

V O L U M E 1



SUTRO HISTORIC DISTRICT
Comprehensive Design
and
Environmental Assessment

NATIONAL PARK SERVICE
GOLDEN GATE NATIONAL RECREATION AREA

SUTRO HISTORIC DISTRICT Comprehensive Design and Environmental Assessment

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PREFACE

This Comprehensive Design Plan and Environmental Assessment for the Sutro Historic District has been developed within the existing context of both national legislative mandates and National Park Service management policies. The Plan is a conscious effort to address **both** natural and cultural resources, because at this site the physical attributes and biotic systems of the larger landscape contribute to its historical significance.

Virtually all cultural landscapes evolve from and are dependent on natural resources--this is the message of the Sutro site. Further, the Plan has evolved in the context of "sustainable development" which embodies the intent of fulfilling the needs of current generations without limiting the ability of future generations to procure what they need to sustain themselves. It is a concept that recognizes that human civilization is an integral part of the natural world. Central to the concept of sustainable development is the idea that decisions from initial concepts through design construction are evaluated against principles of natural and cultural resource protection.

The Adolph Sutro Historic District is located in the Ocean Beach District of the Golden Gate National Recreation Area. The GGNRA was established by Congress in 1972 with the stated purpose to "preserve for public use and enjoyment certain areas of Marin and San Francisco Counties, California, possessing outstanding natural, historic, scenic and recreational values, and to provide for the maintenance of needed recreational open space necessary to (the) urban environment."

In 1992 the National Park Service authored a Statement for Management of the GGNRA which included objectives such as the identification, preservation and enhancement of cultural landscape values, considering the dynamics of natural systems and the need to maintain species diversity; the protection and enhancement of the natural processes and biological diversity found within the GGNRA, recognizing its unique position as part of a biosphere preserve in an urban setting; the minimization of human caused or accelerated impacts and processes including erosion, invasion by alien plants, degradation of air and water quality and disruption of the natural flow of water; and the location of development in areas previously disturbed by human activity whenever possible.

Future interpretive programs will be developed to explain the role of the GGNRA in preserving our natural **and** cultural heritage. They will provide for activities that are compatible with the preservation of park resources and that promote a better understanding of these resources for public recreational

benefit and inspiration. Nature is reestablishing its presence and in its continuing process of reclamation it is regenerating a floral and faunal diversity that is rare in an urban setting.

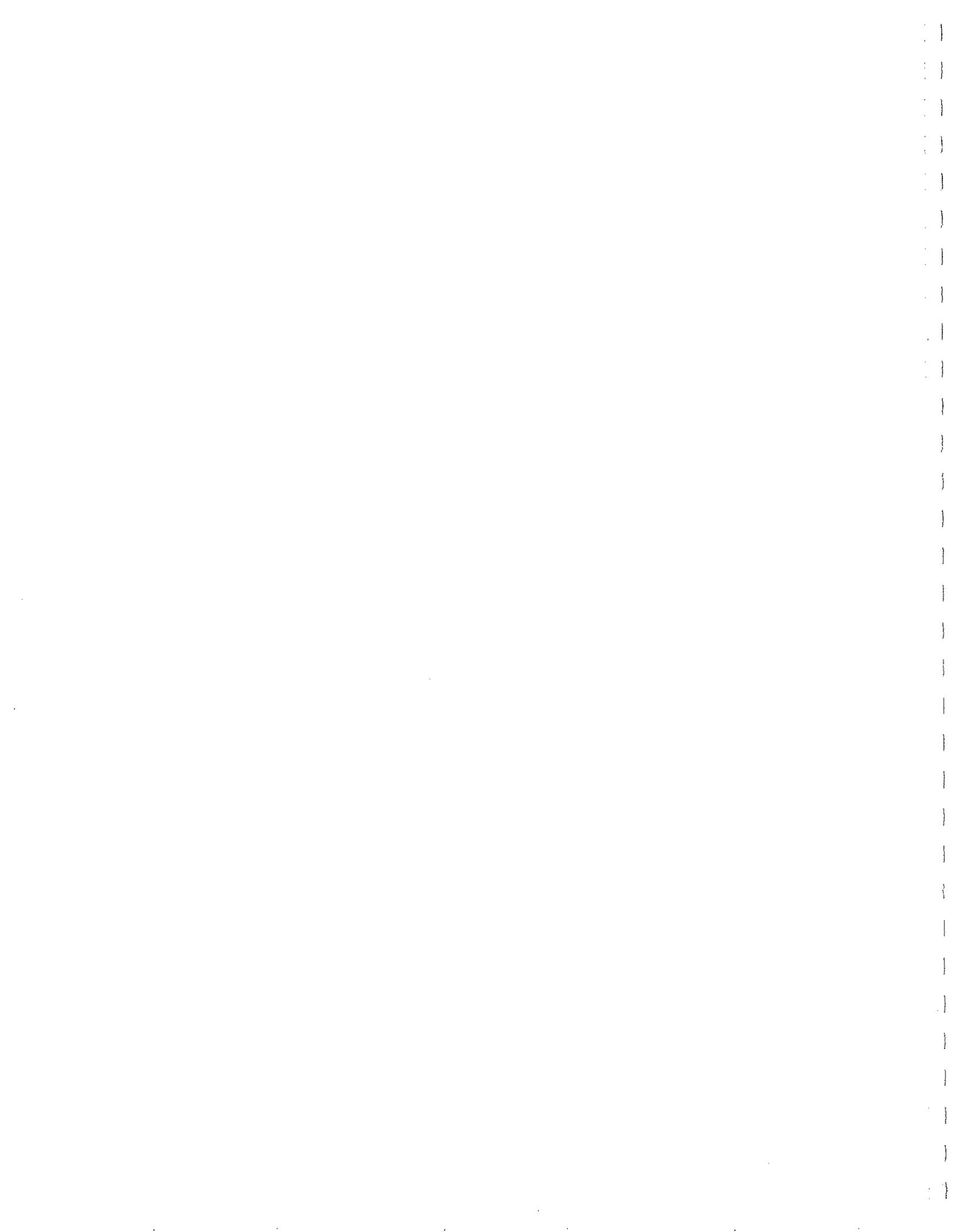
Through the juxtaposition and interpretation of both natural and cultural resources within the Sutro Historic District the public will gain an understanding and appreciation for the interrelationship of these unique values. Further, the site will inspire respect for the complex and delicate balance of these values which is required to ensure a sustainable future on the planet. The Plan functions as a lens which focuses on the special features of the site as well as a mirror which reflects the site's relationship with the region and the world.

In the NPS planning process, a Comprehensive Design Plan is an intermediate step between a General Management Plan and technical documents for the actual construction of a facility. It is a "master plan" level of detail where the location of elements and their relationship on the site are described. The specific design of facilities will be accommodated in future studies with a greater level of detail in regard to form and materials as well as potential environmental impacts.



"The monument, in short, is a guide to the future."

J. B. Jackson
The Necessity for Ruins



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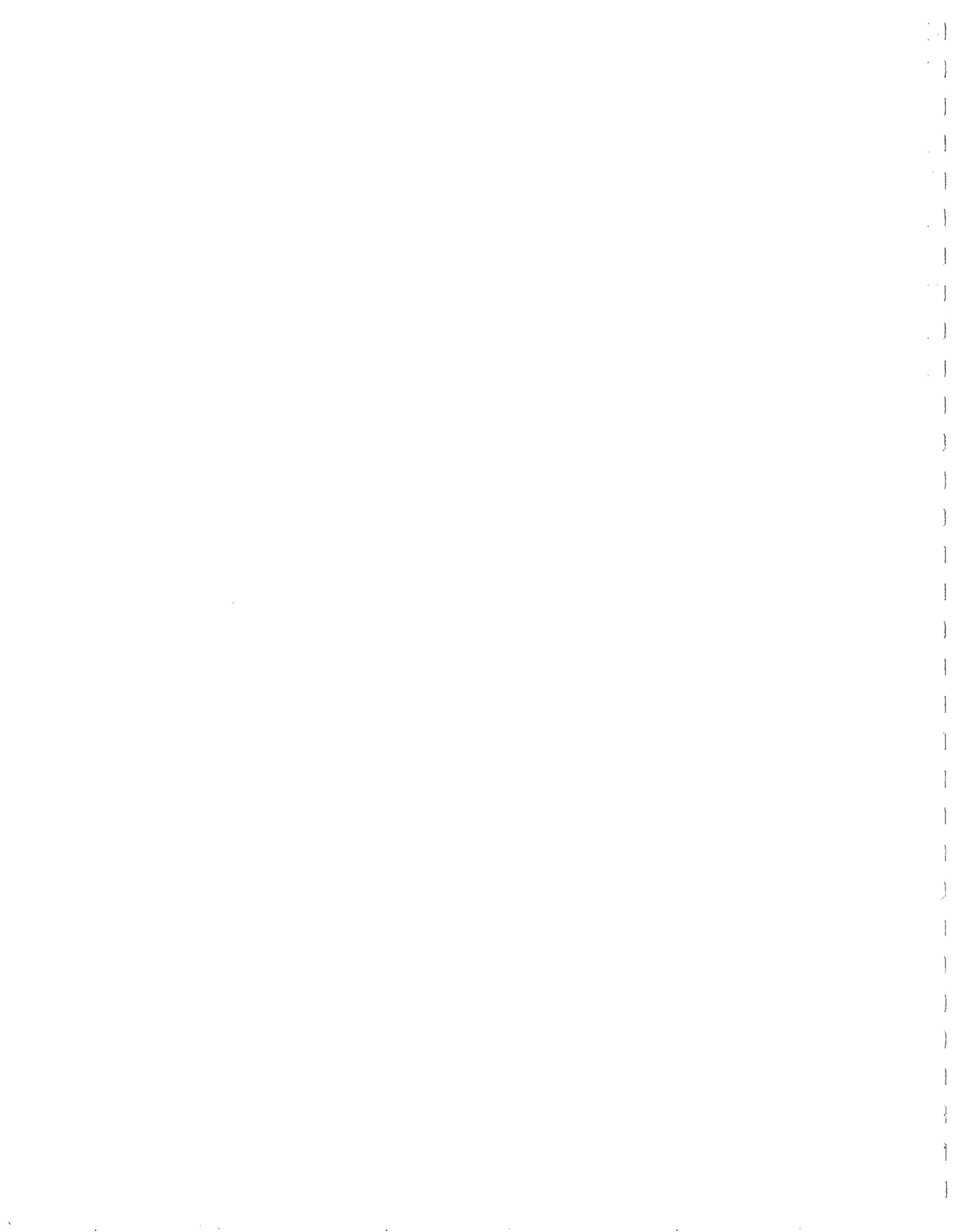
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COMPREHENSIVE DESIGN



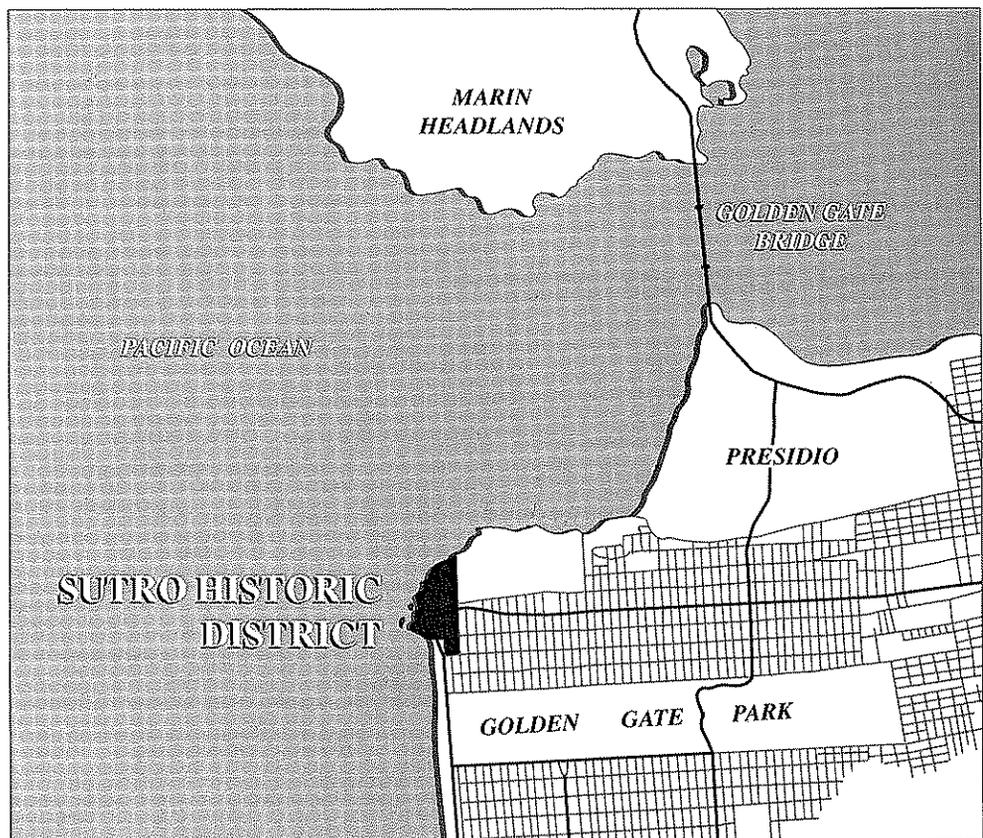
1. NEED FOR THE PROPOSAL

1.1 REGIONAL CONTEXT

The Sutro Historic District, located at the westernmost point of San Francisco, is part of the Golden Gate National Recreation Area which encompasses much of southern Marin County, central San Mateo County and spans the northern and western edges of San Francisco. It includes Baker and Ocean beaches, historic Fort Mason and Crissy Field, and will soon include the Presidio of San Francisco, 1,400 acres of extraordinary cultural and natural resources. The District is located north of Ocean Beach and south of Lincoln Park, a San Francisco City park. The western entry to Golden Gate Park is a half mile to the south, and San Francisco's Financial District is approximately seven miles to the east.

1.2 SITE CONTEXT

The area surrounding the Cliff House, Sutro Baths, Sutro Heights and the USS San Francisco Memorial Complex at Point Lobos is referred to as the



Regional Context



Aerial View of Sutro Historic District

Sutro Historic District (Figure 1-1). The Sutro District has been a major recreational attraction for over 100 years, since its development by civic leader Adolph Sutro in the 1880s. Its history, natural environment and spectacular ocean views are an unusual combination in an urban setting.

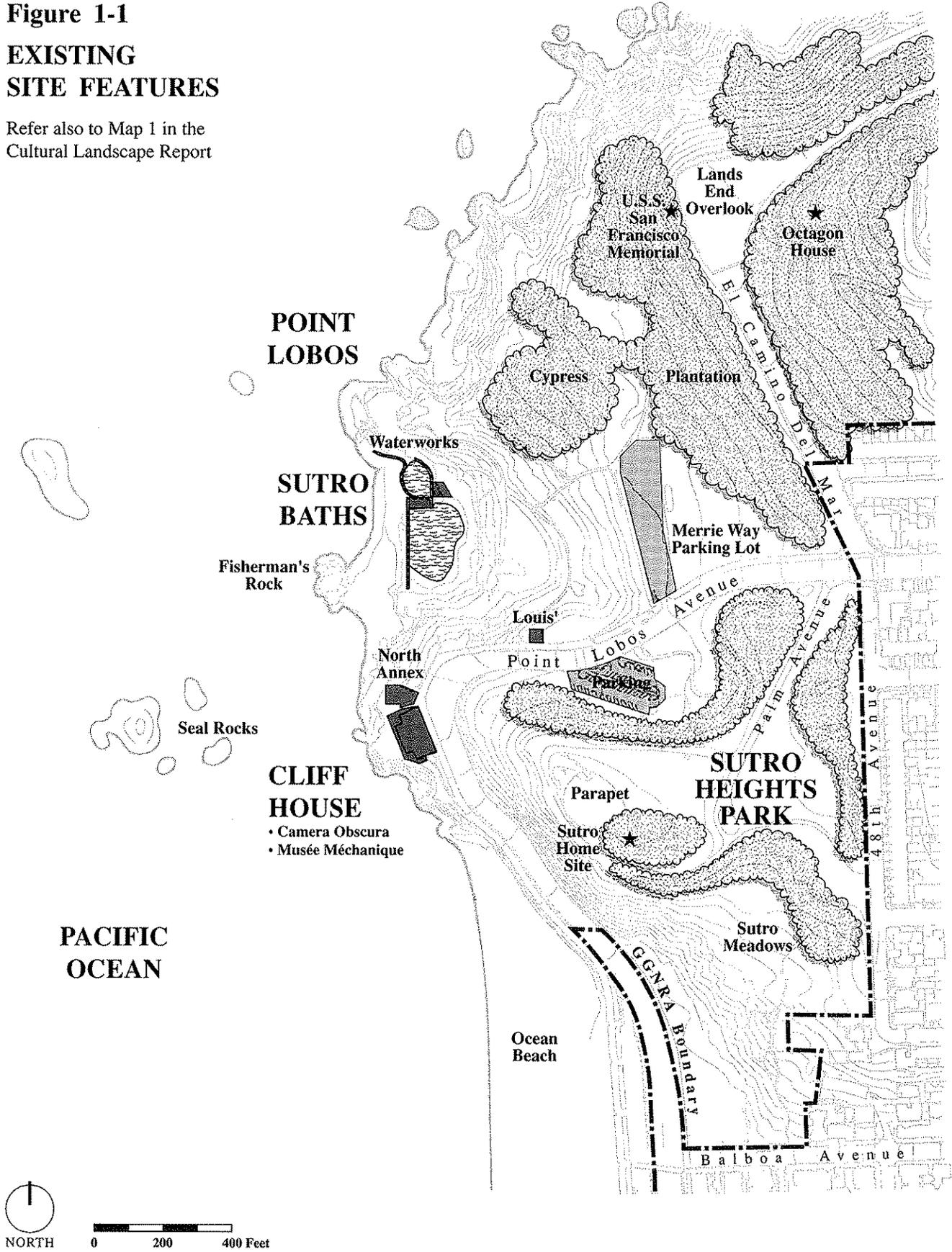
The District is bounded on the west by the Pacific Ocean, and to the east by the grid of the City which ends at 48th Avenue. Fort Miley and Lincoln Park complete the eastern and northern boundaries. The southern boundary includes the northern end of Ocean Beach and abuts the privately owned Parcel 4 north of Balboa Street.

1.3 EXISTING CONDITIONS AND ISSUES

Today the District is in a deteriorated condition and does not provide the level of visitor experience that is expected at locations within the National Park system in the United States. Heavy erosion and lack of vegetative cover on the site, particularly in the area of the former Baths, create both visual blight and pedestrian safety concerns on the steep bluffs above the surf. Rubble from partially demolished structures and rusting exposed reinforcing metal create dangerous conditions for visitors as well as accelerating maintenance costs. The Cliff House and surrounding terraces, the Point Lobos overlook and the Parapet at the Heights are also severely weathered and unsafe. Although the NPS has posted warnings, deaths and other injuries due to falls from cliffs and uncontrolled access to the ruins continue to occur.

Figure 1-1
EXISTING
SITE FEATURES

Refer also to Map 1 in the
Cultural Landscape Report



From a functional design standpoint the District has no real focus or a hierarchy of outdoor spaces. Access routes to the Baths and Sutro Heights Park are not well defined and site amenities are almost non-existent.



Sutro Baths Entry Ruins

Despite its deteriorated condition, the District is heavily used. Local, regional, national and international visitors are drawn to the area because of its striking panorama of the Pacific and the unusual display of wildlife seen on nearby offshore rocks. The Cliff House complex is a standard stop on the tour bus circuit, but primarily for restroom use and souvenir shopping rather than an in-depth exploration of the District. The Cliff House itself caters primarily to San Franciscans.

More than a million visitors a year travel to this commercial promontory. Conflicts between vehicles and pedestrians occur throughout the District. Tour buses cause traffic congestion along Point Lobos Avenue and create unsafe conditions for visitors in front of the Cliff House complex. Noise and exhaust from these vehicles also detract from the quality of the ocean edge experience. The location of the parking lot south of Point Lobos Avenue encourages substantial pedestrian traffic across this busy thoroughfare. Although there is a designated crosswalk, the slope and curvature of the roadway, in combination with the average speed of automobiles, limits the sight distance of drivers and creates a very unsafe condition. At the Land's End overlook, a massive expanse of unstriped asphalt functions simultaneously as roadway, parking lot and pedestrian zone; it is also quite unsightly.

The predominance of non-native vegetation and the accelerated loss of aging stands of cypress trees are key natural resource issues. Additionally, the Baths ruins have impounded fresh water from on-site springs, creating an important brackish wetland habitat for migratory waterfowl. Protecting and enhancing these resources while accommodating the large number of visitors presents a significant carrying capacity challenge for the future.

The District stirs nostalgic feelings in all who recall its past as a popular recreation place, but visitor contact and the rich interpretive potential of the site are not well developed. The NPS Visitor Center is located below street level, under the commercial complex near the Cliff House. Its presence is barely discernible amidst the visual clutter. Archaeological, cultural and natural resources of the District have not been inventoried, documented or interpreted sufficiently. The cultural and natural stories of the site are related by a few photographic panels at strategic vantage points or by informal discussions with park rangers.

1.4 DESIGN PROCESS AND GOALS

The 1980 Golden Gate NRA General Management Plan recommends the preservation and enhancement of the Sutro District's historic resources, with the surrounding landscape managed for natural values. The intent is to "rejuvenate the unsightly development and recapture the spirit of another era when San Franciscans flocked here to frolic in the water, promenade along the beach, or enjoy elegant dining made special by the sights and sounds of the Pacific."

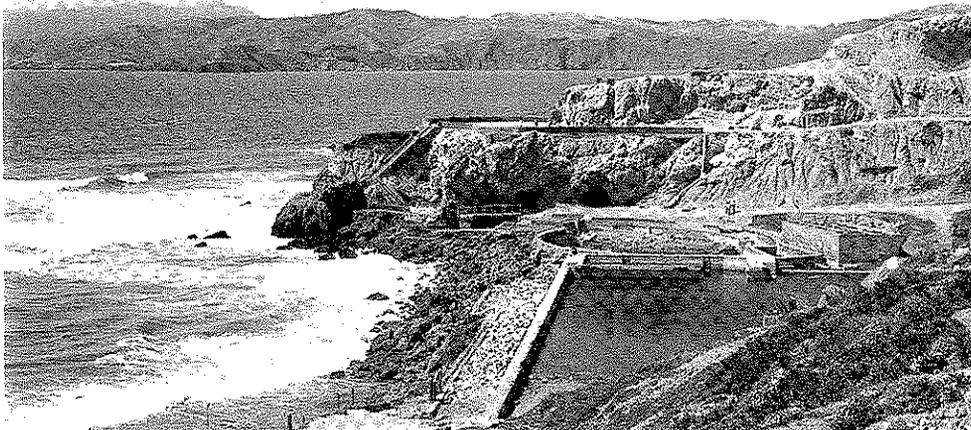
The Comprehensive Design Plan consists of three interrelated studies: (1) the Cultural Landscape Evaluation, (2) the Comprehensive Design and (3) the Environmental Assessment. The Cultural Landscape Evaluation which is a separate document, is summarized in Section 4, Opportunities and Constraints. The Comprehensive Design and the Environmental Assessment are presented herein. A third document contains the reports of the specialized consultants on the project team.

The Comprehensive Design was developed incrementally through a series of interactive workshops involving the consultant team, the public, and NPS personnel. Prior to the beginning of field work and data collection, goals were established as a point of departure to guide the planning and design process which ultimately led to the selection and development of a preferred design. Early in the process, the goals listed below were also presented in an open forum for community review and comment.

- Retain the spirit of adventure, innovation and bold design exhibited by Adolph Sutro while incorporating sustainable design appropriate to the 21st century.
- Create a presence and identity for this National Park Unit and provide a significantly enhanced visitor experience.
- Determine the significance and integrity of **both** the cultural landscape and the natural landscape and develop a “self-mitigating” design that balances, integrates, and enhances them.
- Develop a design which is well integrated with its urban context in San Francisco.

Following the goal setting workshop, site specific investigations were undertaken to analyze the cultural landscape factors, traffic and parking conditions, biotic resources, archaeologic resources, wildlife resources, infrastructure, and economic/fiscal conditions associated with the concessioners. Individual reports for each area of inquiry are on file at Park headquarters and are bound in a companion document to the Comprehensive Design Plan. They were used as input for developing the proposed design and are also summarized in Section 4, Opportunities and Constraints.

A second “imaging” workshop established a range of alternatives to pursue based upon physical, natural, cultural, and economic priorities. Beyond the notion of “no action” on the site, the ideas generated included everything from returning the District to the pre-Sutro condition of Naiad Beach to a



Sutro Baths from the NPS Visitor Center

complete and historically accurate reconstruction of the Baths and accompanying structures. Alternatives that fell within these two opposite extremes attempted to balance the interface between the historic and natural landscape. These alternatives were discussed at a third workshop and a preferred scheme was developed for further refinement as the Design Proposal. A “balanced” approach was determined to be the most appropriate for meeting established objectives.

The Naiad Beach Alternative, the Baths Reconstruction Alternative and the Design Proposal are the subject of the Environmental Assessment component of this document.

The Draft Design Plan and Environmental Assessment of the Sutro Historic District was completed in July 1992. The Draft Plan Document was initially distributed to the public using the Park’s mailing list, through a press release and a public presentation by the consultants before a Golden Gate National Recreation Area Citizens Advisory Commission meeting on July 30, 1992. The meeting date also initiated a formal public comment period of 30 days which was extended an additional 30 days to October 1, 1992. Interest in the project remained high throughout the fall and ultimately over 400 copies of the Draft Plan and Environmental Assessment were distributed to the public.

In order to ensure that all individuals, organizations and interested agencies had ample opportunity to comment on the project, the Park scheduled a series of 3 focused workshops after the close of the formal public comment period.

The workshops were all attended by members of the San Francisco Committee of the Park Citizens Advisory Commission, park staff and consultant team personnel responsible for the plan’s preparation. Workshops were held with the San Francisco Planning Department staff on November 17, 1992, with environmental group representatives including the Sierra Club, Audubon Society, California Native Plant Society, Urban Ecology and S.F. Tomorrow on December 5, 1992; and with representatives of neighborhoods surrounding the Sutro District on February 2, 1993. Neighborhood groups invited included Coalition to Save Ocean Beach, Friends of Sutro Park, Planning Association for the Richmond District, Sutro Neighborhood Watch, Richmond District Coalition, Richmond Community Association and the concessionaires who offer services in the Sutro District.

In addition, the consultants and the park staff presented the Draft Plan by invitation to the San Francisco Urban Research Association (SPUR) on

September 29, 1992; Planning Association for the Richmond on October 8, 1992; and the S.F. City Planning Commission on August 13, 1992.

During the formal 60-day public review period 88 letters were received—5 from governmental agencies, 6 from organizations and 78 from individuals. Fifteen (15) more written responses of a general nature were received after October 1, 1992. Almost 6000 post cards filled out by Louis' customers were hand delivered to the park during the public comment period. The San Francisco Board of Supervisors also passed a resolution on October 19, 1992, reflecting support for the restaurant. Subsequently, a petition with 425 signatures and opinion poll sheets filled out by over 300 individuals concerned with the fate of the Camera Obscura were delivered to the park in December 1992 and January 1993. Ninety (90) additional letters supporting the camera's operation were also received after the end of the public review. A list of agencies and organizations providing written commentary can be found in Appendix C.

Recommendations from this public involvement process were outlined in an NPS staff report and presented at an Advisory Commission meeting in May 1993. This plan document has been revised to reflect all recommendations.

The Comprehensive Design for the Sutro Historic District focuses on redesigning pedestrian and vehicular circulation patterns, protecting and restoring natural and cultural resource values, identifying areas of conflict, defining the scope and location of National Park Service/visitor contact, providing interpretive and support facilities, analyzing viewsheds and upgrading the quality of the visitor experience at this popular destination. The Comprehensive Design provides a basis for architectural studies and contract working drawings for priority-based site improvements to complete the revitalization of the Sutro Historic District.

2. DESIGN PROPOSAL

2.1 DESIGN EVOLUTION



View of Baths from South

Once an example of remarkable engineering—but rather insensitive site design—the Baths area is now a bold landform at the terminus of Geary Boulevard. The slope falls away sharply, plunging 150 feet to sea level, resulting in a sweeping ocean panorama on the approach from the east. Flanked by the headlands of Sutro Heights and Point Lobos, the elliptical form suggests a monumental amphitheater for viewing what local writer Harold Gilliam termed “ocean pyrotechnics.” It is *the* Pacific Ocean experience in San Francisco and perhaps within the Golden Gate National Recreation Area. The northern portion of the district offers a spectacular vantage point of the Golden Gate with its historic associations of economic opportunity and contemporary symbolism of the possibilities for a Pacific Rim community. The Golden Gate marks the entrance to San Francisco Bay, the confluence of 16 major California rivers and one of the world's greatest estuaries and natural harbors.

Although they are not of the stature of great ruins of the world, the concrete and steel remains of Sutro's Baths resonate with a certain intrigue. There is obviously a sense of change over time—but it is recent time as opposed to ancient time; the stuff of everyday existence as opposed to an inaccessible past. In their current condition the Baths have a special allure; an intriguing sense of lawlessness and adventure prevail. These are important characteristics in the context of urban “recreation” for body, mind and spirit.

The resiliency of natural systems is also in evidence on the site. Vegetation is reestablishing itself and reclaiming the ruins. Concrete walls and foundations have become retaining walls which impound fresh water from springs in the hillside above and create a vigorous wetland community and open water area frequented by shorebirds. The remains of the waterworks are another reminder of our interconnection with the sea as well as the technological innovations operative at the turn of the last century. This rich juxtaposition of natural and built elements poses important contemporary questions. What is the appropriate *balance*? What is to be the formal dialogue between this District and the City? What is the message of this place for the 21st century? What is the appropriate level of human intervention? What is the nature of ruins in our culture? These questions framed the more intangible or philosophical basis for the Comprehensive Design.

2.2 PROGRAMMATIC AND FUNCTIONAL REQUIREMENTS

The Comprehensive Design for the Sutro Historic District was driven by the need to resolve a complex set of issues. Natural systems, historic landscape fragments and recent human intervention were to be balanced to support future use and provide a quality visitor experience. Attracting *more* visitors was not considered to be a priority.

Expanding on the four major goals discussed previously, the study team identified more specific design objectives. The design for Sutro Historic District will:

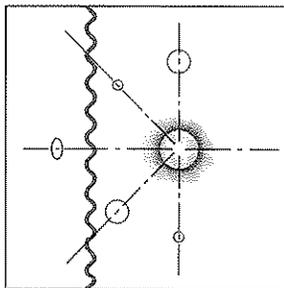
- Distinguish the site as an important component of a major National Park;
- Look to the future as well as to the past;
- Continue to celebrate recreation, adventure and fun, maintaining a diversity of uses which maximize the Pacific Ocean “edge experience”;
- Integrate significant cultural landscape features of the District as identified in the Cultural Landscape Evaluation without compromising their integrity;
- Ensure that the ruins will not be overdone with nostalgia; some elements will be rehabilitated and preserved for interpretive purposes while others will be left alone—**released**—to deteriorate; most will remain accessible to visitors;
- Provide new design elements which are distinctive as a new layer of information or meaning on the site and which will promote a deeper awareness of **both** cultural and natural resources; there will be varying levels of interpretive complexity for different users; everything will not be explained—much will be left to inspire the imagination;
- Express the human connection to elemental natural forces—wind, tides, fog; this will be made as evident to contemporary users as it was to aboriginal inhabitants of the site; where possible, these elements will provide alternative energy sources;
- Enhance the natural setting to meet the needs of the urban community for more contemplative and unstructured recreation;

- Maintain unobstructed ocean views for residents and motorists and enhance existing observation areas to maximize the “edge experience” for all visitors;
- Balance activity areas throughout the entire district to disperse visitor use;
- Provide better pedestrian access throughout the District, while diverting foot traffic from environmentally sensitive or hazardous areas; significant recreational and interpretive opportunities for handicapped individuals will also be provided;
- Resolve circulation conflicts between busses, automobiles and pedestrians; maintain and centralize current levels of parking and provide a strong linkage to the City's public transit system;
- Provide linkages to NPS and City recreational facilities and trails adjacent to the District;
- Retain the Cliff House as a food and beverage establishment; revenue generation from other concessions may be continued in other locations if it can be accomplished in a tasteful manner.

2.3 COMPREHENSIVE DESIGN

Overview

Landscape rehabilitation is the proposed design approach; as defined by the NPS, **rehabilitation** is a process that retains the historic character of the landscape while making changes to the property for new uses and interpretation.

