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Community Planning ⊏ Natural Resource Management ⊏ Environmental Assessment

DRAFT
ENVIRONMENTAL IMPACT REPORT
EL SUR RANCH

PREPARED FOR
COUNTY OF MONTEREY

EIR #83-003
PC - 4898

APRIL, 1984

PREPARED BY

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LSA#83-084

POTENTIAL IMPACTS	MITIGATION MEASURES
5. All proposed building areas contain some soils with potential septic system limitations.	Soils evaluation should include percolation tests to assess soils with excessively slow or rapid percolation.
6. Soils with high shrink-swell potentials are found in areas 4, 11, 13, 16, 18, 19, 20 and 22.	At the time of proposed development, foundation designs should include measures to minimize the effects of high shrink-swell potential in site soils.
7. The planned facilities would increase the volume of runoff generated by the project site; the overall level of increase cannot be determined at present.	Supplemental hydrological studies will be conducted for the proposed project after specific development plans have been formulated. The Little Sur River Protected Waterway Management Plan contains numerous policies which provide guidelines for future development on the Ranch.
8. The establishment of impervious surfaces would contribute to a cumulative increase in peak discharge levels on coastal stream systems and the Little Sur River.	Runoff from impervious surfaces of the development would be detained where possible for on-site retention.
9. The development on the Ranch would require wells for domestic water supply. The use of septic systems for wastewater disposal could have an effect on groundwater quality.	Septic tank and drainfield installation would be located at places having sufficient area for adequate wastewater disposal. Leachfields would be kept at a safe distance from all watercourses.

POTENTIAL IMPACTS	MITIGATION MEASURES
10. The future development of the Ranch would most likely result in increased human use of fragile areas acquired by the State, long-term protection of some plant and animal habitats, and direct removal of plant and animal habitat.	Access management plans should be prepared for areas 4 and 8 to ensure increased use would result in only acceptable levels of habitat stress. Clearing should be minimized for all planned construction. Revegetation with plant species found in the area should be required.
11. The proposed development would be located within the critical viewshed; however, all of the identified potential development areas contain residential structure locations which are not visible from Highway1. The residential areas would require new access roads which could be visible from Highway 1.	All development applications will be required to complete individual on-site investigations to determine whether proposed structures intrude on views in the critical viewshed. The mitigation measures present County policy requirements and specific methods for minimizing effects of proposed development on the critical viewshed. The project includes numerous design features which would alleviate potential effects on visual resources.
12. The inn complex would be located in area 8, west of Highway 1 near False Sur.	Visitor-serving facilities would not be visible from Highway 1, due to local topography and a comprehensive afforestation and reforestation plan for deteriorating pine and cypress forests.

POTENTIAL IMPACTS	MITIGATION MEASURES
13. The restaurant proposed for area 4 near the mouth of Little Sur River would be visible from Highway 1.	Special design methods would be necessary to reduce or eliminate the possible visual intrusion caused by the proposed restaurant. One possiblity might involve excavation and construction of the facility into the hillside.
14. The proposed project would contribute to the cumulative increase in air pollutant levels in the project area.	The proposed visitor-serving facilities should participate in improving the level of public bus service to the Big Sur Coast.
15. Project-generated traffic would contribute to cumulative traffic increases along Highway 1.	Mitigation same as number 15.
16. Old Coast Road would serve 31 to 60 residences and could be impassable during wet weather.	The Old Coast Road from Highway 1 to planned access drives should be improved to County rural road classification standards.
17. The project would result in increased use of local intersections with Highway 1.	Project intersections with Highway 1 should be improved to Caltrans standards for public road approaches.
18. The development proposal specifies the use of septic systems for wastewater disposal on residential areas and a package treatment plant for the visitor-serving use in area 8.	The septic systems proposed as part of the project would be located to meet the requirements of County codes and State public health regulations. Dual leachfield systems are proposed to avoid impact from system failures.

POTENTIAL IMPACTS	MITIGATION MEASURES
19. The proposed development would require domestic water service from springs and wells on the El Sur Ranch. Total annual domestic water requirements for the range of proposed units would be approximately 17.1 to 32.9 acre-feet.	The project would include all improvements required to meet State, County, and fire district requirements. Potable water systems should be tested at least twice a year to ensure adequate water quality.
20. The project would increase the demand for fire protection services from the Mid-Coast Volunteer Fire District. Fire hazards on the property would increase due to intensified human use.	The water system would be capable of at least meeting minimum fire flow requirements for both residential and visitor-serving uses. Fire prevention measures should be incorporated in the design of visitor facilities.
21. The development would increase the patrol functions of beat 9.	To facilitate police protection services, the Sheriff's Department has recommended several security measures.
22. Residential structures would be located in areas with maximum solar and wind exposure. The visitor-serving uses in area 8 and 4 would generally have solar exposures limited by surrounding topography and vegetation.	Proposed structures would need to meet the energy conservation requirements of Title 24 of the State code.
23. There are significant archaeological resources on the El Sur Ranch, specifically in proposed development areas 8 and 20.	Several measures indicating potential methods for resource protection are presented in the report. Methods include development restriction, provision of easements, and preparation of an archaeological management plan for all cultural resources.

CONFORMANCE WITH PLANNING POLICIES

The project has been evaluated for consistency with policies as presented in the Big Sur Coast Local Coastal Program (LCP), Little Sur River Protected Waterway Management Plan, Zoning Ordinance, County General Plan, and other planning documents. While the project application involves amendment of the LCP, it is important for decision-makers to understand how the project differs from the present plans. The table below indicates policies with which the project does not conform, the issue involved, and the part of the DEIR which describes the particular policy and issue.

County Policy	Issue	Report Page Number
LCP 6.1.5[A.2]	Shoreline Access	17,18
LCP 5.4.3 [M.1]	Large Property Development	18
LCP 3.7.3 [A.2]	Seismic Safety	26,27
LCP 3.7.3 [A.8]	Landslide Hazard	28
LCP 3.3.2 [1,2]	Sensitive Habitat	49-52
LCP 3.2.1	Site Visibility	69

1.0 INTRODUCTION

1.1 AUTHORIZATION AND PURPOSE

On September 14, 1983, the Monterey County Planning Commission concluded that the proposed rezoning of the 7,133 acre El Sur property would have a significant impact on the environment. The resolution was upheld by the Monterey County Board of Supervisors on December 6, 1983.

Pursuant to the Board's order, this Draft EIR has been prepared using preliminary information submitted by the applicant and information available from private and government sources cited herein. Actual preparation of the document was done by Larry Seeman Associates, Inc., under contract to the Monterey County Planning Department.

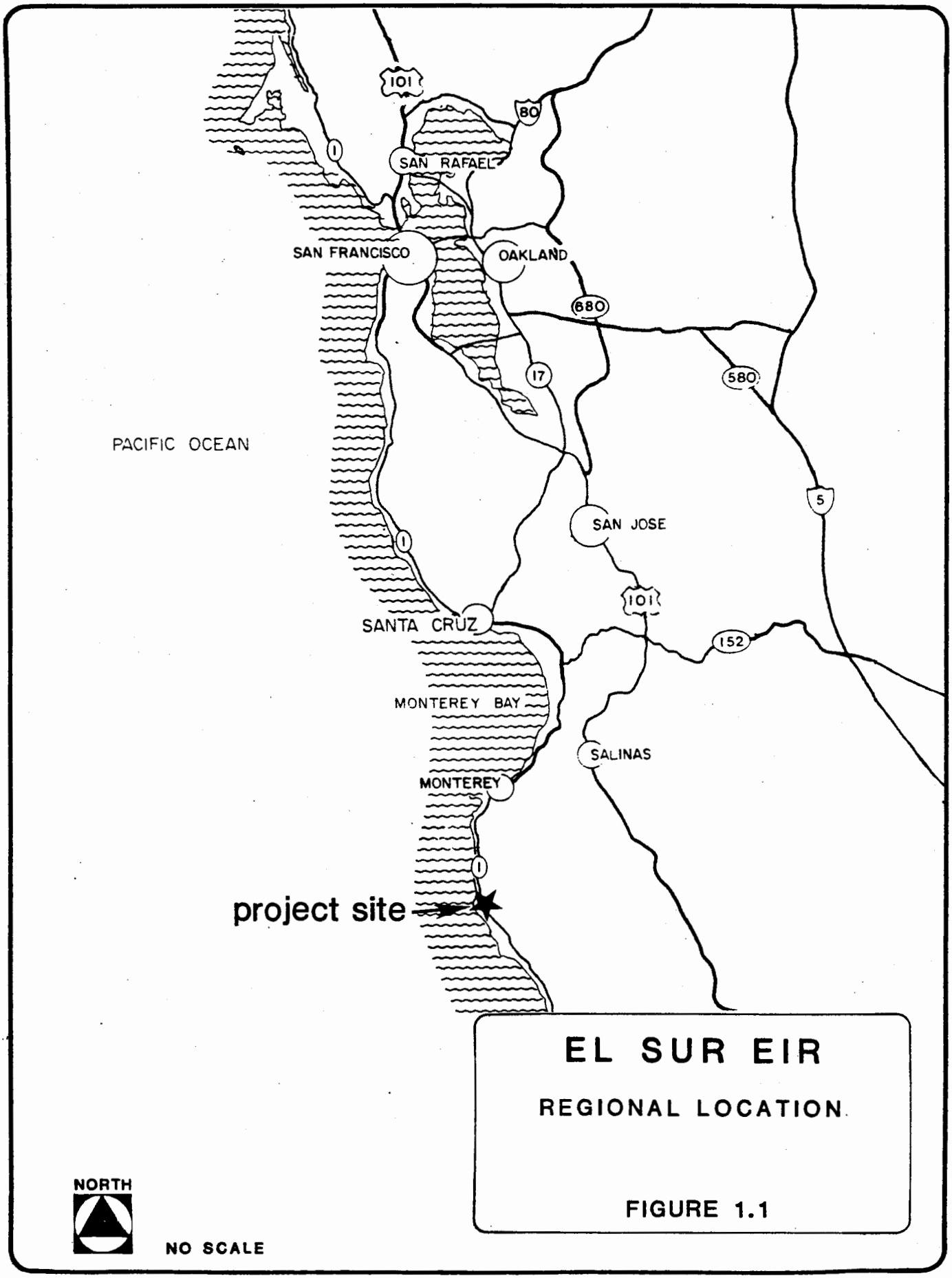
This document is prepared in compliance with the California Environmental Quality Act of 1970, as amended, to inform public decision-makers and the public of the environmental effects of projects they propose to carry out or approve. The report is an objective description of both positive and negative impacts, and related suggestions for mitigating adverse impacts or providing alternate solutions for environmental problems that would be created by the proposed project.

An environmental impact report may not be used as an instrument to rationalize approval of a project, nor do indications of adverse impact necessarily require that a project be disapproved.

1.2 PROJECT DESCRIPTION

1.2.1 Location

The El Sur Ranch, located in the Pt. Sur area of Monterey County, encompasses 7,133 acres and includes more than six miles of coastline north and south of Pt. Sur. The northern property boundary extends east-west approximately one mile north of the Little Sur River. The southernmost property line occurs about 500 feet north of the mouth of the Big Sur River. The ranch is bound on the north by other private ranch holdings. The Point Sur Lighthouse Reservation and the Pacific Ocean border the subject property on the west. Public lands bound the El Sur Ranch on the south, southeast, and east. Andrew Molera State Park extends eastward from the coast along the south and southeastern perimeter of the Ranch. The Los Padres National Forest occurs east of the Ranch. The regional location of the project is shown in Figure 1.1; the project boundary and surrounding vicinity are shown in Figure 1.2.



EL SUR EIR

REGIONAL LOCATION

FIGURE 1.1

1.2.2 Project Objectives

The project sponsor intends to rezone portions of the ranch for residential and visitor-serving uses. The intended rezoning would accommodate a 100-unit inn complex, two restaurants of undetermined size, and between 51 and 98 single-family dwellings. The proposed rezoning would also include appropriate designations for continued ranching operations.

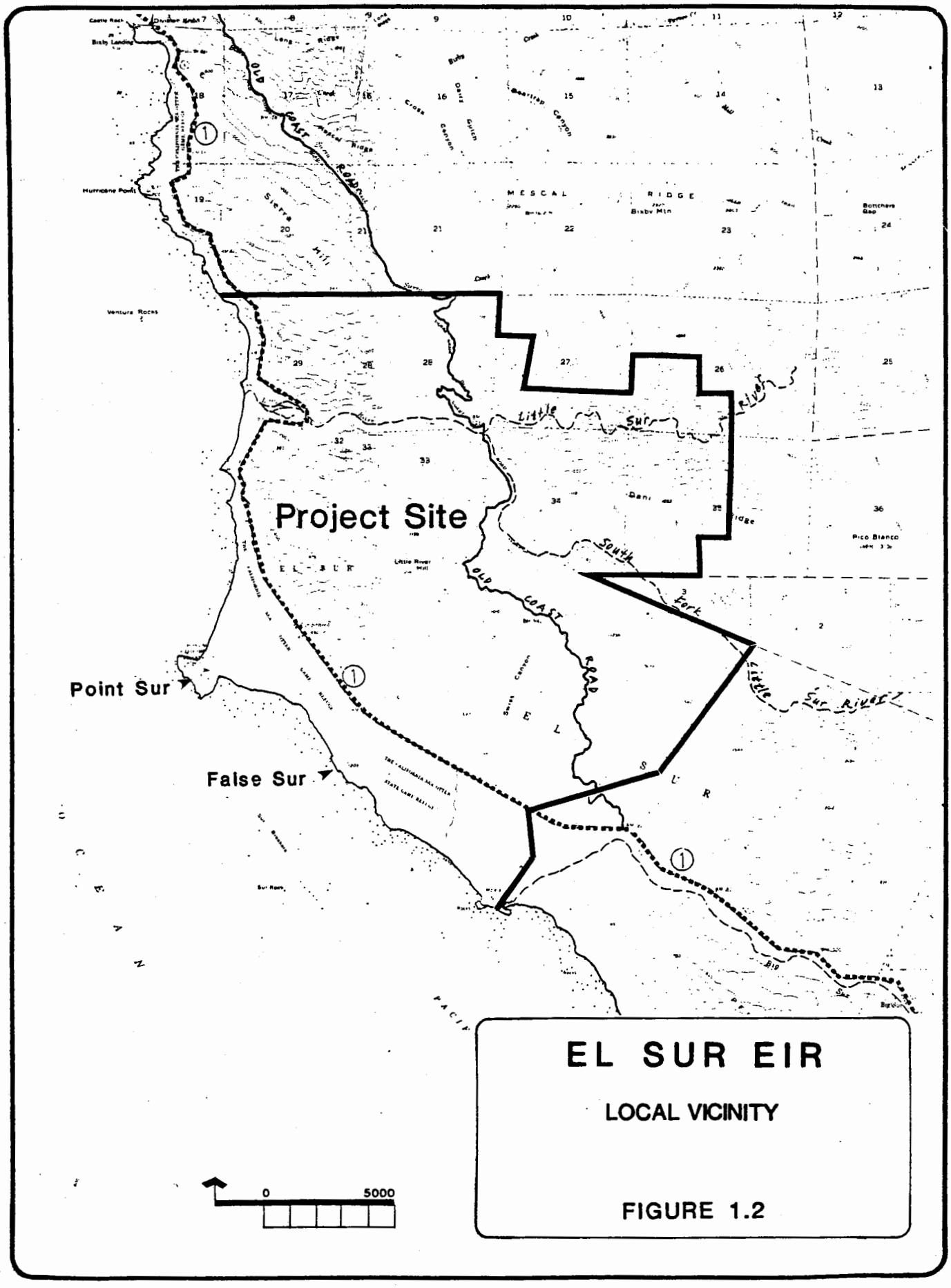
In addition to the rezoning application, the project sponsor proposes to enter into a development agreement with the County in order to secure some certainty for future development of the facilities described above. There is an upper limit of 25 years for the project proposal. However, there is no definite framework for the timing of this future development, the development agreement indicates implementation measures, such as scenic/conservation easements, to ensure attainment of the objectives. Specific components of the agreement are discussed below.

1.2.3 Project Characteristics

1.2.3.1 Background. A Spanish land grant, Rancho El Sur (8,949 acres) was deeded to its original owner, Juan Bautista Alvarado, but soon changed hands to his uncle, Captain John Roger Cooper, a Yankee trader who had first sailed into Monterey Bay in 1823. Cooper lived in Monterey but ran an active cattle ranch at Rancho El Sur, which stretched from north of the Little Sur River down the coast to Cooper Point about three miles south of the mouth of the Big Sur River. The northern part of the Rancho El Sur became known as the Cooper Ranch, while the southern portion became known as the Molera Ranch, named after Andrew Molera, Cooper's grandson (County of Monterey, 1982).

The Cooper Rancho El Sur (comprising some 7,000 acres) was acquired by the descendants of James J. Hill, the Canadian who built the Great Northern Railroad. The El Sur Ranch, as it is now known, is operated as a trust under the will of the late C.T. Hill, grandson of the railroad magnate. His son, Jim Hill, continues to operate the property as a ranch in accordance with his father's wishes. In 1965, Francis Molera, the sister of Andrew Molera, donated most of the Molera Ranch property west of Highway 1 to the State park system in honor of her brother.

1.2.3.2 Existing Improvements. At present, the El Sur Ranch holds ranch houses, barns, corrals, water tanks, and related facilities. Included among these are the ranch headquarters in Swiss Canyon, the dairy barn in the next canyon to the north, a ranch residence and barnyard adjacent to the



EL SUR EIR

LOCAL VICINITY

FIGURE 1.2

Old Coast Road east of Little River Hill, and a ranch house near the Highway 1 crossing of the Little Sur River. Two private inholdings are situated on the ranch near the Old Coast Road crossing of the Little Sur River.

In addition to the above structures, there are several access improvements serving the Ranch. Highway 1 and the Old Coast Road provide north-south access to the Ranch. Highway 1 is a high quality State roadway providing regional access to the state coastline. The Old Coast Road is a rough-graded dirt road that becomes impassable during periods of wet weather. Besides these two roads, the ranch maintains a private unpaved road extending along the Little Sur River between Highway 1 and the Old Coast Road.

1.2.3.3 Proposed Improvements. The locations of proposed development sites are shown in Figure 1.3. The proposed development for El Sur Ranch consists of a 100-unit inn and visitor-serving facilities at the Pine/ Cypress Forest (Site 8) and an as yet undetermined number of single- family residential sites distributed over Sites 11, 12, and 13 (Little River Hill Area), Sites 18, 19, 20, and 22 (the Steer Pasture Area), and Sites 16 and 17 (Swiss Canyon Area). A restaurant is proposed at Site 4, adjacent to the existing residence at the mouth of the Little Sur River.

Other integral parts of the project, as indicated on Figure 1.3, include the following:

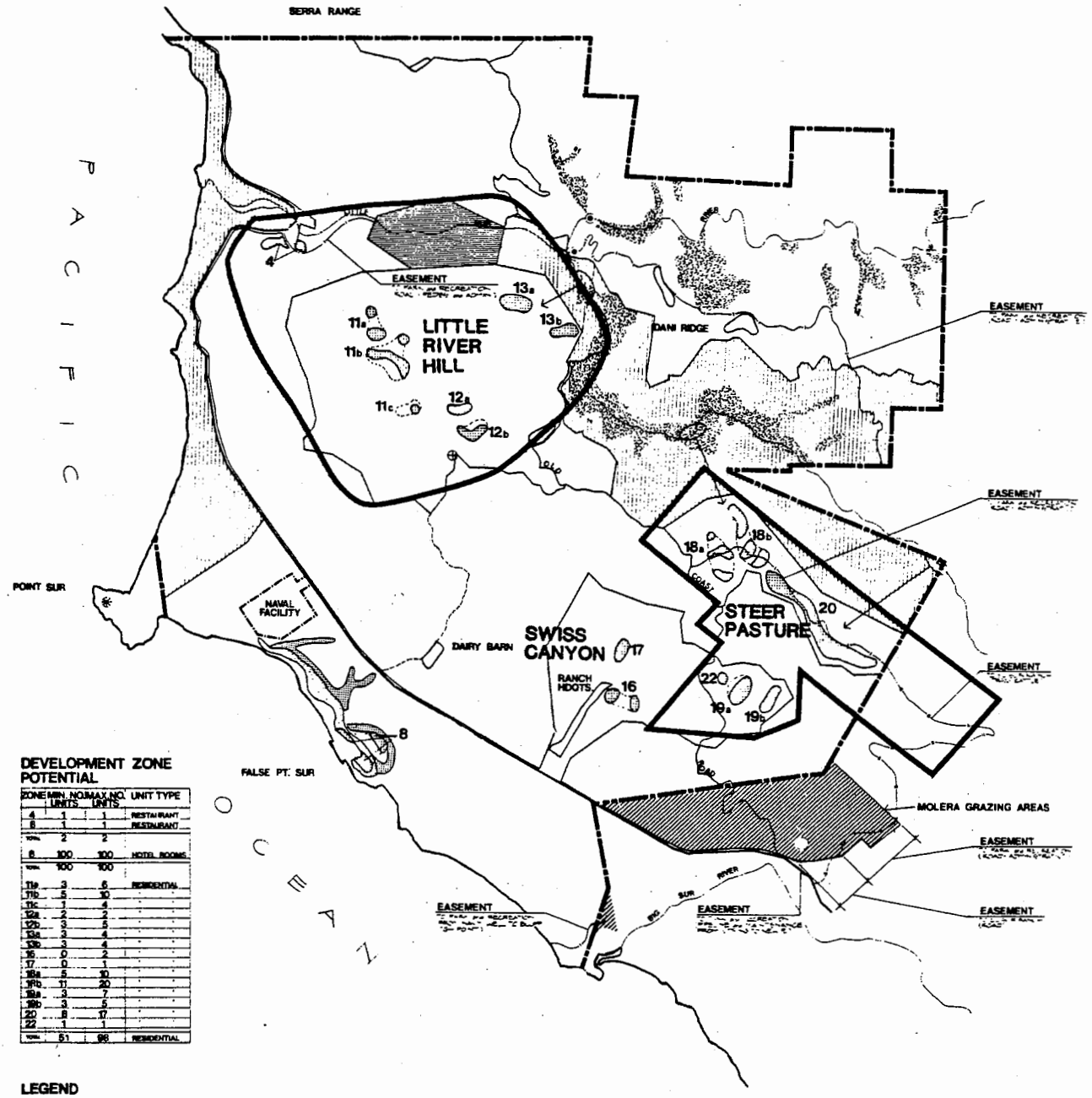
1. Large beach and bluff acreage west of Highway 1 from north of the mouth of the Little Sur to Point Sur (approximately 325 acres) and a portion of the watershed of the South Fork of the Little Sur River (about 893 acres, including a portion of the main stream); these are to be purchased by the State of California for public use.

2. A variety of on-site and off-site access and other easements (96 acres) to be granted by the ranch to the State, and vice-versa.

3. Two surplus areas (250 and 9 acres respectively) of Andrew Molera State Park adjacent to El Sur Ranch; these would be deeded to the Ranch.

4. Phased afforestation of a portion of the coastal terrace directly east of the Pine/Cypress Forest (Site 8) and reforestation in keeping with the Coast Commission designation of "special forest treatment."

Three sites, one on the Serra Hills (west of the Old Coast Road) and two on Dani Ridge, have been designated as future potential ranch facility sites. They would serve in part to replace the ranch residence at Highway 1 (near the mouth of the Little Sur), which would be purchased by the State under the



DEVELOPMENT ZONE POTENTIAL

ZONE	MIN. NO. UNITS	MAX. NO. UNITS	UNIT TYPE
4	1	1	RESTAURANT
6	1	1	RESTAURANT
TOTAL	2	2	
8	100	100	HOTEL ROOMS
TOTAL	100	100	
11a	3	6	RESIDENTIAL
11b	5	10	
11c	1	4	
12a	2	2	
12b	3	5	
13a	3	4	
13b	3	4	
16	0	2	
17	0	1	
18a	5	10	
18b	11	20	
19a	3	7	
19b	3	5	
20	8	17	
22	1	1	
TOTAL	51	98	RESIDENTIAL

LEGEND

- PUBLIC LAND - STATE PARKS AND RECREATION DEPARTMENT
- EASEMENT TO STATE PARKS
- ADDITIONAL GRAZING AND WELL: DEEDED TO RANCH
- FIRST PHASE EASEMENT - CONSERVANCY PROPOSAL: 12-16-82
- EXISTING RANCH BOUNDARY
- WATER EASEMENT TO EL SUR RANCH - APPROX. LOCATION
- EASEMENT TO S.P. & R.D.
- EASEMENT TO EL SUR RANCH
- DEVELOPMENT ZONES - RES. AND VISITOR SERVING
- RANCH FACILITY
- PRIVATE INHOLDING
  COMMUNICATIONS FACILITY
  FEDERAL FACILITY
- REDWOOD FOREST
- PINE FOREST
- AFFORESTATION

AREA OF FOLLOWING SITE SPECIFIC DEVELOPMENT MAPS

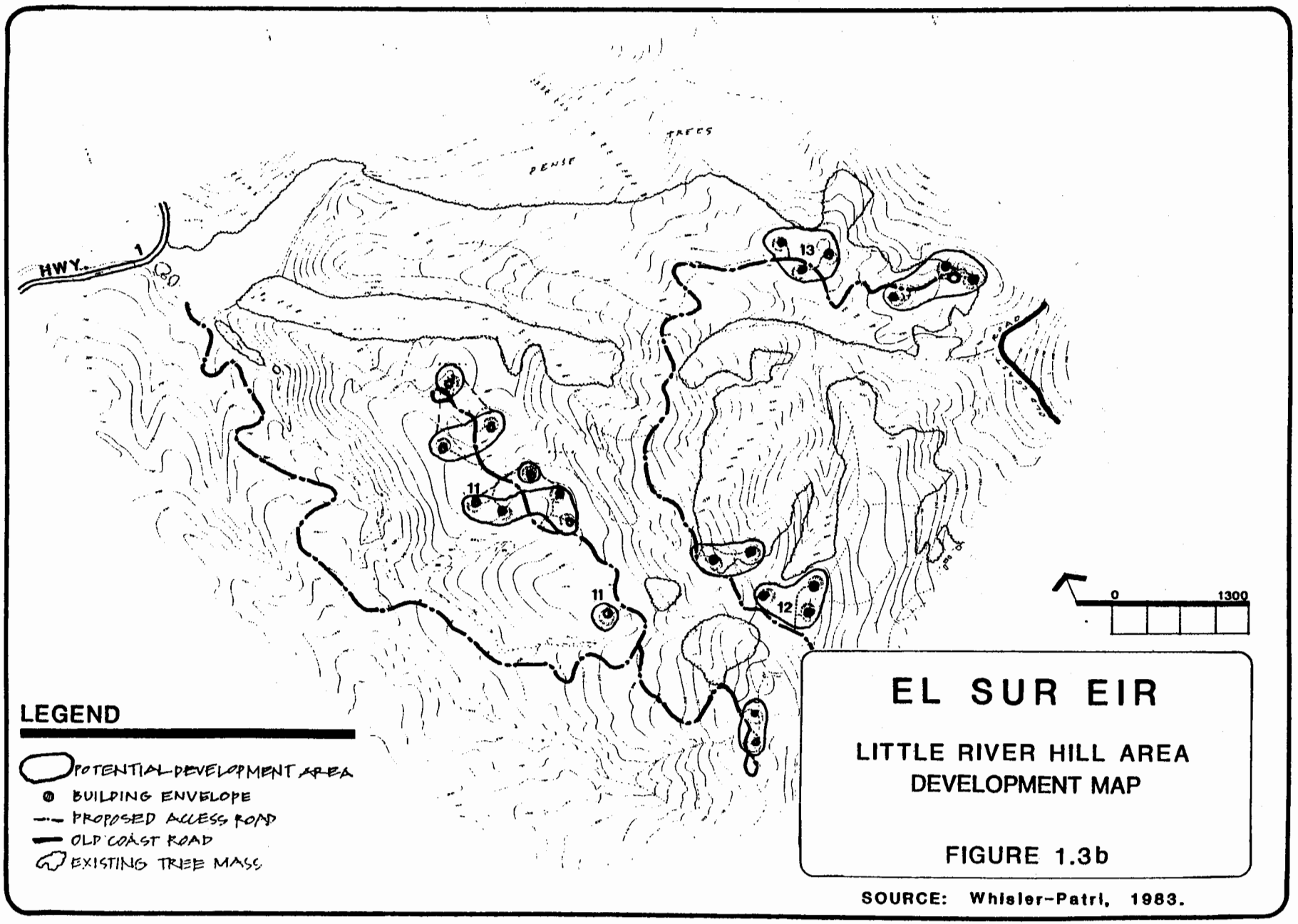
0 4000

EL SUR EIR

PLOT PLAN OF PROPOSED USE

FIGURE 1.3a

SOURCE: Whisler-Patri, 1983.

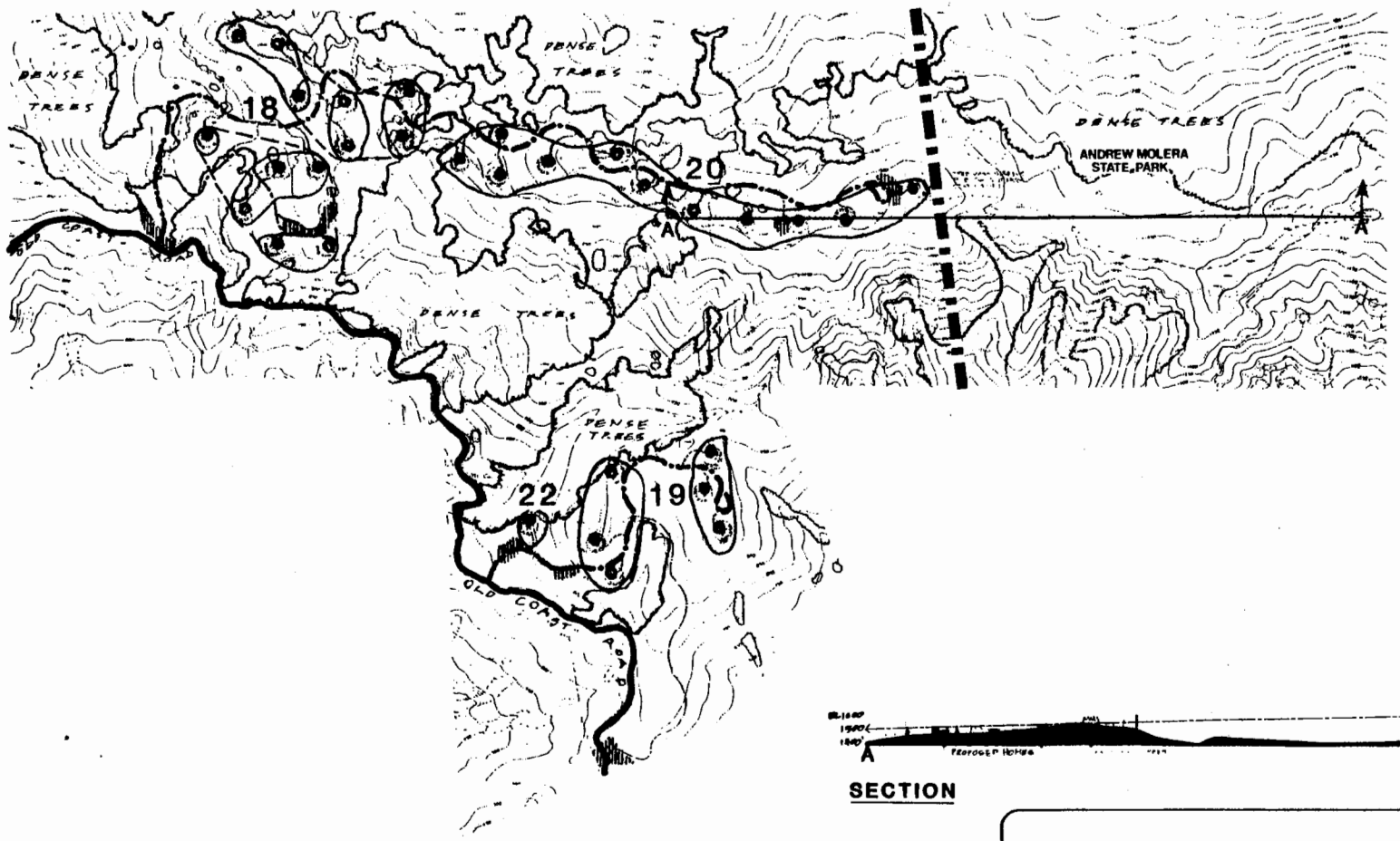


EL SUR EIR

LITTLE RIVER HILL AREA DEVELOPMENT MAP

FIGURE 1.3b

SOURCE: Whisler-Patri, 1983.



