

Presidio Trust

DRAFT ENVIRONMENTAL IMPACT STATEMENT

Presidio Trust Implementation Plan

an updated plan for Area B of the Presidio of San Francisco

JULY 2001

As part of the Golden Gate National Recreation Area, the Presidio's significant natural, historic, scenic, cultural and recreational resources must be managed in a manner which is consistent with sound principles of land use planning and management, and which protects the Presidio from development and uses which would destroy the scenic beauty and historic and natural character of the area and cultural and recreational resources.

- From the Presidio Trust Act (P.L. 104-333)

PRESIDIO TRUST IMPLEMENTATION PLAN (PTIP)
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Presidio of San Francisco, San Francisco, California

This Presidio Trust Implementation Plan (PTIP) Draft Environmental Impact Statement (DEIS) for the area of the Presidio of San Francisco (Presidio) under the Presidio Trust's (Trust) jurisdiction (Area B) describes and analyzes alternatives to update the General Management Plan Amendment (GMPA) and supplement the associated Environmental Impact Statement adopted by the National Park Service (NPS) for the Presidio in 1994. The proposed action (Draft Plan) and five additional alternatives have been developed to address Presidio Trust Act (Trust Act) requirements, changed circumstances since the GMPA was completed, and new policies and management approaches of the Trust.

Under the 1996 Trust Act, as amended, Congress created the Trust to manage Presidio facilities so as to make them financially self-sufficient by year 2013 and to protect its resources by ensuring long-term financial sustainability. Each of the 6 alternatives presented in this EIS achieves this goal to varying degrees and has a different emphasis. Principal differences include the proposed total building square footage, the proposed amount of non-residential and residential uses, amount of open space and the method of delivery of public programs. The maximum overall square footage of 5,960,000 allowed under the Trust Act would not be exceeded under any alternative.

The GMPA 2000 alternative (no action) would implement the 1994 GMPA assuming current (year 2000) conditions. Buildings would be removed to increase open space and enhance natural resources, and available housing would decrease substantially. Tenants with a mission related to environmental, social, or cultural concerns would offer public programs related to their business mission. The Draft Plan alternative was developed and refined based on public input received during the scoping period. Under the Draft Plan, the Presidio would become a center for education, communication, and exchange. Buildings would be removed to increase open space, and no net loss of housing units would be achieved, while emphasizing the rehabilitation and reuse of existing buildings. In the Resource Consolidation alternative, the Presidio would become an enhanced open space haven in the center of urban surroundings by maximizing open space in the south through the removal of historic and non-historic structures. In the Sustainable Community alternative, the Presidio would become a sustainable live/work community in a park setting with a small decrease in housing units, would retain its present dispersed pattern of development, and would emphasize building reuse and rehabilitation. In the Cultural Destination alternative, the Presidio would become a national and international destination park by providing robust public programming delivered through the Trust. A substantial level of building demolition in the south would be replaced in the north to provide an increase in and improved mix of housing and to cluster housing near work and transit. Under the Minimum Management alternative, there would be no significant physical change beyond that already underway, and the Presidio would be minimally managed to meet minimum legal requirements.

Major impact topics assessed in this EIS include historic resources, cultural landscape, archaeology, biological resources, water resources, visual resources, air quality, noise, land use, socioeconomic issues, visitor experience, recreation, public safety, transportation, water supply, utilities, and Presidio Trust operations.

The comment period on the Draft Plan and DEIS will end 60 days after the Environmental Protection Agency receives the document and publishes a notice of availability in the Federal Register. The Trust invites interested members of the public and agencies to provide comments. They should be addressed to: PTIP, c/o John Pelka, NEPA Compliance Manager, Presidio Trust, 34 Graham Street, P.O. Box 29052, San Francisco, CA 94129-0052.

For further information, contact the Trust at the above address, telephone (415) 561-5414, or visit the Trust website at www.presidiotrust.gov.

SUMMARY

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The Presidio Trust (Trust) is proposing to update portions of the 1994 Presidio General Management Plan Amendment (GMPA) completed by the National Park Service (NPS) in 1994 for the areas of the Presidio of San Francisco transferred to the Trust's jurisdiction (Area B) by Congress under the 1996 Presidio Trust Act (Trust Act). The Draft Plan is accompanied by a Draft Environmental Impact Statement (EIS) that supplements the 1994 GMPA EIS. The update and supplemental EIS are necessary to reflect the 1998 change in administrative jurisdiction of Area B and other substantive changes occurring since 1994, as explained later in this Chapter.

This EIS evaluates the effects of six alternatives for the proposed *Presidio Trust Implementation Plan – A Management Plan for Area B* (PTIP). The EIS has been prepared in accordance with the requirements of the National Environmental Policy Act of 1969, as amended (NEPA), the Council on Environmental Quality's (CEQ) Regulations implementing NEPA (40 CFR 1500 through 1508), and the Presidio Trust Environmental Quality Regulations (36 CFR 1010).

A brief discussion of the following topics is provided in this chapter:

- The Presidio and its Planning Context
- Scope and Type of EIS
- Purpose and Need for this Project
- Summary of Alternatives Evaluated
- Major Conclusions in the EIS
- Major Issues Raised by Agencies and the Public
- Issues to be Resolved

For additional detail on any of these subjects, the reader is referred to relevant chapters within the EIS.

THE PRESIDIO AND ITS PLANNING CONTEXT

The 1,490-acre Presidio of San Francisco is one of the country's great natural and historic sites. It possesses an extraordinary combination of natural beauty, ecological diversity, and historical significance. A military garrison for over 220 years, operating under three different flags, the Presidio is a National Historic Landmark District (NHLD) within the Golden Gate National Recreation Area (GGNRA) an extensive national park of more than 70,000 acres that begins where the Pacific Ocean meets the San Francisco Bay.

The Presidio's transition from military post to national park began in 1972, when Congress authorized the formation of the GGNRA. In the legislation that established the GGNRA, Congress mandated that the Presidio would become part of the GGNRA if the Department of Defense ever declared the base to be in excess of its needs. The Presidio was designated for closure on the 1989 Base Closure and Realignment Act list and, in 1994, it was transferred to the NPS.

Following the establishment of the GGNRA in 1972, the NPS prepared and approved in 1980 a General Management Plan/Environmental Analysis (GMP) – a programmatic document that set forth the basic management philosophy for the entire national recreation area and Point Reyes National Seashore. In response to the 1989 Presidio closure announcement and pending transfer, the NPS initiated a supplemental public planning and environmental review effort to update the 1980 GMP with specific management and land use actions for the Presidio. The result of this effort was the final GMPA and corresponding EIS. The GMPA was approved by the NPS in July 1994. While the GMPA laid out specific land use plans for 13 distinct planning districts to guide visitor use, cultural and natural resource management, development and operation of the Presidio, it also assumed that more detailed site-specific plans/designs with supplemental environmental analysis would be needed during GMPA implementation.

Once the GMPA was in place, difficult questions regarding its implementation were raised. The challenges included the innovative approaches and unique authorities that would be needed to manage the transformation (i.e., building leasing, property management, and real estate finance), and the means to find the high operating and projected capital costs ($40 million and $490-$741 million, respectively) that would be necessary to implement the GMPA. Congress was unwilling to commit the federal monies needed over the long-term to improve, protect, and maintain the Presidio, and instead created the Presidio Trust (Trust) with a mandate to generate the monies needed to meet these specific challenges.

Congress established the Trust under the Presidio Trust Act, enacted in 1996, two years after the GMPA was adopted by the NPS. The Trust, a wholly-owned federal government corporation, was established to transform the military post into a financially self-sufficient park by the year 2013, while at the same time protecting its natural, historic, scenic, and cultural and recreational resources. Congress divided the Presidio into two areas: Areas A and B. Area A, which encompasses the coastal areas and Building 102 (about 20 percent of the Presidio), remained under NPS jurisdiction. On July 1, 1998, jurisdiction and management of the non-coastal areas (Area B) of the Presidio was transferred from the NPS to the Trust, which now manages the property in a manner that is consistent with the Trust Act and the general objectives of the GMPA (determined and set forth in Trust Board Resolution 99-11: "General Objectives").

Although still within the GGNRA, many of the Trust Act requirements for management of Area B differ significantly from those the NPS must meet in managing property under its administrative jurisdiction. These differences prompted the Trust to reexamine the existing land use plan (i.e., the GMPA) for Area B within the context of the Trust's mandate as well as other substantive changes that have occurred at the Presidio since the GMPA was approved. The Trust, in consultation with the public and other agencies, determined that the best way to facilitate this needed review and update would be through a public planning and environmental review process. This EIS, and the accompanying PTIP document (incorporated herein by reference), encompass the results of that effort to date. These documents are being made available in draft form for public review and comment.

SCOPE AND TYPE OF ENVIRONMENTAL IMPACT STATEMENT

In accordance with 40 CFR 1502.4, this EIS supplements the GMPA EIS and considers the environmental effects of the proposed changes to the GMPA that would occur under each alternative. The EIS is a broad, program-level document that evaluates overall concepts for change, including principles governing the care and management of its varied resources, preferred land uses and programs and activities appropriate in this national park setting. In total, six alternatives presently being considered for the PTIP are evaluated in this EIS.

More detailed and site-specific plans would be developed in the future based on the direction established in the selected alternative. Future activities would be subject to NEPA and National Historic Preservation Act (NHPA) review, involve coordination with the NPS and other agencies as necessary, and provide opportunities for additional public participation. In accordance with 40 CFR Section 1502.20, where appropriate, the Trust may tier future projects from this PTIP EIS. (For additional information on future planning/review activities, refer to "Type and Scope of EIS" section in the Purpose & Need Chapter.)

The scope of this EIS was developed based on input received during a 6-month public scoping period and through the use of the Environmental Screening Form (see Appendix A), which tiers from the GMPA EIS. Consistent with 40 CFR 1501.7, the scope of the EIS is focused on issues that are significant or that have not been covered by a prior environmental

review. Table S-1 presents a summary of the issues evaluated and major impact conclusions in the EIS.

UNDERLYING PURPOSE AND NEED

The Trust is required by the Trust Act to manage Area B of the Presidio to ensure resource preservation while at the same time ensuring that it become financially self-sufficient by the year 2013 and over the long-term. If the Trust fails to meet this financial mandate, the Presidio will be transferred to the General Services Administration (GSA) to be disposed of as federal property and deleted from the boundaries of the GGNRA.

The purpose of the proposed plan update is to provide a policy framework to guide the Trust's successful implementation of the Trust Act by updating the management concepts and land use proposals for Area B identified in the 1994 GMPA. The plan update must address a variety of issues including the Trust Act requirements, changes in circumstances occurring since the GMPA was approved, and new policies and approaches to management. A brief discussion of each is provided below, followed by an overview of the project objectives.

Trust Act Requirements: The Trust must manage its portion of the Presidio in such a way as to become financially self-sufficient in both the short and long-term. This is the requirement that the Trust generate sufficient revenues from Area B to support its operations (including financing costs and programs) without annual federal appropriations, beginning in Fiscal Year 2013. The long-term aspect of self-sufficiency is the need to generate sufficient revenues from leasing and other activities to sustain its operations, performing the necessary building- and infrastructure-related capital improvements, and funding replacement reserves in perpetuity.

In addition, under the Trust Act, removal and/or replacement of some structures must be considered as a management option in administering Area B. In managing and leasing properties, the Trust must give priority to those tenants that enhance the financial viability of the Presidio and facilitate the cost-effective reuse of historic buildings. Other requirements include obtaining reasonable competition in leasing, considering the extent to which prospective tenants contribute to the reduction in cost to the federal government, and bringing all Area B properties into compliance with federal building codes and regulations. All of these requirements are to be accomplished while managing the Presidio so as to protect it from "development and uses which would destroy the scenic beauty and historic natural character of the area and cultural and recreational resources."

Changed Circumstances: Examples of changes occurring since 1994 include progress made toward implementation of the GMPA, changes in the financial assumptions of the GMPA (i.e., Congress' rejection of the GMPA's fundamental assumption regarding federal appropriations for the Presidio), and the departure of the Sixth U.S. Army, which had been expected to occupy approximately 30 percent of the Presidio's building space for an indefinite period. Other land use concepts presumed in the GMPA have also not been supported by existing conditions or market demand. Changes include failure of the lease negotiations with the University of California at San Francisco (UCSF) at the Letterman complex, and subsequent selection of an alternate user for the site. These and other changes are explained in the Purpose and Need Chapter, and demonstrate the need for a more flexible plan – one that does not require a park-wide plan amendment each time a circumstance (i.e., the market or a land use designation or building treatment proposed under the GMPA) changes.

New Policies and Management Approaches: Because the Trust's mandate must be met largely without federal funding there is a greater need for Area B management and planning policies to consider market principles, financial uncertainties, and changing economic conditions. At the same time, the financial requirements of the Trust Act and the Trust's financial

management policies and approaches must be balanced against its resource protection requirements, including consistency with the purposes of the GGNRA Act and General Objectives of the GMPA. The plan update is needed to guide the appropriate application of the Trust's management policies and mandates.

PROJECT OBJECTIVES

The goal of this project is to develop, adopt, and implement a plan that successfully meets the following basic objectives:

- Consistency with Trust Act resource mandates (including consistency with the purposes of the GGNRA Act and the General Objectives of the GMPA)
- Consistency with Trust Act financial mandates (including achieving financial self-sufficiency by year 2013 and long-term financial sustainability)
- Flexibility to respond to market changes and opportunities (to ensure the Trust is successful in meeting its legislated mandates)
- Consistency with PTIP Planning Principles
- Consistency with existing plans and policies
- Appropriate jobs/housing balance
- Desired tenants (tenants that would further the multiple program and financial goals of the Presidio)
- Programs (expansion)
- Historic compliance
- Environmental sustainability

ALTERNATIVES

The starting point for the development of alternatives was the 1994 GMPA and EIS. This EIS analyzes the continued implementation of the GMPA (as updated to current year 2000 conditions) as the no action alternative pursuant to 40 CFR 1502.14(d). With input from the public and interested groups and agencies, the Trust identified five additional PTIP alternatives for Area B to be carried forward for further analysis in this PTIP EIS. With the exception of the Minimum Management alternative, each alternative demonstrates various approaches to applying both the proposed vision statement and Planning Principles within the Draft Plan and to fulfill the Presidio's purpose and mission as set forth by Congress in the Trust Act. (See first page in the EIS for information on how to obtain a copy of the Draft Plan document.) Each alternative is an example of a possible future for the Presidio. Differences among the alternatives include proposed total square footage of building space; the proposed amount of non-residential, residential, cultural/educational, and other uses; the amount and type of open space; the level of potential demolition and possible replacement construction; retention or loss of dwelling units; and the extent of park programming and approach to achieving park programs. The alternatives evaluated in this EIS are:

- GMPA 2000 (No Action alternative)
- Draft Plan alternative (proposed action)
- Resource Consolidation alternative
- Sustainable Community alternative
- Cultural Destination alternative
- Minimum Management alternative

A brief description of the alternatives is provided below. For additional detail, including a list of common features for all alternatives, refer to the Alternatives Chapter in the EIS (which also includes a comparative matrix of the alternatives and land use maps for each).

General Management Plan Amendment (GMPA) 2000 Alternative

This alternative would implement the 1994 GMPA for the Presidio assuming current (year 2000) conditions. Tenants and residents would work together to create a global center dedicated to addressing the world's critical environmental, social, and cultural challenges. Cultural and natural resources throughout the Presidio would be protected and enhanced and new programs would be established through public/private partnerships. Historic buildings and landscapes that distinguish the NHLD would be rehabilitated and adaptively reused. Buildings would be removed to increase open space and/or enhance recreational, cultural, and natural resources.

The housing supply would be substantially reduced and would be used by park center employees, program participants and visitors. The historic forest, streambed and riparian corridors, native plant communities, and recreational opportunities would be protected, improved, and expanded in some instances. A variety of improvements would be implemented to make the Presidio easy to reach, explore, and enjoy. The Presidio would become a model of environmental protection and sustainable design. Tenants with an organizational mission focused on environmental and social sustainability or skills in education and science, innovative technologies, and problem solving would be selected to lease buildings, and develop and operate programs at the site. Park partners would offer a wide range of programs to inform visitors about the Presidio's resources, discuss global concerns, celebrate cultural diversity, and educate the public on environmental issues. The Trust and NPS would cooperate to provide a base level of interpretive services and education about the Presidio's history and significant resources. Land uses and description of building use preferences are shown in Figures 3 and 4 in the Alternatives Chapter of the EIS.

Draft Plan Alternative

This alternative was developed in response to public comments during the scoping process for the PTIP and EIS. (Refer to Consultation and Coordination Section for more detailed discussion of the development of the Draft Plan alternative.) The alternative is patterned on the GMPA 2000 alternative, but includes modifications to ensure its financial viability and to combine a number of concepts proposed in the November 2000 scoping alternatives into a single alternative – expansion of open space, no reduction in housing units, and robust cultural and educational programs for park visitors.

Under the Draft Plan alternative, tenants and residents would work together to make the Presidio a center for education, communication, and exchange. The natural environment would be enhanced and the size and quality of open space increased primarily by removing non-historic housing in the southern portion of the park. Replacement housing would be accomplished by rehabilitating and revising existing buildings to a large extent. Cultural and natural resources would be protected and enhanced. Historic buildings and landscapes that distinguish the NHLD would be rehabilitated and adaptively used. The historic character and integrity of the NHLD would be protected while acknowledging the possibility for limited changes and new construction that would respect the park's character. Buildings would be removed to increase open space and/or enhance recreational, cultural, and natural resources. The historic forest, streambed and riparian corridors, native plant communities, and recreational opportunities would be expanded and improved.

The Draft Plan alternative would ensure no net loss of housing over that which exists today, and could continue the preference for providing housing to Presidio-based employees. An improved mix of housing units would be achieved through an emphasis on subdividing and converting existing

building space, with limited replacement construction at selected transit-accessible locations throughout the park.

A diverse array of cultural and educational programs would be made available to local, national and international park visitors. The Trust would be primarily responsible for delivery of a consistent level of high quality visitor and public programs through the cooperative efforts of the Trust, NPS, tenants, philanthropic organizations, cultural institutions, and community volunteers. Tenants would support park programming in a variety of ways, including directly providing a public program for park visitors, contributing financially, or offering in-kind services to a park program. Tenants would be selected in part for their financial contribution (as required by the Trust Act) and willingness and ability to support park program goals. The Trust and NPS would cooperate to provide a base level of interpretive services and education about the Presidio's history and its significant resources. Land uses and description of land use preferences are shown in Figures 5 and 6 in the Alternatives Chapter of the DEIS.

Resource Consolidation Alternative

Under this alternative, the Presidio would become an enhanced open space haven in an urban setting by maximizing the increase in open space in the southern part of the park and concentrating development in the north. Overall, building square footage in Area B would be reduced from current levels due to the loss of residential units and building space. Though a substantial number of buildings would be demolished, including the entirety of the Public Health Service Hospital (PHSH) complex, the integrity of the NHLD would be protected. Open space and natural resource enhancements (endangered species recovery and Tennessee Hollow riparian restoration) would be maximized and recreational opportunities expanded. Tenets of sustainability, biodiversity, smart growth, and preservation would be promoted by preserving and enhancing the Presidio's natural and cultural resources and concentrating building area, including in-fill mixed-use and housing construction in the northern part of the park. Buildings would be rehabilitated for new uses. The primary goal would be reuse of existing structures along with compatible new construction that would generate sufficient funds for open space improvements and park enhancements. Park programs would be delivered in a manner similar to the Draft Plan alternative, but at a somewhat reduced level. Programs would focus on the park's biodiversity, including native species and ecosystems, and the history of the Presidio. Land uses and description of land use preferences are shown in Figures 7 and 8 in the Alternatives Chapter of the DEIS.

Sustainable Community Alternative

Under this alternative, the Presidio would become a sustainable live/work community in a park setting and a model of environmental sustainability. There would be an emphasis on creating a Presidio-based community of users offering innovative, state-of-the-art ideas and approaches on environmental sustainability and related subjects.

Open space and recreational opportunities would be expanded, and historic forest and native plant communities improved. Riparian corridors would be restored and the historic forest rehabilitated and preserved as part of the cultural landscape. The historic character and integrity of the NHLD would be protected. A moderately low level of non-historic building demolition would occur to enhance open space and improve native plant communities.

The footprint of the built environment would largely remain in its present dispersed pattern. An emphasis would be placed on building rehabilitation and reuse. While the existing number of housing units would decrease, the total number of units would be more than under the GMPA 2000 alternative. Residents would also work in the park, improving the jobs/housing balance, and supporting a sustainable park community. Park programs would be delivered in a manner similar to that proposed by the Draft Plan alternative, but at a somewhat reduced level. Land uses and

description of land use preferences are shown in Figures 9 and 10 in the Alternatives Chapter of the DEIS.

Cultural Destination Alternative

In this alternative, the Presidio would be a national and international cultural destination park, a portal for visitors to the American West and Pacific, and a place of international distinction for its programs in research, education, and communication. Historic and natural resources would be protected to preserve the Presidio as a sustainable national park. Open space would be expanded. Native plant communities and riparian corridors would be restored. The historic forest would be rehabilitated and preserved as part of the cultural landscape. Recreational opportunities would be increased. A substantial level of non-historic building demolition in the southern portion of the park would occur to enhance open space and restore critical habitat. Replacement construction would occur in the northern portion of the park to provide an improved mix of housing units and cluster housing near work and transit.

The Trust would be primarily responsible for delivery of a wide variety of high quality programs in cooperation with NPS, tenants, philanthropic organizations, cultural institutions, and community volunteers. Tenants would support park programming in a number of ways, including directly providing a public program for park visitors, contributing financially, or offering in-kind services to a park program. Tenants would be selected in part for their financial contribution (as required by the Trust Act) and willingness and ability to support park program goals. Land uses and description of land use preferences are shown in Figures 11 and 12 in the Alternatives Chapter of the DEIS.

Minimum Management Alternative

Under this alternative, the Presidio would be minimally managed to fulfill the Trust Act's legal requirements including protection of the visiting public and the park's resources. There would be no significant physical change beyond that already underway; no significant park enhancements, no new building construction or building removal would occur. The 1994 GMPA would not be implemented in Area B, and there would be no formalized planning or policy direction. Buildings would be rehabilitated to meet essential code requirements and then leased out for the highest and best use. Tenants would have discretion in offering publicly available programs, and preference would be given to those tenants proposing to offer programs or services consistent with the General Objectives of the GMPA. There would be no educational, visitor, or cultural programming beyond what already exists. Except for existing buildings at the Letterman Digital Arts (LDA) complex, no buildings would be demolished. The Wherry housing complex would remain in use indefinitely as housing. Natural resource systems would not be significantly enhanced. Housing would be improved to meet code requirements and made available for rent by Presidio-based employees and others according to a prioritization system. Anticipated land uses and description of land use preferences are shown in Figures 13 and 14 in the Alternatives Chapter of the DEIS.

MAJOR CONCLUSIONS

The impact topics and major impact conclusions from the DEIS are summarized in Table S-1 at the end of this section.

MAJOR ISSUES RAISED BY AGENCIES AND THE PUBLIC

The Trust prepared a post-scoping document that summarizes scoping comments and input. The following are among the issues raised and considered by the Trust to be principal areas for study and analysis, and briefly describes how the issues have been dealt with in the DEIS. See also the Consultation and Coordination chapter.

Many commentors requested that the Trust consider an alternative patterned after the preferred alternative in the 1994 GMPA but made to be financially viable. Changes to the GMPA 2000 alternative in response to scoping comments resulted in the alternative achieving financial self-sufficiency by 2013, thus transforming the alternative into a viable option. In addition, the Trust developed a new alternative, the Draft Plan alternative, patterned upon the land use elements of the GMPA and incorporating essential components requested in scoping comment letters as a means to respond to these requests.

Commentors were concerned that the proposed levels of demolition and new construction would impair the NHLD. A variety of safeguards mitigate against impairment of the NHLD. Demolition proposed for all alternatives would primarily involve non-historic structures and/or those historic structures identified for demolition in the 1994 GMPA EIS. For all alternatives, new construction would be subject to a variety of mitigation measures, including adherence to the planning guidelines for each planning district set forth in Chapter 4 of the Draft Plan and compliance with Section 106 of the NHPA and the provisions of the draft Programmatic Agreement in Appendix C.

Comments requested that the Trust underscore the importance of protecting historic resources in the NHLD. Compliance with federal historic preservation laws, and the PTIP Planning Principles (see Chapter 2 of the Draft Plan) would ensure, through the application of Planning District Guidelines in the Draft Plan that the NHLD would not be impaired and individual resources would be preserved to the maximum extent feasible.

A number of comments focused on the need for the Trust to better define what is encompassed within the open space designation ("green space"). The Trust has used the designations of the VMP, developed and prepared by the NPS in cooperation with the Trust, as the framework for future resource management actions within open space areas of the Presidio.

Various commentors requested that the Trust critically review and revisit certain assumptions of the financial model used to develop the alternatives. In response to these comments, the Trust has revised a number of assumptions in the financial analysis. Assumptions have been revised with respect to the timing of Wherry housing demolition, the addition of underground parking, the tenant mix, the source of new construction financing, and operation costs.

Various commentors objected to the proposal to move from tenant-based programs to programs not necessarily tied to a tenant's business mission. The Trust is studying an array of alternatives, some of which include a broader visitor experience, an expanded variety of programs, and greater assurance that the Presidio's programmatic goals are achieved more consistently than was envisioned in the GMPA. See also the Presidio Programs Chapter (Chapter 3) of the Draft Plan.

Many commentors noted concerns that the Trust's planning proposals rejected the GMPA, and commentors sought to retain many specific GMPA elements. The alternatives developed and evaluated in this EIS retain elements of the GMPA that have already been carried out or that do not warrant change. At the same time, the alternatives build in modifications to the GMPA to obtain a measure of flexibility not contemplated in the GMPA and to better reflect the Trust's differing mandate, policies, and approaches.

A plan alternative, once selected and adopted will become the Plan governing the Trust's future management and implementation in Area B, and the GMPA will continue to govern NPS's management of Area A.

ISSUES TO BE RESOLVED

Among the issues to be resolved is completion of the environmental review process, including public and agency input on the contents of this EIS. Following close of the public comment period, the Trust will review, consider and respond to all substantive comments received and publish those responses in a Final EIS. The Trust decision-makers (its Board of Directors) will review and consider the information provided in the DEIS, and decide whether to take action on the project. Such action could include, but is not limited to the adoption of a particular alternative, rejection of all alternatives, and/or partial or conditional approval of a particular alternative. Any action taken by the Trust Board regarding this project will be documented and explained in a Record of Decision (ROD).

Because the PTIP addresses all of Area B at a programmatic level, one of the primary issues to be resolved is the future design and operations in each of the planning districts (e.g., Main Post), as well as design-related issues for future projects. These issues would be resolved by proposing planning district plans, cluster plans, or site-specific project proposals in the future, which would be subject to subsequent environmental review and public involvement.

Other issues to be resolved include the eventual selection and implementation of an alternative for Doyle Drive, and completion of environmental remediation.

As a Cooperating Agency, the Trust will continue to be involved in the planning and reconstruction of Doyle Drive (which runs through the northern part of the park). The proposed reconstruction is intended to correct existing safety and structural problems. The Trust is working with the lead agencies for the project to ensure that the selected alternative provides the Presidio with major transportation benefits, along with potential aesthetic and environmental improvements. Because of its location, Doyle Drive could provide a direct entrance into the Presidio, helping to enhance intermodal transit access and reduce traffic that currently uses the Presidio's residential area gates. Coupled with other improvements, this project also has the potential to revitalize bayfront access, and enhance recreational opportunities and resource preservation projects along the highway route. Reopening of scenic vistas from the Main Post, cemetery, and cavalry stables across Crissy Field to San Francisco Bay will also be promoted. Through its continued involvement in this project, the Trust will ensure that relevant planning activities within Area B are coordinated with the Doyle Drive project.

Based on its historic use as a military installation, there are several areas of the Presidio that have been contaminated by a variety of hazardous substances. To date, a substantial amount of analysis, investigation, regulatory consultation, and public involvement has been completed initially by the Army and now by the Trust, in coordination with NPS, to address these known and potential unknown sites. Issues identified in this process include the location and type of contamination, type of contaminates to be covered by the remediation program, required clean-up levels and future uses. Although clean up has started, it has not been completed and will be an ongoing program in the coming years. Implementation of the proposed land uses, restoration efforts, demolition and other activities addressed in this EIS will need to be coordinated with the ongoing remediation program.

Table S-1 Summary of Environmental Consequences

Impact	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
4.2.1 Historic Architecture and Cultural Landscape						
Impacts on the National Historic Landmark District (Mitigated by CR-1 through CR-4, CR-7)	Demolition of historic buildings would not differ from the 1994 GMPA. Removal of historic buildings would have an adverse effect on the NHLD, but not the status of the landmark. Rehabilitation of historic buildings would comply with Secretary of Interior's Standards for the Rehabilitation of Historic Properties. The relatively small amount of new construction would be designed to be compatible with its historic setting. Would not comply with Trust Act requirements regarding comprehensive management program.	Could have a new significant adverse impact on individual historic resources and on the NHLD due to (unspecified) building demolition that may differ from demolition anticipated under the GMPA, subject to further planning, environmental review, and NHPA consultation. Building rehabilitation would comply with Secretary of Interior's Standards. New construction would be consistent with the Planning Principles and Planning District Guidelines, and would be subject to further environmental review and NHPA consultation under Section 106. With additional study of potential building demolition, would comply with Trust Act requirement for comprehensive management program.	Would have significant effects on individual historic resources and possibly on the NHLD due to demolition, including demolition of the historic Public Health Service Hospital. Historical and architectural recordation and salvage would reduce the effect of demolition, but the impact would not be fully offset. With additional study of potential building demolition, would comply with Trust Act requirements regarding comprehensive management program.	Possible significant adverse effects similar to Draft Plan alternative, but lessened effects, because less building demolition and new construction. With additional study of potential building demolition, would comply with Trust Act requirement for a comprehensive management program.	Possible significant adverse effects similar to Draft Plan alternative, but potentially heightened because of greater demolition and new construction. With additional study of potential building demolition, would comply with Trust Act requirement for a comprehensive management program.	No building demolition or new (replacement) construction would occur, so there would be no adverse effects either on individual resources or on the status of the NHLD. Would not comply with Trust Act requirement for a comprehensive management program.
Impacts on the Cultural Landscape (Mitigated by CR-4, CR-5 through CR-7)	Changes would be generally beneficial. Under this alternative, there would be a substantial level of non-historic building demolition to expand open space, as well as a	Similar to GMPA 2000, but would have less demolition and more new construction.	With the exception of the changes at the PHSH, similar to GMPA 2000 alternative. Would have the greatest amount of building demolition, most notably the removal of the PHSH and more new construction.	Similar to GMPA 2000 alternative, but would involve the least amount of demolition of any action alternative and more new construction than the GMPA 2000 alternative and slightly less than the Draft Plan alternative.	Similar to the Draft Plan alternative, with more demolition in the south of the park and more new construction in the north part of the park.	Changes to the cultural landscape would be minimal as there would be no demolition or new construction. Potential negative impacts could result from neglect.

Table S-1 Summary of Environmental Consequences

Impact	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
	commitment to enhance natural areas. New construction would be subject to several controls to ensure compatibility with surrounding buildings and the NHLD.		Would result in the most noticeable changes to the Presidio cultural landscape.			
4.2.2 Archaeological Resources						
Destruction of, or Damage to, Archaeological Resources (Mitigated by CR-8 through CR-15)	New construction, demolition and/or restoration activities proposed throughout the Presidio have the potential to adversely affect prehistoric and historic archaeological resources.	Similar to GMPA 2000 alternative, with higher overall potential to adversely affect archaeological resources based on greater amount of new (replacement) construction. In particular, there would be greater potential for impacts in the East Housing Planning District where replacement housing may occur within the Tennessee Hollow riparian corridor.	Similar to the GMPA 2000 alternative, with higher potential to affect known and unknown archaeological sites in the north (due to the greater amount of demolition and infill construction in as yet unspecified locations.) In addition, removal of housing and landscaping in East Washington and West Washington housing clusters also would increase the potential for archaeological impacts.	Similar to the GMPA 2000 alternative, with higher overall potential to adversely impact archaeological resources based on greater amount of new construction in as yet unspecified locations.	Similar to the GMPA 2000 alternative, with higher overall potential to adversely impact archaeological resources based on greater amount of new construction in as yet unspecified locations. Removal of housing and landscaping in the East Washington and West Washington neighborhoods would also increase the potential for archaeological impacts.	This alternative would have the least severe impacts on known or unknown sites, because there would be no major demolition, new construction, or restoration activities.

Table S-1 Summary of Environmental Consequences

Impact	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
4.3.1 Biological Resources						
Direct and Indirect Effects on Native Plant Communities (Mitigated by measures NR-1, NR-5, NR-6, NR-10, NR-11 and NR-20)	Native plant communities could be effected by demolition, new (replacement) construction, and land uses. This alternative would have the most beneficial effect on native plant communities through proposed restoration. Native plant communities would increase from 70 to 209 acres.	This alternative would have impacts similar to the GMPA 2000 alternative. There would be a greater potential for site-specific impacts in the Crissy Field, PHSH, and East Housing Planning Districts as a result of construction and increased land use activities. Overall, native plant communities would increase from 70 to 202 acres.	Effects would be similar to the GMPA 2000 alternative, with a higher potential for demolition and construction-related impacts. Native plant communities would increase from 70 to 208 acres.	Effects would be similar to the Draft Plan alternative. Native plant communities would increase from 70 to 208 acres.	Effects would be similar to the Draft Plan alternative. Overall, native plant communities would increase from 70 to 202 acres.	This alternative would have few restoration benefits, and would not expand existing native plant communities. It would affect native plant communities in the South Hills, East Housing, PHSH and Crissy Field Planning Districts.
Direct and Indirect Effects on Wildlife (Mitigated by measures NR-2, NR-5 through NR-9, and NR-12)	Under this alternative, habitat restoration and expansion of open space areas would provide long-term beneficial effects on wildlife and would help to offset effects associated with construction, demolition and increased land use activities.	Similar to the GMPA 2000 alternative, with fewer beneficial effects and greater potential for adverse impacts on wildlife in the PHSH and Crissy Field Planning Districts due to construction and land use activities.	Overall, this alternative would have the greatest beneficial effect on wildlife based on the substantial increase of open space areas (from 696 to 839 acres, 44 acres more than GMPA 2000).	Similar to the Draft Plan alternative, with a reduction in the wildlife benefits associated with expansion of open space (roughly 20 acres less than the GMPA and Draft Plan alternatives). Higher use levels under this alternative could also directly and indirectly affect wildlife.	Similar to the Draft Plan alternative, with a higher potential for impact based on higher levels of demolition, construction and use levels. The increased level of open space (roughly 12 acres more than the GMPA 2000 and Draft Plan alternatives) would partially help to offset increased activities.	No new construction, demolition, or habitat restoration would occur. Without habitat restoration and open space benefits to offset increased use, this alternative could result in adverse direct and indirect wildlife impacts.