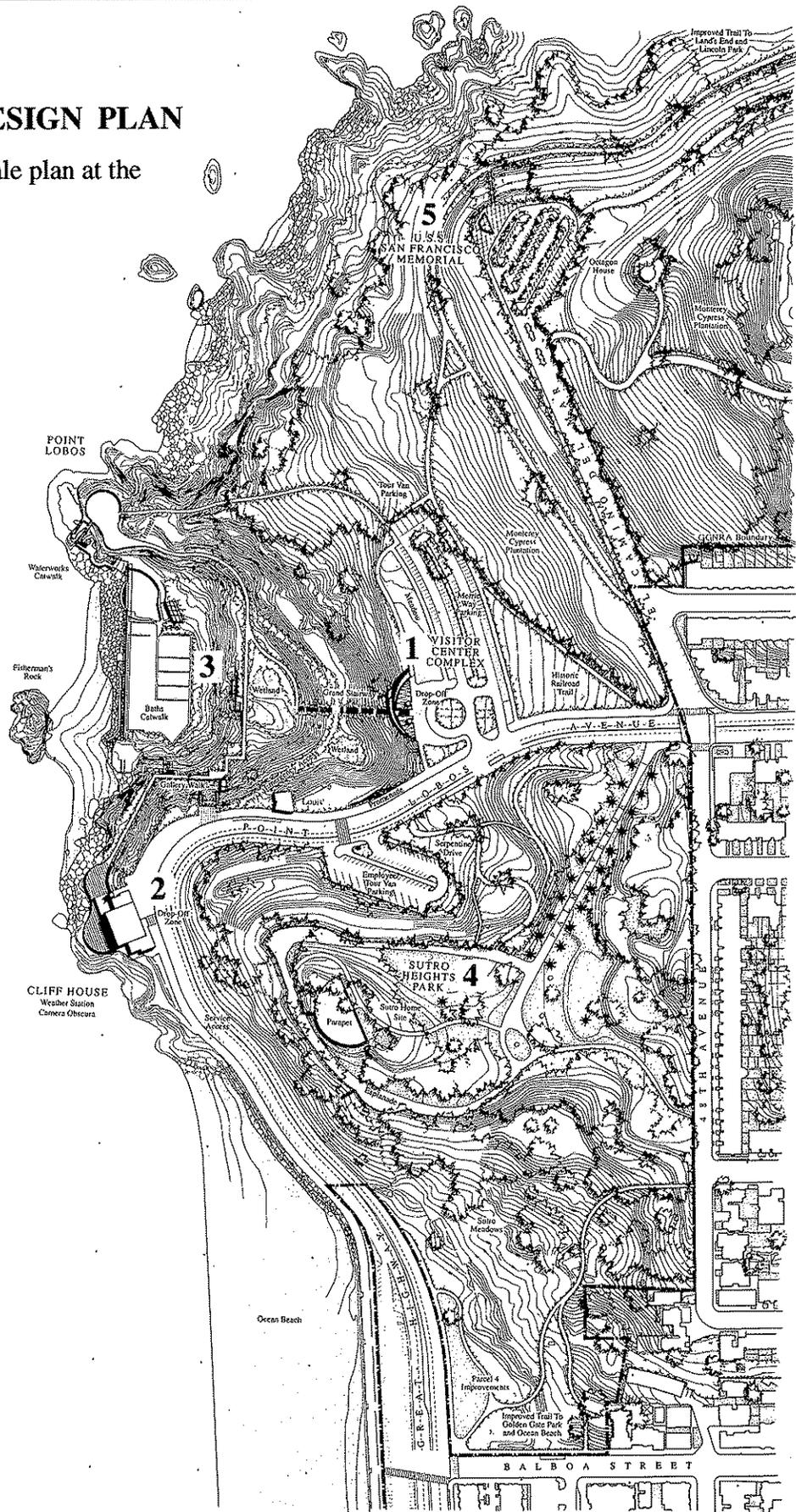


Concept Diagram

The Comprehensive Design strikes a balance between the natural and built environments with facilities and activity areas located primarily at the Cliff House and Merrie Way (see Figure 2-1 and the Illustrative Plan, back pocket of report). The design also ties into Sutro Heights Park and the USS San Francisco Memorial site along existing pedestrian ways. A new NPS Visitor Center Complex is envisioned on the slope below the Merrie Way parking lot. This facility will function as the primary orientation and information center for visitors, telling the history of the site's evolution, explaining recreation options within the District and the GGNRA, and providing concession and restroom facilities. Parking will be consolidated here and the lot will be terraced with the contour of the hillside to minimize its visual impact. It will also be configured to accommodate a vehicular drop-off area.

Figure 2-1
COMPREHENSIVE DESIGN PLAN

Note: Refer also to the full scale plan at the back of this report.



1. Visitor Center Complex and Parking
2. Cliff House and Terrace Overlook
3. Baths Ruins and Wetlands
4. Sutro Heights Park
5. U.S.S. San Francisco Memorial and Overlook



The Cliff House will be maintained as a “road house” for both residents and visitors. In keeping with the sustainable development mandate of the NPS, the structure will be rehabilitated—through alteration and repair—to accommodate contemporary use while preserving those portions or features of the original structure that are important in defining its significance (see Cultural Landscape Report). The terrace will be renovated to provide additional viewing and sitting areas as well as access to a barrier-free trail above the Baths. The assets of the Musée Mécanique will be relocated to the Visitor Center Complex and the Camera Obscura will be integrated into the Cliff House. A climate-sheltered observation area, displays of weather information and an elevator for terrace access will also be incorporated in the new Cliff House. Louis’ Restaurant will be allowed to remain for the near future without additions or alternations with the exception of ADA improvements and safety repairs. The North Annex will be removed with most facilities relocated to the Visitor Center Complex. Gift and souvenir sales will be accommodated at the Cliff House. All tour buses will be downsized and bus parking will be relocated to an employee parking lot. Six tour vans will also be accommodated in the Merrie Way Lot.

Native vegetation will be reestablished throughout the District to expand both the natural diversity and the site’s interpretive potential. The great bowl-shaped landform of the Baths area will be stabilized and revegetated and the ruins will be interpreted as a cultural landscape. A system of steps, pathways, bridges and catwalks will provide safe but dramatic pedestrian access through the ruins and to the tunnel and the Point Lobos overlook north of the site. These elements will be designed to have minimal impact on wetland habitat. The “waterworks” will be reactivated to the extent possible to inform and entertain visitors during high tide events.

Sutro Heights will continue to function as a neighborhood park because major visitor uses will be centered at the Visitor Center Complex and the Cliff House. A portion of the historic Ferries and Cliff House Railroad alignment will become a pedestrianway from the Visitor Center to the corner of 48th Avenue and Point Lobos Avenue, linking to Palm Avenue, the historic entrance to the Heights. Pedestrian circulation will be reestablished, along the historic path network, to the site of the Sutro home and beyond to the Parapet and Esplanade. The historic gardens flanking Palm Avenue will be restored to give a sense of what the heights were like when Sutro resided there.

The historic Cypress plantation north of the Visitor Center Complex will be managed to establish a healthy forest canopy. The historic railroad alignment will continue to be used as a pedestrian path to the Land’s End overlook

where the USS San Francisco Memorial will be relocated and landscaped to give it a more ceremonial presence. Parking in this area will be redesigned to eliminate the vast expanse of asphalt which now exists. Trails from this area to the north and Sutro Heights to the south will tie into the coastal trail network now under development within the GGNRA.

Visitor Center Complex

This structure will be a contemporary design which demonstrates the concept of sustainable architecture and is expressive of the site's geology and technological present. Built of the materials of the earlier structure—glass, steel and concrete, the two-level building will sit lightly on the hillside below the Merrie Way parking area. A partially earth-sheltered building is implied, with different levels suggesting the shifting movement of the geologic strata of the site. A glazed truss-supported roof will fill the upper level with natural light evoking the atmosphere of the original bath house.

A Grand Stairway will puncture the building, providing an axial connection between the parking area and the lower Baths as well as access to an upper observation deck and the building interior (Figure 2-2). The Stairway will be carefully designed and constructed so that it does not adversely impact the existing wetland habitat. Concrete rubble available from onsite demolition or other District locations could be recycled in the construction of this stairway to emulate the character of existing materials on this site and to make an interpretive statement about recycling. An elevator will provide easy access to the facility and observation decks for the physically challenged. A weather station here, if it is not feasible at the Cliff House, would be an active re-



Sutro Baths Structural System (Historic Photo)



Figure 2-2
VIEW FROM PROMENADE

minder of the available natural energy of the site and the base of an interactive interpretive program. Wind generators, tide turbines and solar collectors will harness this energy to power the building's systems. The building will also be designed to take advantage of natural ventilation with operable windows and roof louvers.

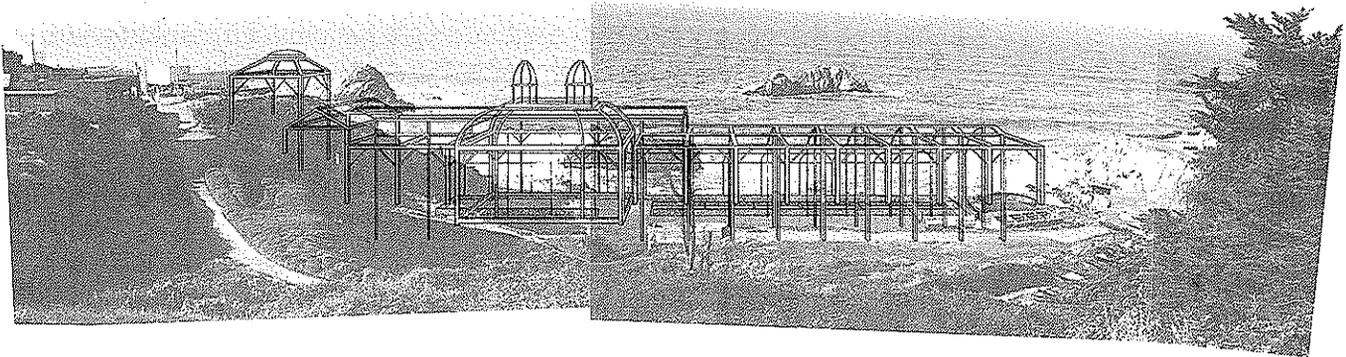
A nine thousand square foot building complex is envisioned to accommodate several functions. A new National Park Service Visitor Center will provide an image and presence for the National Park in this area and information about the natural and cultural history of the District, as well as other special areas within the Golden Gate National Recreation Area and San Francisco. Both open and enclosed viewing platforms will cantilever over the slope to the west. An NPS store offering books and other high quality merchandise will also be a desirable use. Office, storage space and public restrooms will be incorporated in this part of the complex.

Also within the complex a historical Museum of Urban Amusements will occupy an area separate from the Visitor Center. This facility would preserve and interpret the commercial recreational and educational aspects of the site's history including the Sutro Baths and Playland. The contents of the Musée Mécanique will be relocated here and displayed in a more spacious and, ideally, highly interactive and even noisy environment, reminiscent of the site's origins. A small cafe will also support the complex.

Approximate square footage requirements of the new Visitor Center complex are as follows:

Main Display Area	2,500 sq. ft.
Interpretive Program Area	1,000 sq. ft.
Park Store	1,000 sq. ft.
Museum (includes Musée Mécanique)	3,000 sq. ft.
Cafe	500 sq. ft.
Restrooms	<u>1,000 sq. ft.</u>
Total	9,000 sq. ft.

Outdoor seating areas will provide an important supportive role to the interpretive programs. The Grand Stairway below the building complex would broaden in several areas to provide informal seating for organized events such as ranger talks or wildlife observation. Access to this area for handicapped persons will be available via the service road from Point Lobos Avenue.



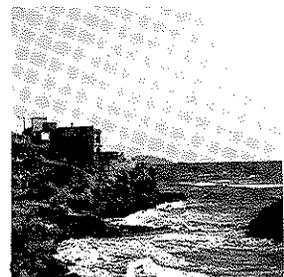
Ghost Structure (Photo Montage)

Ghost Structure of the Baths

In the spirit of applying the technology of the 21st century to the future design of the site (much as Adolph Sutro applied 20th century technology in his day), a laser image “reconstruction” of the baths is proposed. Such an event would commemorate and interpret the extraordinary engineering of the baths while leaving the site completely intact. The intent is that this “reconstruction” would occur sporadically, and only when site weather conditions are appropriate. It would not be widely publicized; as with the aboriginal inhabitants of the area, potential spectators would be encouraged to develop a more specific knowledge of the elemental forces at work on the site—specifically wind and fog. Laser equipment contained in a small projection booth within the Visitor Center would project a computer-generated image toward the west. This full scale image would have the interpretive potential of “ghost structures” used in other National Park facilities. They could be wire frame “drawings” of the Baths structures and water works possibly in combination with still photographs; they would be visible only if reflected from the fog. Visitors would view the event from either the Visitor Center deck or from the Grand Stairway seating area.

Cliff House

The present Cliff House is the third structure to carry that famous name. It has been extensively altered since it was built in 1909 by Adolph Sutro's daughter Emma Merritt. A three-story reinforced concrete building constructed in the neoclassical style which flourished from 1900 to 1920 in North America, it was a reaction to the excesses of the Victorian era. Concrete was the material of choice because of the need to provide a structure which could withstand earthquakes and fire.



Cliff House and Annex

The 1909 structure has had a series of additions and modifications since its early days. It is generally agreed that its present appearance detracts from the beauty of the site and the potential of the magnificent view. A **rehabilitation** will improve the utility or function of this cultural landscape element through repair or alteration, to make possible an efficient contemporary use while preserving those portions or features that are important in defining its historic significance.

The National Park Service has recently adopted the policy inherent in the emergency United Nations initiative on sustainable development. It is a concept that recognizes that human civilization is an integral part of the natural world. The concept further holds that future technologies must function primarily within bioregional patterns and scales. Sustainable development implies using only those resources that can be renewed and employing recycled materials where possible. Recycling buildings conserves energy. The Cliff House will be a local demonstration of sustainable architectural principles. This assumes an architecture that can be compelling and inspiring as well as sparing of resources.

The Comprehensive Design Plan is a framework for a district, a 100-acre cultural and natural landscape. Its intent is the enhancement of a place rather than of a particular building within that district. Detailed architectural programming, design, engineering and cost analyses will be undertaken by the NPS as a next step in determining the rehabilitation potential of the Cliff House. It will require an inspired architectural approach to commemorate relevant elements of the past, accommodate present needs and put forth a statement for a sustainable future.

The Cliff House will be upgraded to meet present accessibility standards and provide a new service access. Storage and receiving spaces will be located internally so that those functions can be removed from the restaurant's front door. The existing driveway ramp south of the building will be adapted for service access and a new drop off area will be designed to create a more distinctive entrance to the restaurant and simplify vehicular circulation. In addition, an elevator tower and the Camera Obscura are now envisioned as special components of the Cliff House of the future. These elements must be added while maintaining the building's historic character as well as the ongoing concession operation which is important for the economic vitality of the GGNRA. In 1978, Public Law 95-625 was enacted providing that "in the administration of those parcels known as...the Cliff House Properties and Louis' Restaurant, the Secretary shall credit any proceeds from the rental of

space in the aforementioned properties to the appropriation...bearing the cost of their administration, maintenance, repair and related expenses..."

The intent of this Plan is to enhance the site so that it is more enjoyable for the million plus visitors who already frequent it. This argues against any development that will destroy the resource which visitors and residents come to see. It also argues against the development of a building as an attraction in and of itself. The Plan does, however, assume a world class rehabilitation of the Cliff House in the playful spirit of its creator.

North Annex

The North Annex building which houses the NPS interpretive facility, restrooms and commercial establishments will be removed. Most of these service functions will be replaced by the Visitor Center Complex (Figure 2-3). Others will be incorporated into the rehabilitated Cliff House. The terrace below the Cliff House will be upgraded with new stone retaining walls (or balustrades) and paving and will be expanded northward onto the level area created by building demolition. Significant occurrences in the history of the District might be commemorated with notations in the paving as well as interpretive signs. A broad stairway with cascading planters will connect the terrace with the street level. This will provide a diversity of vantage points as well as informal seating for ocean viewing or ranger talks.

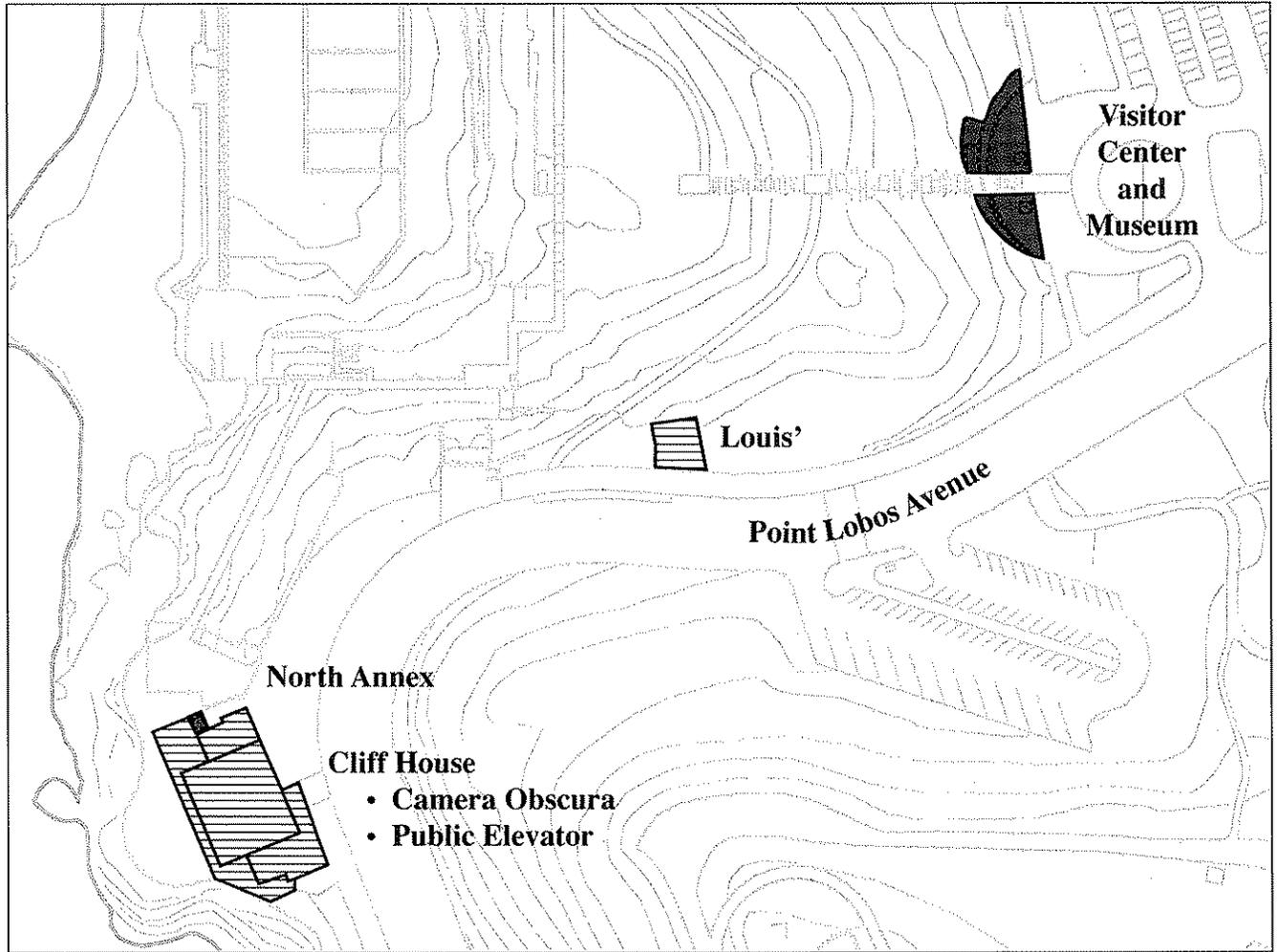
Weather Station

The process of weather being recorded will be demonstrated at the Visitor Center with computerized displays charting such things as wind velocity and direction, tidal movements, off-shore storm systems and water temperature. Interactive displays will link this station with others throughout the Golden Gate National Recreation Area or along the entire west coast for up-to-the-minute comparisons on weather patterns. Through an electronic link-up, current information could be displayed in any number of other locations: the Cliff House lobby, the Camera Obscura ante chamber, or possibly in the public elevator structure. Weather instruments might also be located atop the elevator structure at the Cliff House if they were a well integrated and visually unobtrusive design element.

Camera Obscura

The Camera Obscura will remain operational; the optics of the Camera would permit its incorporation internal to the Cliff House with the lens on the roof and the screening room in the area of the building now occupied by the Musée Mécanique, accessible from the terrace. This would provide an extraordinary 360 degree view even more spectacular than the view now available. If architecturally appropriate, references to the existing structure could be incorporated. If this proposal to internalize the Camera Obscura

Figure 2-3
EXISTING & PROPOSED STRUCTURES



-  Existing Structure to Remain
-  Existing Structure to be Removed
-  Proposed Structure



becomes impossible to implement, the facility will remain in its present location.

The Promenade

The sidewalk connecting the Cliff House and the Visitor Center Complex will be redesigned as a pedestrian Promenade. Bus parking will be removed from the street, but automobile parking will continue. Where possible the sidewalk will be widened, providing space to separate people from automobiles. An open balustrade will edge the sidewalk along its northern length, providing a more transparent barrier and enhancing the visual connection to the Baths ruins. The historic entrance to the Baths will be commemorated with a small plaza overlook notched into the balustrade.

The City of San Francisco currently owns the sidewalk, and has management authority over regulating its uses. Sidewalk vendors may indeed have a role in the use of the site, and could provide additional food and beverage options as well as souvenir items as a convenience to visitors. However, the type of merchandise and presentation of vendors should be of a relatively high quality, and the Park Service will work with the City Parks and Recreation Department to encourage this.

The Baths

The following is an anonymous "Public Service Announcement" painted on a wall of the Baths ruins:

It may be helpful to remember that things have not always been as they are; this may be obvious as it sounds, easy to forget while walking concrete paths and perceiving streams of traffic and rectangular shelters.

It may be helpful to keep in mind that at one time these constructions were non-existent.

It may be of some use to look over all that you can see right now, the expanse and boundaries of your environment and think how all of this will be gone one day...eaten and reapplied.

It may be helpful to see beauty in decomposition; because—like the leaves of trees turn brite (sic) and fall to the ground to replenish their mother, it is also our inescapable privilege to rot.

So it now becomes necessary to view all items in the world as reflections, all objects as mirrors, and then move upon this basis.

The design approach here will be one of deliberate restraint so that the ruins continue to resonate with the mystery and allure of their present deteriorating condition. The bowl-shaped landform of the Baths will become a magnificent outdoor room which celebrates the archetypal interrelationship of human civilization and the sea. Both biotic and cultural landscapes will be enhanced and made accessible to tell the story. Portions of the Baths' existing foundations will be excavated to reveal their original mass and footprint. In other areas, selected wall and column elements could be repaired according to cultural landscape guidelines to enhance the on-the-ground experience. Non-historic rubble on the hillside below the Promenade will be removed. The open water area within the foundation walls which has become an important waterfowl habitat will remain and will actually be expanded when the entire footprint is excavated. A thin film of water will cover, but not obscure, walls which compartmentalized the five smaller baths. The wetland immediately east of the Baths foundation will be expanded, through regrading and revegetation, to offset any habitat which will be lost through the excavation within the foundation. Native plant restoration throughout the Baths area will soften the visual appearance of the ruins and enhance the experience of the culture-nature dynamic.

A hierarchy of pathways, steps and catwalks will permit intimate contact with the ruins while protecting unstable slopes and sensitive habitat areas and directing visitors away from unsafe situations (Figures 2-4, 2-5). The primary "Gallery Walk" will connect the Cliff House area with the Waterworks Overlook at a nearly constant elevation of 55 feet above sea level. This will, with the use of the Cliff House elevator, create barrier free access to the most significant portions of the site. The Gallery Walk will interpret the detailed story of the construction and daily activities of the Baths through stabilized architectural remnants. At a lower elevation, and accessible via a set of stairways, a steel catwalk on axis with the tunnel entrance, will skim the surface of the seawall foundation ruins (Figure 2-6). The catwalk will bring users to the ocean's edge to experience its pyrotechnics at close range. A system of gates would permit temporary closure if site conditions are unsafe or if seasonal closures are necessary to prevent disturbance to waterfowl.

At a higher elevation, visitors will be able to descend into the Baths area along the emergency service access from Point Lobos Avenue. This narrow and relatively steep roadway will be surfaced with turf block and native grasses so that it will effectively disappear against the slope. At its intersection with the Grand Stairway, the roadbed will become level so that a temporary stage could be put in place for special events. The slope conditions are

Figure 2-4
EXISTING
PEDESTRIAN CIRCULATION

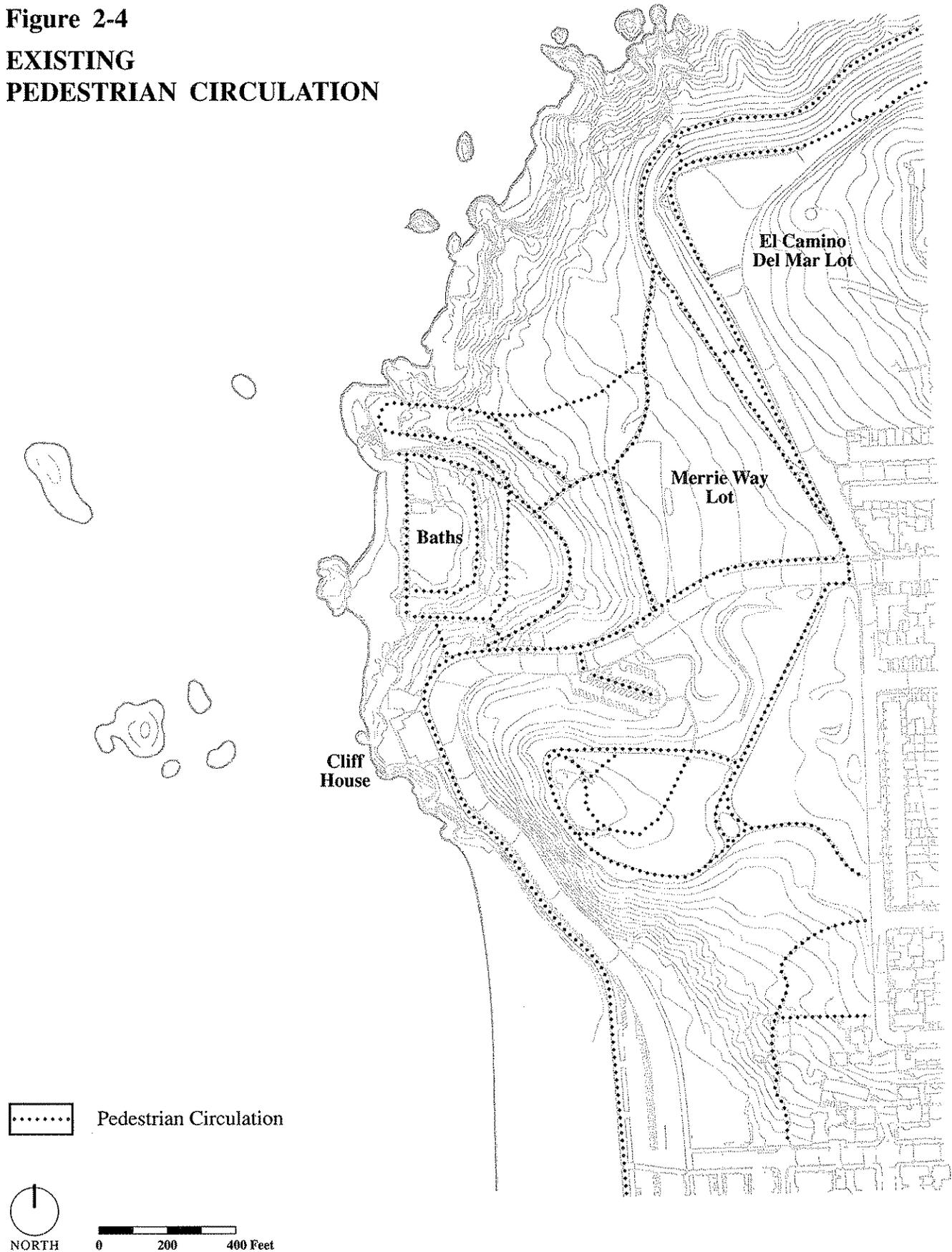
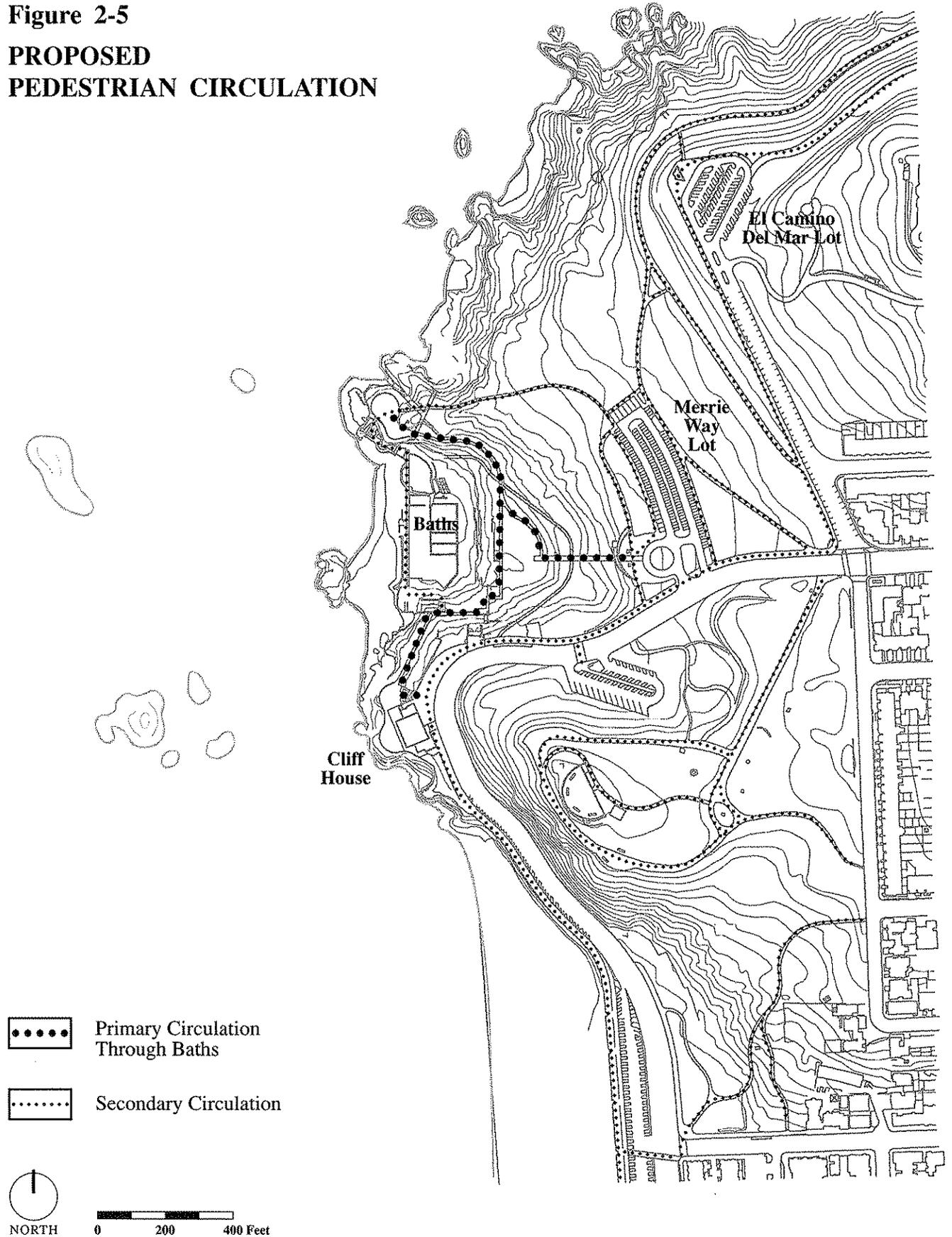


Figure 2-5
**PROPOSED
PEDESTRIAN CIRCULATION**



such that handicapped visitors will have access from Point Lobos Avenue to this level area.

The Grand Stairway, a reference to a similar element in the original Baths, runs perpendicular to the other three pathways. This system of rustic stone steps and terraces connects the lower Baths area—via boardwalks and paths around the freshwater wetland—with the Visitor Center Complex. It will be well integrated into the slope and flanked with native vegetation. Steps will broaden in certain areas to create outdoor seating. Following more detailed surveys of wetland habitat and significant ruin elements, the stairway will be field located to avoid impacting any of these sensitive resources.

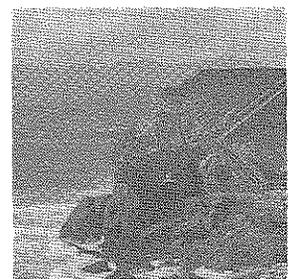
The Waterworks

The Sutro-engineered “Waterworks” will be partially reactivated to inform visitors about the potential of tidal forces. A complete restoration would conflict with the established brackish wetland pool frequented by waterfowl. The incoming tidal waters will, therefore, enter the catchment basin, flow through the access tunnel to a weir which regulates the flow into the former Aquarium or Settling Basin. From here the water will enter the narrow outlet channel and be returned to the sea. Water movement to the steam plant and into the various pools will be explained by interpretive signs. Conditions in and around the Aquarium Basin will be monitored after the Waterworks are rehabilitated to determine if it is possible to create an intertidal habitat that would be able to sustain itself with minimal maintenance. For the short term, large boulders will be placed in the bottom of the basin to create more suitable attachment surfaces for marine life.

A new steel catwalk around the rocky headland north of the basin will connect the Baths and tunnel entry area to the dramatic Waterworks Overlook above. This observation area will be unprotected from the elements—a place where visitors can take their chances on being drenched by incoming waves. Walls and steps will be upgraded, but no other improvements are anticipated. Simple narrative inscriptions in the pavement would interpret or inspire. A ridge trail will connect this overlook to the Merrie Way parking lot.

