetland was noted within the railroad ROW on the south side of the railroad tracks at Molino Canyon. This “potential wetland” would not be impacted by construction as they are outside of the proposed construction zone. In addition, Chambers Group (1999) identified two Army Corps of Engineers jurisdictional Waters of the U.S. and several non-jurisdictional wetlands that are Waters of the U.S (See Figure 4-1).

### *Plants*

Section 4.1.6 describes and lists the sensitive plant species that are either known from or have a high potential of occurring in the entire project extent, from Bacara to Canada San Onofre. Of the 26 known sensitive plant species in the Gaviota coastal area, 18 have potential of being impacted by construction of the Coastal Trail from Bacara to Canada San Onofre.



Condor scientists observed two plant species, between Arroyo Hondo and Canada San Onofre, that are sensitive. *Solanum xanti* var. *hoffmannii* was observed outside of the proposed **bike path** zone, on the south side of the railroad, but may be impacted through increase use of the informal trail at Molino and San Onofre Canyons.

On the north side of the highway, Gaviota Tarplant (*Deinandra increnscens* ssp. *villosa*) was observed adjacent to a dirt road north of the Caltrans ROW, east of San Onofre Canyon. This population was already flagged and the CNDBB also records this location for the Gaviota Tarplant. It is unlikely that the **equestrian trail** would impact this population, as the proposed trail is located within the ROW and an alternative would be likely to utilize the existing road itself, and thus avoid the tarplant. If the trail is located north of the highway, outside of the ROW, all tarplant populations should be flagged and monitored prior to and during construction to ensure avoidance of impacts to this species.

In addition, cliff-aster (*Malacothrix saxatilis*) was observed between Arroyo Hondo and Canada San Onofre. Although most specimens resembled the common variety *tenuifolia*, care should be taken to look for the more rare variety *saxatilis*. The largest number of *Malacothrix saxatilis* plants was recorded east of San Onofre (Figure 4-1). The **bike path** may impact *Malacothrix saxatilis* in between the railroad and the highway. However, this area has been repeatedly disturbed by highway and railroad construction and more recently by the fiber optic cable installation. The impact would be insignificant due to the List 4 status of the rare variety and larger populations that occur on the south side of the railroad and would not be effected. Nevertheless, seeds may be collected for distribution prior to construction.

### Wildlife

Construction and operation of the **bike path** has the potential to impact sensitive wildlife species, including: fish, amphibians, reptiles, birds, mammals and an insect. Table 4-7 summarizes the sensitive species that are either known from the project extent or are reasonably likely to be encountered, and could be affected. Common species likely to be impacted because they would not be able to evade construction activities include: western fence lizard, side-blotched lizard, western skink, southern alligator lizard, gopher snake, California vole, valley pocket gopher and dusky footed woodrat.

**Table 4-7**  
**Sensitive Wildlife Potentially Occurring in the Trail Corridor**

Common Name	Scientific Name	Federal Status	State Status	Local Status
Southern Steelhead Trout	<i>Oncorhynchus mykiss</i> ssp <i>mykiss</i>	Endangered	Special Concern	
Tidewater goby	<i>Eucyclogobius newberryi</i>	Endangered	Special Concern	
California red-legged frog	<i>Rana aurora draytoni</i>	Threatened	Special Concern	
California newt	<i>Taricha torosa</i>	Candidate	None	
Southwestern pond turtle	<i>Clemmys marmorata pallida</i>	Special Concern	Special Concern	
Two-striped garter snake		Special Concern	Special Concern	
San Diego desert woodrat	<i>Neotoma lepida</i> ssp <i>intermedia</i>	Special Concern	None	
All raptors (nesting)	All active raptors nests are regionally sensitive and protected			
Monarch butterfly (overnight roosts)	<i>Danaus plexippus</i>			Regionally declining

**Sources:** California Department of Fish and Game *List of Sensitive Plants and Animals*, updated Jan 2003; California National Diversity Database; County of Santa Barbara Planning & Development Department *DER Map; Listed and Candidate Wildlife and Plant Species of Santa Barbara County*, No date; Level(3) Communications End of Project Summary, Storrer Environmental Services, *personal comm.*, Mar 2003.

Wildlife on the north side of the highway was not surveyed. There is substantial habitat areas around the mouths of the canyons to support the wildlife described in this section. The equestrian trail uses switchbacks to cross the canyons and is located mainly within the ROW and may impact the vegetation and associated wildlife in these areas.

The descriptions below refer only to the bike-pedestrian path located between the railroad and the highway.

**Fish and Herpetofauna.** The proposed bicycle path would utilize the existing bridge over Arroyo Hondo (Old Highway 1) and travel above the other drainages and creeks on the railroad and Caltrans culverts. Therefore, unless actual construction activities in the areas of creeks would cause pollution from sedimentation, concrete slurry or petroleum hydrocarbons, the project is not expected to impact fish.

Similarly, since the sensitive amphibians and reptiles that may occur within the project extent are riparian based, the project is not expected to impact them as well. However, California red-legged frog and Southwestern pond turtle are known to spend much of their non-breeding lives in the upland areas surrounding riparian corridors. Although some of these species have been found 2,000 feet away from water sources, the habitat in between the highway and the railroad is not expected to support the terrestrial stages of these wildlife species. However, all construction personnel should be trained about

these wildlife species and know what actions should be taken if they are encountered.

**Mammals.** The main species of concern that is expected is the San Diego woodrat which is a Federal Species of Special Concern. Sixteen woodrat stick nests were observed and mapped (see Figure 4-1) within this segment, but it unknown to which species they belong. Although these woodrat nests appear to be from the common dusky footed woodrat (*Neotoma fuscipes*), two individuals were briefly observed that were the size of the San Diego woodrat. In addition, at least three occurrences of San Diego woodrat have been recorded within the project area (Chambers Group, 1999). Therefore, the likelihood of the project impacting the San Diego desert woodrat is high. This is not a fatal flaw, but preconstruction trapping surveys would be necessary to identify the woodrat nests observed, and if it is the San Diego species, relocation would be recommended.

**Birds.** Numerous sensitive bird species are known to forage in the immediate vicinity of the project area, and are sometimes known to frequent the surrounding areas as transient seasonal migrants. Construction and operation of the project is not expected to impact these birds.

Raptors in the area are not likely to be using the toyon and eucalyptus within the ROW for nesting, as they are more likely to use the taller and bigger trees north of the highway. However, prior to construction during breeding season (March 15 to August 1), preconstruction surveys should be conducted and appropriate mitigation measures undertaken to avoid active nests.

**Butterflies.** Monarch butterflies are known to migrate through the project area. Monarchs are known to forage and temporarily roost overnight in large trees such as the eucalyptus grove found in the highway center divider above Molino Canyon. However, monarchs overwinter in large sheltered groves of eucalyptus trees that do not exist in the vicinity of this segment.

Since monarchs are not expected to utilize the smaller stature toyon and eucalyptus trees that would be removed other than for temporary feeding and resting, construction of the **bike path** is not expected to impact monarchs. If construction would occur during the fall migration period (November) the ROW should be surveyed prior to their removal, and the timing should be delayed until after the migration has passed.

Based on the preliminary environmental analysis in this segment, the bike path and equestrian trail appear to be feasible.



### *Archaeological Resources*

There are seventeen known archaeological sites within or immediately adjacent between Arroyo Hondo to Canada San Onofre. There are several additional sites known just outside of the project extent (east side of Arroyo Hondo and west side of Canada San Onofre). Additional sites not previously described may also occur within the project extent. Table 4-8 below describes the archaeological sites within this extent.

**Bike path (south side of highway).** There are nine known archaeological sites south of the highway that may be impacted by the bike-pedestrian path. The majority of the known sites are low-density lithic scatter sites comprised of shell fragments, chert flakes and stone tools. The most sensitive site within the project extent is thought to be a portion of a larger village site, where circular depressions (possibly house pits) were recorded. This is a large site and extends to the northern side of the highway. The highway and railroad cut right through this site.

**Equestrian trail (north side of highway).** There are eight known archaeological sites north of the highway between Arroyo Hondo and Canada San Onofre (Figure 4-1 and Table 4-8). Of these five could be impacted by trail construction. Again, the majority of these sites are low-density to heavy-density lithic scatter sites comprised of shell fragments, chert flakes and stone tools.

Construction of the Coastal Trail is likely to impact the known sites and could impact currently unknown archaeological sites through grading. In particular, any time that grading would occur and involve either cut or moving of earth, archaeological resources could be disturbed. In the areas that would receive fill, no impacts would be expected to occur unless preparatory grading involving cut or earth moving also occurred. The habitation area is the most sensitive of the sites. Given the composition of most of the sites, construction impacts could be feasibly mitigated and appear not to be fatal flaws for either the bike path nor the equestrian trail. The village site along the bikeway extent may require a more extensive mitigation plan completed by an archaeologist.