Table S-1 Summary of Environmental Consequences

Impact	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Nesting Habitat (Mitigated by measures NR-2, NR-5 through NR-9 and NR-12).	Proposed demolition and construction activities could destroy nests or disturb nesting activities.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	No disturbances associated with demolition or new construction would occur; however, ongoing reuse activities could potentially disrupt nesting habitat.
Wildlife Movement (Mitigated by measures NR- 1, NR-5, NR-6, NR-7, NR-9, and NR-12)	Wildlife corridors would benefit from proposed habitat restoration activities. However, demolition, new construction and land uses (to the extent they occur in or adjacent to wildlife corridors) could disrupt wildlife movement and migration.	Similar to GMPA 2000 alternative, with a greater potential for disrupting wildlife movement particularly in the PHSH Planning District.	Similar to GMPA 2000 and Draft Plan alternatives; however, this alternative would provide the greatest amount of open space and would therefore have the greatest potential of enhancing wildlife corridors/movement in the southern portion of the park.	Similar to GMPA 2000 alternative, with a greater potential for disrupting wildlife and a reduction in habitat restoration efforts.	Similar to the Draft Plan alternative with greater potential for disruption.	No demolition or construction-related impacts to wildlife movement would occur. However, ongoing reuse would occur without habitat restoration. Therefore, existing wildlife corridors would continue to be fragmented, limiting wildlife movement.
Special-Status Plants (Mitigated by measures NR-1, NR-3 through NR-7, NR-9, NR-11 and NR-12)	This alternative would provide an overall increase in the quality and quantity of habitat for special-status plant species.	Similar to GMPA 2000 alternatives, with a higher potential to affect species (i.e., San Francisco lessingia) within the PHSH Planning District.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	Similar to Draft Plan alternative.	No demolition or construction-related effects on special-status plants would occur. However, retention of Wherry housing would lead to an adverse impact on special-status plants (i.e., San Francisco lessingia).

Table S-1 Summary of Environmental Consequences

Impact	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Special-Status Wildlife (Mitigated by measures NR-1 through NR-10 and NR-12)	This alternative would provide an overall increase in the quality and quantity of habitat for special-status wildlife species. Potential adverse effects would be avoided or minimized through mitigation.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	No demolition or construction-related effects on special-status wildlife would occur. However, habitat values would not increase beyond current restoration efforts.
4.3.2 Water Resources						
Direct and Indirect Impacts on Wetlands and Other Water Features (Mitigated by measures NR-13 through NR-19)	Demolition, construction and new land uses proposed could result in wetland degradation and disturbance. Overall, restoration of hydrological processes proposed (including Crissy Field Marsh) would offset potential impacts, providing a long-term beneficial effect on wetland resources.	Similar to the GMPA 2000 alternative, however, there would be an increase in potential indirect impacts in the PHSH Planning District and on Crissy Field Marsh should wetland expansion not occur.	Similar to GMPA 2000 alternative.	Similar to the Draft Plan Alternative. However, potential indirect impacts would result should wetland expansion not occur in the Crissy Field Marsh.	Similar to Draft Plan alternative, with greater potential for impacts associated with higher demolition, construction and use levels. Potential indirect impacts would result should wetland expansion not occur in the Crissy Field Marsh.	No demolition and construction-related disturbances or restoration would occur.
Water Quality (Mitigated by measures NR-15 through NR-19)	Demolition, construction, and various operational activities could create indirect downstream impacts from erosion, sedimentation, and discharges of other pollutants.	Similar to the GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	Similar to the GMPA 2000 alternative.	Similar to the GMPA 2000 alternative.	Demolition and construction-related effects would be avoided. However, operational activities have the potential to create indirect downstream impacts.

Table S-1 Summary of Environmental Consequences

Impact	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
4.3.3 Visual Resources						
Change in Visual Character (Mitigated by measures CR-5, CR-6, NR-1, and NR-7)	This alternative would preserve and enhance important historic, natural, and scenic features at the Presidio. Historic vistas and view corridors would be restored, and new construction would be limited and designed to be compatible with historic character of park.	Similar to the GMPA 2000 alternative, with a higher level of new, compatible construction.	This alternative would substantially enhance the open space and natural character of the area along the park's southern boundary. Built space would be concentrated in the northeast. New construction would be limited and would be designed to be compatible with existing character.	Similar to the Draft Plan alternative.	Similar to the Draft Plan alternative.	No significant physical changes beyond those underway.
4.3.4 Air Quality						
General Construction/ Demolition Emissions (Mitigated by measures NR-20 and NR-22)	Operation of heavy equipment and other activities associated with demolition, construction, and rehabilitation would generate fugitive dust and other pollutants that could degrade local air quality.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative, with higher potential emissions.	Similar to Resource Consolidation alternative.	Similar to Resource Consolidation alternative.	No demolition or new construction. Rehabilitation could cause limited emissions.
Potential Localized CO Violations (Mitigated by measure NT-21)	CO concentrations would range up to 4.4 ppm for 1-hour averages and 2.7 ppm for 8-hour averages, which would not exceed ambient air quality standards.	CO concentrations would range up to 4.5 ppm for the 1-hour average and 2.8 ppm for the 8-hour average, which would not exceed ambient air quality standards.	CO concentrations would range up to 4.6 ppm for the 1-hour concentration and 2.8 ppm for the 8-hour average, which would not exceed ambient air quality standards.	CO concentrations would range up to 4.6 ppm for the 1-hour average and 2.8 ppm for the 8-hour average, which would not exceed ambient air quality standards.	CO concentrations would range up to 4.5 ppm for the 1-hour average and 2.8 ppm for the 8-hour average, which would not exceed ambient air quality standards.	CO concentrations would range up to 4.5 ppm for 1-hour, and 2.8 ppm for 8-hour averages, which would not exceed ambient air quality standards.

Table S-1 Summary of Environmental Consequences

Impact	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Regional Emissions (Mitigated by measure NR-21)	Daily internal and external vehicle trips in 2020 would generate about 208 lbs/day of ROG and 403 lbs/day of NO_x. Measures would be implemented to reduce the number and length of vehicle trips. Effects of emissions adequately reduced by maintaining consistency with the regional CAP.	Daily internal and external vehicle trips in 2020 would generate about 54 lbs/day of ROG and 104 lbs/day of NO_x more than the projected emissions for the GMPA 2000 alternative. Effects of the emissions would be adequately reduced by maintaining consistency with the regional CAP.	Daily internal and external vehicle trips in 2020 would generate about 49 lbs/day of ROG and 95 lbs/day of NO_x more than the projected emissions for the GMPA 2000 alternative. Effects of the emissions would be adequately reduced by maintaining consistency with the regional CAP.	Daily internal and external vehicle trips in 2020 would generate about 79 lbs/day of ROG and 154 lbs/day of NO_x more than the projected emissions for the GMPA 2000 alternative. Effects of the emissions would be adequately reduced by maintaining consistency with the regional CAP.	Daily internal and external vehicle trips in 2020 would generate about 74 lbs/day of ROG and 143 lbs/day of NO_x x more than the projected emissions for the GMPA 2000 alternative. As with the GMPA 2000 alternative, effects of the emissions adequately reduced by maintaining consistency with the regional CAP.	Daily internal and external vehicle trips in 2020 would generate about 81 lbs/day of ROG and 157 lbs/day of NO_x more than the projected emissions for the GMPA 2000 alternative. Effects of the emissions would be adequately reduced by maintaining consistency with the regional CAP.
4.3.5 Noise						
General Construction/ Demolition Noise (Mitigated by measure NR-23)	Noise generated by demolition, construction, and rehabilitation activities would have the potential to affect Presidio tenants, recreational users, and nearby residences.	Similar to the GMPA 2000 alternative.	Greater potential than the GMPA 2000 alternative to disrupt Presidio tenants, recreational users, and adjacent residences because the levels of demolition and new construction would be greater.	Similar to the GMPA 2000 alternative.	Greater potential than the GMPA 2000 alternative to disrupt Presidio tenants, recreational users, and nearby residences because the levels of demolition and new construction would be greater.	No new construction or demolition would occur, so construction noise would be limited to building rehabilitation.
Traffic Noise (Mitigated by measures NR-24 and NR-25)	Traffic noise increases would occur within the Presidio, and would increase within the adjacent neighborhoods. However, noise levels would not exceed applicable standards.	Traffic noise levels would be greater than the GMPA 2000 alternative and would approach or exceed applicable standards at 2 locations.	Traffic noise levels would be greater than GMPA 2000 alternative, and would approach or exceed applicable standards at 2 locations.	Traffic noise levels would be greater than GMPA 2000, and would approach or exceed applicable standards at 3 locations.	Traffic noise levels would be greater than GMPA 2000, and would approach or exceed applicable standards at 3 locations.	Traffic noise would increase but would not approach or exceed applicable standards.

Table S-1 Summary of Environmental Consequences

Impact	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Noise from Stationary Sources (Mitigated by measure NR-23)	Building operations equipment and increased human activity would increase noise levels but would not exceed the limitations of the San Francisco Noise Ordinance.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.
4.4.1 Land Use						
Land Use Compatibility (Mitigated by measure CO-1)	No substantial change in existing land use patterns. Would expand open space by 98 acres, and reduce total built space to 5.01 million sf. Proposed land uses would be compatible with surrounding uses.	Similar to the GMPA 2000 alternative. Would expand open space by 97 acres, and reduce total built space to 5.6 million sf. Proposed land uses would be compatible with surrounding uses.	Would shift development from the southern portion of the park to the northeast. Provides for 142 acres of open space, and would reduce total built space to 5.3 million sf. Proposed land uses would be compatible with surrounding uses.	No substantial changes in existing land use patterns. Would expand open space by 76 acres, and reduce open space to 5.69 million sf. Proposed and uses would be compatible with surrounding uses.	Would create built-up mixed uses centers along the northern edge and expand open space primarily in the south by 111 acres. Built space would remain at current levels of 5.96 million sf. Proposed land uses would be compatible with surrounding uses.	No land use changes beyond leasing of existing structures and overall land use patterns would remain unaltered. Built space would remain at 5.96 million sf and existing open space would increase by 6 acres.
4.4.2 Socioeconomic Issues/Housing Supply						
Increased Demand for Housing and Jobs/Housing (Mitigated by measure CO-2)	Presidio employment would generate total demand for 4,308 households (the least of any alternative), net new demand for 3,016 households, and Presidio-based demand for 1,148 households. 502 housing units would be provided. 12 percent of total demand, 17 percent of net new demand, and 44 percent of Presidio-wide	Presidio employment would generate total demand for 4,601 households, net new demand for 3,309 households and Presidio-based demand for 1,219 households. 1,240 housing units would be provided. 27 percent of total demand, 37 percent of net new demand, and 102 percent of Presidio-based demand would be met. Up to 410 SRO/dorm units would also be supplied.	Presidio employment would generate total demand for 5,425 households, net new demand for 4,133 households, and Presidio-based demand for 1,149 households. 869 housing units would be provided. 16 percent of total demand, 21 percent of net new demand, and 61 percent of Presidio-based demand would be met. Up to 40 SRO/dorm units would also be supplied.	Presidio employment would generate total demand for 4,812 households, net new demand for 3,520 households and Presidio-based demand for 1,270 households. 1,188 housing units would be provided. 25 percent of total demand, 34 percent of net new demand, and 94 percent of Presidio-based demand would be met. Up to 238 SRO/dorm units would also be supplied.	Presidio employment would generate total demand for 5,016 households, net new demand for 3,724 households, and Presidio-based demand for 1,319 households. 1,431 housing units would be provided. 29 percent of total demand, 38 percent of net new demand, and 108 percent of Presidio-based demand would be met. Up to 272 SRO/dorm units would also be	Presidio employment would generate total demand for 5,005 households, net new demand for 3,713 households, and Presidio-based demand for 1,317 households. 1,116 housing units would be provided. 22 percent of total demand, 30 percent of net new demand, and 85 percent of Presidio-based demand would be

Table S-1 Summary of Environmental Consequences

Impact	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
	demand would be met. Up to 262 SRO/dorm units would also be supplied.				supplied.	met. Up to 538 SRO/dorm units would also be supplied.
4.4.3 Schools						
Increased Demand for School Facilities (Mitigated by measure CO-3)	This alternative would generate demand for facilities to accommodate 48 elementary students, 24 middle school students, and 33 high school students. The San Francisco Unified School District could accommodate the school age population.	This alternative would generate demand for facilities to accommodate 119 elementary school students, 60 middle school students, and 82 high school students. The San Francisco Unified School district could accommodate the elementary and middle school age population. The high school age population would exceed current capacity.	This alternative would generate demand for facilities to accommodate 84 elementary school students, 42 middle school students, and 58 high school students. The San Francisco Unified School District could accommodate most of the school age population (high school capacity would be exceeded by 1).	This alternative would generate demand for facilities to accommodate 114 elementary school students, 58 middle school students, and 79 high school students. The San Francisco Unified School district could accommodate the elementary and middle school age population. The high school age population would exceed current capacity.	This alternative would generate demand for facilities to accommodate 138 elementary school students, 69 middle school students, and 95 high school students. The San Francisco Unified School district could accommodate the elementary and middle school age population. The high school age population would exceed current capacity.	This alternative would generate demand for facilities to accommodate 107 elementary school students, 54 middle school students, and 74 high school students. The San Francisco Unified School district could accommodate the elementary and middle school age population. The high school age population would exceed current capacity.
4.4.4 Visitor Experience						
Impact on Visitor Experience (Mitigated by measures CO-4 through CO-8)	This alternative would provide a variety of improvements to interpretive and educational opportunities. The level of programming would depend on the initiative of park tenants. Recreational visitation would be 3.7 million per year.	The Draft Plan would provide a greater variety of visitor facilities for the public than the GMPA 2000 alternative. Recreational visitation would be 7.7 million per year.	This alternative would provide less variety of visitor facilities but more programming than the GMPA 2000 alternative. Recreational visitation would be 6.5 million per year.	This alternative would provide less variety of visitor facilities but more programming than the GMPA 2000 alternative, with an emphasis on serving local visitors and residents of the Presidio. Recreational visitation would be 8.4 million per year.	Visitor facilities and programs would be similar to the Draft Plan. Recreational visitation would be 7.9 million per year.	Minimal actions would be taken to expand visitor facilities and programming. Recreational visitation would be 4.9 million per year.

Table S-1 Summary of Environmental Consequences

Impact	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
4.4.5 Recreation						
Impact on Recreational Activities (Mitigated by measures CO-9 through CO-11)	Recreational activities and related programs would be improved which would be a beneficial effect.	Effects would be similar to the GMPA 2000 alternative. Options for additional built indoor and outdoor facilities would be considered.	Effects would be similar to the Draft Plan alternative. Additional emphasis on opportunities for stewardship, nature appreciation, and solitude.	Similar to the Draft Plan alternative.	Similar to the Draft Plan alternative.	All existing facilities would be retained for public use. No new trails and bikeways would be established, and there would be little change in recreational activities and program opportunities.
4.4.6 Public Safety						
Increased Demand for Public Safety Services (Mitigated by measure CO-12)	Increase in resident and employee populations would increase demands for law enforcement, fire and emergency response services. Services would need to be reviewed and expanded as necessary as development occurs.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.
4.5 Transportation and Circulation						
Increased Congestion on Local Roadways (Mitigated by measures TR-1 through TR-8, and TR-11 through TR-17)	Would generate 40,175 daily vehicle trips. Of the 33 studied intersections, 8 would operate at LOS E or F under during the a.m. peak hour, and 10 during the p.m. peak hour. Except for Lincoln Boulevard/Bowley Avenue, Park Presidio Boulevard/Lake Street and Park Presidio	Would generate 50,535 daily vehicle trips, 26 percent more trips than GMPA 2000 alternative. Unacceptable service levels at the same intersections as the GMPA 2000 alternative, except for Lincoln Boulevard/Golden Gate Bridge Viewing Area during p.m. peak hour, plus 2 in a.m. and 5 in p.m. Except for Lincoln Boulevard/Bowley	Would generate 49,625 daily vehicle trips, or 24 percent more trips than GMPA 2000 alternative. Unacceptable service levels at the same intersections as the GMPA 2000 alternative, plus 1 in a.m. and 5 in p.m. Except for Lincoln Boulevard/Bowley Avenue, Park Presidio Boulevard/Lake Street and Park Presidio	Would generate 55,517 daily vehicle trips or 38 percent more trips than GMPA 2000 alternative. Unacceptable service levels at the same intersections as the GMPA 2000 alternative plus 1 in a.m. and 5 in p.m. Except for Lincoln Boulevard/ Bowley Avenue, Park Presidio Boulevard/Lake Street and Park Presidio Boulevard/California Street, all intersections could be	Would generate 54,472 daily vehicle trips, or 36 percent more trips than GMPA 2000 alternative. Unacceptable service levels at the same intersections as the GMPA 2000 alternative, plus 1 in a.m. and 7 in p.m. Except for Lincoln Boulevard/Bowley Avenue, Park Presidio Boulevard/Lake Street and	Would generate 55,836 daily vehicle trips or 39 percent more trips than GMPA 2000 alternative. Unacceptable service levels at the same intersections as the GMPA 2000 alternative except for Lincoln Boulevard/Golden Gate Bridge Viewing Area during p.m. peak hour,

Table S-1 Summary of Environmental Consequences

Impact	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
	Boulevard/California Street, all intersections could be mitigated to acceptable LOS.	Avenue, Park Presidio Boulevard/Lake Street and Park Presidio Boulevard/ California Street, all intersections could be mitigated to acceptable LOS.	Boulevard/California Street, all intersections could be mitigated to acceptable LOS.	mitigated to acceptable LOS.	Park Presidio Boulevard/ California Street, all intersections could be mitigated to acceptable LOS.	plus 5 in a.m. and 6 in p.m. Except for Lincoln Boulevard/Bowley Avenue, Park Presidio Boulevard/Lake Street and Park Presidio Boulevard/ California Street, all intersections could be mitigated to acceptable LOS.
Parking Demand and Supply (Mitigated by measures TR-18 through TR-21)	Would provide approximately 7,780 parking spaces and would have a demand of 7,320 spaces, resulting in a surplus of 460 spaces, or 6 percent.	Would provide approximately 9,630 parking spaces and would have a demand of 7,970 spaces, resulting in a surplus of 1,660 spaces, or 21 percent. This is 9 percent greater than the parking demand generated by the GMPA alternative in 2020.	Would provide approximately 9,840 parking spaces and would have a demand of 8,460 spaces, resulting in a surplus of 1,380 spaces, or 16 percent. This is 16 percent greater than the parking demand generated by the GMPA alternative in 2020.	Would provide approximately 9,880 parking spaces and would have a demand of 8,220 spaces, resulting in a surplus of 1,660 spaces, or 20 percent. This is 12 percent greater than the parking demand generated by the GMPA alternative in 2020.	Would provide approximately 9,930 parking spaces and would have a demand of 8,620 spaces, resulting in a surplus of 1,310 spaces, or 15 percent. This is 18 percent greater than the parking demand generated by the GMPA alternative in 2020.	Would provide approximately 11,180 parking spaces and would have a demand of 9,420 spaces, resulting in a surplus of 1,760 spaces. This is 29 percent greater than the parking demand generated by the GMPA alternative in 2020.
Pedestrian and Bicycle Facilities (Mitigated by measure TR-9)	Would generate 12,000 daily pedestrian and bicycle trips, which would be accommodated within existing facilities and proposed improvements outlined in the Bikeways and Trails Master Plan.	Would generate 18,500 daily pedestrian and bicycle trips, which would be accommodated within existing and proposed facilities.	Would generate 17,300 daily pedestrian and bicycle trips, which would be accommodated within existing and proposed facilities.	Would generate 19,800 daily bicycle and pedestrian, which would be accommodated within existing and proposed facilities.	Would generate 20,600 daily bicycle and pedestrian trips, which would be accommodated within existing and proposed facilities.	Would generate 12,500 daily bicycle and pedestrian trips, which would generally be accommodated within existing facilities.

Table S-1 Summary of Environmental Consequences

Impact	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Transit Demand (Mitigated by measures TR-9, TR-10 and TR-22)	Would generate 12,100 transit trips on a weekday daily basis.	Would generate 20,100 transit trips, 66 percent more trips than the GMPA 2000 alternative.	Would generate 19,583 daily transit trips, 62 percent more trips than GMPA 2000 alternative.	Would generate 21,500 daily transit trips, 77 percent more trips than GMPA 2000 alternative.	Would generate 22,000 daily transit trips, 81percent more trips than the GMPA 2000 alternative.	Would generate 12,500 daily transit trips on Muni, GGT and the Presidio's internal shuttle, 3 percent more than the GMPA 2000 alternative.
Construction Traffic (Mitigated by measure TR-23)	Construction-related traffic could generate congestion that would require traffic management to minimize potential effects.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	Similar to GMPA 2000 alternative.	No demolition or new construction under this alternative, so construction-related traffic would be minimal.
4.6.1 Water Supply and Demand						
Increased Demand for Domestic Water (Mitigated by measures UT-1 through UT-4)	Water demand would be approximately 1.89 mgd. Supplemental water would need to be purchased and additional conservation measures implemented.	Water demand would be approximately 1.86 mgd. Supplemental water would need to be purchased and additional conservation measures implemented.	Water demand would be approximately 1.77 mgd. Supplemental water would need to be purchased and additional conservation measures implemented.	Water demand would be approximately 1.83 mgd. Supplemental water would need to be purchased and additional conservation measures implemented.	Water demand would be approximately 2.06 mgd. Supplemental water would need to be purchased and additional conservation measures implemented.	Water demand would be approximately 1.52 mgd. Supplemental water would need to be purchased and additional conservation measures implemented.
4.6.2 Wastewater Treatment and Disposal						
Increased Wastewater Generation (Mitigated by measures UT-5 and UT-6)	Would generate approximately .71 mgd, .31 mgd more than current flows, which would require measures to reduce flows.	Would generate approximately .69 mgd, .29 mgd more than current flows. Measures to reduce flows would be required.	Would generate approximately .61 mgd, .21 mgd more than current flows. Measures to reduce flows would be required.	Would generate approximately .67 mgd, .27 mgd more than current flows. Measures to reduce flows would be required.	Would generate approximately .84 mgd, .44 mgd more than current flows. Measures to reduce flows would be required.	Would generate approximately .41 mgd, .12 mgd more than current flows. Measures to reduce flows would be required.

Table S-1 Summary of Environmental Consequences

Impact	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
4.6.3 Storm Drainage						
Increased Demand for Stormwater Drainage (Mitigated by measure UT-7)	No increase in stormwater flow, with the exception of Fort Scott (additional 0.6 cfs), which would require upgrades to the drainage system.	Increased flows would include 2.6 cfs in the Main Post/ Crissy/ Stables, 1.8 cfs in Letterman, and 1.1 in Fort Scott, which would require upgrades to the drainage system.	Increased flows would include 2.7 cfs in the Main Post/ Crissy/ Stables, 6.8 cfs in Letterman, and 0.8 in Fort Scott, which would require upgrades to the drainage system.	Increased flows would include 5.1 cfs in the Main Post/ Crissy/ Stables, and 0.5 cfs in East Housing, which would require upgrades to the drainage system.	Increased flows include 7.2 cfs in the Main Post/ Crissy/ Stables, 5.8 cfs in Letterman, and 1.5 in Fort Scott, which would require upgrades to the drainage system.	No increase in stormwater flow would occur.
4.6.4 Solid Waste						
Increased Solid Waste Generation (Mitigated by measure UT-9)	Demolition, construction and rehabilitation activities at build-out would generate roughly 114,000 tons of debris over the next 20 years, which constitutes 0.08 percent of the annual regional solid waste stream.	Demolition, construction and rehabilitation activities at build-out would generate roughly 109,000 tons of debris over the next 20 years, or 5,000 tons less than the GMPA 2000 alternative.	Demolition, construction and rehabilitation activities at build-out would generate roughly 163,000 tons of debris over the next 20 years, or 49,000 tons more than the GMPA 2000 alternative.	Demolition, construction and rehabilitation activities at build-out would generate roughly 99,000 tons of debris over the next 20 years, or 15,000 tons less than the GMPA 2000 alternative.	Demolition, construction and rehabilitation activities at build-out would generate roughly 127,000 tons of debris over the next 20 years, or 13,000 tons more than the GMPA 2000 alternative.	Minimal debris would be generated under this alternative.

Table S-1 Summary of Environmental Consequences

Impact	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
4.6.5 Energy Consumption and Distribution						
Demand for Electricity (Mitigated by measures UT-10, through UT-12, UT-14, and UT-15)	Demand for electricity would be 59,969 megawatt hours annually. Projected maximum demand of 8,382 kW could exceed the capacity of onsite substations.	Demand for electricity would be 62,865 megawatt hours annually. Projected maximum projected demand of up to 10,017 kW could exceed capacity to onsite substations.	Demand for electricity would be 69,022 megawatts hours annually. Projected maximum demand of up to 9.895 kW could exceed capacity to onsite substations.	Demand for electricity would be 65,374 megawatts annually. Projected maximum demand of up to 10,113 kW could exceed capacity to onsite substations.	Demand for electricity would be 68,262 megawatts annually. Projected maximum demand of 10,516 kW could exceed capacity to onsite substations.	Demand for electricity would be 68,313 megawatts annually. Projected maximum demand of 10,393 kW could exceed the feeder capacity to on-site substations.
Demand for Natural Gas (Mitigated by measures UT-14 and UT-15)	This alternative would generate demand for 2.1 million therms of natural gas annually, 4.7 million therms below the Presidio's natural gas demand in 1990.	This alternative would generate demand for 2.3 million therms annually, 4.4 million therms below demand in 1990. This is 12 percent greater than the GMPA 2000 alternative.	This alternative would generate demand for 2.2 million therms annually, 4.6 million therms below demand in 1990. This is 6 percent greater than the GMPA 2000 alternative.	This alternative would generate demand for 2.3 million therms annually, 4.4 million therms below demand in 1990. This is 14 percent more than the GMPA 2000 alternative.	This alternative would generate demand for 2.4 therms annually, 4.3 million therms below the demand in 1990. This is 19 percent more than the GMPA 2000 alternative.	This alternative would generate demand for 2.4 million therms of natural gas annually, 4.3 million therms below the natural gas demand in 1990. This is 19 percent more than the GMPA 2000 alternative.
Energy Consumption (Mitigated measures by UT-14 and UT-15.)	Energy use would be approximately 410,000 million BTU annually. Overall, consumption per square foot would be about 37% lower than 1990 levels.	Energy use would be approximately 444,000 million BTU annually. Overall, consumption per square foot would be about 39 % lower than 1990 levels.	Total energy use would be approximately 453,000 million BTU annually. Overall, consumption per square foot would be about 35% lower than 1990 levels.	Total energy use would be approximately 456,000 million BTU annually. Overall, consumption per square foot would be about 39% lower than 1990 levels.	Total energy use would be approximately 477,000 million BTU annually. Overall, consumption per square foot would be about 35% lower than 1990 levels.	Total energy use would be approximately 478,000 million BTU annually. Overall, consumption per square foot would be about 39% lower than 1990 levels.

Table S-1 Summary of Environmental Consequences

Impact	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
4.7 Presidio Trust Operations						
Presidio Trust Operations (No mitigated required)	Based on the results of financial modeling (Appendix J), this alternative would reach short-term financial self-sufficiency by FY 2013 and achieve long-term sustainability. Capital projects would be completed by about 2035 and the implementation phase at the Presidio would be completed in approximately 2065. A relatively low-level ($2 million/year) of public programming would be supported by the Trust, and a portion of non-residential space would be provided at subsidized rates to mission-related tenants. This alternative would be more marginal than some others because it could not bear significant downturns in market rents and still remain viable.	Based on the results of financial modeling (Appendix J), this alternative would reach short-term financial self-sufficiency by FY 2013 and achieve long-term sustainability. Capital projects would be completed between about 2025 to 2030 and the implementation phase at the Presidio would be completed between about 2035 and 2040. A relatively high level ($10 million/year) of public park programming would be supported by the Trust.	Based on the results of financial modeling (Appendix J), this alternative would reach short term financial self-sufficiency by FY 2013 and achieve long-term sustainability. Capital projects would be completed by about 2025 and the implementation phase at the Presidio would be completed in about 2045. A medium level ($8 million/year) of public park programming would be supported by the Trust. This alternative would be more marginal than some others because it is not likely to remain viable if markets decline.	Based on the results of financial modeling (Appendix J), this alternative would reach short-term financial self-sufficiency by FY 2013 and achieve long-term sustainability. Capital projects would be completed by about 2020 and the implementation phase at the Presidio would be completed between about 2025 and 2030. A medium level ($8 million/year) of public park programming would be supported by the Trust.	Based on the results of financial modeling (Appendix J), this alternative would reach short-term financial self-sufficiency by FY 2013 and achieve long-term sustainability. Capital projects would be completed between about 2025 and 2030, and the implementation phase at the Presidio would be completed in about 2040. This alternative would be more marginal than some others because it is not likely to remain viable given substantial declines in market rents. A relatively high level ($10 million/year) of public programming would be supported by the Trust.	Based on the results of financial modeling (Appendix J), this alternative would reach short-term financial self-sufficiency by FY 2013 and achieve long-term sustainability. Capital projects would be completed in 2013 and the implementation phase at the Presidio would be completed in 2015. A relatively low level ($2 million/year) of public programming would be supported by the Trust. This alternative has the strongest financial result and could bear significant declines in market rents and still be viable.

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PURPOSE AND NEED

1. PURPOSE AND NEED

The Trust is proposing to update the 1994 GMPA for the portion of the Presidio transferred to the Trust's jurisdiction in 1998. This Chapter provides background information and specifies the underlying purpose and need for this action.

1.1 SCOPE AND TYPE OF EIS

The GMPA is the foundation that guides the Trust's planning and decision-making. The GMPA's importance is reinforced by both the Trust Act and Trust policy. The Trust Act directs the Trust to manage Area B in accordance with the "general objectives" of the GMPA, which were defined and set forth in Trust Board Resolution 99-11 ("General Objectives"). PTIP is intended to provide a policy framework wholly consistent with the GMPA's General Objectives, and retains and builds on the GMPA's policies and principles. PTIP also takes into account the Trust's mandate, policies, and new management approaches and builds in a measure of flexibility not contemplated in the GMPA. Once adopted, PTIP will be the plan that the Trust looks to in making future management and implementation decisions in Area B, consistent with the General Objectives of the GMPA. The GMPA will remain unaltered as the plan for NPS' management of Area A of the Presidio.

This EIS evaluates six alternatives presently being considered for the PTIP: the GMPA 2000, Draft Plan, Resource Consolidation, Sustainable Community, Cultural Destination, and Minimum Management alternatives. In accordance with Title 40 of the Code of Federal Regulations (CFR) Section 1502.4, the EIS tiers from and supplements the GMPA EIS and considers the environmental effects of proposed changes to the GMPA under each alternative. The Trust prepared the Environmental Screening Form (see Appendix A) to focus the EIS on issues relevant to the proposed changes.

Given the Trust's reliance on the GMPA as the foundation guiding the Trust, NEPA does not require development of an updated plan or preparation of this supplemental EIS. The Trust has undertaken this EIS voluntarily as matter of policy and good governance and to clarify the Trust's approach to circumstances that have changed since finalizing the GMPA.

As with the GMPA and GMPA EIS, the proposed PTIP and PTIP EIS are broad, programmatic-level documents. Rather than providing an exact blue-print for Area B, the PTIP proposes overall concepts for change, including principles governing the care and management of its varied resources, preferred land uses, and programs and activities that are appropriate in this national park setting. The EIS analyzes potential impacts of those concepts as they compare to existing conditions and to the baseline GMPA 2000 alternative.

Adoption of PTIP does not constitute a commitment to any specific development projects, construction schedules, or funding priorities, but instead will establish a policy framework to guide future Trust actions. More detailed and site-specific, district-level, and/or issue-oriented plans will be developed in the future based upon the direction established in the final Plan. Some individual projects that are consistent with PTIP could proceed immediately, likely without need of environmental review beyond the PTIP EIS. At this time, it is anticipated that these projects would primarily include (1) cultural programs and special events; (2) long-term leases involving no new construction or demolition of historic resources, where uses are identified as "preferred" within PTIP planning guidelines; and (3) natural resource restoration efforts that are consistent with both the PTIP and the VMP. Other projects are likely to include stabilization and rehabilitation of historic buildings, utilities and infrastructure improvements, transportation demand management program activities, remediation efforts, and short-term (interim) leasing.

Major projects or follow-on plans must be approved separately by the Trust Board, and will themselves be subject to additional NEPA review, including public involvement, before their implementation. For project proposals involving potential demolition, new construction, or significant change to the historic landscape of the Presidio, the Trust would undertake more detailed studies and environmental analysis before project implementation. Future implementation activities would build on the PTIP, would address individual sites (e.g., potential infill housing at West Letterman), planning districts (e.g., Fort Scott), or Presidio-wide issues (e.g., parking or open space recreation management), and would provide a greater level of specificity than is included in PTIP. All of these processes would involve coordination with the NPS and other agencies as necessary, and would offer additional public participation opportunities. Public participation would be solicited early on as objectives are defined and before projects are cast in stone. NEPA and NHPA compliance would continue to offer an important vehicle for ensuring public and agency participation in projects and plans with the potential to affect park resources.

In accordance with 40 CFR Section 1502.20, future environmental documents may summarize some of the issues discussed in the PTIP EIS or incorporate by reference certain of its discussions, while updating or providing additional levels of detail on potentially impacted resources.