Landform and Landscape Rehabilitation

Contouring of several areas within the site will be required to stabilize slopes and slow the currently unchecked process of erosion. A new underground stormwater system will also be designed to direct runoff. Future construction on the site will be required to meet strict federal environmental standards for slope stabilization and erosion control. The extent of potential impacts and the resultant required mitigation techniques cannot be known until new



The Waterworks Today

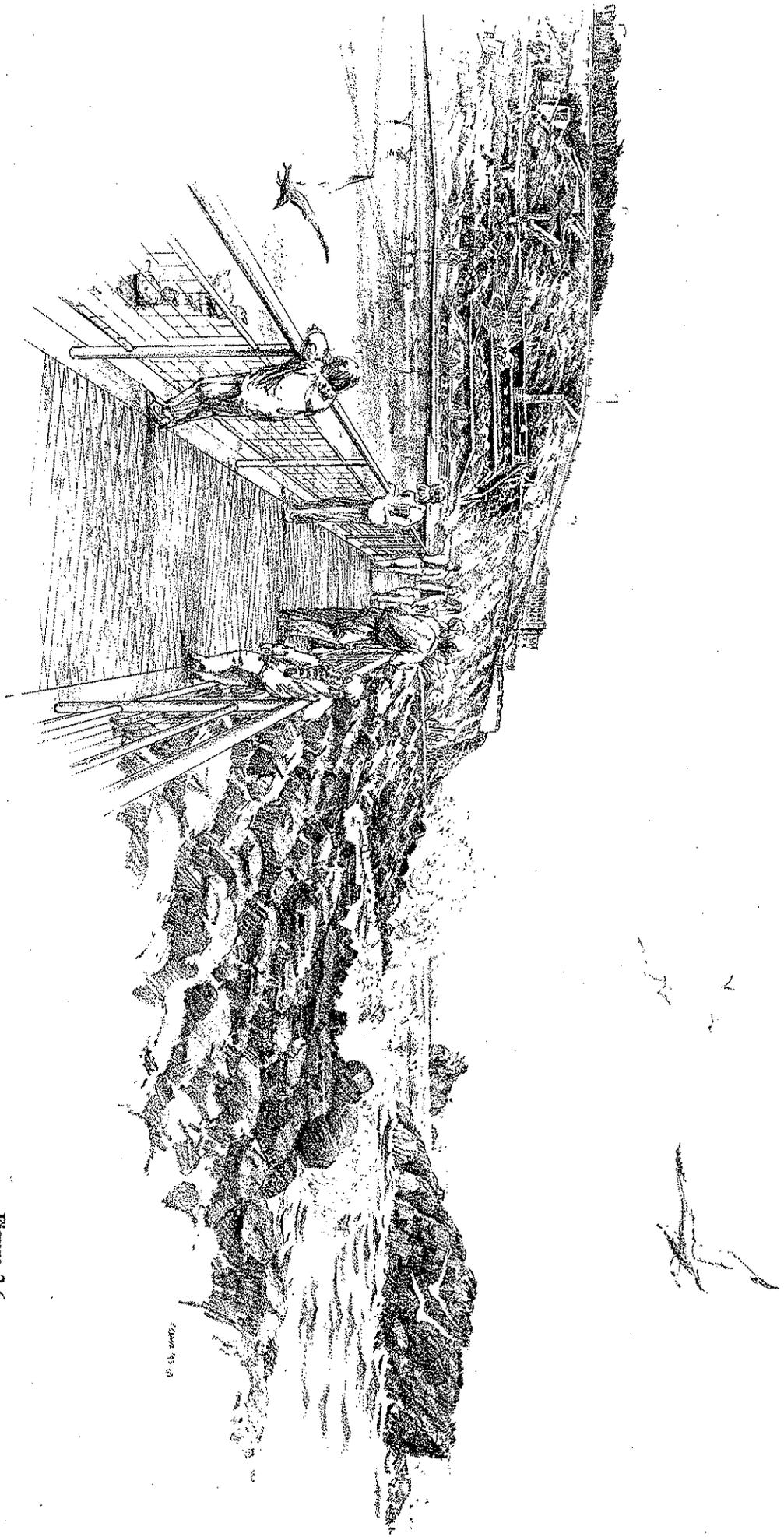


Figure 2-6
VIEW FROM CATWALK

facilities are designed in greater detail than is appropriate at a Comprehensive Plan level.

A revegetation scheme is assumed in the proposed design (Figure 2-7). Native habitats at Sutro Heights, Sutro Baths and Land's End will be revitalized to expand biotic diversity and enhance the interpretive potential of natural resources on the edge of the continent. The plan proposes a system of pathways and cat walks which will lead visitors through a complete site experience while controlling access to the more fragile portions of the site. Some pathways will also be closed to visitors during times of the year that are critical to wildlife. Slopes will be stabilized with native vegetation, after they are regraded, to prevent continued erosion and to contain foot traffic. Drought tolerant landscape materials will demonstrate water conservation, although a temporary irrigation system will be required until native plants become established. The freshwater wetland habitat will be expanded and restored as part of the rehabilitation of the Baths area (Figure 2-8). The remnant dune areas at the Baths and South Sutro Heights would also be restored. The intent of the site revegetation program is to restore plant communities that once existed in the Sutro District.

Sutro Heights

The Heights will continue to function primarily as a neighborhood park, as recommended in the *NPS 1992 Cultural Landscape Analysis and Management Recommendations* report. A pedestrian linkage to the Heights from the Visitor Center Complex will be available via the historic Ferries and Cliff House Railroad alignment from the Merrie Way parking lot to the corner of 48th and Point Lobos Avenues, continuing up to the Heights via Palm Avenue, the historic vehicular access to the site. The formal landscape along Palm Avenue will be restored and naturalized landscape areas will be rehabilitated. Portions of the historic pathway network will be reestablished connecting Palm Avenue with the Sutro home site and to the Parapet and Esplanade beyond.

Stone or concrete "footprints" of the Sutro home and other significant structures will be installed to enhance the interpretive potential of the area and the open lawn will be maintained for passive recreation. WPA changes to the Parapet will be removed. Selective clearing of vegetation and the addition of benches will also improve this dramatic overlook. Serpentine Drive will be maintained and interpreted; it will also function as a service access for small vehicles from the NPS employee parking lot.

The Dune Trail, south of the Heights, will be improved to strengthen the linkage to Ocean Beach and beyond to Golden Gate Park.

Figure 2-7
PROPOSED
LANDSCAPE ENHANCEMENT

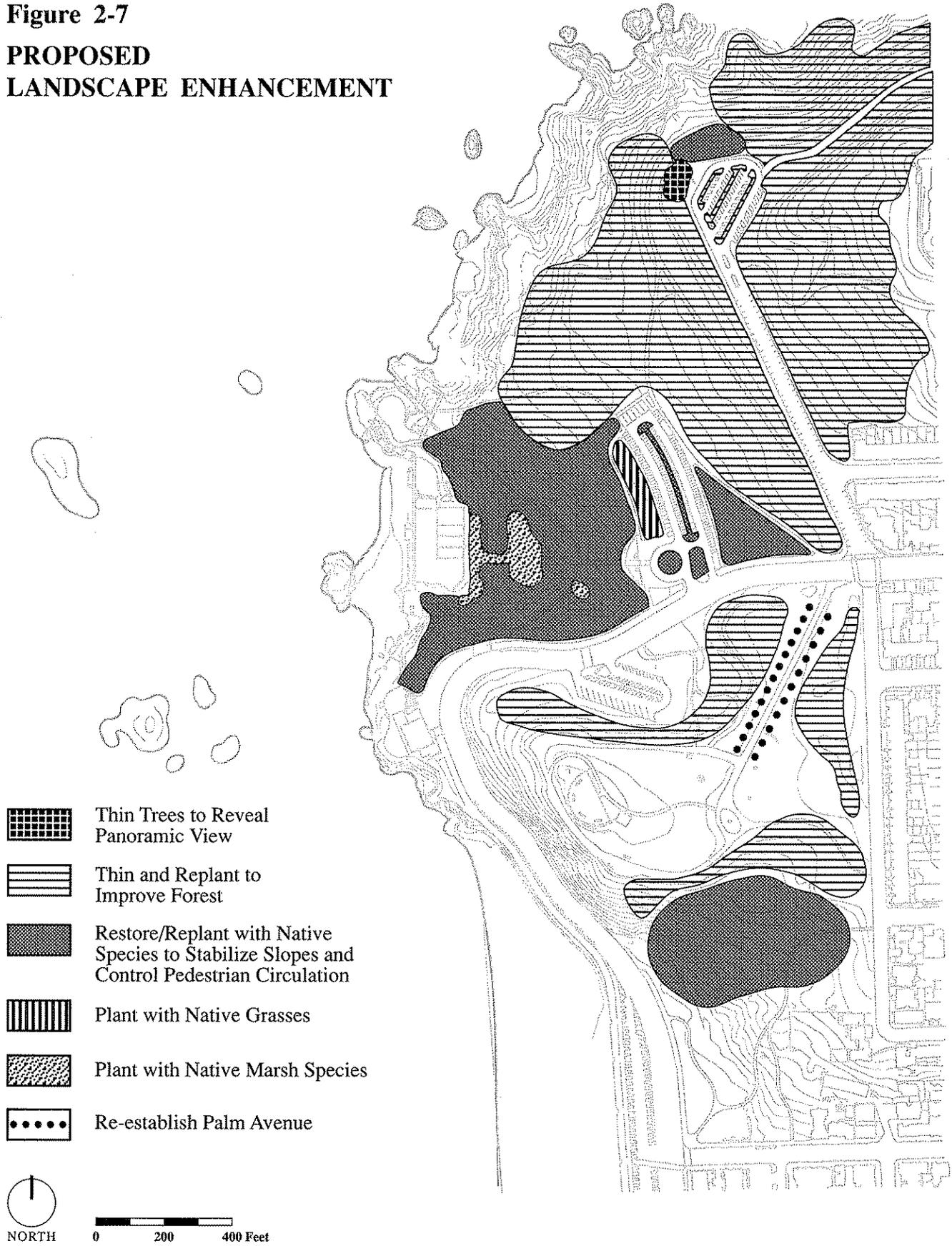
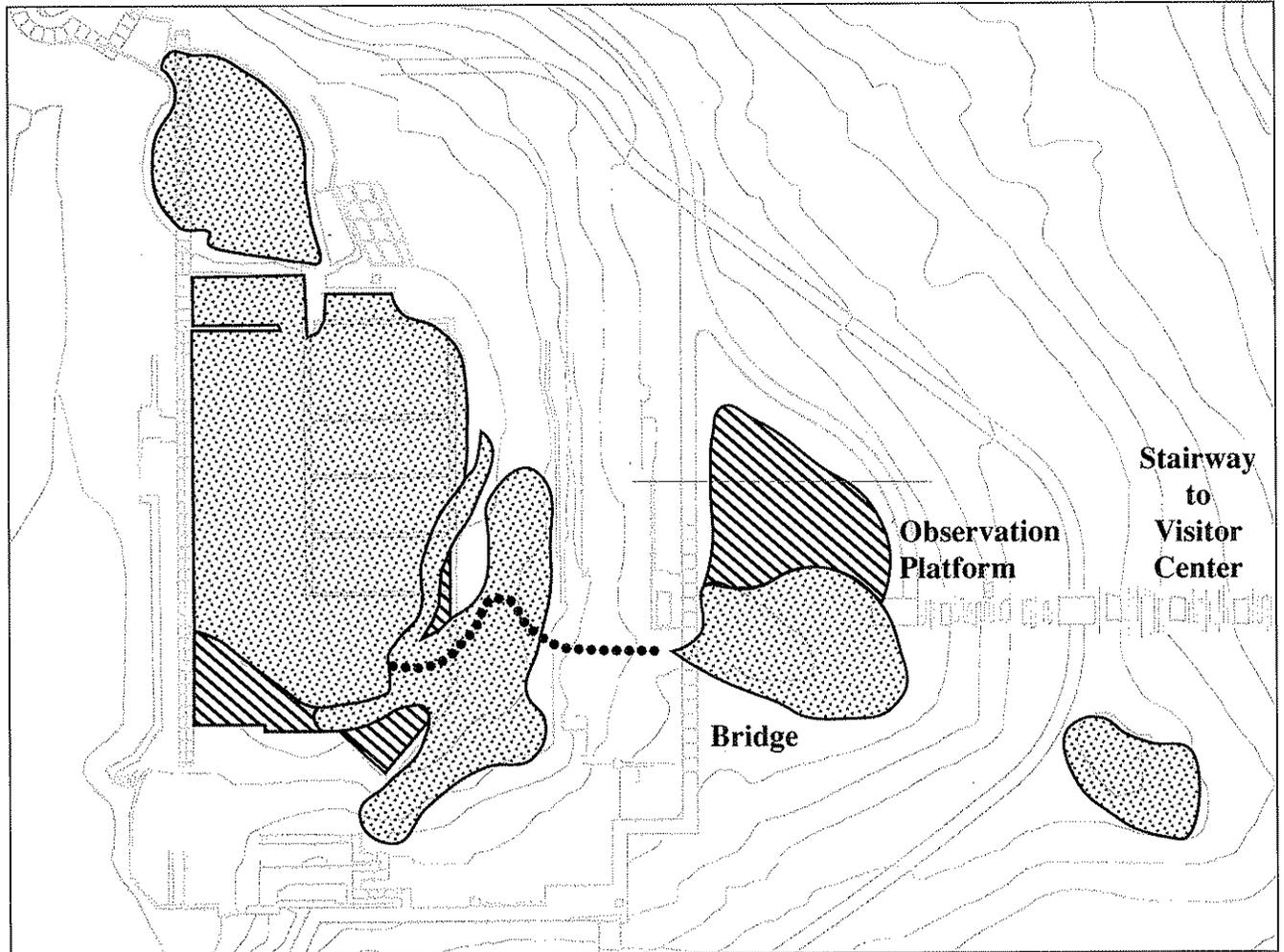


Figure 2-8
WETLANDS ENHANCEMENT



-  Existing Wetlands
-  Proposed Wetlands
-  Seep Channel



Land's End and the USS San Francisco Memorial

North of the Visitor Center Complex and parking lot the historic Cypress plantation will be managed to establish a diverse forest canopy. The trail along the historic railroad alignment will be narrowed and resurfaced and will continue to be the primary pedestrianway from the parking lot to Land's End Overlook. The USS San Francisco Memorial will be relocated on axis with El Camino Del Mar and the surrounding landscape will be redesigned to give it a more ceremonial presence (Figure 2-9). A larger paved gathering area and a greater separation from vehicular circulation will be provided. Its current compass orientation on the Great Circle to Guadalcanal is symbolic and significant and will be maintained in the redesign. The memorial will become a strong focal point as viewed from the 48th and Point Lobos intersection. Parking in this area will be redesigned to eliminate the vast expanse of asphalt which now exists and to provide a more comfortable pedestrian environment.



USS San Francisco Memorial

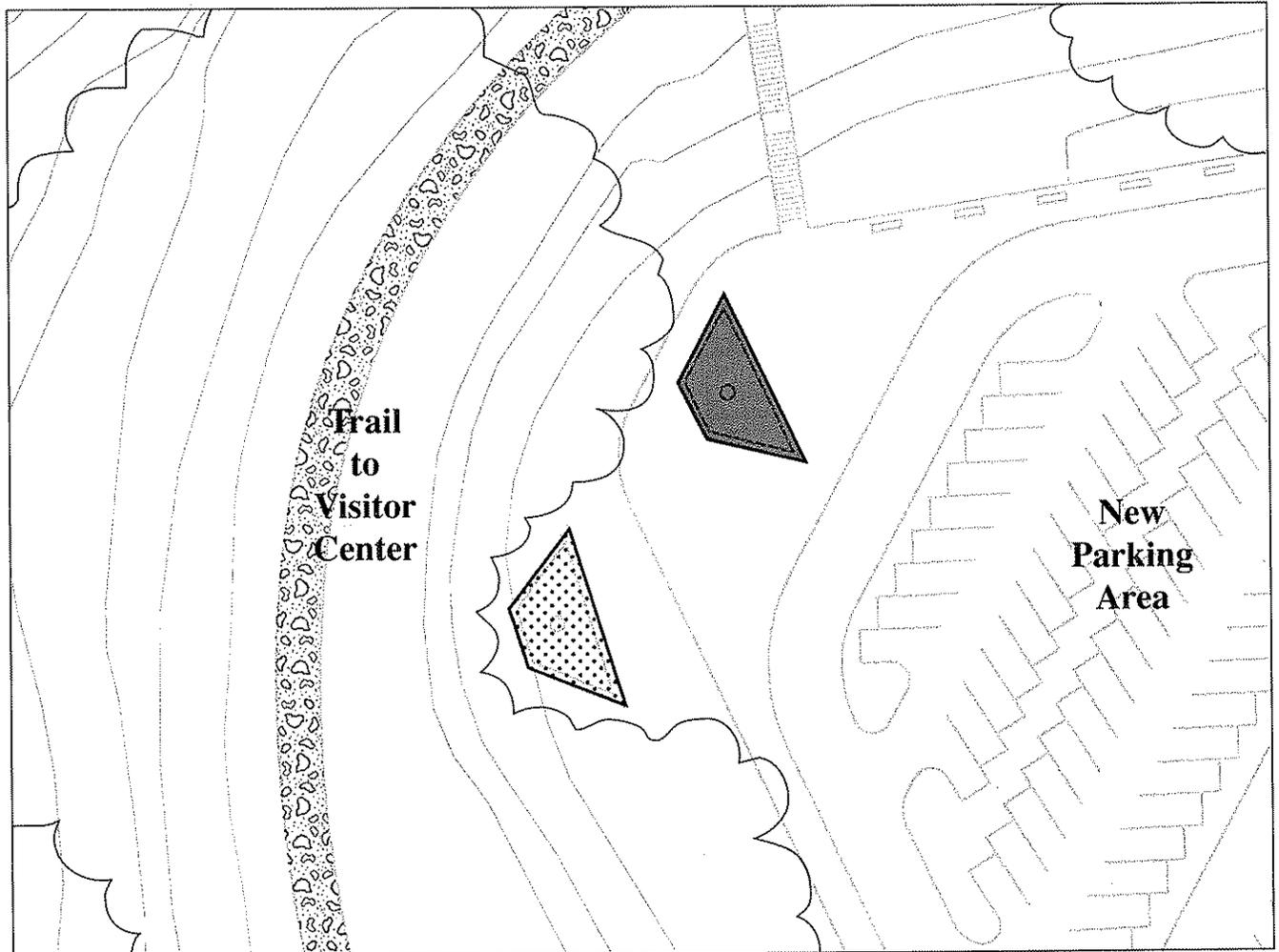
New benches and interpretive signs are envisioned for the Overlook. Careful selective clearing of the forest canopy will open views to the north to the Marin Headlands and to the south to the Waterworks Overlook. A new stairway will connect the upper overlook with the historic railroad trail below. Trail connections to Lincoln Park and east to Baker Beach and the Golden Gate Bridge will be improved.

To the extent feasible, for reasons of visitor safety and security, other "social" trails in this area will be eliminated, and new warning signs placed in potentially hazardous places. Trails leading to extremely dangerous cliff areas will be closed.

Barrier Free Access

Barrier free access throughout the entire site is not possible due to the 150 foot elevation change at the Baths area. Further, the site would be visually impacted if ramps and switchbacks or even funiculars were provided to move handicapped persons through the site. Drop-off/loading areas for the handicapped will be provided at both the Visitor Center and the Cliff House. An elevator at the Visitor Center will provide access to the viewing deck and the interpretive and museum areas. At the Cliff House, an elevator will provide access to the Cliff House, the restaurant terraces and to a level "gallery walk" pathway through the Baths to the Waterworks Overlook at Elevation 55. Where the gradient makes it feasible, all proposed sidewalks and trails will meet ADA standards.

Figure 2-9
MEMORIAL RELOCATION



Existing Location of U.S.S. San Francisco Memorial



Proposed Location of U.S.S. San Francisco Memorial *

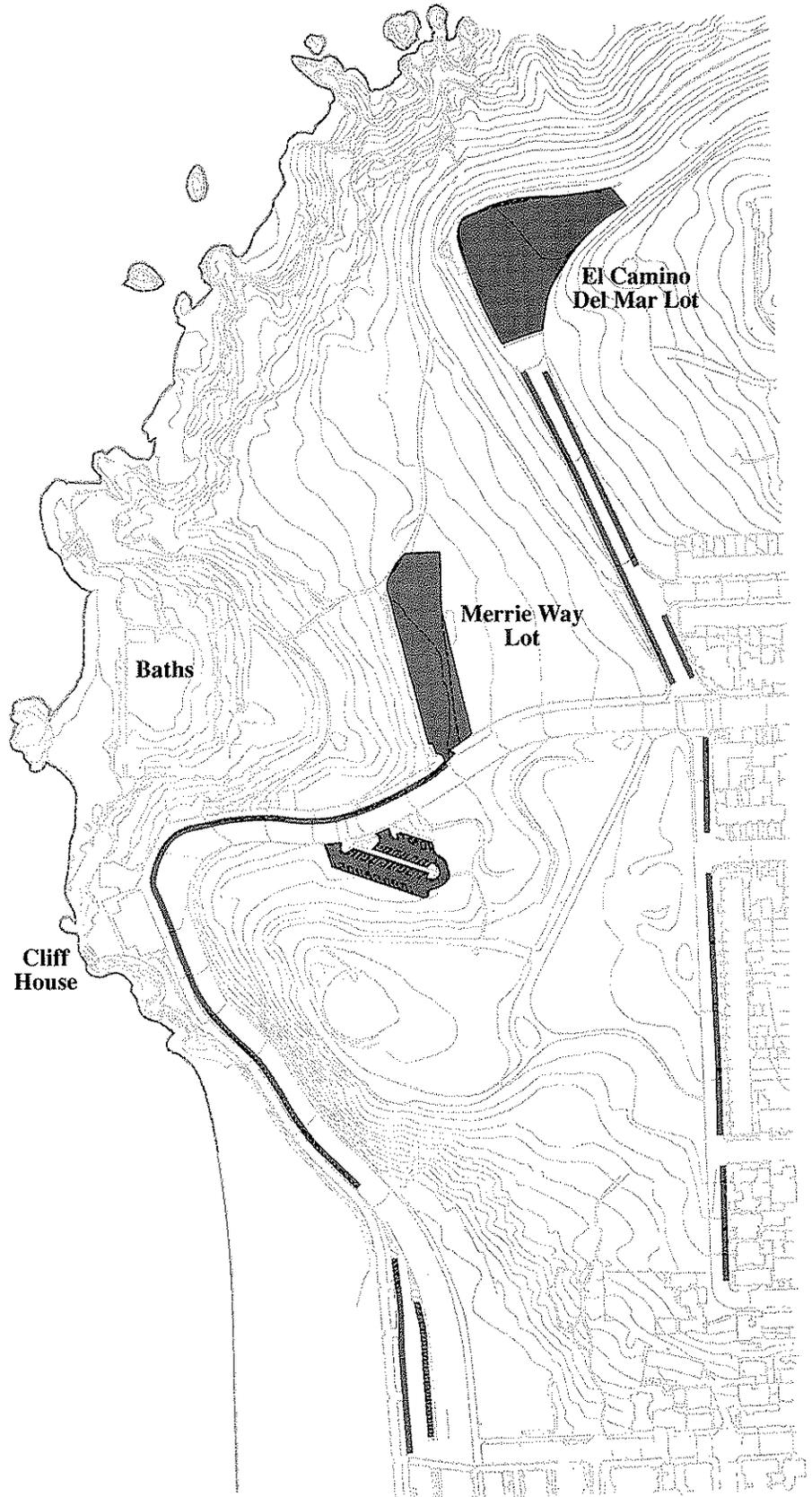
* Alignment with Great Circle to Guadalcanal to be maintained.



NORTH



Figure 2-10
EXISTING
PARKING



NORTH

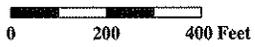
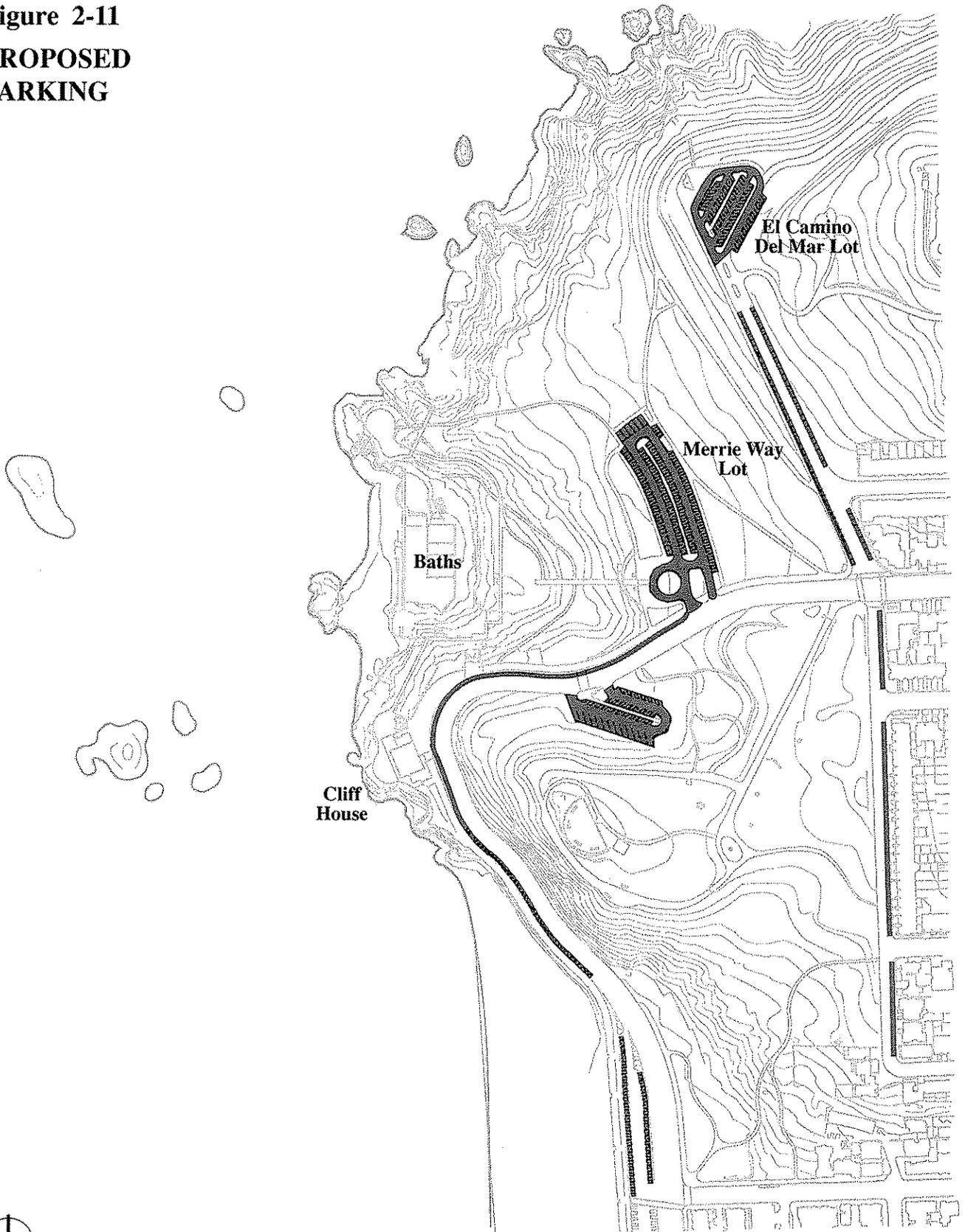


Figure 2-11
**PROPOSED
PARKING**



NORTH



0 200 400 Feet

edge of the City. The NPS has successfully managed tour bus operations at other GGNRA locations. More than the required “high season” demand tour bus spaces will be provided to encourage this type of transit. Muni bus stops serving the area will be maintained in their present locations until the future transportation management plan for the area determines the need for a change.

The Merrie Way parking lot will be reconfigured to separate tour bus drop-off from passenger vehicles; access and egress have been separated to facilitate all turning movements; detailed road striping design will be required to emphasize the appropriate turning movements from Point Lobos Avenue (Figure 2-12).

The lot at Merrie Way will be terraced into the slope with broad planted medians. It will be paved with permeable materials to soften its visual impact. A subsurface filtering system which would mitigate the impacts of potentially toxic materials will be further explored in the design phase of the project. The construction of the lot will be phased over time in conjunction with TSM. Overflow parking will be accommodated in the grass meadow on the western edge of the lot and at other areas such as Ocean Beach. If transportation management proves effective, the meadow will remain undeveloped. The NPS anticipates that the Sutro Historic District site will establish a model for sustainable site and architectural development, and the parking lot would be designed accordingly. The Point Lobos parking lot will be retained and will service primarily employees and tour bus parking (not drop-off or pick-up) to decrease pedestrian foot traffic across Point Lobos Avenue. This new circulation system assumes that visitors will be staying in the District for longer periods of time because of the greater quality of the facilities.

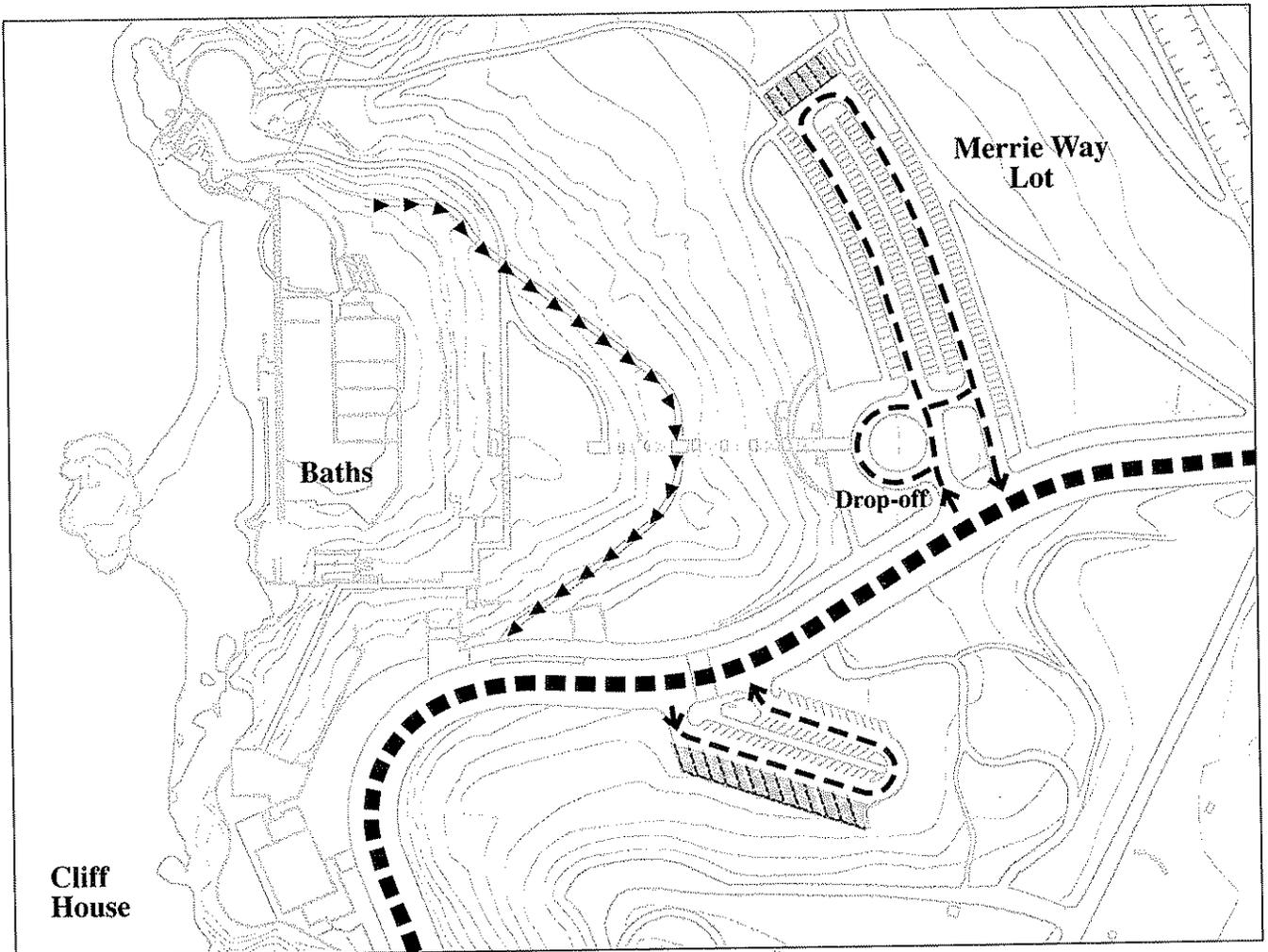
The continuous angle parking in front of the Cliff House will be designated for 10 minute drop-off parking; as many as five handicap spaces will also be provided here. Tour bus pick-up will occur primarily in the vicinity of the Visitor Center and a golf cart type tram may be developed to shuttle visitors between the Visitor Center and the Cliff House. On-street parking along Point Lobos Avenue and El Camino Del Mar will continue, however, new striping will add to its efficiency.

Transportation System Management (TSM)

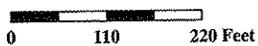
Proposed TSM Program Elements

- On-site traffic control monitors, directing traffic towards available parking and away from local residential streets and neighborhoods;

Figure 2-12
PROPOSED VEHICULAR CIRCULATION



-  Primary Vehicular Circulation
-  Secondary Vehicular Circulation
-  Emergency Access
-  Tour Van Parking



- Improved directional signage and markings;
- Neighborhood parking control measures (signs, permits, time limits, etc.) to keep visitors out of the neighborhoods;
- Drop-off parking area in front of the Cliff House to separate these vehicles from the main traffic stream;
- Restricted tour bus size and number permitted as previously accomplished at other NPS facilities;
- Controlled flow of buses so that arrivals are dispersed throughout the day rather than all at one time.