SECTION

LEGEND

- BUILDING ENVELOPE
- PROPOSED ACCESS ROAD
- OLD COAST ROAD
- EXISTING TREE MASS
- EL SUR PROPERTY LINE
- PROPOSED TREE MASS SCREEN

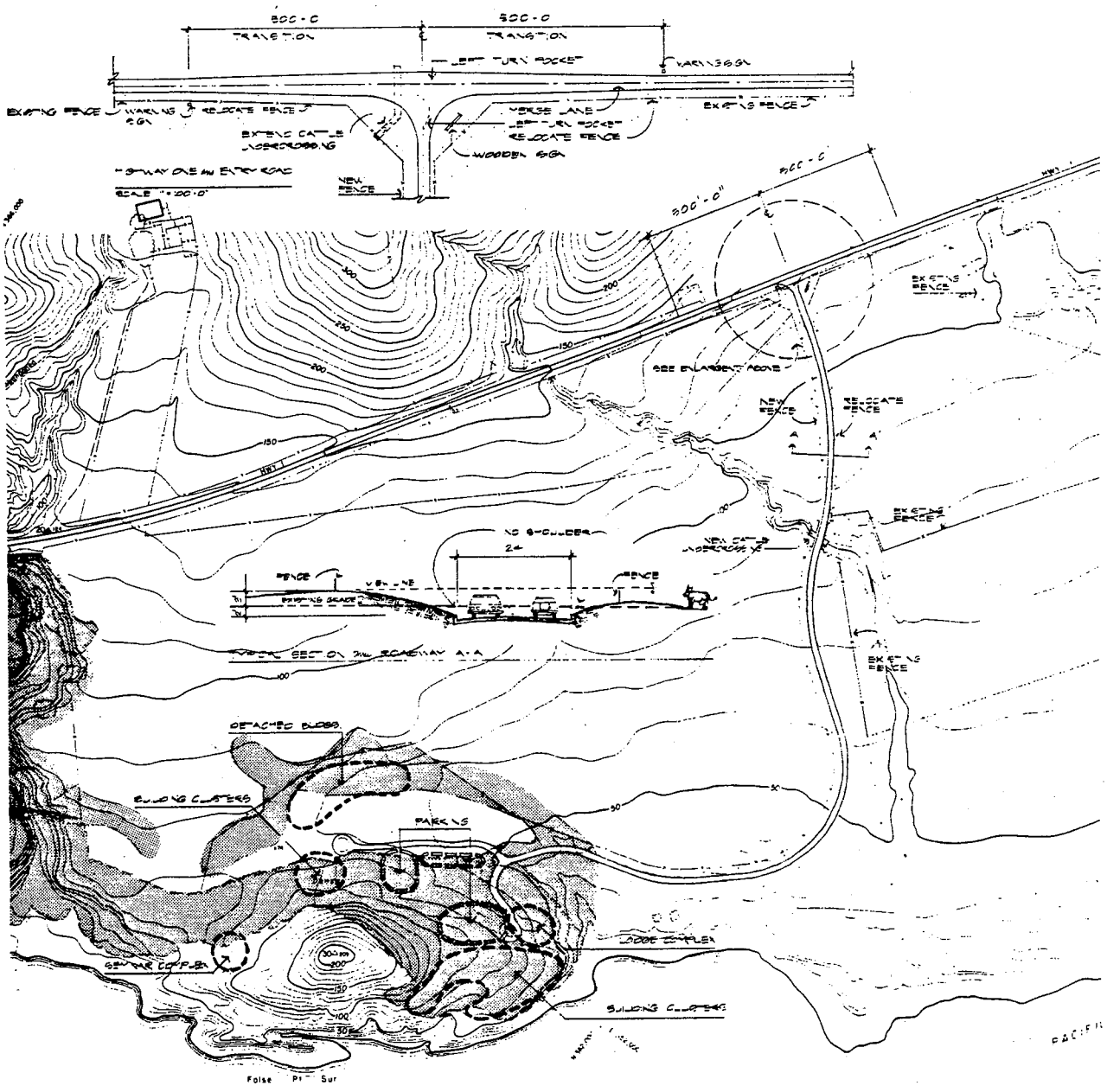
0 1300

EL SUR EIR

STEER PASTURE AREA DEVELOPMENT MAP

FIGURE 1.3c

SOURCE: Whisler-Patri, 1983.



EL SUR RANCH

0 100 200 400

EL SUR EIR

FALSE POINT SUR DEVELOPMENT AREA MAP

FIGURE 1.3d

SOURCE: Whisler-Patri, 1983.

development agreement, and to serve those portions of the Ranch north of the Little Sur River. Augmentation of ranch facilities in the Dani Ridge and Serra Range areas could become necessary if the public park and easement corridor tend, by inhibition of operations, to isolate that area from the current headquarters.

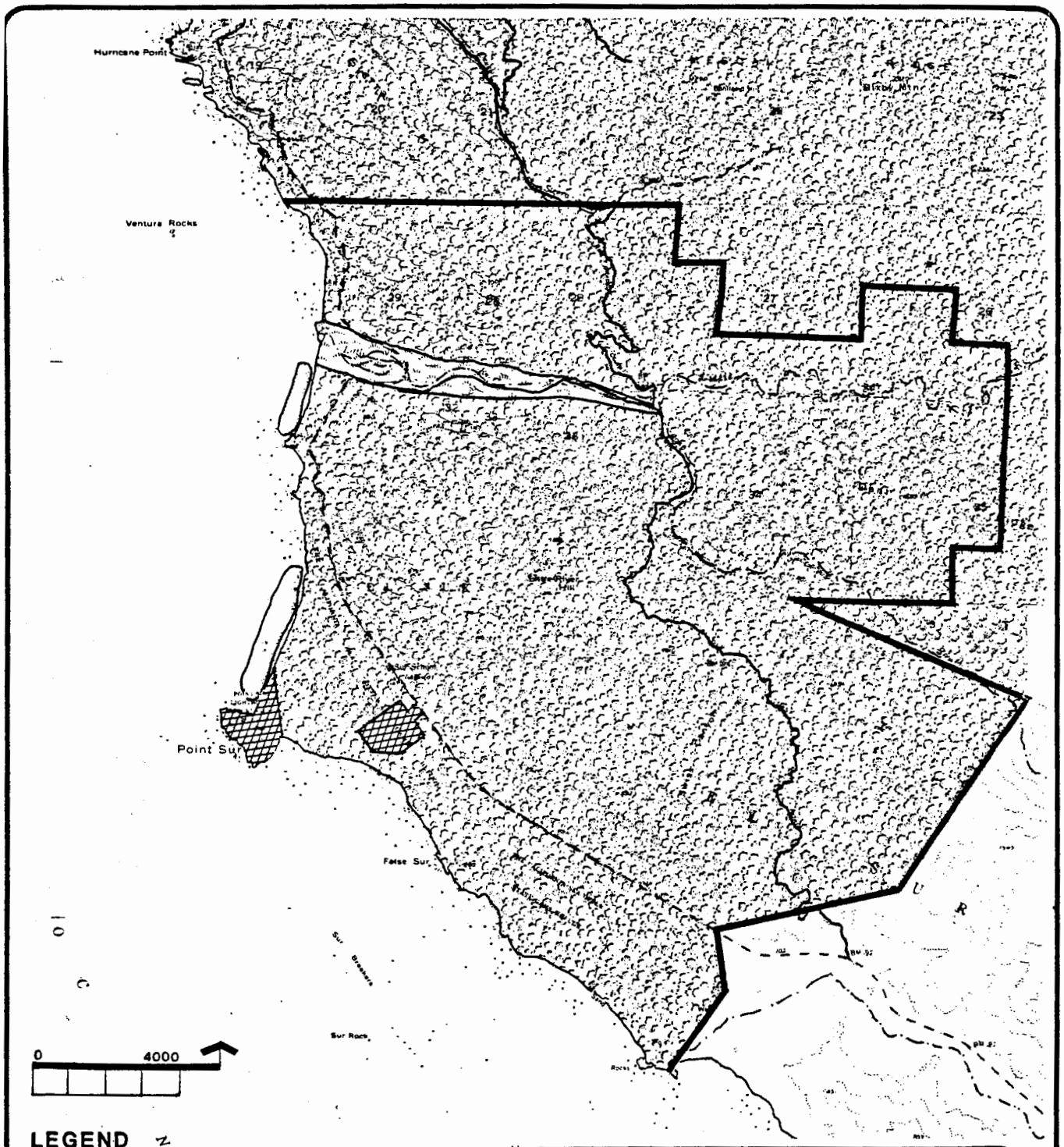
The selection of sites for residential and visitor-serving development has been based upon recognized environmental constraints and land use planning opportunities; this practice is in keeping with the basic goals of the Coastal Act. Residential development sites would provide appropriate locations for the number of residential units as allowed by the slope density guidelines of the Land Use Plan. The Plan also provides additional sites that can be utilized if a transfer of development credits program is created.

Incremental areas of scenic easements are allocated over areas of the ranch not designated as development zones. Allocation would occur in proportion to the number of units allowed by the slope density formula. In addition to the above, an undetermined number of sites could be made available for employee housing in construction with visitor-serving facilities.

Inclusion of a Development Agreement as an element of the Local Coast Program implementation phase would provide a mechanism by which concerns of the land owners, as well as public agencies, could be addressed.

It should be noted that the Save the Redwoods League is purchasing the land along the south fork of the Little Sur River. The Coastal Conservancy will be purchasing scenic easements and accepting donations of scenic easements based on development credits. The Coastal Conservancy has passed a resolution approving the expenditure of up to 1 million dollars for this purchase.

1.2.3.4 Vicinity and Neighboring Land Uses. Figure 1.4 shows designated land uses in the area surrounding the El Sur Ranch. Private land holdings lie immediately north of the subject property. The Point Sur Lighthouse Reservation, a federal property, is the only property west of the Ranch. Andrew Molera State Park bounds the subject property on the south and southeast. The Los Padres National Forest and some private properties lie along the eastern edge of the Ranch.



EL SUR EIR

BIG SUR LOCAL COASTAL PLAN

FIGURE 1.4

SOURCE: Monterey County Planning Department, 1982

1.3 GENERAL PLAN AND ZONING

1.3.1 Monterey County General Plan

The County-wide General Plan, including goals and policies that would apply to the Big Sur Coast Land Use Plan, has recently been revised. The revised General Plan presents the overall goals and policies guiding future land uses and development throughout Monterey County. The application of these guidelines to specific areas is achieved in local regional plans such as the Land Use Plan for the Big Sur Coast.

1.3.2 Big Sur Coast Land Use Plan. The Big Sur Coast Land Use Plan is a sectional Land Use Plan of the County General Plan. The Big Sur Coast Land Use Plan has been adopted by the County Board of Supervisors. Once certified by the Coastal Commission, the Land Use Plan for the Big Sur Coast becomes an amendment to the County-wide General Plan. The Big Sur Coast Land Use Plan presumably will embody the goals and policies of the General Plan and will provide more specific evidence for the planning of land uses along this portion of the County's coastline.

The Land Use Plan for the Big Sur Coast has one basic goal to guide the planning process. As presented in the plan, the goal is:

> To preserve for posterity the incomparable beauty of the Big Sur country, its special cultural and natural resources, its landforms and seascapes and inspirational vistas. To this end, all development must harmonize with and be subordinate to the wild and natural characterof the land (Page 5).

The Plan states that comprehensive preservation of the coastal areas will require special determination and effort by all persons and agencies, public and private, whose actions affect the future of the coast.

In order to accomplish the major goal of the plan, five basic objectives and policies are defined. These basic objectives address: 1) natural resources; 2) coastal scenic resources; 3) Highway 1; 4) land use and development; and 5) shoreline access (Pages 6 and 7).

The specific objective and supporting policy for each of these issues are summarized as follows (Pages 6 and 7):

1. Natural Resources

   a. Objective: To develop and effectively carry out a constantly improving natural resources management system for the long-term benefit of both visitors and residents.

b. Policy: To take a strong and active role in safeguarding Big Sur's irreplaceable natural resources.

2. Coastal Scenic Resources

a. Objective: To preserve these scenic resources in perpetuity and to promote, wherever possible, the restoration of the natural beauty of visually degraded areas.

b. Policy: To prohibit all future public or private development visible from Highway 1 and major public viewing areas.

3. Highway 1

a. Objective: To maintain and enhance the highway for scenic travel and recreational enjoyment.

b. Policy: To take a strong and active role in guiding future use and improvement of Highway 1 and all categories of land use related to and dependent upon the highway.

4. Land Use and Development

a. Objective: To minimize development and preserve the coast as a scenic rural area where residents' individual lifestyles can flourish, traditional ranching uses can continue, and the public can come to enjoy nature and find refuge from the pace of urban life.

b. Policy: That future land use development on the Big Sur coast shall be extremely limited, in keeping with larger goal of preserving the Coast as a natural scenic area.

5. Shoreline Access

a. Objective: To develop an optimal plan for public access that accounts, in a balanced way, for the preservation of the fragile natural environment.

b. Policy: That preservation of the land in its natural state is the highest priority, and all future access must be subordinate to this objective.

The application of these objectives and policies to specific properties and areas along the Big Sur coast is presented in great detail in the Big Sur Coast Land Use Plan. The following discussion identifies specific references in the plan concerning land use and development on the El Sur Ranch property and areas therein. The discussion also addresses the issue of shoreline access. The policies guiding the management of natural resources, highway use, and coastal scenic resources will be discussed in the appropriate sections of this report.

It should be noted that the project application seeks to amend the Draft Land Use Plan for the Big Sur Coast and the rezoning and development agreement for the Ranch. The elements proposed in the development agreement are intended to become a part of the Plan. If and when the amended plan is certified by the Coastal Commission, the proposed concept for future uses on the ranch would be consistent with the final Big Sur Coast Land Use Plan.

The Land Use and Development section of the Draft Big Sur Coast Land Use Plan presents a discussion of the existing land use conditions along the Big Sur coastline, land use planning issues, land use proposals for the Big Sur coast, and development policies guiding future uses along the coast. The existing land use conditions for the ranch were discussed on pages 4,5 and 10 above.

The key land use planning issues (Page 63) for the Big Sur coast include:

1. The protection of environmental quality and resources of the California coast while making it accessible for the enjoyment of all. A major challenge of this plan is to find a way to substantially curtail further commitment to residential development resulting from subdivision or other land use intensification while also assisting landowners in achieving the most sensitive possible development of existing parcels.

2. The encouragement and protection of ranching as an important and traditional use of the larger land holdings with significant grazing resources.

3. Encouraging public recreational use and enjoyment of the coast while ensuring that the very resources that make the coast valuable for human enjoyment are not spoiled.

The proposed development agreement recognizes these critical concerns and responds directly to each issue.

First, the development agreement proposes a limited range of residential development for the 7,133 acre ranch. This agreement specifies 51 to 98 single family residences in general locations on the ranch. Each particular location has several building areas in which a restricted number of units can be constructed. The locations and potential number of units is identified in Figure 1.3a. In this way the agreement strives to accommodate the development needs of the property owner while retaining sensitivity to the inherent environmental characteristics of the ranch.

The development agreement also promotes and enhances agricultural uses on the ranch. The agreement proposes the acquisition of additional grazing lands for the ranch and specifies the protection and preservation of ranching operations on the property. This component of the agreement responds directly to the second key issue listed above.

Finally, the project includes the sale of beaches and bluffs near the Little Sur River to the State Parks and Recreation Department and connecting easements to inland National Forest lands and redwood stands on the ranch would also be offered to the public. This provision attains the Coastal Act's goal of encouraging and facilitating access and recreational use of the coast (issue 3 above).

In addition to presenting the land use planning issues for coastal use, the Land Use Plan presents proposed land uses for the Big Sur coast. Figure 1 of the plan shows the El Sur Ranch designated as Watershed and Scenic Conservation land Outdoor Recreation, and Wetland. Permitted uses in this category include agriculture, outdoor recreation, visitor-serving facilities, and rural residential. The plan indicates principal uses in this category would be agricultural/grazing, with supporting ranch buildings. The Outdoor Recreation category allows facilities such as rustic inns and lodging units. Rural residential uses are secondary, conditional uses which are evaluated on their individual merits.

The project application includes land uses which are consistent with the land use proposals of the draft Big Sur Coast Land Use Plan. The development agreement indicates cattle grazing to be the principal use for the El Sur Ranch. Visitor-serving and residential uses would be limited to relatively small portions of the ranch.

Finally, the land use plan for the Big Sur coast presents both general and specific policies which would guide the future use of the Big Sur coast. The key policy for this area is:

> Future land use development on the Big Sur coast should be extremely limited, in keeping with the larger goal of preserving the coast as a scenic natural area (5.4.1).

The subordinate policies of the land use plan prescribe certain treatment for all of the land uses identified in the plan. These policies interpret and apply the directive of the key policy, providing specific guidelines for planning future land uses along this coastline.

The land use plan includes five policies which guide the development of larger properties and ranches. Of these, the following two policies are particularly relevant:

1. The El Sur Ranch is a working ranch and should remain in operation. To facilitate this, ancillary uses should be approved which result in the ranching being continued. The preferred ancillary uses are agriculture and visitor-serving facilities. Ancillary uses shall be clustered to minimize intrusion into the ranching activity, and must be developed in conformity with all other policies of this plan. (5.4.3.M.5)

2. The development of properties of 320 acres or greater for uses other than agricultural structures or a single residence shall require submittal of an overall development and management plan for the property. The plan shall indicate all long-range uses contemplated on the property. Areas proposed for development of residences, visitor-serving facilities or low-intensity recreational uses shall be clearly delineated, and areas to be retained for grazing, open space and habitat protection, and public access shall be indicated. All proposed roads shall be shown. The plan shall contain a description of how development will be phased over time (5.4.3.M.1).

The project application addresses these policies by ensuring continued ranching operations and presenting the El Sur Long Range Master Plan. The elements of the Master Plan are identified and addressed throughout the report.

The Big Sur Coast Land Use Plan also includes a section that discusses public access. The key policy for coastline access is:

> The rights of access to the shoreline, public lands, and along the coast, and opportunities for recreational hiking access shall be protected, encouraged and enhanced. However, all future access must be consistent with preservation of the natural environment. Care must be taken that, while providing public access, the beauty of the coast, its tranquillity

and the health of its environment are not marred by public overuse or carelessness (Page 89).

There are numerous general and specific policies that support this directive.

A principal feature of the specific policies in the land use plan is the assignment of priorities for shoreline access. The two major categories for access differentiate between areas appropriate and not appropriate for public access. These designations are applied to the entire coastline in the Big Sur area and are shown in Figure 2 of the plan.

There are three priority classes for the provision of access in appropriate locations of the Big Sur Coast (Page 90). These include:

Priority 1 - The first priority shoreline access locations are those major access areas presently in active use. These areas should be retained for long term public use. They should be improved and managed properly consistent with an approved management plan before new locations are opened to formal public access by their owners. These areas are: Doud Acquisition, Little Sur Beach, Molera State Park, Pfeiffer Beach, Partington Canyon, Julia Pfeiffer Burns State Park, Kirk Creek, Mill Creek, Sand Dollar, Jade Cove, and Willow Cove.

Priority 2 - The second priority for provision and improvement of public accessways should be placed on areas that have ample beaches, minimal public safety hazards, and either absence of sensitive habitats that can be protected from adverse impacts. Priority 2 areas are: Kasler Point, Rocky Point, Palo Colorado, Bixby Creek, Point Sur, Swiss Canyon, Gamboa Beach, Limekiln Creek, and Pacific Valley.

Priority 3 - The third priority for provision and improvement of public accessways should be placed on areas that have attractive destinations where safety hazards or resource conflicts can be mitigated, and with potential for improved parking. Priority 3 access areas are: Otter Cove, Rocky Creek, Hurricane Point, Castro-Grimes, Lopez Point, Lucia, and Wild Cattle Creek.

As can be seen, one area of the ranch (Little Sur Beach) is designated as a Priority One location and two areas, Point Sur and Swiss Canyon, are classified as Priority Two locations.

The project directly responds to the shoreline access issue by offering the Little Sur and Point Sur Beaches for acquisition by the State Parks and Recreation Department. It is the position of the property owner that public access to the False Point Sur (Swiss Canyon) Beach would be incompatible with the hotel use proposed in the development agreement. Therefore, the project

proposal excludes shoreline access at the False Point Sur location. The appropriateness of public access is discussed further in other sections of this report.

It should be noted that the El Sur Ranch Long Range Master Plan is inconsistent with two policies of the Big Sur Coast Land Use Plan. As discussed above, restriction of public access to False Point Sur Beach does not conform to the requirements of the Land Use Plan for public access. It will be necessary for County and project applicant to resolve this difference. Also, key policy 5.4.3.M.1 requires a description of how development will be phased over time. At present, it is known that the extent of the development period would be 25 years. However, there is no indication of how development would be phased. Since the Master Plan for the Ranch meets all of the other requirements of this particular key policy, additional discussion in the Ranch Master Plan regarding the sequence of development events would most likely fulfill this policy requirement.

1.3.3 Zoning

The project site is currently zoned SC/D and T-B-5. These zones are defined as follows:

SC: Scenic Conservation District
D: Design Control District

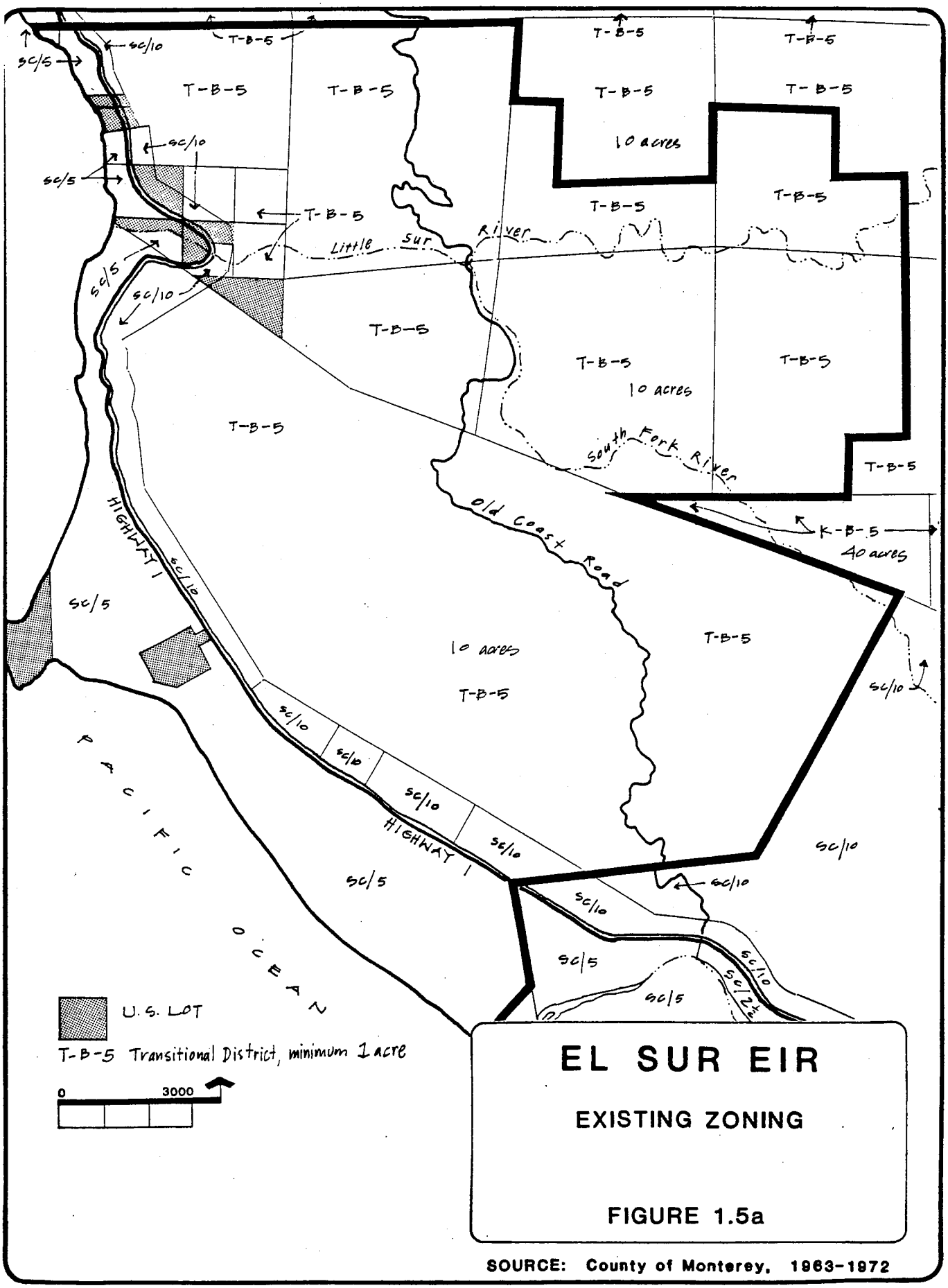
T: Transitional District
B-5: Building Site Restriction, Minimum Ten Acres

The project sponsor proposes appropriate changes in zoning to accommodate a 100-unit inn, two restaurants, and 51 to 98 single-family residences. Rezoning would also be required for grazing lands added to the ranch.

1.3.4 Other Plans Applicable to the Project

1.3.4.1 Little Sur Protected Waterway Management Plan. The Protected Waterway Management Plan indicates issues and concerns of both the County and State in the management and use of the Little Sur River Watershed. The Plan also establishes goals and objectives for the future use of the waterway and its watershed area. The primary goal of the Plan is:

> To protect and enhance the outstanding natural values of the Little Sur River and its watershed as prime fish and wildlife habitat and for scenic and passive outdoor recreation and to support continued ranching use and those visitor-serving uses and limited resource-dependent uses which are compatible with protection of these natural values (Page 65).

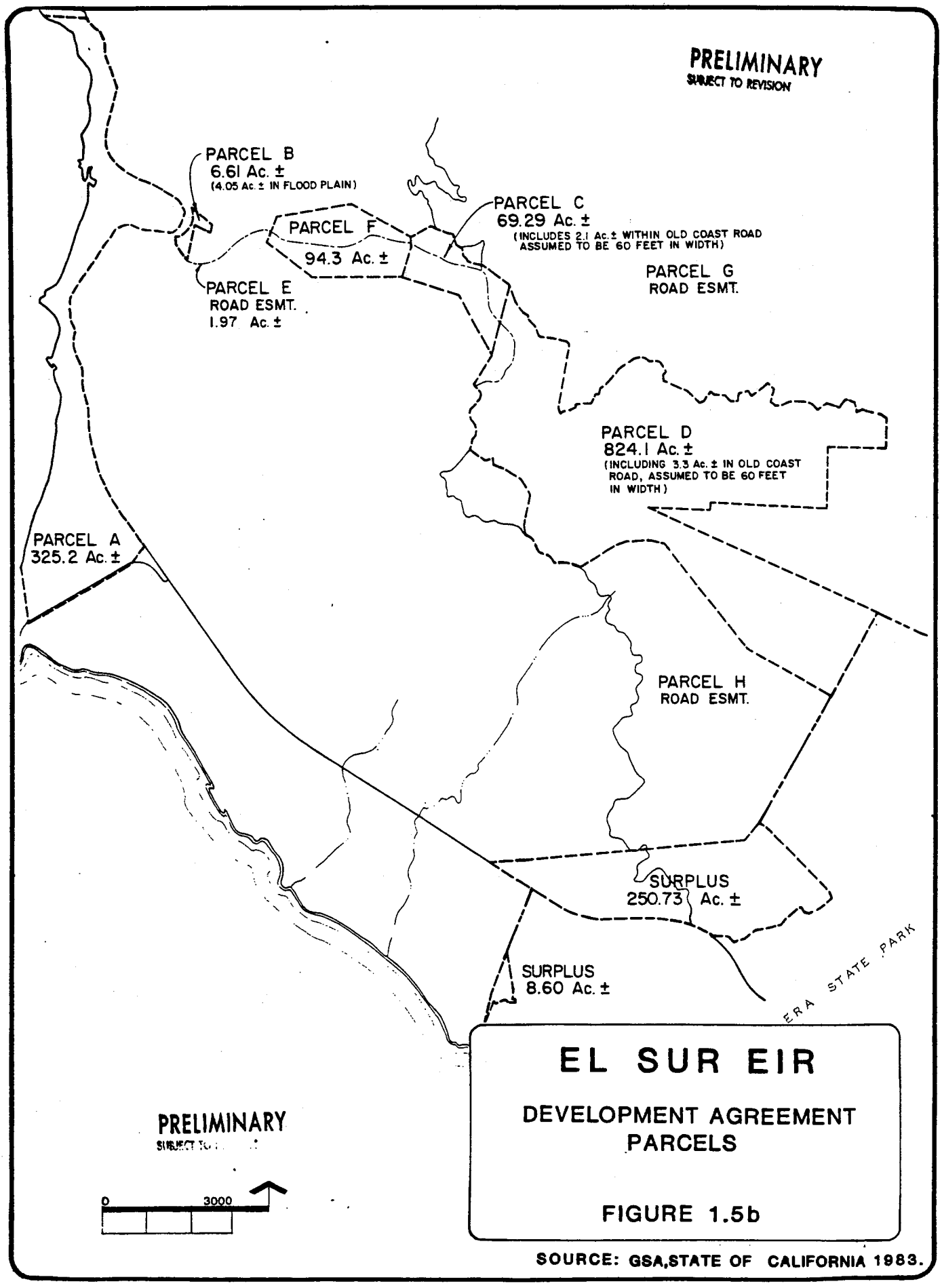


EL SUR EIR

EXISTING ZONING

FIGURE 1.5a

SOURCE: County of Monterey, 1963-1972



EL SUR EIR

DEVELOPMENT AGREEMENT PARCELS

FIGURE 1.5b

SOURCE: GSA, STATE OF CALIFORNIA 1983.