The Trust will make this Draft Plan and EIS available to commenting agencies and the public, and will publish notice of the Draft Plan and EIS in the Federal Register. The Trust invites interested members of the public and agencies to review the documents and provide comments. The Trust will consider and respond to all substantive comments received and publish those responses with the Final EIS. The Final EIS will be circulated for at least 30 days prior to making a decision on the proposed action. A Final Plan cannot be adopted until the Final EIS is prepared and circulated, and a written Record of Decision explaining why the Trust has taken a particular course of action is adopted by the Trust Board of Directors.

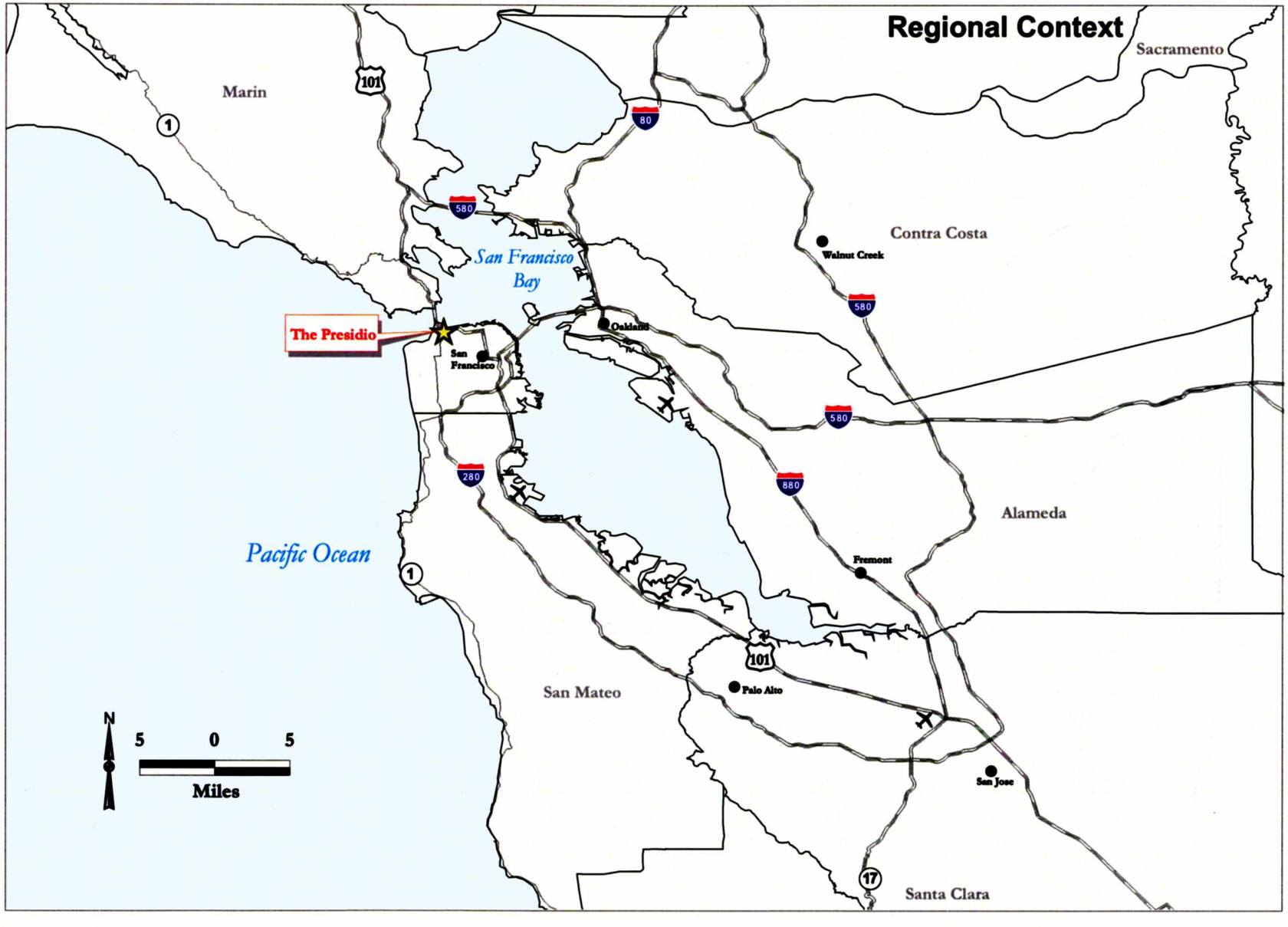
THE UNIQUE PRESIDIO SITE

The 1,490-acre Presidio of San Francisco is within the GGNRA, an extensive national park that begins where the Pacific Ocean meets San Francisco Bay. Established by Congress in 1972, the GGNRA consists of a collection of parklands stretching along 74,300 acres of San Francisco and Marin County shoreline as illustrated in Figure 1.

The Presidio is one of the country's great historic and natural sites. A military garrison for over 220 years under three different flags, the Presidio has served Spain, Mexico, and the United States of America. It has protected commerce, trade, and migration, and has played a role in every major U.S. military engagement since the Mexican-American War in 1846. Designated a National Historic Landmark (NHL) in 1962, the Presidio contains one of our country's finest collections of places, buildings, structures and artifacts related to military history, and its architecture represents every major period of U.S. military history since the 1850s.

The Presidio's distinctive resources include its historic architecture and landscapes, unique ecological systems and rare plant communities, inviting parklands, spectacular views and recreational resources. The Presidio attracts visitors who take advantage of interpretive programs and exhibits and visit the historic military sites, as well as those who enjoy the natural resources, open space and scenery. Its natural and historic setting is integrated into 700 developed acres with approximately 770 buildings providing approximately 6.1 million square feet of building space, Presidio-wide (Areas A and B). The Presidio contains offices, warehouses, and residential areas including more than 1,600 dwelling units, utility infrastructure, retail stores, tennis courts, a bowling center, theater, swimming pool, golf course, gymnasiums and other facilities – all within a park that itself is located within the urban setting of the San Francisco Bay Area (see Figure 2).

Figure 1


Regional Context
Sacramento
Marin
101
1
80
580
San Francisco Bay
Contra Costa
Walnut Creek
580
The Presidio
Oakland
San Francisco
580
280
880
Alameda
Pacific Ocean
Fremont
1
101
San Mateo
Palo Alto
N
5 0 5
Miles
San Jose
17
Santa Clara

PURPOSE AND NEED

Figure 2



1. Main Post
2. Crissy Field
3. Letterman
4. Fort Scott
5. Public Health Service Hospital
6. East Housing
7. South Hills

PURPOSE AND NEED

FROM MILITARY POST TO NATIONAL PARK

The Presidio's transition from military post to national park began in 1972 when, in the legislation creating the GGNRA, Congress included a provision that the Presidio would become part of the GGNRA if the military ever declared the base excess to its needs. Congress designated the Presidio for closure in 1989, and in 1994 its long-time occupant, the U.S. Army, transferred jurisdiction over the Presidio to the NPS. As part of the transition, the NPS in July 1994 completed and issued a final General Management Plan Amendment GMPA laying out a vision for the Presidio's future use and management.

The GMPA set general land use policies for 13 distinct Presidio Planning Districts to guide visitor use, cultural and natural resource management, development, and operation of the Presidio. The plan called for 348 historic buildings to be rehabilitated for new uses, and 276 buildings totaling 1.5 million square feet to be removed. The GMPA envisioned both public and private organizations establishing a mix of uses at the Presidio, with an emphasis on organizations with missions related to environmental, social, and cultural issues.

Once the GMPA was in place, difficult questions about how to carry out the plan remained. NPS recognized that implementing the GMPA would require innovative approaches and unique authorities to manage activities outside of NPS's expertise, such as building leasing, property management, and real estate finance. As the United States Congress debated the creation of a new managing entity, estimates of costs to implement the GMPA showed the Presidio to be by far the most expensive park managed by NPS. NPS estimated annual costs at $40 million, and capital improvement cost estimates ranged from $490 million to $741 million. In view of these projections, Congress was unwilling to commit the federal monies needed over the long term to improve, protect, and maintain the Presidio, but instead created an innovative entity charged with achieving these goals.

THE PRESIDIO TRUST AND ITS UNIQUE MANDATE

In 1996, Congress established the Trust pursuant to the Trust Act (16 U.S.C. 460bb Appendix). In response to competing public policy goals, Congress gave the Trust the unique responsibility of reducing and eventually eliminating the costs of the Presidio to the federal government while retaining the Presidio within the GGNRA. To achieve these goals, Congress provided for a limited annual budget, which would incrementally decrease to zero over 15 years, and provided no appropriated funds targeted for needed capital expenditures. Although it did not provide full funding, Congress granted the Trust unique authorities to accomplish the Trust Act's goals. The Trust may generate and retain revenue and borrow money to finance repair and rehabilitation of the Presidio's historic structures. The Trust assumed administrative jurisdiction over 80 percent of the Presidio (Area B) on July 1, 1998; NPS retains jurisdiction over the coastal areas (Area A) (see Figure 2).

The Trust is a wholly-owned federal government corporation whose purpose is to preserve and enhance the Presidio as a national park and to ensure that the Presidio becomes financially self-sufficient by 2013. The Trust is managed by a seven-person Board of Directors. Six members are appointed by the President of the United States, and the seventh member is the Secretary of the Interior or the Secretary's delegate. The Trust is managed by an Executive Director and a professional staff with diverse experience and expertise in real estate leasing, finance, development, property management, park stewardship, and natural resource protection and management. As authorized by the Trust Act, NPS, in cooperation with the Trust, provides visitor services and interpretive and educational programs throughout the Presidio. The NPS Park Police also provides public safety services under a contractual arrangement with the Trust.

THE PRESIDIO TODAY

The Presidio today provides evidence of how the site has been occupied, developed, and shaped over time. The Presidio contains approximately 770 buildings, of which 730 are managed by the Trust; over half of these are historic. A large amount of built space is used as office and warehouse storage. The Presidio also contains over 1,600 dwelling units in almost 400 buildings. Dwellings range from large single-family homes to apartment complexes and barracks. Community and visitor facilities include chapels, a child care center, post office, the National Park Service Visitor Center, meeting facilities, and tennis courts, gymnasiums, a bowling center, a theater, a swimming pool, a golf course, and a number of small playgrounds and athletic fields. These facilities support a developing community of residents as well as an active community of employees of the various organizations located in the Presidio. The Trust operates or oversees the Presidio's electric, water, wastewater collection, storm drain, and refuse collection services. Ongoing infrastructure repairs and improvements are intended to make the Presidio a state-of-the-art demonstration site for innovative technologies, such as a micro-cogeneration plant for generating electricity, a reclaimed water treatment plant for non-potable uses on-site, and advanced telecommunications and innovative data transfer technologies to support uses at the park.

Dramatic geological formations, a favorable climate, rich water resources and protected open space have contributed to the site's rich biological diversity. As the surrounding areas have become more urban, the Presidio has provided critical refuge for plants and wildlife. Rare plant communities that have disappeared in the rest of the San Francisco peninsula survive within the 1,490-acre Presidio reservation. These remnant native plant communities preserve rare and endangered plant species and provide valuable wildlife habitat. They include serpentine grasslands where wildflower and grass species flourish; the last remnants of dune communities that once covered what is now the city of San Francisco; and riparian and wetland communities including Lobos Creek, the best example of a native riparian community in the city. The Presidio contains a number of rare plants including Raven's manzanita, which has been saved from extinction through the GGNRA's plant propagation program. Other important natural resources include the still visible drainages at Mountain Lake, Lobos Creek, Tennessee Hollow, and the newly restored tidal wetland at Crissy Field.

The Presidio also provides an exceptional recreational resource within a major metropolitan area. It offers opportunities for a wide range of active pursuits as well as places for solitude and retreat. Sites throughout the Presidio provide spectacular vistas of the Pacific Ocean, the Golden Gate, the Marin Headlands, San Francisco Bay, and the skyline of San Francisco. Visitors enjoy walking, jogging, biking, sightseeing, surfing and wind surfing, sailing, fishing, and learning about the Presidio's history and environment. Others participate in an active stewardship program focused on preserving and restoring the park's natural systems.

1.2 PURPOSE AND NEED FOR THE PLAN UPDATE

The purpose of the proposed *Presidio Trust Implementation Plan* – An Updated Plan for Area B of the Presidio (PTIP) is to provide a policy framework to guide the Trust's implementation of the Trust Act by updating the management concepts and land use proposals of the 1994 GMPA for the area of the Presidio under the Trust's jurisdiction. PTIP is needed to provide a planning framework that is well-suited to and consistent with the requirements of the Trust Act, to address changes in circumstances since the GMPA was completed, and to allow the Trust to be responsive to new opportunities as they arise, taking into account the Trust's mandate to be financially self-sufficient while retaining as much as practicable from the GMPA.

Trust Act Requirements – In 1996, two years after the NPS finalized and adopted the GMPA for the Presidio, Congress set new requirements for Area B. The GMPA assumed the Trust would be established under the Department of the Interior with the NPS retaining primary responsibility for the Presidio's management. Instead, Congress created the Trust as a wholly-owned federal government corporation, transferred the Secretary of the Interior's administrative jurisdiction to the Trust for all of Area B, and required conformity only with the purposes of the GGNRA Act and with the General Objectives of the GMPA.

PTIP is needed to create a policy framework that takes into account the concepts and principles of the GMPA, balances them with the newly enacted statutory requirements of the Trust Act, and brings them into conformity with the new and additional mandates of the Trust Act. The Trust must manage its portion of the Presidio in such a way as to become financially self-sufficient in both the short and long-term. This is the requirement that the Trust generate sufficient revenues from Area B to support its operations (including financing costs and programs) without annual federal appropriations, beginning in Fiscal Year 2013. The long-term aspect of self-sufficiency is the need to generate sufficient revenues from leasing and other activities to sustain its operations, performing the necessary building- and infrastructure-related capital improvements, and funding replacement reserves in perpetuity.

In addition, under the Trust Act, removal and/or replacement of some structures must be considered as a management option in administering Area B. In managing and leasing properties, the Trust must give priority to those tenants that enhance the financial viability of the Presidio and facilitate the cost-effective reuse of historic buildings. Other requirements include obtaining reasonable competition in leasing, considering the extent to which prospective tenants contribute to the reduction in cost to the federal government, and bringing all Area B properties into compliance with federal building codes and regulations. All of these requirements are to be accomplished while managing the Presidio so as to protect it from "development and uses which would destroy the scenic beauty and historic natural character of the area and cultural and recreational resources."

Changed Circumstances – The proposed plan update is also needed to reflect changes that have occurred since 1994, including progress that has been made towards implementation of the GMPA. Almost as soon as the GMPA became final, the financial assumptions underlying the GMPA changed significantly. As examples, in enacting the Trust Act, Congress rejected the GMPA idea of a continuing annual federal appropriation for the Presidio of between $16 to $25 million. Also, the GMPA assumed substantial philanthropic contributions. While NPS has received some philanthropic funding for activities in Area A under NPS jurisdiction, only limited donations have been received for activity in Area B. Similarly, several early NPS leases under the GMPA were concluded with non-profit organizations on terms that provide for minimal long-term revenues. The Trust Act requires different considerations in circumstances like these.

The GMPA assumed that the Sixth U.S. Army would continue to use approximately 30 percent of the Presidio's square footage of building space, including about half the available housing. The Sixth Army's presence was anticipated to be a significant benefit to the Presidio; the Sixth Army was to pay for direct expenses for buildings, facilities and other occupied property and would share the operating expenses common to Presidio tenants. Shortly after NPS completed the GMPA, however, the Department of Defense decided to move the Sixth U. S. Army and to vacate the Presidio permanently. The Army's departure had a dramatic effect on the GMPA's financial and building occupancy projections. The GMPA assumed that the Sixth U.S. Army would occupy 277 buildings, comprising 1.8 million square feet of residential and non-residential building space (totaling 30 percent of the Presidio square footage), for an indefinite period, but it had largely departed the Presidio by 1994.

Other land use concepts presumed in the GMPA have also not been supported by existing conditions or market demand. For example, the proposed use for the Letterman Complex as a health science, research, and education center could not be realized when the intended user, the University of California at San Francisco (UCSF), failed to conclude a lease agreement with NPS prior to enactment of the Trust Act. An alternate user wishing to establish a digital arts and design center at the site was considered and selected by the Trust. Similarly, the conference center and residential education use contemplated under the GMPA for the Public Health Service Hospital site was not supported by market demand or actual market offerings when such users were solicited by the Trust in 1999.

Prior to creation and full operation of the Trust, other decisions were made altering the land use designations in the GMPA. In one instance, NPS altered the GMPA land use plan by deciding to abandon Building 35 as a comprehensive public safety facility, and instead to split police and fire services by rehabilitating and constructing an addition to the Presidio fire station.

The PTIP planning effort is needed to reflect these changes, reconsider and update the GMPA's related market clusters concepts, and to consider revised land use concepts for the Presidio that can accommodate changing opportunities and market conditions.

New Policies and Management Approaches – Because of the Trust Act's financial self-sufficiency requirement, the Trust cannot be assured of continuing federal financial support for the Presidio's long-term operation and protection. There is, therefore, a greater need to consider and take into account market principles, financial uncertainties, and changing economic conditions. Markets and financial conditions are inherently unpredictable, offering certainty only in the existence of periodic cycles, with some periods of economic strength followed by inevitable downturn. The Trust needs to revise the governing plan for Area B in order to plan and manage for this financial uncertainty, even after new financial projections are developed. The Trust can neither be sure of the timing of cash flow, the availability of tenants, nor of expected financial outcomes. Thus, there is an inherent need for a plan which allows the Trust to remain flexible in managing its resources for the long-term.

In the GMPA, as elsewhere, NPS chose to establish a highly specific and prescriptive plan. The NPS then sought monies through the federal appropriations process to fund implementation of the plan in all of its specific prescriptions. The Trust, on the other hand, has been given a mandate that must be met largely without federal funding. The Trust's plan must, therefore, apply market principles and balance market opportunities and conditions with the programmatic and resource goals of the plan.

Implementation of the GMPA was based upon the slumped real estate market conditions existing in 1994 as projected through the 1990's. At the time, no one foresaw the surge in the San Francisco real estate market nor the current economic downturn following almost 6 years of unprecedented economic growth. Growth throughout the late 1990s has put stress upon the regional housing market, and created new business demands that could not have been foreseen in 1994 when the GMPA was being developed. The plan update is needed to more adequately address these and similar market changes that could occur over time.

At times, the Trust may not be able to conclude a financially viable transaction on an otherwise desirable project because of, for example, obsolete building configurations, tenant needs, or other factors. In some of these circumstances, the Trust may wish to consider other options such as alternate uses, a change in location, or possible building demolition with new replacement construction. At other times, apparently favorable projects may have to be deferred, changed or foregone because of financial factors such as cash flow concerns or market conditions. Market demand could fail to deliver an intended use, or changed market conditions could

require a different approach to leasing or financing that better addresses the existing market opportunities or realities at the time. The Trust needs the flexibility of a programmatic, rather than prescriptive plan to respond to market factors like these.

The Trust was created in part to bring to bear a depth of professional experience and special skills in property management, financing, leasing, and building restoration. The plan update is needed to guide the appropriate application of this expertise in the overall pursuit of the GMPA's General Objectives.

1.3 OBJECTIVES OF THE PLAN UPDATE

In order to satisfy the purpose and need for this planning process, the Trust has identified the following objectives for the plan update. The proposed plan is intended to meet these objectives to the fullest extent possible.

1. Consistency with Trust Act Resource Mandates

Among the legislated goals of the Trust are the preservation and enhancement of the Presidio's resources for public use while also managing the Presidio to become financially self-sustaining. Although the Presidio is within the GGNRA, many of the Trust Act requirements differ significantly from those that NPS must meet in managing property under its administrative jurisdiction, and were not anticipated or addressed by the GMPA during its development. The Trust Act requirements are a necessary element of the Trust's operations, and therefore must be addressed by the plan update.

The Trust Act sets forth two overall requirements of the Trust. First, the Trust must manage the leasing, maintenance, rehabilitation, repair and improvement of property within Area B of the Presidio in accordance with the purposes set forth in the GGNRA Act (Public Law 92-589, 86 Stat. 1299; 16 U.S.C. § 460bb). Second, the Trust must manage the leasing, maintenance, rehabilitation, repair and improvement of property within Area B in accordance with the "general objectives" of the GMPA.

The purposes of the GGNRA Act are clear and are stated in its preamble as follows:

> *In order 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 in order to provide for the maintenance of needed recreational open space necessary to urban environment and planning, the Golden Gate National Recreation Area is hereby established. In the management of the recreation area, the Secretary of the Interior shall utilize the resources in a manner which will provide for recreation and educational opportunities consistent with sound principles of land use planning and management. In carrying out the provisions of this Act, the Secretary shall preserve the recreation area, as far as possible, in its natural setting, and protect it from development and uses which would destroy the scenic beauty and natural character of the area.*

The general objectives of the GMPA, which are not precisely identified either within the text of the GMPA itself or by Congress in the Trust Act, have been determined by the Trust and set forth in Trust Board Resolution No. 99-11, dated March 4, 1999 (General Objectives). The following are identified as the General Objectives:

1. To preserve and (where appropriate) enhance the historical, cultural, natural, recreational, and scenic resources of the Presidio;

2. To address the needs of Presidio visitors, tenants and residents for community services such as transportation, water, power, waste management, and public safety (among others) in an environmentally responsible manner, while respecting neighboring communities;

3. To increase open space, consolidate developed space and provide for appropriate uses of the Presidio, including uses that involve stewardship and sustainability, cross-cultural and international cooperation, community service and restoration, health and scientific discovery, recreation, the arts, education, research, innovation and/or communication; and

4. To sustain the Presidio indefinitely as a great national park in an urban setting.

Although the Trust is not required to follow the specifics of the GMPA, the requirement to adhere to its General Objectives underscores the importance of the GMPA as a foundation of the Area B plan update.

2. Consistency with Trust Act Financial Mandates

The Trust must manage Area B of the Presidio in such a way as to become financially self-sufficient in both the short-and long-term. In other words, the proposed plan must provide a framework under which the Trust can generate sufficient revenues to support Area B operations over the short-term without annual Congressional appropriations, which will end in FY 2013. To be fully responsive to the financial self-sufficiency goal requires more than revenues exceeding expenses at any point in time. Long-term financial sustainability, an aspect of self-sufficiency, requires generating sufficient revenues over and above operating expenses to fund all capital needs and future replacements or upgrades of the Presidio's infrastructure and natural and built environment. Routinely, some monies must be invested into the capital replacement fund to plan for the Presidio's future care into perpetuity. A successful plan must achieve financial self-sufficiency in both the short-and long-term.

3. Flexibility to Respond to Market Changes and Opportunities

Because markets and financial conditions are inherently unpredictable, the Trust must have a plan to manage financial uncertainty. The Trust cannot be sure of the timing of cash flow, the availability of tenants, or of expected financial outcomes. The Trust seeks to affirm a plan that ensures the Trust can meet the legislated mandate for financial self-sustainability. The plan must provide sufficient flexibility in its land use and programmatic concepts to allow the Trust to be responsive to changing circumstances, market conditions and demand, and new opportunities as they arise. With flexibility will come a commitment to seek continuing public input on proposals for change and to undertake site-specific and district-level planning efforts and environmental analysis as needed in the future.

4. Consistency with Planning Principles

The plan must set forth planning principles that translate the overall vision of the plan into specific goals for managing Area B. As a result, the Planning Principles set forth in the Draft Plan have been developed with the intent that they would apply to each and any plan alternative under consideration. The planning principles are intended to articulate the essential management objectives that will be applied as the plan is implemented. The plan must establish consistency with its Planning Principles as a prerequisite for future decisions and activities.

5. Consistency with Existing Plans and Policies

The plan for Area B is an update of the GMPA, and is not starting from a blank planning program; it is intended to encompass many of the concepts

and area plans of the GMPA while modifying others as warranted. The Trust seeks to approve a plan that retains and incorporates many of the park-wide principles and land use elements of the GMPA.

6. Jobs/Housing Balance

Growth throughout the last decade has put stress on the regional housing market. Given the regional housing context, the Trust seeks to approve a plan that addresses the demand for housing and reduces spillover impacts on the City of San Francisco's housing supply.

7. Desired Tenants

As required by Trust Act section 104(n), the plan must give priority to tenants that enhance the financial viability of the Presidio, and must consider the extent to which prospective tenants contribute to the reduction in cost to the federal government. Further, the terms and conditions of leases must meet other economic requirements of the Trust Act, including the recovery of Trust's costs to pay for health, safety, and infrastructure services.

In addition, the GMPA identifies potential partners or tenants for the Presidio as those involved in education, arts, scientific research, environmental studies, scientific inquiry, healthcare, philanthropy, conflict resolution, and international relations. To address the additional Trust Act tenant selection requirements and changed economic opportunities since 1994, a fully successful Area B plan will allow the Trust to consider and offer tenancies to a wide range of potential tenants. Additional potential categories of prospective tenants might also include those involved in biotechnology, multimedia, computer graphics, telecommunications, film production, Internet-based research and development, computer software, environmental science and other high-technology, knowledge-based industries. Regardless of the business purpose or programmatic focus of a prospective tenant, each will need to explore ways to further the goals of the Presidio.

8. Programs

Presidio programs are essential to the Presidio's success and future as a national park. Programs encompass a broad range of community and public events and activities, including educational and learning centers, youth activities, special events, hands-on demonstrations, museums and exhibits, festivals, celebrations, and enhanced interpretation programs. The Trust seeks to adopt a plan that expands the concept of program delivery at the Presidio to include not only NPS interpretive programs and programs provided and funded by mission-based tenants, but also programs delivered and paid for by general Trust revenues and programs delivered and paid for through Trust and tenant collaborations.

9. Historic Compliance

The Trust's goal is to develop and adopt a plan that acknowledges the importance of the historic resources within Area B of the Presidio. The Plan must ensure the protection of the NHLD status of the Presidio, compliance with the NHPA, and adherence to the provisions of the Trust Act that authorize the considered demolition of buildings within certain categories of historic structures (§ 104(c)(1) and (c)(2)).

10. Environmental Sustainability

Both the General Objectives of the GMPA and the GMPA itself establish sustainability as a key goal. The Trust seeks a plan that considers and can accommodate the balance between economic, social, and environmental issues in its framework. To achieve environmental sustainability, the plan must meet the current needs of the park without compromising the quality of the park experience for future generations. The principle of environmental sustainability is a foundation upon which planning for the Presidio is built.

PURPOSE AND NEED

ALTERNATIVES

2. ALTERNATIVES

This section describes the range of alternatives that are presently being considered for the Presidio Trust Implementation Plan (PTIP). For the purposes of this EIS analysis, six alternatives have been formulated. These alternatives are based on planning analysis and public input to date:

1. General Management Plan Amendment (GMPA) 2000 alternative (no-action alternative)
2. Draft Plan alternative (proposed action)
3. Resource Consolidation alternative
4. Sustainable Community alternative
5. Cultural Destination alternative
6. Minimum Management alternative

2.1 NO–ACTION ALTERNATIVE

The GMPA 2000 alternative is the no-action alternative and reflects what would happen if the proposed action was not taken. This alternative has been developed based upon "Alternative A" as it was finalized under the 1994 GMPA and GMPA EIS. In formulating the GMPA 2000 alternative, the Trust has remained as close to the actual 1994 GMPA land use assumptions as present circumstances will allow. However, specific events and changes since 1994 make it impossible to rely upon the GMPA alternative exactly as it was described in the Final GMPA and associated EIS. Primary differences between the 1994 GMPA and the GMPA 2000 alternative include the following:

- Under the 1994 GMPA, 277 buildings, representing approximately 1.8 million square feet (sf) of building space, would continue to be occupied by the Sixth U.S. Army. These figures include nearly 600 residential dwelling units assumed to be rented long-term to the Sixth U.S. Army and about another 70 units occupied by the NPS at below market rents. Updated market rate rents are assumed in the financial analysis for these residential units in the GMPA 2000 alternative.
- The 1994 GMPA was influenced by the slumped market conditions in the early 1990s. Office rents were assumed to be approximately $18 per square foot and office employment densities were assumed to be low. Updated market rate rents and more reasonable employment densities are assumed for non-residential and other types of space in the GMPA 2000 alternative.
- Under the 1994 GMPA, Wherry housing would be occupied by the Sixth U.S. Army for an indefinite period prior to its demolition. Wherry housing was assumed to be demolished after its interim use by the Department of Defense (DOD). Since 1994, the Army has vacated the Presidio, and the Presidio Trust has leased these units to others. The financial model assumes for the GMPA 2000 alternative that revenues are generated from the leasing of Wherry housing for approximately 10 years before it is removed. Updated market rate rents are assumed for these units in the GMPA 2000 alternative.
- Under the 1994 GMPA, the Golf Course was assumed to stay under Sixth U.S. Army management and the Letterman Complex was assumed to be leased to a scientific research user. The GMPA 2000 alternative is updated to reflect the revenues and employment associated with the leasing of the Golf Course Clubhouse, the 23-acre Letterman Digital Arts (LDA) long-term lease, and other existing long-term leases.

2.2 MODIFICATIONS TO NOVEMBER 2000 SCOPING ALTERNATIVES

The Trust solicited public input on the scope of PTIP and the EIS during a six month scoping process from July 12, 2000 to January 16, 2001. In developing the range of alternatives to study in this EIS, the Trust has drawn from the conceptual alternatives presented during the scoping period. Each of the five conceptual scoping alternatives has been modified to reflect refinements of the information used to develop the alternatives. A new sixth alternative has been added based upon the public's response to the ideas presented during the scoping period. A brief overview of the changes between the scoping and EIS alternatives is provided in this section. Refer to the Consultation and Coordination section for more detailed discussion of changes made to the alternatives in response to public comments during the scoping period.

- Modified GMPA 2000 – The GMPA 2000 alternative was the only scoping alternative that failed to achieve financial self-sufficiency by 2013. In response to scoping comments, the financial assumptions of that alternative have been modified to more closely reflect the assumptions of the 1994 GMPA and to make the alternative financially viable, as are all other alternatives being studied. The GMPA 2000 alternative constitutes the "no action" alternative in that it reflects the future of the Presidio if no new plan was adopted.
- Draft Plan alternative – Several commentors requested that the Trust develop and consider a new alternative patterned on the GMPA, but modified somewhat to meet the Trust's objectives. In response to these scoping comments, the Trust created the Draft Plan alternative. In response to requests made in comment letters, the Trust consulted with outside commenting organizations in developing the Draft Plan alternative.
- Existing Conditions alternative renamed – The Existing Conditions alternative presented during the scoping period has been renamed. It is now called the Minimum Management alternative to better reflect the proposed action, but is similar in concept to the November 2000 "Existing Conditions" scoping alternative.

The Trust presented a variety of data, including total square footage, residential unit counts, open space acreage, and financial information, for each of the conceptual scoping alternatives presented in the November 2000 Conceptual Alternative Workbook. While many of the scoping alternatives may be similar in concept to those being studied in detail in this EIS, most of the scoping information was preliminary, and the Trust has modified it to reflect refinements and improvements in the data inputs and analysis. The financial analysis has been re-run for all alternatives using financial assumptions that have been adjusted in response to public comment and further analysis. Open space acreages have been refined using improved tools (Geographic Information Systems or GIS data), and assumptions about residential units counts have been changed to reflect an improved range across the alternatives. The estimated built square footages in non-residential use have been aggregated to better reflect the programmatic nature of the EIS. The most up-to-date, accurate, and complete information on each alternative is now found in the EIS, and the scoping data and information have been superseded.

2.3 COMMON FEATURES

All alternatives share some common features or were assumed to result in common outcomes. The common features arise from a mix of circumstances. Some (e.g., LDA, Doyle Drive improvements, the Mountain Lake enhancement project, the Vegetation Management Plan, the Trails and Bikeways Master Plan) reflect projects that have been the subject of independent planning and environmental review proceeding separately, sometimes under an alternate authority or jurisdiction. Others reflect prior or existing contractual commitments, requirements of the Trust Act, or requirements of other laws, which are consistent with all planning options

(e.g., existing long- or short-term leases, building rehabilitations, environmental remediation activities, establishment of the William Penn Mott, Jr. Visitor Center, NPS law enforcement and interpretive roles). Some reflect policies and actions from the GMPA that the Trust has been implementing and believes remain viable (e.g., provision of transportation demand management approaches, removal of Wherry housing units, targeting housing to Presidio-based employees) (These policies and actions would only be minimally addressed under the Minimum Management alternative.)

The following assumptions are common to all alternatives including the Minimum Management alternative unless noted.

Building Uses

- Approximately 900,000 sf of new structures for the LDA project would replace the 10-story former hospital and research buildings within a 23-acre site in the Letterman Planning District as previously analyzed in the Final EIS and Planning Guidelines for the Letterman Complex.
- Existing long-term leases would remain in place.
- Other planning, leasing, and construction projects currently underway would be completed and would be subject to separate environmental analysis.
- Housing would be targeted to Presidio-based employees.
- As provided for in the GMPA, Wherry housing would be removed to increase open space and restore critical habitat (except in the Minimum Management alternative).
- Historic building rehabilitation would be in accordance with the Secretary of the Interior's Standards.

Transportation

- Proposed improvements would replace Doyle Drive with a facility that would have a new, direct entrance into the Presidio as identified in the 1994 GMPA. The Doyle Drive improvements are the subject of a separate EIS/EIR of the Federal Highway Administration, Caltrans, and the San Francisco County Transportation Authority (SFCTA).
- The proposed improvements to Richardson/Gorgas Avenue analyzed in the 23-acre Letterman Complex EIS would be made; in addition, signalization and intersection improvements at the Lombard Gate analyzed in the Letterman Complex EIS would be implemented.
- Transportation demand management (TDM) measures as called for in the GMPA and currently underway would continue to be implemented to encourage alternative modes of transit to the Presidio. An enhanced TDM program would be implemented in all but the GMPA 2000 and Minimum Management alternatives.