Proposed Parking Mitigation

- Keep the Point Lobos Lot available for employees and NPS staff only, and enhance safety of pedestrian crossing at Point Lobos Avenue;
- Expand the Merrie Way lot capacity with overflow area;
- Keep tour buses (small) in the Merrie Way lot, and use El Camino del Mar for auto parking only;
- Assume some use of the Ocean Beach parking lot (not assumed previously for existing or future projections) for overflow area;
- Tie any increase in the number of visitors and tour buses to the Presidio Plan;
- Restrict turning movements in and out of parking lots;
- Create a left-turn bay (for stacking) and stacking area in the middle of Point Lobos Avenue to help vehicles move into and out of the main traffic flow;
- Direct pedestrians from the Merrie Way parking lot to the crosswalk at 48th Avenue/El Camino del Mar to get to Sutro Heights Park.

Essentially what will occur in practice will be a self-limiting National Park facility. If parking is not available, motorists will be encouraged to continue on to another location (Golden Gate Park, Presidio, etc.). Traffic monitors on weekends will be able to control the flow of vehicles in the area, thus increasing safety for motorists and pedestrians. The demand will largely be

market driven, whereby if the facility is full, people will move on or not come.

Design Criteria

Site furnishings, building materials and detailing for the District will be coordinated in a future design criteria document. Particularly if the construction work for the site is accomplished in phases, this will be a critical step in the development of a coherent image for the District.

Materials used in Sutro's time—glass, concrete, stone and metal—are an appropriate vocabulary today. These will be the predominant materials used in the design of both structures and landscape amenities with due consideration given to their ability to withstand weathering. Contemporary and timeless elements of the highest quality are preferable to an obviously “themed” look. Recycled materials from site demolition would also be appropriate particularly if their use can be interpreted. Seating elements, trash receptacles, light fixtures, railings and concrete finishes will share the same detailing and be historically compatible throughout the District. Less will be more. It is imperative that the site not be cluttered by site furnishings and interpretive signs. A most important aspect of enhancing the visitor's experience will be to let the site speak for itself.

2.4 COSTS

A preliminary cost estimate was developed for the proposed Comprehensive Design (Table 2-2). The estimate is based on costs of similar construction and is intended to illustrate order-of-magnitude capital improvement expenditures which can be anticipated for the proposed development of Sutro Historic District.

**Table 2-2
Estimate of Probable Construction Cost**

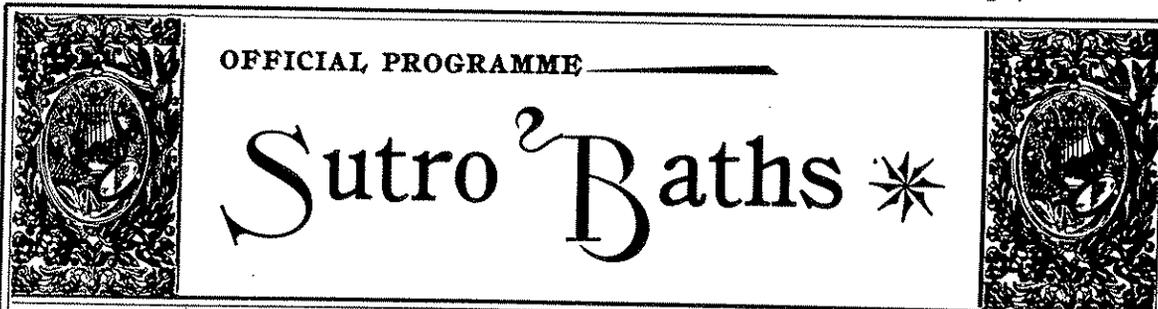
Buildings		
Visitor Center	1,900,000	
Furnishings	227,000	
Exhibits	380,000	
Cliff House Renovation	3,100,000	
(including elevator/observation tower, Camera Obscura and weather exhibits)		
Baths Foundation Rehabilitation	225,000	
Waterworks Rehabilitation	<u>280,000</u>	
	Subtotal	6,112,000
Site		
Demolition / Clearing	61,000	
Rough Grading	180,000	
Fine Grading	91,000	
Irrigation	140,000	
New Landscape	435,000	
Landscape Rehabilitation	250,000	
Paving and Surfacing	1,020,000	
Parking Lot (Merrie Way)	730,000	
Catwalks/Boardwalks	880,000	
Walls/Railings	375,000	
Grand Stairway	120,000	
Site Furnishings	380,000	
Environmental Graphics	300,000	
Laser Exhibit	<u>100,000</u>	
	Subtotal	5,062,000
Utilities		
Drainage	157,000	
Water	24,000	
Sanitary Sewer	26,000	
Electrical	58,000	
Telephone	8,600	
Natural Gas	<u>3,600</u>	
	Subtotal	277,200
	Total	11,451,200
		11,451,200
Contingency (15%)		1,717,680
Design and Engineering (15%)		1,975,332
General Conditions (7%)		921,816
Contractor's Fees (6%)		790,128
Bonds (1.5%)		197,532
Construction Administration		<u>100,000</u>
	Grand Total	17,053,688

3. SUMMARY OF FUTURE ACTIONS

Implementation of the Comprehensive Design Proposal is dependent upon several key studies which will be undertaken by the National Park Service prior to or in conjunction with the detail design or construction of improvements at Sutro Historic District.

1. Detailed archaeological resources analysis;
2. Feasibility study for reactivating portions of the Waterworks;
3. Detailed plant and wildlife inventories (see BioSystems report);
4. Feasibility study for expanded marsh (including determination of most appropriate habitat type);
5. Native habitat restoration plans for the riparian wetlands above Sutro Baths, and the dune areas east of Merrie Way parking lot and at Sutro Meadows;
6. Design Criteria for site structures and furnishings;
7. Detailed interpretive program;
8. Vegetation management plan;
9. Geotechnical analysis for slope stability;
10. Detailed structural analysis of Cliff House;
11. Architectural program development for Visitor Center;
12. Mitigation plans for all proposed facilities;
13. Architectural program development for Cliff House (to include Camera Obscura);
14. Concession program development/financial analysis for Cliff House;
15. Joint management agreement with the City of San Francisco concerning the sidewalk use, traffic flow and public transit;
16. Detailed bicycle study;
17. Pedestrian crossing analysis (Ocean Beach to Parcel 4).

Near Sutro Baths is Billington's Gallery. — Good Portraits or Groups, 25c each



OFFICIAL PROGRAMME

Sutro² Baths *

Published by the Management. — Office SUTRO BATHS, Telephone Steiner 3041.

Firth Wheel

Scenic Railway

The Sutro Baths.

SIGHT alone can give a comprehensible idea of the building. They are certainly the largest enclosed Baths and Winter-Garden in the world. Some approximation of their magnitude may be reached from the following figures:

Length of Building.....500 feet
 Width255 feet
 Lumber used in construction, 3,000,000 feet
 Glass used.....100,000 superficial feet
 Iron in roof and columns.....600 tons
 Concrete.....270,000 cubic feet
 Seating } Amphitheatre 3,700 }
 Capacity } Promenade.....3,700 } 7,400
 Holding Capacity.....25,000
 Length of large Swimming Pond, 300 feet
 Width, for two-thirds of length.....100 feet

Width, for one-third of length.175 feet
 It is L-shaped.
 Small tanks of various temperature.....5
 Capacity of 6 salt-water baths, 1,900,000 gals.
 Fresh-water plunge baths.....1
 Private dressing-rooms.....517
 Club-rooms9
 Total capacity of
 private and club-rooms...1,628 bathers
 Shower-baths in all club-rooms, and in 29
 private dressing-rooms.

The mode of supplying ocean-water to these Baths is noticeable and unique. A catch-water in the cliffs is constructed (a large basin in the rocks.) Twice a day, at high tide, the baths, with a capacity of nearly 2,000,000 gallons, can be filled in one hour. For several days in Midsummer, during the neap or low tides, it is necessary to pump water—pumping consumes five hours. The fresh-water plunge is supplied by an ever-flowing spring, and is an excellent drinking-water (see cups and small stream above water mark.) To the baths is attached a laundry with all modern machinery; its capacity is 20,000 suits and 40,000 towels per day.

The Museum and Picture Gallery deserve the attention of visitors, especially are they object lessons to young people and children. The collection of Shells is a marvel, and one of the best in America.

Many of the Pictures are highly prized, being the works of very eminent painters. The Intaglios (casts from antique gems) is the best collection in the United States. Sea-water at Ocean Temperature and up to 80°

No Better Sea-Bathing in the World.

Haunted Swing

Mirror Maze

See **UMBSEN & CO.** about Ocean Boulevard Lots
 Office, 14 Montgomery Street.

4. OPPORTUNITIES AND CONSTRAINTS

The following opportunities and constraints formed the basis for the Design Proposal presented in Section 2.

4.1 HISTORICAL BACKGROUND

The Sutro Historic District has been significant in the development of recreation within the City of San Francisco for well over 100 years. From the beginning of settlement in the Bay Area, people have been attracted to the site because of its natural features, spectacular views and the exciting experience of the land/ocean “edge.” The period generally considered to have historical significance is from 1863 to 1938. The chronological development of the District is well documented in the Cultural Landscape Evaluation, and only briefly summarized here.



Adolph Sutro

Adolph Sutro was a German-born engineer who built his career in the late 1860s and 1870s through the design and construction of a massive tunnel that drained and ventilated the flooded shafts of the Comstock Lode silver mines in Nevada. The construction of the Sutro Tunnel, which provided the basis for countless fortunes in silver, is also recognized for having greatly improved the working conditions of the miners themselves. This combination of ingenuity and benevolence characterized Sutro’s later work in San Francisco.

While it can be surmised that indigenous residents also used the area for subsistence purposes, the first Cliff House constructed in 1863 marked the beginning of a period where significant changes to the landscape at Lands End occurred. Adolph Sutro purchased land including the acreage within the boundaries of the current District in 1881, accelerating the pace of development. Sutro constructed the second, more ornate Cliff House and the famous Baths, and developed extensive gardens within the Heights. Remnants of the Sutro era development can be seen today at both the Heights and Baths, however, a third Cliff House structure, constructed in 1909 by Sutro’s daughter and modified significantly over time, replaced the previous grand structure. Sutro died in 1898, during the height of the historical significance of the District.

Sutro Heights Development

Sutro purchased approximately 100 acres of land including a small cottage overlooking the promontory above the Cliff House which he enlarged for his own residence. Most of the earlier improvements to the area were focused

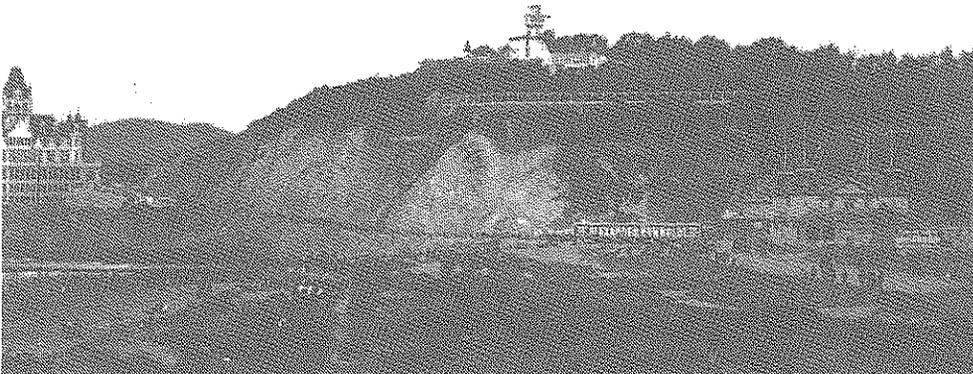
within the Heights, including developing a new main entrance at Palm Avenue, on the corner of the present 48th Avenue and Point Lobos Avenue. The entrance location coincided with the placement of a new depot of the Ferries and Cliff House Railroad located across the street. The main gate at Palm Avenue was characteristic of the enormous and grand changes constructed by Sutro's workers. Towering more than 25 feet, the gate was a highly decorative wood structure flanked by two statues of reclining lions.



Sutro Heights Gate

Sutro began an ambitious program of creating an estate within the Heights that was spectacular in its transformation from coastal scrub to ornamental gardens and extensive groves of mixed evergreen trees. In addition to Palm Avenue, other roadways were created on site including Serpentine Drive and the Esplanade, a carriageway that traversed the edge of the cliffs that was lined with ornamental wooden posts and chain fencing. The gardens were very formal in their layout and included references to European gardens of the era with planting beds of clipped hedges, carpet beds, and statuary. Sutro used primarily drought tolerant species in his planting schemes, many of which were imported from the Mediterranean region, Australia, and South America.

The gardens required a high level of maintenance, with a full time staff of eleven gardeners for planting, watering, and pruning. The water supply for the gardens was located in the springs found within the hillside below the Merrie Way parking lot at the Sutro Baths site. Windmills pumped the water to a 50,000 gallon storage tank located on 48th Avenue at A Street, and to another 15,000 gallon tank located atop the existing sandstone Parapet above

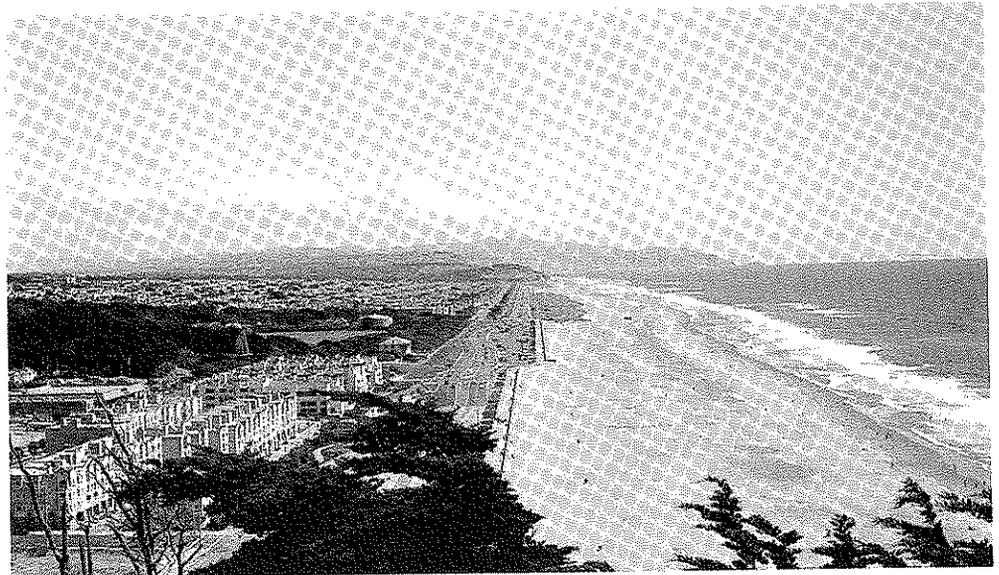


Sutro Heights (1896)

the Esplanade. The water was then gravity fed from these two high points to various portions of the site.

Several buildings were constructed at the Heights, paralleling development of the gardens. In addition to the Parapet viewing platform constructed in 1885 to capture the spectacular views of Ocean Beach and the Pacific Ocean, a long terrace-like structure known as the *Dolce far Niente* (Sweet to do Nothing) Balcony was also constructed in 1884-1885 as a wood deck cantilevering beyond the cliff face below the Esplanade. This lower balcony no longer exists. Other structures included a building for concessions, an observation tower, conservatory greenhouses and gatekeepers' houses. The last surviving building to remain from the Sutro era is the Well House, constructed around 1885. This building is located in the lower garden area where Serpentine Drive intersects with the beginning of the Esplanade.

Sutro Heights was opened to the public in 1885. Notable visitors to the Heights included President Benjamin Harrison, William Jennings Bryan, Andrew Carnegie, Oscar Wilde, and Kate Douglas Wiggin. By 1888, Sutro had aided in constructing the Ferries and Cliff House Railroad to transport visitors to the area. Following his death in 1898, the estate was administered by his daughter, Dr. Emma Merritt. An inventory and appraisal of the property was performed shortly thereafter, revealing the estate was in financial trouble. In 1899, Merritt sold interest in the Sutro Railroad Company and continued to resolve the financial burden of the estate over the next twenty years. Consequently, the condition of Sutro's gardens and properties began to deteriorate. The City of San Francisco acquired ownership of the Heights

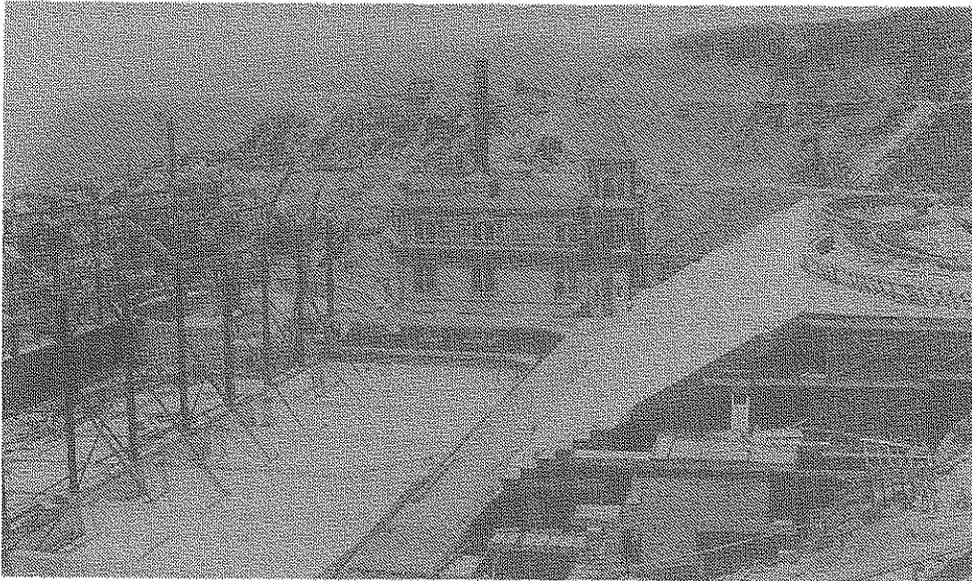


View South from Sutro Heights Park (1993)

in 1920 (but did not begin performing maintenance until 1933), under the condition that it be “forever held and maintained as a free public resort or park under the name of Sutro Heights”. Most of the structures were removed during the Works Progress Administration (WPA) era of the late 1930s. In 1976 the City of San Francisco transferred ownership of Sutro Heights to the National Park Service, to be managed as part of the Golden Gate National Recreation Area.

Sutro Baths

With the construction of the Heights well underway, Sutro began to focus on ideas for the area known today as the Sutro Baths site. He developed an interest in natural history and marine life and even pushed Congress to pass the 1887 act granting the Seal Rocks to the City and County of San Francisco in trust for the people of the United States, thereby protecting the seals’ home.



The Baths Under Construction

Sutro’s initial idea for the area was to construct a marine aquarium where visitors could view ocean mammals. He ingeniously created a system that allowed ocean water to fill a semi-circular enclosed basin during high tide events. The walls of the basin are still visible today near the northern portion of the Baths. Sutro was fascinated with the level shelf of rock just around the point from the current location of the Baths. He noticed that the shelf collected sea water at high tide and that its elevation was somewhat higher in elevation than the beach inside the cove. Working with the natural hydraulics of the site, Sutro’s solution involved collecting sea water in the natural shelf and channeling the water through a tunnel extending over 150 feet cut through the rocky point. A small door in the tunnel was opened to fill an

outer settling pond; sediment free water then dropped into the basin below. In one corner of the basin a subterranean outlet allowed water to recirculate out to sea. There may have been some intertidal marine life that collected and lived in the basin, but it is doubtful that a rich tide pool environment ever existed.

It is not clear from historical information where the idea for the Baths originated. Having travelled extensively throughout the US and Europe, Sutro had undoubtedly visited other classical as well as modern facilities and became inspired by the notion of recreational swimming on a grand scale. Whatever his reason, work began on the breakwater that would ultimately allow construction of the Baths in 1887. A design competition was held in 1890 to solicit architectural designs for the Baths structures. The identity of the winner has unfortunately been lost to the record, however, blueprints of the structures credit C.J. Colley and E.S. Lemme as the architects.

The early 1890s were a period of much activity on the site including rock blasting, tunnel digging, hauling of sand for use in concrete, clay lining of slopes for erosion control, and the hauling of lumber from other sites to build forms and trusses. When the Baths were dedicated and opened to the public in November, 1894, they were comparable to only a few buildings in the United States in terms of scale and technical achievement. They were also compared, by London-based author Alfred Cross in the *Public Baths and Washhouses*, to the famous ablution resorts of Titus, Caracalla and Diocletian.

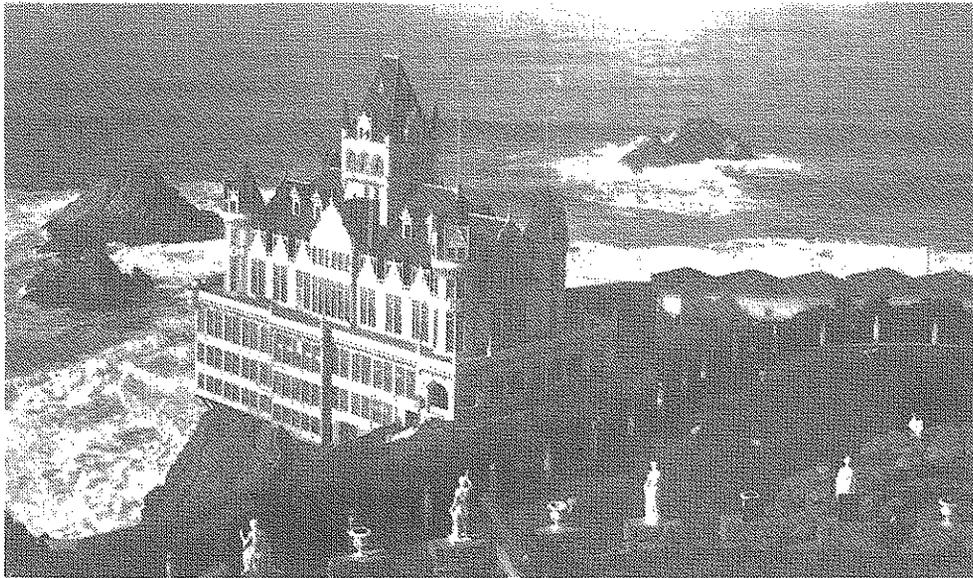
The main entrance to the baths from Point Lobos Avenue was a small classical structure in the form of a temple. The visitor descended a broad staircase to a museum gallery that overlooked the six salt water swimming tanks and one freshwater pool. Direct access to the swimming tank level was from another broad staircase that descended from the east. The tanks were of varying sizes; the largest was L-shaped and measured 275 feet along its length. The other pools were twenty-eight by seventy-five feet, with depths of two to six feet. All of the pools were heated to different temperatures by steam heat. Adjacent to the baths were bleachers for spectators that extended on three sides. The Baths also contained restaurants, galleries, and an amphitheater.

Following the death of Adolph Sutro, the Baths continued to operate as a swimming center until 1933. Attendance began to drop and revenues could no longer sustain the maintenance required to operate the system. The Baths were then converted to an ice skating rink in the 1950's until the property was sold in 1964 by Gustav Sutro, a grandson of Adolph Sutro. The new owners had devised plans to demolish the Baths and construct a 200 unit apartment complex overlooking the ocean. However, in June, 1966, in the

midst of negotiations regarding the development and with demolition already underway, a devastating fire destroyed the legendary Baths. The National Park Service acquired the site in 1982 as part of the Golden Gate National Recreation Area.

Cliff House

Adolph Sutro began an extensive remodeling campaign on the first Cliff House structure in 1883 and completed it within six years. In 1894, less than five years after completion of the remodeling, the first Cliff House burned to the ground. Sutro began immediate plans to design a second structure which was dedicated in February of 1896 along with the new Sutro Railroad that terminated close to the existing Louis' restaurant. Whereas the original Cliff House was simple in its design, the second structure resembled a "chateau style palace." The building was six-stories high and contained restaurants, private dining rooms, and a Camera Obscura. Unfortunately, in 1907, the second Cliff House also caught fire and burned to the ground.



Second Cliff House

Although it is often viewed with nostalgic longing today, the second Cliff House was not without its detractors, including the great city planner Daniel Burnham, who argued that the building was too large and ornate, and blocked sweeping views of the headlands to the north. In July, 1909, Emma Merritt opened the third Cliff House, a simple neo-classical building that was more in keeping with the scale of the first Cliff House. The operations of the establishment were successful, despite having to be closed for a period during World War I and several changes of ownership during the 1930s and 1950s. Several additions have been made to the building, including a small

wing on the north in 1939, and a new top floor and south wing addition in the 1950s. Changes to the street front elevation have been significant, completely disguising its neo-classical appearance. The building has shown little change since the NPS acquired the establishment in the early 1970s.



Third Cliff House

4.2 CULTURAL LANDSCAPE SETTING

Recognizing the need to balance historic values with those of the natural setting, the Design Proposal discussed in Chapter 2 integrates developments of the Sutro era with the demands that 21st century users will place on the site. The basis for recognizing what is significant from the Sutro era and what has integrity for interpretation is documented in the Cultural Landscape Report under the inventory of Surviving Character-Defining Features and Systems. Buildings/structures, historic circulation, small scale features, vegetation, view points, and topographic modifications are considered. These are illustrated in Figure 4-1. Examples of remnant elements would include the alignment route of the railroad, the concrete ruins of the Baths, the 1909 Cliff House structure, and the Parapet observatory at Sutro Heights. These character defining elements were the basis for the Design Proposal. The natural setting has evolved over time in response to the cultural setting, and is now the force responsible for slowly reversing the planned human impositions.

Recreational use will continue as a character-defining feature of the Sutro District, and landscape **rehabilitation** will be the appropriate design response. The Cultural Landscape Report states that rehabilitation encourages

Figure 4-1

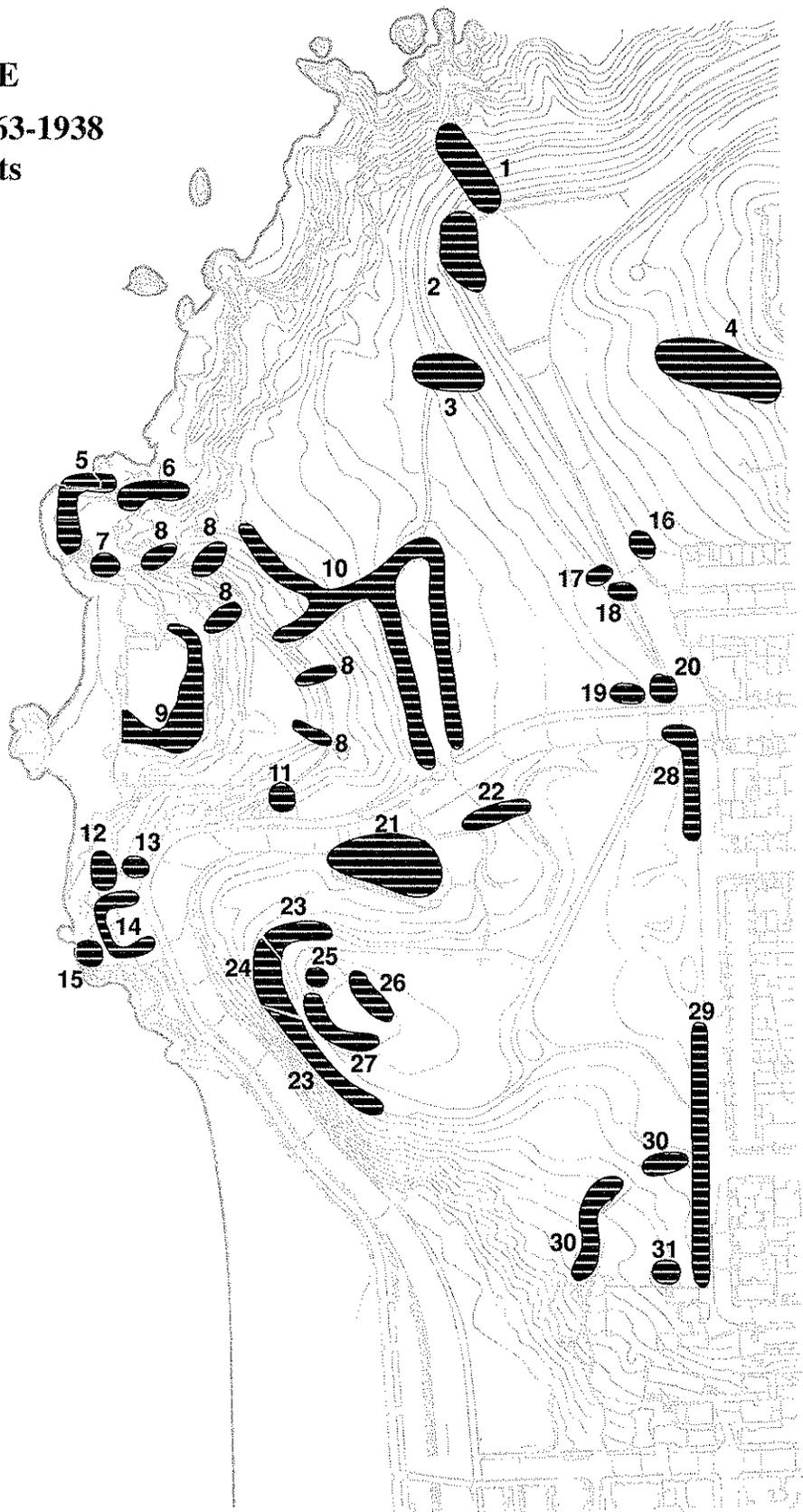
CULTURAL LANDSCAPE

Period of Significance 1863-1938

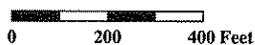
Non-Contributing Elements

Excluding Vegetation

1. Steps and Site Furniture
2. U.S.S. San Francisco Memorial
3. Paths
4. Road
5. Walls and Railings
6. Road
7. Overlook Structure
8. Drainage Structures
9. Sedimentation/Debris
10. Site Furniture and Pavement
11. Louis'
12. Sky Tram Building
13. Rest Rooms
14. Upper Terrace and Additions
15. Camera Obscura
16. Sign
17. Gate
18. Path
19. Bus Stop Structure
20. Sign
21. Parking
22. Path
23. Site Furniture and Fencing
24. Topography
25. World War II Structure
26. East End of Parapet
27. Site Furniture
28. Bus Stop Structure
29. Fence
30. Path
31. Utility Structure



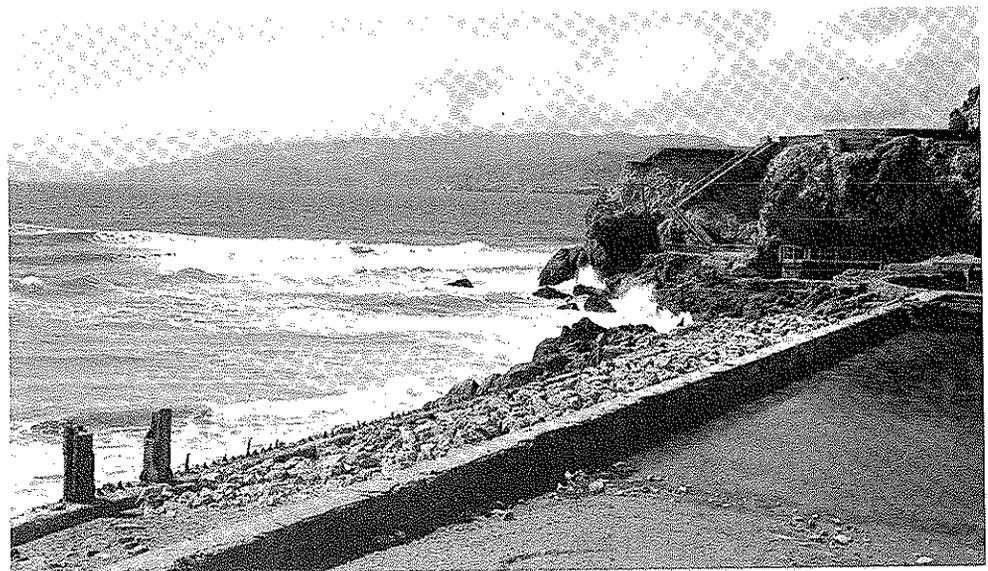
NORTH



improvements that make efficient contemporary uses possible while preserving those portions or features that are significant. Furthermore, new additions or alterations must not destroy features, materials, or physical or visual relationships that characterize the cultural landscape. New work is to be differentiated from the old and is to be compatible with the massing, size, scale, composition, and physical or visual relationships of the landscape's features to protect the integrity of the property. Additions or related new construction are to be undertaken in such a manner that, if removed in the future, the essential form and integrity of the cultural landscape would be unimpaired.

Contemporary facilities will not create the false historical impression that they existed in the same manner during the period of significance and they will be sited to prevent adverse impacts to character-defining, historic landscape features. It is also important to note that the site's significance today depends on the protection of its outstanding and vulnerable **natural** resources. Future design treatment should consider both biotic and built features as well as the ongoing dynamics of this coastal site.

The approach to Land's End from San Francisco has historically been one of striking views and an anticipation of the sight and sound of the Pacific surf. Sutro chose to bring visitors to the area on his railroad via California Street, around Point Lobos, and then to the Cliff House. The views of the Golden Gate, Marin Headlands, and the Pacific Ocean were undoubtedly spectacular due to the absence of tree cover. The historic alignment of the railroad is used today by hikers and joggers as they travel between the Merrie Way parking lot and Land's End.



Remnant Concrete Seawall

The present vehicular and public transit (MUNI) approach to the area is along Point Lobos Avenue and Geary Boulevard from the east and the Esplanade and Ocean Beach from the south (Figure 4-2). This was also the original site access. The view of the Ocean is apparent beginning around 42nd Street when arriving from the east, however, the sense of open space does not occur until the City grid ends at 48th and El Camino Del Mar.