The objectives, policies, and recommendations of the Plan support this goal and provide specific measures to attain it. Most of the objectives and policies address the protection of water-related resources. These policies are discussed further in the Hydrology section of this report.

There are four objectives/policies which address access, recreation, and scenic resources for areas in the watershed (Pages 66 and 67). These are:

1. Provide public access to the Little Sur River Beach while at the same time protecting wildlife values of the lagoon and shoreline.

2. Monterey County, the California Department of Parks and Recreation, the U.S. Forest Service and private landowners should cooperatively solve the problem of providing permanent public access for the South Fork Trail from the Old Coast Road trailhead upstream to the Los Padres National Forest.

3. Future proposals for development and/or landscape alteration within scenic areas both within and outside the Critical Viewshed should be subjected to any analysis of visual impacts, and appropriate mitigating measures implemented.

4. Monterey County shall control all development in the lower watershed in accordance with the Big Sur Local Coastal Program so that the coastal viewshed from Highway 1 is protected. Views from the Old Coast Road should also be protected to the greatest extent possible through careful siting, design, and, where appropriate, screening of new development.

As described above, public park access to Little Sur River Beach will become available through State acquisition of the shoreline. Also, a public easement from the beach to Los Padres National Forest will expand public access to the south fork of the river, the Save the Redwoods League proposed acquisition. Lastly, a viewshed and visual impact analysis was performed for the proposed project. A detailed discussion of the study is presented in the Visual Quality section of this report.

1.3.4.2 Satisfaction of Inclusionary Housing Requirement. The Big Sur Coast Land Use Plan presents two policies for the provision of low and moderate income housing. The first policy describes measures which should be taken to maintain and protect existing affordable housing. The second policy discusses methods to expand housing opportunities for low and moderate income households.

The project proposal ensures the maintenance and rehabilitation of existing ranch structures, provides for new ranch facilities and housing for employees, and stipulates an undetermined number of sites for future employee housing. These provisions are meant to satisfy the County requirements for low and moderate income housing.

2.0 ENVIRONMENTAL SETTING, POTENTIAL IMPACTS AND MITIGATION MEASURES[1]

2.1 REGIONAL SETTING

Setting. The El Sur Ranch is located along the Big Sur Coast of Monterey County. The ranch is approximately 17 miles south of Carmel.

The western slopes of the Santa Lucia Mountains range in elevation from 5,200 feet to sea level. Much of the coast is bounded by sheer cliffs, with few beaches. Nearly fifty separate streams flow down the mountains to the sea. Several of these, such as the Big Sur and Little Sur Rivers, Big Creek, Garrapata Creek, and Salmon Creek, have substantial year-round flows and support anadromous and resident game fish. The Big Sur coast is rich in plant and wildlife diversity. Coast redwoods are found in the cool, moist canyons. Mountain lions, an occasional black bear, deer, and many smaller terrestrial animals and birds are found at Big Sur. While the California sea otter refuge runs the length of the coast, the otter is only a small part of the diverse spectrum of marine wildlife.

The climate in Big Sur is mild. Although the winters bring some of the heaviest rainfall in California, the summers are long and dry. Coastal fog is typical on summer mornings near the shore; inland and at the higher elevations temperatures can get quite high. Fire danger is present in summer and can be extremely hazardous for residents.

Approximately half of the planning area's 150,000 acres are within the Los Padres National Forest and the Ventana Wilderness. Nearly 9,000 acres are contained within units of the State Park System. Approximately 55,000 acres are in private ownership.

The project area is composed of valleys, slopes and ridges of the Serra range in the Santa Lucia Mountains. Elevations in the project vicinity range from sea level to about 4,853 feet at Ventana Double Cone.

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[1] In this section, setting, impacts, and mitigation measures are discussed in the context of identified environmental issues. Within each mitigation measure section, individual measures are subdivided into 1) those proposed by the project sponsor as a part of the project, 2) those called for by County policies, and 3) those recommended by the environmental consultant.

Surrounding land uses include agricultural/range land to the north and east, the Los Padres National Forest to the east and southeast, and Andrew Molera State Park to the south. In addition to this, the Federal Government maintains and operates the Point Sur Lighthouse Reservation on the coast. Also, the U.S. Navy owns and supports a coastal facility surrounded by the ranch. Surrounding and vicinity land uses are shown in Figure 1.4.

Potential Impacts and Mitigation Measures. Impacts and related mitigations for this category are discussed in subsequent sections in the context of affected environmental factors.

2.2 GEOLOGY

Setting The El Sur Ranch is located in a geologically complex area at the western edge of the Santa Lucia Mountains. Subsurface features include rocks from a number of geologic units; a number of faults add to the subsurface complexity. Surface features include rock outcrops and more recently formed deposits such as sand dunes, alluvium, and landslides.

The geologic units found on the Ranch belong to five major groups: quaternary deposits, tertiary marine rocks, an unnamed upper Cretaceous or Paleocene marine unit, the Franciscan complex and the Sur Series metamorphic rocks. The Sur Series rocks are found mainly on the northeastern part of the ranch, and include crystalline limestone; metamorphic schist, gneiss, and quartzite; and granitic Santa Lucia diorite intruded into the other rocks. The Sur Series represents the oldest geologic unit on the Ranch. The Franciscan complex is the most extensive geologic unit west of the Little River Hill ridge, and contains sandstone, shale, chert, greenstone, gabbro, serpentine, and silica carbonate. The unnamed upper Cretaceous or Paleocene unit is located between the Tertiary marine and Sur Series. The contact between the Sur Series and unnamed unit is the Serra Hill Thrust Fault. Rocks in the unnamed unit consist of conglomerate, sandstone, and sandy shale. Tertiary marine rocks are generally found in a band between the Franciscan complex and the Sur Series. These rocks include shales, fine sandstones, sandstone, and conglomerate. The contact between the Franciscan complex and the Tertiary marine rocks is faulted. Quaternary deposits are the youngest geologic unit on the Ranch, and include terrace alluvium, river gravel, dune and beach sands, and landslide deposits.

Four faults are known to cross the Ranch, forming the complex boundary between the Sur Series and the Franciscan complex. All of these faults are part of the San Andreas Fault System. The faults that cross the Ranch are all part of the Sur Fault Zone, which extends from the mouth of the Little Sur River to four miles southeast of Pfeiffer Point and unknown distances offshore. The Sur Fault Zone includes the Sierra Hill Thrust Fault, the Sur Hill Thrust Fault, The Sur Thrust Fault, and the Aquaje Fault. According to Herzog & Associates (1983), none of these faults have fault-rupture hazard zones on the Ranch as defined by the Alquist-Priolo Special Studies Zones Act. However, the activity of the faults is uncertain. Each of the experts consulted by Herzog & Associates at U.C. Santa Cruz, the California Division of Mines and Geology, and U.S. Geologic Survey indicated that available evidence suggests that the Sur Fault Zone faults may have displaced the ground surface in the geologically recent past. Some geologists (Silver, 1978; Graham and Dickinson, 1978) feel that the active San Gregorio-Hosgri Fault Zone connects

with the Sur Fault Zone, and others (Green, et al. 1973) believe that the San Gregorio-Hosgri fault zone passes Point Sur offshore. Herzog & Associates state that on-site fault evaluations are difficult due to steep, rugged terrain.

Other faults are located off the ranch property, but close enough to potentially cause seismic phenomena to occur on the Ranch. These include the Palo Colorado-San Gregorio, Hosgri, San Andreas, Nacimiento, and Church Creek faults. The earthquake history of the Palo Colorado-San Gregorio and Hosgri faults is unclear because of the uncertainites about its location. However, three earthquakes of magnitudes over 1.5 (Richter scale) have been recorded within a few miles of the Ranch, and one of the aftershocks of the January 22, 1984 earthquake is thought to have centered on the Hosgri Fault (Cockerhan, personal communication). The San Andreas and Nacimiento faults, located 43 miles northeast and 22 miles southeast of the ranch, are major faults capable of producing large earthquakes. Other on-land faults in the area are the Palo Colorado Fault, located 10 miles northeast of the Ranch, and Church Creek Fault, located 12 miles northeast of the Ranch. The Palo Colorado Fault has been identified as the source of the January 22, 1984 earthquake, which had a magnitude of 5.25 (Miller, personal communication).

Mass wasting in the form of soil creep and landsliding occurs on parts of the Ranch. Figure 2.2 presents a slope map for the El Sur Ranch. The clay-rich colluvium, derived mostly from Franciscan complex parent materials, undergoes creep at a fraction of an inch per year where slopes are steep enough. Landslides on the Ranch include both debris flow and slump block types. Most of the debris flows involve colluvial deposits, and are smaller than the slump blocks: typically 50 to 100 feet in greatest dimension and less than 10 feet thick (Herzog & Associates, 1983). The slump block landslides involve blocks of bedrock in addition to overlying colluvium and soil, and are typically over 200 feet in greatest dimension and tens of feet thick.

Potential Impacts The Big Sur Coast Land Use Plan contains a number of policies regarding geologic conditions and development. The relevant general policy (3.7.2 [3]) states that new development shall be sited to minimize risk from geologic hazards, and the first specific policy (3.7.3 [A 1]) requires that project applications shall be reviewed for on- and off-site geologic hazards. A number of other specific policies in the Land Use Plan relate to seismic hazards: policy 3.7.3 (A 2)requires that all land within 1/8 mile of an active or potentially active fault be treated as high seismic hazard zones unless specific geotechnical studies indicate otherwise, policy 3.7.3 (A 3) requires a minimum 50 foot setback from identified active or potentially active faults, and policies 3.7.3 (A 6) and (A 7) set standards for design of roads, bridges, utility lines, and structures to withstand earthquakes.

...ing structures or roads in land-
... grading can be employed to miti-
...otechnical evaluations for develop-
...). Also, policies 5.4.2[5] and [8]
for determining development densities.
slope policies.

...ect proposed development on the Ranch. Some
...arkland acquisition, would not have significant
...ctural improvements are made and public use is
...opment proposals, such as the inn, restaurant, and
...o future strong earthquakes on a number of faults in
intensity of groundshaking would depend on a number of
...tance to the epicenter, earthquake magnitude, and under-
...l. Other effects could include ground lurching toward
...s, soil liquefaction, and densification. Herzog & Associates
...ne potential for liquefaction and densification is significant
...e Little Sur River and where loosely compacted sand occurs, or
... 8.

number of the proposed development areas are within 1/8 mile of the Sur
... Zone faults, which are potentially active. Proposed building area 4 is
...ected by the Sur Thrust Fault and is within 1/8 mile of of the Sur Hill
...hrust Fault and the Aquaje Fault. Parts of proposed building area 11 are within 1/8 mile of the Aquaje and Sur Thrust Faults, and Herzog & Associates located what may be a subparallel branch of the Sur Thrust Fault in this area. Parts of area 13 are within an eighth of a mile of the Sur Hill Thrust Fault, parts of area 18 are less than 1/8 mile from the Sur Hill Thrust and Sur Thrust Faults, parts of areas 19 and 22 are less than 1/8 mile from the Sur Thrust Fault, and area 20 is within 1/8 mile of the Sur Hill Thrust Fault. The Land Use Plan requires that these areas be considered high seismic hazard areas, generally unsuitable for development.

Mass wasting could affect a number of proposed building areas, as well as roads and utilities serving these areas. A debris flow landslide is located immediately adjacent to area 4, which may require stabilization before the site is developed. Bank and bluff sloughing, forms of mass wasting, occur in the vicinity of site 8, but would affect only roads and utilities. The southern-most subarea of area 11 may be on a block landslide, but the geotechnical investigations to date have been inconclusive. At the northern subarea of area 13 there is another possible block landslide. Area 16 includes several mass wasting sites: two slump block slides on the southern two-thirds of the area, which leave a sandstone spur ridge as the only geotechnically developable site in the area. There is a prominent soil creep area upslope from this

ridge and a debris flow landslide west of it, both of which would require stabilization. Area 17 is affected bank sloughing, and debris flows are located upstream from the site. Area 19 contains a broad swale downslope from debris flow landslides and prominent soil creep areas, which would require stabilization before development. Area 22 includes a swale with two to three foot thick colluvium that would require stabilization.

There are bluffs in the vicinity of site 8 which may affect improvements. Ocean bluffs up to 50 feet tall form part of the coastline in this area. The closest planned improvement, the seminar facility, would be about 250 feet from a bluff. This location is approximately equal to the 20° setback required by the Land Use Plan unless geotechnical investigation shows the site to be stable. The gully to the north of site 8 has bluff-like walls 40 feet high, but no buildings are planned within the 20° setback from the gully.

Mitigation Measures The following summarized measures are recommended by the project sponsor's geotechnical consultant:

1. Landslide areas should be avoided where possible. If construction is to occur in landslide-prone areas, the slides should be removed, drained, or buttressed; otherwise, diversions or catchments should be installed.

2. If buildings are constructed where soil creep is prominent, the creeping soil should be removed or foundations should be designed to withstand creep.

3. Building sites should be set back from bluffs 20°, and the stability of any sites closer to a bluff should be investigated.

4. No buildings should be contructed within 50 feet of a fault trace unless investigations show that the site is suitable for development or the fault in question is not active. Utilities and roads should cross fault lines at nearly right angles and as few times as practical.

5. Foundations should be designed to withstand liquefaction or densification where these hazards may exist.

The following additional measures are recommended by the EIR consultant:

6. Measure 1 above should be modified to comply with the Land Use Plan: stabilization techniques requiring massive grading or substantial alteration of natural landforms should be expressly prohibited.

7. Measure 2 above should be modified to prohibit massive grading.

8. Measure 4 above should be modified to be consistent with the Land Use Plan: no development should be constructed within 1/8 mile of an identified fault trace unless geotechnical investigations show hazards to be acceptable.

9. A geotechnical investigation should be done on all proposed building sites when specific sites are proposed for development. Geotechnical investigations should be required for all access roads and utility lines, especially where they cross faults or unstable slopes. At the time that development and construction is proposed, the detailed assessments should include:

a. Liquefaction studies in areas 4 and 8 at the time development applications are submitted to the County.

b. Detailed fault investigations in areas 4, 11, 13, 18, 19, 20, 22 at the time development applications are submitted to the County.

c. Detailed landslide and slope stability investigations for areas 4, 8, 11, 13, 16, 17, 19, 22 at the time development applications are submitted to the County.

d. Detailed geotechnical evaluation of area 8 to determine suitability of site for development and provide appropriate setback from bluff edge.

2.3 SOILS

Setting The soils on the El Sur Ranch belong to a number of different types, shown on Table 2.3. The distribution of these soil types is shown in Figures 2.3a and 2.3b. Characteristics of the soils found in the vicinities of proposed building areas are discussed below, based on data developed by the U.S. Soil Conservation Service (1978). These discussions reflect general qualities of the soil types; site-specific qualities may be different.

Arroyo Seco gravelly sandy loam is found on part of building area 4. Permeability is moderately rapid, the erosion hazard is slight, shrink-swell potential is low, and corrosivity is low to moderate. The Soil Conservation Service (SCS) considers this soil to be well suited for building sites and septic fields.

Climara clay is found on site 4 and on site 13 as part of the Climara-Montara complex. This soil is derived from serpentine, which generally results in low fertility and often supports unusual plant communities. The soil is shallow, hard bedrock is found 30-40 inches below the surface. Permeability is slow, the erosion hazard is moderate, shrink-swell potential is high, and the soil is highly corrosive to unprotected steel. SCS notes several potential use limitations: poor suitability for septic fields, high shrink-swell potential, shallow depth to hard rock, and low strength. The Climara-Montara complex shares these characteristics, except that shrink-swell potential is lower in the Montara part of the complex.

Dune land soils are found in the vicinity of site 8. Permeability is rapid, and the erosion hazard is high to very high, especially due to wind erosion. No other characteristics of this soil type have been determined.

The Gamboa-Sur complex is found in the site 18 area. It is underlain by hard bedrock 40-60 inches below the surface. The erosion hazard is very high on this soil, permability is rapid, shrink-swell potential is low, and corrosivity is moderate in most areas and high in 25% of the complex. The SCS notes that the depth to rock limits the suitablility of this soil type for septic fields.

Gazos silt loam is found on many parts of the ranch, including building areas 4, 11, 13, 16, 18, 19, 20, and 22. This soil type is faily shallow; hard bedrock is found at depths of 24-40 inches. The erosion hazard is moderate to high; and permeablility, shrink-swell potential, and corrosivity to steel are moderate. The depth to hard rock may limit the suitablity of this soil for septic fields.

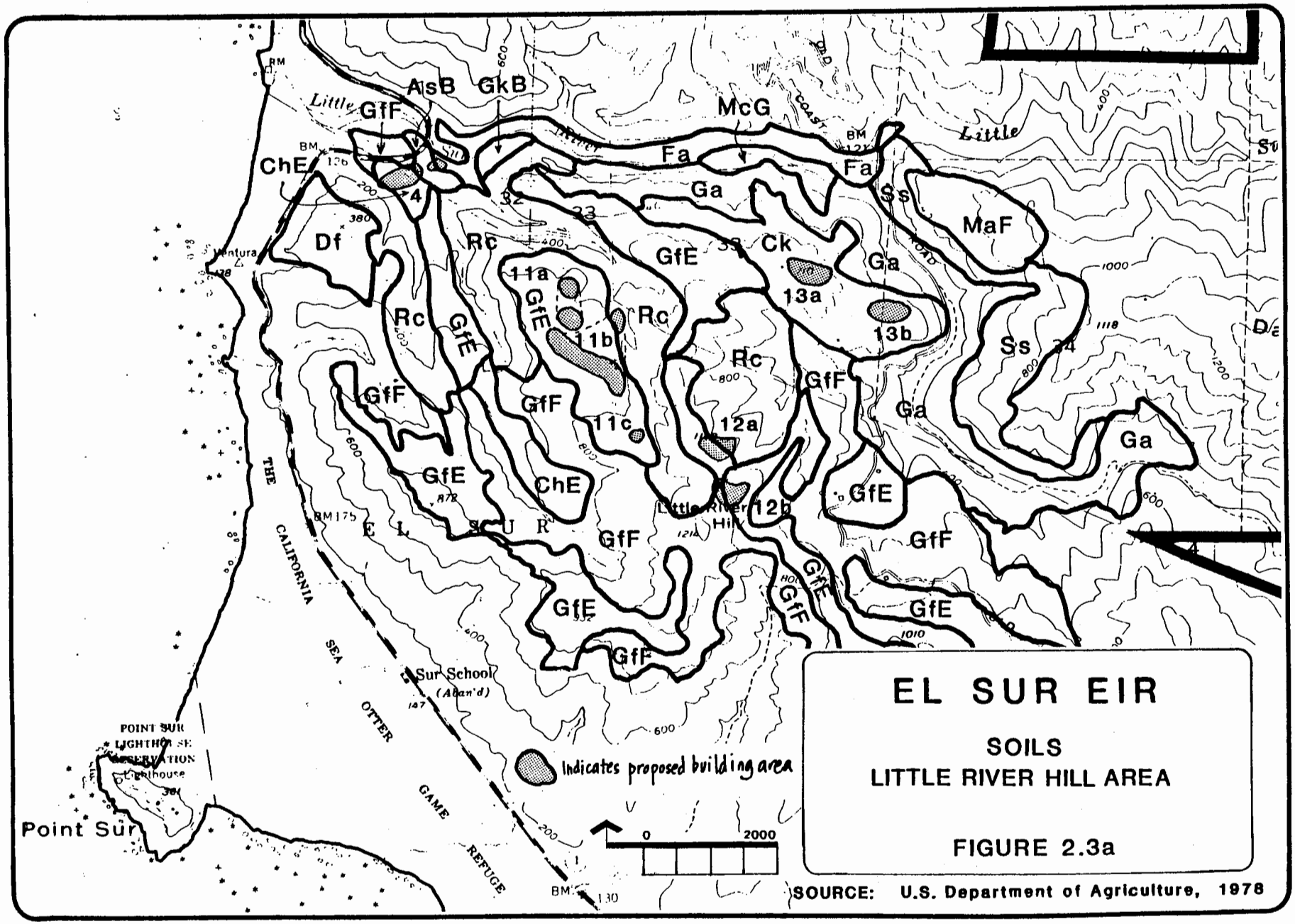
TABLE 2.3

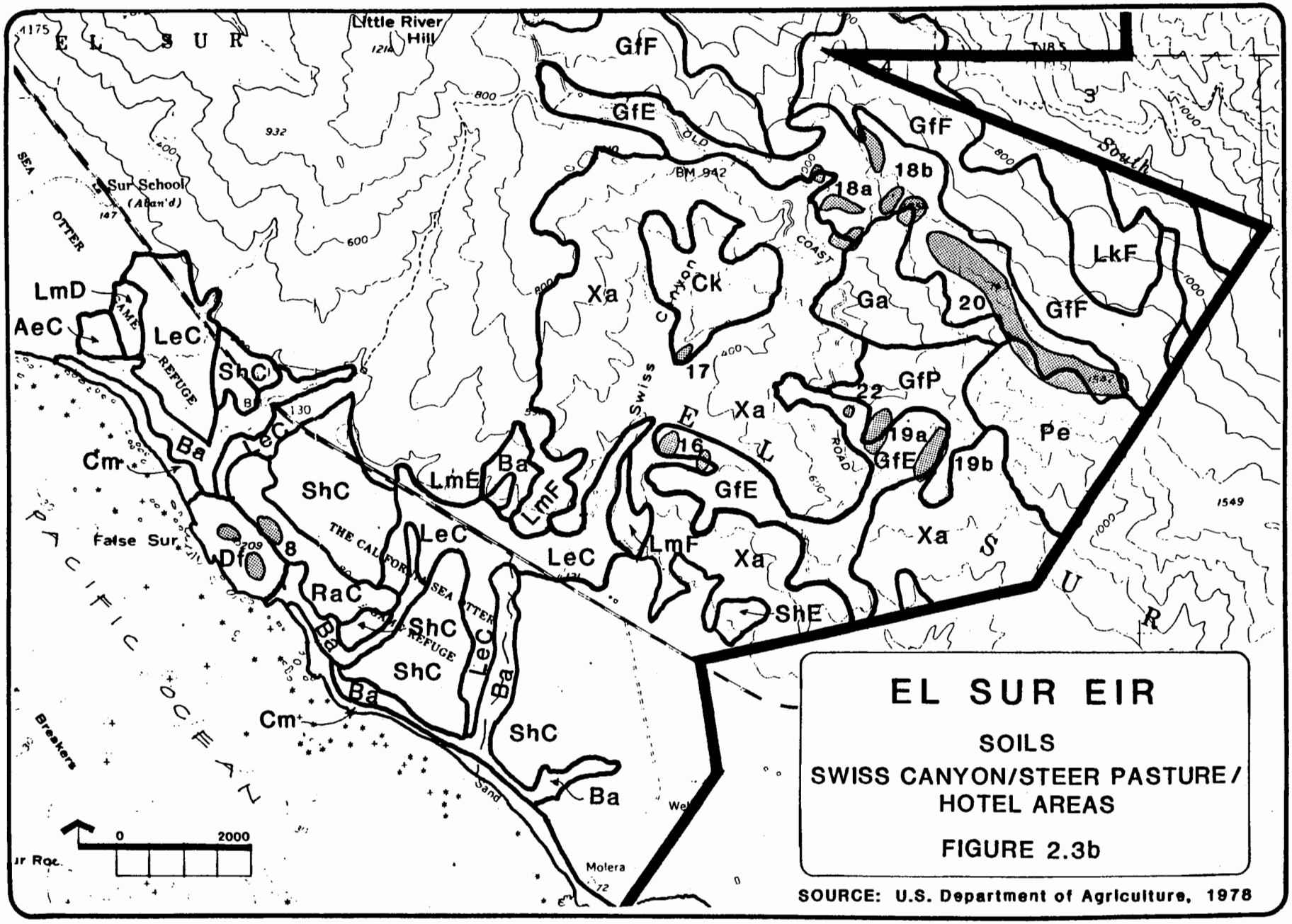
SOILS PRESENT ON EL SUR RANCH

Development Proposed	Map Symbol	Soil Name
	Ae	Antioch very fine sandy loam
	Am	Arnold-San Andreas complex
4	As	Arroyo Seco gravelly sandy loam
	Ba	Badland
	Bb	Baywood sand
	Cc	Cieneba fine gravelly sandy loam
	Cd	Cieneba-rock outcrop complex
4	Ch	Climara clay
13,17	Ck	Climara-Montara complex
	Cm	Coastal beach
8	Df	Dune land
4	Fa	Fluvents (stony)
18	Ga	Gamboa-Sur complex
4,11,12,16, 18,19,20,22	Gf	Gazos silt loam
	Gk	Gorgonio sandy loam
	Jb	Junipero sandy loam
	Le	Lockwood shaly loam
	Lk	Los Gatos gravelly loam
	Lm	Los Osos clay loam
	Ma	McCoy clay loam
	Mc	McCoy gravelly loam
	Pa	Pacheco clay loam
	Pd	Pfeiffer fine sandy loam
18	Pe	Pfeiffer-rock outcrop complex
	Ps	Psamments and Fluvents
8	Ra	Rincon clay loam
12	Rc	Rock outcrops-Xerothents association
	Sh	Santa Ynez fine sandy loam
	So	Sheridan coarse sandy loam
	Ss	Sur-Junipero complex
16,18	Xa	Xererts-Xerolls complex
	Xd	Xerothents, dissected

*Indicates soils present in proposed building areas.

Source: U.S. Soil Conservation Service, 1978.


AsB
GkB
GfF
McG
ChE
Fa
Ga
Df
Rc
GfE
Ck
MaF
Ss
11a
11b
11c
12a
12b
13a
13b
ChE
Indicates proposed building area
0
2000
EL SUR EIR
SOILS
LITTLE RIVER HILL AREA
FIGURE 2.3a
SOURCE: U.S. Department of Agriculture, 1978


EL SUR
Little River Hill
Sur School (Aban'd)
SEA OTTER GAME REFUGE
PACIFIC OCEAN
False Sur
THE CALIFORNIA SEA OTTER REFUGE
Breakers
Sand
Molera
South
Swiss Canyon
COAST ROAD
BM 942
GfF
GfE
Xa
Ck
Ga
LkF
GfP
Pe
LmD
AeC
LeC
ShC
Ba
Cm
LmE
LmF
Df
RaC
ShE
18a
18b
19a
19b
20
22
17
16
0
2000
EL SUR EIR
SOILS
SWISS CANYON/STEER PASTURE/
HOTEL AREAS
FIGURE 2.3b
SOURCE: U.S. Department of Agriculture, 1978

The Pfeiffer-rock outcrop complex is found in building area 20. The rock outcrop part of the complex is composed of a variety of Sur Series rocks. The soil is shallow, but the bedrock found 40-60 inches below the surface is soft enough to be ripped. The erosion hazard is very high, permeability is moderate, and shrink-swell potential and corrosivity are low.

Rincon clay loam is found in building area 8. Permeability is slow, and the erosion hazard, shrink-swell potential, and corrosivity are all moderate. The suitability of this soil for septic fields is limited due to slow percolation, and low strength limits its suitablity for buildings.

The rock outcrops-Xerothents association occurs in area 11. The Xerothent soils have very high erosion potential, and permeability is highly variable. No data has been developed on other characteristics of the association.

Santa Ynez fine sandy loam is found in building area 8. The shrink-swell potential and corrosivity to steel of this soil varies with depth, and are high in some layers. Permeability is very slow, which SCS notes as limiting the suitability of this soil for septic fields. The erosion hazard is slight to moderate.

The Xererts-Xerolls complex is found in areas 16, 17, and 19. This soil is relatively shallow, it is usually underlain by rippable bedrock at 40 inches below the surface. It has a high to very high erosion hazard, high to moderate shrink-swell potential, and is highly corrosive to unprotected steel. Permeability is slow. SCS notes limitations for septic systems due to slow percolation and limited suitablity for buildings due to low strength.

Potential Impacts Development on the Ranch could affect soils by increasing erosion, and soils characteristics may also affect design options. The Big Sur Coast Land Use Plan contains two policies to ensure that erosion is minimized and that soils constraints are considered. Policy 3.7.3 A (1) requires that development shall conform to topography to minimize grading, and policy 3.7.3 A (11) requires preparation of soils reports for all land division and construction of roads and structures.

Erosion could damage soil on parts of the Ranch. Grading and vegetation removal for constructing homes and roads would increase the potential for erosion. Vegetation removal due to recreational use could occur where vegetation is fragile, such as in sand dunes, exposing the sandy soil to wind erosion. Runoff would increase when impervious surfaces are built, and roads would tend to channel and concentrate runoff, increasing the potential for water erosion. Of the soils in proposed building areas, the dune land soils, Gamboa-Sur

complex, Gazos silt loam, the Pfeiffer-rock outcrop complex, rock outcrop-Xerothent association, and Xererts-Xerolls complex have very high or high erosion hazards. Highly or very highly erodable soils are found on all building areas, and are also found in the land to be donated to the California Department of Parks and Recreation for public access.

Various soil characteristics would also affect improvments constructed as part of the project. The unusual mineral composition of the serpentine derived soils could affect landscaping on areas 4 and 13 where Climara clay and the Climara-Montara complex are located. Slow percolation rates or shallow depth to rock may require special septic system design in Climara clay, the Climara-Montara complex, the Gamboa-Sur complex, Gazos silt loam, Rincon clay loam, Santa Ynez fine sandy loam, and the Xererts-Xerolls complex. Dune land soils, the rock portions of the Pfeiffer-rock outcrop complex, and the rock outcrop-Xerothents complex, may constrain septic system design due to excessively rapid percolation. All proposed building areas contain some soils with potential septic system limitations. Depth to hard bedrock may also constrain the amount of cutting possible on steep slopes; hard bedrock is potentially present within four feet of the surface in Climara clay, the Climara-Montara complex, the Gamboa-Sur complex, Gazos silt loam and the rock outcrop-Xerothent association, which would affect building areas 4, 11, 13, 16, 18, 19, 20, and 22. High shrink-swell potentials could result in foundation damage. Soils with high shrink-swell potentials are found on areas 4, 8, 13, 16, 17, and 19, and include Climara clay, the Climara-Montara complex, Santa Ynez fine sandy loam, and the Xererts-Xerolls complex. Highly corrosive soils could affect buried utilities and similar facilities. Soils that are highly corrosive include Climara clay, the Climara-Montara complex, the Gamboa-Sur complex, Santa Ynez fine sandy loam, and the Xererts-Xerolls comlex.