**Table 4-8  
Archaeological and Historic Sites  
Arroyo Hondo to Canada San Onofre**

Site #	Trail Route	Site Age/Time Period	Site Significance	Source Citation	Comments
SBA 2149	Railroad & Equestrian		Moderate to low density shell & chert flakes.	DER map, 2003.	Trail avoids site
SBA 1979	Railroad & Equestrian		Abundant shell, charcoal & bone; Site possibly used for resource procurement, and stone tool maintenance.	DER map, 2003.	Possible impacts
SBA 1204	Railroad & Equestrian		Low density shellfish & chipped stone matter.	DER map, 2003; Chambers Group, 2002.	Possible impacts
SBA 1982	Railroad & Equestrian		Low density artifact scatter (chert flakes and shipped stone). No surface expression.	DER map, 2003.	Possible impacts
SBA 1151	Railroad & Equestrian		Low density shells & chert detritus.	DER map, 2003; Chambers Group, 2002.	Possible impacts
SBA 2588	Railroad & Equestrian		Chert flakes and minimal shells.	DER map, 2003.	Possible impacts
SBA 1980	Railroad & Equestrian		Low density ground stone & chipped stone.	DER map, 2003.	Possible impacts
SBA 2038	Railroad & Equestrian		Low density scatter of shell & ground stone.	DER map, 2003.	Trail avoids site
SBA 1969	Railroad & Equestrian		Low density shell midden, stone tools & manufacturing debris. In 1992, human remains were discovered eroding out of the cliff, however no cultural materials were identified in the Long Haul Fiber Optic Line Study, 2002.	DER map, 2003; Chambers Group, 2002.	Possible impacts
SBA 1916	Railroad & Equestrian		Dark midden with scattered chert flakes and traces of marine shell.	DER map, 2003.	Possible impacts
SBA 93	Railroad & Equestrian		Extensive midden with scatters of shell & chert.	DER map, 2003; Chambers Group, 2002.	Trail avoids site
SBA 1954	Railroad & Equestrian		Moderate to heavy density scatter of chipped and ground stone (manos and metates).	DER map, 2003.	Possible impacts
SBA 1981	Railroad & Equestrian		Moderate to heavy density scatter of chipped and ground stone, chert flakes and sandstone manos.	DER map, 2003.	Trail avoids site
SBA 1506	Railroad & Equestrian		Lithic scatter of ground stone & shellfish. Possibly a complex village site.	DER map, 2003.	Possible impacts
SBA 1157	Railroad & Equestrian		Low density shell & lithic scatter.	DER map, 2003.	Trail avoids site
SBA 1156	Railroad & Equestrian		Unknown.	DER map, 2003.	Trail avoids site
SBA 1907	Railroad & Equestrian		Foundation of house, rubble of bricks, redwood boards, cookstove. Jean Save Family.	DER map, 2003.	Trail avoids site

### *Safety*

Use of the bicycle path could impact human health and safety.

**Debris.** Bicycle path users could get injured from debris getting kicked up from passing trains, cars and trucks. At high speeds, trains sometimes kick up and throw metal hardware and other debris ten to twenty-plus feet. These objects include metal pieces from the tracks and from the rail cars, such as bolts, straps, brake shoes and ballast rock. Additionally, rail cars are known to infrequently have either lumber protruding from and falling out of the rail cars, or broken metal lumber straps that whip from the cars 10 to 20 feet outward. Fast moving highway vehicles, particularly, loaded semi trucks, move blasts of air, dust, exhaust and other debris on the road shoulder twenty or more feet.

**Accidents.** With the increase in commuter vehicle traffic and associated distractions, bicycle path users could get injured from moving vehicles errantly coming off the highway onto the bicycle path. Although this particular stretch of the highway is relatively straight, there are two inward bends of the highway: at San Onofre Canyon and at Molino Canyon. Vehicles have been known to come out of the travel lanes and bicyclists have been killed on the highway shoulder in the vicinity of the project. However, the preliminary design includes a 3-foot tall concrete K-Rail that would provide an effective barrier protecting bicyclists, according to Caltrans' Highway Design Manual.

Additionally, any bicycle path user that would leave the bicycle path would enter either the highway on the north or the railroad on the south. Both vehicles and trains are known to travel 70 to 75 mph through the project extent. Amtrak passenger trains are "Push and Pull", meaning that sometimes the locomotive is in front, pulling, and sometimes it is in the rear, pushing. A rear-mounted locomotive passenger train traveling at 75 mph will not be heard above the freeway noise, especially around curves, until about 4 to 5 seconds before it is upon the bicyclist or pedestrian. Any pedestrian or bicyclist caught on the railroad tracks or within several feet of the tracks during this common scenario is likely to be killed. Sufficient signage and a combination of a wall, fencing, landscaping and grade separation between the bicycle path and the railroad would be critical toward prevention of these types of accidents.

### *Noise*

Bicyclists using the bicycle path would be approximately 14 feet (4 meters) from passing vehicles and trucks, and approximately 35 feet (11 meters) from passing trains. For the majority of the segment between Arroyo Hondo and San Onofre, vehicle and train noise is substantial enough at this close distance to cause discomfort to the bicyclists. It is estimated that bicycle path users would experience noise from the southbound trucks traveling in the outside lane at a level of between 70 and 75 dB(A). It is estimated that bicycle path users would experience noise from a loaded freight train moving at 45 to 60 mph at a level of between 85 and 95 dB(A). Other than a six to an eight-foot high sound barrier wall or screen on the highway side, and a slightly smaller one on the railroad side (smaller because of existing grade differential), there is no mitigation available for noise.

### *Aesthetics*

Approximately 35% of the 2.5 mile project extent has mature trees consisting of native toyon and non native eucalyptus that are roughly 20 feet tall. The remaining 65% is vegetated with annual and native grassland, ruderal weedy species and coastal sage scrub. Construction of the bicycle path would remove most of the toyon and eucalyptus trees, and all of the remaining coastal sage scrub, grassland and other weeds in between them. The Santa Barbara County General Plan contains policies protecting the viewshed along the Gaviota Coast, as described in the following section. LCP Policy 7-13 also protects this viewshed. The adopted viewshed areas, located south of the railroad in this area, are depicted in Figure 4-1.

Removal of this vegetation would have positive and negative impacts to visual resources. While the trees contribute both a natural and rural feel to the Gaviota coastal scenery as seen by passing highway motorists and passengers on Amtrak trains, they also block much of the view that is coveted by highway travelers: that of the ocean and the Channel Islands, or the rolling hillsides seen by train passengers. While these trees provide a visual separation between the highway and the railroad, additional ocean viewshed would be gained from tree removal. This may be a significant impact, but it could also be a beneficial impact. The answer is somewhat subjective, dependent upon personal opinion.

The bicycle path will include vertical retaining walls of chain link fencing, concrete or cinder block, wrought iron or chain link fencing on the railroad side, and the concrete 3-foot high K-Rail on the highway side. This may make the bicycle path appear industrial in nature, and in conflict with the scenic attributes of the Gaviota coast. The visual impact could be lessened to some degree by painting the walls and fencing a natural color that blends in with the surroundings, and possibly landscaping in suitable locations if it can be maintained. However, the path would need to be narrowed to 8 feet in some sections and only 2 feet of width would be available for planting. Further,

the landscaping plants should be species that would not extend into the travel way, to avoid causing safety hazards on the path. The selected plants may have to be some kind of ornamental vine such as morning glory or trumpet vine.

The safety and engineering walls and structures, when viewed from the bicycle path, may also take on an industrial appearance. While highly functional and practical considering safety requirements, the combination of an asphalt roadbed, concrete K-Rail and cinder block with fencing might appear as if one was traveling through an open tunnel for most of the 2.5 mile extent between Arroyo Hondo and Canada San Onofre, and for approximately 1.5 miles between Refugio State Beach and Tajiguas Canyon. Although this appearance would detract from the overall benefit of being able to ride safely along the coast would far outweigh the negative aspect of the “walled in” effect for a relatively short distance.

#### ***4.2.11 Railroad & Equestrian Route Alternatives***

##### **Equestrian East (A5), Equestrian Middle (A6) and Equestrian West (A7) Alternatives**

###### *Route Description*

All three alternatives for the new equestrian trail are located entirely within the Caltrans right-of-way, north of the highway.

###### *Impact Summary*

Each of the alternatives may have safety issues associated with riding horses that are easily spooked close to Highway 101. Coastal Sage Scrub dominated by Coyote Brush (*Baccharis pilularis*) located between the highway and County frontage roads would be removed by construction of each of the equestrian trail alternatives. This habitat is and has previously been disturbed by highway construction, and is sandwiched in a narrow corridor between two roads; therefore, it probably has minimal habitat value and its loss is not expected to be significant.

## Section 5.0 Policy Analyses

### 5.1 Policies

The State Coastal Act and the County's Local Coastal Plan (including the adopted Parks, Recreation and Trails Map) are the governing bodies of land use law over the Gaviota Coastal Trail. Table 5 provides a list of applicable County policies from the Coastal Act and Local Coastal Plan (LCP).

Appendix 1 contains Sections 31408 and 31409 of the California Public Resources Code, regarding implementation of the Coastal Trail. Among its elements is Section 31408(b) which requires State agencies with property interests or regulatory authority, to the extent feasible and consistent with their individual mandates, to cooperate with the Coastal Conservancy with respect to planning and making lands available for completion of the trail.

**Table 5-1  
County Policies  
Pertaining to the Coastal Trail**

Topic	Policy Requirement
<b>Seawalls and Shoreline Structures</b>	<b>LCP Policy#3-1:</b> Seawalls shall not be permitted unless the County has determined that there are no other less environmentally damaging alternatives reasonably available for protection of existing principal structures.
	<b>LCP Policy #3-2:</b> Revetments, groins, cliff retaining walls, pipelines and outfalls, and other such construction that may alter natural shoreline processes shall be permitted when designed to eliminate or mitigate adverse impacts on local shoreline sand supply and so as not to block lateral beach access.
<b>Bluff Protection</b>	<b>LCP Policy#3-4:</b> In areas of new development, above-ground structures shall be <b>set back</b> a sufficient distance from the bluff edge to be safe from the threat of bluff erosion for a minimum of <b>75 years</b> ...
	<b>LCP Policy#3-5:</b> Within the required blufftop setback, <b>drought-tolerant vegetation</b> shall be maintained. <b>Grading</b> , as may be required to establish proper drainage or to install landscaping, and minor improvements, i.e. patios and fences that do not impact bluff stability, may be permitted. <b>Surface water</b> shall be directed away from the top of the bluff or be handled in a manner satisfactory to prevent damage to the bluff by surface and percolating water.
	<b>LCP Policy#3-6:</b> Development and activity of any kind beyond the required bluff-top setback shall be constructed to insure that all surface and subsurface <b>drainage</b> shall not contribute to the erosion of the bluff face or the stability of the bluff itself.
	<b>LCP Policy#3-7:</b> No development shall be permitted on the bluff face, except for engineered <b>staircases or accessways</b> to provide beach access....
<b>Geologic Hazards</b>	<b>LCP Policy #3-8:</b> Applications for grading and building permits shall be reviewed for... threats from, and impacts on geologic hazards arising from <b>seismic events, tsunami runup, landslides,... expansive soils and subsidence areas</b> .