The visitor to the area during Sutro's era found a landscape mostly void of buildings and trees. San Francisco was still developing around Market Street, and the City grid had not yet been extended to this area known as the "Outside Lands". Today, the City surrounds the District as evident in the development of the Richmond neighborhood westward to 48th Avenue and El Camino Del Mar. Residents of the Richmond District and other Bay Area neighborhoods use the open spaces of the Sutro District not only as a place to reflect on San Francisco history, but also as a place to experience nature, to exercise, and to find respite from urban sights and sounds. It is a significantly different attitude toward recreation than in Sutro's era where the visitor arrived at a place where a themed attraction was the primary reason for making the journey.

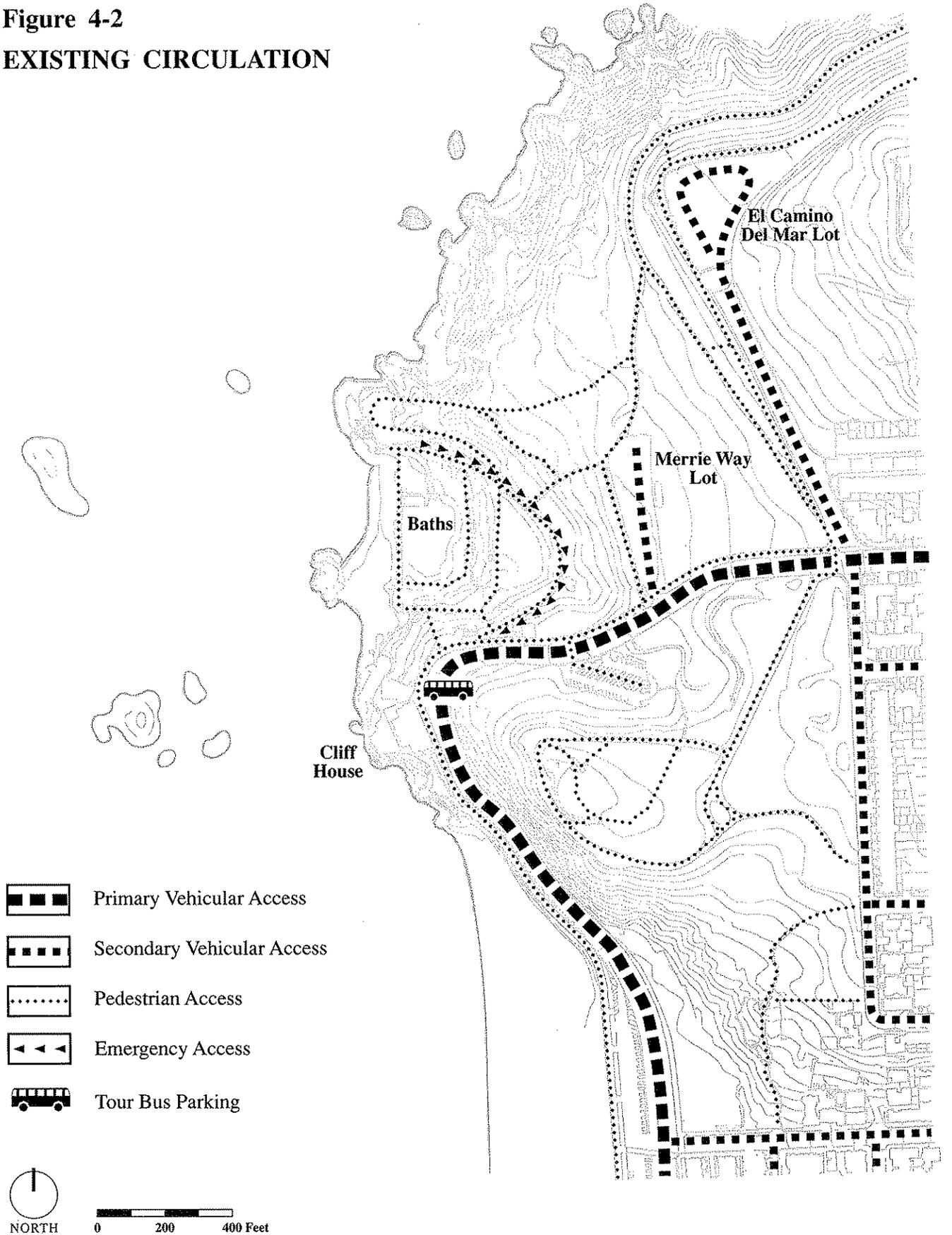
The historic vegetation within the District is dominated by dense stands of Monterey Cypress and Monterey Pine planted during the Sutro era. There is evidence that a collaboration existed between Sutro and officials from both the Presidio and Golden Gate Park on tree massing schemes to stabilize the shifting sand dunes. The area known as the Baths is now spatially confined by the mature forest of Cypress which covers most of the lands to the north and areas within Sutro Heights as well. The mature size of these trees gives the impression that the area was always under tree canopy, reestablishing the "sense of nature" in the City. Indeed, had the Cypress never been planted, the character and use of the District would be quite different than it is today.

4.2 NATURAL LANDSCAPE SETTING

In addition to the Cultural Landscape Report, several specific studies were undertaken to assess the natural landscape setting the of District. These are summarized below and the full consultant reports are available in Volume 3 of this Comprehensive Design Plan.

There are four distinct zones within the Sutro Historic District: Point Lobos, Sutro Baths, Cliff House Area, and Sutro Heights. Together they comprise some of the most outstanding scenic resources in the Golden Gate National Recreation Area. The derelict Bath ruins, however, detract from the visual quality of the District. Opportunities to enhance the site's resources include

Figure 4-2
EXISTING CIRCULATION



revegetating barren slopes, removing structures which block views and siting new structures so that they do not interfere with views.

Point Lobos

Lands included within this zone are in the northern portion of the District, east of the Merrie Way Parking lot and North of Point Lobos Avenue. The dominant vegetation type is the Monterey Cypress plantation that almost completely covers the area, particularly in the vicinity of El Camino Del Mar and the USS San Francisco Memorial. The Monterey Cypress were planted to control erosion of the sands along the coastal bluffs and to stabilize the margins of the bluffs. Tree cores taken from the plantations indicate the stands are about 75 years old. There is evidence of recent tree mortality within the stands, particularly along the western margins where tree roots have become exposed due to soil erosion. This problem is exacerbated by heavy pedestrian traffic along the coastal bluffs and the high wind and waves which occurred during the El Niño of 1983.

There is a small area of native vegetation consisting of a Northern Coastal Bluff Scrub Community near the intersection of Point Lobos Avenue and El Camino Del Mar (Figure 4-3). Vegetation near the bluffs overlooking the ocean is primarily ruderal (disturbed) shrubs and succulents which have found places to exist in the eroding soils. The cliff face within this zone is dangerous due to the continual erosion of the bluff tops and precipitous descent to the pounding surf below. There is one archaeological site within this zone listed in the Point Lobos Archaeological District. This is a small graded terrace containing remnant midden material that may be part of another site close by within the zone of Sutro Baths.



Existing Vegetation Character

Sutro Baths

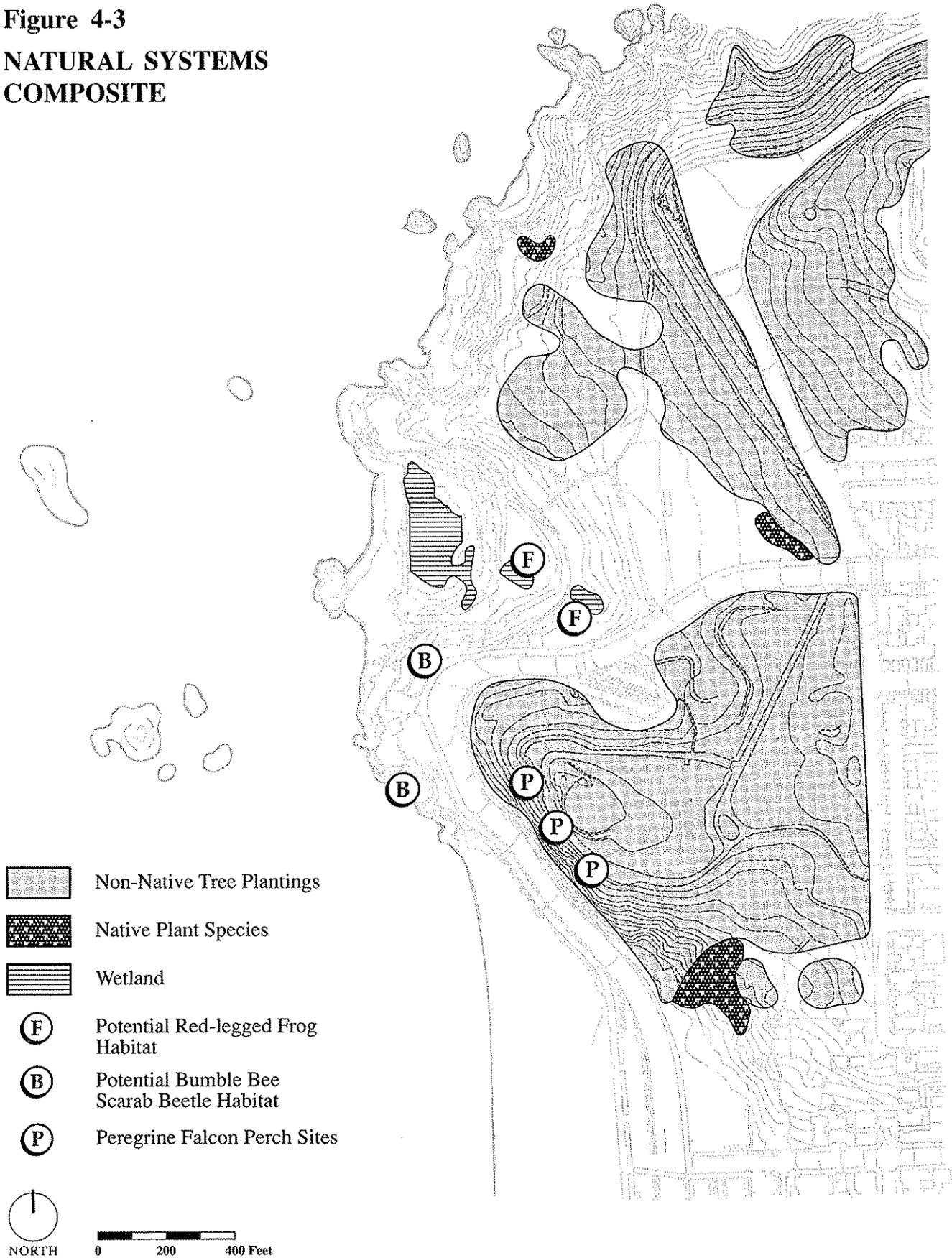
Located between the Cliff House and the promontory overlooking the waterworks is the distinctive landform created for the Baths. Also included within this zone is the Merrie Way parking lot to the east.

Without question, the Baths have undergone the most significant transformation with respect to changes in the natural terrain. Construction of the aquarium, and later the Sutro Baths, completely modified the original topography. Prior to Sutro's renovations as evident in historical photographs, a natural beach (Naiad Beach) occurred in this cove (page 5-2). In order to construct the enormous Baths complex, Sutro excavated large quantities of earth, the effects of which are strikingly visible in the bowl below the parking lot. Due to removal of much of the soil overlying the bedrock, severe erosion of the steep slopes has occurred over time. This is a concern that must be addressed with future construction and slope stabilization methods. In areas where old retaining walls still exist, erosion has been checked by allowing those structures to remain. There are small pockets of vegetation clinging to the exposed areas on the north and south facing slopes of the Baths. A mixed community of ruderal non-native shrubs has invaded the western facing slope with stands of *Albizia* as the dominant species.

There are several wetland marsh communities within the Sutro Baths zone (Figure 1). Two springs or seeps are evident in locations that Sutro used for freshwater holding ponds that fed the Baths and supplied windmill powered water to the Heights. Each marsh supports a complement of native and non-native plant communities. The seep that occurs higher on the slope is bordered by a stand of willows and is usually very wet due to the shallow water table. The larger seep that occurs downhill is fed from water moving through the site as it drains from the upper marsh. The lower marsh is overgrown with invasive species, particularly nasturtium and calla lily. Both marshes support soils and plants indicative of wetland conditions. Below this second marsh, water continues downhill to the base of the Baths, where a third marsh has formed that includes several plant species more tolerant of saline conditions. The higher elevations support rushes and silverweed, while the lower portions support more salt tolerant species such as salt grass and brass buttons. Another small seep is evident in the slope facing north just below the sidewalk along Point Lobos Avenue. Similar to the other seeps, this one supports nasturtium and calla lily.

The remnant baths are usually filled with several feet of brackish water and are considered wetlands under regulations within the National Wetland Inventory system as administered by the U.S. Fish and Wildlife Service. Based upon field observations and public testimony by the Audobon Society,

Figure 4-3
NATURAL SYSTEMS
COMPOSITE



the Baths are used by migratory waterfowl for bathing purposes and some feeding. The closest similar habitat for seabirds is found 4 miles south at Lake Merced. In addition, vegetation found in the seeps is used by songbirds for food and cover. As discussed in Section 6, the marshes are an important part of the interpretive story of the Baths site.



Local Resident

A wildlife resource evaluation was conducted for the area during the same period as the vegetation analysis. In addition to the bird species, common urban wildlife species such as raccoon, opossum and skunk are present. Sandy soils with ruderal (disturbed) vegetation around the Baths provide habitat for a colony of ground squirrels. The project area also includes rocky shoreline and intertidal habitats and offers unique opportunities for viewing marine mammals and seabirds. The Seal Rocks provide important roosting sites for brown pelicans, and haul-out areas for California sea lions and Stellar sea lions. Intertidal areas at Land's End and Fishermans Rock display sparse marine life because of water turbulence and high soil erosion, however anemones, mussels, limpets, and barnacles are found within the wave catch basin and walls of the waterworks.

The California Native Diversity Data Base (CNDDDB) San Francisco North quadrangle included two special status species that have been reported in or near the project area. The bumblebee scarab beetle (*Lichnanthe ursina*), a federal category 2 candidate, has been found in the dunes below the Cliff House (CDNNB 1992). The California red-legged frog (*Rana aurora draytoni*), a federal category 2 candidate and California species of special concern, has been reported from several locations in Golden Gate Park and Land's End (CNNDDB 1992). There have been no frogs sighted within the project area seeps because they are probably too shallow and highly disturbed to represent good frog habitat.

The American peregrine falcon (*Falco peregrinus*), a federal and state endangered species, has been documented in Sutro Heights Park (Fish 1989). A peregrine was observed perched on a snag above the artificial cliff on several occasions during November of 1989.

Evidence of pre-historic use of the site is available but not extensively documented. Two archaeological sites were recorded in the Sutro Baths zone as part of the Point Lobos Archaeological District. An archaeological deposit was found in the slope under the historic entrance to the Sutro Baths. Molluscan remains include mussel, clam, oyster, limpet, and chiton. In addition, fire cracked rock, charcoal and ash were found. A second site was found within the Sutro Baths zone, within the slope to the north of the Baths. This large midden site contains remains of mussel shells and bones of sea lion, deer and sea otter. These sites are significant because they are very likely the last

remaining visible evidence of the occupancy of the region by pre-European contact native Californians. All archaeological sites will be respected during the construction process, pending additional assessment and documentation.

Cliff House

The small zone around the Cliff House site includes the area directly adjacent to the North Annex building and south to the sea wall along the Esplanade. This area has been modified greatly over time and contains little vegetation or other natural features other than the exposed cliff faces to the Pacific Ocean. However, the comments noted above in relation to the scarab beetle apply to this area as well.

Sutro Heights Park

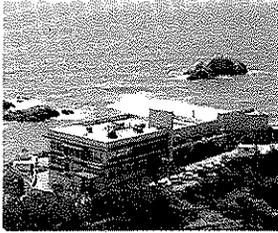
The Sutro Heights zone is bounded by Point Lobos Avenue to the north and west, 48th Avenue to the east, and steep cliff faces and Parcel 4 to the south. Tree massing in the Park is mixed, reflecting the arboretum like plantings of the Sutro era. The main axis into the park (Palm Avenue) was once completely lined with palm-like *Dracena draco* trees, of which only a few remain.

Tree and shrub plantings have long since overgrown their sites due to the lack of maintenance. The gardens are no longer visible and have been replaced with lawn and ground cover beds. Current maintenance procedures include pruning and removing trees for safety and appearance and removing undergrowth where possible. Intermittent groupings of trees from the Sutro era are still recognizable, including several Norfolk Island pines.

The Sutro Meadows, to the south of Sutro Heights has a mixed vegetative cover of Cypress, ruderal shrubs and succulents, non-native grasslands, and sand dune communities. The sand dune communities have been relatively undisturbed, and include both the Northern Foredune and Central Dune Scrub Communities.

4.3 ECONOMIC SETTING

In addition to analyzing the cultural and natural resources, the current economic and fiscal condition associated with the concessioners was assessed. Indications from the data collected are that the Cliff House Complex has reached a mature stage in the evolution of visitor destination with attendance leveling off and figures no longer growing rapidly. Annual visitation to the area is fluctuating between 1 and 1.5 million people, peaking in the summer tourist season. Weekend visitation is roughly three times greater than week-day visitation based upon an analysis of traffic data.



Cliff House



Musée Mécanique

The Cliff House/Sutro District attracts a wide range of visitors. They range from local nature enthusiasts who may spend a half day hiking and picnicking along the trails past the ruins, to old timers who bring friends and relatives for a seafood dinner at the Cliff House, to tourists brought by busses for quick ten minute edge-of-the world experiences. Interviews with the Cliff House operator indicate that at least 70 percent of their year round patrons are local residents. Tourists brought to the area by busses are not permitted the time to engage in a long lunch at one of the several Cliff House restaurants.

The Cliff House/Sutro District is an important source of revenue for the Park. Recognizing that the District has the potential to continue providing a source of capital for future construction and maintenance, the continued operation of concessions is considered extremely important. Existing concessions operations are under interim authorizations. The opportunity exists for creative reconfiguring of the type and mix of establishments desired. The type of tenant and quality of product can be reestablished when new contracts are created.

Retaining some form of concession and/or amusement activity is also compatible with the history and cultural significance of the site. The Musée Mécanique and Camera Obscura have entertained visitors for many years and represent the last vestige of turn of the century attractions now that Playland-at-the-Beach has been demolished.

4.4 TRAFFIC AND PARKING

The January 1992 parking occupancy survey counted 313 off street vehicles (in the Point Lobos, Merrie Way and USS San Francisco Memorial Lots) and 218 on street vehicles (along Point Lobos from Balboa Street south of the Cliff House to 48th Avenue and along El Camino Del Mar), for a total of 531 parked vehicles. Of the on street vehicles, 40 were estimated to be non-Sutro related. Because this survey was taken at 3:00 p.m. on a weekend day during the winter, the total count was factored up by 30 percent to convert demand figures to a high tourist season (summer) condition. This resulted in a current high season demand for 622 spaces.

It is reasonable to assume that some increase in parking demand would result from the proposed project if it were to be developed all at one time, which is not the case; due to financial and environmental constraints the project will most likely be developed incrementally. Nonetheless, similar projects (Monterey Bay Aquarium, for example) have experienced a surge in visitation for a few years, with visitation returning to normal average conditions

after the “novelty” of the attraction has diminished. This is a very speculative situation and it is not possible at this time to predict what the future attraction of the site will be compared to the existing site and just how many additional visitors, if any, the Sutro Historic District will attract in the future. It is not certain that visitor numbers will increase substantially in the future, and therefore parking may remain as it is today. During the high tourist season it is possible that weekend parking demand will exceed available supply. Mitigation measures listed in the Plan are designed to address that condition.

Projected visitor counts and resultant traffic volumes will be based upon (1) a more specific program for the Cliff House and Visitor Center (which is beyond the scope of this Plan) and (2) on the visitor and traffic management “policy” established by the NPS. If the Park Service were to design for the maximum possible visitation, the very resource people come to experience would be seriously compromised.

2

ENVIRONMENTAL ASSESSMENT



5. ALTERNATIVES

A range of alternatives was considered in the development of the Comprehensive Design Plan. They are all viable alternatives which have been suggested by the public at various times in the past. All are possible, have common elements and all would solve the problems now attendant in the District to varying degrees. In addition all the alternatives are subject to legal compliance with applicable environmental review and historic preservation legislation, other acts and executive orders, and NPS policy. The following laws are applicable to the plan and alternatives for the Sutro District:

- Fish and Wildlife Coordination Act of 1934 (16 U.S.C. Sec. 661 et seq.);
- National Historic Preservation Act of 1966 as amended 1980, 1992 (16 U.S.C. Sec. 470 et seq.);
- Executive Order 11593 (Protection and Enhancement of the Cultural Environment);
- Endangered Species Act of 1973 (Public Law 93-205);
- Archaeological Resources Protection Act of 1979 (16 U.S.C. Sec. 4702 et seq.)
- Clean Water Act of 1977 (Public Law 95-217);
- Executive Orders 11988 and 11990 (Floodplain Management and Protection of Wetlands);
- Coastal Zone Management Act of 1972 (Public Law 92-583); and
- Antiquities Act of 1906 (16 U.S.C. Sec. 431).

5.1 PROPOSED COMPREHENSIVE DESIGN (PROPOSAL)

For a complete description of the proposal, please refer to Section 2 of this document.

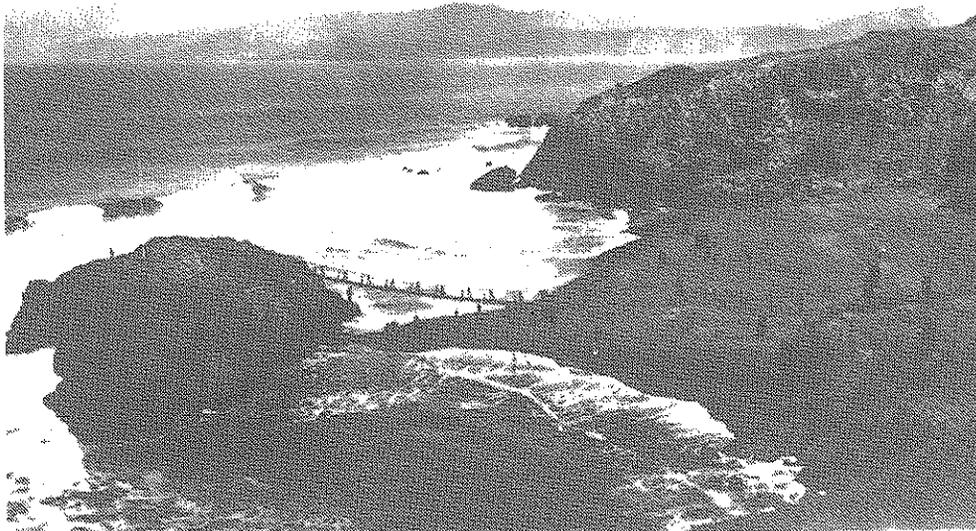
5.2 OTHER ALTERNATIVES CONSIDERED

5.2.1 *Remove Bath Ruins/Restore Naiad Beach*

Under this alternative, most existing man-made facilities and significant historic resources in the Sutro Baths area would be removed in their entirety. The area's natural qualities would be restored to maximize its natural appearance. Major actions would include demolition of existing ruins, extensive regrading, stabilization of the hillside, removal of alien species and replanting with natives, and extensive shoreline/beachfront restoration. New planting would include native shrubs, ground covers and herbaceous plants. Development would be held to a minimum and would be limited to facilities required for visitor use activities, beach access, public safety, and management and protection of natural and adjacent cultural resources. Management activities would be directed primarily at protecting vegetation and wildlife from misuse and overuse and at maintaining the Baths area for undeveloped water recreation. The rocky cliffs and northern shoreline would remain untouched as important habitat for birds and marine organisms. Landscape improvements would increase the natural appearance of the Baths area. Sutro Heights Park, the Cliff House and the USS San Francisco Memorial would be restored in a manner similar to the proposal.

5.2.2 *No Action (Continuing the Status Quo)*

This alternative would provide for the continuation of present trends and conditions within the area (business-as-usual). Actions and developments would be limited to those necessary to meet existing District objectives for visitor use and safety, access and circulation, interpretation and resource management and protection. Minimum visible changes would occur and



Naiad Beach Before Construction of Sutro Baths

would be limited to those required for effective operation of the District consistent with law and NPS policy. The remnants of Sutro Baths would be stabilized against further deterioration, safety hazards would be corrected, and trails and walkways would be constructed through the ruins. Cleanup and improved maintenance would continue at Sutro Heights Park.

5.2.3 Reconstruct Sutro Baths

This alternative was considered but rejected during the planning and environmental review process for the District. This alternative would entail the removal of all existing buildings and a major historic reconstruction effort throughout the District, featuring accurate replicas of the Sutro Baths and the Cliff House of the 1890s, with some interior modifications to satisfy contemporary needs. Similar to the proposal, improvements would be made to the USS San Francisco Memorial Complex. The Cliff House would serve its present function with the addition of overnight accommodations, a historical interpretation facility, and a major information center within its new structure. The landscaping and garden structures at Sutro Heights would be restored to the condition in which they appeared when Adolph Sutro made his home there.

Historic reconstruction of the baths would involve significant costs (greater than \$50 million) and there is little evidence to indicate that funding of the project (public or private) is feasible. Furthermore, reconstruction would result in significant traffic increases generated by the large number of visitors who would be initially attracted to the area. Excessive pedestrian and vehicle congestion would be unacceptable to community residents and probably even to Park visitors.



Historic View of Sutro Baths

5.3 MITIGATING MEASURES

The following mitigation measures would be incorporated into the alternatives:

5.3.1 *Water Resources/Wetlands*

In order to carry out wetland restoration, a survey of plant species within the potentially affected wetlands would be conducted. Also, a more detailed study of the feasibility of the proposed enlargement of the upper marsh area would be prepared to determine topography, soil conditions and hydrology.

Goals for the design of the wetlands to accomplish a specific type of habitat development, educational use, and historic interpretation would be established. Once these studies are complete, a detailed plan would be written identifying all elements and techniques necessary to permit a successful restoration effort and to ensure the integrity of wetland habitat.

Appropriate erosion control actions (i.e., straw mulch and filter fabric) would be implemented in construction areas. All exposed areas would be immediately revegetated and stabilized. Fertilization would be monitored for early detection of an influx of nutrients in surface waters, and immediate action would be taken to avoid affects to aquatic organisms.

5.3.2 *Vegetation and Soils*

An integrated erosion survey would identify, inventory and prioritize serious erosional features and unstable landforms within the District. Erosional features attributable to prior human alterations and activities, which are contributing to significant soil loss and sedimentation, would be identified and prioritized for mitigation. Once the survey is complete, the corrective measures identified to mitigate the impacts of soil erosion problems would be implemented according to the priority established by the survey. A long term monitoring program would be established to assess results of the mitigation measures.

The vegetation/habitat enhancement projects would be carried out by NPS staff, volunteers and contract labor. Native plant materials for most of the revegetation projects would originate within the Golden Gate National Recreation Area and would depend on its native plant nursery facilities for propagation prior to planting. Each restoration project would be well planned and include the following components: project planning, plant production, project implementation and project evaluation. The elements of each component to be considered in the development of the revegetation plans would follow those discussed in detail in the Revegetation and Nursery Manage-

ment Program, Draft Golden Gate National Recreation Area Natural Resources Project Statements (U.S. Dept. of the Interior, 1992).

A strategy for controlling target alien plant species identified as the highest priority for control within the District would be developed. An Integrated Pest Management (IPM) approach and a plan of action (IPM Plan) for each species would be developed. Treatment alternatives could include physical, mechanical, environmental, cultural and biological means. Chemical treatments may be selected if other treatments are not feasible. Every population of target species would be located to assure that all plants are treated once a control program commences. A baseline would be established for assessing the spread of individual alien plant populations. Removal success would be monitored, the area would be mapped, and necessary illustrations of each effective control program would be provided. The monitoring results would be evaluated to alter any future treatment.

5.3.3 Wildlife

No adverse consequences to wildlife have been identified. Therefore, no mitigating measures are warranted.

5.3.4 Special Status Species

All new construction or provisions for new activities near valuable vegetation or habitat would be preceded by a site-specific survey of special status species to confirm that there would be no effect on these species. The National Park Service would consult with the U.S. Fish and Wildlife Service, both formally and informally, to comply with Section 7 of the Endangered Species Act whenever any activities could affect a species that is on or proposed for addition to the threatened or endangered species list. Any conflict areas would be resolved and avoided through additional investigation into the ecology, range and occurrence of listed and candidate species. A monitoring effort would be implemented to accomplish these measures.

A program would be developed to monitor the effects of visitor use so that unacceptable impacts can be detected early and corrective action can be taken. Monitoring of marine resources in the intertidal zone and of important bird habitat would provide information upon which to base closure of certain sections or other use limitations necessary for protecting sensitive wildlife and marine organisms.

5.3.5 Cultural/Historic Properties

More extensive research and archaeological investigations would be required prior to replacement of missing historic features or before undertaking projects involving new construction or land-disturbing activities near exist-

ing sites. Any ground disturbance for archaeological investigations would be reviewed in advance by a historical landscape architect qualified to evaluate the potential impact on significant landscape features. Sufficient study and documentation would be undertaken before making any decisions to modify and replace historic material. Documentation of all historic features before modification may aid in future research and interpretive efforts and would mitigate significant effects.

An archaeologist would be onsite during the construction period to ensure that no impacts on important archaeological resources would result. All lands not adequately surveyed for archaeological resources would be surveyed prior to the implementation of any project involving land disturbance. The National Park Service procedures for archaeological clearance would document determinations of no effect on archaeological resources and would pinpoint projects where caution or monitoring is necessary. Any construction activity which is found to involve adverse or potential adverse effects would be submitted for consultation under the procedures of the Advisory Council on Historic Preservation.

5.3.6 Visitor Safety and Access

Visitors use levels and accidents would be monitored to ensure that overcrowding and visitor injury would not become a problem.

5.3.7 Traffic and Parking

The proposal and alternatives incorporate many elements that improve access, circulation, vehicle and pedestrian safety, and therefore no additional measures would be necessary.

5.3.8 Visual Resources

Mitigating measures to reduce or eliminate adverse consequences to the visual environment have been integrated into the proposal and alternatives. Therefore, no additional measures are warranted.

5.3.9 Air Quality

No mitigating measures for air quality will be warranted because no significant impacts have been identified.

5.3.10 Economic Impacts

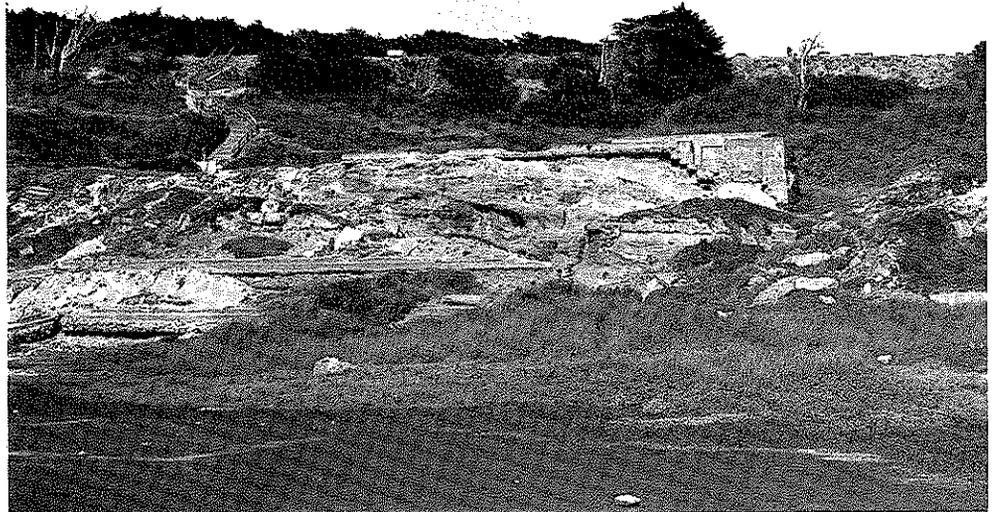
Mitigating measures to reduce or eliminate adverse economic consequences have been integrated into the proposal and alternatives. Therefore, no additional measures are warranted.

6. ENVIRONMENTAL IMPACTS OF THE ALTERNATIVES

6.1 WATER RESOURCES/WETLANDS

Affected Environment

Water resources in the District consist of a number of seeps (once used to supply freshwater to the baths), marshes, the remnant baths and aquarium structure, and a wetland fringing the remnant baths (Figure 6-1 and Table 6-1). These resources provide wildlife habitat, recreational/educational sites and sources of biological productivity. However, these resources have been degraded by decades of human manipulation, including plant harvesting, culverting, trampling, litter deposition and soil compaction. Past management practices have added sediment loads to the system and decreased water quality.