Restoration/Remediation

- As provided for in the 1994 GMPA, the Tennessee Hollow riparian stream corridor would be restored to the extent feasible following further study and environmental review (except in the Minimum Management alternative).
- The biological health of Mountain Lake would be improved as identified in the October 2000 Mountain Lake Enhancement Plan and Environmental Assessment.
- Vegetation resources would be protected and enhanced as identified in the Presidio Vegetation Management Plan (VMP) (except for differences as noted in each alternative). The NPS, in cooperation with the Trust, is preparing an environmental assessment and Finding of No Significant Impact (FONSI) under the NEPA on the VMP.
- Full cleanup of hazardous substances, pollutants, and contaminants at the Presidio would occur in accordance with the Environmental

Remediation Agreement developed between the Trust, NPS, and the U.S. Army.
- Lobos Creek would continue to be the primary water resource for the Presidio.
- Rare, threatened, and endangered species would be protected.

Cultural Resources

- Any new (replacement) construction would be limited to existing areas of development.
- The character and integrity of the NHLD would be protected and retained.
- As provided in the 1994 GMPA, the Main Post parade ground would be restored to the extent feasible following further design work and environmental review (except in the Minimum Management alternative).
- The San Francisco National Cemetery would continue to be managed by the Department of Veteran Affairs as a designated memorial landscape.
- Significant Presidio collections would be preserved and protected.

Visitor Experience

- The NPS would continue, in cooperation with the Presidio Trust, to provide interpretation and education services in accordance with the Presidio Trust Act. A Presidio Interpretation Plan, jointly prepared by the NPS and the Presidio Trust, would lay out the framework for interpretive activities, facilities, and programs.
- The William Penn Mott, Jr. Visitor Center would continue to be operated as the main visitor orientation and contact point. Other existing facilities and sites used for providing visitor programs, such as the Presidio's Officers' Club, the Crissy Field Center, and the Herbst Exhibition Hall would continue to be used for this purpose.
- The Presidio and its facilities would be made accessible to visitors of all ages, backgrounds, and abilities as required by the Uniform Federal Accessibility Standards and the Americans with Disabilities Act.

Recreation

- Scenic views and vistas would be preserved and enhanced, in accordance with the VMP.
- The Presidio Golf Course, studied in the Presidio Golf Course Clubhouse Environmental Assessment, would continue to be open to the public.
- A park-wide trail network for pedestrians and bicyclists would be established following public review and agency adoption of the Presidio Trails and Bikeways Master Plan and Environmental Assessment.
- Julius Kahn Playground would continue to be managed by SFCC as a city park.

Services/Infrastructure

- The Presidio's infrastructure (telecommunications, transportation, electric, sanitation, and sewer systems) would continue to be upgraded to serve park tenants and generate revenue.
- The recently rehabilitated water treatment plant would continue in operation to service the Presidio.
- Law enforcement, fire prevention and protection, and emergency services would continue to be provided by the NPS, under contract to the Trust.
- A water reclamation plant for on-site treatment of wastewater would be established subject to separate environmental review.
- Micro co-generation or other power generation facilities would be completed subject to separate environmental review.

- Conservation practices (energy, water, etc.) would be implemented and demonstrated.

Administration

- Buildings and facilities necessary for critical park operations would be set aside for Trust and NPS use. These would include public safety facilities, a native plant nursery, and other essential operational needs.
- The Trust would manage the leasing and financing programs for Area B and negotiate and enter into leases and other contractual arrangements needed to implement the plan.

Financial

- Long-term operating expenses associated with maintaining Area B are estimated at $40 million a year, for all alternatives.
- Any new construction would be completed and financed by third-party developers, rather than the Trust.

2.4 KEY DIFFERENCES AMONG THE ALTERNATIVES

Table 1 describes key distinguishing elements of the alternatives and Table 2 provides a financial comparison of the alternatives. Differences among the alternatives include:

- amount and type of open space;
- retention or loss of dwelling units;
- total building square footage and land-use emphasis, including variances in type, density, level of potential demolition, and possible replacement construction;
- level of resource enhancement;
- population and job totals;
- total capital costs;
- timing of completion of capital improvements and time required to set aside financial reserves; and
- extent of park programming and approach to achieving park programs.

2.5 GMPA 2000 ALTERNATIVE

Concept

This alternative would implement the 1994 GMPA for the Presidio assuming year 2000 conditions. Tenants and residents would work together to create a global center dedicated to addressing the world's critical environmental, social, and cultural challenges. Cultural and natural resources throughout the Presidio would be protected and enhanced and new programs would be established through public/private partnership. Historic buildings and landscapes that distinguish the NHLD would be rehabilitated and adaptively reused. Buildings would be removed to increase open space and/or enhance recreational, cultural, and natural resources.

The housing supply would be substantially reduced and would be used by park partner employees, program participants, and visitors. The historic forest, streambed and riparian corridors, native plant communities, and recreational opportunities would be protected, improved, and expanded in some instances. A variety of improvements would be implemented to make the Presidio easy to reach, explore, and enjoy. The Presidio would become a model of environmental protection and sustainable design. Tenants with an organizational mission focused on environmental and social sustainability or skills in education and science, innovative technologies, and problem solving would be selected to lease buildings and develop and operate programs at the site. Park partners would offer a wide range of programs to

Table 1 Comparison Of Alternatives (a)

	Current (2001)	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Building Use (acres)							
Mixed Use: Visitor / Cultural Focus	--	29	35	18	18	37	--
Mixed Use: Visitor / Community Focus	--	72	81	86	101	83	--
Mixed Use / Office & Residential	--	46	51	59	53	53	--
Mixed Use / Office	138	--	--	--	--	--	131
Mixed Use / Visitor	83	--	--	--	--	--	83
Institutional / Residential	--	62	71	54	59	71	
Institutional	20	--	--	--	--	--	20
Residential	168	105	78	53	104	58	168
Highways	45	45	44	45	45	44	45
Infrastructure	18	15	15	15	15	15	18
Subtotal	*472*	*373*	*375*	*329*	*395*	*361*	*465*
Open Space							
Native Plant Communities	70	209	202	208	208	202	70
Forest	200	253	253	253	253	253	200
Landscape Vegetation	301	332	338	377	311	353	308
Disturbed	124	--	--	--	--	--	124
Subtotal	*696*	*794*	*793*	*838*	*772*	*807*	*702*
TOTAL	**1,168**	**1,168**	**1,168**	**1,168**	**1,168**	**1,168**	**1,168**
Buildings (sf) (b)							
Existing Square Footage	5,960,000	5,960,000	5,960,000	5,960,000	5,960,000	5,960,000	5,960,000
Maximum Demolition	0	1,120,000	1,070,000	1,910,000	890,000	1,370,000	0
Maximum Replacement Construction	0	170,000	710,000	1,240,000	620,000	1,370,000	0
TOTAL (c)	**5,960,000**	**5,010,000**	**5,600,000**	**5,300,000**	**5,690,000**	**5,960,000**	**5,960,000**
Cultural/Educational	140,000 (2%)	380,000 (8%)	930,000 (17%)	690,000 (13%)	840,000 (15%)	960,000 (16%)	140,000 (2%)
Lodging/Conference	20,000 (0.4%)	650,000 (13%)	250,000 (5%)	310,000 (6%)	290,000 (5%)	450,000 (8%)	20,000 (0.4%)
Other Non-Residential	3,370,000 (56%)	2,660,000 (53%)	2,480,000 (44%)	2,980,000 (56%)	2,640,000 (46%)	2,660,000 (45%)	3,370,000 (56%)
Residential	2,430,000 (41%)	1,320,000 (26%)	1,940,000 (35%)	1,310,000 (25%)	1,910,000 (34%)	1,890,000 (32%)	2,430,000 (41%)
TOTAL	**5,960,000 (100%)**	**5,010,000 (100%)**	**5,600,000 (100%)**	**5,300,000 (100%)**	**5,690,000 (100%)**	**5,960,000 (100%)**	**5,960,000 (100%)**

Table 1 Comparison Of Alternatives (a)

	Current (2001)	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Housing (units)							
Houses / Apartments	1,120	510	1,240	870	1,190	1,430	1,120
SRO / Dorm Rooms	540	260	410	40	240	270	540
TOTAL	**1,650**	**770**	**1,650**	**910**	**1,430**	**1,700**	**1,650**
Projected Residents	2,250	1,660	3,720	2,230	3,330	3,990	3,600
Projected Employees	2,020	6,730	7,190	8,480	7,520	7,840	7,820
Projected Visitors							
Non-recreational (Avg. Daily)	2,300	3,700	4,000	4,700	4,200	4,300	5,500
Recreational (Avg. Daily)	7,800	10,200	21,100	17,900	23,000	21,700	12,300
Annual	3.7 M	5.1M	9.2M	8.2M	9.9M	9.5M	6.5M
Parking (spaces)	11,200	7,800	9,630	9,840	9,880	9,930	11,180

(a) Totals may not sum due to rounding. Numbers reflect Area B estimates only.

(b) The proposed demolition and replacement construction figures presented in the November 2000 scoping alternatives included 900,000 sf of new and removed square footage associated with the LDA project. The LDA square footage has been analyzed under the earlier Letterman Complex EIS and is not included in the maximum demolition and maximum replacement construction totals.

(c) Total building square footage numbers represent buildout at Year 2020.

Table 2: Financial Comparison Of Alternatives (all $ figures in millions)(a)

	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Financially Self-sufficient in 2013	YES	YES	YES	YES	YES	YES
Annual Program Expenditures	$2.0	$10.0	$8.0	$8.0	$10	$2.0
Total Capital Costs	$485	$546	$449	$484	$521	$445
Residential	$33	$148	$38	$80	$88	$57
Non-residential	$144	$191	$156	$180	$194	$230
Lodging/Conference	$122	$21	$45	$42	$41	$4
Miscellaneous	$163	$163	$187	$160	$175	$131
Non-revenue Generating Space	$23	$23	$23	$23	$23	$23
Year Capital Program Completed	approx. 2035	approx. 2025-2030	approx. 2025	approx. 2020	approx. 2025-2030	2013
Implementation Phase Completed[b]	approx. 2065	approx. 2035-2040	approx. 2045	approx. 2025-2030	approx. 2040	2015

(a) For more complete financial information, refer to Appendix J (Financial Analysis) of the DEIS.
(b) The implementation phase is terminated after the completion of all capital projects and the funding of all capital replacement reserves.

inform visitors about the Presidio's resources, discuss global concerns, celebrate cultural diversity, and educate the public on environmental issues.

The Trust and NPS would cooperate to provide a base level of interpretive services and education about the Presidio's history and significant resources. Land uses and description of building use preferences are shown in Figures 3 and 4.

Land and Building Uses

This alternative proposes overall building square footage of 5,010,000 sf, or 950,000 sf less than currently exists within Area B. This would include approximately 3.69 million sf of mixed-use non-residential building space (community, office, cultural) and 1.32 million sf of residential space (houses, apartments, single room occupancy/dorm rooms). Building use preferences by planning district are shown in Figure 4.

The GMPA 2000 alternative would reduce, but would not change the existing underlying land use pattern. There would be a net loss of built space primarily in the South Hills and Crissy Field Planning Districts. Crissy Field (Area B), where there would be a large decrease in built space, and the Main Post, where there would be a small increase, would include mixed uses with a focus on visitor-centered community and cultural activity through a mix of museums, cultural educational programs, and other uses. Uses in Fort Scott, where there would be a small increase in building space, would include training/educational and conference. The Letterman Planning District would include mixed uses with an office/residential emphasis within existing buildings. Existing square footage in East Housing and South Hills would decrease as a result of removal of non-historic residential units. Preferred uses within the Public Health Service Hospital (PHSH) District include training/educational and conference with other supporting uses in slightly less square footage.

Built Environment

To increase open space, enhance natural resource values, and provide additional opportunities for outdoor recreation, a substantial amount of building demolition would occur. Approximately 1.12 million sf of existing structures would be removed, primarily consisting of Wherry housing units and non-historic structures along Crissy Field (Area B). The number of residential dwelling units under this alternative would decrease from 1,650 to about 770 units, and the residential square footage would decrease as well.

New construction would be limited to about 170,000 sf and would be permitted only if existing buildings and improvements do not meet essential program and management needs. New construction would be designed and sited to be compatible with the historic setting. Most of the park's historic buildings would be rehabilitated for new uses in accordance with the Secretary of Interior's Standards for Rehabilitation.

Open Space and Natural Resources

Under this alternative, open space within Area B would increase from about 696 acres to about 794 acres, and the acreage of native plant habitat would be expanded from 70 to about 209 acres. Proposed actions, as detailed in the VMP, would result in a vegetation mosaic of native plant communities, historic forest, and landscape vegetation, which would increase the level of species and habitat diversity in the Presidio. This alternative would protect and enhance areas with natural resource values, as identified in the VMP and the GMPA. This alternative would require a committed, long-term management effort, as well as periodic monitoring and evaluation in order to rehabilitate and restore the native plant, historic forest, and landscaped areas of the park.

Existing non-historic housing units in Tennessee Hollow would be removed to enable restoration of the stream corridor. The restored riparian corridor would connect to an expanded tidal marsh at Crissy Field. The Post Exchange and the Commissary would be removed to allow expansion of the Crissy Marsh. The Mountain Lake Enhancement Plan would be implemented. Landscape improvements at the LDA site would enhance open space within this site.

Habitat supporting 13 rare or endangered species would be protected and enhanced. Invasive exotic plant species would be controlled and removed where feasible. Rare, threatened, and endangered plants would be monitored, protected, and enhanced. Non-historic forest would be removed, in accordance with the VMP, and replanted with native plants. Endangered species recovery plan efforts would be implemented. Wetland features would be protected, enhanced, and restored where feasible. Water quality of surface and groundwater resources would be monitored. Geologic and soil features would be protected and erosion and unnatural disturbances would be minimized. Air quality, aroma, soundscape, and lightscape features would be protected.

Cultural Resources

With the exceptions noted in the GMPA, buildings that contribute to the significance of the NHLD would be rehabilitated in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. Every reasonable effort would be made to incorporate compatible adaptive uses that require minimal alteration to the character-defining materials, features, spaces, and spatial relationships of historic buildings and their settings. Building changes necessary to accommodate new uses and facility upgrades would be compatible with the historic setting and have minimal impacts on resource integrity.

The cultural landscape would be preserved and rehabilitated in support of new uses and activities. Any new construction would be designed and sited to preserve the character and integrity of the NHLD. New construction would be compatible with the historic setting through elements of massing, scale, materials, style, and color. Design guidelines would be developed to direct all new construction and would set forth in further detail review processes for new construction. Historic linkages that were once physically or visually connected, such as the Main Post to Crissy Field, would be reestablished wherever possible through redesign of site systems and elements. Buildings that do not significantly contribute to or are incompatible with the historic setting would be removed. Eleven historic structures identified for demolition in the GMPA would be removed. Other contributing features to the NHLD, such as landscapes, archaeological resources, and batteries, would be protected and preserved. The non-historic addition of the PHSH would be removed to allow restoration of the façade of the former hospital.

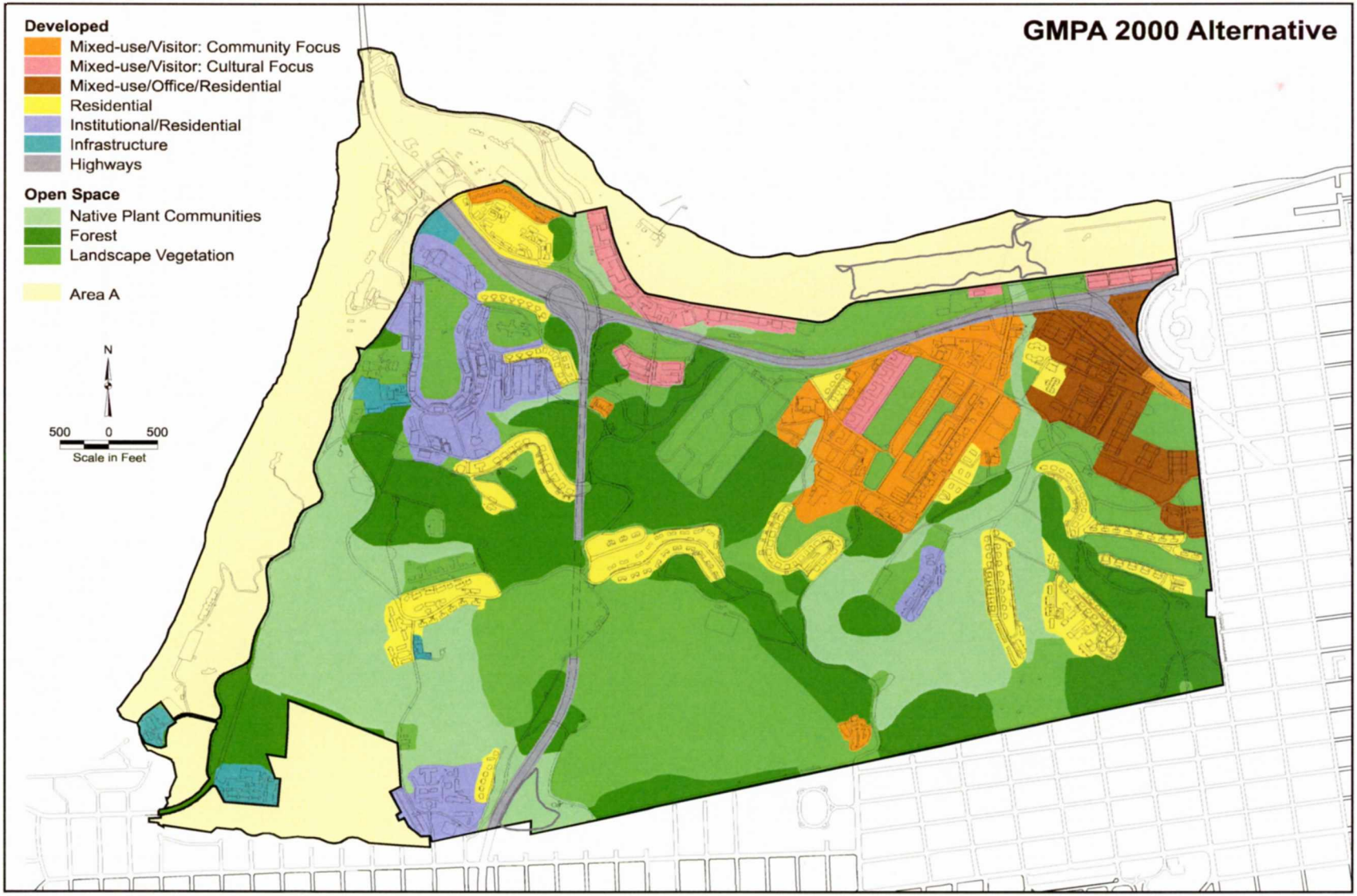
Archaeological resources would be identified, protected, and monitored.

Visitor Experience

The NPS, in cooperation with the Trust, would implement a base level of interpretive and educational opportunities within the park. The Trust and NPS would collaborate to implement the NPS' Presidio Interpretive Plan, interpretive media and programs would be provided in all major activity areas. The William Penn Mott Jr. NPS Visitor Center would provide enhanced visitor programs and services, such as audio tours, additional site bulletins and publications, and oral history programs.

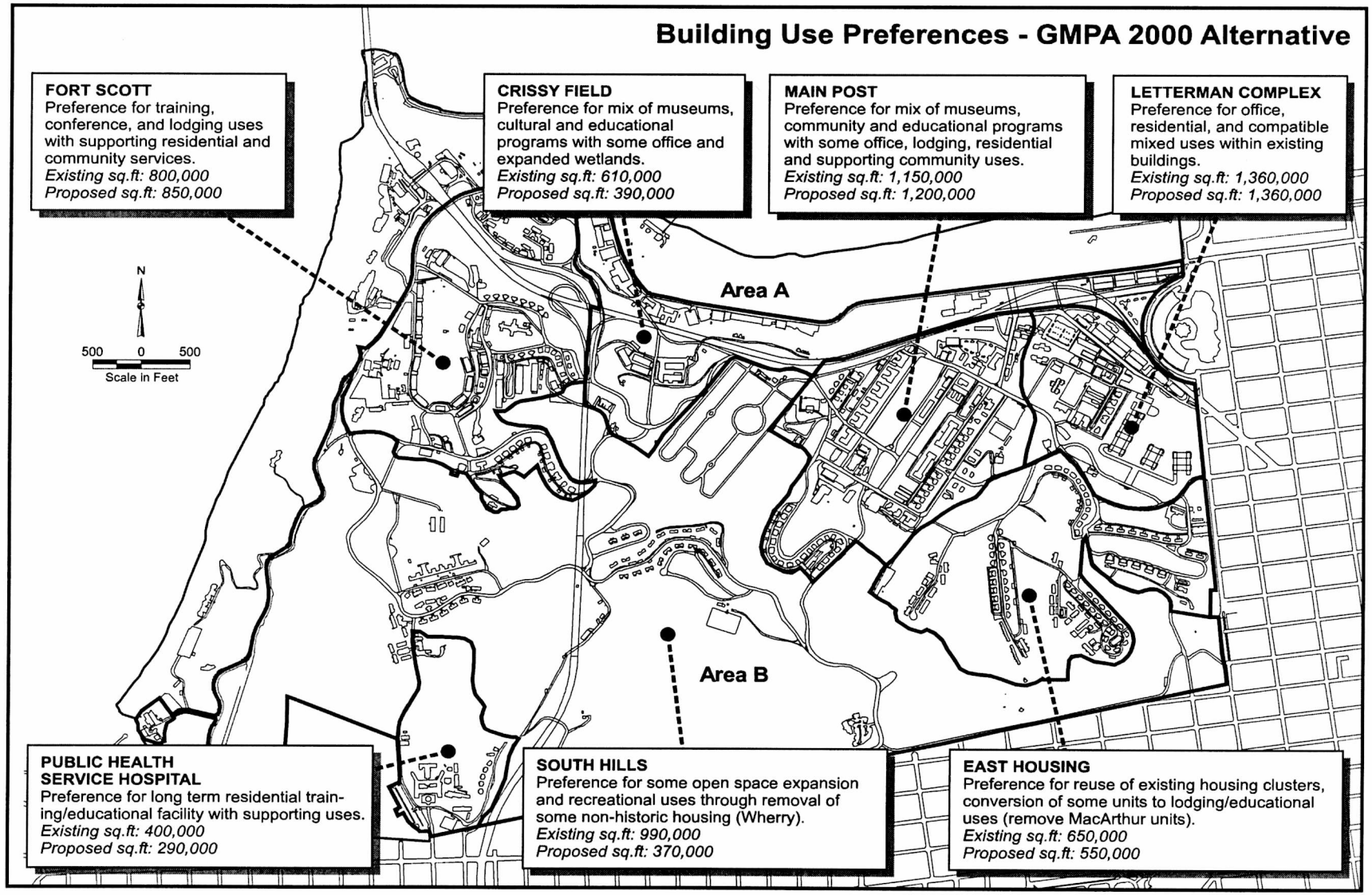
Existing park-based programs would be continued, such as stewardship programs offered through the native plant nursery. The "At the Presidio" pilot program, which brings traveling exhibits and events to the park, would not be expanded.

Figure 3


GMPA 2000 Alternative
Developed
Mixed-use/Visitor: Community Focus
Mixed-use/Visitor: Cultural Focus
Mixed-use/Office/Residential
Residential
Institutional/Residential
Infrastructure
Highways
Open Space
Native Plant Communities
Forest
Landscape Vegetation
Area A
N
500 0 500
Scale in Feet

ALTERNATIVES

Figure 4


Building Use Preferences - GMPA 2000 Alternative
FORT SCOTT
Preference for training, conference, and lodging uses with supporting residential and community services.
Existing sq.ft: 800,000
Proposed sq.ft: 850,000
CRISSY FIELD
Preference for mix of museums, cultural and educational programs with some office and expanded wetlands.
Existing sq.ft: 610,000
Proposed sq.ft: 390,000
MAIN POST
Preference for mix of museums, community and educational programs with some office, lodging, residential and supporting community uses.
Existing sq.ft: 1,150,000
Proposed sq.ft: 1,200,000
LETTERMAN COMPLEX
Preference for office, residential, and compatible mixed uses within existing buildings.
Existing sq.ft: 1,360,000
Proposed sq.ft: 1,360,000
N
500 0 500
Scale in Feet
Area A
Area B
PUBLIC HEALTH SERVICE HOSPITAL
Preference for long term residential training/educational facility with supporting uses.
Existing sq.ft: 400,000
Proposed sq.ft: 290,000
SOUTH HILLS
Preference for some open space expansion and recreational uses through removal of some non-historic housing (Wherry).
Existing sq.ft: 990,000
Proposed sq.ft: 370,000
EAST HOUSING
Preference for reuse of existing housing clusters, conversion of some units to lodging/educational uses (remove MacArthur units).
Existing sq.ft: 650,000
Proposed sq.ft: 550,000

ALTERNATIVES

As envisioned in the GMPA, mission-related tenants would provide the majority of park programs through sponsorship of educational opportunities to increase environmental and cultural awareness. Tenants would develop and implement collaborative interpretive and stewardship programs derived from, and in some cases also enhancing, the Presidio's significant resources and values. Visitors could participate in tenant-sponsored activities such as seminars, lectures, festivals, exhibits, demonstrations, and hands-on participation. Trust-sponsored special events would be held periodically. Cultural centers developed by tenants would sponsor performances, demonstrations, exhibitions, and exchange programs.

Overnight lodging and accommodations for visitors would be offered in existing buildings, including some at the Main Post. Fort Scott would be converted to a conference and training center with adjacent lodging in existing buildings. The PHSH (with wings demolished) would provide overnight accommodations as a conference/residential/educational facility. A residential, environmental education center would be established in some of the non-historic housing in East Housing.

Based on proposed land use intensities, this alternative could attract up to about 13,900 daily visitors (approximately 3,700 workplace visitors and 10,200 park/recreational visitors), and about 5.1 million visitors annually.

Recreation

Under this alternative, existing recreational opportunities would be retained and utilized by a wide range of visitors. The Presidio's existing built recreational facilities would continue to be open to the public, including the swimming pool, bowling center, ball fields, golf course, tennis courts, and gymnasiums. As called for in the GMPA, the Pop Hicks ballfield would be retained and a new picnic area established. The ballfields at Fort Scott would be converted to an expanded parade ground, available for informal play and as an assembly area. The Morton Street ballfield would be removed for the restoration of Tennessee Hollow. Many landscaped areas and small open spaces would be maintained for passive recreation. Larger open spaces would be improved for visitor use and enjoyment. The Rob Hill group camping area would be redesigned and upgraded to improve camping and interpretive experiences. Visitors would be introduced to ways to enjoy the outdoors in a safe, low-impact manner to protect natural and cultural resources. Recreation programs would be offered by park rangers or park partners. Recreational activities would vary so that people could share their experiences with others, by receiving instruction or by assisting people less knowledgeable than themselves.

Community/Housing

The Presidio would support an active community of Presidio staff, tenants, and residents. Presidio housing would be reduced significantly (by up to 880 units) from its current stock through the removal of Wherry housing (between 2010 and 2012) and other non-historic units, and through the conversion of units to other uses such as lodging. In the long term, about 770 housing units would be available, including about 510 houses and apartments and about 260 single room occupancy/dorm rooms. Some units would be converted into guest lodging and accommodations. Housing unit totals would be achieved through rehabilitation of existing units.

Basic community services would be provided for residents and employees; most of these services would be available to visitors and park neighbors. Services would be located near work places and residential clusters to reduce the need for daily trips outside of the Presidio. Community meeting spaces would be available to Presidio tenants and residents.

Based on proposed land use intensities, the Presidio would accommodate about 1,660 residents and 770 households by 2020. Presidio based employees would number about 6,730.

Transportation

Access and circulation improvements as called for in the 1994 GMPA would be made, including simplifying the road network by defining visitor routes, adding signs, reducing traffic in some areas, and closing some roads to automobiles. Internal intersections would be redesigned to improve safety. Large parking lots would be removed and smaller peripheral parking areas would be established. The total number of parking spaces would be reduced from 13,000 spaces to about 7,800 spaces. Permit and fee areas, special carpool and disabled visitor parking spaces, and time limitations would be used to manage both visitor and tenant parking. A Presidio TDM program to reduce parking and automobile use within the Presidio would be implemented.

Infrastructure and Utilities

Infrastructure upgrades and improvements to accommodate new uses would be implemented. Energy conservation measures would be pursued through the course of building and site rehabilitation. Public and private organizations would join in demonstrating technologies and practices that reduce environmental impacts or produce environmental benefits in energy conservation, solid waste management, transportation, water conservation, and sewage treatment. A water reclamation plant and power generation facilities would be planned and implemented, subject to separate environmental review.

Finance [1]

Financial modeling assumptions specific to this alternative include: (a) Wherry housing would be retained for revenue generation until the end of the GMPA planning period (approximately 2010) and demolished in its entirety by 2013; (b) park program expenditures would be $2 million annually; and (c) approximately 73 percent of all non-residential space would be scheduled for use by program-enhancing, mission-related tenants who would provide Presidio programs and pay rent at the average estimated rental rate of $9 per square foot (sf) per year.

Based upon the financial analysis used to compare the alternatives, revenues would cover expenses by 2013 without further need of Congressional appropriations. The total estimated capital costs would be $485 million. The initial capital investment in building rehabilitation and park improvements would be completed by approximately 2035. The capital replacement fund for this alternative would be fully funded in approximately 2065.

2.6 DRAFT PLAN ALTERNATIVE

Concept

This alternative was developed in response to public comments during the scoping process for the PTIP and EIS. (Refer to Consultation and Coordination Section for more detailed discussion of the development of the Draft Plan alternative.) The alternative is patterned on the GMPA 2000

1. Key terms (revenues, program costs, financing costs, capital costs, capital replacement fund (reserves), and self-sufficiency) are defined in the glossary to aid in the understanding of financial concepts.

alternative, but includes modifications to ensure its financial viability and to combine a number of concepts proposed in the November 2000 scoping alternatives into a single alternative –expansion of open space, no reduction in housing units, and robust cultural and educational programs for park visitors.

Under the Draft Plan alternative, tenants and residents would work together to make the Presidio a center for education, communication, and exchange. The natural environment would be enhanced and the size and quality of open space increased primarily by removing non-historic housing in the southern portion of the park. Replacement housing would be accomplished by rehabilitating and reusing existing buildings to a large extent. Cultural and natural resources would be protected and enhanced. Historic buildings and landscapes that distinguish the NHLD would be rehabilitated and adaptively used. The historic character and integrity of the NHLD would be protected while acknowledging the possibility for limited changes and new construction that would respect the park's character. Buildings would be removed to increase open space and/or enhance recreational, cultural, and natural resources. The historic forest, streambed and riparian corridors, native plant communities and recreational opportunities would be expanded and improved.

The Draft Plan alternative would ensure no net loss of housing over that which exists today and would continue the preference for providing housing to Presidio-based employees. An improved mix of housing units would be achieved through an emphasis on subdividing and converting existing building space with limited replacement construction at selected transit-accessible locations throughout the park.

A diverse array of cultural and educational programs would be made available to local, national, and international park visitors. The Trust would be primarily responsible for delivery of a consistent level of high quality visitor and public programs through the cooperative efforts of the Trust, NPS, tenants, philanthropic organizations, cultural institutions, and community volunteers. Tenants would support park programming in a variety of ways, including directly providing a public program for park visitors, contributing financially, or offering in-kind services to a park program. Tenants would be selected in part for their financial contribution (as required by the Trust Act) and willingness and ability to support park program goals. The Trust and NPS would cooperate to provide a base level of interpretive services and education about the Presidio's history and its significant resources. Land uses and description of land use preferences are shown in Figures 5 and 6.

Land and Building Uses

This alternative proposes overall building square footage of 5.60 million sf, or 360,000 less than currently exists in Area B. This would include approximately 3.66 million sf of mixed-use non-residential building space (community, office, cultural) and 1.94 million sf of residential space (houses, apartments, single room occupancy dorm rooms). Building use preferences are shown in Figure 6.

Like the GMPA 2000 alternative, this alternative would reduce the intensity of, but not change the existing underlying land use pattern. Existing non-historic building space would be removed or would be reconfigured and reused to provide replacement housing units and/or non-residential uses. There would be less demolition within Crissy Field (Area B) then under the GMPA 2000 alternative to make buildings available for cultural/educational or other use. Some replacement housing could be constructed over time in transit accessible locations within the park. There would be a shift in use preference for the PHSH complex from conference institutional/educational uses to include residential with supporting educational uses.

Generally, there would be a net loss of built space in the southern planning districts (South Hills and East Housing), with the possibility over time of

some modest replacement construction in the northern districts. Crissy Field (Area B) and the Main Post Planning Districts would include mixed-uses with a focus on visitor programs, community and related activities, and services including a mix of museums, cultural educational programs, lodging, office and other uses. The Letterman Planning District would include mixed uses with an office/residential use emphasis within an increased level of built space. Existing square footage in East Housing and South Hills would decrease as a result of removal of non-historic housing units. Preferred uses within the Fort Scott and PHSH Districts would include mixed-use educational/institutional/ residential with other supporting uses. Built square footage in the Fort Scott Planning District could increase somewhat to accommodate new uses with no net change within the PHSH Planning District.

Built Environment

Built square footage under this alternative would fall between the GMPA 2000 alternative and today's existing level of built space. The goal is to reduce today's 5.96 million sf of building space to 5.6 million sf over time. Achieving this goal would depend upon financial considerations as well as the timing of building removal and replacement construction. The timing of building activity would in turn depend upon a variety of factors including compliance with NEPA and the NHPA. To increase open space, enhance natural resource values, and provide additional opportunities for outdoor recreation, a significant amount of building demolition would occur over time. Up to approximately 1.07 million sf of existing structures would be removed, primarily consisting of Wherry housing units.

A moderate amount of new construction could also occur over time, with up to 710,000 sf, if necessary, to provide replacement housing and additional opportunities for visitor programs, and lodging and community services. All new construction would occur within the constraints imposed by plan principles. As with all alternatives, the NHLD status would guide what building changes would be made. Most of the park's historic buildings would be rehabilitated for new uses in accordance with the Secretary of Interior's Standards for Rehabilitation. New construction beyond that considered in the GMPA could include removal and replacement of housing at north Fort Scott and East Housing, near Tennessee Hollow, consistent with riparian restoration requirements, and principles of responsible watershed management.