Topic	Policy Requirement
<b>Hillside &amp; Watershed Protection</b>	<b>LCP Policies #3-13 and 3-14:</b> All development shall <b>minimize cut and fill</b> operations and all development shall be <b>designed to fit the site topography, soils, geology, hydrogeology</b> and other existing conditions so that grading and other site preparation is kept to a minimum.
<b>Environmentally Sensitive Habitat</b>	<b>Coastal Act Section 30240 (a):</b> Environmentally sensitive habitat areas shall be <b>protected</b> against any significant disruption of habitat values, and <b>only uses dependent on such resources shall be allowed</b> within such areas.
	<b>Coastal Act Section 30240 (b):</b> Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to <b>prevent impacts</b> which would significantly degrade such areas, and shall be <b>compatible</b> with the continuance of such habitat areas.
	<b>LCP Policy #9-1:</b> Prior to the issuance of a development permit, all projects on parcels shown on the land use plan and / or resource maps with a Habitat Area Overlay designation or within 250 feet of such designation or projects affecting an environmentally sensitive habitat area shall be found to be in conformity with the applicable <b>habitat protection</b> policies of the land use plan. ...
<b>Biology</b>	<b>LCP Policy #9-4:</b> All permitted industrial and recreational uses shall be regulated both during construction and operation to protect <b>critical bird habitats</b> during breeding and nesting seasons. Controls may include restriction of access, noise abatement, restriction of hours of operations of public or private facilities.
	<b>LCP Policy #9-9:</b> A buffer strip, a minimum of 100 feet in width, shall be maintained in natural condition along the periphery of all <b>wetlands</b> . No permanent structures shall be permitted within the wetland or buffer area except structures of a minor nature, i.e. fences, or structures necessary to support the uses in Policy 9-10.
	<b>LCP Policy #9-10:</b> <b>Light recreation</b> such as bird watching or nature study and scientific and educational uses shall be permitted with appropriate controls to prevent adverse impacts.
	<b>LCP Policy #9-18:</b> Development shall be sited and designed to protect <b>native grassland</b> areas.
	<b>LCP Policy #9-25:</b> <b>Marine mammal rookeries</b> shall not be altered or disturbed by recreational, industrial, or any other uses during the times of the year when such areas are in use for reproductive activities, i.e., mating, pupping, and pup care.
	<b>LCP Policy#9-33:</b> <b>Naples Reef</b> shall be maintained primarily as a site for scientific research and education. Recreational and commercial uses shall be permitted as long as such uses do not result in depletion of marine resources. If evidence of depletion is found, the County shall work with the Department of Fish and Game and sport and commercial fishing groups to assess the extent of damage and implement mitigating measures.
	<b>LCP Policy#9-35:</b> <b>Oak trees</b> , because they are particularly sensitive to environmental conditions, shall be protected....
	<b>LCP Policy #9-36:</b> When sites are graded or developed, areas with significant amounts of native vegetation shall be preserved. All development shall be sited, designed, and constructed to minimize impacts of grading, paving, construction of roads or structures, runoff, and erosion on native vegetation. In particular, grading and paving shall not adversely affect root zone aeration and stability of native trees.
<b>Biology -Streams</b>	<b>LCP Policy#9-37:</b> The <b>minimum buffer strip</b> for major streams in rural areas... shall be presumptively 100 feet... These minimum buffers may be adjusted upward or downward on a case-by-case basis...Riparian vegetation shall be protected and shall be included in the buffer.



Topic	Policy Requirement
	<b>LCP Policy#9-38: No structures</b> shall be located within the stream corridor <b>except: public trails, dams...</b> Culverts, fences, pipelines, and bridges (when support structures are located outside the critical habitat) may be permitted when no alternative route / location is feasible. All development shall incorporate the best mitigation measures feasible.
	<b>LCP Policy 9-39:</b> Dams or other structures that would prevent upstream <b>migration of anadromous fish</b> shall not be allowed in streams targeted by the California Department of Fish and Game unless other measures are used allow fish to bypass obstacles...
	<b>LCP Policy 9-40:</b> All development, including dredging, filling, and grading within stream corridors, shall be limited to activities necessary for the construction of uses specified in Policy 9-38. When such activities require removal of riparian plant species, <b>Revegetation</b> with local native plants shall be required except where undesirable for flood control purposes. <b>Minor clearing of vegetation for hiking, biking, and equestrian trails shall be permitted.</b>
	<b>LCP Policy 9-41:</b> All permitted construction and grading within stream corridors shall be carried out in such a manner as to minimize impacts from increased <b>runoff, sedimentation, biochemical degradation, or thermal pollution.</b>
<b>Agriculture</b>	<b>Agricultural Element Goal 1A:</b> The integrity of agricultural operations shall not be violated by recreational or other non-compatible uses. Imposition of any condition requiring an offer of dedication of a <b>recreational trail</b> or other recreational easement shall be discretionary (determined on a case-by case basis), and in exercising its discretion, the County shall consider the impact of such an easement upon <b>agricultural production</b> of all lands affected by and adjacent to said trail or other easement.
	<b>Agricultural Element Goal 4:</b> Where <b>trails</b> are required, they shall be sited to minimize the impacts to prime soils, agricultural operations, public safety and environmentally sensitive areas.  The Goals and Policies of the Agricultural Element must be balanced with the Goals and Policies of the Coastal Act and County LCP regarding public access to the Coast. The County should work with the individual landowners to determine the <b>proper balance between trail development and minimizing impacts to private property rights and agricultural</b> resources. Locating trails along the perimeter of orchards rather than crossing through them is one way to reduce impacts. Adequate signing and fencing is another way to reduce impacts. Patrol of the trail by park rangers and other law enforcement should also be part of the operational strategy for the trails.
<b>Archaeology</b>	<b>LCP Archaeological and Historical Resources Policies #10-1, 10-2, and 10-3:</b> All available measures shall be explored to avoid impacts to historic, prehistoric, archaeological and other classes of <b>cultural sites</b> and when impacts may occur, mitigation measures be in place to minimize such impacts.
<b>Air</b>	<b>LCP Air Quality Policy #11-1:</b> The provisions of the <b>Air Quality Attainment Plan</b> shall apply to the coastal zone.



Topic	Policy Requirement
<b>Trails/Public Access</b>	<p><b>LCP Policy 7-1:</b> The County shall take all necessary steps to <b>protect and defend the public's constitutionally guaranteed rights of access to and along the shoreline</b>. At a minimum, County actions shall include:</p> <ul style="list-style-type: none"> <li>a) Initiating legal action to <b>acquire easements</b> to beaches and access corridors for which prescriptive rights exist consistent with the availability of staff and funds.</li> <li>b) <b>Accepting offers of dedication</b>, which will increase opportunities for public access and recreation consistent with the County's ability to assume liability and maintenance costs.</li> </ul> <p>Actively seeking other public or private agencies to accept offers of dedications, having them assume liability and maintenance responsibilities, and allowing such agencies to initiate legal action to pursue beach access.</p>
	<p><b>LCP Policy 7-2:</b> For all development* between the first public road and the ocean, granting of an easement to allow <b>vertical access</b> to the mean high tide line shall be mandatory unless:</p> <ul style="list-style-type: none"> <li>a) Another more suitable public access corridor is available or proposed by the land use plan within a reasonable distance of the site measured along the shoreline, or</li> <li>b) Access at the site would result in unmitigable adverse impacts on areas designated as "Habitat Areas" by the land use plan, or</li> <li>c) Findings are made, consistent with Section 30212 of the Act, that access is inconsistent with public safety, military security needs, or that agriculture would be adversely affected, or</li> <li>d) The parcel is too narrow to allow for an adequate vertical access corridor without adversely affecting the privacy of the property owner. In no case, however, shall development interfere with the public's right of access to the sea where acquired through use unless an equivalent access to the same beach area is guaranteed.</li> </ul> <p>*Policy 7-2 shall not apply to developments excluded from the public access requirements of the Coastal Act by PRC Section 30212 or to development incidental to an existing use on the site.</p>
	<p><b>LCP Policy 7-3:</b> For all new development* between the first public road and the ocean, granting of <b>lateral easements</b> to allow for public access along the shoreline shall be mandatory. In coastal areas, where the bluffs extend five feet in height, all beach seaward of the base of the bluff shall be dedicated. In coastal areas where the bluffs are less than five feet, the area to be dedicated shall be determined by the County, based on findings reflecting historic use, existing and future public recreational needs, and coastal resource protection. At a minimum, the dedicated easement shall be adequate to allow for lateral access during periods of high tide. In no case shall the dedicated easement be required to be closer than 10 feet to a residential structure. In addition, all fences, no trespassing signs and other obstructions that may limit public lateral access shall be removed as a condition of development approval.</p> <p>*Policy 7-3 shall not apply to developments excluded from the public access requirements of the Coastal Act by PRC Section 30212 or to development incidental to an existing use on the site.</p>

Topic	Policy Requirement
	<b>LCP Policy 7-4:</b> The County, or appropriate public agency, shall determine the <b>environmental carrying capacity</b> for all existing and proposed recreational areas sited on or adjacent to dunes, wetlands, streams, tide pools, or any other area designated as “Habitat Areas” by the land use plan. A management program to control the kinds, intensities and locations of recreational activities so that habitat resources are preserved shall be developed, implemented and enforced. The level of facility development shall be correlated with environmental carrying capacity.
	<b>LCP Policy 7-5:</b> For areas controlled by Federal, State, County or District agencies, in a zone extending approximately 250 feet inland from the mean high tide line, <b>priority shall be given to coastal dependent and related recreational activities and support facilities</b> . However, camping facilities should be set back from the beach and bluffs and near-shore areas reserved for day activities. Recreational activities that are not coastal dependent may be located within this 250 foot zone if the less desirable coastal dependent support facilities (parking, restrooms, etc.) are located inland. In no case shall facilities, except for required structures (i.e., lifeguard towers, volleyball nets, etc.), be located directly on the dry sandy beach.
	<b>LCP Policy 7-6: Recreational uses</b> on oceanfront lands, both public and private, that do not require extensive alteration of the natural environment (i.e., tent campgrounds) shall have <b>priority over uses</b> requiring substantial alteration (i.e., recreational vehicle campgrounds).
	<b>LCP Policy 7-7:</b> During the zoning and implementation phase of the LCP, the County shall establish a <b>schedule for acquisition</b> of areas proposed for new or expanded access and/or recreation. The schedule shall designate responsible agencies, time frame and methods for implementing all access and recreation proposals set forth in this plan.
<b>Visual</b>	<b>LCP Policy 7-13:</b> In order to protect natural and visual resources of the coastal zone between Ellwood and Gaviota, development of recreational facilities shall not impede <b>views between U.S. 101 and the ocean</b> , shall minimize grading, removal of vegetation and paving, and be compatible with the rural character of the area. Existing natural features shall remain undisturbed to the maximum extent possible and landscaping shall consist of drought-tolerant species.
<b>Biology</b>	<b>LCP Policy 7-15:</b> The vegetation in the small canyons at the mouths of <b>Canada San Onofre</b> and <b>Canada del Molino</b> streams shall not be disturbed by recreational development or use.