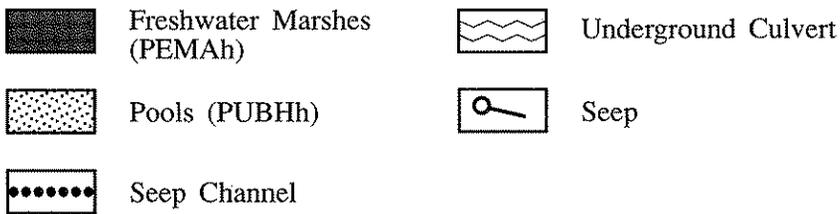
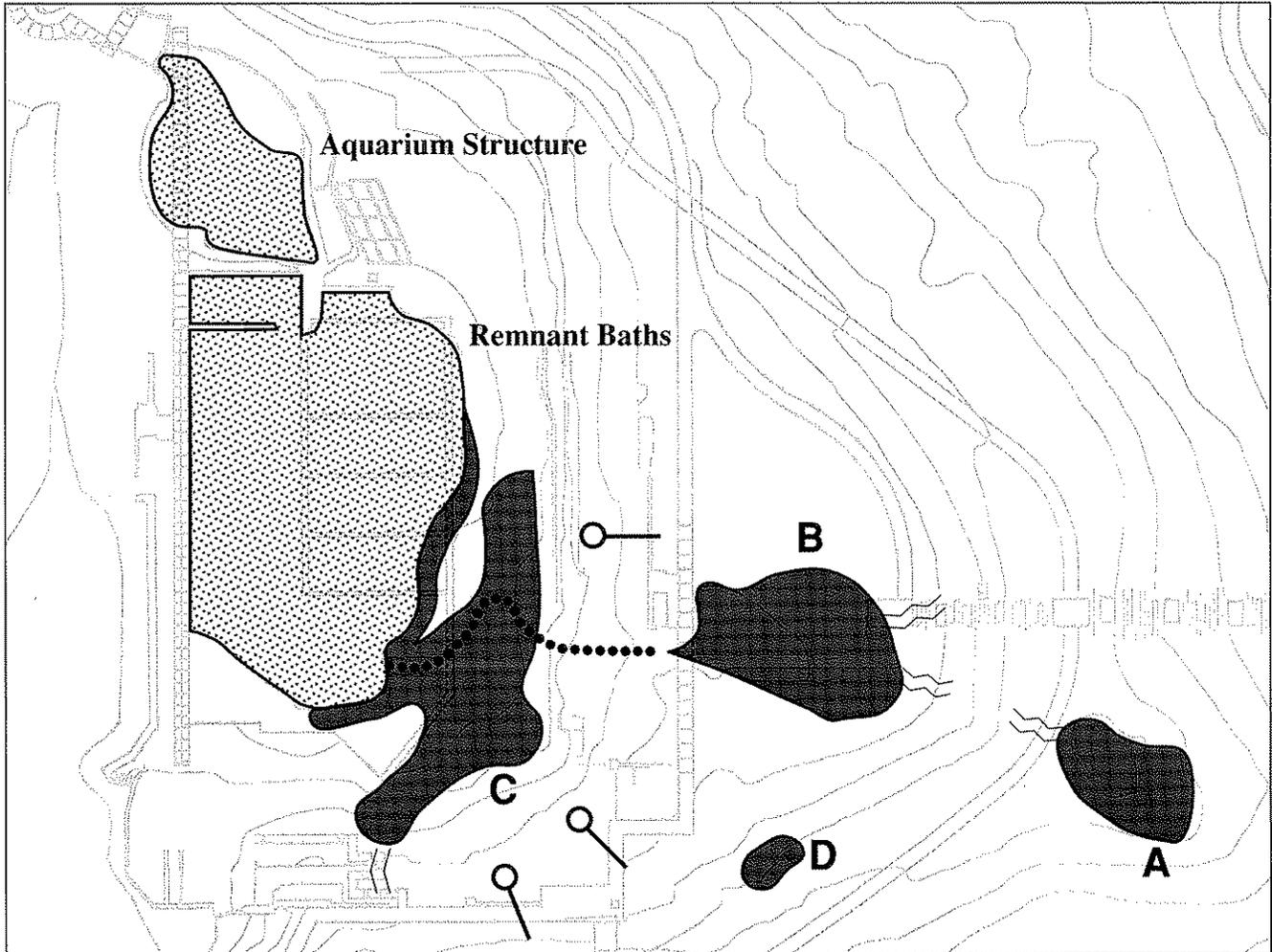
Freshwater Marsh Area

Environmental Consequences of Proposal

The Plan has been designed in such a way that proposed activities would occur with the least damage to water resources. All visitor activities would be planned for upland areas, while the freshwater seeps and marsh areas would receive special protection as areas of biotic sensitivity in the proposal.

In general, water resources would be better managed and protected. Uncontrolled access into marsh areas would be prevented through fencing or other physical barriers. Seep channels would also be protected with catwalks and footbridges. Wetland areas would be rehabilitated through such methods as alien plant eradication, revegetation with native species and removing cul-

Figure 6-1
WETLANDS



Source: BioSystems Analysis, Inc. 1992

Table 6-1
Water Resources in the Sutro Historic District

Resource	NWI ¹ Classification	Size (acres)		
		Existing	Proposed	Net Change
Remnant Baths	PUBHh ²	.69	.80	+11
Aquarium Structure	PUBHh	.14	.18	+04
Subtotal		.83	.98	+15
Freshwater Marshes	PEMAh ³	A ⁴ .10	.10	-
		B ⁴ .19	.35	+16
		C ⁴ .27	.19	-.08
		D ⁴ .01	.01	-
Subtotal		.57	.65	+08
Total		1.40	1.63	+23

Source: BioSystems Analysis, Inc. 1992

¹ National Wetlands Inventory

² Palustrine unconsolidated bottom, permanently flooded, diked/impounded.

³ Palustrine emergent, temporarily flooded, diked/impounded.

⁴ See Figure 6-1 for location.

verts. Other management practices would include enhancing waterfowl/shorebird habitat through wetland restoration and enlargement and interpretive signing.

Excavation to reveal the boundary of the remnant bath structure, as called for in the proposal, would remove .08 acres of freshwater marsh (Marsh C in Figure 6-1). Re-establishment of the boundary would allow for interpretation of the historical recreational use and would increase habitat for migratory water and shorebirds. The Plan also recommends enlarging the upper marsh area by .16 acres to increase biological diversity of the site and offer significant ecological and educational values. This would also serve to replace the vegetated marsh area removed by the excavation on a 2:1 basis.

Construction activities have the potential to decrease water quality in local areas as sediments are transported into water resources by runoff. Construction area runoff resulting from the Visitor Center and parking would temporarily increase siltation and erosion into the seeps and marsh areas. However, sedimentation increases would not significantly affect water quality because of the small amount of sediment that would be contributed. Ocean water quality would be affected in a very minor way by sediment runoff from earth movement and landscaping to improve the Baths area. Nutrient levels in runoff may increase periodically near landscaped areas where fertilization and irrigation are necessary to establish a new plant cover or maintain manicured gardens and landscapes, such as in Sutro Heights. Any runoff that would occur following implementation of the Plan would be minimized through limiting paved surfaces and diverting stormwater to the City's existing system.

Environmental Consequences of No Action Alternative

Increased sedimentation loads and impaired water quality would continue at unknown rates, and may increase in severity. Water resources would be managed as necessary to avoid to the extent possible any long and short term adverse impacts associated with the destruction or modification of wetlands. Visitor use would continue without knowledge of its effect on the resources.

Environmental Consequences of Beach Restoration Alternative

Construction and shoreline modification at the Baths area would most likely result in sediment runoff that might temporarily degrade local water quality. Allowing the natural flow of water by seawall removal would damage the .83 acres of built (artificially created) wetlands in the remnant baths/aquarium structure and .27 acres of fringe area (Marsh C in Figure 6-1), and their associated resource values.

6.2 VEGETATION AND SOILS

Affected Environment

Most of the land in the Sutro District has been altered by humans in some way. In fact, many of the site's characteristics that are enjoyed today and perhaps assumed to be natural are the result of some degree of human intervention with natural processes. Before the activities of Adolph Sutro to vegetate the area, the plant communities present may have been periodically burned by Native Americans and consisted primarily of dune scrub, northern coastal bluff scrub and coastal terrace prairie. In the early 1800s, the site was probably grazed by livestock (as indicated by the historic goat ponds in the vicinity of Marshes A and B on Figure 6-1) and annual grasses from the Mediterranean regions were inadvertently introduced. During construction of the Baths, much of the site was reshaped and many new plant species were introduced. Monterey cypress trees were planted to provide protection from the wind (and are now mature and showing decline and some local mortality). A marsh arising among the bath ruins is currently a bathing area for seabirds and waterfowl. Dense thickets of shrubs, many of which are alien species, have invaded native plant communities or were planted for erosion control and recreation and currently provide habitat for birds and small mammals. Despite those changes, the native remnants that have survived are important vestiges of the past that need preserving and enhancing for natural, cultural and interpretive values.

McBride and Gerhard (1992) recognized ten vegetation types in the District area (Table 6-2). Non-native dominate types are common. Through competition, alien plants have come to dominate extensive areas previously supporting native species. Few areas of native vegetation are present and while these have been greatly altered by alien species, natives are presently intertwined in these areas. The distribution of the vegetation types is shown in Figure 6-2. A list of species observed by vegetation type is presented in Appendix A.

Erosion, including severe gullying, is active on the steep, unvegetated slopes and along trails within the Sutro Baths area. Erosion, accelerated by past land use practices (such as grazing), persistent human disturbance and the presence of highly erodible soils have resulted in prominent visual scars (as shown on Figure 6-3 in Section 6.8, Visual Resources).

Environmental Consequences of Proposal

Impacts on vegetation and soils can be broadly grouped into several general categories: those caused by construction and demolition; increases in visitor use and changes in visitor activities; and changes in resource management

Table 6-2
Vegetation Types in the Sutro Historic District

Native Species Dominated Types

- Northern Foredunes (21210)*
- Central Dune Scrub (21320)*
- Northern Coastal Bluff Scrub (31100)*
- Coastal Brackish Marsh (52200)*
- Coastal Freshwater Marsh (52410)*

Non-native Species Dominated Types

Ruderal

- Succulents
- Herbaceous
- Shrub
 - Mixed
 - Albizia
 - Acacia
 - Coprosma

Grassland

- Non-native Grassland (42200)*

Tree Plantings

- Monterey Cypress Plantations
- Monterey Cypress Grove or Individual Tree
- Monterey Pine Grove or Individual Tree
- Sutro Park Mixed Tree Plantings
- Pittosporum Grove

Marsh

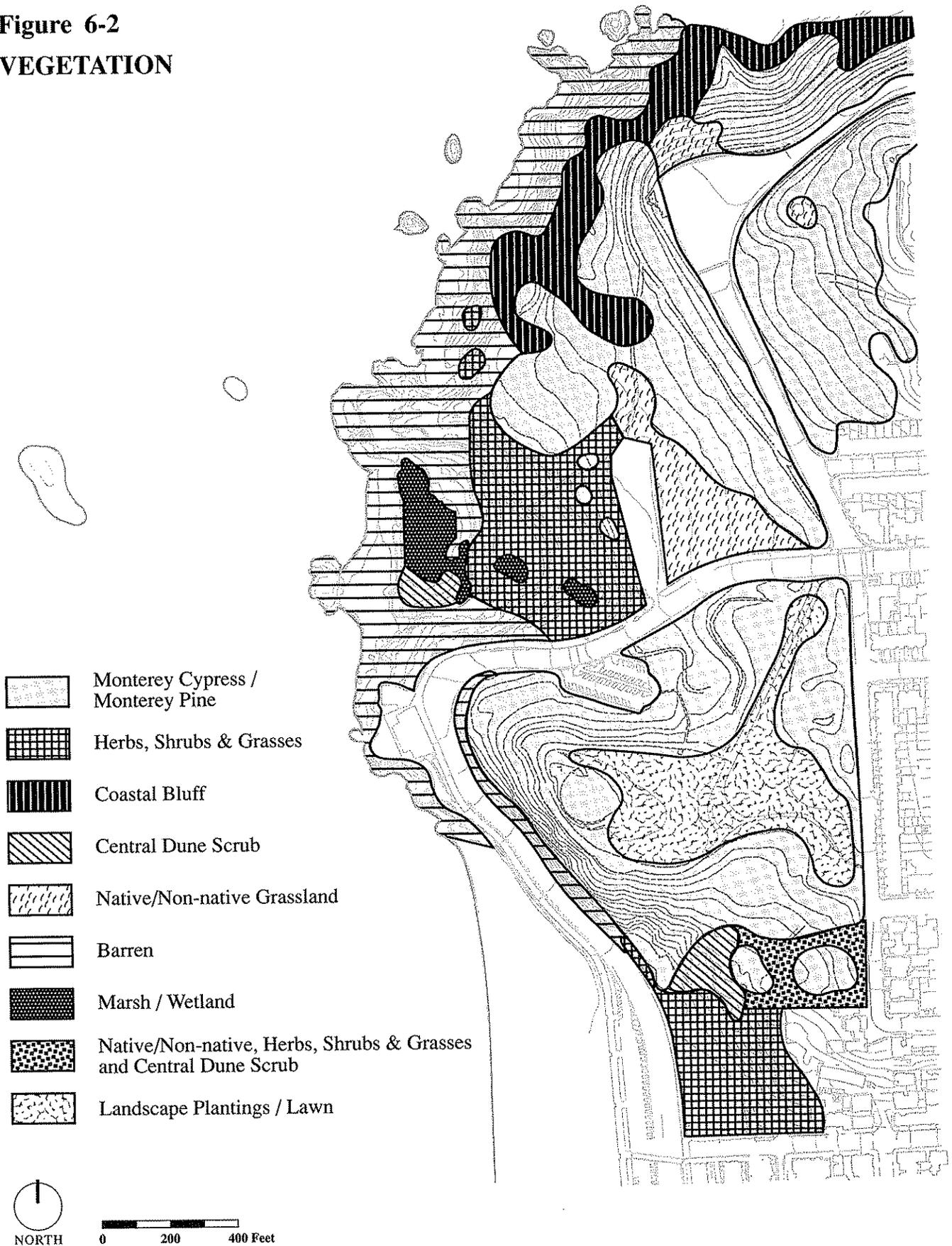
- Non-native Freshwater Marsh

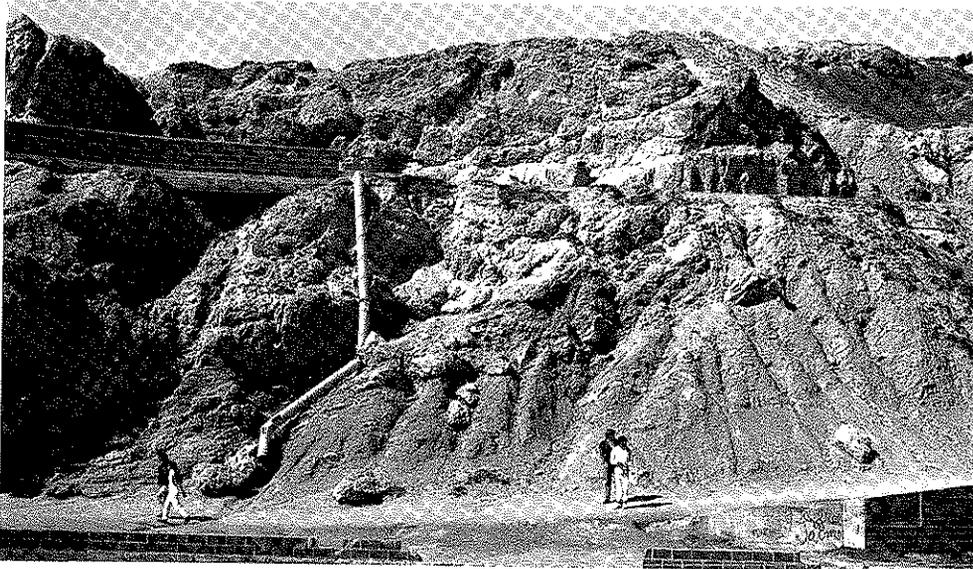
Stabilized Bluff

- Exposed Rock
- Imitation Rock
- Gunnite

* California Natural Diversity Data Base Community Number

Figure 6-2
VEGETATION





Severe Erosion in Sutro Baths Area

programs (Table 6-3). The only effects of the project on soils and vegetation would occur in the Sutro Baths and USS San Francisco Memorial Complex areas. Expansion of the Merrie Way parking lot has been designed to avoid the removal of mature trees. Approximately 5 trees would be thinned to open up views from the USS San Francisco Memorial Complex. Implementation of the proposal would involve limited earth movement to provide for the Visitor Center parking lot, walkways and landscaping. The area has already been extensively trampled, and invaded by alien plant species, displacing native plants and reducing native habitat for wildlife. Therefore, disturbance of natural vegetation and soils would be minimal. The construction of walkways would reduce vegetation trampling by encouraging visitors to stay on the paths and would allow recovery of previously trampled areas. Approximately 31 acres would be restored through plantings including 0.75 acres of the Central Dune Scrub at Sutro Meadows.

Facility designs would take into account possible effects on resources and the potential for erosion. Development would be located in areas previously disturbed by human activity. Adverse impacts would be controlled through maintenance of appropriate gradients, surfaces, and drainage structures, and by locating new facilities in areas that have been previously disturbed, do not currently support extensive native vegetation types, nor which are sensitive to visitor use. Implementation of management actions aimed at elimination of undesirable alien species would reduce the amount of nonnative vegetation. Habitat would be protected and enhanced through effective, interdisciplinary management, including but not limited to planning, interpretation, user education and maintaining a law enforcement presence. These techniques would include modifying use levels, signing, controlling erosion,

**Table 6-3
Impacts on Vegetation and Soils**

Activity / Area	Acres		Net Change
	Vegetation Disturbed	Restored /Revegetated	
Construction and Demolition			
Visitor Center	.15	0	-.15
Merrie Way Parking Lot	1.25	.79	-.46
Walkways	.44	.35	-.09
Total	1.84	1.14	-.70
Vegetation / Habitat Enhancement			
Sutro Baths	1.84 ^a	8.75	+6.91
Sutro Heights	0.11	.06 ^b	-.05
Sutro Meadows	0	3.64 ^c	+3.64
USSF Memorial Complex	0	.80	+.80
Monterey Cypress Plantation	0	29.16	+29.16
Total	1.95	42.41	+40.46

^a Includes new proposal facilities in Baths area (Visitor Center, parking lot, walkways). See Table 6-1 for impacts on wetlands within the area.

^b Point Lobos Parking Lot only.

^c As part of Coastal Dune Scrub native restoration plan.

reseeding and establishing plants, weed control and/or installing physical barriers where fragile resources could be threatened.

The health and continued existence of the 42.4 acres of Monterey Cypress plantation would be assured by managing the stands. Individual planting when necessary and eventual stand replacement would allow maintenance of the Monterey Cypress plantation.

Environmental Consequences of No Action Alternative

The problems of trampling, accelerated erosion, soil compaction and top soil loss would continue, with spot treatments to attempt to control traffic, revegetate and stabilize. Areas of high erosion hazard may not be identified. Detrimental practices may continue in some areas, and could contribute to additional soil erosion and sedimentation. Restoration of serious erosion problems would not be accomplished, and public concern for solutions may not be adequately addressed.

Vegetation type change (from native to those dominated by alien species) would continue unabated. The few areas of remnant native vegetation would continue to be threatened or may be entirely lost to alien species. Exotic and noxious weed control would be sporadic and possibly ineffective. The original planted trees would die at an increasing rate. Visitor use would continue without knowledge of its effect on the resources. Unique opportunities for environmental education could be lost. Vegetation management practices may be inconsistent at best and could be detrimental to natural vegetation types. Reestablishment of a more natural mosaic of plant communities would be delayed for an indeterminate period of time.

Environmental Consequences of Beach Restoration Alternative

With the exception of the loss of 1.05 acres of wetlands in the remnant baths/aquarium structure and fringe area, effects of shoreline restoration on vegetation and soils would be similar to those of the proposal. Efforts would be made to minimize human-caused or accelerated impacts and processes including erosion, invasion by alien species and trampling of vegetation.

6.3 WILDLIFE

Affected Environment

In spite of modifications of habitat, proximity to the urban environment, intensity of human activity and exposure to oceanic elements, the Sutro District contains important habitat for wildlife. Habitat types found in the project area include rocky shoreline, coastal bluffs, large stands of Monterey cypress, scattered Monterey Pine, central dune scrub, freshwater seeps, a brackish pool, and urban parkland. A preliminary list (Appendix B) includes seven kinds of amphibians, seven reptiles, 140 birds and 41 mammals as having the potential to occur within or near the District area.

One of the most important features of the site are the remnant baths that provide a permanent source of brackish water. This unique habitat element provides a bathing area for seabirds and waterfowl close to the coast. The only similar habitat in the urban areas of San Francisco is at Lake Merced. The tufted duck, an irregular winter migrant along the coast of California, is occasionally sighted in the baths.

Coastal bluffs, Monterey Cypress stands, and ruderal (disturbed) areas provide habitat for common wildlife such as resident and migratory songbirds, raccoons, striped skunks and opossums. Sandy soils with ruderal vegetation around the baths provides habitat for a colony of California ground squirrels. The woodland areas of Lands End attract migratory birds flying south across the Golden Gate. Freshwater seeps and the small wet-



Remnant Baths are an Important Wildlife Feature of the Sutro District

lands provide a source of fresh water and cover for songbirds and other wildlife. They may also provide breeding habitat for amphibians.

The project area also includes rocky shoreline and intertidal habitats. Seal Rocks provides important roosting sites for brown pelicans and haul out areas for California sea lions and Steller sea lions. Intertidal areas at Lands End and Sutro Baths Rock display sparse marine life because of water turbulence and high soil erosion. However, anemones, mussels, limpets, and barnacles can be observed in the wave catch basin and the rocks that form the sea wall.

Environmental Consequences of Proposal

General effects on wildlife are directly associated with the loss or gain of habitat and the sensitivity and adaptability of wildlife to human use. Removal or restoration of vegetation would change food and shelter availability and would affect both primary consumers and predators who inhabit the area. Important wildlife habitat has been identified in the proposal as biologically sensitive areas. Development would be located in areas previously disturbed by human activity. The 40.4 acres of restored areas, including 1.6 acres of riparian habitat, would provide food and shelter habitat for birds and small mammals. Overall, the acreage to be restored would significantly exceed the amount of habitat to be disturbed by construction (two acres disturbed compared to 42.4 acres restored as shown in Table 6-3).

Increased visitor use may increase the potential for disturbance of feeding, resting and breeding habitats for a large number of species. Use levels would be kept low in sensitive wildlife areas. Management actions would be undertaken to limit or relocate visitor activities if ongoing monitoring by Golden Gate National Recreation Area staff determines that wildlife is being affected by visitor use in particular locations. Measures may include placement of warning signs at visitor access areas, increased patrol, or temporary closure of areas during particularly sensitive periods. Therefore, there would be no effect on resident and migratory wildlife as a result of the proposal.

Environmental Consequences of No Action Alternative

Under the no action alternative, visitor use and alien species expansion would continue to degrade wildlife habitat and resources. Losses of soils and plants would occur from accelerated erosion and vegetation trampling, and siltation of sensitive habitat, such as the wetlands and remnant baths, would continue unabated. Priority wildlife projects would only be accomplished as they become emergency in nature.

Environmental Consequences of Beach Restoration Alternative

Impacts of this alternative would include elimination of .81 acres of the brackish water habitat along the shoreline and restoration to a more sandy beach habitat. Efforts would be made to minimize human-caused or accelerated impacts and processes including silting and erosion, invasion by alien species and trampling of vegetation.

6.4 SPECIAL STATUS SPECIES

Affected Environment

Based on a search of the California Natural Diversity Database (BioSystems Analysis, Inc., April 1992) two special status species (threatened, endangered, rare or candidates for such status) are known or thought to occur in the Sutro District area. The bumblebee scarab beetle (*Lichnanthe ursina*), a federal category 2 candidate, has been found on the sand dunes near the Cliff House. Specimens of this beetle have been collected from dunes along the coast from April to August, with a peak in May and June.

In addition, the California red-legged frog (*Rana aurora draytoni*), a federal category 2 candidate and California species of special concern, has been reported from several locations in Golden Gate Park and Lands End. Red-legged frogs range from the coast to the northern Sierra Nevada foothills. They are found in slow-moving streams and pools (usually at least one meter deep), freshwater marshes, or coastal estuaries; they breed between January and July, with a peak in February. Red-legged frogs are typically associated with permanent water bodies surrounded by willows or emergent aquatic vegetation, but they can also occur in ephemeral pools if the water remains long enough for breeding and larvae development (approximately 20 weeks). Mature frogs disperse from aquatic habitats after rains and may inhabit damp woods and meadows far from water. Because the small freshwater seeps and associated marshes in the project area are highly disturbed, they represent marginal habitat for red-legged frogs.

The American peregrine falcon (*Falco peregrinus*), a federal and state endangered species, has been documented in Sutro Heights Park. A peregrine was observed perched in a snag above the artificial cliff on several occasions. This perch site offers a wide view of potential prey such as pigeons, shorebirds, and ducks flying along the cliffs near the Cliff House.

The dune tansy (*Tanacetum camphoratum*) which is present on old sand dunes throughout the site had previously been considered rare and endangered by the California Native Plant Society. However, they no longer

consider it a candidate species because its taxonomic status remains uncertain.

Environmental Consequences of Proposal

Any disturbance, whether caused by construction, demolition, or change in use, has the potential to affect special status species if they are found to be in the area to be affected. However, the proposal devotes special preservation and enhancement efforts to fragile and unique vegetation types (such as dune and wetland communities) and special status species. These efforts include avoiding development and use of areas where valuable vegetation is found, actively protecting such areas, and if feasible, reintroducing rare or endangered plants. Because critical and unique vegetation areas were defined by the information base prior to the development of the proposal, activity and project locations were adjusted to avoid special status species and to prevent disruption of their habitat. Any impact from recreational activity would be avoided by redirecting visitor use from known habitat areas.

Environmental Consequences of the No Action Alternative

Special status species would remain vulnerable to visitor use. Some of these threats would go undetected by the park. Monitoring efforts would continue to be minimal and intermittent and would depend on the availability of NPS staff and volunteers. Routine activities may contribute to their endangerment or their disappearance.

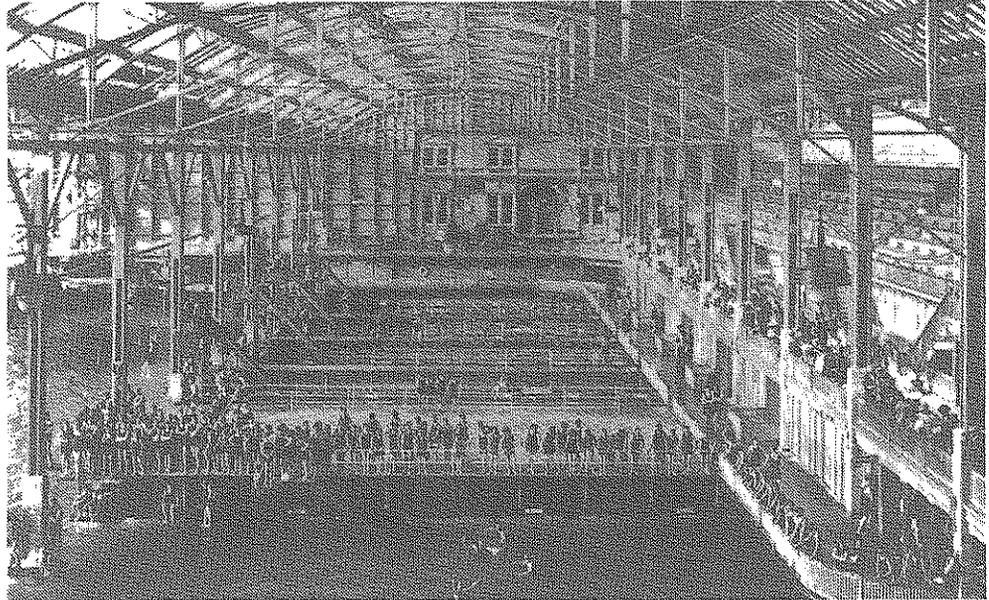
Environmental Consequences of Beach Restoration Alternative

Similar to the proposal, beach restoration would require restriction of human use in special status species habitats. Techniques would require fencing, the routine presence of Golden Gate National Recreation Area staff and increased maintenance.

6.5 CULTURAL/HISTORIC PROPERTIES

Affected Environment

As documented in the accompanying Cultural Landscape Report, the historic landscape within the Sutro District has significance because of (1) its association with the history of recreation in the United States; (2) its close association with Adolph Sutro, an individual who achieved national recognition for the design and construction of the tunnel system which drained and ventilated Nevada silver mines; (3) its engineering and design as a major West Coast oceanside recreational complex and public garden; and (4) because it has yielded important prehistoric information. The Cliff House Sutro Baths site and Sutro Heights were nominated to the National Register of Historic Places as the Adolph Sutro Historic District in 1979. The nomina-



Sutro Baths Interior (Historic Photo)

tion was determined ineligible as a district. It is currently being revised and resubmitted by the NPS based on an evaluation of the cultural landscape values present in the entire district. The evaluation includes research concerning the history of the landscape as a whole, and inventory and documentation of the existing conditions and attributes.

The Point Lobos Archaeological District, listed on the National Register of Historic Places in 1976, is located within the Sutro District. Three prehistoric sites are known to exist in the Point Lobos Archaeological District. The prehistoric resources include evidence of aboriginal or native occupation of the area.

Environmental Consequences of Proposal

The proposal calls for rehabilitation of the District's landscape to retain its historic character while making changes to the property for new recreational uses and interpretation. The project includes improvements that make efficient contemporary uses possible while preserving those portions or features that are significant. Management and monitoring of the historic landscape would be provided to ensure that rehabilitation does not diminish the District's integrity. Recreational use is a character-defining feature (e.g., contributing to the general character of the Sutro era) of the District. Continued recreational use, additional contemporary facilities and interpretation of historic recreational uses would be accommodated in a way that would not adversely affect significant landscape features or impede public understanding of the history of recreation in the District.

Project needs, such as individual and group parking, visitor centers, restrooms, site furnishings, signs, universal accessibility and other contem-

porary needs associated with continued recreational uses and with NPS interpretation would be designed to be compatible with the historic landscape values of the District. Facility design, placement, construction materials or other attributes would not create a false historical impression that they existed in this manner during the period of historic significance.

All landscape management would be in accordance with the Secretary of the Interior's Standards for Historic Preservation Projects. In addition, all landscape management would be developed to be compatible with the most recent drafts or the adopted versions of the Draft Guidelines for the Treatment of Historic Landscapes (U.S. Department of the Interior, May 1992) and Draft Management of Cultural Landscapes, Cultural Resources Management NPS-28. All rehabilitation work would be prepared and carried out by qualified professionals, including historical landscape architects, horticulturalists and skilled artisans and craftspeople. Required consultation and legal compliance would be established before any physical work affecting the District is initiated.

The increase in use could destroy features, materials or physical relationships that characterize the District's landscape, and increase security problems. Public education about cultural resource values and the presence of park staff would minimize destructive vandalism.

All archaeological sites would be protected and preserved. Construction activities proposed near existing sites would be carefully designed to avoid archaeological resources. NPS would satisfy the requirements of the Advisory Council on Historic Preservation's Regulations (Section 106 Compliance, 36 CFR Part 800) prior to any irreversible or irretrievable commitment of funds or efforts toward implementation of the proposal beyond planning.

Environmental Consequences of No Action Alternative

All activities would demonstrate continued compliance with applicable federal legislation and departmental cultural resource procedures. These compliance procedures would serve to mitigate adverse impacts on cultural resources.

Environmental Consequences of Beach Restoration Alternative

Removal of the Sutro Baths ruins would destroy many features and materials that characterize the historic landscape of the District. This action would foreclose options for future use of the ruins and would result in an irretrievable loss of landscape features that are removed. If the Baths ruins are found to be a contributing element of the District, then removal of the ruins would be an adverse effect in accordance with the Advisory Council on Historic Preservation's Regulations for Section 106 Compliance, 36 CFR Part 800.

6.6 VISITOR SAFETY AND ACCESS

Affected Environment

The Sutro District contains many natural hazards, including the rocky shoreline, steep cliffs, pounding surf and unpredictable ocean currents. During the past ten years, ten fatalities, 25 serious injuries, and 75 minor injuries due to falls from cliffs and tidal incidents have been recorded in the area. In addition, rubble from partially demolished structures, foundations which have not been removed, advanced deterioration of exposed metal, and an unsafe pedestrian crosswalk (to the parking lot on the south side of Point Lobos Avenue) also create dangerous conditions for visitors. Access to the ruins is not encouraged because of the hazards associated with the deteriorating structures, but some individual exploration does occur, and fishermen frequent the rocky shoreline. The NPS has posted warnings and waged an education campaign to alert users to the potential dangers of the area.



Existing Safety Hazards are a Major Issue within the District

Environmental Consequences of Proposal

Proposed improvements would correct a number of existing safety hazards, primarily by constructing safer trails, blocking access to cliffs and rocks, posting additional signs, redirecting visitors and pedestrians, and rejuvenating and utilizing currently little used areas (such as the Merrie Way parking lot) for new activities. Rehabilitation of historic features and removal of nonconforming deteriorated structures would reduce possible hazards to visitors who might otherwise explore unsafe areas. Trail relocations and improvements would help rectify a dangerous potential for falling off coastal cliffs. However, providing new activities and increasing access would attract

more visitors to an inherently dangerous area. While only modest new visitor facilities (such as the stepped seating area) and activities (specific events) are proposed, some risk would be involved in inviting visitor use of the coastal zone. This risk is not considered to be sufficient to preclude shoreline recreation use.

Environmental Consequences of No Action Alternative

Unless access to hazardous cliff zones is restricted, the high incidence of accidents resulting from persons falling off or being washed off rocks by waves and tidal urges would continue.

Environmental Consequences of Beach Restoration Alternative

This alternative would offer new opportunities for many visitors. The restored beach would attract people who had previously considered the area remote and inaccessible, or the ruins an eyesore. Removal of the Baths ruins would eliminate the hazards inherent with deteriorating structures. Removal of the seawall to restore the beach would require engineering studies to determine if stabilization is necessary to restore a natural-appearing beach.