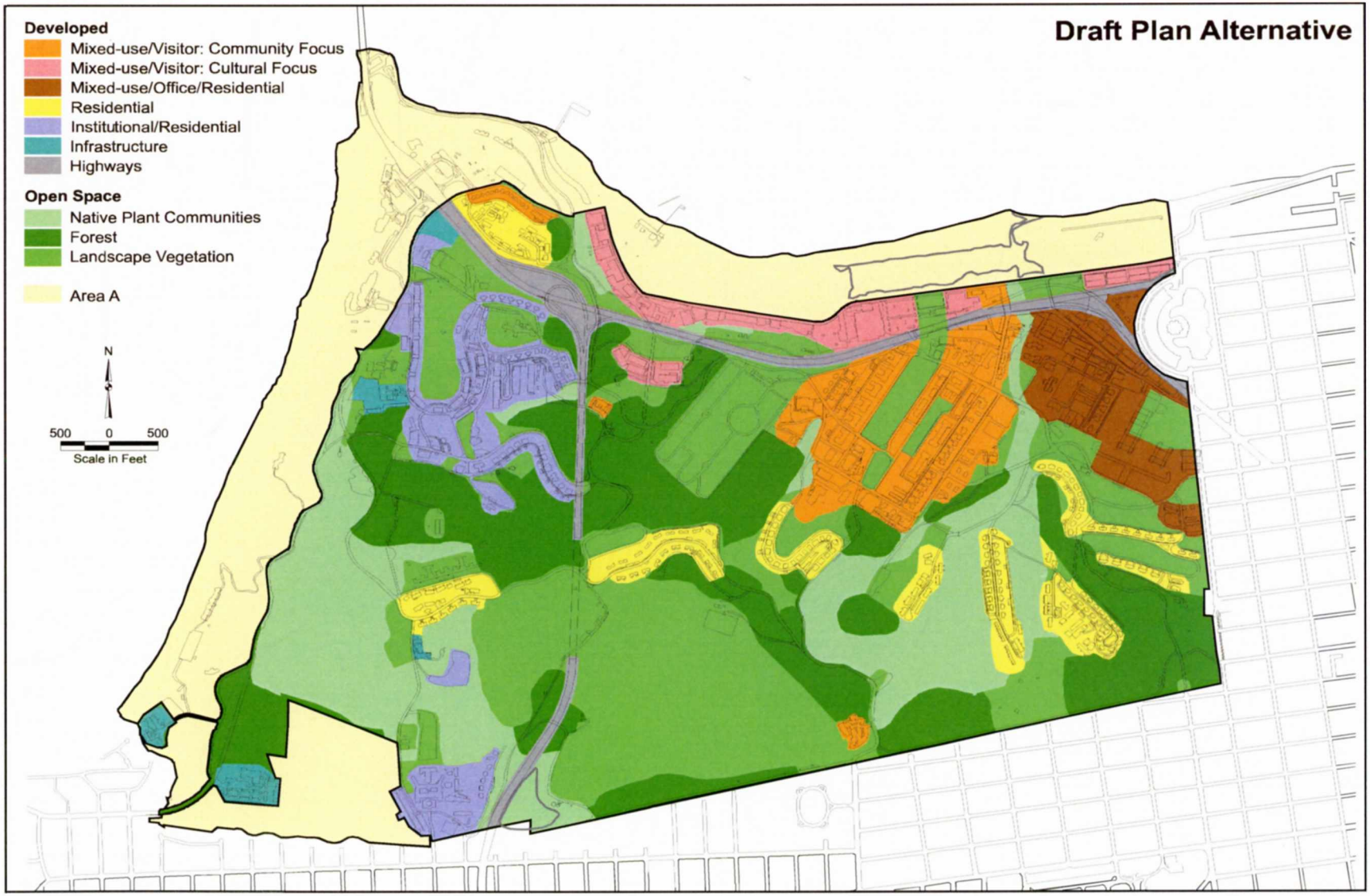
Open Space and Natural Resources

Under this alternative, open space within Area B would increase from about 696 acres currently to about 793 acres in 2020, about the same as the GMPA 2000 alternative. The acreage of native plant habitat would be expanded from 70 acres currently, to about 202 acres. Management actions would be similar to those described in the GMPA 2000 alternative.

The most significant change in open space is proposed for the southern part of the park (South Hills planning district) with the demolition of Wherry housing units. Some contiguous units in the West Washington District would also be removed. Removal of units in the East Housing District would allow for the restoration of Tennessee Hollow.

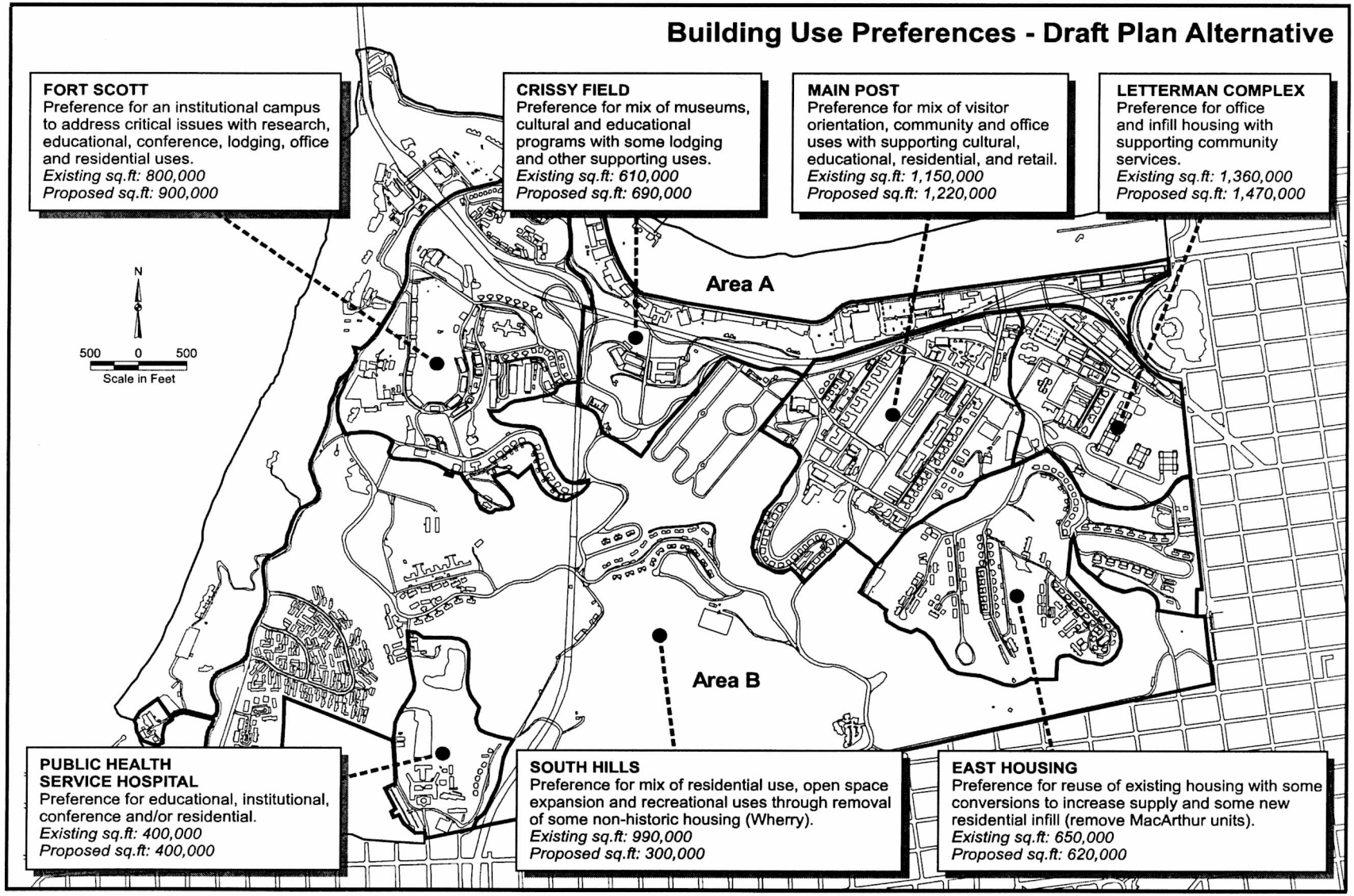
The feasibility and scope of Crissy Field tidal marsh expansion into Area B in part or in whole as discussed in the GMPA 2000 alternative would be evaluated through future site planning studies and environmental analysis. Identification of appropriate expansion areas would be based on such factors as cost, source of funding, land use options, building reuse feasibility, and cultural resource constraints including the location of historic buildings, potential archaeological sensitivity, hazardous substance cleanup, utility corridors, and the future Doyle Drive configuration.

Figure 5


Draft Plan Alternative
Developed
Mixed-use/Visitor: Community Focus
Mixed-use/Visitor: Cultural Focus
Mixed-use/Office/Residential
Residential
Institutional/Residential
Infrastructure
Highways
Open Space
Native Plant Communities
Forest
Landscape Vegetation
Area A
N
500 0 500
Scale in Feet

ALTERNATIVES

Figure 6


Building Use Preferences - Draft Plan Alternative
FORT SCOTT
Preference for an institutional campus to address critical issues with research, educational, conference, lodging, office and residential uses.
Existing sq.ft: 800,000
Proposed sq.ft: 900,000
CRISSY FIELD
Preference for mix of museums, cultural and educational programs with some lodging and other supporting uses.
Existing sq.ft: 610,000
Proposed sq.ft: 690,000
MAIN POST
Preference for mix of visitor orientation, community and office uses with supporting cultural, educational, residential, and retail.
Existing sq.ft: 1,150,000
Proposed sq.ft: 1,220,000
LETTERMAN COMPLEX
Preference for office and infill housing with supporting community services.
Existing sq.ft: 1,360,000
Proposed sq.ft: 1,470,000
N
500 0 500
Scale in Feet
Area A
Area B
PUBLIC HEALTH SERVICE HOSPITAL
Preference for educational, institutional, conference and/or residential.
Existing sq.ft: 400,000
Proposed sq.ft: 400,000
SOUTH HILLS
Preference for mix of residential use, open space expansion and recreational uses through removal of some non-historic housing (Wherry).
Existing sq.ft: 990,000
Proposed sq.ft: 300,000
EAST HOUSING
Preference for reuse of existing housing with some conversions to increase supply and some new residential infill (remove MacArthur units).
Existing sq.ft: 650,000
Proposed sq.ft: 620,000

ALTERNATIVES

Cultural Resources

Buildings that contribute to the significance of the NHLD would be preserved, rehabilitated and used in accordance with the Secretary of Interior's Standards for the Treatment of Historic Properties to the maximum extent feasible. Guidelines for Rehabilitating Buildings at the Presidio of San Francisco and compatible uses for historic buildings would be encouraged, and changes necessary to accommodate new uses and facility upgrades would respect the integrity of the resources and the district.

The Trust's program of cyclical maintenance to prevent damage to historic fabric and ensure historic buildings are well-maintained would be in place. In addition, a Programmatic Agreement would be in place regarding Trust operations, maintenance, and future planning activities, to ensure compliance with the NHPA (See Appendix C).

The historic character and integrity of the NHLD will be protected. Modifications would be made over time, but in a manner that protects the character and integrity of the NHLD. Application of the Secretary of Interior's Standards for the Treatment of Historic Landscapes would ensure that the changes that are necessary for new uses and upgraded facilities are compatible with the historic setting and protect its integrity. The district-level planning guidelines within the draft plan, together with site-specific assessments, design guidelines, and other future planning efforts would identify how the NHLD's character defining features would be preserved and protected.

Consistent with the Trust Act, structures would be evaluated for possible reuse and in some instances demolition or replacement construction may be considered. Consideration in future planning of building demolition and new construction would be in accordance with the NHPA, and every reasonable effort would be given to the adaptive reuse of historic properties before new construction is considered. The design of replacement construction would ensure that the association, feeling and setting of the significant elements and the integrity of the NHLD are protected. New construction would be limited to existing areas of development that have been previously disturbed or built up.

Archaeological resources would be preserved and protected for research and interpretation, and collections and significant objects in the landscape exhibited.

Visitor Experience

Under the Draft Plan alternative, the base level of education and interpretive programming under the GMPA 2000 alternative would be substantially expanded. The Presidio Trust would provide leadership in enhancing the visitor experience through exhibitions, events and programs regarding natural and cultural history, including programs with a direct connection to Presidio resources. NPS, in cooperation with the Trust, would provide site interpretation and resource education throughout the Presidio. The Trust and NPS would collaborate to develop and implement NPS' Presidio Interpretive Plan. The Trust would assist NPS in expanding these interpretive programs in the future.

The Presidio would become a setting for community and public events, educational and learning centers, museums, exhibitions, youth-oriented and directed activities, hands-on demonstrations, resource stewardship activities, festivals, celebrations and more. Together with partners such as NPS, the Smithsonian Institution, park tenants, schools, and cultural institutions, the Trust would provide program opportunities designed to create a compelling park experience for local, national, and international visitors. The Trust would also initiate new events by outreach to other organizations. Anticipated events would likely include Presidio Pasados, an annual event commemorating the establishment of San Francisco, Memorial

Day and Veteran's Day celebrations, community-sponsored traditions, military programs, small informal outdoor concerts and performances, folklife festivals serving a national audience. The Trust's pilot program "At the Presidio" to bring traveling exhibits and events to the park would be continued and expanded.

Under PTIP, the Trust, in collaboration with NPS and the Golden Gate National Parks Association, would continue the commitment to providing and building volunteer-based stewardship programs. A Sustainability Center would likely be established to demonstrate the Presidio's leadership in implementing sustainable environmental practices and cultural preservation to residents, visitors, interested organizations, and agency partners. Stewardship programs would be continued and expanded to instill greater understanding and protection of park resources among residents, tenants, community members, and visitors. The Presidio's resources would become a laboratory for studying issues of conservation and preservation. Natural resource based restoration efforts would be used to provide expanded educational programs. Cultural resource stewardship programs would be used to provide expanded volunteer opportunities and to promote greater awareness of preserving the Presidio's history.

Efforts would be made to convert Fort Scott to an institutional/educational campus to address critical public issues with the possibility of offering supporting residential use in existing buildings. The PHSH would be considered for an educational facility. The possibility of offering overnight lodging and accommodations for visitors at the Main Post or Crissy Field (Area B) would be considered. To support Presidio visitors and the Presidio's tenant community, some food and retail services would be provided.

To ensure that consistent and well-coordinated programs are provided for the public even as tenants change with time, tenants would not be the primary program providers. The Presidio Trust would coordinate tenant contributions to ensure that the Presidio's programmatic goals are consistently achieved, and would play an oversight role in the delivery of programs. Partners would be sought to offer high-quality programs covering cultural, environmental, and other park resource subjects. Tenants could support park programs in a variety of ways – by directly providing a program to park visitors, by contributing financially, or by offering in-kind services to a park program.

Based on this proposed land use intensities, this alternative would attract up to about 25,000 daily visitors (approximately 4,000 workplace visitors and 21,100 park/recreational visitors) and about 9.2 million visitors annually.

Recreation

Under the Draft Plan alternative, a range of recreation experiences would be continued and created, from the most peaceful and private to the most interactive. Open space and recreational amenities would be managed to provide settings for both intimate and large-group gatherings. The Presidio Trust would consider activities that are uniquely suited and appropriate to the natural and cultural resources found at the Presidio and that can be sustained without damaging these resources. The Trust would assure that educational, interpretive and recreation programs are as fully accessible as possible.

Retaining and enhancing the existing active recreational facilities would continue as a commitment, except where removal would be needed to accomplish other planning objectives, such as the reconstruction of Doyle Drive or the restoration of Tennessee Hollow. Future planning would consider alternatives for change to existing recreational facilities, both indoors and outdoors, and further define compatible recreation activities and uses. These could include rehabilitation, removal and relocation of amenities such as ballfields, campgrounds and picnic areas.

Trails would be improved and expanded as identified in the Presidio Trails and Bikeways Master Plan. A Trails Stewardship program would be initiated to promote public support and interest in trail construction, maintenance and management. Many landscaped open space areas would be maintained for passive recreational opportunities. Passive recreational experiences would be increased and diversified through the creation of new open space areas and through the continued restoration of both remnant natural areas and decadent forest stands.

Consistent with the Vegetation Management Plan, efforts would continue to maintain and enhance spectacular views, to restore historic visual connections, and to provide screening from elements that disrupt historic associations. Opportunities for scenic viewing and the qualities of scenic vistas from the Presidio would be increased through future site improvements, natural system restoration, and new trail connections and viewpoints.

Community/Housing

The goal of the Draft Plan alternative is to ensure no net loss of housing when compared to that which exists today, and to continue the preference for providing housing to Presidio-based employees. A broad spectrum of housing opportunities would be provided to accommodate employees at a range of income levels. To help meet the projected demand for employee housing, the current unit mix would be reconfigured to reduce the number of large units and increase the number of studio, one- and two-bedroom units.

This alternative would foster diverse, mixed-use communities. While there would be no increase in the existing unit count of 1,650, the goal of no net loss of housing units represents a significant departure from the GMPA 2000 alternative which would result in the loss of about 880 dwelling units. Of the 1,650 units, in the long-term, about 1,240 houses and apartments and about 410 single room occupancy/dorm rooms would be available.

As non-historic housing units are removed to achieve natural resource enhancement and other goals, replacement housing would be achieved through an emphasis on conversion and subdivision of non-historic space. In the long-term, some new unit construction, on the order of about 400 units total, would be considered at several transit-accessible locations throughout the park. Housing conversions and limited new housing construction would provide an opportunity to locate more housing within walking distance of jobs, transit, and community services. East and West Washington housing would be largely retained for rehabilitation and conversion. To provide for the recovery of the endangered San Francisco *Lessingia germanorum*, approximately 620,000 sf of non-historic Wherry housing would be removed in phases and the units replaced. Approximately one-third of the units (beginning with those above Pershing Drive) would be demolished by 2010, and another one-third (extending below Pershing Drive) would be removed by 2020. The balance would be removed beyond the period of this environmental study (by 2030).

Basic community services would be provided for Presidio residents and tenants; most of the services would be available to visitors and park neighbors as well. Services would be located near work places and residential clusters to reduce the need for daily trips outside of the Presidio.

Under this alternative, the residential population by 2020 would number approximately 3,720. The number of employees would reach an estimated 7,190 in 2020.

Transportation

Access, parking and circulation improvements would be similar to the GMPA 2000 alternative. In addition, an expanded transportation strategy

and a TDM program that discourages auto use and provides multi-modal options for all park users would be promoted. The use of public transit to and within the park would be encouraged as a way to reach and enjoy the Presidio and reduce automobile traffic. Public or alternative transit systems within the park would provide access between the main Presidio activity areas. Alternative fuels and new technologies would be used to reduce automobile impacts in and around the park. Public transit, pedestrian, and bicycle travel within the park would improve recreational opportunities and enhance environmental quality. The Presidio would be served by public transit and a shuttle system to provide for the transportation needs of park visitors, employees and residents. Regional public transportation improvements proposed by other agencies (including Doyle Drive) would improve access and transit connections to the Presidio. Changes in the configuration of parking supply (10,830 spaces) would be the subject of future planning. Parking would be designed to serve Presidio activity centers, managed to reduce impacts on the park's natural, historic and recreational features, to protect its open space qualities, and to avoid parking problems in adjacent city neighborhoods and along Crissy Field. A park-wide TDM program would be provided by the Trust and be supplemented by park tenants. Parking management, including tools such as permit and fee parking, would be actively used to manage parking demand and discourage automobile use.

Infrastructure and Utilities

Conservation measures would be implemented as described in the GMPA 2000 alternative. Environmental protection and sustainable design would be promoted in all infrastructure upgrades and improvements. Energy conservation measures would be pursued through the course of building rehabilitation. Technologies and practices in energy conservation, solid waste management, transportation, water conservation, and sewage treatment would reduce environmental impacts or produce environmental benefits.

Finance

Financial modeling assumptions specific to this alternative are the same as those for the GMPA 2000 alternative except: (a) Wherry housing would be removed in phases over a 30-year period (Note: because the financial model extends over 20 years, rather than the full 30 years planned for the phased Wherry housing removal, the model assumes removal of one-third by 2013 and the remaining two-thirds by 2020); (b) park program expenditures would be $10 million annually; and (c) approximately 26 percent of the non-residential space is scheduled for use by cultural/educational tenants and partners providing programs to park visitors.

Revenues associated with this alternative would cover expenses in 2013 without further need for Congressional appropriations, with estimated completion of initial capital improvements (estimated at $546 million) for building rehabilitation and park improvements between 2025 and 2030. The implementation phase at the Presidio would be completed between approximately 2035 and 2040.

2.7 RESOURCE CONSOLIDATION ALTERNATIVE

Concept

Under this alternative, the Presidio would become an enhanced open space haven in an urban setting by maximizing the increase in open space in the southern part of the park and concentrating development in the north. Overall, building square footage in Area B would be reduced from what currently exists due to loss of residential units and building space. Although a substantial number of buildings would be demolished, including the entirety of the PHSH complex, the integrity of the NHLD would be protected. Open space and natural resource enhancements (endangered species recovery and Tennessee Hollow riparian restoration) would be maximized, and recreational opportunities expanded. Tenets of

sustainability, biodiversity, smart growth, and preservation would be promoted by preserving and enhancing the Presidio's natural and cultural resources and concentrating building area, including in-fill mixed-use and housing construction in the northern part of the park. Buildings would be rehabilitated for new uses. The primary goal would be reuse of existing structures along with compatible new construction that would generate sufficient funds for open space improvements and park enhancements. Park programs would be delivered in a manner similar to the Draft Plan alternative, but at a somewhat reduced level. Programs would focus on the park's biodiversity, including native species and ecosystems, and the history of the Presidio. Land uses and description of land use preferences are shown in Figures 7 and 8.

Land and Building Uses

This alternative proposes overall building square footage of 5.30 million sf, or 660,000 less than currently exists in Area B. This would include approximately 3.98 million sf of mixed-use non-residential building space (community, office, cultural) and 1.31 million sf of residential space (houses, apartments, dorms/single room occupancy units). A description of building use preferences is shown in Figure 8.

This alternative would maximize the removal of square footage in the southwest portions of Area B with the removal of Wherry housing, all of East and West Washington housing, all of PHSH, and some units within the East Housing Planning District, and redistribute about half into already built up areas in the northern portion of Area B. The emphasis within Crissy Field (Area B), Main Post and Letterman Planning Districts would be on mixed-use office districts with some cultural/educational, lodging, community, residential and other uses. To maximize natural resource values, proposals to decrease built square footage at Crissy Field (Area B) and to increase built space within the Main Post and Letterman Planning Districts would be considered up to the square footages proposed in Figure 8. Preferred uses within the Fort Scott Planning District would be for mixed-use institutional/residential. Proposals to increase square footage at Fort Scott would be considered up to proposed square footage levels.

Built Environment

To maximize open space and recreational use and allow for enhancement of native plant habitat and natural resource values, up to 1.91 million sf of both historic and non-historic building demolition would occur. The majority of building demolition would occur in the southwest part of Area B. The number of residential dwelling units under this alternative would likely decrease from 1,650 to about 910, and the residential square footage would be the lowest of any alternative.

Compatible new replacement construction of up to 1.24 million sf would provide new opportunities for residential and mixed uses. New construction would be designed and sited to be compatible with the historic setting. The majority of replacement construction would occur in the activity centers in the north to consolidate open space and move density closer to previously developed and disturbed areas and transportation services.

Implementation to the proposed square footage levels would be dependent upon a variety of factors including historic and cultural resource constraints and future NEPA and NHPA evaluations of plans or proposals.

Open Space and Natural Resources

Under this alternative, open space within Area B would increase from about 696 acres currently to about 838 acres, 44 acres more than the GMPA 2000 alternative. The acreage of native plant habitat would be expanded from 70 acres currently to about 208 acres, similar to the GMPA 2000 alternative. Management actions would be similar to those described in the GMPA

2000 alternative, including removal of the Post Exchange (PX) and Commissary to allow for expanding the tidal marsh. Unlike the GMPA 2000 alternative, this alternative would remove structures on about 10 acres at the PHSH complex, which would increase open space and landscape vegetation and native plant communities within the complex.

Cultural Resources

Cultural landscape preservation under this alternative would be similar to that described for the Draft Plan alternative. Additional environmental analysis and compliance with federal historic preservation laws during future planning would be pursued prior to removal of the historic buildings at the PHSH complex.

Visitor Experience

Under this alternative, park programs for visitors would be similar to those under the Draft Plan alternative, but would focus on instilling greater understanding and protecting resource values of the park. More emphasis would be placed on stewardship projects and programs related to sustainable practices and other issues of global importance that would also demonstrate the Presidio's environmental leadership. The Trust would build upon NPS interpretive programs to cover natural and cultural resources preservation and to create new programs in the restored open space areas of the South Hills.

A key facility under this alternative would be a new Sustainability Center to demonstrate sustainable practices to residents, visitors, interested organizations, and agency partners. This Center would encompass the existing recycling and composting centers, the existing native and a new cultural plant nurseries, and a new exhibit space to tell the story of sustainability.

Visitor programs would also focus on learning about park practices and policies related to environmental stewardship and cultural preservation. The Presidio's resources would become a laboratory for studying issues of conservation and preservation. Natural resource restoration education and stewardship programs would be key elements to provide educational opportunities to students. Stewardship opportunities would be created to assist in the construction, maintenance, and management of trails. Cultural resource stewardship programs would be offered to provide volunteer opportunities and promote greater awareness of methods of preserving the history and pre-history of the Presidio.

Special events would be held periodically at suitable locales. Special events would emphasize the park's natural and cultural resources and smaller, appropriate events would be held in restored open space areas.

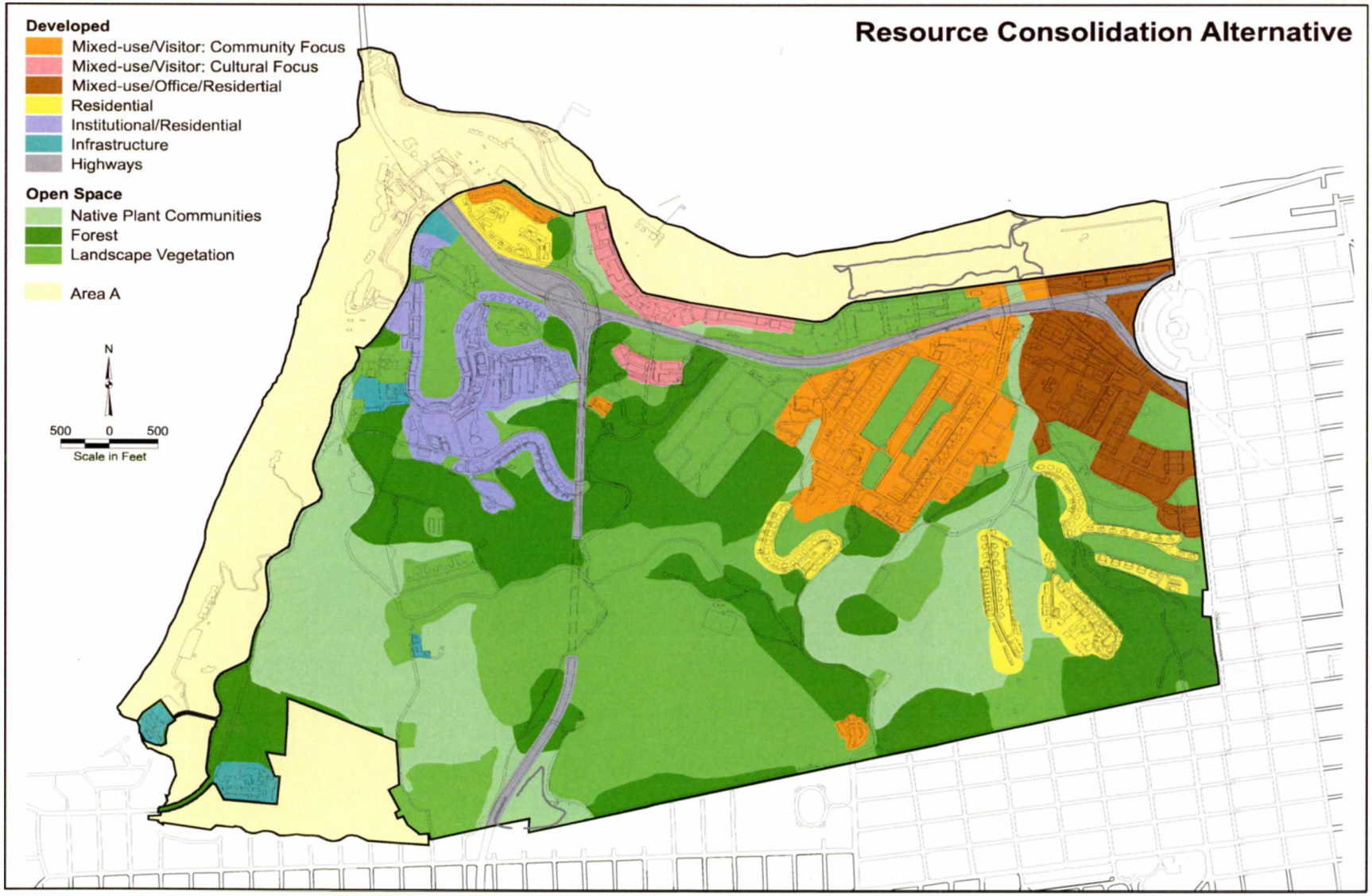
Guest facilities would be made available to accommodate overnight visitors.

Based in proposed land use intensities, this alternative could attract up to about 22,600 daily visitors (approximately 4,700 workplace visitors and 17,900 park/recreational visitors) and about 8.2 million visitors annually.

Recreation

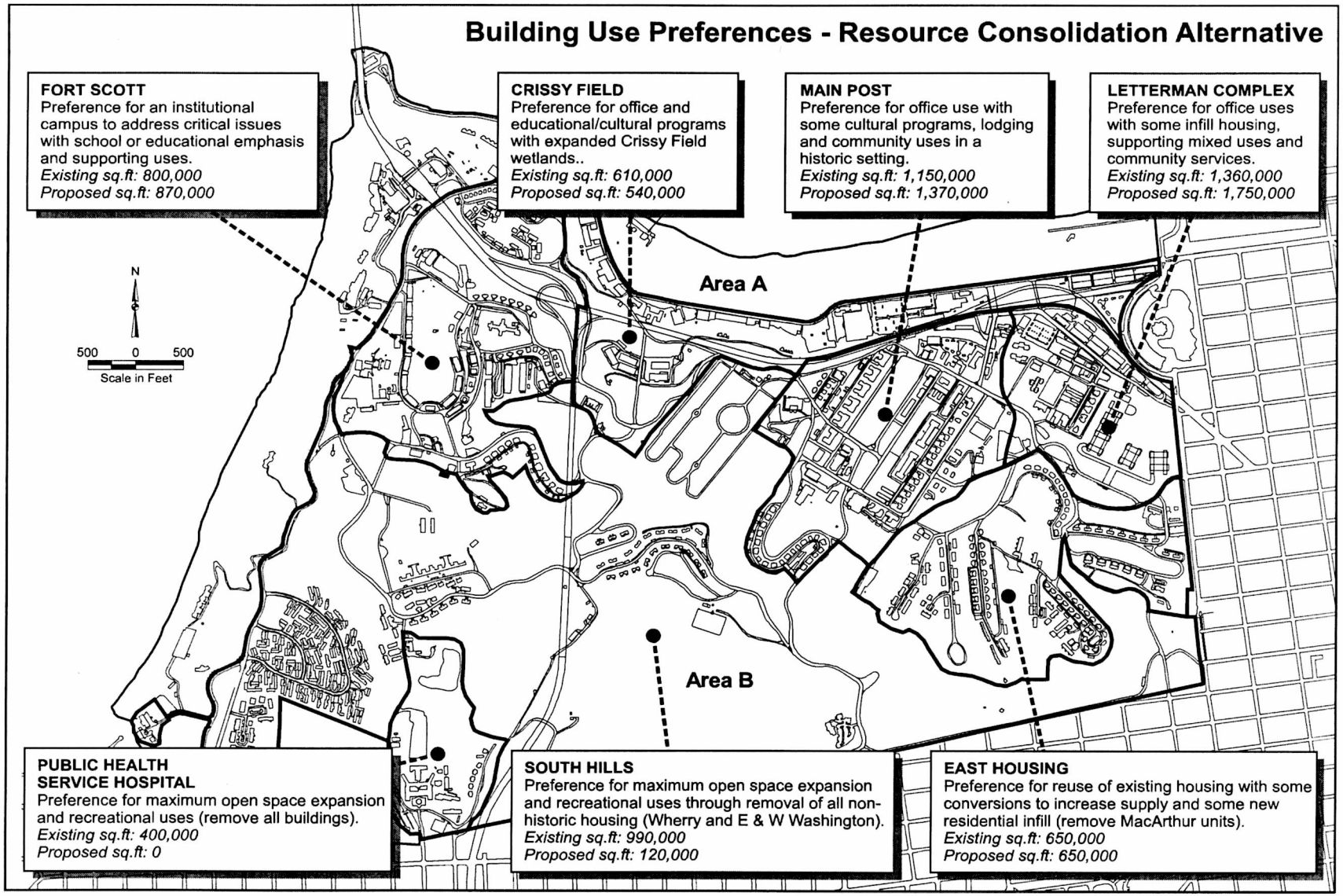
Recreation opportunities, facilities, and management would be similar to the Draft Plan alternative. Passive recreational and educational experiences would be increased and diversified through the creation of new open space areas in the South Hills, though some areas might be made less accessible for recreation to promote the area's restoration. The natural areas stewardship program would be continued and would serve as a primary source for recreational and educational programming.