Topic	Policy Requirement
State Land	<p><b>LCP Policy 7-16:</b> All new development on <b>State-owned lands</b> shall be in conformance with a <b>recreational master plan</b> approved by the County and the Coastal Commission. The master plan shall include maps showing locations of proposed facilities and a text describing the entire scope of the State's long-range plans for the Ellwood to Gaviota area, i.e., numbers of campsites, restrooms, parking lots, kinds of recreational activities to be accommodated, etc. In addition, the master plan shall conform to the following criteria:</p> <p>a) Facilities for overnight use by out-of-County visitors shall be balanced with those for day use by local residents.</p> <p>b) Intensities and kinds of recreational uses shall be controlled so as not to exceed the environmental carrying capacity of the area.</p> <p>Alternative transportation systems to provide access to State parks (i.e., shuttle buses) shall be used where feasible.</p>
Camping	<p><b>LCP Policy 7-17:</b> Since existing parks in the Ellwood to Gaviota area already provide extensive facilities for recreational vehicle camping, <b>priority</b> in future development shall be for <b>campgrounds</b> that would be accessible by <b>bicycle and pedestrian trails</b> only and for hostels.</p>
Easement Acquisition	<p><b>LCP Policy 7-18: Expanded opportunities for access and recreation</b> shall be provided in the Gaviota planning area.</p> <p><b>Implementing Actions:</b></p> <p>a) In order to <b>maximize access to the beaches, vertical easements</b> connecting the proposed coastal bicycle trail (linking Santa Barbara and Gaviota) to the beach shall be acquired by a public agency at the following locations:</p> <ol style="list-style-type: none"> <li>1) <b>Haskell's Beach</b> (near Bell Canyon)</li> <li>2) <b>Dos Pueblos Canyon</b></li> <li>3) <b>Edwards</b> (near Gato Canyon)</li> <li>4) <b>Tajiguas Creek</b></li> <li>5) <b>Arroyo Quemado</b></li> <li>6) <b>Arroyo Hondo</b></li> <li>7) <b>Canada de Guillermo</b></li> <li>8) <b>Canada del Molino</b></li> <li>9) <b>Canada San Onofre</b></li> </ol> <p>The trails connecting the bicycle path to the beach shall be well marked and bicycle racks shall be provided. Where necessary, stairways from the top of the bluffs shall be provided. Public parking and other facility development, other than staircases, fences improved trails, bicycle racks and picnic tables, shall not be permitted at these access ways except as specified in Section b.</p> <p>b) In order to increase opportunities for coastal dependent and related recreational uses, the following areas, which have recreational potential, <b>should be acquired</b> by a public agency.</p> <p><b>Facility Development</b></p> <p><b>Haskell's Beach</b> - Hike-in and bike-in campground, parking, restrooms, picnic tables, bike rack.</p> <p><b>Dos Pueblos</b> - Day use only, parking, restrooms, picnic tables, bike rack.</p> <p><b>Edwards</b> - Parking, restrooms, picnic tables, bike racks, store, low-intensity camping.</p>

Topic	Policy Requirement
	<b>Tajiguas</b> - Day use only, parking, restrooms, bike racks.  <b>San Onofre</b> - Day use only, parking, picnic tables, bike racks.
<b>Access</b>	<b>LCP Policy 7-19:</b> In order to protect the marine resources of <b>Naples Reef</b> and the adjacent beach as a hauling out area for harbor seals, intensive recreational use shall not be encouraged. Access to the site should continue to be by way of boats.
<b>Easements-Project Approval</b>	<b>LCP Policy 7-25: Easements for trails</b> shall be required as a <b>condition of project approval</b> for that portion of the trail crossing the parcel upon which the project is proposed.
	<b>LCP Policy 7-26:</b> All proposed trails for the coastal zone shall be incorporated into the County's Master Plans* for hiking, biking and equestrian trails.

## **5.2 Policy Consistency Discussion**

### **5.2.1 Introduction**

Construction of the Coastal Trail is mandated by the State of California and the County of Santa Barbara. It is unique in that it is development that is a preferred use in the Coastal Zone. Still, there are competing demands in terms of protecting coastal resources, providing opportunities for recreation and coastal access, protection of biological and archaeological resources, and preservation of agriculture. These are all priorities of the Coastal Act, and in turn the Local Coastal Plan. On both the State and Local levels, the Coastal Trail is a priority use, but protection of the other resources remains paramount.

### **5.2.2 Policy Consistency of the Routes**

#### **Old Highway Route: Bacara to El Capitan Ranch**

The Old Highway Route has the least conflicts with resource protection policies because it utilizes the greatest amount of existing roads (both public and private). The first third of this route is located north of the highway which causes it to be inconsistent with the goal of having public access to the immediate coastline.

This route could have adverse impacts to agriculture as it travels along the edge of Santa Barbara Ranch (Osgood et. al). Impacts to agriculture may also occur on the Schulte and Doheny ranches west of Dos Pueblos Creek, but the vast majority of the trail through these two ranches is located on existing freeway frontage roads, so the impact to agriculture would be minimal. The impacts would be restricted to land use conflicts including parking on the side of the road, and potential for trespass. Proper fencing and signing can mitigate these concerns. Overall, the policy consistency rating of this segment is high.

#### **Bluff Top Route: Bacara to El Capitan Ranch**

The Bluff Top Route would be the closest to the coastline and therefore be most consistent with the goal of being close to the ocean. Consistency with resource protection policies, including ESH and agriculture, is possible by incorporating resource protection measures into the project description. The Bluff Top Route would best achieve the main Coastal Plan objective of maximizing beach access. It would provide access to miles of beaches that are currently closed to the public.

The Local Coastal Plan requires dedication of vertical and lateral trail easements as part of development approvals. Therefore, when new development is built, the Coastal Trail will be too. Until then, however, the County will have to purchase easements in order to build the trail. The Policy consistency rating for this segment is high.

## **Railroad and Equestrian Routes: Refugio Beach State Park to Canada San Onofre**

**Biology.** Construction of the bicycle path between the highway and the railroad would avoid impacting potential wetlands that have formed in the drainage ditch created by the railroad and therefore avoid a conflict with LCP Policy 9-9 (Buffers around wetlands). These potential wetlands would be avoided during construction by the design of the bike path as proposed in this report, which proposes to use retaining walls and other features to avoid wetlands. The path would therefore be consistent with Policy 9-9. The path may be consistent with LCP Policy 9-18 (Protection of native grasslands), as the areas of native grass situated between the highway and the railroad are relatively small and probably have low ecological value. However, further scientific and policy analysis is required to evaluate this question.

**Biology.** LCP Policy 9-36 requires preservation of native vegetation. Virtually all of the Coastal Sage Scrub between the highway and the railroad and between the highway and the frontage road would be removed. Given that the coastal sage scrub in these two areas has low habitat value due to its low biological diversity and that it is sandwiched between the highway and either the railroad or the frontage road, the proposed trails appear to be consistent with this policy.

**Biology.** Opportunities for vertical access to the beach are not proposed as part of this project, so these policies may not apply. Vertical access, if it were proposed, would need to be carefully planned in order to be consistent with LCP Policies 7-15 and 7-18 which require acquisition of vertical access at several specific canyons including Molino and San Onofre, but specifically prohibit disturbance by recreational development to the vegetation in Molino and San Onofre Canyons.

**Archaeology.** Construction of the bicycle path on the south side of the highway can probably be accomplished while being consistent with LCP Policy 10-3 which requires avoidance and minimizing impacts, as well as mitigation measures. The proposed alignments of the path on the south side of the highway and the trail on the north would avoid major archaeological sites that are currently known, other than what remains of a village site. Therefore, most of the project is expected to be consistent with this policy, with the exception of impacts to this site. Further analysis is needed by an archaeologist to make this policy consistency determination.

**Visual.** LCP Policy 7-13 requires recreational facilities to protect natural and visual resources and views of the ocean. The project's removal of non-native eucalyptus and native-but-planted, specimen toyons would be consistent with this policy because these are not native to this location and because they appear to provide a low level of habitat value for native animals. The removal of the trees would, in fact, provide views of the ocean that don't currently exist for passing motorists, and this aspect would also be consistent with this policy. On the other hand, the requisite safety features of the project such as a wall or fencing may be inconsistent unless landscaping is installed and

maintained to minimize the visual effect. In summary, the project is probably consistent with this policy, but further analysis and refinement of the proposed safety features would be needed.

The Policy consistency rating for this segment is Medium.

#### **Avocado Alternative (A-4)**

The Avocado Alternative is an extension of the Old Highway Route on the north side of the highway. It would extend from the west end of Santa Barbara Ranch west to El Capitan Ranch. This route is inconsistent with the goals of being close to the coast and avoiding impacts to agriculture. It would have the most direct impacts on existing orchards. In many cases trees would have to be removed to provide space for the trail. However, it would be consistent with the goals of having a view of the coast and having a safe trail riding experience. The Policy consistency rating for this segment is Medium.