6.7 TRAFFIC AND PARKING

Affected Environment

Currently, all of the intersections in the Sutro District vicinity operate at an acceptable level of service. However, traffic congestion occurs within the District as a direct result of visitor traffic. Traffic congestion is compounded by a sharp curve in the roadway, poor sight distance, and parking problems created by automobiles and tour buses. People arriving to the area generally attempt to park as close to the Cliff House as possible. The number of on- and off-street parking spaces is shown in Table 2-1. A parking deficit only occurs on peak use days, which typically are weekends and occasional summer weekdays. The existing pedestrian crosswalk across Point Lobos Avenue is unsafe.

The nearest designated bikeway is the Great Highway, which links the District to Golden Gate Park.

Transit service to the District is provided by San Francisco Municipal Railway (MUNI) buses. Primary routes serving the District are the 18-46th Avenue, 31-Balboa and 38-Geary.

Environmental Consequences of Proposal

Vehicular circulation would be improved by relocating bus activity to the Merrie Way parking lot, as buses would no longer congregate in front of the



Traffic Congestion at the Cliff House

Cliff House. Only minibuses (passenger sized tour vans) would be accommodated to drop off passengers at the Visitor Center in the Merrie Way parking lot and would then drive to assigned parking areas in both the Merrie Way and Point Lobos lots. They would then return to the Visitor Center drop-off area to reboard their passengers. Larger buses would not be given permits to bring visitors to the District. The existing bus parking spaces near the Cliff House would be converted into automobile parking spaces with a 10 minute time limit. Only those vehicles with passengers destined for the Cliff House would continue to circulate while looking for parking spaces close to the Cliff House.

The parking lot on the south side of Point Lobos Avenue will remain but will be designated as employee and tour bus parking. Pedestrians who are unfamiliar with the area would no longer have to cross the street to get to the Cliff House.

The creation of a pedestrian pathway between the Merrie Way parking lot and the Point Lobos Avenue/El Camino del Mar/48th Avenue intersection would improve access to Sutro Heights Park while allowing for a safer crossing of Point Lobos Avenue. Since the intersection currently operates at a very high level of service with available excess capacity, the operation of this signalized intersection would not be adversely affected by the additional pedestrians. The new and upgraded pedestrian pathways that would be located around the Sutro Baths area would also improve safety by clearly marking where pedestrians should and should not go (see the Visitor Safety and Access section of this EA).

By upgrading the El Camino del Mar parking lot near the USS San Francisco Memorial, vehicle and pedestrian safety would be improved. Vehicles would have a clear direction in which to proceed, unlike the existing condition where the cul-de-sac is unmarked except for the parking along the outer edge. Pedestrian safety would improve as the potential for vehicle-pedestrian conflicts would be reduced.

None of the nearby intersections would be adversely affected as a result of the project. The roadways and intersections currently have excess capacity, and the proposed project is expected to generate additional trips. However, because it will be developed incrementally and because an aggressive Transportation System Management (TSM) program is incorporated in the Plan, impacts to the existing roadways and adjacent neighborhoods are expected to be negligible.

The project includes a left turn bay for eastbound left turns on Point Lobos Avenue into the Merrie Way parking lot, and a left turn acceleration lane for vehicles exiting the parking lot onto Point Lobos Avenue eastbound. These measures would improve the traffic flow along Point Lobos Avenue, and reduce the potential for left turn conflicts.

MUNI bus service would continue to be provided throughout the District. Bus stops for the 18-46th and 38-Geary lines would remain in the same locations pending further study by the NPS in concert with MUNI. On the other side of the District, the 31-Balboa would continue to serve the southern portion of the area.

Environmental Consequences of No Action Alternative

This alternative would result in continued traffic congestion near the Cliff House. Pedestrian and vehicle safety would continue to decline.

Environmental Consequences of Beach Restoration Alternative

This alternative would result in similar traffic congestion as is experienced today.

6.8 VISUAL RESOURCES

Affected Environment

The Sutro District is within a magnificent setting. The District is the leading edge of the San Francisco side of the Golden Gate NRA. It represents the western extremity of the city and provides a striking panorama of the Pacific, the rugged Marin coastline, and the full sweep of Ocean Beach (Figure 6-3). The vertical cliffs along the water's edge impart a feeling of drama to the area. The natural scene is augmented impressively by an unusual wildlife display on Seal Rocks, 600 feet offshore. Above the ruins, the parking area is a popular place to view the ocean, especially at sunset. Sutro Heights is not as well known as the other vantage points, but it affords magnificent viewpoints of its own. Facing northward toward the Marin coast, Cliff House visitors look out over a cove-like structure in the coastline filled with an interesting arrangement of concrete foundations, some of them filled with water. Embraced on the north and east by groves of windswept Monterey Cypress, the Sutro Baths ruins present an intriguing scene to some and an eyesore to others. However, the area is visually impacted by makeshift trails, severe erosion scars and the appearance and visibility of the significant commercial development near the Cliff House. Visual problems are also created by bus traffic, parked cars and the efforts of visitors to enjoy the dramatic view.

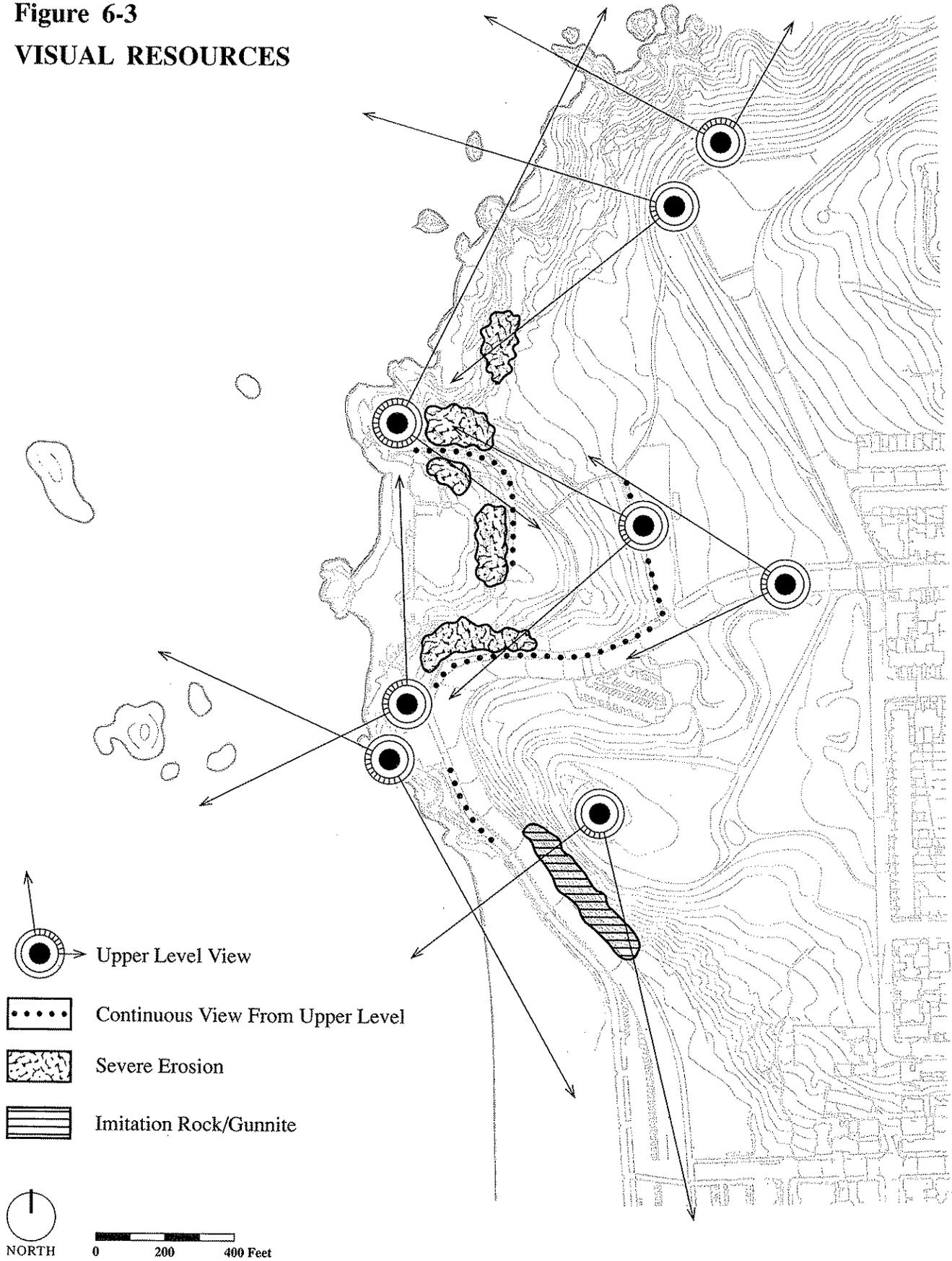
Environmental Consequences of Proposal

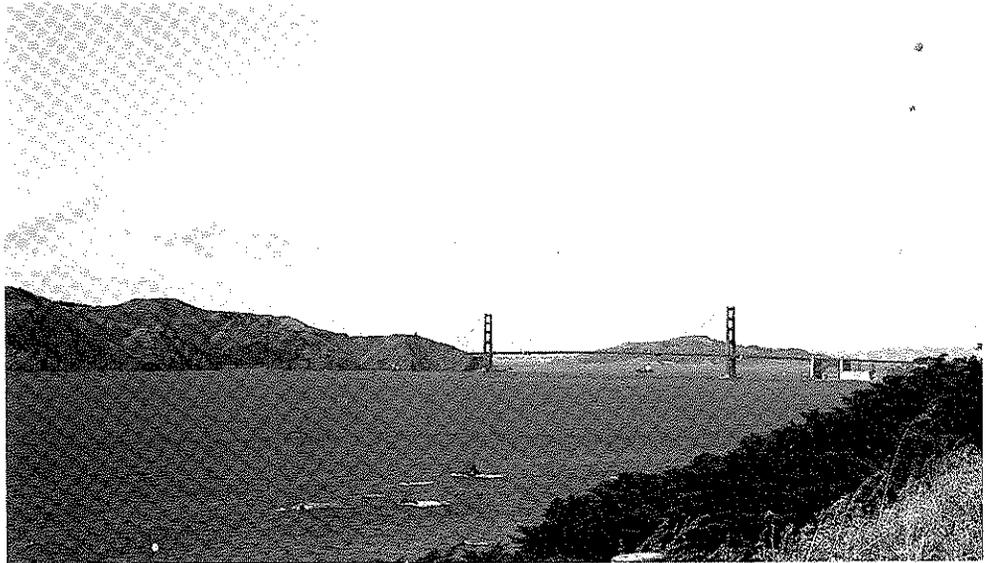
Visual integrity was an important factor in the placement and design of the new park facilities, including the Visitor Center and parking lots. Changes in visual quality would result primarily from removing/rejuvenating the unsightly development, control of accelerated erosion (human caused), increasing the natural appearance of the site, creation of additional open space and construction of new features in the Baths (walkways, trails and stairs). The Sutro District's appearance would be greatly enhanced by expanding vistas and landscaping new open areas. The visual character of the Baths area would change from poorly maintained ruins to an urban park. Improved pathways and coastal overlooks, and overall strengthening of visual connections would help visitors to better enjoy the views. The substantial facelift, including general cleanup, renovation of existing character-defining buildings and structures, removal of non-contributing features and buildings and compatible landscape design for new facilities, would increase the aesthetic appeal of the site and reduce the general unsightliness of the park area.

Environmental Consequences of No Action Alternative

The visual quality of the District would be somewhat improved by cleanup and routine maintenance activities. However, land losses due to accelerated

Figure 6-3
VISUAL RESOURCES





One of the Many Spectacular Views from the District

erosion and the deterioration of the Merrie Way parking lot would reduce the visual quality of the landscape and continue to contribute to the general unsightliness of the park area. Visual intrusions would continue to detract from the natural scene. Significant erosion scars would remain.

Environmental Consequences of Beach Restoration Alternative

Restoration of the ocean shoreline and landscape improvements would greatly enhance the natural character of the setting. Removal of the rubble, debris and crumbling structures and alteration of the terrain would result in a better maintained appearance and return the visual quality of the Baths area to that of its pre-Sutro past.

6.9 AIR QUALITY

Affected Environment

Air quality within the Sutro District is good, considering its proximity to an urban area. Incoming offshore winds generally keep the air in good condition. However, visitors arriving to the area in private cars typically drive around looking for parking close to the Cliff House. Tour bus parking in front of the Cliff House is highly congested. Both types of District-related emissions have contributed to air pollution in the immediate vicinity.

Environmental Consequences of Proposal

Construction and demolition activities would temporarily increase noise and dust levels, as well as emissions from construction machinery. These effects would be short lived and would affect a local area only.

Any increase in the total amount of visitor automobile traffic would potentially degrade air quality in the immediate area. Increased concentrations may be expected for major automotive pollutants (carbon monoxide, hydrocarbons, nitrogen oxides, sulfur oxides, and total suspended particulates). District related emissions would be additive with other urban pollution sources. Closure of the congested bus parking area would also reduce the potential for deterioration of air quality. Proposed improvements in automobile parking and circulation patterns would reduce congestion and air pollution from automotive emissions. Additionally, the presence of a more attractive park setting that is close to home and serviced by transit systems and the parking limitations and TSM strategies incorporated in the proposal should ultimately reduce overall recreational traffic and related emissions in the larger region.

Other sources of pollutants (new facilities unrelated to vehicular traffic) would not be created by the plan.

Environmental Consequences of No Action Alternative

Congestion and air pollution from automotive emissions would remain unchanged under the no action alternative.

Environmental Consequences of Beach Restoration Alternative

Air quality would not be affected by this alternative.

6.10 ECONOMIC IMPACTS

Affected Environment

The Cliff House and the cluster of structures associated with it presently form the focus of the District and one of the most significant commercial developments in the Golden Gate National Recreation Area. The Cliff House complex continues to attract numerous visitors for dining and souvenir shopping. Roughly 1 million visitors per year travel to the commercial promontory, many arriving by tour bus as part of a standard package of San Francisco sites. Facilities include three restaurants, two bars, a fast-food service facility, two gift shops, several “vintage” amusement features and the NPS Visitor Center.

Environmental Consequences of Proposal

The project would strengthen the District’s identification as a San Francisco landmark. Visitors’ experience would be enhanced through the wider variety of activities and recreational opportunities onsite, improved access and traffic flow, interpretation program, and NPS management practices. Higher visitor use levels would increase the demand for commercial services, in-

cluding food and souvenirs in the immediate and surrounding areas. The North Annex structures would be removed and space in new or renovated character-defining facilities would be developed for most existing and/or new businesses. Remaining businesses would be stimulated, but these are already heavily used by residents and tourists alike, and may experience little noticeable change. No services are likely to be unduly strained.

The provision of additional facilities would also lengthen the time people spend in the District, making the area a full day outing for many. With additional activities and attractions available, even tour bus operators might extend the portion of their itineraries devoted to the Sutro District.

Environmental Consequences of No Action Alternative

This alternative would result in no significant change to the area's general character or visitation levels, unless through lack of new investment, the area were to decline into an image of a run-down tourist trap, in which case visitation could diminish.

Environmental Consequences of Beach Restoration Alternative

This alternative would attract some new visitors who would be more likely to spend more time and explore the entire area. However, the Cliff House visitation would remain about the same.

6.11 RELATIONSHIP TO OTHER PLANS

General Management Plan

The approved General Management Plan (U.S. Dept. of the Interior, National Park Service, September 1980) for Golden Gate National Recreation Area provides Development Concept level direction for managing the lands within the park that are associated with Adolph Sutro. The management zoning classification in the GMP for these lands is the preservation and enhancement of historic resources, with the surrounding landscape managed for natural values. Specifically, the plan calls for continued NPS information and orientation, exhibit facilities and concession operated visitor services at the Cliff House location. The Sutro Baths ruins are to be interpreted, and improved safe visitor access is to be provided. Sutro Heights is to retain its quiet neighborhood orientation, with its gardens partially restored and interpreted.

The proposed Comprehensive Design Plan would be consistent with the objectives of the General Management Plan, and no substantial conflicts have been identified.

California Coastal Plan

The California Coastal Plan (California Coastal Zone Conservation Commissions, December 1975) sets forth policies for coastal conservation and development. The plan provides that federal agencies to the extent applicable under federal law, be required to conduct their activities in full compliance with Coastal Plan policies. Plan maps specifically apply the policies to areas along the coastal zone, including the Golden Gate National Recreation Area, for government agencies' use in their own implementation of the plan. The San Francisco portion of Golden Gate National Recreation Area, as a high use zone, is to provide active, intense recreation opportunities. While the plan recognizes a relatively high level of use of the shoreline, it recommends that very little facility construction take place in the area. The specific recommendations for the Sutro District are to continue commercial recreation use of the site (limited to its present area), permit construction of a modest non-commercial Visitor Center below the line of sight from the roadway, and to prohibit public access to the nearshore rocks due to the hazardous cliff and surf.

Implementation of the proposed Comprehensive Design Plan would be consistent with the objectives of the California Coastal Plan, and no substantial conflicts are apparent.

Western Shoreline Plan

The Western Shoreline Plan, which is part of the San Francisco Master Plan (City and County of San Francisco Department of City Planning, n.d.) is the City's plan for the Local Coastal Zone. The plan includes objectives and policies pertaining to open space along the shoreline, including the Cliff House-Sutro Baths and Sutro Heights. The objective for the Cliff House-Sutro Baths is to maintain its visitor attractiveness. Policies call for developing the area as a nature-oriented shoreline park, limiting commercial recreation uses to preserve the natural character of the site, and selectively developing the Sutro Bath ruins with stairs, walkways and ramps, seating and landscape improvements to permit increased public use and enjoyment. Hiker safety is to be ensured by providing a clearly marked and well maintained pathway system. Parking and vehicular circulation is to be redesigned to relieve congestion and provide for the safety of pedestrians (particularly those crossing Point Lobos). Noise and air pollution caused by tour buses is to be mitigated by relocating bus waiting areas, thereby increasing visitor enjoyment. The plan's objective for Sutro Heights is preservation and restoration. Specific policies are to continue its park use (retaining its quiet neighborhood orientation), preserve historic and natural features, restore selected landscape elements, improve trail access to Golden Gate Park, and protect the natural bluffs. Policies also include keeping the Sutro Heights

hillside undeveloped to protect the hilltop landform, and maintaining views to and from the area.

No substantial conflicts have been identified. Implementation of the proposed Comprehensive Design Plan would be consistent with the objectives of the Western Shoreline Plan.



7. FINDING OF NO SIGNIFICANT IMPACT

FINDING OF NO SIGNIFICANT IMPACT

SUTRO HISTORIC DISTRICT
COMPREHENSIVE DESIGN PLAN

PROPOSED ACTION

The National Park Service has completed a Comprehensive Plan and Environmental Assessment for the Sutro Historic District in Golden Gate National Recreation Area. The Plan proposes actions to rehabilitate the Districts cultural and natural resources and interpret them for the Park visitor. Proposed actions in the Plan include removal of the north annex building and construction of a new visitor center at Merrie Way then restructuring parking and vehicular circulation. Resource management actions include stabilizing the Sutro Bath ruins, rehabilitation of the existing Cliff House, wetland and native plant habitat restoration and partial restoration of the Sutro Heights gardens.

ALTERNATIVES CONSIDERED

Four alternatives, including the Proposal, were considered and analyzed in the Environmental Assessment for the Comprehensive Design Plan. Other than the Proposal, alternatives considered included No Action (continuing the status quo); Reconstructing Sutro Baths, Cliff House and Sutro Heights to their 1890's appearance and Demolition of Sutro Baths ruins with reconstruction of presettlement environment (Naiad Beach). All of the alternatives have elements common with the Proposal and all have been discussed as resource management and treatment options in the past.

PUBLIC INVOLVEMENT

A Draft Plan and Environmental Assessment was released to the public through the Park's Citizens Advisory Commission on July 30, 1992. An extensive public comment period followed that extended into the spring of 1993. Over 400 copies of the Plan/EA were distributed, workshops were conducted with neighborhood groups, environmental organizations and San Francisco City Planning Department. The Plan was also presented to interested civic planning groups and commissions. A detailed Staff Report prepared in April 1993 summarized public comment received and delineated recommended changes in the Plan based on those comments. The Staff Report and Recommendations were adopted by the Citizens Advisory Commission in a public meeting on May 27, 1993. The Final Plan was then prepared based on the Staff report Recommendations.

IMPACTS/ MITIGATIONS

Impacts associated with the Plan include:

Impacts to Vegetation and Soils

Construction activities, particularly at the Merrie Way parking area, will disturb approximately 1.84 acres of degraded native and cultural vegetation. Approximately 1.14 acres will be revegetated and restored with a net change of .7 acre converted to parking and visitor center construction. This area has been extensively

trampled, native vegetation displaced and invaded by alien plant species. Mitigating measures include preparation of erosion surveys for the District and implementation of corrective measures, natural and cultural revegetation projects and a program of exotic species control and hazard tree treatment. Approximately 41 acres of the District will benefit from these enhancement measures.

Impacts to Wildlife and Wetlands

There will be a net increase of .23 acres of wetlands in the District from 1.40 acres to 1.63 acres resulting from the proposal. The quality of this aquatic habitat will also be upgraded and water quality improved through the exotic species control program and prescribed erosion control measures. Wildlife in the District will generally benefit from the 41 acres of vegetation enhancement in the District through improvements in habitat conditions. Developments will be located in areas previously disturbed therefore no adverse impacts to wildlife are anticipated from implementing the plan.

Impacts to Cultural Resources

The Cultural Landscape Report prepared during the planning process recommends Rehabilitation as the proper treatment for the District's cultural resources. Plan proposals to facilitate continued recreational use and contemporary needs for NPS interpretation such as new visitor center, parking improvements and uniform accessibility were designed not to adversely affect cultural resources. Plan actions will be implemented in full compliance with the Secretary of Interior's Standards for Rehabilitation. National Park Service procedures for archeological clearance will be adhered to and all actions involving ground disturbance closely monitored.

Impacts to Visitor Use and Safety

Plan proposals will correct a number of conditions hazardous to visitors such as unrestricted access to unstable cliffs and shoreline and an ill-defined trail system. The general upgrading of resource conditions and improved visitor facilities may attract more visitation to the District. Restrictions on tour buses and improved, more efficient access to the area is expected to offset the impacts of any increases in visitation.

Impacts to Traffic and Access

The total number of parking spaces, both off and on street, will increase in the District from 576 to 605 if the proposal is implemented. However, actual square footage devoted to parking decreases from over 223,000 sq. ft. to less than 197,000 sq. ft. This is a result of more efficient space utilization, striping and down sizing tour buses. The addition of overflow parking at Merrie Way would increase total parking to 669 spaces but total space required is 214,350 sq. ft., still less than existing. Pedestrian and vehicular movements are expected to be more efficient because of the relocation of tour bus operations and elimination of traffic congestion in front of the Cliff House.

Impacts to Visual Resources

A general upgrading in the quality of the visual resources in the District is expected with actions proposed in the Plan. Air quality is presently good and will profit from elimination of oversized tour buses and the congestion they create. Increased traffic in the District may lower air quality, however more efficient circulation patterns will tend to lessen overall emissions. Therefore any net change is expected to be minimal.

Economic Impacts

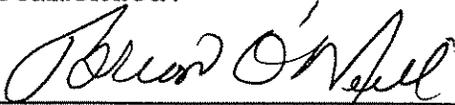
There will be no net loss of concession operated commercial square footage in the Plan. The type and location of several commercial services in the North Annex building will change, but these will be accommodated in the Visitor Center or the rehabilitated Cliff House complex.

DETERMINATION

Implementation of the Comprehensive Design Plan is consistent with the protection of historic, natural and scenic resource values, safety considerations and National Park Service management policies. The objectives of the California Coastal Management Program will be met with Plan implementation.

The Plan does not constitute an action that normally requires the preparation of an Environmental Impact Statement (EIS). The Plan will not have a significant impact on the human environment. There are no unmitigated adverse impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for inclusion in the Register of Historic Places, or other unique characteristics of the region. Implementation of the Plan will not violate any federal, state or local law. Therefore in compliance with the National Environmental Policy Act, an Environmental Impact Statement will not be prepared.

Recommended:



General Superintendent
Golden Gate National Recreation Area

29 September 93

Date

Approved:



Regional Director, Western Region

10/1/93

Date

IMPACT MITIGATION MATRIX

SUTRO HISTORIC DISTRICT
COMPREHENSIVE DESIGN PLANImpacts to Vegetation and Soils

Approximately .7 acre of open land will be converted to development.

Revegetation and erosion control measures planned on approximately 41 acres. Responsibility: NPS Resource Management/Maintenance.

Impacts to Wildlife and Wetlands

There will be a net increase of .23 acres of wetland habitat.

No mitigation required.

Impacts to Cultural Resources

Historic features will be treated under the Secretary of Interior's Standards for Rehabilitation.

All ground disturbance will be monitored for impacts on potential archeological resources. Responsibility: NPS Resource Management.

Impacts to Visitor Use and Safety

Visitation may increase upon implementation of the Plan. Safety hazards to visitors will be reduced.

Restrictions on tour buses and upgrading of facilities will increase quality of visitor experience.

Impacts to Traffic and Access

Total parking will increase from 576 to 605 spaces and 64 overflow spaces. Area devoted to parking will decrease from 223,000 sq ft to 214,350 sq ft

No mitigation required.

Impacts to Visual Resources

Plan actions will upgrade visual resource quality. Increased traffic may increase emissions and lower air quality.

More efficient circulation and traffic flow will lessen overall emissions.

Economic Impacts

There will be no net loss of sq ft devoted to revenue generation from Plan actions.

No mitigation required.



3

APPENDICES



APPENDIX A

PLANT SPECIES OBSERVED AT THE SUTRO HISTORIC DISTRICT



Appendix A
Plant Species Observed at the Sutro Historic District¹

Species ²	Vegetation Type ³										
	NFD	CDS	NCBS	CBM	CFM	R-Su	R-H	R-Sh	NNG	MCP	SB
<i>Abronia latifolia</i> [n] (sand verbena)	x						x				
<i>Abronia umbellata</i> [n] (beach sand verbena)	x										
<i>Acacia longifolia</i> [e] (Sydney golden wattle)								x			x
<i>Acacia melanoxylon</i> [e] (Blackwood acacia)									x	x	
<i>Achillea millefolium</i> [e] (yarrow)		x	x				x		x		
<i>Agapanthus africanus</i> [e] (lily of the Nile)	x						x	x	x		
<i>Agave</i> sp. [e] (agave)								x			
<i>Albizia distachya</i> [e] (plume albizia)		x	x					x			
<i>Ammophila arenaria</i> [e] (european beachgrass)								x			
<i>Artemisia californica</i> [n] (California sagebrush)	x	x	x					x			
<i>Artemisia pycnocephala</i> [n] (beach sagebrush)	x							x			
<i>Avena fatua</i> [e] (wild oat)		x	x				x	x		x	
<i>Baccharis pilularis</i> [n] (dwarf coyote brush)	x	x	x				x	x			

¹ Observed during December 1991, and January and February 1992.

² e - exotic, n - native, n* - native to California, but not to the District.

³ NFD - Northern Foredune, CDS - Central Dune Scrub, NCBS - Northern Coastal Bluff Scrub, CBM - Coastal Brackish Marsh, CFM - Coastal Freshwater Marsh, R-Su - Ruderal Succulent, R-H - Ruderal Herbaceous, R-Sh - Ruderal Shrub, NNG - Non-native Grassland, MCP - Monterey Cypress Plantation, SB - Stabilized Bluff

Species	Vegetation Type										
	NFD	CDS	NCBS	CBM	CFM	R-Su	R-H	R-Sh	NNG	MCP	SB
<i>Brassica campestris</i> [e] (field mustard)		x	x					x			
<i>Bromus rigidus</i> [e] (ripgut brome)		x	x					x	x		
<i>Brugmansia</i> sp. [e] (angel's trumpet)								x	x		
<i>Cakile maritima</i> [e] (sea rocket)	x					x		x			
<i>Calindrinia ciliata</i> <i>var. menziesii</i> [n] (red maids)								x		x	
<i>Cardamine oligosperma</i> [n] (bitter-cress)										x	
<i>Carex pansa</i> [n] (dune sedge)	x										
<i>Coprosma repens</i> [e] (mirror plant)								x		x	x
<i>Cotula coronipifolia</i> [e] (brass buttons)				x							
<i>Cupressus macrocarpa</i> [n*] (Monterey cypress)	x							x	x	x	x
<i>Cynodon dactylon</i> [e] (Bermuda grass)							x	x			x
<i>Cyperus</i> sp. [e/n] (umbrella sedge)					x						
<i>Distichlis spicata</i> [n] (salt grass)				x							
<i>Dudley farinosa</i> [n] (live-forever)						x		x			x
<i>Equisetum arvense</i> [n] (common horsetail)					x			x			
<i>Erigeron glaucus</i> (n) (seaside daisy)	x					x		x			

Species	Vegetation Type										
	NFD	CDS	NCBS	CBM	CFM	R-Su	R-H	R-Sh	NNG	MCP	SB
<i>Eriophyllum staechadifolium</i> [n] (lizard tail)	x								x		
<i>Erodium botrys</i> [e] (filaree)							x		x		
<i>Erodium cicutarium</i> [e] (storksbill)									x		
<i>Eschscholzia californica</i> [n] (California poppy)	x	x	x					x	x		
<i>Foeniculum vulgare</i> [e] (common fennel)									x	x	
<i>Fragaria chiloensis</i> [n] (beach strawberry)	x						x	x	x		
<i>Fritillaria liliacea</i> [n] (lily-like fritillary)							x				
<i>Galium aparine</i> [e] (climbing bedstraw)								x		x	
<i>Galium</i> sp. {e/n} (bedstraw)										x	
<i>Haplopappus ericoides</i> [n] (mock heather)	x										
<i>Hebe franciscana</i> [e] (hebe)											x
<i>Hedera canariensis</i> [e] (Algerian ivy)								x		x	
<i>Heracleum lanatum</i> [n] (cow parsnip)							x		x		
<i>Hordeum hystrix</i> [e] (cheat grass)							x				
<i>Hordeum leporinum</i> [e] (wild barley)		x	x					x	x		
<i>Hypochoeris radicata</i> [e] (hairy cat's ear)							x				

Species	Vegetation Type										
	NFD	CDS	NCBS	CBM	CFM	R-Su	R-H	R-Sh	NNG	MCP	SB
<i>Iris douglasiana</i> [n] (Douglas iris)							x				
<i>Iris</i> sp. [e] (iris)					x						
<i>Juncus</i> sp. [n] (rush)	x				x			x	x		
<i>Lampranthus filicaulis</i> [e] (Redondo creeper)						x					x
<i>Lavatera arborea</i> [e] (tree mallow)		x	x					x	x	x	x
<i>Lobularia martina</i> [e] (sweet alyssum)	x	x	x			x	x	x	x	x	x
<i>Lupinus arboreus</i> [n] (coastal bush lupine)	x	x	x				x	x	x		
<i>Lupinus</i> sp. [n] (lupine)								x			
<i>Malva parviflora</i> [e] (cheeseweed)		x					x	x	x	x	
<i>Marah fabaceus</i> [n] (wild cucumber)	x	x					x	x	x		
<i>Medicago hispida</i> [e] (bur clover)							x	x	x		
<i>Melaleuca nesophila</i> [e] (pink melaleuca)										x	x
<i>Mesembryanthemum chilense</i> [e] (sea-fig)	x					x	x	x	x		
<i>Mesembryanthemum edule</i> [e] (Hottentot-fig)						x	x	x	x		x
<i>Mimulus guttatus</i> [n] (monkey flower)				x	x						
<i>Muehlenbeckia complexa</i> [e] (mattress vine)								x			

Species	Vegetation Type											
	NFD	CDS	NCBS	CBM	CFM	R-Su	R-H	R-Sh	NNG	MCP	SB	
<i>Oxalis pes-caprae</i> [e] (Bermuda-buttercup)	x	x					x	x	x	x	x	x
<i>Pennisetum clandestinum</i> [e] (kikuyugrass)	x							x				
<i>Phalaris canariensis</i> [e] (canary grass)									x			
<i>Picris echioides</i> [e] (prickly ox tongue)							x	x	x			
<i>Pinus radiata</i> [n*] (Monterey pine)								x		x		x
<i>Pittosporum undulatum</i> [e] (victorian box)								x				x
<i>Plantago lanceolata</i> [e] (buckhorn plantain)		x	x					x		x		
<i>Plantago major</i> [e] (common plantain)						x		x				
<i>Poa annua</i> [e] (annual bluegrass)										x		
<i>Polypogon monspeliensis</i> [e] (rabbitfoot grass)						x						
<i>Ranunculus californica</i> [n] (California buttercup)								x				
<i>Raphanis sativus</i> [e] (wild radish)	x	x	x		x	x	x	x	x			
<i>Ribes sanguineum</i> [n] (pink flowering currant)											x	
<i>Rorippa nasturtium-aquaticum</i> [n] (watercress)					x	x						
<i>Rubus procerus</i> [e] (Himalaya berry)	x								x			
<i>Rubus vitifolius</i> [n] (California blackberry)						x		x	x		x	

Species	Vegetation Type										
	NFD	CDS	NCBS	CBM	CFM	R-Su	R-H	R-Sh	NNG	MCP	SB
<i>Rumex crispus</i> [e] (curly dock)					x		x	x	x		
<i>Salix lasiolepis</i> [n] (arroya willow)					x		x	x			
<i>Scrophularia californica</i> [n] (California figwort)									x		
<i>Sedum</i> sp. [n/e] (stonecrop)						x		x			x
<i>Senecio mikanioides</i> [e] (German-ivy)								x		x	
<i>Senecio vulgaris</i> [e] (common groundsel)		x				x	x		x		
<i>Silybum marianum</i> [e] (milk thistle)									x	x	
<i>Solanium nodiflorum</i> [e] (nightshade)								x		x	
<i>Sonchus asper</i> [e] (sow thistle)		x	x			x	x	x	x		
<i>Stellaria media</i> [e] (common chickweed)							x	x	x	x	
<i>Tamarix pentandra</i> [e] (tamarisk)											x
<i>Tanacetum camphoratum</i> [n] (dune tansy)	x							x			
<i>Taraxacum officinale</i> [e] (dandelion)									x		x
<i>Trifolium</i> sp. [e/n] (clover)							x		x		
<i>Tropaeolum majus</i> [e] (nasturtium)					x			x			
<i>Typha</i> sp. [n] (cattail)					x						

Species	Vegetation Type										
	NFD	CDS	NCBS	CBM	CFM	R-Su	R-H	R-Sh	NNG	MCP	SB
<i>Urtica</i> sp. [n/e] (nettle)					x						
<i>Vicia gigantea</i> [n] (giant vetch)							x				
<i>Vinca major</i> [e] (giant periwinkle)								x			
<i>Zantedeschia aethiopica</i> [e] (cala lily)					x						

Plant species which were reported by Jake Sigg, Sue Smith, and Peter Rubtzoff of the California Native Plant Society following a reconnaissance of the Sutro Bath Wetlands and Hill Slope Area on May 23, 1991.