Mitigation Measures The Big Sur Coast Land Use Plan requires that grading be minimized (3.7.3 [A.1]) and that soils reports be prepared for construction of new roads and homes (3.7.3 [A.11]). Soils reports should be prepared when more definite development plans are available, and should address the following items as a minimum.

1. Erosion control plans should be developed to minimize erosion during home and road construction. This plan should contain means to (1) minimize grading, (2) temporarily stabilize disturbed surfaces, and (3) permanently stabilize and maintain areas after construction. Erosion control plans should be prepared during the design phases of the project, with adequate time for County review. A plan should be prepared for the dunes to be deeded to the California Department of

Parks and Recreation to ensure that visitor use does not result in excessive erosion. Once the State has acquired the dune area, a comprehensive plan should be developed to control erosion which could result from visitor use.

2. Soil reports should concentrate on the following items:

   a. Special erosion control measures should be required on all building areas containing highly or very highly erodible soils and any roads crossing these soils.

   b. Extensive landscaping should be avoided in serpentine soil areas.

   c. Percolation tests should include evaluations of near-surface bedrock, soils with potential for excessively slow percolation, and soils with potential for excessively rapid percolation. The tests should account for variability in soils and wet season perfomance.

   d. Foundation design and other measures to minimize the effects of high shrink-swell potential should be included wherever soils with high or very high shrink-swell potentials are present.

   e. Means to avoid corrosion damage should be specified where soils are corrosive.

2.4 HYDROLOGY

2.4.1 Surface Hydrology

Setting. The greater portion of the El Sur Ranch is located within the Little Sur River watershed west of the summit of Pico Blanco. The portion of the Ranch outside the watershed (i.e., the southwest-facing slopes of Little River Hill and much of Molera Ridge) contains roughly 2,000 acres of grasslands and drains to the ocean by intermittent streams such as those found in Swiss Canyon and the Dairy Barn area. Also, small areas in the northern and southern perimeter of the property drain into the Bixby Creek and Big Sur River watersheds, respectively.

The Little Sur River Basin encompasses approximately 40 square miles (25,600 acres) on the west slope of the Santa Lucia Mountains. The Little Sur River comprises two branches, the Main (north) Fork and the South Fork, both of which flow westward to join about 2 miles from the ocean. The Little Sur River is one of the least altered coastal streams in the State and part of the State's Protected Waterway System. The watershed is separated from Sierra Creek by a ridge of Bixby Mountain. The Little Sur River Watershed is separated by the Big Sur River Watershed by the common ridge between Ventana Double Cone and Post Summit and the extension of this ridge wesward through Little River Hill to the coast.

Since 1904 precipitation has been measured at the present site of Pfeiffer-Big Sur State Park. Rainfall is strongly seasonal, and generally increases with altitude. Virtually all the precipitation falls in the form of rain. There are usually one or two snowfalls per year at the upper elevations.

A rainfall map of the northern Santa Lucia Mountains published by the U.S. Army Corps of Engineers (1967) indicates a basin-wide annual rainfall mean for the Little Sur River of about 28 inches. The State Department of Water Resources however, concluded that precipitation in the basin averaged 48 inches (Black & Veatch, 1980). The U.S. Geological Survey isohyetal map (Rantz, 1969) gives a range of 30-50 inches throughout the basin.

Streamflow in the Little Sur River has been measured only periodically. Measurements of streamflow were made during the drought of 1976 and 1977. The lowest flow recorded was 930 gpm (2.04 cfs) in early October of 1977. Black & Veatch Engineers (1980) estimated that annual runoff fom the Little Sur River averages about 36,500 acre-feet per year. The principal basis for the estimate is apparently correlation with the Big Sur River, the only local stream with a sustained gaging history. The greatest estimated flow was 81,370 gpm (200 cfs) in January of 1970.

No data on sediment transport in the Little Sur Basin have been collected, and no estimates of sediment yields from the watershed have been computed. The findings cited in reports (Hecht, 1981) on the adjacent upper Carmel River watershed are probably applicable to the Little Sur Basin. Estimated long-term sediment yields of about 500 to 1000 tons per year per square mile (tpy/mi) apply to largely undisturbed portions of these basins. Of this total, perhaps 30 percent (or 150 to 300 tpy/mi) may be material of the sizes transported as bedload.

Based on very limited data, it appears that there are few existing water quality problems in the Little Sur River watershed. This general condition is to be expected due to the very low intensity of development of the watershed and limited resource extraction as well as the existence of the Ventana Wilderness in the upper watershed.

The streams within the watershed have alkaline waters of low to modeate salinities. Calcium and bicarbonate are predominant, except in the coastal portion of the basin, where relatively greater amounts of magnesium, sodium, sulfate, and nitrates are observed. Rock type is the principal influence on the composition of these waters. Elevated levels of dissolved nitrate in Swiss Canyon and the unnamed stream draining Little River Hill probably reflect use of the watersheds by livestock.

Also, reports of analyses for trace metals in the basin are very rare. Those that do exist indicate that very low levels of toxic or nuisance metals are expected throughout the region. The most likely source of these metals is weathering of the minor pockets of sulfide mineralization reported in upper portions of the basin and nearby watersheds. It should also be noted that the Little Sur River is free of cadmium, mercury, and other metals present in the Carmel, Salinas, and San Lorenzo rivers, which may adversely affect some aquatic organisms in these streams. The only portion of the Little Sur watershed in which trace constituents might be found in problematic concentations is in the Franciscan and marine sedimentary rocks west of the Sur Hill fault. The highest levels of sodium, fluoride, and boron were reported in the unnamed stream draining Little River Hill.

Sampling for bacteria in the surface waters of the Little Sur River on the El Sur Ranch has shown coliform bacterial counts above permitted levels for a number of recent years. This condition was attributed to inadequate sanitary conditions at campgrounds in the upper watershed.

Potential Impacts. The proposed development would result in the construction of impervious surfaces for roads, driveways, and structures on the

El Sur Ranch. The planned facilities would increase the volume of runoff generated by the project site; however, the overall level of such increases cannot be determined at present. The project proposes general locations for residences and visitor-service facilities. Some proposed residential development areas span two watersheds. Without specific development designs, it is not feasible to estimate runoff increases for the various watersheds which may be affected by the project.

Specific plans for a site drainage system are not available. In general, the establishment of impervious surfaces would decrease the amount of time required for concentration of surface flows. The combination of increased runoff and shortened periods of accumulation could contribute to a cumulative increase in the peak discharge levels along the Little Sur River and coastal stream systems.

It should be noted that the development of 51 to 98 single family residences on 7,133 acres would probably have a negligible effect upon the overall runoff volumes contributed by the El Sur Ranch to the watershed discharge. However, to ensure that future development plans for the project comply with the recommendations of the Little Sur River Protected Waterway Management Plan, supplements to this report will be prepared as specific project plans are formulated. In this way, the full potential effects of project development can be determined and evaluated for future decision-making purpose.

The proposed project would have several known beneficial effects. First, the Master Plan for the El Sur Ranch proposes to place large portions of the ranch in scenic/conservation easement and to offer parts of the ranch for acquisition by state agencies and private conservation organizations. This element of the Master Plan ensures limited development on the ranch; the development agreement's stated intention of continued ranching operations further supports development restriction.

In addition to this, the Master Plan specifies the control and correction of an actively eroding stream channel west of Highway 1 and north of proposed Development Area 8. This measure would reduce erosion rates, diminish sediment transport, and improve water quality conditions for this intermittent channel.

The development of this site would also introduce urban pollutants to surface runoff generated on the property. These pollutants would include petrochemical by-products, rubber particles, unabsorbed fertilizers, and various synthetic materials. Soil particles are known to transport nutrients

pesticides, and micro-organisms, all of which have substantial effects on overall surface water quality.

Development of the site would need to be located such that septic tanks and leach fields associated with any future developments would not add nitrates and phosphates to streams tributary to Little Sur River. The addition of these plant nutrients may increase algal growth in the stream. The usually dense shading of the stream and the apparent importance of small increases in algae in producing increases in benthic insects, indicates that nutrient impacts upon the fish population will be positive or neutral, as long as the algal increases are small. Sewage disposal may, however, present health hazards for people utilizing the river.

Mitigation Measures. The following measures are proposed by the project sponsor to offset potential adverse impacts:

1. No residential development would occur within the 100-year flood plain. Areas within the 100-year flood plain would be used for recreational purposes and open space.

2. Supplemental hydrological studies will be conducted for the proposed project after specific development plans have been formulated for the various development zones identified by the Master Plan. This provision ensures an in-depth evaluation of each zone.

3. Runoff from impervious surfaces of the development would be detained where possible for on-site retention.

The following measures are recommended by County policies to protect environmental resources:

4. The Little Sur River Protected Waterway Management Plan specifies numerous policies and recommendations to manage, maintain, and preserve the Little Sur River watershed. The policies of this plan should be incorporated into the specific project design phases for the proposed ranch development.

5. The proposed grading plan would be reviewed (3.7.2.3) prior to approval of the Tentative Map. Proposed grading should minimize the effects of modification of the land surface which could increase the erosion potential or adversely affect runoff patterns.

6. Lands should be developed in reasonable increments which could be completed during a single construction season with scheduling to minimize exposure of soils.

2.4.2 Groundwater

Setting. Groundwater occurs in locally-variable amounts within all major rock units outcropping in the Little Sur River watershed. The only aquifer of regional significance is the alluvium of the lower Little Sur River. Locally-significant waterbearing units are the Tertiary marine sediments and limestone-rich portions of the crystalline metasediments. The limestone, widely distributed in the basin, is regarded as an important source of baseflow in both forks of the river (County of Monterey, 1982).

Groundwater movements are strongly affected by the streams running across the structural grain of the Little Sur River area. Groundwater flows toward adjacent master drains; the principal ones differ in elevation by one thousand feet or more. The heads of the two forks of Bixby Creek are about 1200 feet higher than the nearby segment of the North Fork of the Little Sur. It is possible that much of Mescal and Skinner Ridge have groundwater drainage toward the Little Sur basin. Similarly, the South Fork of the Little Sur is perched 1200 to 1500 feet above the nearby Big Sur Valley. The unusually large flows of Pheneger, Juan Higuera, and Doolan's Hole Creeks in the Big Sur basin may be due in part to groundwater inflow from the South Fork catchment.

The relative amounts and reliabilities of yields are described in the Management Plan for the Little Sur River. The data clearly establish the partially-consolidated tertiary marine sediments and the limestone as predominant sources for springs and upland water supplies. Minimal and more variable flows emanate from the Franciscan rocks, even where extensively fractured; these sources are often dry toward the end of the summer, and are generally not developed for livestock use where other supplies are available.

At present, development of water resources within the watershed is limited to the springs, one shallow well at the mouth of the river, and isolated small diversions for residences and camps. There are five active water rights in the watersheds, four held by The Monterey Bay Council and the Boy Scouts of America, and one by Granite Rock Company. The Boy Scouts of America entitlements are for a total of 45,000 gallons per day (about 0.07 cfs) from unnamed springs and streams near the Boy Scout camp, for domestic use and fire protection, and also up to 4 acre-feet per year from the North Fork for recreational use. The total appropriation is well under five percent of the late-summer flows at the camp.

There is one interbasin transfer from the basin, a deeded water supply for the Point Sur Lighthouse Reservation. This facility is presently automated and unstaffed, so no water is being drawn. The pipeline is, however, in use by El Sur Ranch to supply three cattle troughs outside of the basin near Highway 1. The annual volume of exported water is negligible.

Springs located on the south side of Pico Blanco are perhaps the largest in the watershed, and are the only significant sources known to local residents. The springs are presently in use as water supplies for the Granite Rock Company's development camp. Flows are reportedly sufficiently strong and reliable to drive a Pelton wheel, the electric power source for the camp. Principal undeveloped water resources are the Little Sur River and the alluvium underlying its lower reaches. The two are likely to be in hydraulic continuity; appropriations from one would likely affect the other. Neither source has been appreciably developed due largely to the lack of local demand and of residential and visitor-serving developments.

Groundwater withdrawals on the El Sur Ranch occur at the locations of several walls. Producing wells on the Ranch are found:

1. at the Little Sur River, producing about 50 gpm

2. at the Dairy Barn, yielding about 1 gpm

3. in the Morro Field (between Highway 1 and the ocean), providing about 20 gpm

4. in Swiss Canyon, yielding about 20 gpm.

There are also several wells on property located near the mouth of the Big Sur River. This land was given to the State of California but the water rights were retained by the El Sur Ranch. One well on this parcel produces about 1,200 gpm. Another well in this vicinity produces about 50 gpm.

More recently, several wells were drilled in Molera Park on land used by the State of California. Of the two wells that are to be used by El Sur Ranch, one is rated at about 2,000 gpm and the other is rated at about 250 gpm.

Potential Impacts. The groundwater found on the Ranch would be the primary source of domestic water service for the proposed project. Local springs would serve the residential sites indicated by the Master Plan for the Swiss Canyon and Steer Pasture areas. Existing or new wells would provide water for the Little River Hill residences and the proposed restaurant. An existing well used by the ranch would serve the proposed inn and its restaurant. The Water Supply section of this report provides additional information concerning domestic water supplies and facilities proposed as part of this project.

The Master Plan concept for groundwater extraction entails withdrawals from the Little Sur River watershed and recharge through percolation of wastewater. It should be noted that most of the soil types on the ranch are considered poor (SCS) for effluent filtration. This issue is further discussed in the Sewage Disposal section of this report.

While groundwater supplies would be replenished by percolation of wastewater, particular attention should be given to the location of leach fields for septic systems. As mentioned above, coliform bacterial counts of samples from the north fork of the Little Sur River have exceeded permitted levels in recent years. The placement of septic systems in areas of inadequate filtration could result in additional contamination of surface flows. Site-specific percolation tests will be necessary to select potential locations for future leach fields.

Mitigation Measures. The following measures are proposed by the project sponsor to ensure the maintenance of groundwater quantities and quality:

1. Single-family parcels are proposed to have suitable areas for disposal of septic tank effluent.

2. Septic tank and drainfield installations would be located at places having sufficient area for future drainfield and would be approved by the County health department. The recommendations on pages 75 and 76 of the Little Sur River Protected Waterway Management Plan are incorporated herein by reference.

3. Percolation tests would be performed for each single-family building site in areas of low permeability. Data from the test holes would be studied in conjunction with the percolation tests to determine the exact location for each leach field.

4. Leach fields would be kept at a safe distance, perferably 50 feet, from incised gullies in swale areas.

2.5 BIOTIC RESOURCES

Setting The Ranch contains a large variety of vegetation types and wildlife habitat types. There are several coastal types: lagoons, sandy beaches and sand dunes, rocky beaches and bluffs, and the marine habitats immediately adjacent to the Ranch. There are several distinct different riparian communities, and a unique vegetation type associated with serpentine outcrops. Other upland habitats include redwood forest, pine/cypress woods, mixed evergreen, coastal scrub, and annual grassland.

The coastal vegetation types are often considered together as coastal strand. The strand forms a narrow strip along the coast in bluff and rocky beach areas, a wider strip where sandy beaches and dunes are present, and extends farthest inland at lagoons. The lagoons themselves support little vegetation except around the edges, where wetland species are found. The sandy beaches support no vegetation, and vegetation of the rocky beaches is limited to algae. Most of the bluffs have no vegetation, but where soil is present, a specialized coastal bluff scrub community can be found (Bickford and Rich, 1979). Species associated with this community include lizard tail, dune buckwheat, tree lupine, sea lettuce, and robust verbena. The distribution of this community is limited to a narrow strip along the coast.

The Ranch also contains a large area of coastal dunes, which also support a specialized plant community. The California Natural Diversity Data Base, a unit of the Department of Fish and Game, considers coastal central and back dune communities to be "very rare and endangered" in California (Jensen, personal communication). Dune areas of these types are best developed near Point Sur, but good examples can also be found near the mouth of the Little Sur River. A sand dune area is also found east of Highway 1 near the mouth of the river. Representative plant species include seaside painted cup, sea rocket, beach evening primrose, yellow sand verbena, salt grass, tree lupine, coyote brush, lizard tail, and beach strawberry.

Riparian vegetation types include a willow-dominated community, and the redwood-streamside plant community and streambank woodland described by Bickford and Rich (1979). The willow-dominated riparian vegetation is found near the mouths of the larger streams, and is best developed at the mouth of the Little Sur River. Arroyo willow is the dominant plant, forming a nearly complete canopy. The redwood-streamside community is found upstream from the willow-dominated riparian vegetation type on the Little Sur River and larger tributaries. Dominant plants are sycamore and redwood, but alder, bigleaf maple, horsetail, gooseberries and currants, thimbleberry, and willows are also common in this community. The streambank woodland community is generally located on the smaller watercourses or higher elevations of larger streams. Sycamore, willow, bigleaf maple, tanbark oak, California bay, hedge nettle,

and sword fern are common species in this vegetation type. Introduced species, notably eucalyptus and Monterey cypress, are found in riparian situations along a few stream sections.

A serpentine outcrop on a hillside overlooking the South Fork of the Little Sur River (area 13) supports an unusual vegetation type. Surface outcrops of serpentine can be seen throughout this area, and surrounding soil is derived from serpentine. Serpentine-derived soils generally form a harsh environment for plants, and consequently often support unusual vegetation adapted to these conditions. The dominant grass species is different from that found in other grassland areas (probably a fescue, plants were not in flower during field work, preventing positive identification), and appeared dwarfed. Soap plant and California poppy are also notably abundant in this area, and are markedly dwarfed. Harvey & Stanley Associates, Inc. (1983) found sawtooth golden bush (Haplopappus squarrosus) in this area. One variety of this species is endemic to serpentine. The Soil Conservation Service (1978) indicates that serpentine derived soils are also present in proposed development area 4, but obvious serpentine outcrops are lacking. Vegetation in this area is similar to area 13, but not as obviously stunted.

There are a variety of upland vegetation types, which cover the greatest area of the Ranch. In the most sheltered and moist drainages redwood forms pure stands with poorly developed understories consisting of ferns, sorrel, western solomon's seal, and clinonia. At higher locations redwood forms mixed stands with hardwoods such as madrone, California bay, and tanbark oak and understory plants such as bedstraw, gooseberries, and poison oak. A grove of Monterey pine and Monterey cypress has been planted near False Point Sur. The stand as a whole is rapidly declining in vigor, and there are almost no young trees to reverse the decline. Most of the pine trees are expected to die within the next 20 years (McBride, n.d.). Mixed evergreen woods are found on more sheltered slopes, particularly in smaller drainages. Typical species include coast live oak, tanoak, California bay, toyon, poison oak, and hedge nettle. Coastal scrub is widely distributed on the ranch, occupying relatively exposed slopes from the coast inland. This vegetation type is dominated by coyote brush, and also contains coffeberry, poison oak, bush monkey flower, and mugwort. Grassland is found on the most exposed slopes and ridges. It is dominated by introduced annual species, such as wild oats, Italian ryegrass, barley, and ripgut brome, and also contains filaree, plantain, and turkey mullein.

A number of rare plant species are known to occur or suspected to occur on the Ranch. The mouth of the Little Sur River supports two rare varieties of manzanita: Little Sur manzanita (Arctostaphylos edmundsii var. edmundsii), a plant considered to be rare and endangered by the California Native Plant Society (CNPS) and found only in the vicinity of the Ranch, and hanging gardens manzanita (A. edmundsii var. parvifolia), a California endangered

species known only from the Point Sur quadrangle (CNPS, 1980). Two species of ceanothus are also found near the river mouth: Monterey ceanothus (C. rigidus), considered to be rare by CNPS, and prostrate ceanothus (C. griseus var. horizontalis), which has limited distribution. Hutchinson's larkspur (Delphinum hutchinsoniae), considered rare and endangered by CNPS, has been found on beaches in the area and may be present on the Ranch (Griffin, personal communication). Dudley's lousewort, which is known to occur upstream from the Ranch on the Little Sur River, may also be present on alluvial terraces on the Ranch which are densely forested with redwood (Griffin, personal communication). A bush mallow (Malacothamnus palmeri var. lucianus), is known to occur near the entrance to Andrew Molera State Park, and is considerd to be rare and endangered by CNPS. The golden bush endemic in Monterey (Haplopappus squarrosus ssp. stenolepis) is not on the CNPS rare plant list.

Wildlife on the Ranch is associated with habitat types that roughly correspond to the vegetation types. In addition to the terrestrial habitat types there are two important aquatic habitat types on and adjacent to the Ranch: offshore marine and freshwater riverine.

The marine habitat located immediately offshore from the ranch supports a variety of wildlife species. Sea otters, harbor seals, and California sea lions have been observed near shore adjacent to the Ranch (Harvey & Stanley, 1983). Harvey & Stanley observed 126 harbor seals hauled out between False Point Sur and Point Sur, indicating that this section of beach is a very major haul-out area for harbor seals (Hardwick, personal communication). An additional 53 seals were observed immediately south of the Ranch. The marine habitat is also used by a variety of birds, such as loons, cormorants, scoters, gulls, and pigeon guillemots.

The Little Sur River and the lagoon at its mouth provide freshwater aquatic habitat. The river system supports a population of steelhead, an anadromous trout similar to salmon. These fish spawn in the river and smaller tributary streams, young fish begin their growth in the freshwater habitat, migrate to the ocean, and eventually return to freshwater to spawn. Adequate flows of clean, cool water in the river are essential to these fish. The lagoon at the mouth of the river is also essential to the life cycle of steelhead, it serves as a nursery area and a place for fish to become acclimated to fresh or salt water during their migrations. Other fish present in the river include threespine stickleback, coast range sculpin, and Pacific lamprey. Bald eagles, osprey, and peregrine falcons have been sighted in the lagoon area, other birds using the lagoon include ducks and shorebirds (Harvey & Stanley and HEA, Inc., 1982).

The coastal habitat types support specialized wildlife species, primarily birds. The sandy beaches provide foraging habitat for shorebirds such as sanderling, western sandpiper, willet, and gulls. Snowy plovers, listed as a species of special concern by the California Department of Fish and Game, are known to have nested on the sandy beach at the mouth of the Little Sur River. The coastal bluffs provide nest sites for pelagic cormorants at False Point Sur, and Brandt's cormorant and American black oystercatcher may also nest in this area (Harvey & Stanley Associates, Inc., 1983). The inlet at False Point Sur provides a highly protected cliffs used by cormorants, and probably other birds, for resting and possibly for nesting. Cliffs at Point Sur and other nearby coastal locations are known to support nesting peregrine falcons and black swifts, an endangered species and special concern species. Brown pelicans use the cliffs and offshore rocks for resting areas.

The riparian habitat type is used by many of the species found on the Ranch because of water availability and high food and shelter production. Garter snakes, western skinks, Pacific treefrogs, belted kingfisher, great blue heron, winter wren, and song sparrow can be found in the willow-dominated riparian habitat type. Spotted owl, pygmy owl, varied thrush, violet-green swallow, and western bluebird are associated with the sycamore-redwood riparian habitat type. Most of the mammal species found on the Ranch make use of the riparian habitats as a water source and as travel corridors contianing hiding cover. The sycamores and planted cypress forming the riparian habitat along Swiss Canyon just upstream from the ranch headquarters contain a monarch butterfly clustering area used by several hundred butterflies (Harvey & Stanley, 1983).

The upland habitat types are used by a variety of wildlife species. Many of the larger mammals are found in each habitat type, including mule deer, wild pig, coyote, gray fox, striped skunk, and raccoon. Other species are more closely associated with grassland (pocket gopher, ground squirrel, California vole), coastal scrub (brush rabbit), mixed evergreen (dusky-footed woodrat), and redwood (broad-handed mole). Most bird species are associated with only one or two upland habitat types: red-tailed hawk, mourning dove, western meadowlark, and lark sparrow are found in grassland; California quail, Allen's hummingbird, Bewick's wren, and rufous-sided towhee are associated with coastal scrub; band-tailed pigeon, hermit thrush, and Hutton's vireo are typically found in mixed evergreens; and spotted owl, Steller's jay, and dark-eyed junco are redwood species. A variety of reptiles and amphibians can also be found on the ranch. Examples include western fence lizard, ringneck snake, and yellow-bellied racer in grassland; alligator lizard, terrestrial garter snake, and kingsnakes in coastal scrub; alligator lizards and western skinks in mixed evergreens; and coast range newt in redwood.

A number of endangered, rare, or special concern wildlife species are found on or near the Ranch. Peregrine falcons are known to nest on cliffs near the ranch and have been observed hunting on the ranch (Pine, personal communication). The Point Sur cliffs were a historic nesting site for peregrines (Harvey & Stanley and HEA, Inc., 1982), but they do not currently nest there (Elliott, personal communication). Bald eagles have been observed wintering at the Little Sur River mouth, but sightings of eagles are sporadic (Harvey & Stanley and HEA, Inc., 1982). Brown pelicans feed offshore and rest on nearshore rocks. All three species above are listed as endangered by both the State of California and the Federal governement. Double-crested cormorant, which may nests on bluffs on the ranch; osprey, a sporadic visitor to the Little Sur River mouth; snowy plover, which nest on the sandy beaches between Point Sur and the Little Sur river; burrowing owl, found in small numbers on the Ranch; and spotted owl, a probable resident of the redwood stands in the Little Sur River watershed, are on the California Department of Fish and Game's Bird Species of Special Concern list (Remsen, 1978) Priority 2 list. Golden eagle, sharp-shinned hawk, and prairie falcon, which all forage on the Ranch; Cooper's hawk, which probably nests in the mixed evergreen; and black swift, which nests on the Point Sur cliffs, are on the Priority 3 special concern list. Species on the Special Concern list have no special legal status, but are considered to be particularly vulnerable to extirpation.

Potential Impacts Several types of impacts may result from the project: increased human use of fragile areas, long-term protection of some plant and animal habitats, and direct removal of plant and animal habitat. The Big Sur Coast Land Use Plan contains a number of policies relating to wildlife and vegetation. Sensitive habitat areas are protected by Key Policy 3.3.1, and supporting policies require that sensitive habitats be protected from disruptive development activities (3.3.2 [1 and 4]), disruptive public access (3.3.2 [5]), and incompatible adjacent uses (3.3.2 [6, 7, and 8]). Other supporting policies set up mechanisms for allowing non-disruptive uses of sensitive habitats, mitigation, and long-term protection (3.3.2 [2 and 3]). Specific policies restrict the uses of sand dunes, serpentine outcrops, riparian habitat, grasslands, and redwoods (3.3.3 [A.1, 2, 3, 4, 5, 7, 8, and 9], as well as marine and lagoon habitats (3.3.3 [B.1, 2, 3, 4, and 5]). Land use policy 5.3.1 (3) defines Resource Conservation land use categories for coastal strand and wetlands and environmentally sensitive upland habitats. Specific development policies require low-intensity use at the Little Sur River mouth (5.4.3 [C.3]) and funding for managing agencies before new recreational facilities are developed (5.4.3 [D.2]). The Key Policy in the Land Use Plan regarding public access (6.1.3) requires that care be taken to ensure that public access is not detrimental to the natural resources of the area. Specific habitat and resource protection criteria require that studies be conducted to determine the maximum use compatible with resources, and

recognize that in some fragile plant and animal habitats public access may be entirely innappropriate (6.1.5 [E.1 and 2]).

The coastal habitats north of Point Sur would be subject to long-term protection and increased human use. The bluffs, sandy beaches, sand dunes, and Little Sur River lagoon would be deeded to the California Department of Parks and Recreation, providing long-term protection through public ownership, but probably also resulting in increased public use. The project also includes a restaurant near the mouth of the Little Sur River, which will attract additional people to this area, and dunes east of Highway 1, and probably to the parkland as well. The mouth of the Little Sur River is given a high priority for public access by the Big Sur Coast Land Use Plan, and the beaches and dunes near Point Sur are given second priority for public access. The plant and animal habitats in this area are fragile and susceptible to human disturbance. Sand dune vegetation grows on an unstable surface, and is easily dislodged and destroyed by human foot traffic and other recreational uses. Hutchinson's larkspur, a rare plant that may grow on the upper zone of the beaches or in the dunes, could be adversely affected. Four other endangered or rare plants, Little Sur manzanita, hanging gardens manazanita, Monterey ceanothus, and prostrate ceanothus; are found in this area, but effects on these species are difficult to predict until specific access proposals are developed. Snowy plovers, a special concern species, would be adversely affected and probably extirpated from area beaches by increased human access. Each of the endangered species found on the Ranch use this area, and the habitat value for these species would decline as access and use increase. The Little Sur River mouth is the only significant habitat area for bald eagle and osprey on the Ranch, so these two species would be most affected by increased human use of the lagoon area.

The coastal habitats south of Point Sur would be most affected in the False Point Sur area, where the inn and seminar center are proposed (Area 8). The degree and type of impact would depend largely on the type of coastal access made available as part of these facilities. Impacts would be minimal if access is carefully controlled and restricted to less sensitive areas. The harbor seals that haul out on nearshore rocks are most susceptible to disturbance; they react with alarm or flee into the water when approached by pedestrians (Harvey & Stanley, 1983). Repeated disturbance can cause a haul-out area to be abandoned. The sea otters that are also present are much more tolerant of human presence and would probably not be adversely affected (Hardwick, personal communication). Cormorants and other sea birds that nest or may nest on the cliffs at False Point Sur may also be adversely affected by increased human access.

The Monterey pine and Monterey cypress woods in Area 8 would also be affected by the project. Some trees would have to be removed for construction of buildings and parking lots, and some would have to be removed for

safety reasons. The project includes a reforestation and afforestation plan, which would begin the process of renewing the vigor of these declining stands. Parts of the woods would be reforested with Monterey pine, Monterey cypress, and riparian species together with understory species that are currently lacking. Redwood and bishop pine would be introduced to the woods, again with appropriate understory species. Both the areal extent and species diversity of the woods would be increased, and this management would reverse the declining health of the woods.

Other upland habitat areas would be affected by the ownership changes included with the project. Much of the South Fork of the Little Sur River watershed would be transferred to the Save the Redwood League and managed by the California Department of Parks and Recreation, and an easement would be established on part of the Little Sur River riparian area downstream from the confluence of the south fork and main stem of the river. A portion of Andrew Molera State Park would be transferred to the Ranch. In the North Fork watershed and the adjacent easement, the ownership change would extend complete protection to the redwood forest in the drainage, already largely protected by the policies in the Big Sur Coast Land Use Plan. Increased access and use in this area would probably not have significant adverse impacts. Transfer of these segment of Andrew Molera State Park would result in a resumption of grazing on this land and a decrease in human access (there are now two informal picnic areas near a stream). The rare variety of bush mallow found in this area may be adversely affected by resumed grazing, depending upon the location of the plants and the extent of grazing.