#### **Langtry-Railroad Alternative (A-3)**

The Langtry-Railroad Alternative is on the coastal side of the highway between the Bacara Resort and Naples. This route utilizes public roads. However, there may be some policy inconsistencies pertaining to environmental resource protection associated with construction of the trail through the Eagle Canyon ESH area.

This alternative is not as close to the ocean as the Bluff Top Route, but it does provide a trail experience on the south side of the highway that does not significantly interfere with agricultural operations. The Policy consistency rating for this segment is low (See Table 5-2).

**Table 5-2  
Policy Consistency Comparison**

	<b>Old Highway Route: Bacara to El Capitan Ranch</b>	<b>Bluff Top Route: Bacara to El Capitan Ranch</b>	<b>Railroad and Equestrian Routes: Refugio to San Onofre</b>	<b>Avocado Alternative</b>	<b>Langtry-Railroad Alternative</b>
Policy Consistency Rating	High	High	Medium	Medium	Low

**High** = Consistent with most policies.

**Medium** = Consistent with some policies but inconsistent with others.

**Low** = Inconsistent with most policies.



## Section 6.0 Costs and Funding

### 6.1 Private Property Acquisition Costs

Estimated property acquisition costs were provided to JVSA by Hammock, Arnold, Smith & Company, Real Estate Appraisers & Consultants to provide preliminary opinions of market value for a proposed trail easement over several properties for budgetary planning uses, including discussions relating to Severance Damages. They do not represent actual property values and are estimates only. Furthermore, these cost estimates do not include the costs of appraisals, title search and other escrow costs, negotiation, attorney fees, and potential court costs. Opinions of value are stated as of April 20, 2001. Cost estimates are for a *25 foot wide easement*. The following table (Table 6-1) shows rough cost estimates for acquisition of the easements. Acquisition costs are summarized in Tables 6-2, 6-3, and 6-4.



**Table 6-1**  
**Acquisition Costs**  
(based on values estimated in April 2001 by Hammock, Arnold, Smith & Company)

		Private Property											
Trail Route	Item	Parsons	Naples and Santa Barbara Ranch (Morehart)*	Dos Pueblos Ranch (Schulte)	Las Varas Ranch (Doheny)	Freeman**	Bean Blossom**	Brown**	Brinkman**	Chevron**	Dos Pueblos Golf	Dos Pueblos Orchid	Total
<b>Old Highway</b> Bacara to El Capitan Ranch	Length (feet)	5,300	5,000	1,800	8,300								20,400
	Area (acres)	3.04	2.86	1.03	4.76		-				-	-	11.69
	<b>Cost (\$)</b>	<b>\$152,000</b>	<b>\$143,000</b>	<b>\$51,500</b>	<b>\$142,800</b>								<b>\$489,300</b>
<b>Bluff Top*</b> Bacara to El Capitan Ranch	Length (feet)	2,000	4,000	3,000	10,500		-	-			6,000	1,500	27,000
	Area (acres)	1.50	2.29	1.72	6.02	2.15	3.68	1.43			3.44	0.86	15.83
	<b>Cost (\$)</b>	<b>\$150,000</b>	<b>\$229,000</b>	<b>\$344,000</b>	<b>\$602,000</b>	<b>\$10,755</b>	<b>\$18,405</b>	<b>\$7,174</b>			<b>\$516,000</b>	<b>\$172,000</b>	<b>\$1,878,000</b>
<b>Equestrian</b> Refugio to San Onofre		-	-	-	-	3,748	6,414	2,500	5,249	5,393			23,304
						2.15	3.68	1.43	3.01	3.10			13.37
						<b>\$10,755</b>	<b>\$18,405</b>	<b>\$7,174</b>	<b>\$15,062</b>	<b>\$15,476</b>			<b>\$66,872</b>
<b>Avocado Alternative (A4)</b>	Length (feet)			3,800	7,000						-		10,800
	Area (acres)	-	-	2.18	4.01	-	-	-	-	-			6.19
	<b>Cost (\$)</b>			<b>\$109,000</b>	<b>\$200,500</b>								<b>\$309,500</b>
<b>Langtry-Railroad Alternative (A3)</b>	Length (feet)		1,400								6,000		7,400
	Area (acres)	-	0.80	-	-	-	-	-	-	-	3.44		-4.24
	<b>Cost (\$)</b>		<b>\$172,000</b>								<b>\$516,000</b>		<b>\$688,000</b>

		Private Property											
Trail Route	Item	Parsons	Naples and Santa Barbara Ranch (Morehart)*	Dos Pueblos Ranch (Schulte)	Las Varas Ranch (Doheny)	Freeman**	Bean Blossom**	Brown**	Brinkman**	Chevron**	Dos Pueblos Golf	Dos Pueblos Orchid	Total
Parsons North Alternative (A1)	Length (feet)	1,710									-		1,710
	Area (acres)	0.98	-	-	-		-	-		-			0.98
	Cost (\$)	\$100,000											\$100,000
Parsons South Alternative (A2)	Length (feet)	1,510											1,510
	Area (acres)	0.86	-	-	-		-	-		-	-		0.86
	Cost (\$)	\$250,000											\$250,000
Gato Connector (C5)	Length (feet)				2,950								2,950
	Area (acres)	-	-	-	1.69		-	-		-	-		1.69
	Cost (\$)				\$50,000								\$50,000

Notes:

1. Acquisition for the Golf Course Connector, Naples Connector and the Las Varas Connector were not evaluated (The Highway Connector is located on public property).
2. \* Estimate not from Hammock, Arnold, Smith & Company, unknown source.
3. \*\*Acquisition costs for Equestrian trail between Refugio and Arroyo Hondo estimated based on \$5,000 an acre in 2004.
4. Refugio to Canada San Onofre bike path segments are proposed to be on public property.



**Table 6-2  
Old Highway Route  
Summary of Acquisition Costs**

Property	Length (ft)	Area (acres)	Estimated Easement Acquisition Cost
Parsons	5,300	3.04	\$100,000 to \$250,000
Morehart	5,000	2.86	\$150,000
Schulte	1,800	1.03	\$50,000
Doheny	8,300	4.76	\$150,000

**Table 6-3  
Bluff Top Route  
Summary of Acquisition Costs**

Property	Length (ft)	Area (acres)	Estimated Easement Acquisition Cost
Parsons	2,000	1.50	\$150,000
Morehart	4,000	2.29	\$229,000
Schulte	3,000	1.72	\$344,000
Doheny	10,500	6.02	\$602,000
Dos Pueblos Golf	6,000	3.44	\$516,000
Dos Pueblos Orchid	1,500	0.86	\$172,000

**Table 6-4  
Equestrian Trail - Refugio to San Onofre  
Summary of Acquisition Costs**

Priority	Property	Length (ft)	Area (acres)	Estimated Easement Acquisition Cost
1	Freeman	3,748	2.15	\$11,000
2	Bean Blossom	6,414	3.68	\$20,000
3	Brown	2,500	1.43	\$10,000
4	Brinkman	5,249	3.01	\$15,000
5	Chevron	5,393	3.10	\$15,000

**Note:** These tables list only those properties where acquisition is required. Where the trail is proposed to be located on public property, the adjacent private property is not included in the table.

## 6.2 Construction Costs

This section provides rough estimates by John V. Stahl and Associates of the costs of construction of the routes between Bacara and Arroyo Hondo *in 2001 dollar values*. This section also provides rough cost estimates by MAC Design Associates of the costs *in 2004 dollar values* of engineering, permitting and construction of the Railroad Route and Equestrian Route between Arroyo Hondo and San Onofre. Costs do not include the cost of environmental mitigation or the cost of acquisition. By the time the trail is ready for construction, actual costs are expected to be higher. Using a reasonable rate of inflation of two percent per year, the future cost can be calculated by multiplying the costs given below times 1.02, times the number of years that have passed or will pass until construction. The formula is as follows:

$$\text{Cost of Construction} = (\text{Cost in 2001}) \times (1.02 \text{ per year}) \times (\text{number of years since 2001})$$

**Class I Trails.** The actual construction cost for a new Class I multi-use trail (in 2001 dollars), is expected to be \$100 per linear foot which is equivalent to \$328 per meter, according to JVSA. This includes costs of design, engineering, construction and inspection.

**Class II Trails.** No Class II Trails are proposed, as there is no need given low traffic volumes on the frontage roads and other side roads.

**Class III Trails.** There would be no construction costs for Class III segments because these are existing roads. Since these routes are located in a rural part of the coast it is assumed that any time an existing road is used (other than the highway) it would be a Class III trail. (No stripes or additional shoulders are added to the road. Only an occasional sign is used to indicate the trail location.)

**Class III A Trails.** The construction cost for a “Class III A” Trail (one where a road exists, but is in relatively poor condition) is anticipated to be 50% or less of the cost of a new Class I, depending upon the condition of the existing road base.

### **6.2.1 Cost Description of Old Highway Route**

The Old Highway Route utilizes an extensive amount of existing roads. Utilization of these roads eliminates most, if not all construction costs for these segments, except where the road is severely degraded. The cost of each segment of the Old Highway Route, prepared by JVSA, is provided below (See Table 6-5 for total construction cost).

➤ **1-1 Winchester Canyon to Farren Road**

**Cost:** Painting two stripes on the road has a very small cost and is typically done when the road is repaved. Therefore, no construction costs are assigned to this segment, as it is a Class III trail. Additional costs are required for construction of the equestrian trail but not calculated.

➤ **1-2 Parsons Ranch**

**Cost:** Because the road bed is already in place, this segment is expected to cost fifty percent of a new Class I trail. Construction costs are estimated to be \$265,000. New paving and regrading is needed where the road bed has fallen into disrepair, estimated to be \$70,000.

➤ **1-3 and 1-4 Santa Barbara Ranch (Naples)**

**Cost:** Construction costs for this 5,000 foot segment of new Class I is estimated to be \$500,000. No construction costs for the Class III section on the public road are assigned.

➤ **1-5 Dos Pueblos Creek to Las Varas Ranch**

**Cost:** Construction on this Class III segment would be limited to shoulder repair and fencing and is estimated to cost \$100,000. No construction costs for the Class III section on the public underpass and road are assigned.