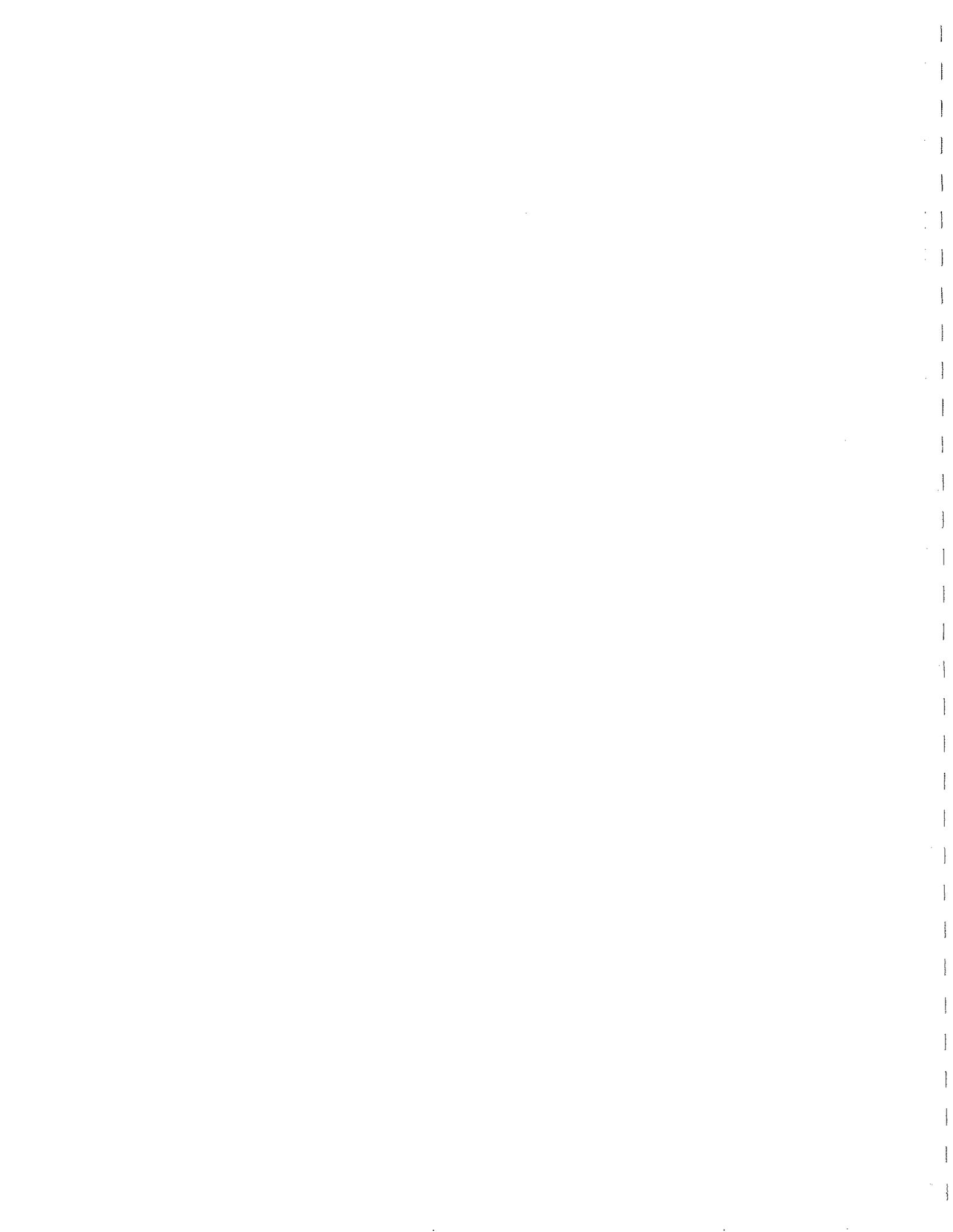
Scientific Name	Native Species	Common Name
<i>Agrostis</i> sp.		Agrostis grass
<i>Atriplex hastata</i>		Saltbush sp.
<i>Bromus maritimus</i>		Brome
<i>Camissonia cheiranthifolia</i>		Beach primrose
<i>Distichlis spicata</i>		Salt-grass
<i>Elymus mollis</i>		American dune grass
<i>E. triticoides</i>		Elymus grass
<i>Epilobium watsonii</i> v. <i>franciscana</i>		S.F. willow-herb
<i>Equisetum telmateia</i>		Horsetail
<i>Franseria chamissonis</i>		Beach bur
<i>Gnaphallium chilense</i>		Cudweed
<i>Jaumea carnosa</i>		Jaumea
<i>Juncus bufonius</i>		Toad rush
<i>J. leseurii</i>		Rush
<i>Ludwigia peploides</i>		Ludwigia
<i>Plantago maritima</i>		Plantain
<i>Polypogon interruptus</i>		Polypogon
<i>Potentilla egedii</i> v. <i>grandis</i>		Pacific silverweed
<i>Potamogeton</i> sp.		Potamogeton
<i>Ribes sanguineum</i> var. <i>glutinosum</i>		Coast red current
<i>Rubus ursinus</i>		California blackberry
<i>Rumex salicifolius</i>		Willow-leafed dock
<i>Ruppia maritima</i>		Ruppia
<i>Scirpus paludosus</i>		Tule
<i>S. pungens</i>		Tule
<i>Salix lasiolepis</i> v. <i>bigelovii</i>		Arroyo willow
<i>Spergularia macrotheca</i>		Large-flowered sand spurry
<i>S. marina</i>		Sand spurry
<i>Urtica holosericea</i>		Stinging nettle

Introduced Native or Escaped Exotic Species

<i>Albizia lophantha</i>	Plume albizia
<i>Anagallis arvensis</i>	Scarlet pimpernell
<i>Avena barbata</i>	Wild oats
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Cyperus alternifolius</i>	Umbrella sedge
<i>Erodium cicutarium</i>	Red-stemmed filaree
<i>Festuca arundinacea</i>	Tall fescue
<i>Foeniculum vulgare</i>	Fennel
<i>Geranium dissectum</i>	Cut-leaved geranium
<i>Hedera helix</i>	English ivy
<i>Hedypnois cretica</i>	Hedypnois
<i>Lobularia maritima</i>	Lobularia
<i>Lolium</i> sp.	Grass sp.
<i>Malva sylvestris</i>	High mallow
<i>Matthiola</i> sp.	Stock
<i>Melilotus indicus</i>	Clover
<i>Mesembryanthemum</i> sp.	Ice plant
<i>Monerma cylindrica</i>	Grass sp.
<i>Parapholis incurva</i>	Sickle grass
<i>Plantago coronopus</i>	Common plantain
<i>Solanum aviculare</i>	New Zealand solanum
<i>S. furcatum</i>	Nightshade
<i>Sonchus oleraceus</i>	Sow thistle
<i>Tetragonia tetragonioides</i>	New Zealand spinach

APPENDIX B

WILDLIFE SPECIES KNOWN OR POTENTIALLY OCCURRING IN THE SUTRO HISTORIC DISTRICT



Appendix B
Vertebrate and Invertebrate Wildlife Species Known or Potentially Occurring
in the Sutro Historic District, San Francisco County, California

COMMON NAME ¹	SCIENTIFIC NAME ¹	STATUS ²	SOURCE ³
Invertebrates			
Bumblebee scarab beetle	<i>Lichnanthe ursina</i>	FC2	G
Amphibians			
California newt	<i>Taricha torosa</i>		D
Ensatina	<i>Ensatina eschscholtzi</i>		D
California slender salamander	<i>Batrachoseps attenuatus</i>		D
Arboreal salamander	<i>Aneides lugubris</i>		D
Western toad	<i>Bufo boreas</i>		D
Pacific treefrog	<i>Hyla regilla</i>		D
California red-legged frog	<i>Rana aurora draytonii</i>	CSC, FC2	D
Reptiles			
Western fence lizard	<i>Sceloporus occidentalis</i>		D
Southern alligator lizard	<i>Gerrhonotus multicarinatus</i>		D
Northern alligator lizard	<i>Gerrhonotus coeruleus</i>		D
Rubber boa	<i>Charina bottae</i>		D
Gopher snake	<i>Pituophis melanoleucus</i>		D
Common kingsnake	<i>Lampropeltis getulus</i>		D
Western terrestrial garter snake	<i>Thamnophis elegans</i>		D
Birds			
Red-throated loon	<i>Gavia stellata</i>		C
Arctic loon	<i>Gavia arctica</i>		C
Common loon	<i>Gavia immer</i>	CSC(b)	C
Pied-billed grebe	<i>Podilymbus podiceps</i>		F
Horned grebe	<i>Podiceps auritus</i>		C
Red-necked grebe	<i>Podiceps grisegena</i>		C
Western grebe	<i>Aechmophorus occidentalis</i>		C
Clark's grebe	<i>Aechmophorus clarkii</i>		C
Pink-footed shearwater	<i>Puffinus creatopus</i>		C
Sooty shearwater	<i>Puffinus griseus</i>		C
Brown pelican	<i>Pelecanus occidentalis</i>	CE, FE	A
Double-crested cormorant	<i>Phalacrocorax auritus</i>	CSC(r)	A
Brandt's cormorant	<i>Phalacrocorax penicillatus</i>		C
Pelagic cormorant	<i>Phalacrocorax pelagicus</i>		C
Great blue heron	<i>Ardea herodias</i>		F
Great egret	<i>Casmerodius albus</i>		F
Snowy egret	<i>Egretta thula</i>		C
Cattle egret	<i>Bubulcus ibis</i>		F
Black-crowned night heron	<i>Nycticorax nycticorax</i>		C
Greater white-fronted goose	<i>Anser albifrons</i>		F
Brant	<i>Branta bernicla</i>		C
Mallard	<i>Anas platyrhynchos</i>		C
Northern pintail	<i>Anas acuta</i>		C

COMMON NAME ¹	SCIENTIFIC NAME ¹	STATUS ²	SOURCE ³
Canvasback	<i>Aythya valisineria</i>		A
Ring-necked duck	<i>Aythya collaris</i>		A
Tufted duck	<i>Aythya fuligula</i>		E
Greater scaup	<i>Aythya marila</i>		C
Lesser scaup	<i>Aythya affinis</i>		F
Black scoter	<i>Melanitta nigra</i>		C
Surf scoter	<i>Melanitta perspicillata</i>		C
White-winged scoter	<i>Melanitta fusca</i>		C
Common goldeneye	<i>Bucephala clangula</i>		C
Barrow's goldeneye	<i>Bucephala islandica</i>	CSC(b)	F
Bufflehead	<i>Bucephala albeola</i>	CSC(b)	F
Hooded merganser	<i>Lophodytes cucullatus</i>		F
Red-breasted merganser	<i>Mergus serrator</i>		C
Ruddy duck	<i>Oxyura jamaicensis</i>		A
Turkey vulture	<i>Cathartes aura</i>		C
Sharp-shinned hawk	<i>Accipiter striatus</i>	CSC(b)	C
Cooper's hawk	<i>Accipiter cooperii</i>	CSC(b)	C
Red-shouldered hawk	<i>Buteo lineatus</i>		F
Broad-winged hawk	<i>Buteo platypterus</i>		F
Red-tailed hawk	<i>Buteo jamaicensis</i>		A
American kestrel	<i>Falco sparverius</i>		C
Merlin	<i>Falco columbarius</i>	CSC	F
Peregrine falcon	<i>Falco peregrinus</i>	SE, FE	B
California quail	<i>Callipepla californica</i>		C
American coot	<i>Fulica americana</i>		A
Killdeer	<i>Charadrius vociferus</i>		C
Black oystercatcher	<i>Haematopus bachmani</i>		A
Greater yellowlegs	<i>Tringa melanoleuca</i>		C
Willet	<i>Catoptrophorus semipalmatus</i>		C
Wandering tattler	<i>Heteroscelus incanus</i>		A
Spotted sandpiper	<i>Actitis macularia</i>		A
Whimbrel	<i>Numenius phaeopus</i>		C
Long-billed curlew	<i>Numenius americanus</i>	CSC(b), F3C	C
Marbled godwit	<i>Limosa fedoa</i>		C
Ruddy turnstone	<i>Arenaria interpres</i>		C
Black turnstone	<i>Arenaria melanocephala</i>		A
Surfbird	<i>Aphriza virgata</i>		C
Sanderling	<i>Calidris alba</i>		C
Semipalmated plover	<i>Charadrius semipalmatus</i>		C
Western sandpiper	<i>Calidris mauri</i>		C
Least sandpiper	<i>Calidris minutilla</i>		C
Dunlin	<i>Calidris alpina</i>		C
Short-billed dowitcher	<i>Limnodromus griseus</i>		C
Common snipe	<i>Gallinago gallinago</i>		C
Red-necked phalarope	<i>Phalaropus lobatus</i>		
Bonaparte's gull	<i>Larus philadelphia</i>		C
Heermann's gull	<i>Larus heermanni</i>		C
Mew gull	<i>Larus canus</i>		C
Ring-billed gull	<i>Larus delawarensis</i>		C
California gull	<i>Larus californicus</i>	CSC(c)	C

COMMON NAME ¹	SCIENTIFIC NAME ¹	STATUS ²	SOURCE ³
Herring gull	<i>Larus argentatus</i>		C
Western gull	<i>Larus occidentalis</i>		A
Glaucous-winged gull	<i>Larus glaucescens</i>		C
Caspian tern	<i>Sterna caspia</i>		C
Elegant tern	<i>Sterna elegans</i>	CSC(c), FC2	C
Common tern	<i>Sterna hirundo</i>		C
Forster's tern	<i>Sterna forsteri</i>		C
Common murre	<i>Uria aalge</i>		C
Pigeon guillemot	<i>Cepphus columba</i>		C
Rock dove	<i>Columba livia</i>		A
Band-tailed pigeon	<i>Columba fasciata</i>		C
Mourning dove	<i>Zenaida macroura</i>		A
White-throated swift	<i>Aeronautes saxatalis</i>		C
Anna's hummingbird	<i>Calypte anna</i>		A
Rufous hummingbird	<i>Selasphorus rufus</i>		C
Allen's hummingbird	<i>Selasphorus sasin</i>		A
Belted kingfisher	<i>Ceryle alcyon</i>		C
Downy woodpecker	<i>Picoides pubescens</i>		B
Northern flicker	<i>Colaptes auratus</i>		A
Olive-sided flycatcher	<i>Contopus borealis</i>		B
Western wood-pewee	<i>Contopus sordidulus</i>		C
Pacific-slope flycatcher	<i>Empidonax difficilis</i>		C
Black phoebe	<i>Sayornis nigricans</i>		A
Tree swallow	<i>Tachycineta bicolor</i>		B
Violet-green swallow	<i>Tachycineta thalassina</i>		B
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>		C
Cliff swallow	<i>Hirundo pyrrhonota</i>		C
Barn swallow	<i>Hirundo rustica</i>		B
Scrub jay	<i>Aphelocoma coerulescens</i>		B
American crow	<i>Corvus brachyrhynchos</i>		B
Common raven	<i>Corvus corax</i>		A
Chestnut-backed chickadee	<i>Parus rufescens</i>		A
Bushtit	<i>Psaltriparus minimus</i>		B
Red-breasted nuthatch	<i>Sitta canadensis</i>		C
Pygmy nuthatch	<i>Sitta pygmaea</i>		A
Brown creeper	<i>Certhia americana</i>		B
Bewick's wren	<i>Thryomanes bewickii</i>		C
Winter wren	<i>Troglodytes troglodytes</i>		C
Golden-crowned kinglet	<i>Regulus satrapa</i>		C
Ruby-crowned kinglet	<i>Regulus calendula</i>		A
Swainson's thrush	<i>Catharus ustulatus</i>		C
Hermit thrush	<i>Catharus guttatus</i>		C
American robin	<i>Turdus migratorius</i>		A
Varied thrush	<i>Ixoreus naevius</i>		F
Wrentit	<i>Chamaea fasciata</i>		C
Northern mockingbird	<i>Mimus polyglottos</i>		B
Cedar waxwing	<i>Bombycilla cedrorum</i>		C
European starling	<i>Sturnus vulgaris</i>		A
Hutton's vireo	<i>Vireo huttoni</i>		A
Warbling vireo	<i>Vireo gilvus</i>		C

COMMON NAME ¹	SCIENTIFIC NAME ¹	STATUS ²	SOURCE ³
Orange-crowned warbler	<i>Vermivora celata</i>		C
Nashville warbler	<i>Vermivora ruficapilla</i>		F
Yellow warbler	<i>Dendroica petechia brewsteri</i>	CSC(b)	C
Black-throated blue warbler	<i>Dendroica caerulescens</i>		F
Yellow-rumped warbler	<i>Dendroica coronata</i>		A
Black-throated gray warbler	<i>Dendroica nigrescens</i>		C
Townsend's warbler	<i>Dendroica townsendi</i>		C
Hermit warbler	<i>Dendroica occidentalis</i>		C
Macgillivray's warbler	<i>Oporornis tolmiei</i>		C
Saltmarsh common yellowthroat	<i>Geothlypis trichas sinuosa</i>	CSC	C
Wilson's warbler	<i>Wilsonia pusilla</i>		C
Black-headed grosbeak	<i>Pheucticus melanocephalus</i>		C
Lazuli bunting	<i>Passerina amoena</i>		C
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>		C
California towhee	<i>Pipilo crissalis</i>		A
Fox sparrow	<i>Passerella iliaca</i>		A
Song sparrow	<i>Melospiza melodia</i>		A
Lincoln's sparrow	<i>Melospiza lincolni</i>		C
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>		A
White-throated sparrow	<i>Zonotrichia albicollis</i>		F
White-crowned sparrow	<i>Zonotrichia leucophrys</i>		A
Dark-eyed junco	<i>Junco hyemalis</i>		A
Red-winged blackbird	<i>Agelaius phoeniceus</i>		C
Western meadowlark	<i>Sturnella neglecta</i>		C
Brewer's blackbird	<i>Euphagus cyanocephalus</i>		A
Brown-headed cowbird	<i>Molothrus ater</i>		B
Hooded oriole	<i>Icterus cucullatus</i>		B
Northern oriole	<i>Icterus galbula</i>		B
Purple finch	<i>Carpodacus purpureus</i>		A
House finch	<i>Carpodacus mexicanus</i>		B
Red crossbill	<i>Loxia curvirostra</i>		F
Pine siskin	<i>Carduelis pinus</i>		B
Lesser goldfinch	<i>Carduelis psaltria</i>		C
American goldfinch	<i>Carduelis tristis</i>		C
House sparrow	<i>Passer domesticus</i>		B

Mammals

Virginia opossum	<i>Didelphis virginiana</i>		D
Vagrant shrew	<i>Sorex vagrans</i>		D
Ornate shrew	<i>Sorex ornatus</i>		D
Trowbridge's shrew	<i>Sorex trowbridgii</i>		D
Shrew-mole	<i>Neurotrichus gibbsii</i>		D
Broad-footed mole	<i>Scapanus latimanus</i>		D
Yuma myotis	<i>Myotis yumanensis</i>		D
Long-eared myotis	<i>Myotis evotis</i>		D
Long-legged myotis	<i>Myotis volans</i>		D
California myotis	<i>Myotis californicus</i>		D
Big brown bat	<i>Eptesicus fuscus</i>		D
Red bat	<i>Lasiurus borealis</i>		D

COMMON NAME ¹	SCIENTIFIC NAME ¹	STATUS ²	SOURCE ³
Townsend's western big-eared bat	<i>Plecotus townsendii townsendii</i>	CSC, FC2	D
Brazilian free-tailed bat	<i>Tadarida brasiliensis</i>		D
Brush rabbit	<i>Sylvilagus bachmani</i>		D
Desert cottontail	<i>Sylvilagus audubonii</i>		D
Black-tailed hare	<i>Lepus californicus</i>		D
California ground squirrel	<i>Spermophilus beecheyi</i>		A
Eastern gray squirrel	<i>Sciurus carolinensis</i>		D
Western gray squirrel	<i>Sciurus griseus</i>		D
Eastern fox squirrel	<i>Sciurus niger</i>		A
Botta's pocket gopher	<i>Thomomys bottae</i>		D
Western harvest mouse	<i>Reithrodontomys megalotis</i>		D
California mouse	<i>Peromyscus californicus</i>		D
Deer mouse	<i>Peromyscus maniculatus</i>		D
Pinyon mouse	<i>Peromyscus truei</i>		D
Dusky-footed woodrat	<i>Neotoma fuscipes</i>		D
California vole	<i>Microtus californicus</i>		D
Black rat	<i>Rattus rattus</i>		D
Norway rat	<i>Rattus norvegicus</i>		D
House mouse	<i>Mus musculus</i>		D
Gray fox	<i>Urocyon cinereoargenteus</i>		D
Raccoon	<i>Procyon lotor</i>		A
Long-tailed weasel	<i>Mustela frenata</i>		D
Striped skunk	<i>Mephitis mephitis</i>		D
Feral house cat	<i>Felis catus</i>		A
Northern sea lion	<i>Eumetopias jubatus</i>	FT	D
California sea lion	<i>Zalophus californianus</i>		D
Harbor seal	<i>Phoca vitulina</i>		D
Northern elephant seal	<i>Mirounga angustirostris</i>		D
Black-tailed deer	<i>Odocoileus hemionus</i>		D

1 Common and scientific names follow Laudenslayer et al. 1991.

- 2 CSC: California species of special concern, a designation given by California Department of Fish and Game (CDFG) to native taxa whose state breeding populations are of special concern because they may face extirpation.
 CSC(b,r,c): only breeding habitat (b), rookery sites (r), or nesting colonies (c) are being tracked by CDFG.
 CE: state-listed as endangered under the California Endangered Species Act; native taxa in serious danger of becoming extinct throughout all or a significant portion of their range.
 FE: federally endangered under the federal Endangered Species Act (ESA); taxa in danger of extinction throughout all or a significant portion of their range.
 FT: federally threatened under the federal ESA; taxa which are likely to become endangered in the foreseeable future throughout all or a significant portion of their range.
 FC2: category 2 candidate for federal listing as threatened or endangered; taxa for which existing information indicates listing may be warranted, but for which substantial biological information to support a proposal is not currently available.
 F3C: category 3C candidate for federal listing; taxa that have proven to be more abundant or widespread than previously believed and/or are not subject to any identifiable threat.

3 No specific field surveys were conducted by any of these sources. BioSystems' observations were recorded on site visits.

A = Observed by BioSystems biologists 1992.

B = Observed by Fish 1989.

C = Sutherland 1971 as cited in Royston, Hanamoto, Beck, and Abbey (1975).

D = Environmental Impact Planning Corp. 1975 as cited in Royston, Hanamoto, Beck, and Abbey (1975).

E = Steve Bailey, California Academy of Science, pers. comm.

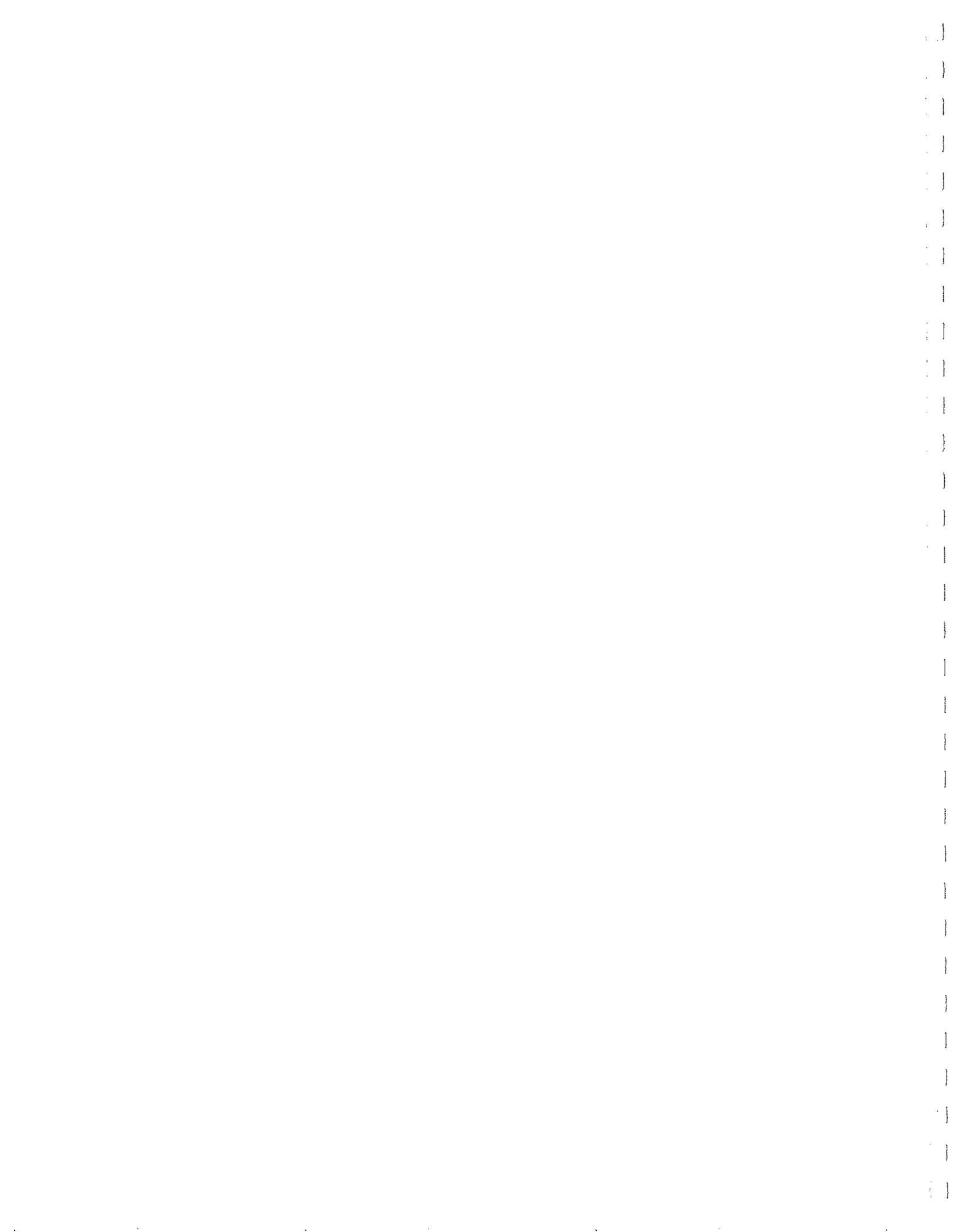
F = Golden Gate Audubon Society, pers. comm.

G = California Natural Diversity Data Base (CNDDDB).



APPENDIX C

PERSONS AND AGENCIES CONTACTED



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Persons, organizations and agencies contacted for information, or that assisted in identifying important issues, developing alternatives or analyzing impacts are listed below.

Steven Bailey, California Academy of Sciences
Dr. Gordon Chan, College of Marin
Nellie Ejercito, Fine Arts Commission
Allen Fish, Golden Gate Raptor Observatory
Dale Hess, Suzanne Locarnini-Lee, SF Convention & Visitors Bureau
Mr. and Mrs. Dan Hountalas, Cliff House Concessioner
Jim Hontalas, Louis' Restaurant
Joe Rodriguez, Heron Institute, San Rafael
David Warren, Giant Camera
Alan Young, Seal Rock Gift Shop
Danny Zelinsky, Mechanical Museum

GOLDEN GATE NATIONAL RECREATION AREA

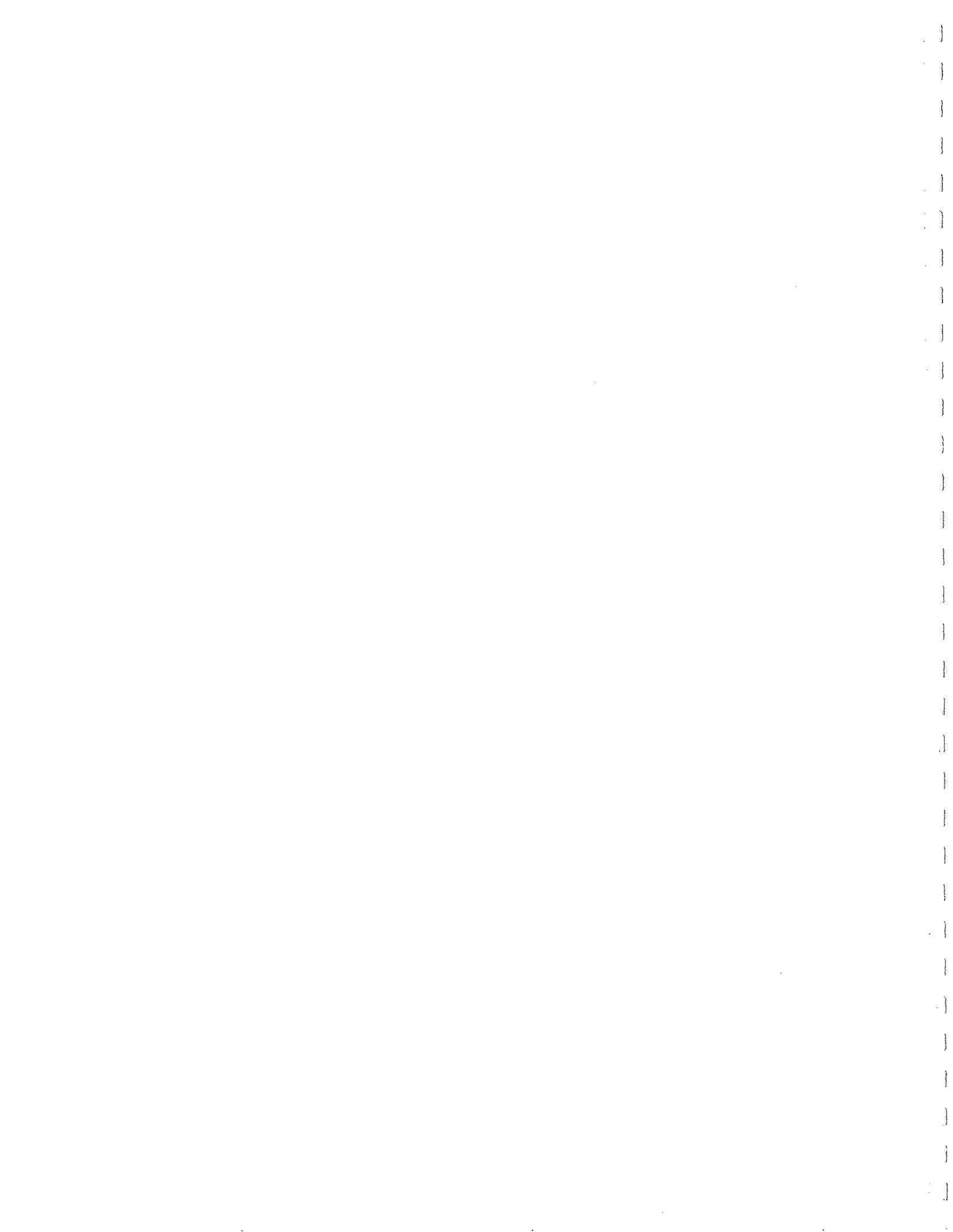
Nicholas Weeks, Project Manager
Nancy Horner, Environmental Specialist
Doug Nadeau, Chief of Resource Management and Planning
Terri Thomas, Natural Resources Specialist/Plant Ecologist
Garey Coatney, Business Manager
Judd Howell, Research Ecologist
Jim Milestone, District Ranger, Ocean District
Ric Borjes, Historic Architect
Martin Mayer, Archaeologist
Lee Shenk, Concession Management Analyst
Michael Adrian, Bob Burgoon, Steve Prokop, Ocean District Rangers

AGENCIES AND ORGANIZATIONS PROVIDING WRITTEN COMMENTARY ON THE DRAFT PLAN

Advisory Council on Historic Preservation
California State Historic Preservation Officer
California State Lands Commission
California Resources Agency (Department of Fish and Game)
San Francisco City Planning Department
American Institute of Architects (S.F. Chapter)
San Francisco Beautiful
Coalition to Save Ocean Beach
Friends of Sutro Park
California Native Plant Society
Golden Gate Audubon Society

APPENDIX D

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REFERENCES

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