Construction of houses, the inn, restaurant, maintenance and access roads, water lines, and similar improvements would result in removal of some plant and animal habitat. In most cases the removal would be permanent, but clearing for some improvements would be temporary. Each of the upland habitat types would be affected to a degree, but most clearing would occur in the annual grassland. The wooded habitats would be most affected by road and pipeline clearing. Clearing of these areas would remove existing vegetation, which may be replaced with non-native ornamental species. Localized overgrazing may occur if grazing is allowed on the homesites. Clearing and home construction would incrementally reduce wildlife habitat and wildlife populations on the ranch. Some conflicts between wildlife and new residents may occur, examples include harassment of wildlife by pets, predation on pets by wildlife, and possible trash upsets by wild pigs. Clearing and road construction are also likely to increase sediment production in the Little Sur watershed, which would adversely affect the steelhead and other fishes in the river.

Proposed area 13, which is located on a serpentine area, and the proposed restaurant site, which the Soil Conservation Service (1978) indicates is a serpentine soil area, would require clearing of serpentine adapted vegetation.

The Land Use Plan requires that land use activities in serpentine associated habitats be of low intensity and designed to protect habitat values. Depending upon the number and location of husing units, home and restaurant construction may conflict with this policy.

Mitigation Measures The following mitigation measure is included in the project:

1. Reforestation and afforestation will occur in the vicintiy of Area 8, as described in the Long Range Master Plan.

The following additional measures are recommended by the consultant to minimize or avoid potential adverse impacts:

2. At the time of tentative map submittal or use permit application, a a survey for rare and/or endangered plant should be conducted prior to approval. As a condition of approval, the County should require the development of a Rare and Endangered Plant Species Management Plan. At a minimum, the plan should identify the types and locations of plants at risk, the potential effects of proposed development, and practical mitigation methods.

3. An access management plan should be required for the inn proposed at area 8 at the time development and construction is anticipated. This plan should focus on preventing harassment of hauled out harbor seals and nesting seabirds and preventing damage to bluff-top vegetation.

4. The Molera grazing area should be inspected by a botanist retained by the Ranch to determine the effects of the proposed ownership change and resumption of grazing on the rare bush mallow.

5. Clearing should be minimized for all new construction, and revegetation with plant species found in the area should be required. Deed restrictions should prohibit excessive clearing and grazing at homesites.

6. New homes should be equipped with wild pig proof garbage facilities.

7. The project sponsor should be required to demonstrate that proposed uses of Area 4 and 13 serpentine habitats would not affect any sensitive habitats and are consistent with the Big Sur Coast Land Use Plan policies.

2.6 AESTHETIC CONSIDERATIONS

2.6.1 Visual Quality

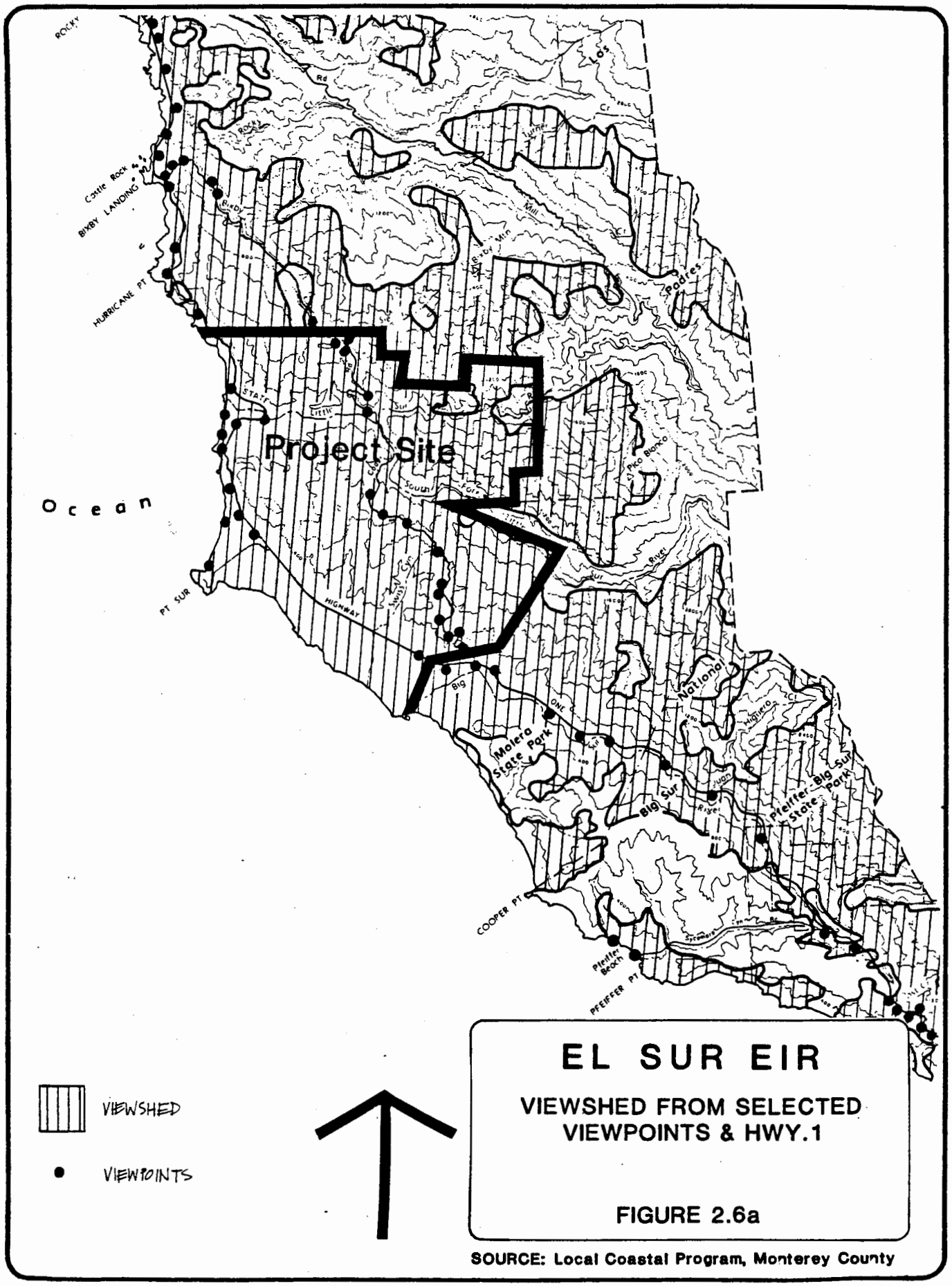
Setting. The aesthetic and scenic qualities and semi-wilderness character of the Big Sur coast have received national and even international acclaim. The importance of the scenic quality of this area, in combination with the stretch of coastline that is part of the the El Sur Ranch, contributes to the high sensitivity of the Ranch's viewshed along Highway 1. The El Sur Ranch extends along a six-mile stretch of coastline. Grass-covered slopes, sandy beaches, and rocky bluffs form the viewshed. Highway 1, a designated State scenic highway, traverses the western portion of the El Sur Ranch, essentially dividing the Ranch's viewshed into two zones: a coastal zone to the west of this roadway and an upland zone to the east.

The coastal areas (west of Highway 1) are characterized by grass-covered slopes with some large groves of pine and cypress in the False Sur vicinity and riparian vegetation along the major drainages. Upland areas (east of Highway 1) are characterized by grass-covered hills and ridges, with some slopes covered by coastal scrub, and major drainages lined with groves of oak and bay trees. Redwood groves dominate low-lying areas in the eastern portion of the Ranch east of the main ridge.

The Big Sur Local Coastal Plan (LCP) defines those areas visible from Highway 1 and major public viewing areas as the "critical viewshed". The critical viewshed boundaries from selected viewpoints and Highway 1 were mapped as part of the LCP and they are shown in Figure 2.6a. These boundaries are generalized and do not include small areas (e.g., minor drainages) concealed from Highway 1 by vegetation or topographic barriers such as road cuts and minor ridges. Some visible areas shown on Figure 2.6a may be visible only from one location for a brief moment while other areas may be visible from several locations for a long period. Since the relative significance of any particular view, especially in the project vicinity, is subjective in nature, this figure does not reflect the relative significance of views.

Major viewpoints along Highway 1 are indicated on Figure 2.6b. These viewpoints are considered important because major focal points or areas of scenic value are highly evident at these points. However, they are not necessarily more important than other views. Photographs showing views from many of these locations are included in Figures 2.6c and 2.6d.

Point Sur serves as a major focal point for views toward the west from both southbound and northbound lanes of Highway 1 (View B, southbound; Views C

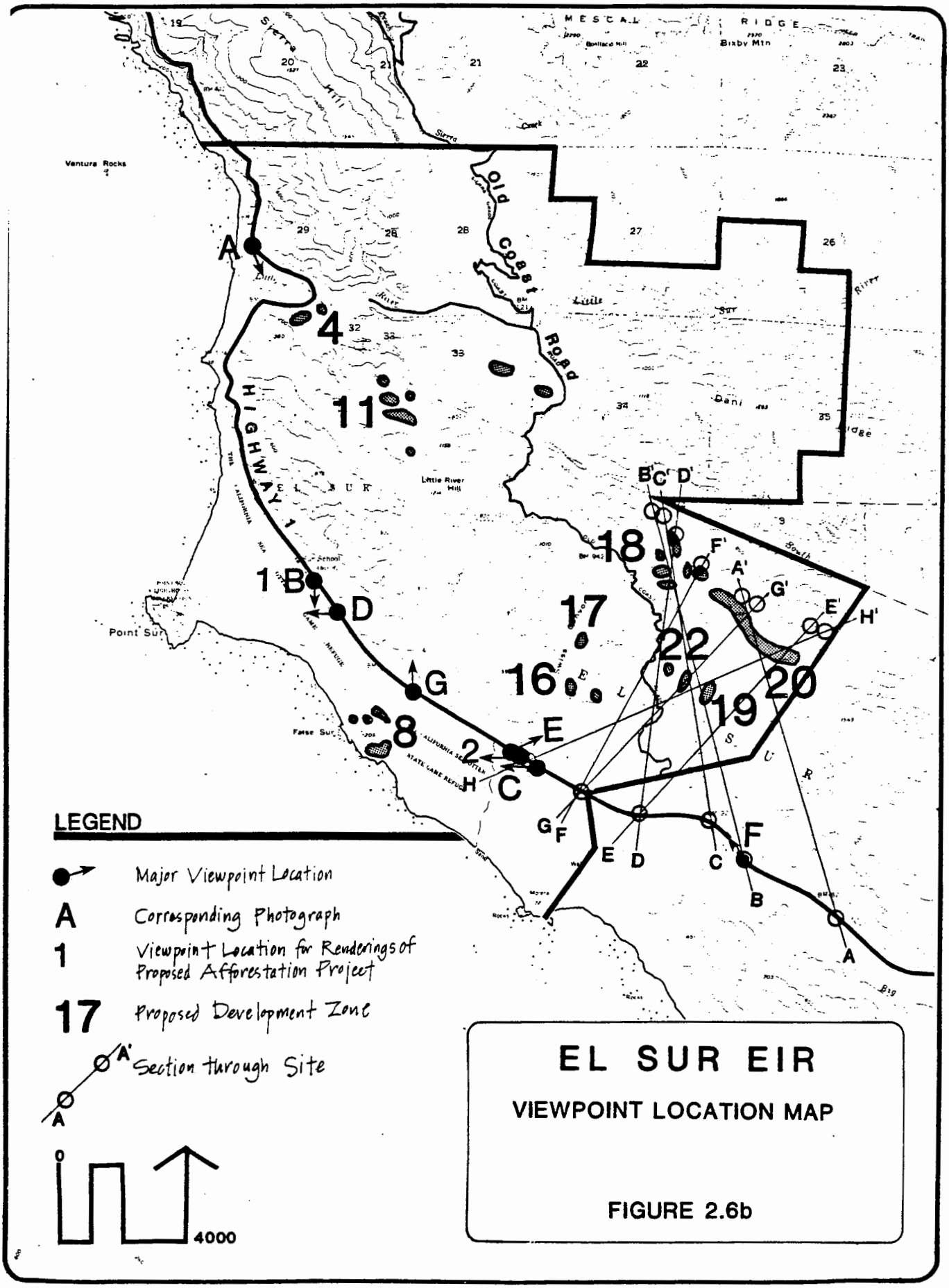


EL SUR EIR

VIEWSHED FROM SELECTED VIEWPOINTS & HWY.1

FIGURE 2.6a

SOURCE: Local Coastal Program, Monterey County


MESCAL RIDGE
Bixby Mtn
Sierra Hill
Sierra Creek
Ventura Rocks
Old Coast Road
Little Sur River
Little River Hill
HIGHWAY 1
Point Sur
False Sur
South Ridge
Big
A
B
C
D
E
F
G
H
A'
B'
C'
D'
E'
F'
G'
H'
1
2
4
8
11
16
17
18
19
20
22
LEGEND
Major Viewpoint Location
Corresponding Photograph
Viewpoint Location for Renderings of Proposed Afforestation Project
Proposed Development Zone
Section through Site
0
4000
EL SUR EIR
VIEWPOINT LOCATION MAP
FIGURE 2.6b

VIEW A

EL SUR EIR

SITE VIEWS

FIGURE 2.6c

and D, northbound). The Point can be seen along the entire length of Highway 1 (on the Ranch), except in the Little Sur River vicinity and where cut slopes and existing trees west of the highway intermittently obscure views from the highway. In addition, the mouth of the Little Sur River and the pine/cypress groves and hill in the False Sur vicinity (Views B and C) serve as major viewpoints to the west for both northbound and southbound motorists. Swiss Canyon (View E, northbound and southbound) and Little River Hill (View G, northbound) are significant focal points east of the highway. South-facing slopes near the southern property boundary and the south end of Old Coast Road serve as focal points along a short section of Highway 1 south of the Ranch (View F, northbound). These hills also serve as foreground for the highly visible Pico Blanco Mountain (View E).

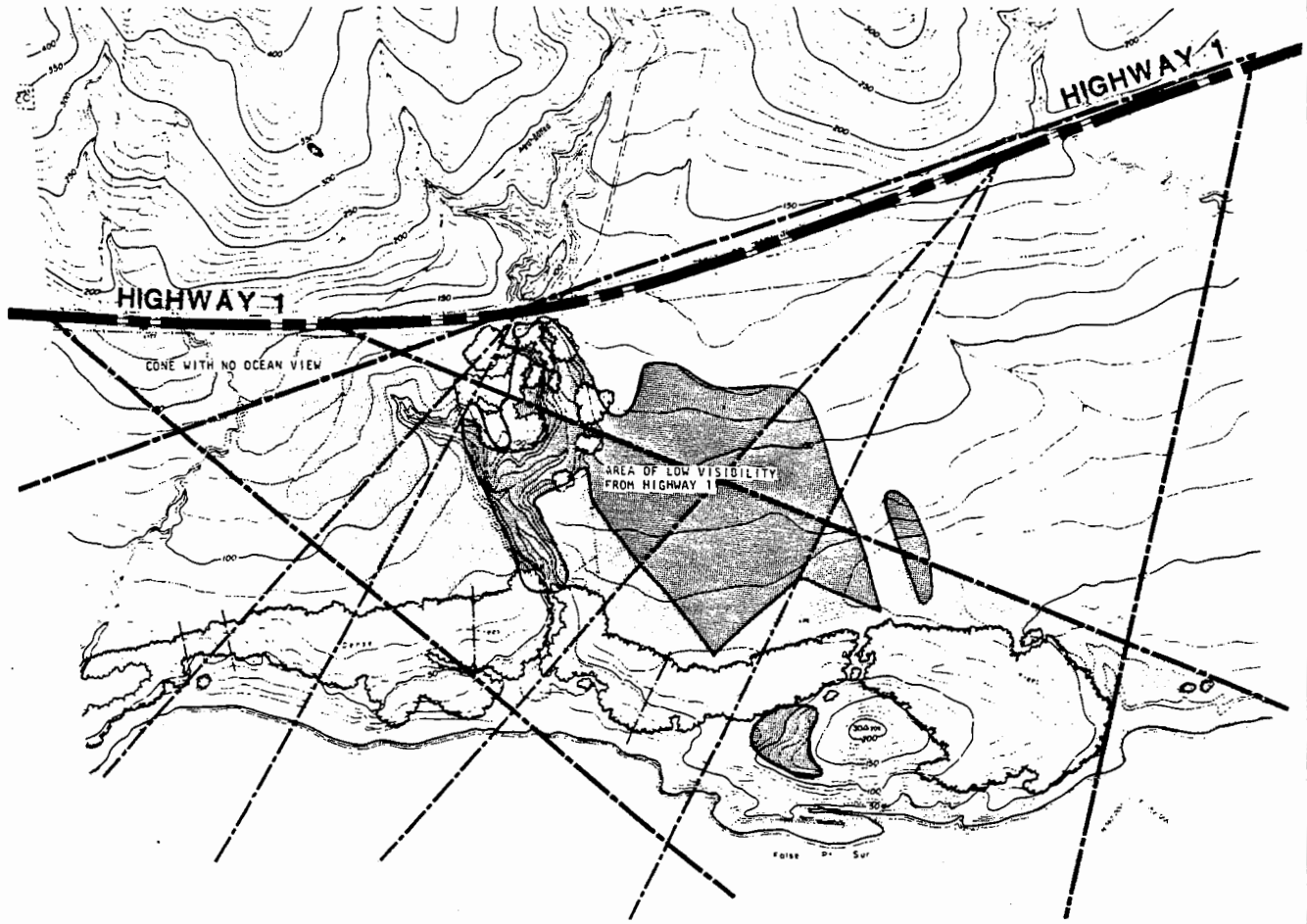
Available views of the ocean from the section of Highway 1 in the False Sur vicinity were mapped by the project sponsor and they are indicated in Figure 2.6e. Viewshed cross-sections were also prepared by the project sponsor for the southern portion of the Ranch (north or east of Highway 1) and they are shown in Figures 2.6f and 2.6g. Cross-section locations are indicated in Figure 2.6b. These cross-sections demonstrate that there are existing topographic barriers which block views of some areas from Highway 1.

Old Coast Road, a County road, provides views of the interior of the Ranch as well as canyons and mountain slopes east of Highway 1. Scenic views of the Little Sur River watershed, including Pico Blanco, are available from Old Coast Road where it traverses the ridges above Swiss Canyon and the Sierra Grade. Although it is not designated a major public viewing corridor, views are highly scenic from the upper sections of this road and deserving of careful protection (County of Monterey, 1982). Although areas visible from this road are not specifically included in the critical viewshed (where new development is subject to special design measures), many of these areas are included within the viewshed boundaries shown in Figure 2.6a.

Potential Impacts. Based on the viewshed boundaries delineated in the Big Sur LCP (Figure 2.6a), proposed development zones would be located within the critical viewshed and future development within these zones would be subject to policies of the LCP. However, field observations indicate that there are areas within these zones which are not visible from Highway 1.

In the Swiss Canyon area, development zones 16 and 17 (Figure 2.6b) would not be visible from Highway 1. These zones would be blocked from view by existing topography and vegetation.

In the Steer Pasture area, zones 19 and 22 (Figure 2.6b) would be located on minor ridges near the southern property boundary. The crests of these ridges would block views of most of the area within these zones. However,



VIEW OF OCEAN OVER TREES

PACIFIC OCEAN

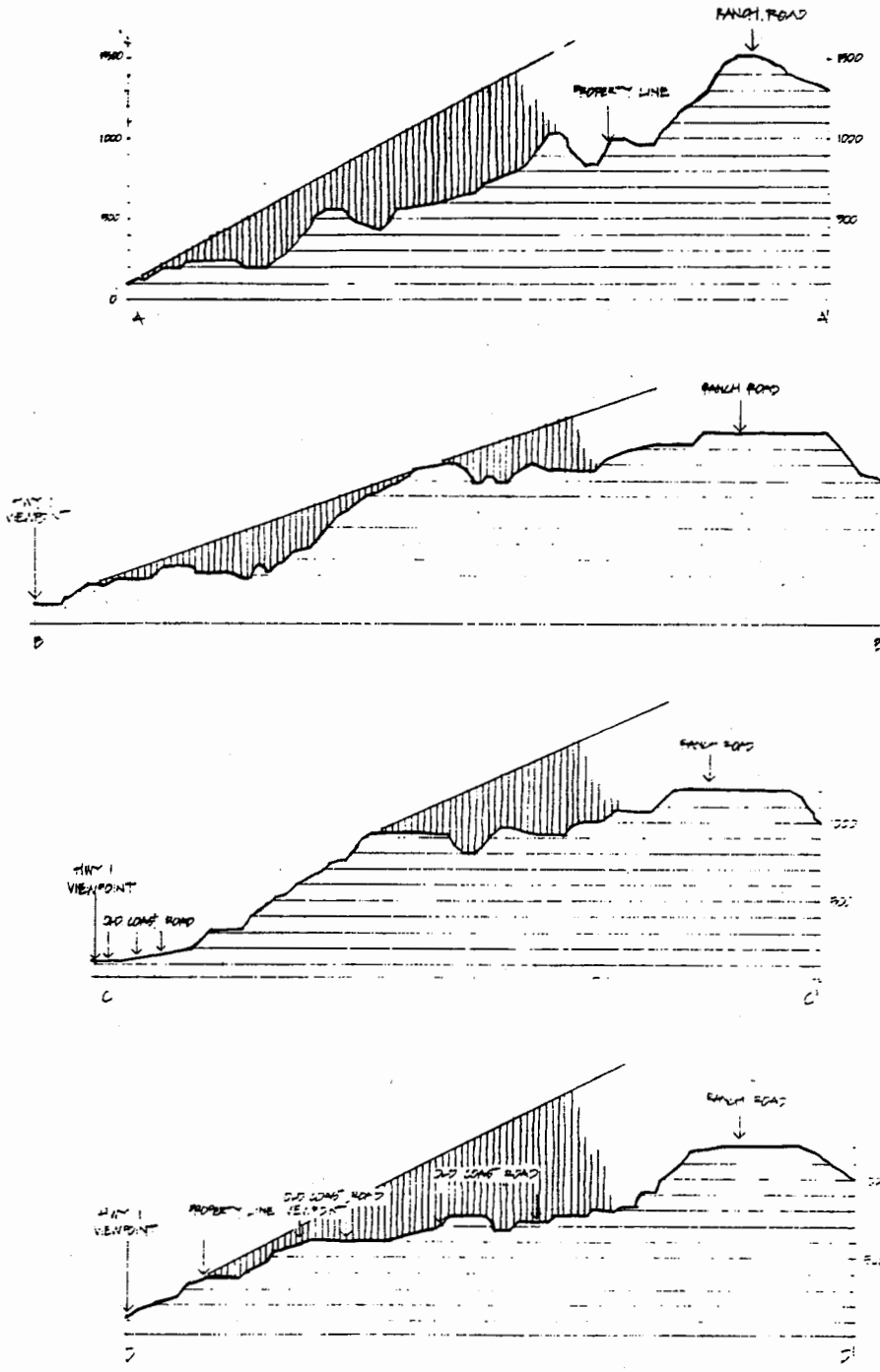
NORTH

EL SUR EIR

VIEWSHED
HOTEL AREA

FIGURE 2.6e

SOURCE: Whisler-Patri, 1983.



A-A'

B-B'

C-C'

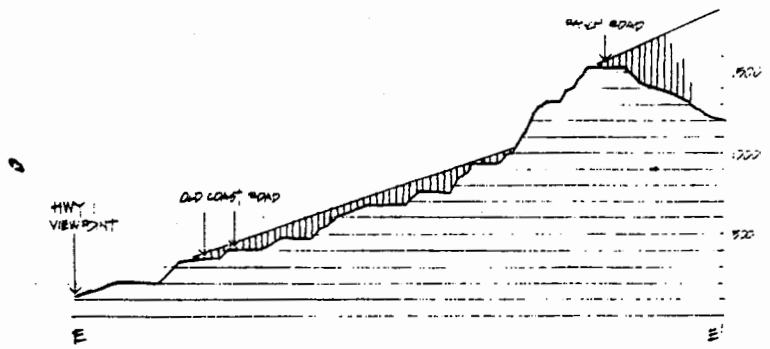
D-D'

EL SUR EIR

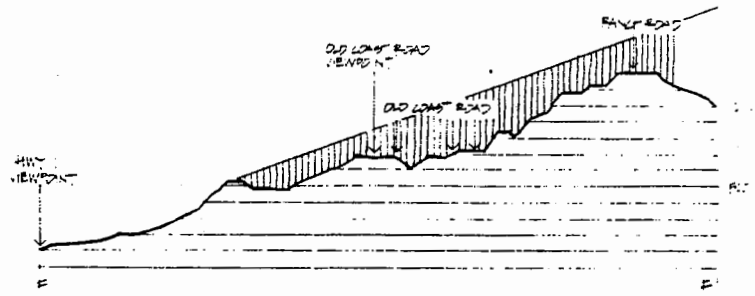
VIEWSHED SECTIONS

FIGURE 2.6f

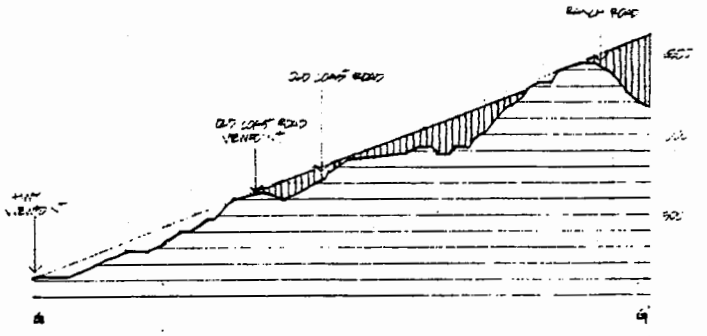
SOURCE: Whisler-Patri, 1983.



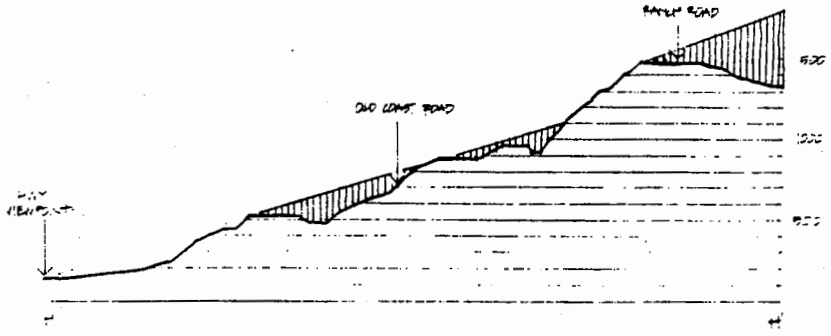
E-E'



F-F'



G-G'



H-H'

EL SUR EIR

VIEWSHED SECTIONS

FIGURE 2.6g

SOURCE: Whisler-Patri, 1983.

visibility of development within these zones would ultimately depend on the design and height of future structures. One unit is proposed in zone 22 and six to 12 units are proposed within zone 19. There appears to be sufficient area in these zones not visible from Highway 1 to accommodate at least the proposed minimum number of units.

The top of the western, minor ridge in zone 19 would be visible from Old Coast Road but would not appear to be visible from Highway 1. Provision of screen vegetation and special design measures to help structures blend with the environment (as recommended in LCP policies 3.2.4 [A.2-4]), or avoidance of this ridge would be required to minimize visual impacts on Old Coast Road. Height and design controls would also be required if future development is proposed on this ridge to ensure that development would not be visible from Highway 1.

Development zones 18 and 20 (Figure 2.6b) would be located on the west and east sides of the upper ridge in the southern portion of the Ranch. Most of the area within these zones would be located just behind (east of) the main, upper ridge. The crest of the ridge would block views of future development in these areas from Highway 1. Those areas within these zones that would be located west of the main (upper) ridgeline primarily encompass small plateaus below the main ridge. Crests of minor ridges which form the boundary of these plateaus would block views of development on these plateaus from Highway 1. Visibility of future development on these small plateaus or near the crest of the main, upper ridge would depend on the height and design of residences. There are 24 to 47 units proposed within zones 18 and 20 and there appears to be enough area in the zone not visible from Highway 1 to accommodate at least the proposed minimum number of units.

Approximately one-half of zone 18 would be visible from Old Coast Road. These areas would primarily include the small plateaus located west of and below the main, upper ridge. There would be small areas of zone 20 which also could be seen from Old Coast Road. In addition, the southern end of zone 20 may be visible from the higher elevations of Andrew Molera State Park, particularly where two of the trails intersect (3,100 feet southeast of the property boundary).

To ensure that future structures proposed near the crests of the main, upper ridge and minor ridges (on small plateaus) located west of the main ridge would not be visible from Highway 1, special height and design controls would need to be implemented. Special design measures and provision of screen vegetation (in accordance with LCP policies) would also be required where development would be visible from Old Coast Road.

Development zones 11, 12 and 13 are proposed generally on the north and east sides of Little River Hill (Figure 2.6b). Zone 11 would primarily encompass three, small drainages or bowls and a minor ridge. Although existing

topography would clearly block views of this zone from Highway 1, over half of the area within this zone would be visible from Old Coast Road.

For areas outside the critical viewshed, LCP policies (pages 12 and 13) recommend provision of landscape screening and implementation of special design measures to help development blend with the surrounding environment. Policies also state that landscape screening can be used wherever a moderate extension of native forested and chaparral areas is possible. Since there is little to no tree cover over most of the area in zone 11, extension of tree cover to screen views of proposed development from Old Coast Road would not be possible. In addition, provision of adequate landscape screening in this area may be difficult due to high winds which prevail over this portion of the site (exemplified by the wind-blown redwood groves). If provision of landscape screening proves infeasible, the extent of development zone 11 may have to be redefined. Some of the units located within the portion of this zone that is visible from Old Coast Road may have to be relocated to areas not visible from Old Coast Road.

Development zone 12 would be located near the top and on the east side of Little River Hill. The southeastern portion of this zone would be visible from Old Coast Road. Existing topography would clearly block views of the southern portion of zone 12 from Highway 1. However, the northern portion of zone 12 would be located near the crest of a ridge and visibility of future development in this area would depend on the height and design of structures.

Development zone 13 would not be visible from Highway 1. However, the western and eastern ends of zone 13 would be visible from sections of Old Coast Road located both north and south of this zone. Landscape screening would be required if future development is proposed in these areas.

The amount of areas in these zones that are not visible from Highway 1 appear adequate to accommodate the the minimum of nine units proposed in zone 11, a minimum of five units in zone 12, and a minimum of six units in zone 13. However, some of these areas would be visible from Old Coast Road and the number of units in Zone 11 may have to be reduced if adequate landscape screening cannot be provided.