➤ **1-6 Las Varas Ranch to El Capitan Ranch (Las Llagas Canyon)**

**Cost:** Construction costs for fencing for the Class III is estimated to cost \$111,000. Construction costs for the Class I segment across Las Varas Ranch are estimated to be \$500,000. No construction costs for the Class III section on the public underpass and Calle Real frontage road are assigned.

➤ **1-7 and 1-8 El Capitan Ranch (Las Llagas Canyon) to Refugio Beach State Park**

**Cost:** There is no construction cost here. The trail already exists.



**Table 6-5**  
**Old Highway Route**  
**Summary of Total Construction Cost**

Item	Cost
Class I Standard Segments	\$1,265,000
Class III Repairs, Fencing, etc	\$ 211,000
Special Features Cost	\$ 70,000
<b>TOTAL</b>	<b>\$1,546,000</b>

**Notes**

1. Highway Connector (C3) would have no additional cost.
2. Gato Connector (C4) would have an additional cost, but the amount is unknown.

## 6.2.2 Cost Description of Old Highway Alternatives

### Avocado Alternative (A4)

➤ *Dos Pueblos Ranch to Las Varas Ranch*

**Cost:** Construction costs for the 3,800 feet of Class I trail are estimated to be \$380,000. Construction costs for the Class III trail would be \$40,000 for road repair and shoulder work. Costs of bridging Dos Pueblos Creek are estimated to be \$136,250 for a 120-foot long laminated wood bridge and footings. Total construction cost for this section is \$556,250 (see Table 6-6).

➤ *Las Varas Ranch to El Capitan Ranch*

Between Gato Canyon to Las Llagas Canyon costs are estimated at \$150,000 for 1,500 feet of new Class I; \$225,000 for 4,500 feet of Class I trail using the roadbed of Old Highway One and \$10,000 for road repair and shoulder work of 1,000 feet of Class III trail. Total construction cost for this section is \$385,000.

**Table 6-6**  
**Avocado Alternative**  
**Summary of Total Construction Cost**

Item	Cost
Class I Standard Segments	\$755,000
Class III Repairs, Fencing, etc	\$ 50,000
Special Features Cost	\$136,250
<b>TOTAL</b>	<b>\$941,250</b>



### 6.2.3 Cost Description of Bluff Top Route

➤ **Bacara Resort to Eagle Canyon**

**Costs:** Construction costs for the 2,000 feet of Class I trail are estimated to be \$200,000. Construction costs for the bridge over Eagle Creek would cost an additional \$136,250. No construction costs are estimated for the Class III trail. Total construction costs for this segment is \$336,250 (see Table 6-7).

➤ **Eagle Canyon to Tomate Canyon**

**Costs:** Construction costs are estimated to be \$600,000 for 6,000 feet of new Class I close to the coast. The cost of vertical access trails is not included.

➤ **Tomate Canyon to Dos Pueblos Ranch**

**Costs:** Base construction costs for this segment are estimated to be \$400,000 for 4,000 feet. However, additional costs could be as much as double that cost due to the need to construct additional bridges over canyons and mitigate a plethora of environmental concerns.

➤ **Dos Pueblos Ranch to Dos Pueblos Orchid Company**

**Costs:** Construction costs are estimated to be \$400,000 for the 4,000 feet of Class I trail. Crossing in and out of Dos Pueblos Canyon is estimated to cost an additional \$150,000 for grading. One surface crossing of the railroad will cost \$250,000, bringing the total for this section to \$800,000.

➤ **Las Varas Ranch to El Capitan Ranch (Las Llagas Canyon)**

**Costs:** Construction costs for this segment of the trail are estimated to be \$1,150,000 for over two miles (11,500 feet) of Class I trail, \$176,500 for two bridge crossings, and \$500,000 for two surface crossings of the railroad, for a total construction cost of \$1,726,500.

➤ **El Capitan Ranch (Las Llagas Canyon) to Arroyo Hondo**

**Costs:** This route is the same as the Old Highway Route.

**Table 6-7**  
**Bluff Top Route**  
**Total Construction Costs**

Item	Cost
Class I Standard Segments	\$2,750,000
Class III Repairs, Fencing, etc	\$ 0
Special Features Cost	\$1,212,750
<b>TOTAL</b>	<b>\$3,962,750</b>

**Notes**

- Parsons North and Parsons South Alternatives would have no additional costs because the existing road is in such poor condition and does not provide a better development opportunity.



## 6.2.4 Cost Description of Bluff Top Route Alternatives

### Langtry-Railroad Alternative (A3)

➤ *Eagle Canyon to Tomate Canyon*

**Costs:** The new Class I next to the Railroad will cost approximately \$600,000.

➤ *Tomate Canyon to Dos Pueblos Ranch*

**Costs:** Construction costs are estimated to be \$150,000 for the initial 1,500 feet of Class I. The Langtry Avenue Class I section is estimated at 50% of a regular Class I section or \$70,000 for the 1,400 foot section. The Class III section along the frontage road is estimated to be \$20,000 for road repair and shoulder work. The surface crossing of the railroad will cost \$250,000 (Union Pacific Railroad pers com with J. Stahl, 2000). The total construction cost for this segment is \$490,000.

**Table 6-8**  
**Langtry-Railroad Alternative**  
**Summary of Total Construction Costs**

Item	Cost
Class I Standard Segments	\$820,000
Class III Repairs, Fencing, etc	\$ 20,000
Special Features Cost	\$250,000
<b>TOTAL</b>	<b>\$1,090,000</b>

### Naples Connector (C2)

**Costs:** Construction of this new Class I connector trail is estimated at \$232,500.

### 6.2.5 *Cost Description of Railroad Route*

The Railroad Route would be a new bike path between Refugio Beach State Park and Canada San Onofre between the railroad and the highway. This trail route is analyzed in more detail in comparison to the Old Highway and Bluff Top Routes.

➤ **Refugio Beach State Park to Tajiguas Canyon**

**Cost:** No construction costs would occur on the Class III segment on the existing frontage road. Paving of the dirt maintenance road for Class I would cost an estimated \$50,000. Construction of the Class I segment between the railroad and the highway are estimated to be \$740,000. Safety features, including k-rail and security fencing for railroad will need to be constructed at additional cost (\$74,000 for fencing and \$260,000 for k-rail).

➤ **Tajiguas Canyon to Arroyo Quemado**

**Cost:** Construction costs are estimated at \$200,000 for the 2,000 feet of new Class I segment between the highway and the railroad. Safety features, including k-rail (\$50,000) and security fencing (\$20,000) for railroad will need to be constructed at additional cost. Fish Hatchery Road can be used in its present condition, however it can be improved with costs estimated at \$50,000 for repair and shoulder work of 3,500 feet of Class III trail.

➤ **Arroyo Quemado to Arroyo Hondo**

**Cost:** Construction of this Class I segment utilizing the south bound lanes of Highway 101 and the existing Caltrans bridge is \$325,000 for 6,500 feet. The latter was calculated at 50% of a new Class I trail section. This would be completed as part of the Caltrans realignment project and does not include any Caltrans work on the Arroyo Quemado Bridge or re-location of the south bound traffic lanes to provide for a new trail.

➤ **Arroyo Hondo to Canada San Onofre**

**Cost:** Construction of this Class I segment between the highway and the railroad is estimated to be \$2,448,000 (see detail in Table 6-9 below).

Total construction costs for the entire Railroad and Equestrian Routes combined are presented in Table 6-10.

**Table 6-9**  
**Detailed Construction Cost Estimate for Railroad Route**  
**Arroyo Hondo to Canada San Onofre**

Item	Item Description	Unit	Quantity	Unit Price	Item Cost
1	Clear & Grub	LS			\$100,000.00
2	Excavation, incl.Placement & compaction in fill areas	CY	64,000	10.00	\$640,000.00
3	Construct Bike/Ped.path, incl. subgrade prep., 2" asphalt concrete and 3" agg. Base	SF	195,000.00	0.80	\$156,000.00
4	Construct Concrete Barrier Type 50, complete in place incl. structural concrete and bar reinf. Stee	LF	16,000	25.00	\$400,000.00
5	Widen Highway Shoulder incl. sawcut and removal of 1' of existing shoulder, subgrade preparation, placing and compacting aggregate sub-base placing and compacting asphalt concrete	SF	50,000	4.00	\$200,000.00
6	Grind Exist. AC shoulder and place 0.1" Asphalt concrete overlay, complete in place	SF	115,000	1.20	\$138,000.00
7	Construct Type 6 Retaining Wall complete in place incl. structure excavation, structure backfill, structure concrete and bar reinf. Steel	LF	4,000	35.00	\$140,000.00
8	Extend Exist. Drainage Culverts complete in place incl. removal of exist. Concrete headwall, furnish and place culvert pipe extension, pour concrete collar connection, structure excavation, structure backfill and pour new conc. Headwall	EA	38	500.00	\$19,000.00
9	Install drainage culverts for equestrian crossings	EA	38	2,500.00	\$95,000.00
10	Install Security/Protection Fence complete in place	LF	16,000	10.00	\$160,000.00
11	Landscaping, complete in place incl. soil preparation, trees and hydroseed	LS			\$250,000.00
12	Traffic Control	LS			\$150,000.00
				<b>Subtotal</b>	<b>\$2,448,000.00</b>

**Table 6-10**  
**Railroad Route and Equestrian Route**  
**Refugio to San Onofre**  
**Summary of Total Construction Cost**

Item	Cost
Class I Standard Segments	\$4,167,000
Class III Repairs, Fencing, etc	\$ 50,000
<b>TOTAL</b>	<b>\$4,217,000</b>



### Other Construction-Related Costs: Arroyo Hondo to San Onofre

The following cost estimates illustrated in Tables 6-11, 6-12 and 6-13 were provided by MAC Design Associates for entitlements (permitting), construction documents, and construction administration for the 2.5 mile segment between Arroyo Hondo and San Onofre.