Figure 7


Resource Consolidation Alternative
Developed
Mixed-use/Visitor: Community Focus
Mixed-use/Visitor: Cultural Focus
Mixed-use/Office/Residential
Residential
Institutional/Residential
Infrastructure
Highways
Open Space
Native Plant Communities
Forest
Landscape Vegetation
Area A
N
500 0 500
Scale in Feet

ALTERNATIVES

Figure 8


Building Use Preferences - Resource Consolidation Alternative
FORT SCOTT
Preference for an institutional campus to address critical issues with school or educational emphasis and supporting uses.
Existing sq.ft: 800,000
Proposed sq.ft: 870,000
CRISSY FIELD
Preference for office and educational/cultural programs with expanded Crissy Field wetlands..
Existing sq.ft: 610,000
Proposed sq.ft: 540,000
MAIN POST
Preference for office use with some cultural programs, lodging and community uses in a historic setting.
Existing sq.ft: 1,150,000
Proposed sq.ft: 1,370,000
LETTERMAN COMPLEX
Preference for office uses with some infill housing, supporting mixed uses and community services.
Existing sq.ft: 1,360,000
Proposed sq.ft: 1,750,000
N
500 0 500
Scale in Feet
Area A
Area B
PUBLIC HEALTH SERVICE HOSPITAL
Preference for maximum open space expansion and recreational uses (remove all buildings).
Existing sq.ft: 400,000
Proposed sq.ft: 0
SOUTH HILLS
Preference for maximum open space expansion and recreational uses through removal of all non-historic housing (Wherry and E & W Washington).
Existing sq.ft: 990,000
Proposed sq.ft: 120,000
EAST HOUSING
Preference for reuse of existing housing with some conversions to increase supply and some new residential infill (remove MacArthur units).
Existing sq.ft: 650,000
Proposed sq.ft: 650,000

ALTERNATIVES

Community/Housing

This alternative would provide a slightly more housing, (about 140 units more) than the GMPA 2000 alternative, but would decrease the number of existing units by about 740 units. In the long-term, about 910 housing units would be available, including up to about 870 houses and apartments and up to about 40 single room occupancy/dorm rooms. Following removal of existing housing to allow natural resource enhancements, replacement housing would be achieved through a mix of rehabilitation of historic units, conversions of non-historic space, and replacement construction. New housing construction would provide an opportunity to locate more housing within walking distance of jobs, transit, and community services.

The removal of Wherry housing (one-third by 2010, two-thirds by 2020) and East and West Washington housing would concentrate much of the residences within the built-up areas in the north. Limited community and visitor support service would be provided for residents and employees. Services would be located near work places and residential clusters to reduce the need for daily trips outside the Presidio. The reduction of housing would result in a smaller Presidio community and therefore a reduced need for support services.

Under this alternative, the residential community at the Presidio is projected to number 2,230 by 2020. The employee population would reach an estimated 8,480 by 2020.

Transportation

Under this alternative, the circulation network would be simplified. Any roads that would be considered secondary due to the removal of buildings that they service (such as Washington Boulevard) would be removed or converted to trails and pathways. Because the amount of occupied building space would be reduced, the demand for parking and access to facilities would decrease. Existing parking areas would be reduced in size and number, and a total of 10,800 parking spaces would be provided. Large paved areas, such as on the Main Post parade ground and along the Public Health Service Hospital borders, would be removed. Remaining parking would be clustered around the main activity areas. Proposals for alternative transportation strategies and TDM would be the same as described in the Draft Plan alternative.

Infrastructure and Utilities

Conservation measures would be implemented as described for the GMPA 2000 alternative. Due to the consolidated building stock, infrastructure requirements would not be as great under this alternative.

Finance

Financial modeling assumptions specific to this alternative include: (a) Wherry housing removed in phases over a 20-year period (i.e., one-third by 2013 and the remaining two-thirds by 2020); (b) park program expenditures would be $8 million annually; and (c) approximately 18 percent of the non-residential space would accommodate cultural/educational tenants and partners providing programming to park visitors.

Under this alternative, revenues would cover expenses in 2013 without further need for Congressional appropriations. The alternative has an anticipated capital requirement of $449 million, which would be fully funded by approximately 2025. The implementation phase at the Presidio would be completed in approximately 2045.

2.8 SUSTAINABLE COMMUNITY ALTERNATIVE

Concept

Under this alternative, the Presidio would become a sustainable live/work community in a park setting and a model of environmental sustainability. There would be an emphasis on creating a Presidio-based community of users offering innovative, state-of-the-art ideas and approaches on environmental sustainability and related subjects.

Open space and recreational opportunities would be expanded, and historic forest and native plant communities improved. Riparian corridors would be restored and the historic forest rehabilitated and preserved as part of the cultural landscape. The historic character and integrity of the NHLD would be protected. A moderately low level of non-historic building demolition would occur to enhance open space and improve native plant communities.

The footprint of the built environment would largely remain in its present dispersed pattern and an emphasis would be placed on building rehabilitation and reuse. While the existing number of housing units would decrease, the total number of units would be more than under the GMPA 2000 alternative. Residents would also work in the park, improving the jobs/housing balance, and supporting a sustainable park community. Park programs would be delivered in a manner similar to that proposed by the Draft Plan alternative, but at a somewhat reduced level. Land uses and description of land use preferences are shown in Figures 9 and 10.

Land and Building Uses

This alternative proposes overall building square footage of 5.69 million sf, or 270,000 sf less than currently exists in Area B. This would include approximately 3.78 million of mixed-use non-residential building space (community, office, cultural) and 1.91 million sf of residential space (houses, apartments, dorms/single room occupancy units). A description of building use preferences is shown in Figure 10.

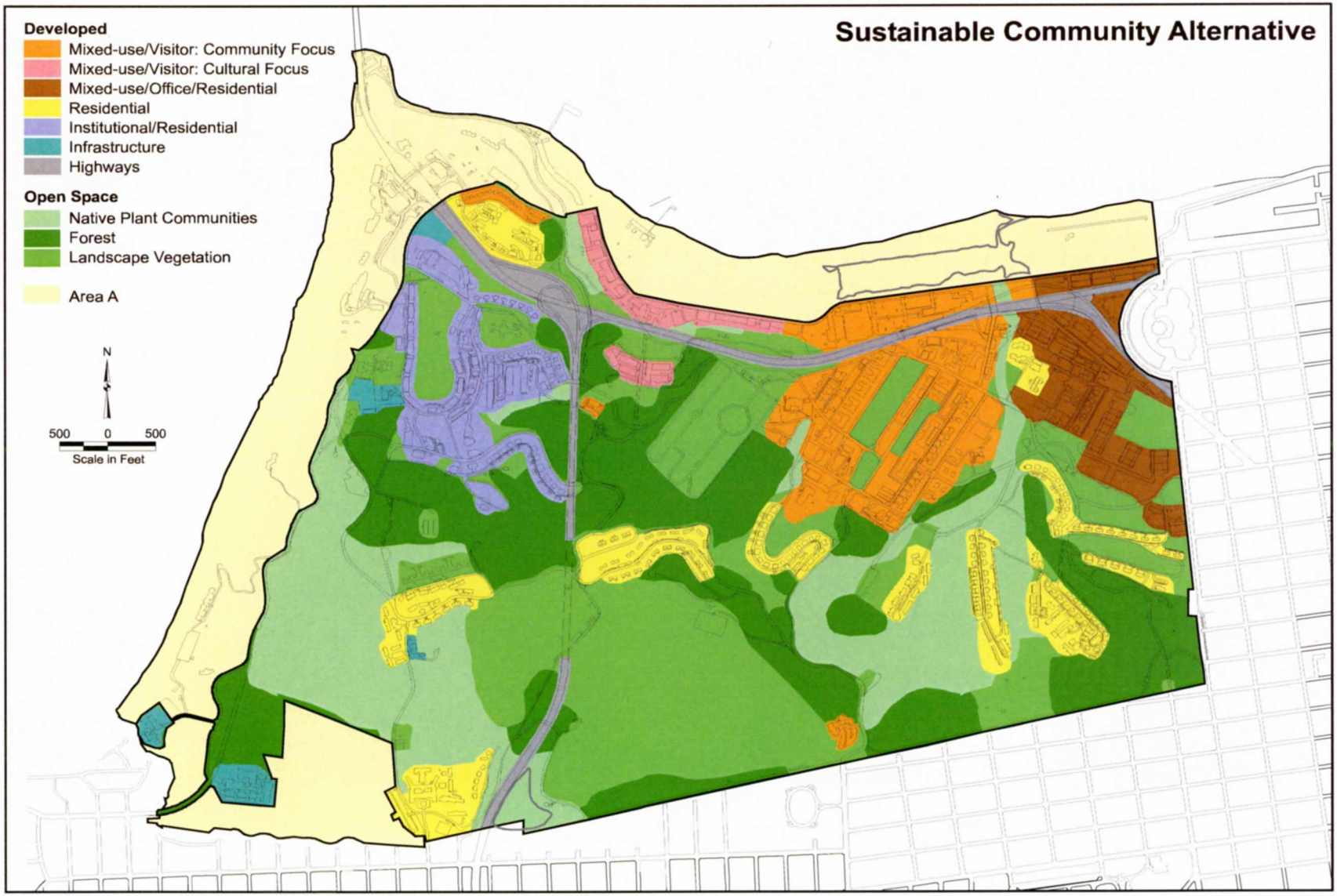
This alternative would retain a fairly dispersed pattern of development within Area B, and focus on enhancing the residential opportunities within the mix of uses by removing a moderate amount of square footage in the southwest portions of Area B with the removal of Wherry housing, and redistributing it into already built up areas in the north and east portion of the park. With the retention of all of East and West Washington housing and the PHSH, the land use pattern of this alternative would be similar to the GMPA 2000 alternative in the South Hills Planning District.

The Crissy Field (Area B) and Main Post Districts, where built space could increase up to levels proposed in Figure 10, would have a preference for mixed-use office with a mix of visitor-oriented cultural and community uses. The Letterman Planning District would have a mixed-use office/residential preference, and square footage would decrease modestly. The focus in the southern portion of Area B would be on residential use, with this being the preferred use within the PHSH District, South Hills (with the retention of all of the East and West Washington housing units), and East Housing. Proposals to increase built space in the East Housing District would be considered, while there would be no net change in the PHSH District and a decrease in South Hills. Fort Scott would become an institutional campus with a modest decrease in built space.

Built Environment

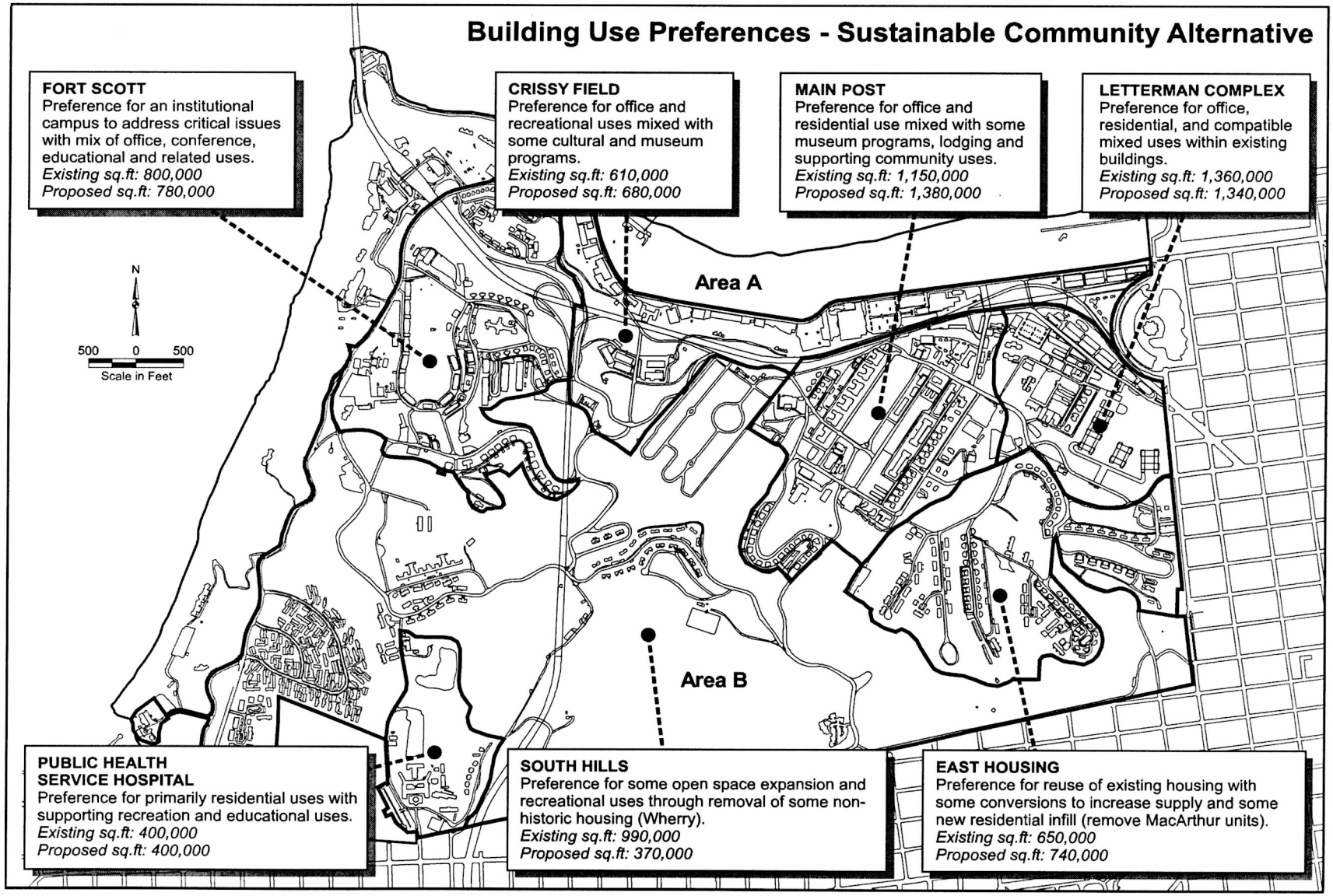
To help create a stable live/work community within the park, this alternative assumes a moderate level of building demolition at 890,000 sf, mostly in the southwest part of Area B. The number of residential dwelling units under this alternative would decrease from 1,650 to about 1,430, with a mix of conversions and a moderate level of new replacement construction. Residential square footage would also decrease modestly.

Figure 9


Sustainable Community Alternative
Developed
Mixed-use/Visitor: Community Focus
Mixed-use/Visitor: Cultural Focus
Mixed-use/Office/Residential
Residential
Institutional/Residential
Infrastructure
Highways
Open Space
Native Plant Communities
Forest
Landscape Vegetation
Area A
N
500 0 500
Scale in Feet

ALTERNATIVES

Figure 10


Building Use Preferences - Sustainable Community Alternative
FORT SCOTT
Preference for an institutional campus to address critical issues with mix of office, conference, educational and related uses.
Existing sq.ft: 800,000
Proposed sq.ft: 780,000
CRISSY FIELD
Preference for office and recreational uses mixed with some cultural and museum programs.
Existing sq.ft: 610,000
Proposed sq.ft: 680,000
MAIN POST
Preference for office and residential use mixed with some museum programs, lodging and supporting community uses.
Existing sq.ft: 1,150,000
Proposed sq.ft: 1,380,000
LETTERMAN COMPLEX
Preference for office, residential, and compatible mixed uses within existing buildings.
Existing sq.ft: 1,360,000
Proposed sq.ft: 1,340,000
N
500 0 500
Scale in Feet
Area A
Area B
PUBLIC HEALTH SERVICE HOSPITAL
Preference for primarily residential uses with supporting recreation and educational uses.
Existing sq.ft: 400,000
Proposed sq.ft: 400,000
SOUTH HILLS
Preference for some open space expansion and recreational uses through removal of some non-historic housing (Wherry).
Existing sq.ft: 990,000
Proposed sq.ft: 370,000
EAST HOUSING
Preference for reuse of existing housing with some conversions to increase supply and some new residential infill (remove MacArthur units).
Existing sq.ft: 650,000
Proposed sq.ft: 740,000

ALTERNATIVES

Compatible new replacement construction of up to 620,000 sf would provide new opportunities for residential and mixed uses. New construction would be designed and sited to be compatible with the historic setting. The majority of replacement construction would occur in the activity centers in the north to consolidate open space and move density closer to previously developed and disturbed areas, and transportation services.

Implementation to the proposed square footage levels in Figure 10 would be dependent upon a number of factors including historic and cultural resource constraints and future NEPA and NHPA evaluations of plans or proposals.

Open Space and Natural Resources

Under this alternative, open space within Area B would increase from about 696 acres currently to about 772 acres, 22 acres less than the GMPA 2000 alternative. The acreage of native plant habitat would be expanded from 70 acres currently to about 208 acres, similar to the GMPA 2000 alternative. Management actions would be similar to those described in the GMPA 2000 alternative with one exception: the feasibility and scope of Crissy Field tidal marsh expansion into Area B in part or in whole would be evaluated through future site planning studies and environmental analysis. Identification of the appropriate expansion area would be based on such factors as cost, source of funding, land use options, building reuse feasibility and cultural resource constraints, including the location of historic buildings, potential archaeological sensitivity, hazardous substance cleanup, utility corridors and the future Doyle Drive configuration.

Cultural Resources

Cultural resource preservation actions would be similar to those described in the Draft Plan alternative. Future planning would identify how the park's character-defining features would be preserved and protected. Building demolition and new construction would be subject to additional environmental review and historic compliance.

Visitor Experience

Under this alternative the interpretive services provided by the NPS, in cooperation with the Trust, would be expanded to provide Presidio tenants and residents and local, national and international park visitors with lively, mixed-use activity areas. Programs and facilities would focus on community-based users, while still being open to traditional park visitors.

The Presidio Trust, working with community partners, would create new events to promote a greater sense of community within the Presidio. As a possibility, the "At the Presidio" pilot program would continue to bring traveling exhibits and events to the Presidio and would place greater emphasis on providing free or reduced-cost "community nights" for residents and tenants to enjoy the productions. Tenants would develop and implement collaborative interpretive and stewardship programs derived from, and in some cases enhancing, the Presidio's significant resources and values. Visitors could participate in activities offered by the Trust such as seminars, lectures, festivals, exhibits, demonstrations, and hands-on participation. Trust-sponsored special events would be held periodically at suitable locales.

A new Sustainability Center would demonstrate sustainable practices to residents, tenants, and community members on topics from recycling, composting, and energy efficiency, for example. Residents and employees of tenant organizations would be encouraged to participate in the stewardship of park resources.

Small public gathering spaces, community centers, neighborhood community gardens, additional recreational facilities, food and retail spaces would likely all be part of the mix of a sustainable community. Fort Scott

could be used as an institutional campus. Some lodging for park visitors and community needs would be provided.

Based on proposed land use intensities, this alternative could attract up to about 27,200 visitors daily (approximately 4,200 workplace visitors, 23,000 park/recreational visitors) and about 9.9 million visitors annually.

Recreation

Under this alternative, high quality, appropriate recreation opportunities would be provided for a wide range of visitors. All existing recreational facilities would be retained, except those that would be relocated due to other planning objectives. Active recreation facilities would be made available and promoted to residents and community members, helping to serve the recreational needs of the surrounding urban area as well as Presidio residents. Existing picnic areas, smaller fields, and the Rob Hill group camping area would likely be improved. Many landscaped areas as well as small open spaces would be maintained for passive or informal recreation uses Open spaces would be made available for community and public events.

Trails would be improved and expanded as identified in the Presidio Trails and Bikeways Master Plan. A Trails Stewardship program would be initiated to garner public support and interest in trail construction, maintenance and management.

A range of recreation experiences would be created, from the most peaceful and private to the most interactive. Passive recreational and educational experiences would be increased and diversified through the creation of new open space areas.

Community/Housing

Under this alternative, a sustainable park community would be developed. There would be significantly more housing, about 660 units more than the GMPA 2000 alternative, but a decrease in the number of existing units by about 220 units. In the long-term, a total of about 1,430 housing units, including up to about 1,190 houses and apartments and up to about 240 single room occupancy/dorm rooms, would be available. Housing unit totals would be achieved through a mix of rehabilitation of historic units, conversions of non-historic space, and replacement construction. New housing construction would provide an opportunity to locate more housing within walking distance of jobs, transit, and community services.

To provide for the recovery of the endangered San Francisco *Lessingia germanorum*, removal of Wherry housing would be phased, with one-third of the units demolished by 2010 and the remainder by 2020.

Small-scale retail uses intended for park residents who work in the park and neighborhood would promote a stable live/work community. Basic community services would be provided for residents and employees. Some housing would be provided for long-term residential staff and program participants. To support a sense of community, the park setting would be enhanced by the creation of inviting community and public activity centers and gathering spaces.

Under this alternative, the residential population at the Presidio would reach 3,330 by 2020. Presidio employees would number about 7,520 in 2020.

Transportation

Access and circulation improvements would be similar to those of the Draft Plan alternative, with one exception. In this alternative, an alternate access route to the PHSH would be provided from the northwest. Specifically a

road would link Pershing Drive to Battery Caufield Road, providing an alternative to 14th and 15th access routes.

Infrastructure and Utilities

Conservation measures would be implemented as described in the GMPA 2000 alternative.

Finance

Financial modeling assumptions specific to this alternative include: (a) Wherry housing would be removed in phases over a 20-year period, one-third by 2013 and the remaining two-thirds by 2020; (b) park program expenditures would be $8 million annually; and (c) approximately 23 percent of the non-residential space would be scheduled for use by cultural/educational tenants and partners to providing programs to park visitors.

Revenues associated with this alternative would cover expenses in 2013 without further need for Congressional appropriations, with estimated completion of initial capital improvements (estimated at $484 million) for building rehabilitation and park improvements by approximately 2020. The implementation phase at the Presidio would be completed between approximately 2025 and 2030.

2.9 CULTURAL DESTINATION ALTERNATIVE

Concept

In this alternative, the Presidio would be a national and international cultural destination park, a portal for visitors to the American West and Pacific, and a place of international distinction for its programs in research, education, and communication. Historic and natural resources would be protected to preserve the Presidio as a sustainable national park. Open space would be expanded. Native plant communities and riparian corridors would be restored; the historic forest would be rehabilitated and preserved as part of the cultural landscape, and recreational opportunities would be increased. A substantial level of non-historic building demolition in the southern portion of the park would occur to enhance open space and restore critical habitat. Replacement construction would occur in the northern portion of the park to provide an improved mix of housing units and cluster housing near work and transit.

The Trust would be primarily responsible for delivery of a wide variety of high quality programs in cooperation with NPS, tenants, philanthropic organizations, cultural institutions, and community volunteers. Tenants would support park programming in a number of ways, including directly providing a public program for park visitors, contributing financially, or offering in-kind services to a park program. Tenants would be selected in part for their financial contribution (as required by the Trust Act) and willingness and ability to support park program goals. Land uses and description of land use preferences are shown in Figures 11 and 12.

Land and Building Uses

This alternative proposes to maintain the existing overall building square footage of 5.96 sf with new construction balanced by building removal. At completion, this alternative would include approximately 4.07 million sf of mixed-use non-residential building space (community, office, cultural) and 1.89 million sf of residential space (houses, apartments, single room occupancy/dorm rooms). A description of building use preferences is shown in Figure 12.

While there would be no net increase in built space beyond what exists today, the distribution of built space would shift and be consolidated into

already built up areas in the northern portion of the park. Crissy Field (Area B) and the Main Post Planning Districts would become mixed-use areas with a focus on visitor-centered community and cultural activity through a mix of museums, cultural/educational programs, lodging and other supporting uses. The use preference in the Letterman Planning District would be for mixed use office/residential. Substantial offsetting building removal would occur in the South Hills and East Housing Districts with the removal of Wherry housing, East and West Washington housing, and other non-historic units near Tennessee Hollow. Preferred uses within Fort Scott and PHSH Districts would be for mixed-use institutional/residential. In these planning districts, potential improvements could be considered up to the proposed square footage shown in Figure 12. There would likely be no net change in built space within the PHSH Planning District.

Built Environment

As with all alternatives, the NHLD status would guide what building changes would be made. Most of the park's historic buildings would be rehabilitated for new uses in accordance with the Secretary of Interior's Standards for Rehabilitation. To enhance cultural and natural settings and provide additional opportunities for outdoor recreation, up to 1.37 million sf including up to about 400 replacement housing units, would be removed. The majority of building demolition would occur in the southwest part of Area B. The number of residential dwelling units under this alternative would likely increase from the current 1,650 to about 1,700 units, while the residential square footage would decrease.

New replacement construction of up to 1.37 million sf, including up to about 900 replacement housing units, would provide new opportunities for visitor programs, residential uses, and lodging and community services. New construction would be designed and sited to be compatible with the historic setting. The majority of replacement construction would occur in the activity centers in the north to consolidate open space and move density closer to previously developed and disturbed areas, and transportation services.

Full implementation to the proposed square footage levels would depend a variety of factors including historic and cultural resource constraints and future NEPA and NHPA evaluations of plans or proposals.

Open Space and Natural Resources

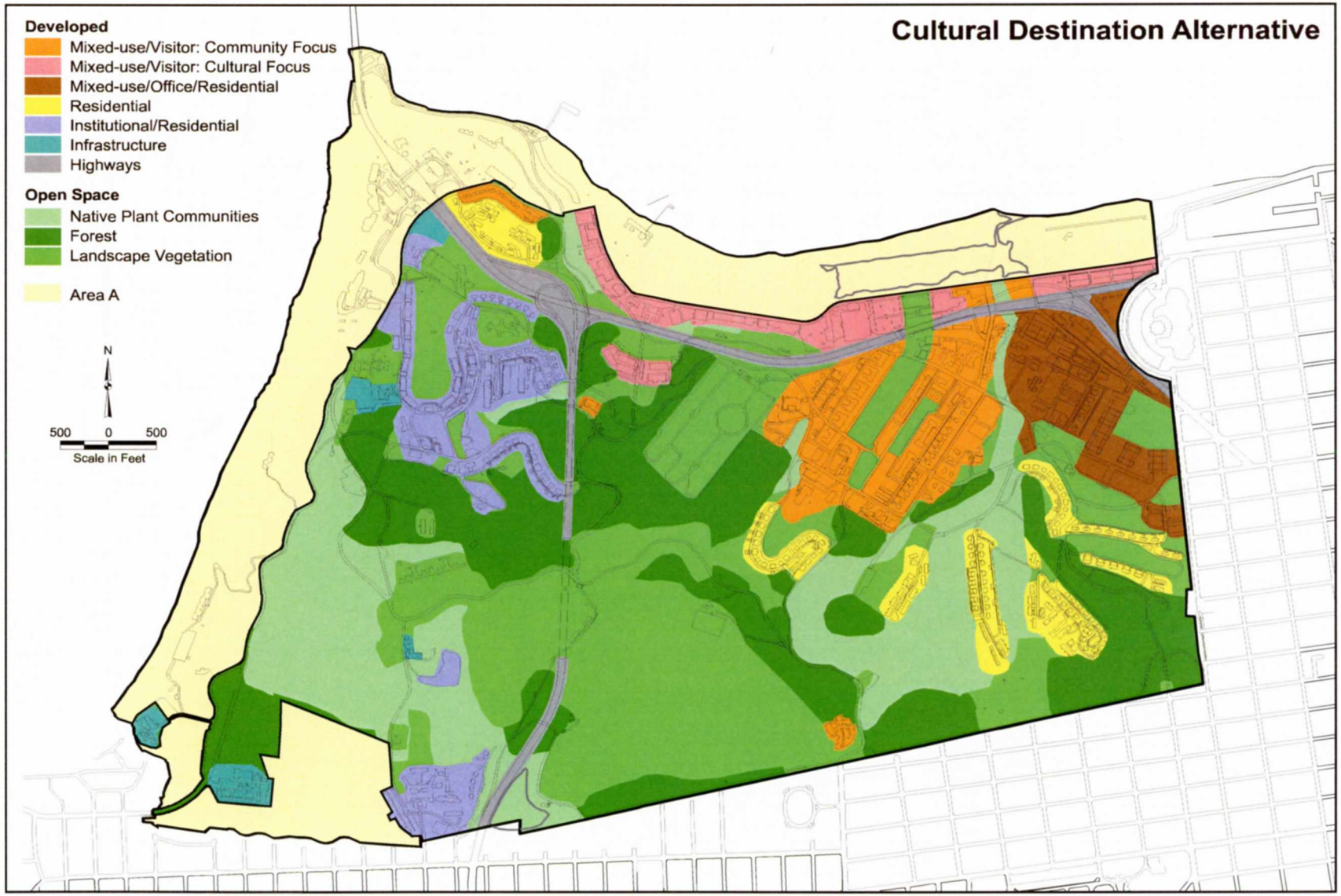
Under this alternative, open space within Area B would increase from the current 696 acres to about 807 acres, 13 acres more than the GMPA 2000 alternative. The acreage of native plant habitat would be expanded from 70 acres currently to about 202 acres. Management actions would be similar to those described in the GMPA 2000 alternative.

In addition, the feasibility and scope of Crissy Field tidal marsh expansion into Area B in part or in whole as discussed in the GMPA 2000 alternative would be evaluated through future site planning studies and environmental analysis. Identification of the appropriate expansion area would be based on such factors as cost, source of funding, land use options, building reuse feasibility, and cultural resource constraints including the location of historic buildings, potential archaeological sensitivity, hazardous substance cleanup, utility corridors, and the future Doyle Drive configuration.

Cultural Resources

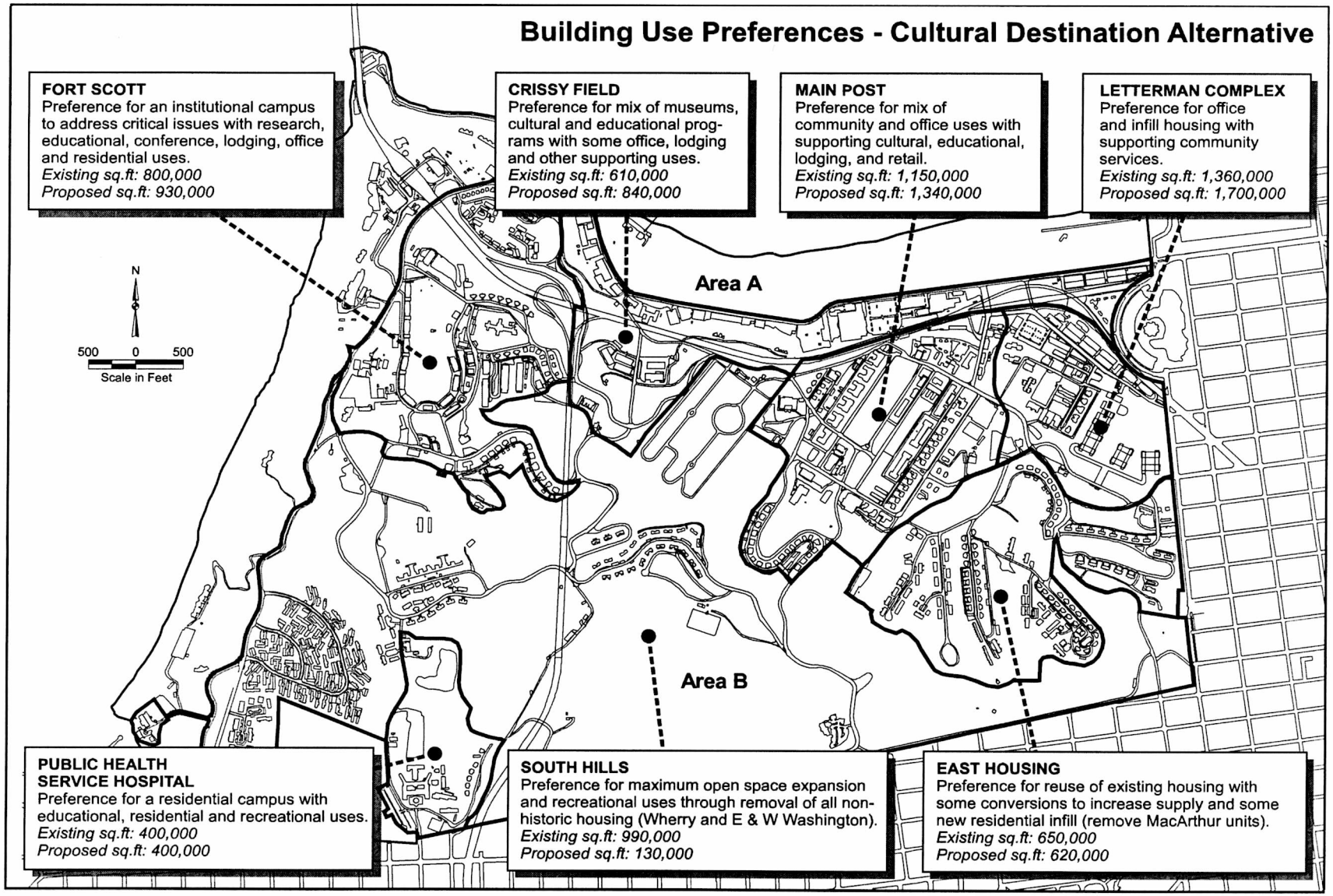
Under this alternative, protection and management of cultural resources would be similar to the Draft Plan alternative. Higher potential levels of demolition and new construction would place less emphasis on adaptive reuse or conversion of existing structures and relatively more emphasis on demolition and new replacement infill construction.

Figure 11


Cultural Destination Alternative
Developed
Mixed-use/Visitor: Community Focus
Mixed-use/Visitor: Cultural Focus
Mixed-use/Office/Residential
Residential
Institutional/Residential
Infrastructure
Highways
Open Space
Native Plant Communities
Forest
Landscape Vegetation
Area A
N
500 0 500
Scale in Feet

ALTERNATIVES

Figure 12


Building Use Preferences - Cultural Destination Alternative
FORT SCOTT
Preference for an institutional campus to address critical issues with research, educational, conference, lodging, office and residential uses.
Existing sq.ft: 800,000
Proposed sq.ft: 930,000
CRISSY FIELD
Preference for mix of museums, cultural and educational programs with some office, lodging and other supporting uses.
Existing sq.ft: 610,000
Proposed sq.ft: 840,000
MAIN POST
Preference for mix of community and office uses with supporting cultural, educational, lodging, and retail.
Existing sq.ft: 1,150,000
Proposed sq.ft: 1,340,000
LETTERMAN COMPLEX
Preference for office and infill housing with supporting community services.
Existing sq.ft: 1,360,000
Proposed sq.ft: 1,700,000
N
500 0 500
Scale in Feet
Area A
Area B
PUBLIC HEALTH SERVICE HOSPITAL
Preference for a residential campus with educational, residential and recreational uses.
Existing sq.ft: 400,000
Proposed sq.ft: 400,000
SOUTH HILLS
Preference for maximum open space expansion and recreational uses through removal of all non-historic housing (Wherry and E & W Washington).
Existing sq.ft: 990,000
Proposed sq.ft: 130,000
EAST HOUSING
Preference for reuse of existing housing with some conversions to increase supply and some new residential infill (remove MacArthur units).
Existing sq.ft: 650,000
Proposed sq.ft: 620,000

ALTERNATIVES

Visitor Experience

Under this alternative, site interpretation, resource education, and the provision of visitor programs would be similar to the Draft Plan alternative. Programs would be developed on the theme of Journeys – An American Experience from a Western Perspective. Selection of programmatic tenants and partners would emphasize ideas that uniquely define the Presidio including exploration/opportunity, mobility/innovation, and heritage/the arts. Through collaborations with arts and education partners, the Trust would provide flexible, short-term special exhibits and programs (such as traveling exhibits, festivals, lectures and music and arts events) as well as long-term resident programs such as (museums and educational/research institutes). Programs would be targeted at themes of interest to a national and international audience.