Development zone 4 is situated on the south side of Highway 1 at the mouth of the Little Sur River. A restaurant is proposed for this area. The portion of zone 4 north of the Little Sur River Road would be screened from view by existing vegetation between it and the highway--an existing structure already located there is not visible from the highway. However, the portion of zone 4 on the south side of the Little Sur River Road would be visible from Highway 1 since it is located on the northeast-facing slope above the highway. It would be very difficult to screen from view any structure placed

there unless the area is excavated and the building is placed at or below the ground surface.

The proposed resort complex (development zone 8) would be located west of Highway 1 in the False Sur vicinity (Figure 2.6b). Views of this zone from Highway 1 would be blocked by existing trees and topography. The eastern portion of this zone would be located east of the existing tree cover in a low-lying area and views of this area from Highway 1 would be blocked by existing topography (assuming building heights are restricted). In conjunction with this complex, the project sponsor proposes to implement a two-phase afforestation program to expand the pine/cypress grove in that vicinity. Seedlings would be planted to ensure the continued existence of the grove. Figures 2.6g and 2.6h are photographs overlaid by renderings (prepared by the project sponsor), illustrating the change in character and extent of the pine/cypress groves in the False Sur vicinity at ten and twenty years, both with and without the proposed afforestation program. According to the project planners (Tito Patri, personal communication), these renderings are based on the assumption that the proposed resort complex will be in place at the initiation of the planting program and that this complex would not be visible from these viewpoint locations. These views are from Highway 1 southbound (View 1, Figure 2.6g) and northbound (View 2, Figure 2.6h). Viewpoint locations are indicated on Figure 2.6b.

In the southern portion of the Ranch, proposed development zones 18, 19,20 and 22 would be served by roadways which would generally follow existing ranch roads and Old Coast Road. However, a new access roadway would be developed between zones 19 and 22 and Old Coast Road. A small section of this new roadway may be visible from Highway 1, however, visibility would depend on road width requirements and the extent of cuts/fills. The main access road proposed to serve zones 18 and 20 would generally follow an existing ranch road. This roadway would be located behind (east of) the ridge crest and would not be visible from Highway 1.

In the northern portion of the Ranch, proposed zones 11, 12 and 13 would be served by entirely new access roads. The primary access road would connect with Highway 1 in the Little Sur River vicinity, extending up a major drainage on the north side of Little River Hill. This roadway would follow the east-facing slopes of this drainage and in the low-lying areas in the vicinity of zone 11. This roadway would not appear to be visible from Highway 1 but could be visible from Old Coast Road. The extent of roadway visibility from either of these roads would depend on the required road widths and extent of cuts/fills. The proposed access road serving zones 12 and 13 would connect with Old Coast Road to the east of zone 12 and follow an existing ranch road between zone 12 and Old Coast Road. From zone 12, the proposed access road would follow an entirely new alignment, following the ridgecrest on the east side of Little River Hill. This road alignment would not be visible from not be visible from Highway 1 but sections would be visible from Old Coast

Road. Visibility of this new roadway would depend on the road width requirements and extent of cuts/fills.

The proposed driveway connecting the proposed restaurant in zone 4 with Highway 1 would not be visible from Highway 1 assuming it is located behind the minor ridge on the north side of this zone.

The proposed roadway serving development zone 8 would be located below the ground surface and earth berms would be used to conceal cars traveling along these roadways. Assuming such a road design is implemented, this access road would not be visible from Highway 1. Roadways connecting the areas within zone 8 would be located within the existing tree cover or in low-lying areas. In addition, they would be narrow paths of widths sufficient to accommodate golf carts and pedestrians. Therefore, these minor roads would be screened from Highway 1 by existing trees and topography. Some of the minor driveways which would connect proposed development with access roads could not be evaluated until specific locations of units and precise driveway alignments are determined.

In key policy 3.2.1, the Big Sur Local Coastal Program (LCP) prohibits all future public and private development within the critical viewshed, which it defines as "everything within sight of Highway 1 and major public viewing areas such as turnouts, beaches and specific locations." In addition, this key policy specifies that all new development located in areas not visible from Highway 1 or major public viewing areas be conditioned with siting and design criteria set forth in Sections 3.2.3, 3.2.4, and 3.2.5 of that plan. This would apply to all structures, public and private roads, utilities, lighting, grading, and removal or extraction of natural materials.

There are no major turnouts, beaches, or public viewing areas along this section of Highway 1 since most of the property there is privately-owned. However, the coastal area north of Point Sur is proposed to be sold to the State Department of Parks and Recreation. Hence, that area would become a major public viewing area after project development. From the beaches at the mouth of Little Sur River and just north of Point Sur, the viewshed would not be significantly different from the Highway 1 viewshed. The Dani Ridge area would be more evident from the beach at the mouth of Little Sur River than it would be from Highway 1. However, no development is proposed on this ridge and none of the proposed development areas would appear to be visible from the beach vicinity.

Lands in the vicinity of the South Fork of the Little Sur River (from the Old Coast Road vicinity to the eastern property boundary) are also proposed to be sold to the State Parks and Recreation Department. Access easements along the Little Sur River are proposed in order to join the coastal and uplands parcels to be sold to the State. Proposed development on the Ranch would not

appear to be visible from these areas because the area along the Little Sur River is covered by dense tree cover and higher elevations are obscured from view.

It appears that most aspects of the proposed development plan would be consistent with LCP key policy 3.2.1. Development zones 8, 11, 12, 13, 16, 17, 18, 19, 20 and 22 would not be visible from Highway 1 assuming appropriate height and design controls are implemented (as required under key policy 3.2.1 for structures outside the critical viewshed). Only zone 4 appears to possibly be inconsistent with LCP key policy 3.2.1 since it is visible from Highway 1. However, visibility of future development at this location would depend on the ultimate design of the structure.

Mitigation Measures. The following measures would be required by County policy (LCP Key Policy 3.2.1) to offset potential adverse effects:

1. All development applications shall be required to complete individual on-site investigations to determine whether they would intrude on the critical viewshed. The proposed buildings shall be accurately indicated as to dimensions, height, and rooflines by poles and access roads, by stakes with flags which shall remain in place for the duration of the project review and approval process. Such indications of the extent of development shall be recorded photographically with superimposed representation of the proposed project. The standard for review is the objective determination of whether any portion of the proposed development is visible from Highway 1 or the major public viewing areas identified in the definition of the critical viewshed. All development not in conformance with the approved representations shall be removed.

2. Policies pertaining to development proposed in the critical viewshed (pages 11 and 12) include the following:

   a. In order to avoid creating further commitment to development within the critical viewshed, all new parcels must contain building sites outside the critical viewshed.

   b. The best available planning techniques shall be used to permit development of parcels partially in the critical viewshed. These may include clustering of structures, sensitive site design,

design control, transfer of development credits, and other techniques designed to allow development on such parcels outside the critical viewshed.

c. Where it is determined that an alternative building site on a parcel would result in conformance to the Key Policy, then the applicant will be required to modify his proposal accordingly. Similarly, changes in the design, height, or bulk of proposed structures will be required where this will result in an approvable project.

d. New roads, grading or excavations will not be allowed to damage or intrude upon the critical viewshed. Such road construction or other work shall not commence until the entire project has completed the permit and appeal process. Grading or excavation shall include all alterations of natural landforms by earthmoving equipment. These restrictions shall not be interpreted as prohibiting restoration of severely eroded water course channels or gullying, provided a plan is submitted and approved prior to commencing work.

e. Where it is determined that a proposed development cannot be resited, redesigned, or in any other way made to conform to the basic critical viewshed policy, then the site shall be considered environmentally inappropriate for development.

f. The County will participate with other public agencies and private groups to secure adequate funds to purchase critical viewshed parcels proposed for development or to secure for use by restricted landowners, other developable land areas to which new development can be transferred. The value of parcels, for purposes of establishing purchase price, shall not be diminished by virtue of their location in the viewshed or by the policies of this section.

g. Landowners will be encouraged to grant scenic easements to the County over portions of their land in the critical viewshed.

h. The County encourages creative public and private efforts to restore the scenic beauty of visually-impacted areas of the coast and will assist such efforts where possible.

3. Policies pertaining to development proposed outside of the critical viewshed (pages 12 and 13) are as follows:

   a. So that the visual continuity may remain undisturbed, the design and siting of structures, whether residential, commercial, agricultural, or public, and access thereto, shall not detract from the natural beauty of the undeveloped skylines, ridgelines, and the shoreline.

   b. New applicants, when selecting a building site, must consider the visual effects upon public views as well as the views and privacy of neighbors. The portion of a parcel least visible from public viewpoints will be considered the appropriate site for the location of new structures. New structures shall be located where existing topography or trees provide natural screening and shall not be sited on open hillsides or silhouetted ridges. Sites shall not leave excavation scars or slope disturbance. Structures and access roads shall be designed to minimize alterations of the natural landform and to avoid, insofar as feasible, removal of healthy tree cover.

   c. New development should be subordinate and blend with its environment, using materials or colors that will achieve that effect. Where necessary, appropriate modifications will be required for siting, structural design, size, shape, color, textures, building materials, access, and screening.

   d. Landscape screening may be used wherever a moderate extension of native forested and chaparral areas is possible. Other screening must be of similar plant or tree species.

   e. Sites for new structures shall be selected to avoid the construction of visible access roads and minimize the extent of environmental and engineering problems resulting from road construction.

   f. New roads providing residential, recreational, or agricultural access will be considered only where it has been demonstrated that the use of existing roads is not feasible, or that permis-

sion for the use of an existing road is shown in writing to be unobtainable from neighboring property owners.

g. New roads shall avoid steep slopes and shall be located along the margins of forested areas, along natural land contours, or within existing vegetation. Road shall be aligned to minimize removal of native trees, and constructed to minimum standards consistent with the requirements of fire safety and emergency use. Drainage and erosion control measures must be adequate to prevent erosion. During road construction, side-casting of earth materials shall not be permitted; all materials not used for on-site fill shall be removed from the area.

h. Television antennas shall be unobtrusive.

4. The following types of development (page 14) would be exempt from LCP Key Policy 3.2.1:

a. Essential Ranching Structures: Essential agricultural structures required by commercial ranching and aquaculture operations that cannot be feasibly located outside the viewshed shall be permitted under careful design and siting controls. Examples include barns, fence, windmills, water pumps, water tanks, stockponds and corrals. However, all aquaculture facilities will be subject to the same resource protection criteria and environmental standards as other development. Such uses shall conform to all non-critical viewshed standards.

b. Private Highway Improvements: Private driveway entrances, gates, roadside fences, mailboxes, and signs shall be of a design complementary to the rural setting and character of Big Sur, with preference for natural materials.

c. Utilities: It is the County's intent that utilities be installed underground. Overhead power or telephone lines will be considered only where overriding natural or physical constraints exist. Poles will be placed in the least conspicuous locations out of public, and where possible, private view. Exterior lighting will require shielding to reduce its long-range visibility, and to cause the light source to not be visible. Further, exterior lighting shall be downlite and minimal to as much as possible light pollution. Transmitter towers and power facilities must

not appear in the critical viewshed. Water lines or underground conduits should be buried or otherwise obscured by vegetation.

In addition, the following measures are recommended by the consultant:

5. Where development would be located outside the critical viewshed but would be visible from Old Coast Road, the following development guidelines should be required to minimize visibility of structures and roads from Old Coast Road:

   a. Project road widths and pavement surfaces should be kept to a minimum.

   b. Project structures should be subject to architectural and design review. Building height and design limitations should be imposed on any development proposed near ridge crests to protect views from Old Coast Road and Highway 1; specifically in development zones 4, 8, 12, 18, 19, 20 and 22.

   c. Screen vegetation should be provided along roadways and around structures wherever they could be visible from Old Coast Road and Andrew Molera State Park. Detailed landscaping plans should be prepared for each structure to ensure provision of adequate screening.

   d. Building envelopes should be specified for each structure. Building area and paved surfaces should be kept to a minimum to reduce visibility.

   e. Native plant species should be utilized for all landscaping planted around project structures and along roadways (including road cuts and fills).

6. The feasibility of providing landscape screening in zone 11 to minimize visual impacts from Old Coast Road should be examined. If it is not feasible, this development zone should be redefined.

7. A visual analysis of roads should be conducted when final road alignments and widths are determined and required road cuts/fills are specified.

2.6.2 Noise

Setting. Agricultural-related activities and traffic on Highway 1 and Old Coast Road are the primary sources of on-site noise. There are no significant sources of off-site noise presently affecting the Ranch.

Based on current traffic levels along Highway 1, an assumed traffic speed of 55 miles per hour and use of noise guidelines specified by Galloway and Schultz (1979), present noise levels are estimated to exceed 65 dBA (L_{dn}) within 125 feet and 60 dBA within 240 feet of Highway 1 on peak weekends. Noise levels would be proportionately less in localized areas where traffic speeds are slower due to sharp curves or similar road factors. Because HIghway 1 has limited available road capacity, traffic speeds would tend to decrease as traffic levels increased. Since slower speeds generate less noise, the addition of new traffic would not be expected to change noise levels significantly in the future.

Agricultural-related activities are limited to cattle ranching; noise generated by these would not be considered significant. Traffic levels on Old Coast Road are too low to produce significant noise.

County noise guidelines specify a maximum acceptable noise level of 55 dBA (L_{dn} or CNEL) for low-density residential development. Noise levels between 55 and 70 dBA are conditionally acceptable, but between 70 and 75 dBA they are normally unacceptable and above 75 dBA clearly unacceptable. For transient lodging (motels, hotels) the maximum acceptable noise level is 60 dBA (L_{dn} or CNEL). Noise levels in the 60 to 70 dBA range are conditionally acceptable, while those between 70 and 80 dBA are normally unacceptable. Noise levels above 80 dBA are clearly unacceptable. In commercial areas (including restaurant sites), noise levels up to 67 dBA (L_{dn} or CNEL) would be considered acceptable.

Potential Impacts. Development zone 4 would be closest to Highway 1. The restaurant structure would be located at least 200 feet from the highway. The next closest proposed development to the road would be the resort complex (zone 8), which would be at least 1200 feet from the highway. All other development proposed on the Ranch would be even farther from Highway 1. Therefore, noise levels for proposed uses in all development zones would remain within acceptable ranges, and the proposed development would be consistent with County noise guidelines.

Relative to existing traffic levels on Highway 1, traffic added by the project would not be considered signficant. Similarly, noise levels along Highway 1 would not significantly increase due to project-related traffic.

Activities associated with proposed residential, hotel and restaurant uses would generate noise, but such noise would be localized and limited to the immediate vicinity of those activities. The only nearby sensitive noise receptors would be people using the coastal areas north of Point Sur, the State lands in the vicinity of the South Fork of the Little Sur River or Andrew Molera State Park. Although residential uses are proposed near some of these public areas, noise generated by them would not be expected to significantly alter the noise environment. In addition, any perceived noise impacts could be minimized by reducing visibility of project structures through use of vegetation screens.

The existing naval facility located near Point Sur does not generate significant noise. Therefore, it would not be expected to adversely affect proposed development nor would the proposed project be expected to adversely affect this facility.

Mitigation Measures. The following measure is recommended by the consultant to offset potential adverse effects:

1. To minimize potential for perceived noise impacts, proposed development should be located and screened by vegetation, reducing visibility from adjacent public recreational areas. (See mitigation measure 5 under Visual Quality [2.6.1] for more details.)

2. Where noise levels are considered conditionally acceptable (55 to 70 dBA [L_{dn} or CNEL] for low-density residential development; 60-70 dBA for transient lodging), new construction should be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features are included in the design. New construction generally should be discouraged where noise levels are considered normally unacceptable (70-75 dBA for low-density residential development; 70-80 dBA for transient lodging), but if new development does proceed a detailed analysis of the noise reduction requirements must be made and needed noise insulation features incorporated into the project.

2.7 TRAFFIC AND CIRCULATION

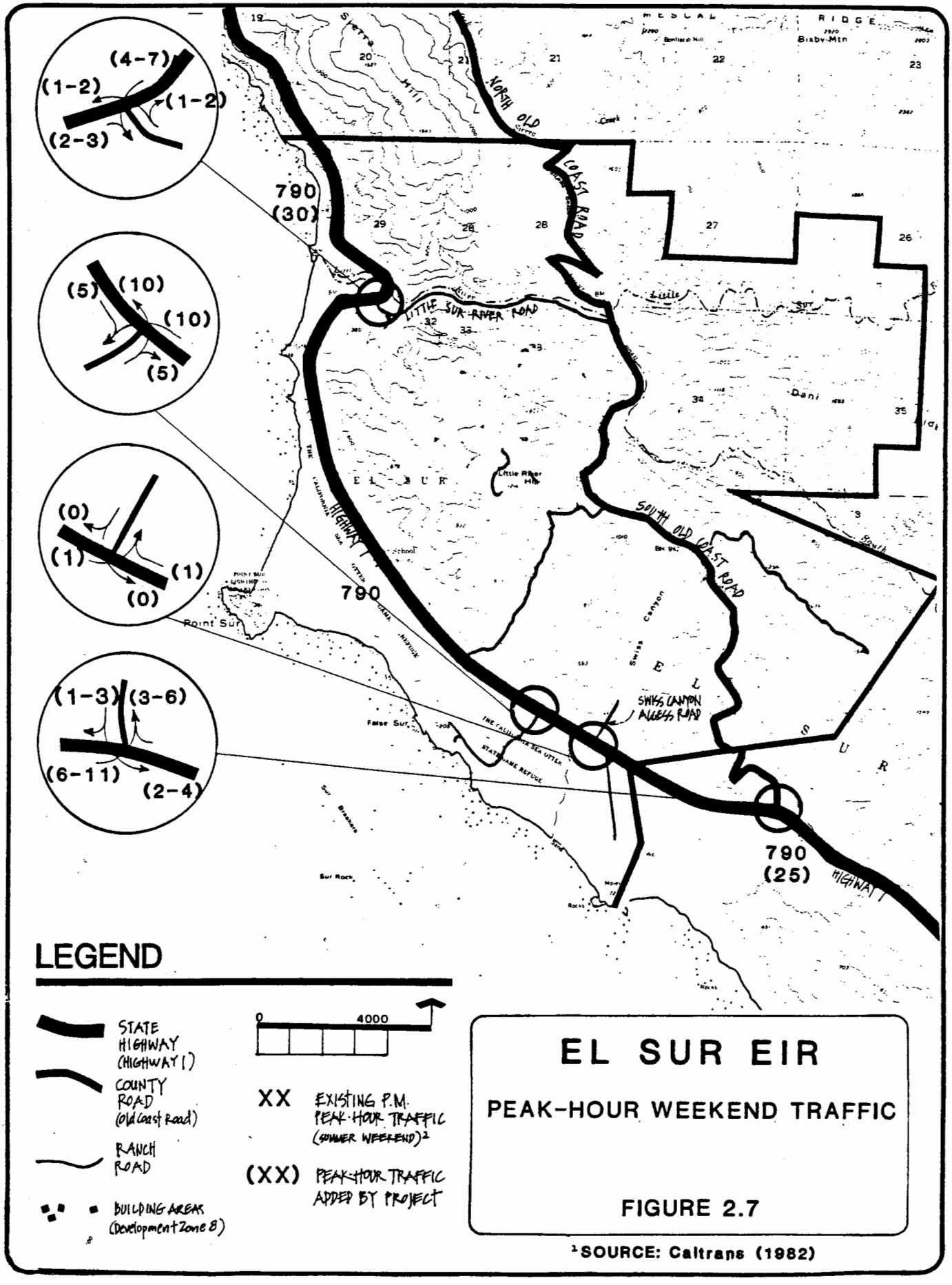
Setting. Regional and local access to the El Sur Ranch is provided by Highway 1. In addition, local access to and through the Ranch is provided by Old Coast Road. Highway 1 extends in a north-south direction along or near the western property boundary. Old Coast Road extends approximately parallel to Highway 1, traversing the central-eastern portion of the Ranch. Old Coast Road joins Highway 1 approximately 2.3 miles north of and 0.4 mile south of the Ranch. Figure 2.7 indicates major public (State and County) as well as private ranch roads in the project vicinity.

Highway 1 is a curving two-lane roadway north of the Little Sur River but relatively straight south of it. Roadway shoulders and turnouts are unpaved. During non-peak times, traffic speeds average 25 to 40 mph along curved sections and 50 to 60 mph along straight sections. Traffic on Highway 1 is primarily recreation-related. During peak periods, recreation-related traffic is estimated to account for 95 percent of all trips while the remaining five percent consists of residential-, commercial-, and agricultural-related traffic. Passenger cars account for 91 percent of the traffic during these periods (County of Monterey, 1983).

On peak summer weekends in 1982, Highway 1 carried about 7,700 trips per day (790 trips during the peak hour) at and north of the site. During summer weekdays, traffic levels on this roadway averaged 6,400 trips per day (600 trips during the peak hour). In contrast, spring or fall weekend daily counts average 5,300 vehicles with average weekday counts of about 3,700 vehicles. To the south of Big Sur, Highway 1 volumes are 4,250 trips per day on peak summer weekends and 3,500 trips per day on summer weekdays. Two-way peak volumes on Highway 1 occur between 2:00 and 4:00 p.m., with southbound traffic peaking from 11:00 a.m. to 4:00 p.m. and northbound traffic peaking from 2:00 p.m. to 5:00 p.m. (weekdays and weekends). According to Caltrans (Bill Heath, personal communication), Highway 1 will remain a narrow, curved two-lane roadway in order to retain its scenic value.

According to the Big Sur Local Coastal Program (LCP; 1983), it is expected that Highway 1 will not be able to accommodate future peak traffic levels if recreational use continues to increase as it has in the recent past. The Big Sur LCP indicates that Highway 1 (north of the Big Sur Valley) currently operates at Level of Service (LOS)[1] D where average annual daily traffic

[1]For service level definitions, see Appendix A.



EL SUR EIR

PEAK-HOUR WEEKEND TRAFFIC

FIGURE 2.7

[1]SOURCE: Caltrans (1982)

volumes reach 4,500 vehicles and LOS E during summer peak use periods when traffic reaches 8,300 vehicles per day. Similarly, south of the Big Sur Valley, average annual daily traffic on Highway 1 reaches 2,600 corresponding to LOS D while LOS E (4,700 vehicles per day) is reached during peak use periods.

As part of this analysis, the Highway's service level operation was calculated using the Highway Capacity Manual by Caltrans and 1982 traffic volumes.[2] Although the LCP indicates significant traffic congestion problems along Highway 1 in the Big Sur vicinity, these data indicate that Highway 1 presently operates at LOS B/C during summer weekends (peak use) and at LOS A during the remainder of the year (Table 2.7).

Old Coast Road is an unpaved County road that is one to one-and-a-half lanes wide. Erosion and drainage problems are evident along most of this roadway. Signs at the north and south ends of this roadway warn motorists of poor, hazardous road conditions during wet weather. Existing traffic volumes on Old Coast Road are currently minimal (ten or fewer vehicles per hour).

Highway 1 and Old Coast Road are connected about midway by a road that extends along the Little Sur River. This roaday is a private, one-lane, unpaved road with gates at the west and east ends to restrict public access. There are many other Ranch roads which connect with Highway 1 and Old Coast Road. Public access is restricted by gates on these ranch roads.

Ground failure and erosion along Highway 1 and other County roads in the project area create long-term maintenance problems and associated high maintenance costs. The section of Highway 1 to the south of Big Sur was closed for the past year due to landslides. The section of the highway to the north of Big Sur (south of the site) was closed for about six months last year due to landslides. Such closures create temporary safety hazards due to the limited access to/from the Big Sur area. As new development occurs, such safety hazards, although temporary, will intensify.

Potential Impacts. The proposed project would have the following potential impacts:

1. Traffic generated by the project would not signficantly change the operation along Highway 1. However, project-generated traffic would contribute to cumulative traffic increases along Highway 1.

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[2]Caltrans (Bill Heath, personal communication), recommends that level of service operation be calculated for Highway 1 using capacities specified in Caltrans' Highway Capacity Manual. Traffic volumes from 1982 were used because they were the most recent volumes recorded prior to closure of Highway 1 south of the Big Sur Valley.

2. There would be no sight distance problems at Highway 1 intersections with project access roads except at the Highway 1/South Old Coast Road intersection.

3. Old Coast Road would serve 31 to 60 residences and can be impassable during wet weather, impeding emergency access to these residences and creating temporary safety hazards.

4. Paving and greater use of Old Coast Road would increase existing County maintenance problems with this road, thereby increasing County maintenance costs.

5. The proposed visitor serving facilities would be consistent with LCP policies (pages 53 to 56) but inconsistent with LCP traffic study conclusions, while residential uses would appear somewhat consistent with LCP traffic study conclusions (since this use generates traffic during non-peak periods) but not with LCP policies.

The proposed project would generate an average of 650 trips per day, with an average of 70 trips per hour during peak periods under maximum residential buildout. A breakdown of estimated project trip generation would be as follows:

Proposed Use	Number of Units	Trip Generation Rate ADT	Trip Generation Rate Peak-Hour	Weekend Daily Traffic	Weekend Peak Hour
Residential	51-98	4[1]	.4	400[2]	40[2]
Hotel	100	4[3]	.3	400	25
Restaurant[4]	0	0	0	50	5
	Total Trip Generation			850	70

[1]Monterey County believes a trip generation rate of 8 trips/unit would be more appropriate for residential units. Four trips/unit has been used in is resort because the isolated nature of the houses would promote shared destination trips due to long driving times; plus, some units would probably be used as weekend homes.

[2]Maximum number of residential units.

[3]Assumes a 50-60 percent capture rate of traffic that would be traveling past the site in any event.

[4]Assumes a 90 percent capture rate since most patrons would be expected to be visitors travering along the highway. The size of the restaurant has not been determined.

The LCP traffic study also concludes that management of Highway 1 should attempt to optimize rather than maximize visitor use levels on the highway in relation to other user needs and planning objectives for the coast. As an objective, the maintenance of an acceptable minimum level of service and corresponding maximum traffic volume standard for Highway 1 traffic must satisfy several criteria. A reasonable level of traffic volume must be accommodated that reflects current recreational and residential use patterns, future demand for access to Big Sur, property rights of landowners and resource protection goals aimed at preserving the natural character and beauty of Big Sur.

The encouragement of land uses that help redistribute traffic volumes to non-peak periods is a desirable approach to reducing traffic congestion on the highway. Development and management policies that encourage a more even distribution of traffic flow would result in an overall increase in access to Big Sur and place fewer constraints on the amount of recreational and residential development that could be approved (County of Monterey, 1983).

LCP policies that would pertain to the proposed project include the following:

1. To conform to the Coastal Act, most remaining capacity on Highway 1 shall be reserved for coastal priority uses: recreation and visitor-serving facilities, the military, agriculture and other coastal-dependent uses (4.1.2.4).

2. In order to enhance public access to the Big Sur coast and to reduce traffic congestion, an improved level of public bus service is encouraged. Monterey Peninsula Transit, other public carriers, and private and public recreational facilities are requested to participate in reaching this objective (4.1.2.5).

3. The number of private roads and recreational access road entrances off Highway 1 shall be limited whenever possible for traffic safety and management purposes. Before it approves construction of a separate entrance to Highway 1, the County shall require new developments to demonstrate either that use of existing public or private roads is not feasible or that easements for use cannot be obtained (4.1.3.4).

LCP policy #1 would not appear to be consistent within the LCP traffic study. This policy specifies that remaining Highway capacity be reserved for recreation, visitor-serving and other coastal-dependent uses. However, the

There would be no sight distance problems at Highway 1 intersections with the Little Sur River Road, False Sur access road, or Swiss Canyon access road. Nevertheless, intersection improvements (e.g., widening pavement turn lanes) would be required to minimize traffic safety hazards. The Highway 1 intersection with South Old Coast Road involves a sharp angle and this configuration would pose significant sight distance problems. At this intersection, Caltrans would require improvement to public road approach standards as defined in the Caltrans Design Manual.

The proposed development would utilize the southern end of Old Coast Road, a County road, for access to 31 to 60 residences in the Steer Pasture and eastern Swiss Canyon areas. Project residences in the Little River Hill area (20-35 units) would be served by a new private roadway which would intersect with the Little Sur River Road (a private roadway just east of Highway 1). Old Coast Road can be impassable during wet weather, impeding emergency access to all these residential areas. The County would require improvement of roads to provide for through circulation from Little Sur River Road to the southern terminus of Old Coast Road. Little Sur River Road and the southern end of Old Coast Road (up to the Steer Pasture area) may need to be paved. However, the section of Old Coast Road between the Steer Pasture area and Little Sur Road may not need paving.

Because Old Coast Road is already subject to drainage and erosion problems, which presumably would continue after project development, it would probably require drainage improvements. Paving and greater use of this roadway would most likely result in long-term maintenance problems for the County, thereby increasing County maintenance costs. Since all other project roadways would be private, the project's Homeowners' Association would have responsibility for their maintenance.

The Big Sur Local Coastal Program (LCP; County of Monterey, 1983) identifies significant traffic congestion problems along Highway 1 during peak use periods (summer weekends). The LCP study also concludes that the majority of traffic during these congested conditions is recreation-related, originating from outside Big Sur. It is expected that Highway 1 will not be able to accommodate future peak traffic levels if recreational use continues to increase as it has in the recent past. Therefore, efforts to reduce highway congestion by limiting land use development within Big Sur itself can have only marginal effects. Unless there is a substantial change in current recreational use patterns and volumes, significant decreases in peak period traffic congestion will be achieved only through regulation of the highway, including limitations to visitor access at its north and south ends.

TABLE 2.7

HIGHWAY 1 CAPACITY AND LEVEL OF SERVICE (LOS) OPERATION

Time	Existing Peak Hour (1982)[1]	Peak Hour Vehicles in Peak Direction[2]		LOS Operation[3] (Existing)	LOS Operation (With Project
		Existing	With Project (Maximum)		
Summer Weekends	790	555	580	B/C	C
Summer Weekdays	600	420	445	A	A
Spring/Fall Weekdays	530	375	400	A	A
Spring/Fall Weekdays	350	245	270	A	A

[1]Two-way vehicles or vehicles traveling in both directions.
[2]Assumes a 70:30 directional split.
[3]Highway 1 capacities were determined using the following factors:
- Single-lane factor = 0.75.
- Lane width, 10-foot lane and 2-foot shoulder = 0.69.
- Surface condition = 1.0.
- Curvature = 0.8.