**Table 6-11**  
**Entitlement Phase Cost Estimates**  
**Arroyo Hondo to San Onofre**

<b>Item No.</b>	<b>Item Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Unit Price</b>	<b>Item Cost</b>
1.	Aerial Survey	LS			\$ 75,000.00
2.	Preliminary Engr. Design incl. PSR Preparation	LS			\$ 90,000.00
3.	Phase I Archaeology Study	LS			\$ 25,000.00
4.	Biological Study	LS			\$ 30,000.00
5.	Environmental Document	LS			\$125,000.00
6.	County Fees & & staff cost	LS			\$ 70,000.00
7.	State Fees & staff cost incl. CalTrans, State Parks & P.U.C.	LS			\$ 30,000.00
8.	Right of Way appraisal costs	LS			\$ 20,000.00
<b>Total</b>					<b>\$465,000.00</b>



**Table 6-12**  
**Construction Documents Cost Estimates**  
**Arroyo Hondo to San Onofre**

<b>Item No.</b>	<b>Item Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Unit Price</b>	<b>Item Cost</b>
1.	Engineering, incl. preparation of plan, specifications & estimates	LS			\$145,000.00
2.	Landscape Architect	LS			\$ 45,000.00
3.	Electrical Engineering	LS			\$ 35,000.00
4.	County Fees & staff cost	LS			\$ 25,000.00
5.	State Fees & staff cost incl. CalTrans, State Parks & P.U.C.	LS			\$ 25,000.00
6.	U.P.R.R. Fees	LS			\$ 20,000.00
7.	Right of Way acquisitionLS costs				\$ 40,000.00
8.	Right of Way costs	AC	30	\$5,000.00	\$150,000.00
<b>Total</b>					<b>\$485,000.00</b>

**Table 6-13**  
**Construction Administration Cost Estimates**  
**Arroyo Hondo to San Onofre**

<b>Item No.</b>	<b>Item Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>Unit Price</b>	<b>Item Cost</b>
1.	Consultant Services during bidding	LS			\$ 20,000.00
2.	Construction Surveying	LS			\$ 75,000.00
3.	Construction Inspection	LS			\$ 100,000.00
4.	County Monitoring	LS			\$ 30,000.00
5.	CalTrans Monitoring	LS			\$ 30,000.00
6.	U.P.R.R. Monitoring	LS			\$ 25,000.00
7.	“As-Built” Plan Preparation	LS			\$ 20,000.00
<b>Total</b>					<b>\$300,000.00</b>



## 6.2.6 Cost Comparisons

**Table 6-14**  
**Construction and Acquisition Cost Comparisons**

Item		Bacara to El Capitan Ranch		Refugio to San Onofre	Main Alternatives	
		Old Highway	Bluff Top	Railroad & Equestrian	Avocado Alternative	Langtry- Railroad Alternative
Total Length	Meters	11,736	9,300	24,560	4,298	3,300
	Feet	38,495	30,500	80,553	14,000	10,800
Class I Length	Meters	3,079	8,384	9,692	3,017	2,690
	Feet	10,100	27,500	31,790	9,800	8,800
Class I Costs		<b>\$1,265,000</b>	<b>\$2,750,000</b>	<b>\$4,167,000</b>	<b>\$755,000</b>	<b>\$820,000</b>
Class III Length	Meters	8,657	915	14,867	1,281	610
	Feet	28,395	3,000	48,763	4,200	2,000
Class III Costs		<b>\$ 211,000</b>	<b>\$0</b>	<b>\$ 50,000</b>	<b>\$50,000</b>	<b>\$20,000</b>
Special Features Costs		<b>\$ 70,000</b>	<b>\$1,212,750</b>	<b>\$0</b>	<b>\$136,250</b>	<b>\$250,000</b>
Total Construction Costs		<b>\$1,546,000</b>	<b>\$3,962,750</b>	<b>\$4,217,000</b>	<b>\$941,250</b>	<b>\$1,090,000</b>
Total Acquisition Costs		<b>\$489,300</b>	<b>\$1,878,000</b>	<b>\$66,872</b>	<b>\$309,500</b>	<b>\$688,000</b>

### Notes

1. Costs are in 2001 dollar values for the segment between Bacara and Arroyo Hondo.
2. Costs do not include planning, entitlement or construction document expenses.
3. Costs for the Alternatives represent a portion of a given route but not an entire route.





**Table 6-15**  
**Construction Costs: All Routes**

Segment	Old Highway Route	Bluff Top Route	Railroad & Equestrian Routes	Avocado Alternative	Langtry – Railroad Alternative	
Winchester Canyon. To Farren Road (North of US 101)	None; striping costs only	N/A	N/A	N/A	N/A	
Bacara Resort to Ellwood Pier (South of US 101)	N/A	None				Class I: \$600,000 \$136,250 for bridge construction only
Ellwood Pier to Eagle Canyon (Parsons Ranch) (South of US 101)		Class I: \$200,000 Class III: none				
Eagle Canyon to Tomate Canyon (South of 101)		Class I: \$600,000 \$136,250 for bridge construction only				
Tomate Canyon to Dos Pueblos Ranch (South of 101)		Class I: \$400,000			Class I: \$220,000 Class III road repair and shoulder work: \$20,000 Railroad Crossing: \$250,000	
Parsons Ranch (North of US 101)	Class I: \$265,000 Road repairs: \$70,000	N/A		N/A		
Santa Barbara Ranch (No. of 101)	Class I: \$500,000 Class III: None					
Dos Pueblos Canyon to Las Varas Ranch (South of 101)	Road repair, shoulder work and fencing: \$100,000 Class III: none	Class I: \$400,000 Creek crossing: \$150,000 Railroad crossing: \$250,000			Total of all construction: \$556,250	N/A
Las Varas Ranch to El Capitan Ranch	Class I: \$500,000 Fencing: \$111,000 Class III: none	Class I: \$1,150,000 Bridge: \$176,500 Railroad crossing: \$500,000			Total of all construction: \$385,000	
El Capitan Ranch to Refugio	None: Existing Trail	None: Existing Trail	None: Existing Trail		None: Existing Trail	None: Existing Trail
Refugio to Tajiguas Canyon*	N/A	N/A	Class I: \$740,000 Road paving, safety features and fencing: \$384,000 Class III: none	N/A	N/A	

Segment	Old Highway Route	Bluff Top Route	Railroad & Equestrian Routes	Avocado Alternative	Langtry – Railroad Alternative
Tajiguas Canyon to Arroyo Quemado*			Class I: \$200,000 Safety features and fencing: \$70,000 Class III road repair and shoulder work: \$50,000		
Arroyo Quemado to Arroyo Hondo*			Class I: \$325,000 (Not including any Caltrans work)		
Arroyo Hondo to Canada San Onofre*			Class I: \$3,198,000 (including all construction work for bike path and equestrian trail, safety features, drainage and fencing)		

**Table 6-16**  
**Comparison of Total Cost: Construction and Acquisition**  
**Old Highway Route vs. Bluff Top Route**  
**Bacara to San Onofre**

Route	Bacara to El Capitan Ranch	Refugio to San Onofre (Railroad Route)	Total Cost: Bacara to San Onofre
Old Highway Route	\$4,730,760	\$4,283,872	<b>\$9,014,632</b>
Bluff Top Route	\$12,126,015	\$4,283,872	<b>\$16,409,887</b>

**Note: All costs in Table 6-16 are in 2004 dollars, using formula in Section 6.1.**



### 6.3 Potential Funding Sources

As has been the case in funding existing segments of the Coastal Trail, State Parks and the County of Santa Barbara will have to utilize as many funding sources as possible to accomplish acquisition, design and construction. There are many funding sources available. Many of these are restricted as to how they may be used, but one source of funding can be used as the required matching funds for another funding program.

Potential funding sources:

- Coastal Conservancy *for construction of the bike path and equestrian trail.*
- Proposition 12 *for acquisition*
- State Resources Agency Coastal Resource Grant Program *for coastal recreation trails*
- TEA-21 *for transportation or recreation trails*
- Caltrans Bicycle Lane Account or the Environmental Enhancement Mitigation Program. *These funds would be appropriate for use on the Arroyo Hondo to Arroyo Quemada section of the trail.*
- State Parks Department *for segments on State Park property.*
- County Public Works Measure D funds *for improvements to Class III segments.*
- CREF funds *for recreational trails*
- County Parks Department funds *for recreational trails*
- STIP road funds

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## Section 7.0 Priorities and Recommendations