Based on proposed land use intensities, this alternative could attract up to approximately 26,000 daily visitors (4,300 workplace visitors and 21,700 park/recreation visitors) and about 9.5 million visitors annually.

Recreation

Under this alternative, recreation opportunities and management would be similar to the Draft Plan alternative.

Community/Housing

This alternative would add about 50 housing units to the existing housing stock and provide a full range of housing for people who work at the Presidio to improve the jobs/housing balance. Housing would be clustered close to work and major activity areas. The housing supply would be diversified to provide a full range of unit types and would provide substantially more units than the GMPA 2000 alternative (about 930 more units). Existing historic housing would be retained and rehabilitated. Non-historic units would be largely removed and replaced. In the long term, about 1,700 housing units would be available, including up to about 1,430 houses and apartments and up to about 270 single room occupancy/dorm rooms. Housing unit totals would be achieved through a mix of rehabilitation of existing historic units, conversions of non-historic space, and replacement construction.

New housing construction would provide an opportunity to locate more housing within walking distance of jobs, transit, and community services. Approximately 860,000 sf of non-historic housing dispersed throughout the Presidio (Wherry housing and East and West Washington housing) would be removed in phases and the square footage replaced in northern planning districts. To allow recovery of the endangered San Francisco *Lessingia germanorum*, removal of Wherry housing would be phased. Approximately one-third of the units (beginning with those above Pershing Drive) would be demolished by 2010, and the balance would be removed 2020.

Basic community services would be provided for residents and employees; most of these services would be available to visitors and park neighbors. Services would be located near work places and residential clusters to reduce the need for daily trips outside of the Presidio.

Under this alternative, the residential population by 2020 at the Presidio would number approximately 3,990. The number of employees would reach an estimated 7,840 in 2020.

Transportation

Access, parking and circulation improvements would be similar to the Draft Plan alternative. Changes in the configuration of parking supply (10,800 spaces) would be the subject of future planning and be sited and designed to serve Presidio activity centers. Parking and automobile use would be

managed to reduce impacts on the park's natural, historic and recreational features and protect its open space qualities, and to avoid parking problems in adjacent city neighborhoods and along Crissy Field. A park-wide TDM program would be provided by the Trust and be supplemented by park tenants. Parking management, including permits and fee parking, would be actively used to manage parking demand and automobile use.

Infrastructure and Utilities

Infrastructure and Utilities measures would be implemented as provided under the Draft Plan alternative.

Finance

Financial modeling assumptions specific to this alternative include: a) Wherry housing would be removed in phases over a 20-year period, one-third by 2013 and the remaining two-thirds by 2020; b) park program expenditures would be $10 million annually; and c) approximately 24 percent of the non-residential space would be scheduled for use by cultural/educational tenants providing programs to park visitors.

This alternative would achieve self-sufficiency by the year 2013 - revenues would cover expenses by 2013 without further need of Congressional appropriations. The alternative has an anticipated capital requirement of $521 million. All capital investment for building rehabilitation and park improvements would be completed between approximately 2025 and 2030. The implementation phase at the Presidio fund would be completed in approximately 2040.

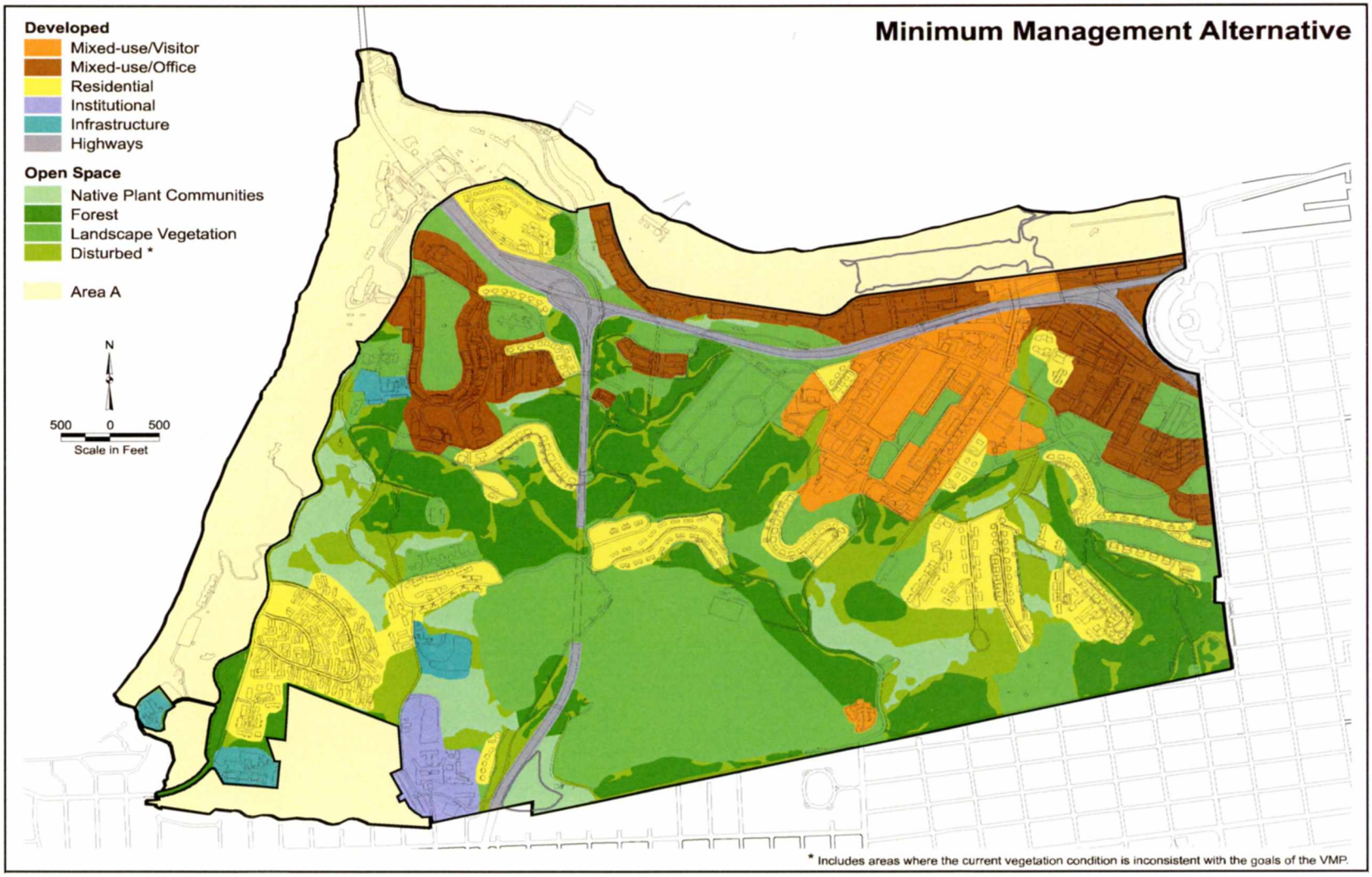
2.10 MINIMUM MANAGEMENT ALTERNATIVE

Under this alternative, the Presidio would be minimally managed to fulfill the Presidio Trust Act's legal requirements, including protection of the visiting public and the park's resources. There would be no significant physical change beyond that already underway; no significant park enhancements, no new building construction or building removal would occur. The 1994 GMPA would not be implemented in Area B, and there would be no formalized planning or policy direction. Buildings would be rehabilitated to meet essential code requirements and then leased out for the highest and best use. Tenants would have discretion in offering publicly available programs, and preference would be given to those tenants proposing to offer programs or services consistent with the General Objectives of the GMPA. There would be no educational, visitor, or cultural programming beyond what already exists. Except for existing buildings at the LDA site, no buildings would be demolished. The Wherry housing complex would remain in use indefinitely as housing. Housing would be improved to meet code requirements and made available for rent by Presidio-based employees and others according to a prioritization system. Natural resource systems would not be significantly enhanced. Anticipated land uses and description of land use preferences are shown in Figures 13 and 14.

Land and Building Uses

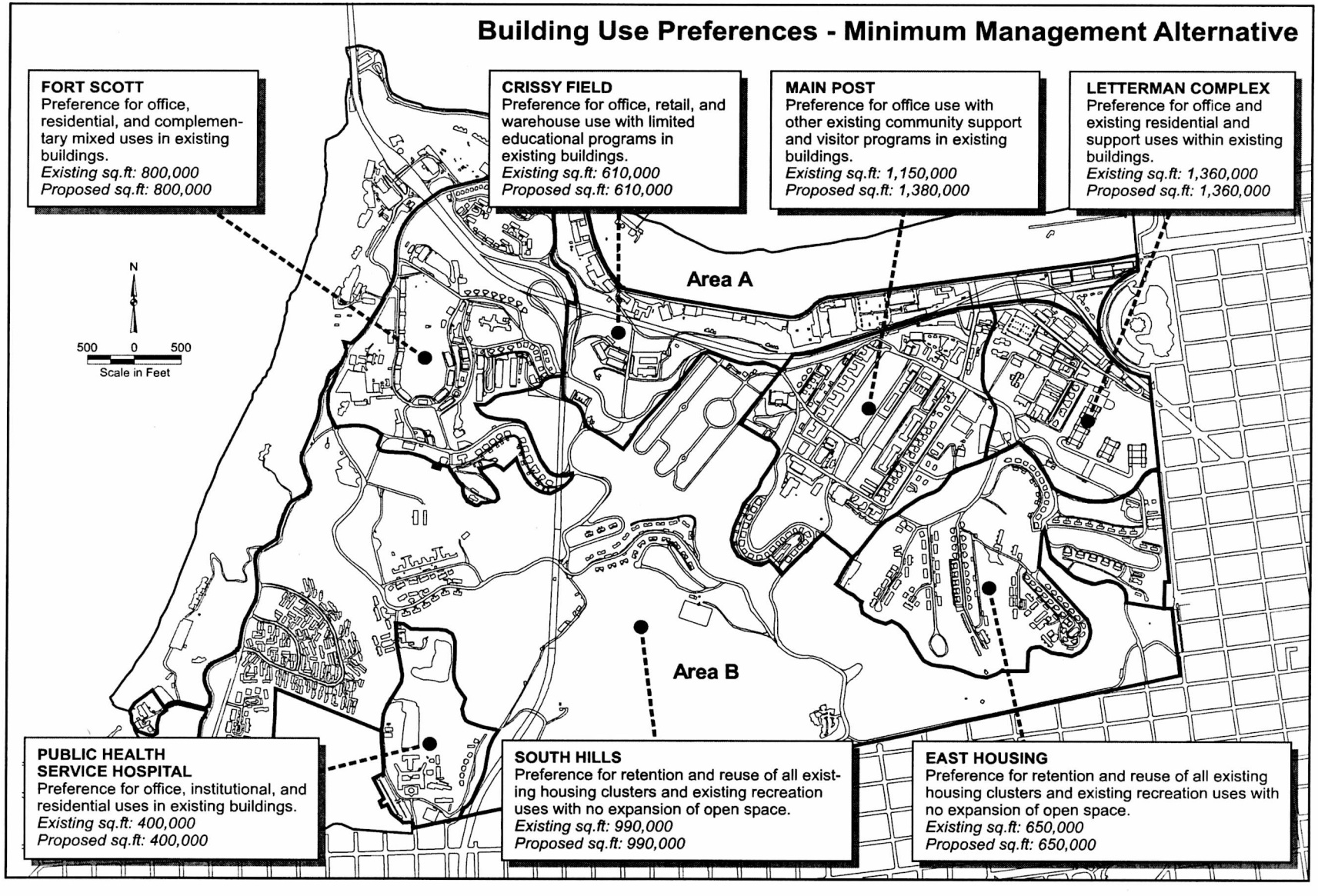
This alternative would maintain the existing overall building square footage of 5.96 million sf, which is the maximum square footage allowable under the Trust Act. This would include approximately 3.53 million sf of mixed-use non-residential building space (office, visitor, institutional) and 2.43 million sf of residential space (houses, apartments, single room occupancy/ dorm rooms). A description of building use preferences is shown in Figure 14.

Figure 13


Minimum Management Alternative
Developed
Mixed-use/Visitor
Mixed-use/Office
Residential
Institutional
Infrastructure
Highways
Open Space
Native Plant Communities
Forest
Landscape Vegetation
Disturbed *
Area A
N
500 0 500
Scale in Feet
* Includes areas where the current vegetation condition is inconsistent with the goals of the VMP.

ALTERNATIVES

Figure 14


Building Use Preferences - Minimum Management Alternative
FORT SCOTT
Preference for office, residential, and complementary mixed uses in existing buildings.
Existing sq.ft: 800,000
Proposed sq.ft: 800,000
CRISSY FIELD
Preference for office, retail, and warehouse use with limited educational programs in existing buildings.
Existing sq.ft: 610,000
Proposed sq.ft: 610,000
MAIN POST
Preference for office use with other existing community support and visitor programs in existing buildings.
Existing sq.ft: 1,150,000
Proposed sq.ft: 1,380,000
LETTERMAN COMPLEX
Preference for office and existing residential and support uses within existing buildings.
Existing sq.ft: 1,360,000
Proposed sq.ft: 1,360,000
N
500 0 500
Scale in Feet
Area A
Area B
PUBLIC HEALTH SERVICE HOSPITAL
Preference for office, institutional, and residential uses in existing buildings.
Existing sq.ft: 400,000
Proposed sq.ft: 400,000
SOUTH HILLS
Preference for retention and reuse of all existing housing clusters and existing recreation uses with no expansion of open space.
Existing sq.ft: 990,000
Proposed sq.ft: 990,000
EAST HOUSING
Preference for retention and reuse of all existing housing clusters and existing recreation uses with no expansion of open space.
Existing sq.ft: 650,000
Proposed sq.ft: 650,000

ALTERNATIVES

Under this alternative, the existing land use pattern would be retained without change. The preferred use in all northern planning districts and the PHSH Planning District would include mixed-use office, with an emphasis in the Main Post Planning District on community support and visitor programs in existing buildings and a preference at the PHSH for institutional use of existing buildings. Current residential clusters would be retained and reused and remain dispersed throughout Area B, with the exception of the Crissy Field (Area B) Planning District where no residential units currently exist. There would be no expansion of open space in the South Hills Planning District or elsewhere.

Built Environment

Aside from the LDA project, there would be no major demolition or new construction under this alternative, and existing structures would remain in their present configuration. Rehabilitation of all historic structures would comply with the Secretary of Interior Standards for the Treatment of Historic Properties. All rehabilitation projects would be reviewed by the Presidio Trust for compliance with these standards before their implementation. Historic buildings not suitable for rehabilitation would be stabilized, mothballed, and preserved. As part of rehabilitation, buildings would be modified to meet applicable codes, in accordance with the Presidio Trust Act. The Trust would ensure compliance with building codes as well as historic preservation regulations and would be responsible for enforcement.

Open Space and Natural Resources

Under this alternative, open space would increase from 696 acres to 702 acres. Only those actions necessary to meet legislative requirements, such as the monitoring and protection of rare and endangered plant species and management of the historic forest, would be carried out. Management programs would be restricted to those that are already being conducted or are required for the protection of significant resources. Many of the features identified in the GMPA that are common to other alternatives, including restoration of the Main Post parade ground, would not be implemented. Existing native plant habitat and endangered species would be protected by averting direct threats. Ecological restoration efforts that are currently underway would continue, but would not expand into new areas as identified in the VMP. The Wherry housing complex would not be removed to allow native plant habitat enhancement. Approximately 400 acres of historic and non-historic forest would be minimally managed in its present configuration. The forest would not be replaced at the end of its biological life, and replacement vegetation would not be managed or controlled. Hazard trees would be addressed. Major projects to expand or improve open space would be limited to those called for in the Mountain Lake Enhancement Plan, and landscape improvements at the LDA Center. Native plant communities would continue to occupy 70 acres. An inventory and monitoring program of rare and endangered plant and animal species would continue. No stream restoration projects would occur.

Cultural Resources

The primary activities affecting cultural resources would be the rehabilitation of historic buildings and adjacent landscapes for new uses. Historic and non-historic buildings would be rehabilitated to meet essential code requirements. Historic buildings and landscapes would be rehabilitated to meet the Secretary of Interior's Standards for Rehabilitation. The historic forest would be minimally managed as a contributing feature of the NHLD, and would not be replaced. Other contributing structures and features to the NHLD would be protected and preserved. Visitor impacts on sensitive cultural resources would be monitored and measures would be implemented to reduce impacts.

Visitor Experience

Few actions would be taken to expand visitor opportunities beyond existing programs and services. Some existing programs would be discontinued. In accordance with the Presidio Trust Act, the NPS would carry out interpretation and education activities at the Presidio. The William Penn Mott, Jr. NPS Visitor Center would continue to house a variety of interpretative services and media for park visitors. Other existing facilities that provide visitor information would continue to be used for this purpose, such as the Presidio Officers' Club or the Crissy Field Center. Additional way-finding kiosks and wayside interpretation signs would be installed only as needed for visitor orientation or resource protection concerns.

Park-based programs would continue to support natural areas' stewardship and education for residents, tenants and community members, but would be reduced in size and number as fewer native plant restoration projects would take place. Other programs, such as the pilot "At the Presidio" program, would be discontinued. Tenants would be encouraged, but not required, to provide public programs related to the park's purpose. Special events would be held periodically, but would not increase above current levels. No visitor accommodations or lodging would be provided.

Based on expected land use intensities, this alternative could attract up to approximately 17,800 visitors per day (approximately 5,500 workplace visitors and 12,300 park/recreational visitors) and about 6.5 million visitors annually.

Recreation

Most existing recreational facilities, including athletic fields, playgrounds, tennis courts, hiking and biking trails, picnic areas, golf course, bowling alley, and gymnasiums would be retained for public use. Some existing recreation facilities could be removed in conjunction with other planning objectives or assumptions, such as the reconfiguration of Doyle Drive or the restoration of Tennessee Hollow. There would be no new trails and bikeways. Trail rehabilitation and repair would only occur as needed to protect resources. Landscaped areas and small open spaces could be used for passive or informal recreation. No new recreational or educational experiences would be created.

Community/Housing

Under this alternative, existing residential units would remain in use, for a total of 1,650 housing units, including Wherry housing. There would be no new residential construction and no housing would be removed. Conversion of existing buildings to residential use would be limited to the creation of dorm rooms. Housing would continue to be provided to the general public at market rates. If demand exists, housing could be converted to and leased for office space or other uses. Support services, including food service and other essential facilities, would be limited.

Under this alternative, the residential population at 2020 in the Presidio would be about 3,600. Employment would reach about 7,820 employees by 2020.

Transportation

With the exception of Doyle Drive reconstruction and improvements associated with the 23-acre LDA, no other major road improvements would be undertaken. Minor improvements to address safety hazards and to promote pedestrian and bicycle use would be completed. Parking (11,200 spaces) would continue to be provided in currently designated areas and would not be actively managed. Existing public transit service would continue with no additional transit services or internal shuttle. Minimum TDM programs would be provided by park tenants.

Infrastructure and Utilities

Utilities in need of repair and beyond their useful life would be repaired and upgraded. Energy conservation measures to meet federal mandates would be pursued through the course of building rehabilitation.

Finance

Financial modeling assumptions specific to this alternative are the same as those for the GMPA 2000 alternative except: (a) Wherry housing would be retained indefinitely and not removed; and (b) approximately 4 percent of non-residential space would be scheduled for use by cultural/educational tenants providing programs to park visitors.

Under this alternative, revenues would cover expenses in 2013 without further need for Congressional appropriations. The total estimated capital costs under this alternative would be $445 million. Because this alternative would generate substantial revenue from the indefinite retention of Wherry housing, emphasize leasing to the highest-paying tenants for the highest-and-best use, and involve little physical change within Area B, capital projects would be completed by 2013. The implementation phase at the Presidio would be completed in 2015.

ALTERNATIVES

AFFECTED ENVIRONMENT

3.1 THE PRESIDIO

The resources of the Presidio are described in this chapter, along with the local and regional context, Presidio and surrounding uses, and the laws and policies that govern the Presidio. The Affected Environment provides the basis for the analysis of Environmental Consequences (Chapter 4).

OVERVIEW

The Presidio of San Francisco is at the northern tip of the San Francisco peninsula on the south side of the Golden Gate. On its southern and eastern boundaries is the city of San Francisco, on the west is the Pacific Ocean, and on the north San Francisco Bay.

The Presidio is almost centrally located within the San Francisco Bay Area. The region is predominantly urban, and population densities are high. The inland side of the peninsula, from San Francisco southward to San Jose, is dominated by large and small municipalities. Similarly, continuous development stretches northward from San Jose along the eastern side of the bay to Vallejo across from San Francisco. North of the Presidio, Marin County has residential and commercial development concentrated along the Highway 101 corridor and a large amount of permanent open space, a substantial portion of which is under the GGNRA management.

The Presidio spans 1,490 acres. It is a NHLD, and boasts structures from every major U.S. military construction period since 1848 as well as spanish-colonial and pre-historic archaeological remnants from pre-historic times. It contains diverse ecosystems, a dynamic shoreline and wetland resources, and historic forests. It is home to native plant communities and several rare animal species. It includes spectacular views. The historical and natural resources of the Presidio are enhanced through the numerous cultural and education programs and facilities.

The Presidio has a tradition of community. Where once shared experiences of military families created a tangible sense of belonging, at present a contemporary live/work model is developing at the park. As with any community, there is a support structure of the transportation systems, including bicycle and pedestrian systems, public safety including fire and police protection, and utilities.

The Presidio of San Francisco is part of the Golden Gate National Recreation Area and the national park system. The Presidio Trust manages the park in partnership with the National Park Service. The Trust has jurisdiction over the interior 80 percent of the Presidio (Area B), including nearly all of its historic structures. The National Park Service manages coastal areas (Area A).

3.2 CULTURAL RESOURCES

With a history that begins in the pre-colonial period, the Presidio is rich in cultural resources. Cultural resources of the Presidio include historic resources, such as historic buildings, the cultural landscape, including the historic forest and strategic views, and archaeological resources, including prehistoric and historic sites. The Cultural Resources Affected Environment section discusses the history of the Presidio, and existing conditions as related to cultural resources.

3.2.1 HISTORIC/ARCHITECTURAL RESOURCES AND THE CULTURAL LANDSCAPE

The Presidio of San Francisco is one of the most historically and architecturally significant former military installations in the United States. The Presidio of San Francisco has flown the flags of Spain, Mexico, and the United States over its 225-year history as the most important military base on the West Coast, first strategically and later symbolically. When the Presidio was designated a National Historic Landmark (NHL) in 1962, it was recognized as a significant Spanish colonial military site in what was known as Alta California. Although the entire 1,480 acres of the former base were included, the only resource specifically identified was the Officers' Club (Building 50), due to the fact that it was reputed to contain the remains of adobe walls of the Spanish commandante's quarters. In 1985 the NPS working with the U.S. Army completed an Historic American Building Survey Study (HABS) of the U.S. Army-managed portions of the Presidio. Approximately 400 buildings and structures were classified into five categories, ranging from Category 1 -- directly contributing the National Historic Landmark District (NHLD) to Category 5-- intrusions to the district according to the contribution each made to the Landmark District.

In 1993, the NPS prepared new documentation on the Presidio NHLD identifying 662 contributing resources and 504 non-contributing resources. The Keeper of the National Register accepted the documentation on May 25, 1993. The following is a summary of the statement of significance of the NHLD nomination and Presidio-wide character defining features.

HISTORICAL OVERVIEW

Pre-Colonial, Pre-1776

The original inhabitants of the Presidio area were descendants of the Ohlone. Their numbers exceeded 10,000 in the coastal area between Point Sur and the San Francisco Bay. They traded freely, moved about the hills and lower marshes, made seasonal camps, and were dependent on the land and sea for food. The landscape at that time consisted of mostly barren sandy hills with low shrubs and grasses, some scrub oaks, and pockets of laurel trees. Saltwater marshes thrived along the bay shore (NPS 1992d).

Spanish/Mexican Occupation, 1776-1846

In 1776, as part of their northern frontier expansion, the Spanish established a strategic military outpost on the barren landscape of the Golden Gate. The three significant components of their settlement were the Castillo de San Joaquin, the "presidio," and the mission. The castillo, sited on the bluff above today's Fort Point, was built in 1793-94 to guard the entry to the bay, while the presidio was in a more protected area close to safe anchorage by the bay. The mission, sited further inland, was protected by the presidio and supplied the garrison with fresh crops. In 1846, after brief Mexican rule (1822-1846), the U.S. Army took over the land. At that time only ruins of the predominantly adobe Spanish settlement remained. From the first U.S. occupation to the outbreak of the Civil War, the Presidio underwent a slow transition from a Spanish-Mexican outpost to a small U.S. military reserve.

Early U.S. Occupation, 1846-1890

During the Civil War, the Presidio experienced a spurt of growth in response to threats posed by Southern sympathizers in California, Confederate commerce raiders, and increased Indian warfare throughout the West. Fort Point was built on the site of the former castillo and, together with the fortress on Alcatraz and minor batteries at Fort Mason and Angel Island, defended the Golden Gate. The Civil War reshaped the Presidio into a conventional U.S. Army post with a central parade ground surrounded by barracks and a distinctive officers' row.

In 1866, Congress established six all-black regiments to help rebuild the country after the Civil War and to patrol the remote Western frontier. These troops became known as "the buffalo soldiers" and were stationed throughout the West, including the Presidio.

By the 1870s and 1880s, aesthetic concerns and a response to the encroaching city of San Francisco influenced the post's development. Plans were initiated to transform the barren landscape into a park-like, forested reserve. The forestation plan of 1883 was designed to "crown the ridges, border the boundary fences, and cover areas of sand and marsh with a forest," according to Major William Jones, the architect of the landscape plan. It was initiated to reinforce the idea of the Presidio as a separate place from the increasingly dense city. For a brief period during the Indian Wars, and again after the great earthquake, the Presidio housed the divisional headquarters for the West Coast. Also established were the national cemetery near the Main Post and a hospital just west of Mountain Lake.

National Expansion, 1890-1910

By the turn of the century, with the end of the Indian Wars, a major building campaign took place at the Presidio. Permanent brick buildings began replacing Civil War-era wood-frame quarters, barracks, storehouses, and stables and a new water plant was constructed at the mouth of Lobos Creek. New coast defense batteries of the Endicott period ringed the Presidio and a Coast Artillery subpost known as Fort Winfield Scott was established. By 1912, Fort Scott was fully developed as a post, with a collection of Mission Revival-style buildings and a horseshoe-shaped parade ground. Transportation links between the Presidio and the city were established.

The U.S. Army's first permanent general hospital was established at the turn of the century. Later known as Letterman Army Medical Center, the hospital served 1906 earthquake victims as well as troops returning from war in the Philippines. Following the Spanish American War, as a result of continued American involvement in the Pacific and an increase in recruits at the Presidio, new wood-frame complexes (the east and west cantonments) were built east of the Main Post.

In 1903, the 9th cavalry troops of the buffalo soldiers left from the Presidio to patrol Yosemite, Sequoia, and General Grant (King's Canyon) National Parks.

World War I, 1910-1918

In 1915, San Francisco hosted the Panama Pacific International Exposition, a world's fair to celebrate the completion of the Panama Canal and San Francisco's post-earthquake reconstruction. After negotiating with the Army, the fair promoters leased Presidio marshland along the bay and filled it in to provide space for pavilions and a racetrack. In 1917, in response to the outbreak of World War I, a large cantonment of temporary buildings, including 81 barracks, warehouses, post exchanges, and storehouses to accommodate 6,000 soldiers replaced the exposition buildings along the bayfront. Two companies, the 61st and the 67th of the Coastal Artillery Corps of Fort Winfield Scott, transferred to France in 1917, and served in the antiaircraft battalion for the war effort. In 1918, Building 35 was

converted from a cavalry barracks to a school and quarters for Army bakers and cooks.

Between the Wars, 1919-1940

Following World War I, new construction focused on the establishment of Crissy Army Airfield along the bay. The 1920s Mission Revival-style airfield structures were sited at the west end of the field. Building flourished throughout the reservation at the Main Post, Letterman Hospital, the east and west cantonments, the national cemetery, Fort Winfield Scott, and the Marine hospital. New officers' housing was built along Infantry Terrace in the Georgian Revival style. The Presidio's seacoast defenses remained relatively unchanged during this period.

The Depression and the construction of the Golden Gate Bridge in 1937 greatly affected the Presidio. Unemployment resulted in an increase in military enlistments as well as the utilization of Works Progress Administration (WPA) funds and labor for public works. WPA projects included two large concrete barracks along the eastern flank of the main parade ground. The resulting enormous growth of the Bay Area resulted in the erection of the Golden Gate Bridge. Its approach roads, viaducts, abutments, and toll plaza were all built on Presidio land. Many buildings were demolished, but others were constructed, including maintenance shops, gas stations, drainage and sewage systems, and several fire control stations for the seacoast defenses. Crissy Field was abandoned in 1936 as a primary aviation facility.

World War II, 1941-1946

During World War II, the Presidio served as headquarters for the Western Defense Command, which was responsible for protecting the entire Pacific Coast from attack by Japan. Building 640 on Crissy Field was the location of a Japanese American Unit of the Military Intelligence Services. The harbor defense command post for the reinforced defenses of San Francisco Bay was also located at the Presidio. The U.S. Army constructed several complexes of wooden temporary structures, mostly barracks, at Crissy Field, the Main Parade Ground, and the Letterman Hospital. The Letterman Hospital, unlike the remainder of the base, was very active during the war. It became the largest debarkation hospital in the country.

Building 35 on the Main Post housed the 4th Army Headquarters where Executive Order 9066 was issued, leading to the removal and incarceration of Japanese Americans from the West Coast states.

Post-World War II, 1947-1994

Activity in the Presidio declined sharply after the war, and building programs were primarily residential. In 1947, new family housing was constructed above Infantry Terrace. An exception was the signing of the U.S. Japan Security Treaty, which took place on September 8, 1951 at Building 135, now the Golden Gate Club. The Baker Beach District was built in 1953 on the southwest corner of the base. Remaining portions of Crissy Field continued to be actively used through 1974. This area has changed considerably since closing of the base, with demolition of numerous buildings and reconstruction of a tidal marsh. A new Letterman Hospital, which played an important role in the return of Vietnam veterans, was built adjacent to the historic Letterman Complex in 1969. It was complemented in 1976 by construction of the 350,000-square-foot Letterman Army Institute of Research. The Presidio continued to house numerous commands, including that of the Sixth U.S. Army.

The character of the Presidio as a reserve has been respected through successive phases of historic development and endures to the present day. With certain exceptions, the placement and design of the Presidio's built environment respond to the topography and the natural character of the landscape. The buildings at the Presidio reflect an evolution of military

design, a succession of stylistic effects popular during the various periods of Post construction. The architecture is unified by the military's basic and straightforward approach to construction and design. The approach generally has tended toward formal symmetry and eschewed excessive ornamentation. The buildings commonly stand in groups or rows and exhibit standardized designs of simple forms and moderate decorative detailing. Most of the buildings are of a moderate, human scale; few are in excess of two and a half stories.

The number of non-contributing resources within the NHLD is relatively large; however, many of these constitute small buildings and structures that are ancillary or supporting in nature, having only minor effect on the overall integrity of the NHLD. Given the breadth and prominence of the NHLD, with its hundreds of remaining historic buildings and structures and striking landscape features, the integrity of the National Historic Landmark is exceptionally high.

Base Closure, National Park, Trust 1970-1996

In 1970, U.S. Representative Phillip Burton authored the legislation that established the Fort Point National Historic site. In 1971, he authored legislation to protect the natural, historic, social, and recreational values of the Presidio for public use in perpetuity if the U.S. Department of Defense ever declared the base to be in excess to its needs. When Congress established the GGNRA in 1972 (Public Law 92-589), which included the Presidio within its formal boundaries, NPS jurisdiction of the Presidio was not to be effective until military ownership and use of the reservation ended. However, management of 145 acres of Baker Beach and Crissy Field was granted to the NPS/GGNRA through an irrevocable permit. Restrictions on new construction were imposed on the property remaining under Army ownership to preserve the unique character and history of the site as well as valuable open space.

In 1989, the Base Realignment and Closure Act designated the Presidio for closure. When the U.S. Army departed in 1994, jurisdiction over the Presidio transferred to the NPS.

In 1996, the U.S. Congress created the Trust to preserve and enhance the Presidio in partnership with the NPS. Congress also mandated that the Trust become financially self-sufficient by fiscal year 2013. If the Trust fails in this mission, the park will be transferred to the federal General Services Administration and sold. In 1998, the Trust assumed management responsibility for the non-coastal areas (about 80 percent) of the Presidio including most of its historic structures. The NPS continues to manage coastal areas. The Trust is an executive agency of the U.S. government and a 501(c)3 non-profit corporation governed by a seven-member Board of Directors. The Trust Act and the general objectives of the General Management Plan Amendment (GMPA) guide its activities. Since the Trust has assumed control over Area B, the Trust has rehabilitated over 60 historic buildings on the Main Post and elsewhere, most notably Buildings 36, 50, and 220. Several have been rehabilitated by the Trust through private ventures using the Federal Rehabilitation Tax Credit, including Buildings 38 and 39. Historic residential buildings have been rehabilitated on Presidio Terrace, Kobbe Avenue, Portola Street and Liggett Avenue. Recent additional Trust achievements include restoration of the World War II Monument, construction of the Presidio segment of the Bay Area Ridge Trail, rehabilitation of the Presidio and Arguello gates, establishment of a recycling center, and environmental cleanup activities. These actions were covered in the Presidio Programmatic Agreement between the National Park Service, the California State Historic Preservation Officer, and the Advisory Council on Historic Preservation.