- Grade = 0.95
  Factor 0.39

Level of Service Capacity	= Factor	x	Base volume (one-way)	=	Peak Hour Direction (one-way vehicles)
LOS A	= 0.39	x	1,200	=	470
LOS B	= 0.39	x	1,400	=	550
LOS C	= 0.39	x	1,600	=	625
LOS D	= 0.39	x	1,800	=	705

Distribution of project traffic is shown in Figure 2.7. It is expected that about half of all trips generated on the Ranch would travel south to the Big Sur village and State parks. Peak generation by residential uses would occur from 7:00-9:00 a.m. and 4:00-6:00 p.m. The hotel would generate its highest level of traffic throughout peak weekends, particularly from 8:00-10:00 a.m. and 4:00-7:00 p.m. Based on these estimated peak generation periods, the proposed project is estimated to generate 650 trips per day (55 peak-hour trips) during peak weekdays and 850 trips per day (70 peak-hour trips) during peak weekends. Peak project traffic would occur mostly during non-peak times of ambient traffic on Highway 1.

Traffic generated by the project would constitute a five percent increase in traffic along Highway 1 during peak weekdays and four percent increase during peak weekends. Thus, the existing 790 weekend peak-hour vehicles on Highway 1 would increase to 825 vehicles north and south of the site. Likewise, the weekday 600 peak-hour vehicles would increase to 635 vehicles north and south of the site. For comparison purposes, Highway 1 at Yankee Point Drive in Carmel Highlands now carries 970 peak-hour vehicles on a roadway with as many curves as that by the project. With the addition of project traffic, Highway 1 peak volume at Yankee Point Drive would increase to 1,000 vehicles/hour. Because such increases would produce minimal changes in the operation along Highway 1, they would not be considered significant. However, the project would contribute to cumulative traffic increases along Highway 1, which are projected to result from increasing recreational uses and from other residential/visitor-serving developments proposed along Highway 1 in the project region (e.g., Hearst Ranch Development, etc.).

The proposed development would utilize three existing intersections on Highway 1, those at South Old Coast Road, Swiss Canyon Road, and Little Sur River Road. Although these are existing intersections, they are used very little; consequently, traffic increases due to the project would be significant. The Little Sur River Road/Highway 1 intersection would serve the proposed restaurant and 20 to 35 residential units in the Little River Hill area. The South Old Coast Road/Highway 1 intersection would be used by 31 to 60 residential units in the Steer Pasture and eastern Swiss Canyon areas. The Swiss Canyon Road/Highway 1 intersection would serve 0 to 4 residential units in the western Swiss Canyon area. One new intersection would be formed by the proposed False Sur access road, which would serve the hotel complex.

LCP traffic study concludes that land uses which help redistribute traffic to non-peak periods should be encouraged. Such uses would include residential uses. Visitor-serving facilities would tend to generate the most traffic during peak use periods (e.g. summer weekends).

The proposed residential development would appear to be consistent with the LCP study conclusions since such development would tend to generate the most traffic during non-peak periods.

The proposed visitor-serving facilities would not appear to be consistent with the LCP study conclusions since this use would generate the most traffic during the peak periods. However, LCP policies indicate that the remaining capacity on Highway 1 will be reserved for coastal priority uses, including recreation and visitor-serving facilities. Therefore, proposed visitor-serving facilities appear consistent with LCP policies but not consistent with LCP traffic study conclusions, while proposed residential uses appear somewhat consistent with LCP traffic study conclusions but not with LCP policies. However, regardless of policy consistency, both uses would contribute to cumulative traffic increases and resultant traffic congestion problems along Highway 1 during peak periods.

Since the proposed restaurant would generate little new traffic, but would be a visitor-serving facility, it would be consistent with LCP study conclusions.

There is no bus stop included in the proposed development plan nor are any transit services proposed as part of the project. Therefore, the project would not appear consistent with LCP policy #2 above. However, the project is conceptual in nature at this time and provision of such services would not be considered until more specific plans for the resort complex are prepared.

Because three of the four proposed access roads off Highway 1 are existing public/private roads with currently existing intersections, the proposed development would conform to policy #3 above. The project would result in creation of one new intersection to serve the hotel complex. There are no other existing private/public roads in the vicinity of this complex that could safely be utilized by hotel traffic.

The Big Sur Local Coastal Program designates public trails along Highway 1 and Old Coast Road in the project vicinity. A private trail originating from Old Coast Road and generally following the South Fork of the Little Sur River is also designated on the El Sur Ranch. A trail along the west end of the Little Sur River (east of Highway 1) is designated for future public

acquisition, while a trail at the east end of the Little Sur River is designated as a private trail.

The project sponsor proposes to sell coastal lands north of Point Sur and uplands in the vicinity of the South Fork of the Little Sur River to the State Parks and Recreation Department (Figure 1.5b). In addition, an access easement is proposed to be dedicated to the State along the Little Sur River to join the above coastal and upland areas. Because Old Coast Road and Highway 1 are public roadways, public access would be available along these roadways and on lands dedicated to the State. Such access would be consistent with the trails plan shown for this area in the Big Sur Local Coastal Program.

Mitigation Measures. The following measures would be required by County policy:

1. The proposed visitor-serving facility should participate in improving the level of public bus service to the Big Sur Coast. This facility shall be planned to maximize opportunities for access by bus. The owners and/or operators of the resort complex shall cooperate with Caltrans and transit authorities to provide bus stops in convenient proximity to the proposed recreational facility. Other improvements or services, such as shelters, pick-up service from the transit stop, necessary access trails, etc., shall be provided as part of the recreational facility proposal (LCP policy 4.1.3 [D.2]).

2. Old Coast Road between Highway 1 and proposed residential access drives should be improved to County rural road classification standards (County of Monterey, 1977) or as required by the County. This standard would require a 60-foot right-of-way and a 22-foot wide paved roadway (two nine-foot lanes with two-foot wide shoulders on each side).

3. In order to provide adequate secondary emergency access to project residents, through circulation will need to be provided from the south end of Old Coast Road (at Highway 1) to the east end of Little Sur Road. The County will determine the extent of required improvements along this road section (5.4.3 [K.2]).

In addition, the following measures are recommended by the consultant:

4. Adequate sight distance (as defined by Caltrans) should be provided at all project intersections with Highway 1. All project intersec-

tions (as currently proposed) appear to have adequate sight distance except the South Old Coast Road/Highway 1 intersection.

5. To minimize safety hazards, project intersections with Highway 1 should be improved to Caltrans standards for public road approaches. Improvements should include:

   a. At the Little Sur Road/Highway 1 intersection, a southbound left-turn lane and a northbound right-turn lane should be provided.

   b. At the hotel complex access road intersection with Highway 1, a southbound right-turn lane and a northbound left-turn lane should be provided.

   c. A southbound left-turn lane should be provided at the Swiss Canyon access road/Highway 1 intersection.

   d. At the South Old Coast Road/Highway 1 intersection, a southbound left-turn lane should be provided and the paved shoulder widened to accommodate northbound right turns.

2.8 AIR QUALITY

Setting. The El Sur Ranch is located within the North Central Coast Air Basin. Although air quality within this basin is monitored by the Monterey Bay Unified Air Pollution Control District, there are no monitoring stations in the Big Sur vicinity; the closest monitoring station is located in mid-Carmel Valley.

Although State and Federal ozone standards have previously been exceeded in the Carmel Valley and other parts of the County, air quality conditions in Big Sur are substantially different. The Big Sur coast lies outside the most heavily populated portions of the air basin, and air quality can generally be characterized as excellent. Because there are no industrial activities in the vicinity, the primary source of pollution in the project area is the automobile, which contributes such pollutants as carbon monoxide, hydrocarbons, sulfur oxides, and nitrogen oxides. During peak periods, Highway 1 carries as many as 8,230 vehicles per day. However, relative to the volumes carried by this highway in more populated areas to the north, these volumes would not pose significant air quality problems. In addition, daily wind currents along the coast offer few opportunities for air stagnation. Diurnal air flow patterns are quite noticeable, with onshore winds during the day and offshore winds at night (U.S. Department of Agriculture, 1977).

Under the Federal Clean Air Act, locations that exceed current standards are designated Non-Attainment areas and are required to prepare a Non-Attainment Plan. Monterey County has been so designated, and the Monterey Bay Unified Air Pollution Control District has prepared a Non-Attainment Plan that includes strategies for minimizing emissions of mobile and stationary sources as well as transportation and land use strategies. These strategies should enable the District to meet Federal Standards by 1987.

The 1982 Air Quality Plan was prepared by the Association of Monterey Bay Area Governments (AMBAG). This plan proposes policies pertaining to mobile source and land use controls. Their purpose is to reduce motor vehicle trips, thereby reducing emissions of automobile-related pollutants on both a regional and local scale. These measures encourage support of transit service and/or facilities, transit access, parking management, provision of bicycle, pedestrian facilities and provision of open space and recreation facilities within residential developments. Other measures call for provision of neighborhood shopping and day-to-day personal service needs within residential projects to encourage pedestrian access.

Public transit to and through Big Sur is available only on a very limited basis by buses operating along Highway 1. Public bus service from downtown Monterey to Nepenthe, south of the Big Sur Valley, is provided by Monterey Peninsula Transit during the summer. Coastlines, a privately owned transit company, recently initiated bus service between Monterey and San Luis Obispo, with two round trips daily. Private tour buses operate along Highway 1 on a charter basis, transporting groups of visitors to various places in Big Sur and to Hearst Castle in San Luis Obispo County. Scheduling of bus service in the past has neither fully met resident needs nor offered visitors adequate flexibility in travel times (County of Monterey, 1983).

Potential Impacts. The proposed project would contribute to the cumulative increase in air pollutant levels in the project area. This increase would result from automobile emissions as well as from particulates emitted from fireplaces. However, pollutant levels generated by the project should be insignificant relative to anticipated increases in pollutant levels in the Big Sur area due to cumulative traffic increases both locally and in the County as a whole (Table 2.8). Implementation of stricter California vehicle emission controls should help to offset potential air quality degradation resulting from future traffic increases in the Big Sur area.

The proposed project would conform to some of the policies of the Air Quality Plan (described above) which pertain to land use controls. The project would include provision of open space and hiking trails. The provision of neighborhood or convenience stores as recommended by the Air Quality Plan for residential development would not be appropriate due to the widespread nature and visual sensitivity of the site. In addition, it is doubtful that proposed residential uses could support a neighborhood convenience store. However, it is possible that small-scale commercial uses of a convenience nature could be provided at the proposed resort complex. Since the residential portion of the project covers a large isolated area, transit access would only be feasible in the vicinity of the resort complex. Parking management efforts would not be a feasible or effective method for reduction traffic due to the project's isolated location.

Mitigation Measures. The following measure is recommended by County policy:

1. The proposed visitor-serving facility should participate in improving the level of public bus service to the Big Sur Coast as recommended in measure #1 of the Traffic and Circulation section of this

TABLE 2.8
ESTIMATED DAILY EMISSIONS GENERATED BY THE PROJECT

Pollutant Type	Project Vehicle Miles Traveled Per Day[1]	1985[2] Emissions (grams/mile)	2000 Emissions (grams/mile)	1985 Daily Project Emissions (Short Tons Per Day)	2000 Daily Project Emissions (Short Tons Per Day)	Total 1976 Daily Monterey County Transportation Emissions[3] (Short Tons)
Carbon monoxide	9.75×10^3	12.89	8.27	0.14	0.09	196.51
Nitrogen oxides	9.75×10^3	2.40	1.50	0.03	0.02	29.28
Sulfur oxides	9.75×10^3	0.21	0.21	0.002	0.002	1.78
Particulates	9.75×10^3	2.33[4]	2.30[4]	0.02	0.02	4.52
Total Hydrocarbons	9.75×10^3	1.08	0.81	0.01	0.008	29.07

[1]Assumes 650 trips/day from the project x 15 miles/trip = daily project vehicles miles traveled.
[2]Emission factors are from the EMFAC 6C emissions program as provided by the Bay Area Quality Management District (1981). Average speed is assumed to be 45 mph.
[3]Source: Air Resources Board, Sacramento, 1976 inventory. Annual average daily mobile emissions rate for County.
[4]Includes particulates emitted by auto exhaust, tire wear and dust entrainment from paved roadways.

EIR. For special events at the resort's seminar center, bus service would need to be expanded in order to become a viable transportation alternative. Increases in ridership and increased subsidies would be necessary to expand service and meet the differing transit needs of both residents and visitors (4.1.3 [D.2]).

2.9 PUBLIC SERVICES AND UTILITIES

2.9.1 Sewage Disposal

Setting. The current disposal of sewage effluent generated within the Big Sur area is through private septic systems. Development of the proposed project would require the use of septic systems for sewage disposal.

The U.S. Soil Conservation Service (SCS) classifies the majority of soils on the property as having severe limitations to the use of septic systems due to excessively steep slopes and shallow soil depths. One soil type has slight constraints for the use of septic systems; however, this soil occurs in the area adjoining Little Sur River that has not been proposed for residential development. The SCS has identified the possibility of utilizing special septic systems in constrained areas to increase the size of the absorption field.

The County Health Department has expressed concern about the deterioration of ground water quality within the area, maintaining that, unless adequate precautions are implemented, increasing intensity of development would create a potential for higher nitrate levels in ground water. Specific concerns of the County Health Department with the proposed project relate to areas with high water tables near Little Sur River and the areas of Aquajito Shale in the southwestern portions of the site. The Department feels that septic systems in these areas could increase the potential for deterioration of ground water (Friedrich, 1984).

In general, Monterey County follows the policies and regulations of the Regional Water Quality Control Board (RWQCB) when considering the use of septic systems. Individual septic systems serving up to five units can be developed through permit from the Health Department; systems serving more than five units, community septic systems, or package treatment plants require a discharge permit from the RWQCB.

Potential Impacts. The project sponsor proposes to use individual septic systems for the single-family residential units. Effluent would be discharged by a leach field system. For leach fields, the systems would include two alternate fields located downslope of the residence on slopes less than 30 percent. This type of system would serve all of the proposed residential sites as well as the future restaurant in area 4.

The conceptual plan for water supply and sewage treatment indicates the proposed locations for leachfields to be used for wastewater disposal. The mapping for the Little River Hill and restaurant location (site 4) locates a leach field in soils described as dune land and rock outcrop by the SCS. In

general, these soil classifications are inappropriate for septic systems. Wastewater disposal plans for this particular area could result in improper treatment of wastewater flows. Further analysis of potential effluent treatment and disposal for this area would be necessary prior to specific project planning.

Sewage generated by the 100-unit inn complex would be served by a package treatment plant. A wet weather storage pond of 10 acre feet could be situated in one of the existing smaller gullies which would be dammed to provide the storage capacity required for 120 days of wet weather. In addition, an effluent spray field of 33 acres would be provided in the existing pasture north of the large gully to dispose of treated wastewater. If a spray system proves unfeasible, conventional leach lines would be installed as an alternative.

Mitigation Measures. The following measures are proposed by the project sponsor to offset potential adverse effects:

1. Leach field sewage effluent disposal systems are proposed. Each system would be used in the location to best meet the requirements of County Code and State Public Health regulations.

2. To avoid serious impacts due to system failures, dual leach field systems are proposed.

3. A detailed analysis would be performed to determine the most appropriate type of effluent disposal (spray system or leach field) and the best location for disposal of treated effluent.

The following measures are recommended by County policy (Little Sur River PWM Plan, pages 78-80) to protect environmental resources:

4. Regular pumping for preventive maintenance of systems should be required and enforced through the CC&Rs for the project. Inspection risers should be installed for proper monitoring and maintenance of systems.

5. Location of septic systems should be permanently and well marked to provide greater ease of access for inspection and cleaning.

6. The bacteriological quality of the Little Sur River should be maintained within acceptable standards for body contact sports.

7. Monterey County should enforce the following provisions of the Septic Tank Ordinance, Zoning Ordinance and Building Code for controlling the construction of new septic tanks and leach fields:

   a. new septic systems should not be allowed within 100 feet of the river or any perennial tributary;

   b. septic systems for new development should be prohibited on slopes exceeding 30% and on landslides;

   c. septic systems should be prohibited in areas with groundwater within 10 feet of the bottom of the proposed leaching device;

   d. required watertable determinations and percolation tests shall be conducted only during the rainy season (December - March) when necessary as determined by the Department of Environmental Health;

   e. a minimum parcel size of one acre should be required for all new developments requiring septic systems;

8. Monterey County should enact an ordinance to require the inspection of septic systems by a licensed septic tank contractor before permitting the sale of existing developed properties.

9. The County Health Department should require the recreational facilities to comply with the provisions of Monterey County Code Title 15.04 so as to stay within the safe limit of occupancy.

In addition to the above, the following measures are recommended by the environmental consultant:

10. All septic systems should be designed and sited so as not to contribute to contamination of ground water and surface water supplies. Particular attention should be paid to the design and siting of septic systems located in the Little River Hill of the ranch.

Draft EIR
El Sur Ranch
PC-4898
April, 1984

94
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2.9.2 Water Service

Setting. At present, several springs and wells provide domestic water supplies for the El Sur Ranch. Water requirements involve supplies for Ranch personnel and cattle. Springs on the Ranch also supply water to the U.S. Naval facility.

The Little Sur River Protected Waterway Management Plan identifies twenty seeps and springs on or near the El Sur Ranch. Wells serving the ranch are located:

1. at the Little Sur River, about 50 gpm,
2. at the Dairy Barn, about 1 gpm,
3. in the Morro Field between Highway 1 and the ocean, about 20 gpm, and
4. in Swiss Canyon, about 20 gpm.

There are several wells on land near the mouth of the Big Sur River that was given to the State of California but with water rights retained by the El Sur Ranch. One well on this parcel produces about 1,200 gpm. Another well in this vicinity produces about 50 gpm.

More recently, several wells were drilled in Molera Park on land used by the State of California. Of four wells drilled, two are for use of El Sur Ranch, one of which produces about 2,000 gpm and the other about 250 gpm.

Water storage facilities on the Ranch are limited to two tanks east of Highway 1 near the Dairy Barn and one tank in Swiss Canyon. The twin tanks serve the Naval facility; the Swiss Canyon tank provides water to the Ranch headquarters.

Potential Impacts. The proposed development would require domestic water service from various sources on the El Sur Ranch. In the Little River Hill and proposed restaurant areas, water for domestic and fire protection in sites 4, 11, and 12 could be supplied from a well below Little River Hill, near the Government Spring. Water would be pumped uphill to a 150,000-gallon storage tank near site area 12a (supplying 14-27 residences and a restaurant). Water would flow by gravity to site areas 4 and 11a and 11b. A pressurized line would provide water to site area 12b.

Site 13 would be supplied from a stream bank well in the south fork of the Little Sur River. Water would be pumped uphill to a 120,000-gallon storage tank supplying the 6-8 proposed residences.

In the Steer Pasture and Swiss Canyon areas, water for domestic use and fire protection in site areas 18 and 20 would be provided from two sources. Units within the Little Sur River South Fork Watershed would be supplied from a well in the stream bank of the South Fork. Water would be pumped to a tank at elevation 1400±. Water would flow by gravity from the 120,000-gallon storage tank to supply 12-21 units. Water would be pumped uphill to a 150,000-gallon storage tank at elevation 1500, serving 19 units. To hide the tank from the trail at Molera State Park, an 8-foot high by 55-foot diameter tank is proposed. This tank could be set partially below the ground and screened by berms and vegetation. Because there is no adjacent area 100-feet or more higher than the first residential sites, a pressure system down to 1400-foot elevation will be required (see attached section). Below 1400 feet, a gravity system would supply the remaining units on site 18.

Sites outside this watershed as well as site areas 16, 17, 19 and 22 and Ranch headquarters would be supplied by springs above Swiss Canyon. If the springs in the upper portion of the Swiss Canyon prove insufficient to supply all sites outside the Little Sur River watershed, an alternative scheme is possible. Water for sites 19 and 20 (7-13 units) would be gravity fed from site 20 (which is supplied by the well on the bank of the south fork of the Little Sur River). Since these sites are outside the Little Sur watershed, discharge from the septic tanks would be pumped uphill (400 feet vertically and approximately 2500 feet horizontally) to leach fields on the slopes above the south fork of the Little Sur River. This procedure would provide recharge into the appropriate watershed. Water for sites 16 and 17 (3 units) and the Ranch headquarters would then be supplied by the existing well in Swiss Canyon.

Site 8 would receive its domestic and fire protection water supply from an existing well in the Molera grazing area to be deeded to the ranch. This well supplies 1200-2200 gpm according to U.S. Soil Conservation Service information. An additional backup well supplying 20 gpm would be available for use should the need arise. The existing well at elevation 40± would pump water to two 150,000-gallon storage tanks above the Dairy Barn at elevation 240±. Water would then flow by gravity to the inn complex.

In order to provide adquate water supplies and fire flows, water tank sizes are based on the assumption of a fire flow requirement of 500 gallons per minute for four hours for residential and 2000-2500 gpm for inn use, with 120,000 gallons minimum storage. Domestic usage is assumed to be 75 gallons

per day per person (300 gallons per household per day). The total annual domestic water requirements for the range of proposed residential units would be approximately 17.1 to 32.9 acre-feet. This figure does not provide for garden irrigation and suggests the need for a grey water system or the development of smaller springs to provide for such needs. All pumps would operate by electricity with backup diesel engines in emergencies. Power could by supplemented eventually by solar or wind facilities.

Mitigation Measures. The following measure is proposed by the project sponsor to offset potential adverse effects:

1. The project sponsor would include all improvements required to meet State, County and Fire District requirements.

The following measures are required by the County to protect environmental resources:

2. Potable water systems should be tested at least twice a year (staff and fiscal constraints permitting), standards applied and enforcement action taken, if necessary, by the Monterey County Environmental Health Department.

3. Potable water systems which collect surface water from springs and/or tributaries should receive adequate treatment for the protection of public health.

4. County standards for fire flow pressures and volume must be met.

5. Landscaping should be done with drought-resistant native coastal plant species to minimize irrigation requirements.

2.9.3 Public Schools

Setting. The ranch lies within the Carmel Unified School District. The schools in this district and their current enrollment are:

School	Grades	Enrollment	Capacity
Captain Cooper School	K-5	55	90
River School	K-5	350	500
Carmel Middle School	6-8	530	800
Carmel High School	9-12	830	1,000

The enrollments of the schools listed above and the District in general are declining; the school district expects this trend to continue for the foreseeable future (Rand, 1984).

Potential Impacts. The School District has found that the generation factors used for projecting future enrollment increases from new development are not applicable to single family uses in the Big Sur area. Thus, estimation of the number of new students from proposed residential uses on the ranch would be unreliable.

Given the current and anticipated circumstances surrounding enrollments in the school district, the proposed development would not create any significant impact on the Carmel Unified School District. The District is currently below its capcity and could easily accommodate any new students generated by the development (Rand, 1984).

Mitigation Measures. None are proposed.

2.9.4 Fire Protection

Setting. The Mid-Coast Volunteers of Big Sur is the fire protection agency closest to the project site. The volunteers are located throughout the Big Sur area and initially respond to calls for structural fires. There are volunteers and three trucks located in Big Sur. The available equipment includes three small pump trucks with tanks. The trucks' capacities are:

Pump (Gallons Per Minute)	Tank (Gallons)
1) 375	250
2) 85	300
3) 500	500 (4 wheel drive)

Since there is no fire station at Big Sur, this equipment is stored at the residences of various volunteers.

The distance from Big Sur to the Little River Hill area on the ranch is approximately 7 miles. Response time to this part of the ranch would depend upon the location of the nearest fire engine and volunteers.

In addition to the protection provided by the Mid-Coast Volunteers, assistance from the California Division of Forestry Carmel Hill station would be available and could be requested, particularly if there is a threat of wildland fire. The Carmel Hill station can send a battalion chief, 12 firefighters, two engines, and a bulldozer in response to emergency calls (Young, 1984).

In the event of high fire hazard during the summer and fall, air response from a CDF base in Hollister would be available if a structural fire threatened to become a wildland fire. Initial air response would involve sending two air tankers, one helicopter, seven engines, and two bulldozers (Young, 1984).

Potential Impacts. The project would increase the demand for fire protection services from the Mid-Coast Volunteer Fire District. In addition, fire hazards on the property, especially on the residential lot acreage, would increase due to intensified human use.

The proposed development would not result in any necessary increases in manpower and/or equipment for the Fire District. This development and any future nearby developments will, however, add incrementally to the level of service demanded of the District.

Mitigation Measures. The following measures are proposed by the project to ensure adequate fire protection:

1. The water system would be capable of meeting a fire flow requirement of 500 gallons per minute for four hours duration in residential areas and 2,000 to 2,500 gpm for the inn.

2. Proposed roadway improvement would accommodate emergency vehicle access.

The following measures are recommended by the County as part of its policy to protect environmental resources (Little Sur River PWM Plan, pages 76 and 77):

3. A permanent fire station is needed in the Big Sur area to protect against structural fires and to augment the volunteer companies.

4. Machine-constructed firebreaks which result in the exposure of bare mineral soil and in visual intrusions to the landscape should generally be avoided.

The following is an additional measure recommended by the environmental consultant:

5. Specific fire prevention measures (such as sprinklers, alarms, etc.) for visitor-serving uses should be incorporated into the design of these facilities during the appropriate phase of project planning.

6. The ranch, homeowner's association, restaurant and/or inn could jointly purchase fire fighting equipment up to and including a pumper or grass rig, local ranch occupants and residents could join the midcoast volunteers. Employees and residents should have CPR, emergency first aid training and smoke inhalation respirator equipment at the ranch, hotel and restaurant. The above should be facilitated by an emergency preparedness plan.

2.9.5 Police Protection

Setting. The project site would receive police services from the Monterey County Sheriff's Department. The project area would be patrolled by Beat 9, which extends from Laureles Grade west to Highway 1 and south along Highway 1 to the county line. The regular patrol in this area is a one-man unit 24 hours a day (Crespo, 1984).

Law enforcement problems in the Big Sur area consist primarily of auto and residential burglaries. Cabin burglaries also occur, usually by individuals searching for food and shelter. The Sheriff's Department also reports increasing incidences of robberies and rapes in the hotels and inns of the Carmel area.

Potential Impacts. The development would increase the patrol functions of Beat 9. However, no increases in manpower and/or equipment would occur because of the project. Burglary protection would be a great concern to the Sheriff's Department and to homeowners; hotel security would also be important to the department and to future visitors.

Mitigation Measures. The following measures are recommended by the Sheriff's Department to offset potential adverse effects:

1. To facilitate police protection services, the following measures should be incorporated into the CC&Rs for development of the Homeowners' Association rules and regulations:

    a. Levels of lighting, although muted to conform to the rural residential setting, must be incorporated into the project design to facilitate patrol performance.

    b. Landscaping should not limit visibility of homes for patrol purposes and residential security.

    c. Numbering of individual dwellings should be consistent.

    d. Home numbers should be at least four inches in size and provide a light on dark or dark on light contrast for visibility.

    e. Homes should be equipped with double deadbolts on doors surrounded by glass and single deadbolts on all other points of ingress/egress. Sliding glass doors should have auxiliary locks as should windows.

f. Residents who intend to incorporate alarm systems into their homes should, from the outset, be advised of the Sheriff's Department and Communications Department policies and asked to consult with representatives of these two departments prior to installation.

g. The entrances to the various development areas should contain a central residential kiosk map with coded residential locations to facilitate emergency response.

h. Due to the remote site locations and likely structural orientation for privacy, at the time of development. The Homeowners' Association should consider the establishment of private security.

i. Special hotel locks should be incorporated into the design of the proposed inn in order to ensure guest security.

2.9.6 Public Utilities

Setting. The Pacific Gas and Electric Company (PG&E) would provide electric services for the proposed development. Electric facilities currently extend along Highway 1 in the form of a 12-kv electrical line. Natural gas lines currently do not reach the project site (Torres, 1984).

Pacific Bell Company would provide telephone services. The Company has existing lines along Highway 1; the company line ends at the intersection of the Pt. Sur access Drive and Highway 1.

Cable television services are provided by the Monterey Peninsula Television Cable Company. Existing facilities extend as far south as Carmel Valley (Duckworth, 1984).

Potential Impacts. PG&E would need to extend their electric lines onto the project site. The requirements for such extensions are described in the Public Utility Commission's Rule #15C. The project would require the use of propane gas for space heating needs.

All utilities would have to run underground. PG&E, Pacific Bell and Monterey Peninsula Television Cable would all use one trench to reach the project residences. These utilities would use the rights-of-way developed for the project's roads.

None of the public utilities mentioned is operating at full capacity; PG&E and Pacific Bell could easily serve the subject property. The television cable company could serve the project through the installation of a satellite receiving antenna. The company would prepare a feasibility study after the number of connections has been established.

Mitigation Measures. None are proposed.

2.9.7 Energy Conservation

Setting. The project area has a Mediterranean climate and well-defined dry and rainy seasons. Average temperatures vary from approximately 35°F to 55°F in winter and from approximately 45°F to 70°F in summer. Rainfall is normally concentrated in the months of November through April when approximately 90 percent of the precipitation occurs. Almost 60 percent of the rainfall occurs during a three-month period, from December through February. Diurnal air flow patterns are quite noticeable in the project area with onshore winds during the day and offshore winds during the night (U.S. Department of Agriculture, 1977).

Fog is common during the summer along the coast. In winter, frontal storm systems frequently cause a cloud cover to persist for periods of up to three days. Longer cloudy periods are rare. Heating degree days,[1] which are measures of requirements for space heating, average 2900 annually for the Monterey area (Lawrence Berkeley Laboratory, 1978). By comparison, Truckee has 7500 heating days and Palm Springs has 1232.

Microclimates on the El Sur Ranch range from shoreline to more protected inland conditions. Microclimate may be defined as the local expression of regional climate as modified primarily by landforms, altitude and vegetation. Wind, precipitation and temperature are all subject to these influences.

There may be slight variations in wind direction and temperature on the project site caused primarily by topography and vegetation. Wind speeds are greatest on ridgetops; as much as 20 percent higher on ridges than in the lower elevations. In addition, winds are greater along the unprotected shoreline than in the more protected, upland areas.

Slopes can substantially affect temperature. During evening hours, on steeper slopes such as occur in the eastern portion of the site, cold air flows downslope, much like a river, and settles into low areas unless impeded by landforms or dense vegetation.

Slope aspect also affects temperature substantially. In the northern hemisphere, south-facing slopes have generally the highest ambient air temperatures. Because the sun is in the southern sky, south slopes are most

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[1] Heating degree days are calculatead by subtracting the average outdoor temperature on a given day from 65°F (the point at which most people's furnaces turn on). Every degree of difference equals 1 degree day.

nearly perpendicular to the sun's rays, and therefore, can capture a greater amount of winter solar radiation than other slopes can. East- and west-facing slopes have higher temperatures in summer and lower temperatures in winter. North-facing slopes have the coolest air temperatures as they receive little sunlight. Frost pockets are more likely to occur at the base of north slopes because of these colder temperatures.

Portions of the Ranch containing stands of trees may have a substantial amount of sunlight blocked. A forest generally absorbs 60-95% of total solar energy received. While this vegetation blocks a substantial amount of sunlight, it can also aid in blocking winds from portions of the Ranch.

Potential Impacts. Three basic approaches to energy conservation are applicable to new development: siting and orientation of development in relation to local and climatic conditions, use of alternative energy sources, and use of energy-efficient construction methods and landscaping materials.