### 7.1 Route Selection Criteria

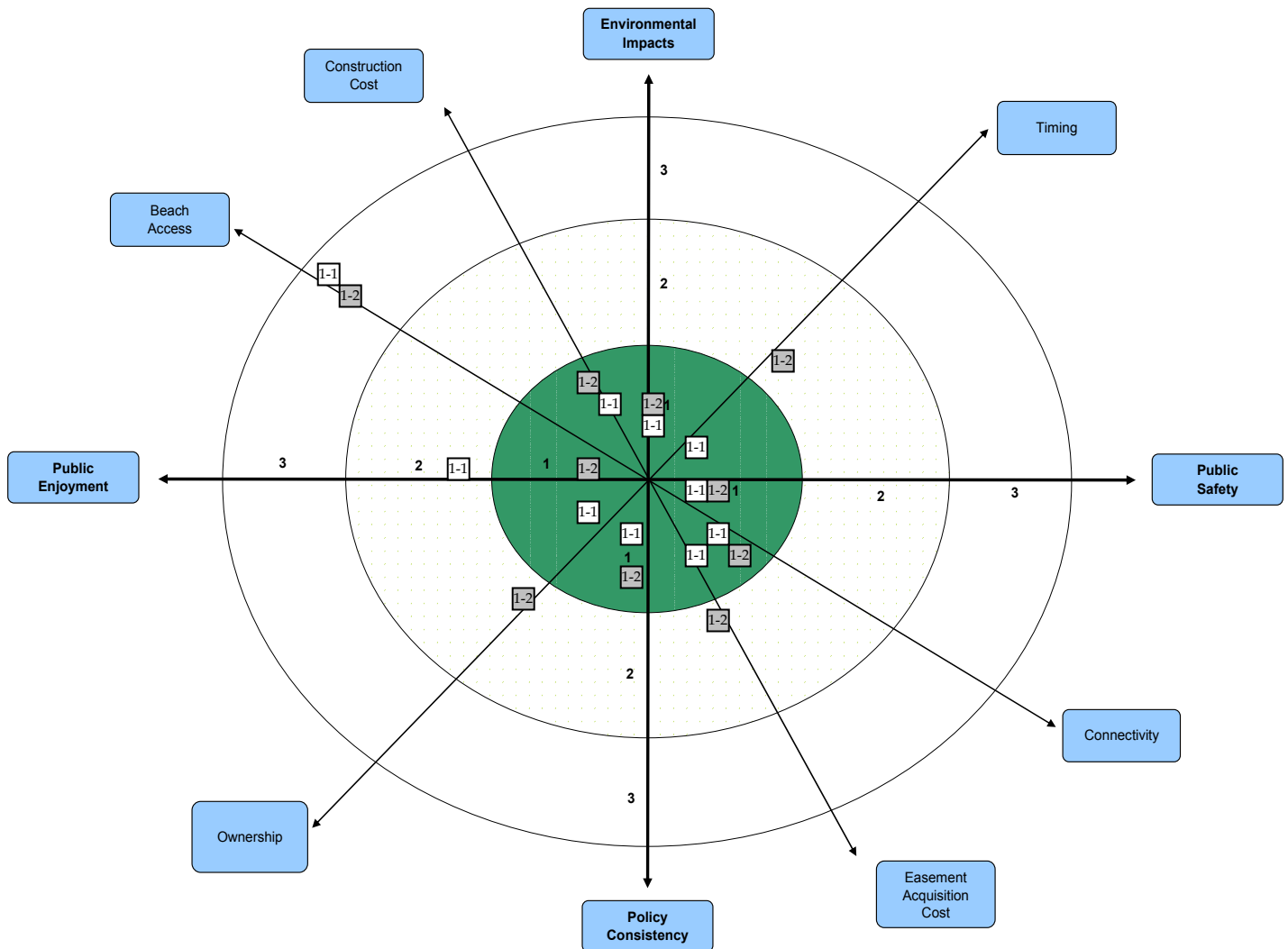
Four trail routes are proposed, as well as several alternatives and connectors. In order to facilitate County decision making regarding which trail segments should be pursued first, a set of selection criteria are presented in Table 7-1, a Prioritization Matrix as Table 7-2, and a Diagram (Figure 7-1).

**Table 7-1  
Route Selection Criteria**

Criteria	Question
• Ownership	• Does the public already own the segment? Would it necessitate purchase of property?
• Connectivity	• Would the segment extend an existing trail segment or public road?
• Public Enjoyment	• How enjoyable would the trail experience be? Being close to the ocean and/or away from car and train traffic is assumed to be more enjoyable.
• Proximity to the Coast	• Is it right next to the ocean, or further away?
• Beach Access	• Would the segment connect to or provide vertical access to the beach?
• Environmental Impact	• Would there be significant environmental impacts?
• Policy Consistency	• Does the segment appear to be consistent with the Local Coastal Plan?
• Safety	• How safe is it?
• Timing	• How soon can construction begin?
• Acquisition Cost	• What is the acquisition cost?
• Construction Cost	• What is the construction cost?

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**Figure 7-1: Prioritization Diagram**

*Note: This diagram has been developed so that it can be used as a decision-making tool in the future by the County to evaluate and compare two or more route segments. In this example, two segments of the same route are compared. The segment with the most ratings in the center or "bull's eye" of the diagram has the lowest number and represents the next segment that should be acquired and/or built.*



## 7.2 Priorities for Overall Route

**Priority Route.** According to the numerical ranking in Table 7-2, the priority route is the Old Highway Route. Although the Bluff Top Route is the preferred route from Bacara to Refugio because it is the closest to the ocean and is therefore expected to provide the public the most enjoyable route, it is likely to be more expensive, take longer to obtain, and have more environmental impacts than the Old Highway Route. Nevertheless, the Bluff Top Route's numerical ranking is close to the Old Highway Route, and because it would provide a trail experience closes to the ocean, it is still desired. The Railroad Route and the proposed Equestrian Route (furthest from the highway) between Refugio and San Onofre are the priorities in this section.

**Table 7-3  
Priorities**

Priority	Trail Route	Combined Rating*	Comments
1	Old Highway Route (Bacara to Refugio)	102	Can be constructed sooner. Inexpensive, utilizes existing public roads.
2	Bluff Top Route (Bacara to Refugio)	105	More pleasurable riding experience next to the ocean, and opportunities for beach access. Unlikely to be completed soon due to time required for acquisition.
3	Railroad & Equestrian Routes (Refugio to San Onofre)	137	Utilizes existing public ROW and roads on north side of highway.

\* The rating number is taken from the Prioritization Matrix (Table 6-2). A lower rating number means a higher priority.

## Discussion

**The Old Highway Route** is recommended even though roughly one third of its alignment is located north of US101, with few beach access opportunities. The location north of US101 is not consistent with the State's goal of locating the trail next to the coast. However, because it uses a large amount of existing publicly owned roads, it minimizes acquisition and construction costs, minimizes environmental impacts, and can probably be operational sooner, it is chosen as the highest priority route at this time. This does not mean, however, that the Bluff Top Route should not be pursued. To the contrary, the public enjoyment that would occur as a result of construction of the Bluff

Top Trail would be extremely high. It is the County and State's priority, as it should be. In the interim, both routes should be pursued.

**The Bluff Top Route** is recommended because it provides the most pleasurable experience, close to coastal bluffs and the ocean. However, it would require a substantial amount of private property acquisition and construction costs, as well as time, and may have greater environmental impacts.

**The Avocado Alternative** is rejected because it would have adverse impacts to agriculture without the benefit of coastal access.

**The Langtry-Railroad Alternative** uses a County-owned road that connects to the old highway and thereby provides connectivity. This route is not preferred as an alternative because it is not as close to the ocean as the Bluff Top Route, but it is desirable as a connector from the Old Highway Route to the Bluff Top Route.

### 7.3 Prioritized Segments of Each Route

Trail segments of the Old Highway, Bluff Top, Railroad and Equestrian Routes are prioritized using the matrix (Table 7-2) above. The segments within each of the routes are prioritized within Tables 7-4, 7-5, 7-6, and 7-7. The prioritization of segments will change as segments are constructed and if segments become available as part of proposed developments.

**Table 7-4**  
**Old Highway Route**  
**Summary of Priorities**

Priority	Segment Number	Segment	Rating
1	1-1	Winchester Canyon to Farren Road	15
2	1-4	Dos Pueblos Ranch Underpass	15
3	1-2	Farren Road to Santa Barbara Ranch	16
4	1-5	Dos Pueblos Ranch to Las Varas Ranch	16
5	1-6	Las Varas Ranch to El Capitan Ranch	19
6	1-3	Santa Barbara Ranch to Dos Pueblos Ranch	21



**Table 7-5  
Bluff Top Route Priorities**

Priority	Segment Number	Segment	Rating
1	2-2	Ellwood Pier to Eagle Canyon (Parsons)	14
2	2-3	Eagle Canyon to Tomate Canyon (Dos Pueblos Golf Course)	16
3	2-7	Gato Canyon to El Capitan Ranch (Doheny)	18
4	2-5	Dos Pueblos Creek to Las Varas Ranch (Schulte)	18
5	2-4	Tomate Canyon to Dos Pueblos Creek (Morehart)	19
6	2-6	Las Varas Canyon to Gato Canyon (Doheny)	20

**Table 7-6  
Railroad Route  
Summary of Priorities**

Priority	Segment Number	Segment	Rating
1	3-1	Refugio State Park to Tajiguas Canyon	14
2	3-2	Tajiguas Canyon to Arroyo Quemado	15
3	3-4	Arroyo Hondo to San Onofre Canyon	15
4	3-3	Arroyo Quemado to Arroyo Hondo	18

**Table 7-7  
Equestrian Route  
Summary of Priorities\***

Priority	Segment Number	Segment	Rating
1	4-1	Refugio State Park to Tajiguas Canyon	17
2	4-4	Arroyo Hondo to San Onofre Canyon	18
3	4-3	Arroyo Quemado to Arroyo Hondo	19
4	4-2	Tajiguas Canyon to Arroyo Quemado	21

\* In all four segments of the equestrian route, the proposed route is preferred over the alternatives because it is further from the highway or because it is on the existing frontage road.



## 7.4 Priorities for Construction of Publicly Owned Segments

**Table 7-8**  
**Old Highway Route**  
**Construction Priorities for Segments Currently Owned by Public**

Priority	Segment Number	Segment
1	1-1	Winchester Canyon to Farren Road
2	1-2	Farren Road to Santa Barbara Ranch
3	1-3	Santa Barbara Ranch to Dos Pueblos Ranch
4	1-4 & 1-5	Dos Pueblos Ranch

**Table 7-9**  
**Railroad Route**  
**Construction Priorities for Segments Currently Owned by Public**

Priority	Segment Number	Segment
1	3-1	Refugio State Park to Tajiguas Canyon
2	3-2	Tajiguas Canyon to Arroyo Quemado
3	3-4	Arroyo Hondo to San Onofre Canyon
4	3-3	Arroyo Quemado to Arroyo Hondo



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## **Section 8.0 Steps to Implementation**

The County should proceed with the following tasks to implement the recommendations in this report with the goal of completing the Gaviota Coast Trail System as soon as possible:

1. Select a proposed Trail Route based upon this study.
2. Conduct aerial survey for the Arroyo Hondo to Canada San Onofre segment. Complete further engineering analysis of the equestrian trail, once aerial survey is completed.
3. Obtain appraisals on all private easements along selected route.
4. Negotiate with private owners once appraisals are complete.
5. Acquire necessary easements.
6. Devise a strategy to meet budget demands.
7. Prepare grant applications, and County Department budget items.
8. Prepare environmental document for property acquisition and trail construction.
9. Commence design work on trail segments once property acquisition is secured.
10. Complete PSR for segments in Caltrans Right-of-Way.
11. Negotiate with Union Pacific Railroad for two new surface crossings.
12. Communicate with State Parks regarding location of the trail west of San Onofre.
13. Start construction after design and permitting is completed.



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