Except for development zones 4 and 8, proposed development zones where residential uses are proposed are located on ridgetops where solar exposure would be greatest. However, some of these zones also include north- and south-facingslopes. South-facing slopes capture the greatest amount of solar exposure and thus, are the most desirable from an energy-conservation standpoint. Structures on north-facing slopes would experience substantially cooler temperatures. Development zone 4 is located at the base of a north-facing slope and solar exposure would be limited. Development zone 8 would be located in pine/cypress groves and portions of this zone would be at the base of north-facing slopes. Solar exposure in this zone would be limited by these factors.

Most of the ridgetops are covered by grasses while trees occur primarily in adjacent or nearby drainages. Therefore, shading by trees would not be a problem in most of these development zones. However, the cooling effects by winds would be greater on the ridgetops and therefore, these areas would tend to be subject to more extreme temperatures and weather conditions than the more protected low-lying areas.

Orientation of buildings has a significant effect on fuel conservation. In general, to gain maximum benefit from the sun, homes should face within 20 degrees east or west of true south. However, because mornings are often foggy in the project area, a slight southwest orientation may be advantageous because generally more sun is available in the afternoon than in the morning. Sunlight may be blocked during certain times of the day from portions of the site irrespective of vegetation or slope aspect. Solar energy for space

heating can be used with an auxiliary heating system to accommodate such conditions and periods of prolonged cloud cover (2-3 days). Both passive and active systems could be incorporated into project structures. Design and construction features to optimize passive solar performance are listed as mitigation measures in this section.

In general, the optimal building locations on the project site from an energy-conservation standpoint would be on south- or southwest-facing slopes where trees do not occur and where residences would be protected from high winds. In these locations, homes would have maximum solar exposure. However, it appears that it probably would not be feasible to develop residences at such locations due to topographic and geotechnical constraints. Where such hazards would preclude development on these slopes, residences should be located (to the extent feasible) wherever a south or southwest exposure is available and there is some protection from prevailing winds.

Activities such as clearing of vegetation, grading, construction and extension of utilities on the project site would all consume substantial amounts of energy. In general, more energy is used in these activities than would be used in years of operation of project buildings. In order for many of the residences to use solar heating, some clearing of vegetation could be required. A detailed analysis of shading by trees would have to be conducted to determine the number of trees that would need to be removed.

Mitigation Measures. The following measure is required by County policy to offset potential adverse effects:

1. The California Administrative Code (Section 2-5351) requires that:

   a. Residential buildings be designed to use no more British thermal units (Btu) of energy from depletable sources than that specified in Tables 2-53R and 2-53S for the appropriate building type and climate zone. For single-family dwellings and lodging houses on the project site (climate zone 3), the total annual space conditioning budget would be 15.1×10^3 Btu per square foot of conditioned floor space (12.3×10^3 Btu for space heating and 2.8×10^3 Btu for space cooling) and the annual water heating budget 2.08×10^7 Btu per dwelling unit.

   b. New buildings shall also meet the requirements of Sections 2-5352 (Mandatory Features and Device), 2-5306 (Heating, Ventilating, and Air Conditioning Equipment), and 2-5307 (Water Heating Equipment).

In addition, the following measures are recommended by the consultant:

2. To the extent feasible, homes should have a southern exposure and should face within 20° east or west of true south in order to gain maximum benefit from the sun.

3. Homes should be oriented as close to an east-west direction as possible. There should be no more than a 30° variation north or south of this east-west axis.

4. Homes should include south-facing glass to allow maximum solar heat gain. Windows should be insulated at night in order to contain heat within the structure.

5. Homes should include thermal mass for storage of heat. This might include walls and/or floors constructed of masonry materials or use of interior water walls.

6. Warmer rooms (living room, dining room and study) should be located on the southern sides of structures and rooms that can remain cooler (bedrooms, kitchen, etc.) should be located together in another section of the structure.

7. Solar access should be protected by siting homes and landscaping so that they do not block the sun's rays, especially in winter. However, solar access should be balanced with wind exposure to minimize excessive cooling by winds.

8. Drought-resistant species for landscaping should be used to conserve water so that less energy would be required for the pumping and distributing water.

2.10 ARCHAEOLOGICAL/HISTORIAL RESOURCES

Setting. A records search and field reconnaissance was conducted for the proposed project by Rob Edwards, consulting archaeologist and Archaeological Consulting in September, 1983.

The research revealed there are several archaeological sites known to exist within or immediately adjacent to the project boundaries. There are six sites located in the vicinity of the Big Sur River. Three of these are located within the El Sur Ranch (CA-MNT-196, CA-MNT-197, and CA-MNT-73), two of the sites (CA-MNT-195 and CA-MNT-492) are located on a parcel which is scheduled to be transferred back to the El Sur Ranch, and the remaining site (CA-MNT-74) appears to be located on State Park lands just outside Ranch boundaries.

Files maintained by Archaeological Consulting indicated three areas which were rumored to contain archaeological resources and all three areas were in the vicinity of the Little Sur River. In addition, various archives identified a possible site in the False Sur vicinity.

General surface reconnaissances were conducted by Rob Edwards and Archaeological Consulting in the potential development areas as well as those areas where archaeological resources were previously identified or rumored to exist. Only two new prehistoric archaeological sites were located within potential development areas during the field reconnaissance. One was in the False Sur vicinity (field number H-675) while the second was near the south end of Old Coast Road (east of Swiss Canyon; field number G-1). In addition, two historic structures were identified, one structure, a fallen-in cabin, was located in the Dani Ridge vicinity whie the second structure was standing and loated in the Little Sur River vicinity.

Additional subsurface investigation was conducted at the site located in the False Sur vicinity. In this detailed investigation, several different specialized techniques were utilized, including as follows: (1) general surface collections; (2) intensive surface collection units; (3) excavation of archaeological units; (4) excavation of auger units; (5) excavation of shovel test units. Preliminary results of this investigation will define the limits and significance (or uniqueness) of this site. Scientific and technical details, still at a preliminary level, will be reported separately at a later date. However, these details are not critical to management recommendations and are not essential at this stage of project planning.

The archaeological site in the False Sur vicinity (CA-MNT-1215) was found to be the first quarry/reduction site within the Esselen cultural area ever to be scientifically studied. Preliminary analyses show the site to be characterized by considerable depth and a good degree of intra-site variability. These studies have also shown that the lithic materials reflect evidence both of intense fire and at least three separate reduction techniques; together, these techniques prbably constitute a single specific reduction technology utilized by the prehistoric population. This site is considered significant and unique as defined by guidelines utilized by the Coastal Commission and by CEQA.

The three areas in the Little Sur River vicinity rumored to contain sites were examined. These were: (1) a possible northern extension of CA-MNT-1019; (2) a rumored Indian burial ground encountered during construction of the Little Sur Bridge; and (3) a rumored site noted by a circle on field maps maintained by Archaeological Consulting. No cultural materials could be located within these areas.

These archaeological sites are associated with the Esselen, one of the least numerous of the California Indian groups and possibly one of the first to have become extinct. The Esselen lived in the rugged Santa Lucia Mountains, which are characerized by jagged peaks and steep canyons. In response to these conditions, the Esselen appear to have frequently utilized ridgelines for travel, avoiding most of the narrow and steep coastal canyons. Occupation sites within one mile of the intertidal zone indicate use primarily for exploitation of marine resources, while occupation sites in the interior indicate use mostly for gathering and vegetal processing activities.

Based on field surveys, there appear to be very few occupation sites between the Big Sur and Little Sur Rivers. In addition, there appears to have been little utilization of the ridge areas. In all of the ridge areas examined in this study, only one small, two-hole bedrock mortar site was located. Recorded sites on the El Sur Ranch or within its vicinity consist mostly of small coastal gathering sites containing worked flakes (lithic scatter), projectile points, cooking stones, hammer stones, shells, and loaf stones. There are two possible reasons for the absence of sites in the project area: (1) sites are located on unsurveyed coastal lands scheduled for donation to and inventory by the Department of Parks and Recreation; or (2) this area falls into a previously postulated bilingual and bicultural zone, separating northern Esselen from southern Costanoan, used for trading, meeting, resource gathering and other related activities rather than as a permanent occupation area.

Potential Impacts. The conceptual development plan for the El Sur Ranch proposes a lodge complex and/or building clusters in the vicinity of site CA-MNI-1215 (the False Sur vicinity). Such development could directly damage this archaeological site. Indirect impacts would likely result from increased foot traffic and resultant increased erosion as well as from other recreation-related activities. Since archaeological evaluation has shown this site to be significant, any damage from construction-related activities will have to be accompanied by archaeological mitigation as specified by law.

In addition, depending on the ultimate location of project residences, roadways and drives, the two-hole bedrock mortar (G-1) found near the south end of Old Coast Road could be directly affected by proposed development.

There are six previously recorded sites in the Big Sur River vicinity, of which at least two (CA-MNT-492 and CA-MNT-195) are located on a parcel currently owned by the State Department of Parks and Recreation but scheduled to be transferred back to the El Sur Ranch. The Ranch well and the U.S. Navy's well are both located on this parcel. Whether these sites would be adversely affected by the proposed project will depend upon the type of use ultimately planned for this area. The four remaining sites in the Big Sur River vicinity (three on the El Sur Ranch and one on State park lands) are located away from any proposed development. Therefore, no impacts on these cultural resources would be anticipated.

There are two El Sur Ranch structures with potential historic value. One, the fallen-in structure in the Dani Ridge vicinity, was not recorded due to its poor condition and the lack of precise historical data on it; However, this information could possibly be obtained. The second, the standing structure in the Little Sur River bridge vicinity, also has potential historic value. Since this structure is located in an area that will be acquired by the California Department of Parks and Recreation, implementation of any mitigation measures would become the responsibility of that agency.

Mitigation Measures. The following measures are required by County policy (Big Sur LUP) to offset potential adverse effects:

1. New development shall, where appropriate, protect significant historical buildings, landmarks, and districts because of their unique characteristics and contribution to the cultural heritage of the County (3.10.1.2).

2. The County shall provide for mitigation of site and artifact disturbance in County-approved projects through careful survey of project sites and consideration of project alternatives to preserve historical landmark sites and districts (3.10.2.12).

3. The County shall maintain an identification survey and inventory program of historical sites and shall maintain a registry program to protect and preserve historical landmark sites and districts (3.10.2.3).

4. Designated historical sites shall be protected through zoning and other suitable regulatory means to ensure that new development be compatible with existing historical resources to maintain the special values and unique character of the historic properties (3.10.2.4).

5. All available measures, including purchase of archaeological easements, dedication to the County, tax relief, purchase of development rights, etc., shall be explored to avoid development on significant historic, paleontological, archaeological, and other classes of cultural sites (3.11.2.2).

6. When developments are proposed for parcels where paleontological resources or archaeological or other cultural sites are located, project design that avoids or substantially minimizes impacts to such cultural sites shall be required. To this end, emphasis should be placed on preserving the entire site rather than on excavation of the resource, particularly where the site has potential religious significance (3.11.2.5).

7. When insufficient planning flexibility necessitates construction on paleontological, archaeological or other type of cultural site, adequate preservation measures shall be required. Mitigation shall be designed to accord with guidelines of the State Office of Historic Preservation and the State of California Native American Heritage Commission (3.11.2.5).

In addition, the following measures are recommended by the consultant:

8. Once a final plan is completed for the proposed project, but prior to actual development, a detailed Archaeological Management Plan should be formulated for site CA-MNT-1215 (in the False Sur vicinity). That plan should be based upon information and recommendations in the secondary subsurface archaeological reconnaissance (preliminary and final technical report) as well as the proposed construction plans. It should implement the following general recommendations in relation to the actual construction project:

a. As a general recommendation, development should be designed to eliminate impacts in high density areas of the site. If limited impacts are inevitable within these areas, excavation should be accomplished by hand by qualified professional archaeologists and accompanied by appropriate analyses.

b. An archaeological monitor should be present during any construction activities, landscaping, and/or tree removal within either the high or moderate desnity areas of CA-MNT-1215.

c. Erosion due to foot trails could badly damage certain portions of the site. Landscape design should either direct pedestrian traffic around and away from exposed portions of the archaeological site or utilize hardened footpaths (placed on fill) to protect the archaeological site from foot traffic. However, previous surface collection on the exposed terrace has, by removing a large percentage of the exposed lithic materials and subjecting them to an intense scientific analysis, reduced, in some areas at least, the potential for impacts from random collection, vandalism, foot traffic, etc.

d. Given the nature of windblown sands, it is possible that small activity areas may be concealed below surface in areas outside current CA-MNT-1215 boundaries. If new areas of site are found, construction should be halted until additional mitigation recommendations by a qualified archaeologist can be formulated and implemented.

9. Site G-1 (near the south end of Old Coast Road and east of Swiss Canyon) should be measured, recorded and photographed in detail by qualified archaeologists prior to approval of tentative map for subdivison of that area. If development proceeds in proximity to this site, the rock with mortars should be moved to another area, possibly onto park lands for use in interpretive displays.

10. If any development is planned for the parcel near the Big Sur River where the two wells are located, the recorded archaeological sites (CA-MNT-492 and CA-MNT-195) should be evaluated in detail to determine their nature, boundaries, significance, temporal spans, and cultural affiliations. To be of greatest value, this research should be conducted by a SOPA (Society of Professional Archaeologists) qualified archaeologist with documented research and excavation experience in Esselen territory.

11. The structures located in the vicinity of Dani Ridge and the Little Sur River Bridge should be evaluated for their historical significance. Additional historical research and site documentation should be undertaken if and when the owner of El Sur Ranch proposes specific ranch improvement at this location. Based on these data, appropriate mitigation measures should be recommended. The Dani Ridge structure would be located on the El Sur Ranch and such research should be the responsibility of the project sponsor. However the structure near the Little Sur River Bridge is located in an area proposed to be acquired by the California Department of Parks and Recreation. Historical evaluation of this structure and appropriate mitigation measures would be the responsibility of this agency.

3.0 ENVIRONMENTAL EVALUATION

3.1 CUMULATIVE IMPACTS

There are several developments in the Big Sur Coastal Area that are proposed or approved. The names and locations of these projects are shown in Figure 3.1. These projects are commercial land uses that primarily serve visitors. Although there are no other residential projects planned for the coastal area, 18 individual building permits were issued for the Big Sur Coastal Area in 1982 and 1983.

The residential development proposed for the Big Sur Coastal Area could generate a future demand for local residential-serving commercial facilities. Because most commercial facilities are concentrated in the communities of Big Sur and Carmel, as development of the area proceeds, a growing population will most likely demand more local commercial services.

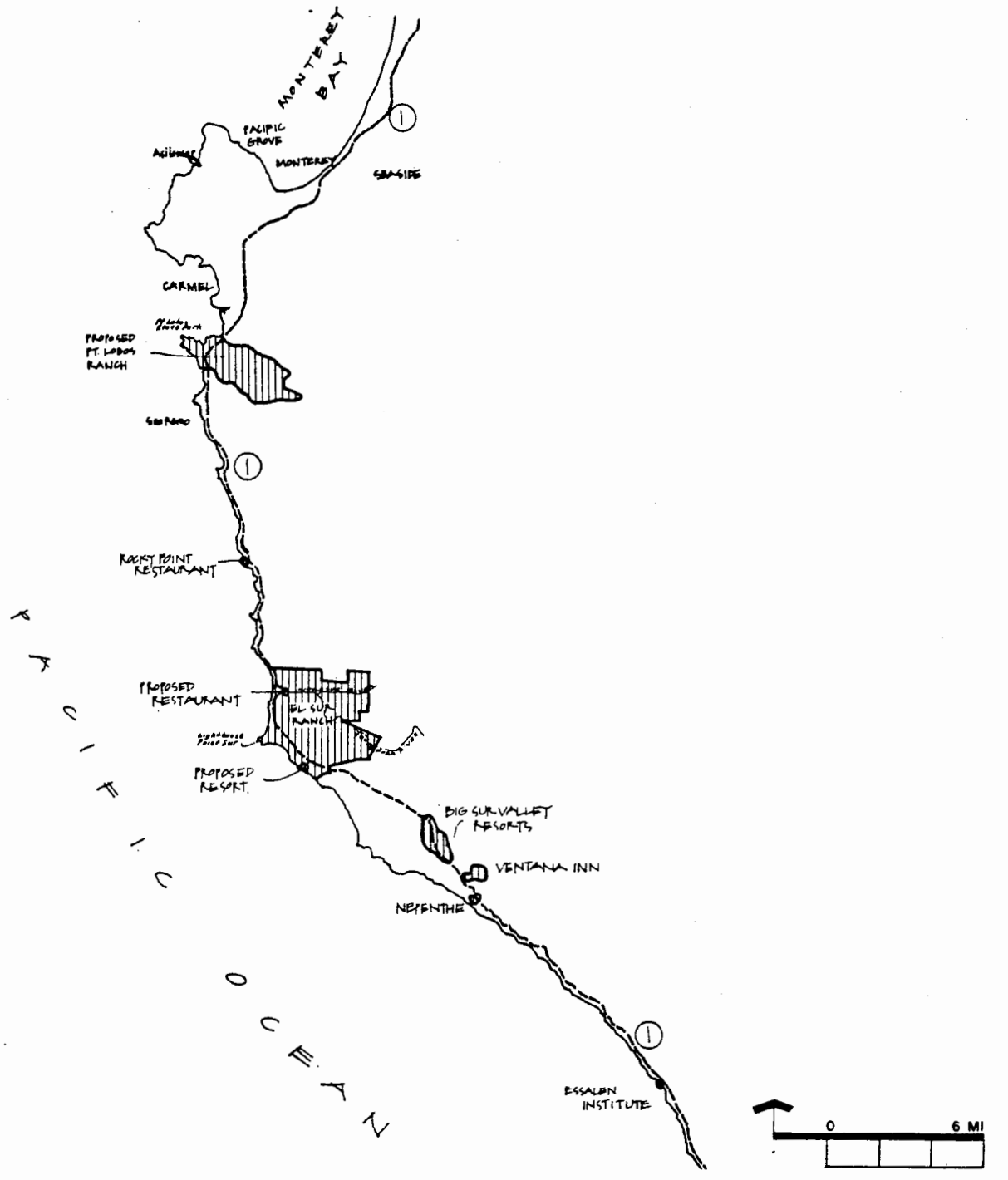
If more local commercial facilities are not provided, residents of future developments will have to drive to Carmel or the Monterey Peninsula for more extensive commercial services. In that case, cumulative residential development would generate increased traffic along Highway 1.

Along with increased traffic levels and congestion, air quality throughout the area would be degraded. The extent of air quality degradation would depend on meteorological conditions and the extent of traffic generated by new development. Also, future improvements in emission control devices would result in reductions of emissions per automobile and for the area in general.

There would be a cumulative reduction in natural open space. This reduction in open space would be most notable if the future commercial uses are limited to areas immediately adjacent to the highway. In addition, the conversion of these areas would have a substantial overall effect upon the natural character of the El Sur area.

The expansion of urban development would have no significant cumulative impacts upon the flood potential of the Little Sur River provided that densities of the proposed project conform to the densities specified in the Big Sur Coast Land Use Plan. Drainage improvements for these projects would have to comply with the specifications of the County Flood Control and Water Conservation District.

New development in the Big Sur Coastal Area would increase the need for water service and, consequently, induce additional withdrawals from local watersheds. The cumulative effects imposed by the planned development on domestic water supply could diminish the aquifer's reserve volume and should be closely monitored.



EL SUR EIR

EXISTING AND PROPOSED DEVELOPMENTS

FIGURE 3.1

Also, as residential development continues in the Big Sur area, a potential increase in the number of septic systems would increase possible surface water and groundwater contamination. The contamination of this source would create public health problems on a local scale. Some problems have already been documented. Careful planning and performance of detailed geologic studies could help minimize potential degradation by allowing more accurate placement and special design of septic systems.

Finally, it should be noted that the total number of allowable new visitor-serving units on the Big Sur coast is limited to 500. The project would result in the development of 100 units or 20 percent of the total allowed. The cumulative effects of the project would be the overall reduction of potential inn units to 400 inthe Big Sur area.

3.2 UNAVOIDABLE ADVERSE IMPACTS

The proposed development would have some adverse effects that can be only partially mitigated through project design or implementation of County policies. Specific environmental conditions thus affected include biotic resources, traffic and circulation, air quality, and visual quality.

The project would have some adverse effects upon the site's native vegetation and wildlife. The removal of vegetation and the diminution of the property's wildlife habitat are two impacts of this project upon the natural resources of the Big Sur area. Although some measures can partially mitigate such effects, modifications caused by development and increased public use cannot be avoided.

Increases in traffic and the secondary effects of traffic on air quality are also significant because these affect amenities that define the quality of life in the Big Sur area. Traffic impacts can be partially alleviated, and some recommendations have been made to mitigate these impacts.

The restaurant at site 4 could have a visible effect upon the rural character of the Big Sur area. These impacts would gradually become less noticeable as landscape vegetation matures, screening the proposed development. The extent of such effects would depend upon the time of landscape planting, schedule for development of facilities, and success of landscaping effects.

3.3 ALTERNATIVES

No Project. The no-project alternative implies that the El Sur Ranch would remain undeveloped at the present time. The adverse effects such as removal of vegetation, loss of habitat value, and changes in visual quality would not occur. The existing use of the property would most likely continue; however, increasing costs of operating the Ranch would probably require some type of development on the property in the future. Also, the provision of public access to coastal areas could be delayed indefinitely.

Alternate Conceptual Plan. A previous conceptual plan for development of the El Sur Ranch was prepared and included in the Little Sur River Protected Waterway Management Plan. This alternative centered on the provision of recreation and visitor-service uses on the Ranch. The facilities proposed as part of the conceptual plan included:

1. Inn and parking south of the Little Sur River with a restaurant either immediately north or south of the river.
2. Either tent campsites or an RV park.
3. Hunting lodge.
4. Private campground.
5. Fish hatchery.
6. Private hike-in camp.
7. Rustic cabins (8).
8. 200-room lodge in the False Sur area.
9. One to four estate sites in the Steer Pasture area of the Ranch.

The nature and extent of these recreational and visitor uses were guided by both the policies of the Local Coastal Program and the economics for continued operation of the El Sur Ranch.

The alternate conceptual plan stipulated potential logging in some areas adjoining the south fork of the Little Sur River. The plan also proposed brush clearance for additional pasture on Little River Hill.

This conceptual plan was intended to be consistent with the Big Sur Coast LUP. The conceptual plan recognized and responded to the distinct need for additional campsites and RV park sites along the Big Sur Coast, low cost recreational facilities, and more inn and motel space. The significant constraint with this development plan is that most of the proposed facilities near Highway 1 were within the highway's viewshed, which is not permitted by the LUP.

This plan would also result in conflicts with sensitive natural resources within the Little Sur River watershed. The proposed tent camp could have affected the first small tributary on the south side of the river. This would have had direct effects upon fisheries habitat, mature riparian vegetation, including redwoods, and erosion potential along the Little Sur River. In addition to these physical effects, this alternative would have led to more intensified use of certain areas on the Ranch, directly resulting in greater traffic, air quality and noise impacts than the currently proposed plan.

As a result of discusssions with State and local agencies, this alternative was modified to eliminate and/or minimize the potential effects of Ranch development. The modifications, including offers of Ranch areas for public acquisition, were direct responses to problems identified as part of this alternative.

Development with Reduced Density. The development of El Sur Ranch at densities lower than those proposed would diminish the extent of environmental effects discussed in this report. The level of reduction in impact would vary with the density proposed as an alternative. Two major possibilities were considered under this alternative. These are: 1) an inn and two restaurants, with no residential development; and 2) two restaurants and inn with limited residential use.

The development of only an inn and two restaurants would have limited additional environmental effects beyond those of the "No Project" alternative. The principal impacts of this alternative would be visibility from Highway 1, the potential location of a restaurant near a fault zone, wastewater disposal constraints, and increased traffic. The mitigations described in the report for these facilities would apply to this alternative.

The second reduced density alternative entails construction of the above facilities plus a range of residential uses. One possibility would be the development of only the Steer Pasture for residential use. The development proposal for this area involves a range of 24 to 47 single-family residential units. These numbers represent almost one-half to the full minimum number of residential units proposed by the El Sur Ranch Master Plan.

The second reduced density alternative would have many of the environmental effects discussed in this report. However, in comparison to the current proposal, focusing residential development in one location would reduce: grading; potential wastewater disposal constraints; residential traffic; exposure to geological hazards; the need for domestic water and roadway improvements; and erosion and sedimentation potentials in the Little Sur River watershed. This alternative would also facilitate grazing on other portions of the Ranch.

The principal disadvantage of both reduced density alternatives is the limitation of revenue generated by the two plans. It should be understood that the revenues produced by Ranch development would be used to ensure continued Ranch operation, as proposed in the development agreement. Thus, constraints on funds raised through development could jeopardize agricultural use of the Ranch in the future.

The minimum number of residential units was determined according to the anticipated costs for services infrastructure. Proposed reductions in the number of units planned for development may prevent residential development. This would similarly constrain future agricultural use of the Ranch.

3.4 GROWTH-INDUCING IMPACTS

The physical characteristics of the El Sur Ranch and the centralized design of the project's internal roadway system would generally deter the extension of proposed roads and the extension and possible expansion of public services and utilities to new developments. The development proposed by the El Sur Ranch Long Range Master Plan specifies on-site water and sewer services. Other utilities would be extended along the Old Coast Road to serve the future residential units. Any extension of these utilities from the road to adjoining properties would be limited by requiring easements through the ranch. Furthermore, the Old Coast Road already provides access and potential utility easement to properties north of the Ranch. Development of neighboring properties may occur regardless of the types of land use at the El Sur Ranch.

The implementation of the development agreement would lead to public acquisition of coastland from just north of the Little Sur River to Pt. Sur. While public access is a goal of the LCP, this element of the agreement would provide for intensified use of certain ranch areas at some future time. The expansion of public uses would result in the demand for additional visitor-oriented services. Although the development agreement specifies the construction of such visitor-serving facilities, it is uncertain whether the proposed inn and two restaurants would suffice. If the Ranch's visitor-oriented development has inadequate capacity, there would be increased pressure for additional visitor facilities. This demand would affect the El Sur Ranch locally and the Big Sur area in general.

The extent of the Big Sur area's growth potential is regulated by the Big Sur Land Use Plan. The Plan presents parameters for future development along the Big Sur coastal area. Therefore, the growth generated by the proposed project would be limited to the specifications of the Plan.

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LEVEL OF SERVICE DESCRIPTION - UNSIGNALIZED INTERSECTIONS

Source: Transportation Research Board, National Academy of Sciences, Interim Materials on Highway Capacity, Washington, D. C., 1980, pp. 40, and Highway Capacity Manual, Washington, D. C., pp. 7,155.

Level of service is a qualitative measure of the effect of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

For unsignalized intersections, the levels of service are defined as follows:

Level A:	Little or no delay
Level B:	Short traffic delays
Level C:	Average traffic delays
Level D:	Long traffic delays
Level E:	Very long traffic delays
Level EE:	Failure - extreme congestion. Traffic demand exceeds intersection capacity.
Level F:	Intersection blocked by external causes. Major street traffic backs up from a downstream condition and blocks the minor street such that the minor street vehicles cannot enter the intersection.

Typically, intersection capacity and signalization are closely related, because most key controlling intersections carrying heavy volumes on at least two intersecting legs are signalized. In a sense, then, capacities and the larger service volumes of unsignalized intersections may be considered of academic interest only: in practice, by the time such levels are reached at important intersections signals ordinarily will be installed.

An unsignalized intersection on a through route is seldom critical from a capacity standpoint. However, it may be of great significance to the capacity of a minor cross route, and it may influence the level of service on both.

LIST OF FIGURES

LIST OF TABLES

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TABLE OF CONTENTS

lsa

SUMMARY

This EIR identifies the environmental consequences of implementing a development agreement and rezoning for the El Sur Ranch. The proposed future uses on the Ranch involve continued ranch operation, limited residential and visitor-serving development, and ownership transfer of certain ranch lands to the State and conservation organizations.

The proposed development for El Sur Ranch consists of a (100-unit inn and visitor-serving facilities) and between 51 and 98 single-family residential sites distributed over the ranch. (A restaurant is proposed near the mouth of the Little Sur River.) denied at LSR site denied

Other integral parts of the project include the following:

1. The purchase and/or management of large beach and bluff acreage west of Highway 1 from north of the mouth of the Little Sur River to Point Sur (approximately 325 acres) and a portion of the watershed of the South Fork of the Little Sur River (about 893 acres, including a portion of the main stream) by the State of California for public use.

2. A variety of on-site and off-site access and other easements (96 acres) to be granted by the ranch to the State, and vice-versa.

3. Two surplus areas (250 and 9 acres respectively) of Andrew Molera State Park adjacent to El Sur Ranch would be deeded to the Ranch.

4. Phased afforestation of a portion of the coastal terrace south of Pt. Sur and reforestation in keeping with the Coastal Commission designation of "special forest treatment".

Augmentation of ranch facilities in the Dani Ridge and Serra Range areas could become necessary if the public park and easement corridor tend, by inhibition of operations, to isolate that area from the current headquarters.

The EIR describes the project, the existing environment, and the impacts resulting from the project. This report also evaluates cumulative impacts, unavoidable adverse impacts, growth-inducing impacts and alternatives. Potential effects and appropriate mitigation measures identified in this report are summarized in this section. Immediately following the summary of impacts and mitigation measures is a list of County policies with which the project either does or could conflict.

THE ENVIRONMENTAL IMPACTS ARE:

POTENTIAL IMPACTS	MITIGATION MEASURES
1. Proposed building areas 4, 11, 13, 18, 19, 20 and 22 would be located within 1/8 mile of the various fault systems on the site. The Land Use Plan classifies such areas as high seismic hazard areas and generally unsuitable for development.	A geotechnical investigation should be done on all proposed building sites when proposed for development. The detailed assessment should include fault investigations in areas 4, 11, 13, 18, 19, 20,, and 22. Setbacks should meet County specifications for adequate safety from seismic hazards.
2. Mass wasting effects such as soil creep, block slides, and debris flows could affect building sites in areas 4, 8, 11, 13, 16, 17, 19, and 22.	The detailed geotechnical investigation should include landslide and slope stability evaluations for areas 4, 8, 11, 13, 16, 17, 19, and 22 at time development applications are submitted to the County.
3. The potential for soil liquefaction and densification is significant at sites 4 and 8 near the Little Sur River and in areas with loosely compacted sand.	When development and construction are proposed, liquefaction studies should be performed for areas 4 and 8.
4. Grading and vegetation removal for constructing homes and roads would increase the potential for erosion on the Ranch. Highly or very highly erodible soils are found on all building areas.	Erosion control plans should be developed to minimize erosion during home and road construction. Special erosion control measures should be required on all building areas continuing highly or very highly erodible soils and any roads crossing these soils.