NATIONAL HISTORIC LANDMARK DISTRICT

In 1993, an update of the initial 1962 landmark nomination was completed by the NPS. The updated form establishes the boundaries of the NHLD as

coinciding with the boundaries of the Presidio of San Francisco. It also defines 662 buildings, sites, structures, and objects related to the Spanish, Mexican, and American military history at the Presidio as contributing to the NHLD (NPS 1992d).

Since adoption of the GMPA in 1994, the NPS has demolished 37 historic buildings; 11 more historic buildings planned to be demolished under the GMPA are still standing. Under Trust management, fire destroyed Building 1055 and a heavy equipment accident has compromised the structural integrity of Building 633. In 2001, there are 432 buildings remaining in Area B that have been deemed to contribute to the NHLD (see Figure 15).

Area B of the Presidio contains 731 buildings that represent a variety of military architectural styles dating from the Civil War to the present. Of the buildings and resources in both Area A and Area B of the Presidio identified in the 1993 National Historic Landmark nomination, there were 1,166 total, (662 contributors and 504 non-contributors). The facilities included two hospitals (both closed), a major research institute (also closed), 1,200 housing units, airfield structures, harbor and coastal defense structures, a Mission Revival-style coastal artillery subpost, a former U.S. Coast Guard station, former cavalry stables, a commissary, a post exchange, and many other support facilities.

The extensive system of coastal defense emplacements located primarily in Area A is one of the best single collections of mid-19th and early-20th century defense works in the nation. By 1994, these buildings were generally in poor or critical condition due to earthquake damage, exposure and weathering, and lack of use/occupancy. The NPS conducted a study of these resources, *Historic Resource Study Seacoast Fortifications of San Francisco Harbor Golden Gate National Recreation Area California*, in 1979.

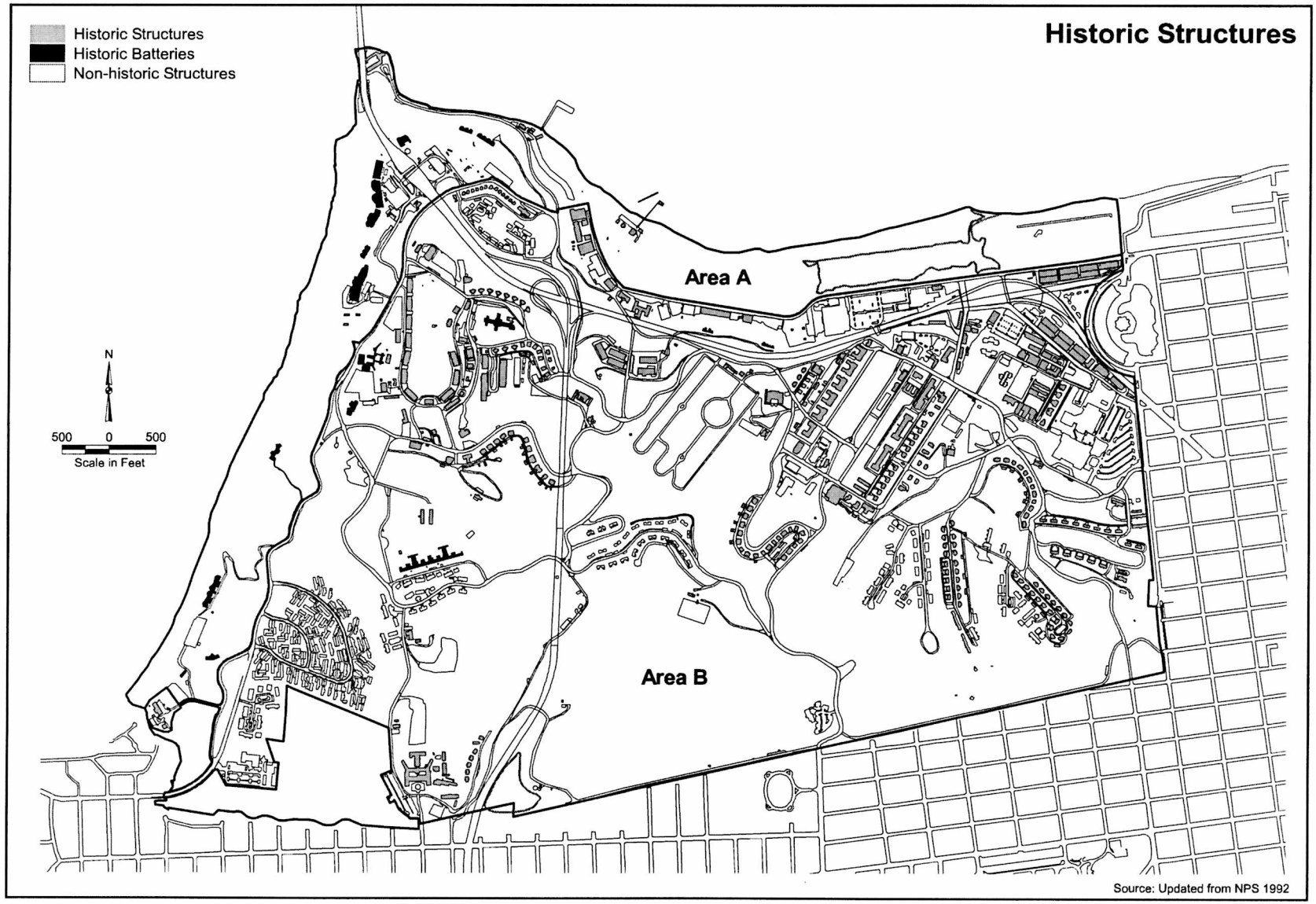
The 1993 NHLD is divided into 12 discrete planning districts, which represent different topography, cultural landscape features, and historic/architectural periods. These planning districts are: Baker Beach, Cemetery and Cavalry complex, Crissy Field, East Cantonment, Fort Point, Fort Winfield Scott, Letterman Complex, Main Post, Marine Hospital, North Cantonment, South Post, and West Cantonment. For PTIP, these districts have been consolidated into seven planning districts, which are PHSH, South Hills, Fort Scott, East Housing, Main Post, Letterman, and Crissy Field. Character defining features for each planning district have been developed as part of PTIP in order to preserve the integrity of the NHLD as future design-level land use and project decisions will be made in the future.

The themes of national significance represented in the Presidio NHLD are military, exploration and settlement, Hispanic heritage, and historic archaeology. The NHLD period of historical significance is 1776 to 1945. The noncommissioned officers' and enlisted men's club (Building 135) was constructed in 1949, outside the period of significance; however, it has been identified as a contributing structure in the NHLD as the site of the signing of the U.S. Japan Security Treaty in 1951. Fort Point, already part of the Presidio of San Francisco National Historic Landmark, was individually designated as a national historic site on October 16, 1970. Also individually listed on the National Register of Historic Places are the six-inch rifled gun no. 9, entered February 7, 1979, and the National Cemetery, entered in October, 1996.

Historic Buildings

The NPS conducted an initial survey and condition assessment of all Presidio buildings in 1990 and 1991 to identify the number of buildings, their general condition, and major deficiencies. In 1991, the buildings were reported to be, for the most part, in good to fair condition (NPS 1992c). The most noticeable deficiencies were related to compliance with national,

Figure 15 *Cultural Resources*



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Cultural Resources

state, and local life/safety codes, in particular seismic strength, fire egress, and accessibility. Individual building components or features, such as roofs, were generally in fair condition. The condition of historic fabric, both exterior and interior, varied from building to building. Overall, the historic buildings retained a high degree of integrity and contributed to the National Historic Landmark status. Interiors were not surveyed for the National Historic Landmark update; however, subsequent investigations indicated varying levels of integrity. Some buildings had been completely gutted; others, particularly housing, retained much of their original interior building fabric. A few buildings, particularly pre-1933 unreinforced masonry structures, had been seismically retrofitted, though not always to current standards. Most buildings were inaccessible to people with disabilities.

Additional building studies since 1991 include an analysis of about 45 historic buildings for their adaptive use potential (ARG 1992); a review of the Army's asbestos survey (Ace Pacific Co. 1991); a limited feasibility study of the PHSH complex (ARG 1991); and a series of building condition assessment reports (ICAP Repairs) prepared in 1993. This study was followed up by a set of guidelines for rehabilitating buildings at the Presidio, which was prepared by ARG in 1995. In 2000, Page & Turnbull, Inc. prepared a reuse study for more than fifty buildings in Categories 2-5 in the 1985 HABS Study of the Presidio.

Cultural Landscape

The interaction of people and place over time creates a cultural landscape that is made up of components such as topography, vegetation, structures, circulation networks, land use patterns, building clusters, and small-scale features such as signs and flagpoles. Cultural values are reflected through development. The Presidio's cultural landscape provides a means for understanding individual features, such as buildings and roads, within a larger context or setting. The Presidio's cultural landscape retains a high degree of integrity and is important to the NHLD.

A cultural landscape inventory, evaluation, and analysis was prepared in 1991 by Land and Community Associates. This project examined the evolution of the built environment of the Presidio from pre-European settlement to the present and analyzed historic and existing landscape components to determine significant, character-defining landscape features. This has provided the basis for additional cultural landscape studies including the *Cultural Landscape Management Plan and the Draft Cultural Landscape Inventory Reports* and the VMP.

Based on the cultural landscape analysis, 28 major areas and 323 subareas were identified and mapped throughout the entire Presidio. The following is a summary of the Presidio's landscape components (Land and Community Associates 1992).

Topography - In some locations the topography creates a sense of enclosure. Particularly noteworthy are the swale east of the Main Post known as Tennessee Hollow and the small valley that contains the Cavalry Stables. El Polin Spring is an intimate topographic amphitheater that has been compromised by the encroaching non-historic housing complex.

Historic Forest - The historic forest is one of the most noteworthy features of the cultural landscape. Conceived in the 1880s, the forestation effort was an attempt to ameliorate harsh environmental conditions and stabilize the migrating dunes. It was also a reflection of the U.S. Army's relationship with the neighboring city and was a product of turn-of-the-century landscape philosophy. The forest was to "crown the ridges, border the boundary fences, and cover major areas of sand and marsh with a forest" that was to "seem continuous and thus appear larger than it really was" (NPS 1992b). Today the forest is a treasured green swath in an urban context. Composed largely of Monterey pine, Monterey cypress, acacia,

eucalyptus, and redwood, the Presidio forest has matured, is in critical condition, and will require extensive management and replanting to survive. Rampant growth, irregular pruning, and uncontrolled expansion of volunteer species has resulted in blurred boundaries of the historic forest and has obscured historic vistas and viewsheds.

Strategic Views - One of the factors that affected site selection and orientation of building clusters was strategic views. Development capitalized on waterfront views, primarily for defense of the Golden Gate. In addition to views out of the Presidio, there were visual links between different areas and building clusters. Examples are the views between the main parade ground and Crissy Field, and between the Officers' quarters on Infantry Terrace and the main parade ground. Today many of these significant vistas have been obscured by vegetation and new construction.

In addition to strategic vistas and view corridors, several buildings, structures, and landscape elements were designed and built as focal points. Examples include Building 1201, the headquarters at Fort Scott, and entry gates. Significant streetscapes, designed landscapes, and lawns remain scattered throughout the post. Many view corridors to the focal points have been interrupted by vegetation and new construction.

Historic Land Use - Most of the historic land use designations around the Presidio had persisted until the closure of the base in 1994. One example is the continued administrative role of the Main Post.

Within built areas, most of which contain mixed uses, there occasionally is an inconsistent pattern to the development, such as the variance in mass and height of adjacent buildings and type of building materials and colors seen at the Letterman Planning District. This inconsistency was usually the result of interventions after the period of significance. Gradually some of the more egregious examples of incompatible non-contributing development are being removed, including the two large late 1960s-era Letterman buildings, Letterman Army Medical Center (LAMC) and Letterman Army Institute of Research (LAIR). These particular structures will be replaced by the LDA, which will be compatible in design with the NHLD.

Structures and Building Clusters - The historic architecture of the Presidio is a character-defining feature of the district and displays a rich variety of designs, materials, and periods of construction. The approach generally has tended toward formal symmetry and eschewed excessive ornamentation. The buildings commonly stand in groups or rows and exhibit standardized designs of simple forms and moderate decorative detailing. As stated earlier, most of the buildings are of a moderate, human scale. The architectural character of some of some of the newer buildings is often not in keeping with these historic patterns. Most groupings of historic buildings have a residential character with a comfortable human scale. Buildings typically range from one to three stories; taller structures typically were integrated into the landscape to fit in with adjacent structures and appear smaller.

Small-Scale Features - The historic landscape had many small-scale features, including cannon balls for curbing. Though many stone retaining walls and ditches remain, most of the small-scale site elements have been replaced with contemporary materials. Landscape and site system details such as signs, lighting, plantings, fencing, curbing, and street furniture were varied and uncoordinated from site to site.

Circulation Networks - Most roads and paths that exist today were constructed before 1918. These corridors were sensitively built on the hilly terrain and help to define area boundaries. They show how the land was used and how areas were connected to one another. Most have retained their original alignment and width. The Presidio roads were not designed for the contemporary automobile. They are narrow, curvilinear, indirect, and have a park like quality. Portions of historic circulation corridors were

lost during the construction of the road approaches to the Golden Gate Bridge and the Letterman Planning District. In some cases, original grades and road traces for former trolley lines are evident, as are the rail lines at Crissy Field.

3.2.2 ARCHAEOLOGY

PREHISTORIC SITES

Prehistoric sites are classified by archaeologists as the physical evidences of American Indian/Native American occupations prior to European colonial settlement, and before the compilation of a written history. These native peoples and their descendants were the first inhabitants of the Presidio. Today some of the descendants are known as the Ohlone. It is likely that the Ohlone and culturally similar populations occupied this part of the San Francisco Bay area for at least two to three thousand years prior to its colonization by the Spanish and possibly much earlier.

Prehistoric sites at the Presidio are not identified as contributing to the NHLD, because they are not associated with the military history that forms the basis of Landmark designation. However, prehistoric properties could be eligible for the National Register of Historic Places at a local or regional level of significance.

Discoveries of prehistoric human remains have been made at the Presidio, and seasonally occupied and perhaps permanent prehistoric sites are likely to be present. Known or suspected archaeological resources are shown in Figure 16. The three recorded prehistoric sites at the Presidio, all within the Crissy Field Planning District, are designated as SFr-6, SFr-26, and SFr-129. SFr-6, the Crissy Field shell mound, was recorded in 1912. This was one of the first prehistoric sites listed in the California archaeological site inventory for San Francisco County. This site could have been reexposed in 1972 when a single buried individual was discovered beneath concrete and fill in the motor pool area, although that discovery was designated SFr-26. Carbon dating has placed the burial at about A.D. 740. In 1998, SFr-129 was discovered during the NPS construction of the new Crissy Field wetlands. Scattered shell can be found in the vicinity of Battery East, the Golden Gate Club, and El Polin Spring indicating the possibility of Native American seasonal use; and a single obsidian projectile point was discovered on the Ecology Trail below Inspiration Point.

Based on archaeological discoveries within the city and county of San Francisco, it is possible that additional subsurface sites are present within the Presidio. The sites would probably be shell middens with demonstrated potential to contain human burials and related materials; archaeological features representing (but not limited to) house floors, cooking areas, and specialized work areas; and random and various artifacts of stone, bone, and shell. As a result of two centuries of military development and early relic collecting, there are few, if any, surface indications of prehistoric archaeological sites. Early 20th century archaeological inventories concentrated on the coastal environment; sites would most likely be near the former littoral, where aquatic foods were available, or near freshwater springs. However, it is possible that sites other than shell middens are present in or along the bluffs and in other areas away from the shoreline.

The potential for discovering additional prehistoric archaeological resources at the Presidio is high. As indicated above, some prehistoric remains have already been documented, and seasonally or permanently occupied prehistoric sites are likely because of the extensive freshwater resources and the large estuarine lagoons and sloughs that once extended along the waterfront areas. In addition to the known sites along Crissy Field, several areas have been identified as archaeologically sensitive for the discovery of prehistoric sites. These are the Estuary Bluff, which overlooks the former marshlands along the Letterman Planning District, the North Cantonment, the Main Post, the Cemetery and Cavalry Stables, additional areas of Crissy

Field, and the Presidio's natural fresh water sources, such as El Polin Spring, Mountain Lake, Tennessee Hollow, and Lobos Creek.

HISTORIC SITES

Historic sites are the physical evidences, usually augmented by written documentation, of the Spanish, Mexican, and American occupations which began in 1776, and could also include evidence of the Ohlone and other native peoples who occupied the Presidio in the 18th and 19th centuries. In the 1993 draft NHLD update, the Presidio was defined as a single historic archaeological site with numerous contributing features, both known and predicted, that are functional components of a single long-term military occupation. The historic archaeological properties described represent a variety of types ranging in complexity from individual features to functional groupings of features. Historic archaeological resources are known to exist and are concentrated at various locations throughout the Presidio.

Both the known and predicted historic archaeological features at the Presidio, shown in Figure 16, contribute to the NHLD and are of national significance. Research suggests that historic archaeological remains from the period 1776-1890 would provide the most significant contribution to knowledge of the Presidio (NPS 1993). By 1890, the Presidio was beginning to change substantially, and documentation of design and construction was more complete. The archaeological features dating from about 1890 and into the present century, although they might contribute to information about military, social, and technological history, would often be ancillary to other sources, including documents, physical remains, and possibly oral history.

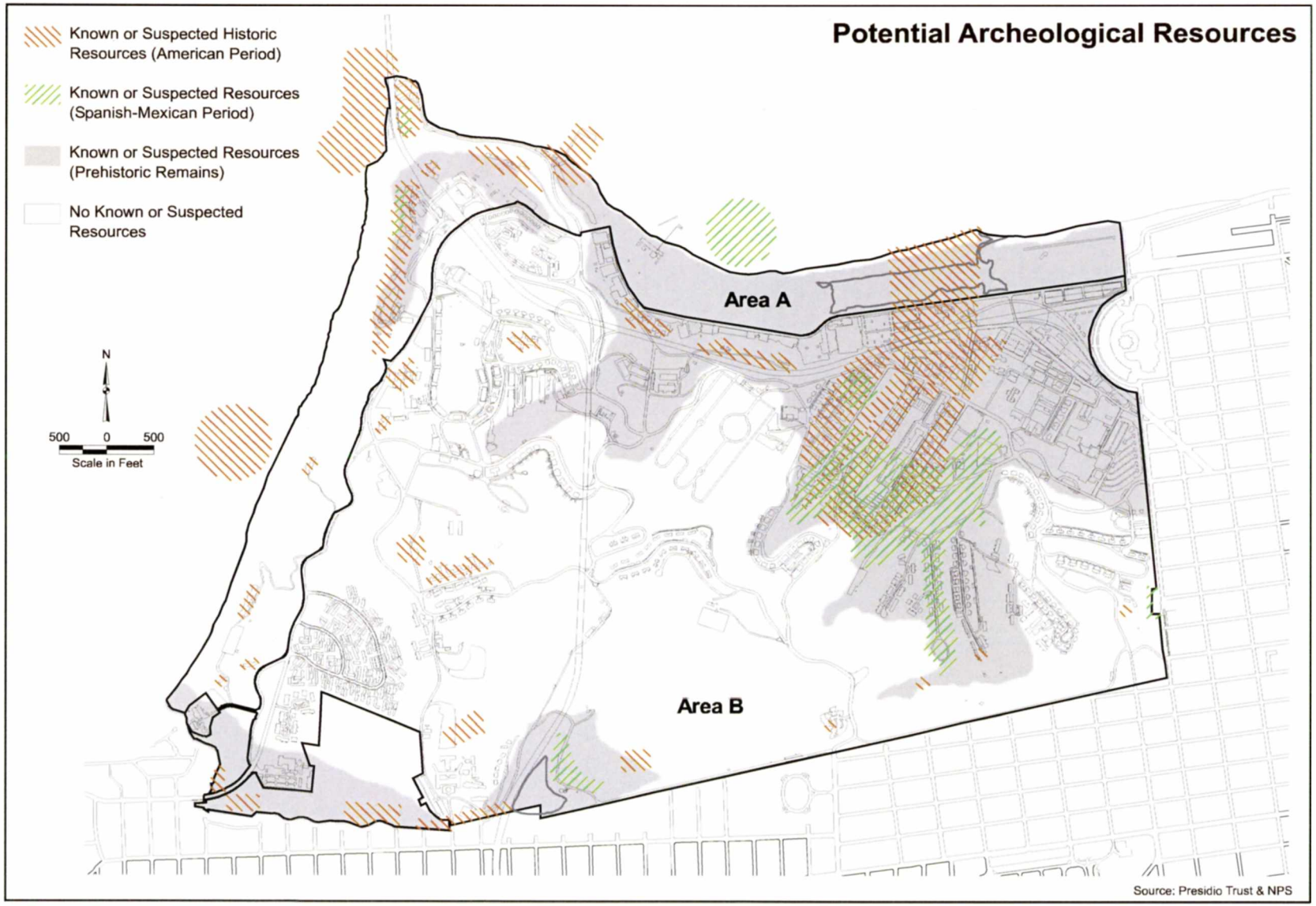
A comprehensive archaeological survey for historic sites has not been conducted at the Presidio, although archaeological monitoring or testing has taken place for specific projects. A traditional archaeological pedestrian survey is not feasible where the ground surface is obscured by pavement, buildings, and vegetation. The Trust is attempting to locate subsurface sites in areas of poor visibility or potentially buried sites prior to construction through the use of other techniques such as coring, trenching, and remote sensing. The Trust is also looking at geomorphological data that might explain natural processes and human activities that have altered the Presidio's landscape, and buried archaeological sites in certain locations. Archaeological management assessments have been developed based on historical research and limited surveys. These management assessments guide the archaeological investigations required for specific project or maintenance actions.

Since 1989, archaeological monitoring and preconstruction inspections have systematically been completed for most actions involving ground disturbance. The locations of the archaeological monitoring and the recorded information are being entered by the Trust in cooperation with NPS into a Presidio-wide database known as the Presidio Archaeological Grid. The Grid divides the Presidio into 50-meter increments and allows archaeologists to make informed decisions about the likelihood of the presence archaeological resources in a particular area prior to the approval of ground- disturbing activities.

PREDICTED ARCHAEOLOGICAL FEATURES

A Predicted Archaeological Features map, prepared for the National Historic Landmark update in 1993, was developed as a planning tool to guide future investigations and is continuously updated. This map indicates the zones of highest probability for suspected historic archaeological resources. Specific features have been mapped, with some spatial allowance for error among historic maps and for the expected subfeatures associated with a structure or building (e.g., privies, trash scatter) that would yield significant information but that would not have been noted on most historic maps. There are 50 predicted archaeological features

Figure 16 *Cultural Resources*



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Cultural Resources

identified in the 1993 NHLD update. These are shown by geographic area in Table 3.

The history of the Marine Hospital and Presidio are intertwined both in the development of reservation lands and in the provision of services to the community. As a civilian facility, the Marine Hospital provided free medical care, both short-term and convalescent, to merchant marines. While none of the buildings remains from the original 1870s complex, the site has been continually used as a marine hospital for more than 100 years, from its 1875 opening to closing in 1981 under the United States Public Health Service. Subsurface remains of the cemetery associated with the early history of this facility do exist, and lie largely beneath an extensive paved court and parking area located on the rise near the northeast corner of the tract. Historical research suggests that a substantial cemetery once existed behind the old Marine Hospital, demolished in 1934. While records could not be found to determine that the burials of the cemetery had been relocated, the Army assumed that a relocation had taken place. In 1990 the Army conducted a test excavation in an area presumed to have been the Marine Hospital cemetery and found the remains of several burials below almost 15 feet of concrete rubble. Historical research suggests that approximately 500 to 600 individuals remain interred in the cemetery.

Archaeological monitoring and testing, begun as part of the U.S. Army's infrastructure repair and environmental remediation at the Presidio, and continuing today through the Trust and NPS, demonstrate that construction has resulted in substantial alterations in original landforms, which have probably preserved as well as destroyed some archaeological resources.

APPLICABLE REGULATIONS

The National Historic Preservation Act Requirement

In addition to the Trust's compliance with the NEPA process, which is the purpose of this Environmental Impact Statement, compliance with the NHPA is of central importance to any project within the Presidio boundary that could have an effect on the NHDL. Concurrent with actions to satisfy the NEPA process, the Trust has been engaged in activities designed to meet the requirements of the NHPA for PTIP.

Section 110 of the NHPA sets out the broad historic preservation responsibilities of federal agencies to ensure that historic preservation is fully integrated into ongoing programs. Under Section 110 (f) special protection is to be afforded to National Historic Landmarks. Under this provision a federal agency must, "to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm" to a National Historic Landmark that could be directly and adversely affected by an undertaking, such as PTIP.

Section 106 of the NHPA requires federal agencies to take into account the effects of their actions on historic properties, and to seek comments on their actions from an independent reviewing agency, the ACHP. The revised regulations of the ACHP (Title 36 of the Code of federal Regulations at part 800) provide the methodology for assessing impacts on historic resources, and detail the requirements of the consultation process. When a project is complex and is expected to continue over time, as is the proposed plan, the regulations allow for development of a Programmatic Agreement that governs ongoing and future activities undertaken as part of the project or plan it addresses. Once a Programmatic Agreement is finalized, implementation of the Programmatic Agreement satisfies the agency's obligations under Section 106 and 110(f) of the NHPA. Pursuant to these

AFFECTED ENVIRONMENT

Cultural Resources

Table 3 Predicted Archaeological Features

No.	Name/Function	Date	Local	Notes
Main Post				
F1	El Presidio de San Francisco	1776-1846	MP	continues into American period
F2	Spanish/Mexican cemetery	1776-1860	MP	
F9	United States Quadrangle West Side	1846-1890	MP	
F14	United States Quadrangle East Side	1862-1890	MP	Funston Avenue Officer's Quarters, Corral, Hospital
F16	Non-Commissioned Staff Quarters	1866-1890	MP	
F17	Sutler Residence	1866-1890	MP	
F18	Laundress and Enlisted Quarters	1866-1890	MP	
F19	Sutlery	1866-1890	MP	
F20	Stream Ravine Dump Area	1866-1910	MP	
F21	Quartermaster Complex	1866-1890	MP	stables, blacksmith, shops, bakery, storehouse
F22	Main Post Water Control	1866-1890	MP	reservoirs, gravity feed to early quadrangle
West Cantonment				
F3	El Polin Spring	1776-1846	WC	adobe well and various land uses
F4	Extra-Quadrangle Habitations	1820-1846	WC	Hispanic and Russian construction
F12	Queen Bee/El Polin Water Control	1857-	WC	earthworks, wells
East Cantonment				
F5	Rancho Ojo del Agua de Figueroa	1830-1846	EC	rancho buildings and features
North Cantonment				
F28	Presidio Wharf II	1866-1890	NC	
F29	"Herman's House"	1866-1890	NC	
Letterman Complex				
F30	"Presidio House"	1866-1890	LC	hostelry
Marine Hospital (Public Health Service Hospital)				
F10	Lobos Creek Water Control	1857-	MH	tunnel
F34	Marine Hospital and Cemetery	1874-1932	MH	
South Post				
F31	Unidentified Farm/Residence	1866-1890	SP	
F32	Unidentified Farm/Residence	1866-1890	SP	
F33	Unidentified Farm/Residence	1866-1890	SP	
Fort Winfield Scott				
F15	Telegraph Hill Telegraph Station	1861-	FWS	
F38	FWS Ordnance Storage and Shops	1891-1914	FWS	
F40	Battery Howe/Arthur Wagner	1893-	FWS	
F41	Battery Saffold	1895-	FWS	
F42	Battery Dynamite	1895-1904	FWS	

Table 3 Predicted Archaeological Features

No.	Name/Function	Date	Local	Notes
F44	Battery McKinnon/Stotsenberg	1897-	SP/ FWS	
Cemetery and Cavalry Complex				
F6	San Carlos Shipwreck (Area A)	1797	CF	aka El Filipino – sank at anchorage
F25	Laundress' Quarters	1866-1890	CF	
F26	Presidio Wharf I	1866-1890	CF/ NC	
F47	Batteries Sherwood and Blaney	1900-	CF	includes location of Batteries Slaughter (1898) and Baldwin (1900)
F49	Life Saving Station I (Area A)	1890-1914	CF	
Fort Point (Area A)				
F7	Fort Point	1853-1890	FP	
F8	Fort Point Wharf Area	1853-1890	FP	
F13	Golden Gate/Fort Point Shipwrecks	1852-1877	FP	Samoset (1852), Aberdeen (1853), Golden Fleece (1854), Chateau Palmer (1856), General Cushing (1858), Granada (1860), Isaac Jeanes (1876), Frank Jones (1877)
F23	West Battery	1870-1896	FP	
F24	East Battery	1873-1898	FP	
F37	Battery Marcus Miller	1891-	FP	
F39	Battery Godfrey	1892-	FP	
F43	Battery Lancaster	1896-	FP	
F45	Battery Boutelle	1898-	FP	
F46	Battery Cranston	1898-	FP	
Baker Beach (Area A)				
F11	Lobos Creek Water Control	1857-	BB	dam, reservoir, flume
F35	Viscata Shipwreck	1868	BB	
F36	Battery Crosby	1890-1914	BB	
F48	Battery Chamberlain	1902-	BB	
F50	Unidentified Scow Wreck	1902-	BB	

Note:

Locations: BB – Baker Beach; CCC – Cemetery and Cavalry Complex; CF – Crissy Field; EC – East Cantonment; FP – Fort Point; FWS – Fort Winfield Scott; LC – Letterman Complex; MP – Main Post; MH – Marine Hospital; NC – North Cantonment; SP – South Post; WC – West Cantonment

regulations, the Trust has been engaged in consultation with the ACHP and the California State Historic Preservation Officer with regard to Section 106 compliance for the PTIP and Operations and Maintenance for Area B of the Presidio of San Francisco.

The Trust Act and Historic Buildings

The historic buildings at the Presidio of San Francisco were studied under a joint project of the NPS and the U.S. Army resulting in a 1985 publication entitled the *1985 Historic American Building Survey Report.* Under the Trust Act, the Trust is directed to develop a comprehensive management program that includes demolition of structures that in the opinion of the Trust, cannot be cost-effectively rehabilitated, and that are identified in the management plan for demolition. The Trust is also directed to evaluate for possible demolition or replacement those buildings identified as categories 2 through 5 in the Presidio of San Francisco Historic Landmark District Historic American Building Survey Report dated 1985.

3.3 NATURAL RESOURCES

A rich diversity of natural resources is found throughout the Presidio, many of which represent remnants of once vast ecosystems found on the San Francisco peninsula. These native plant communities, clear views of the Bay, and sounds of birds singing throughout creeks and springs all contribute to the complexity of the Presidio's natural values. Natural resources of the Presidio include biological and physical resources such as vegetation and wildlife, water resources (including wetlands), visual resources, air quality, and noise. The Natural Resources Affected Environment section discusses the existing conditions as related to natural resources and sensitive areas.

3.3.1 BIOLOGICAL RESOURCES

INTRODUCTION

This description of biological resources addresses vegetation and wildlife (native, exotic and protected species), and provides background information on integrated pest management practices and ecological restoration projects affecting these resources. Relevant information regarding the regulatory framework is also provided.

The study area for this section includes Area A (coastal), as well as Area B (non-coastal) of the Presidio. Although not under the administrative jurisdiction of the Trust, Area A is included in these discussions because PTIP-related activities could have an indirect effect on adjacent and downstream habitats and species occurring in Area A, as well as the Bay and ocean environment. Except for the southern shore of Mountain Lake (described in the next section), which is under the jurisdiction of the City of San Francisco, Area A contains the only natural habitats adjacent to Area B.

VEGETATION

Applicable Laws, Regulations, and Policies

The Federal Endangered Species Act of 1973 (FESA) defines an endangered species as any species or subspecies "in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as any species or subspecies of fish, wildlife, or plants "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Threatened or endangered species and their critical habitat are designated through publication of a final rule in the *Federal Register*.

Section 7 of the FESA requires that federal agencies ensure that their actions (including funding or permitting of various projects or activities) are not likely to jeopardize the continued existence of a listed species or destroy or adversely modify its critical habitat. This obligation requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) on any federal actions (including issuing Section 404 permits by the U.S. Army Corps of Engineers [the Corps]) that may affect listed species to ensure that reasonable and prudent measures will be undertaken to mitigate impacts on listed species. Consultation with the USFWS and NMFS can be either formal or informal depending on the likelihood of the action to adversely affect listed species or critical habitat. Once a formal consultation is initiated, the USFWS or NMFS will issue a Biological Opinion (either a "no jeopardy" or a "jeopardy" opinion) indicating whether the proposed agency action will jeopardize the continued existence of a listed species or result in the destruction or modification of its critical habitat. A permit cannot be issued for a project with a "jeopardy" opinion unless it is redesigned to lessen impacts, resulting in a "no jeopardy" opinion.

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Executive Order 13112 of February 3, 1999, defines "alien species," recognizes the ecological impacts of invasive species, discusses control measures to be taken to prevent the introduction of invasive species, and outlines the duties of each federal agency whose actions may affect the status of invasive species. It essentially directs federal agencies to prevent the introduction of potentially invasive exotic species and to control invasive exotics on lands for which they are responsible. To assist federal agencies and other landowners in directing their exotic control activities, the California Exotic Pest Plant Council (CEPPC) has compiled lists of exotic pest plants of greatest ecological concern in California; List A-1 contains the Most Invasive Wildland Pest Plants: Widespread; List A-2 contains the Most Invasive Wildland Pest Plants: Regional. Wildland Pest Plants of Lesser Invasiveness are contained in List B.

The VMP was formulated within the context of the GMPA. The VMP was prepared jointly by the Trust and NPS, and the environmental review process is almost completed. Once approved, it will guide the management of all native and introduced vegetation by the organizations operating within the Presidio. The VMP provides a management framework and defines management actions for the revitalization of each of the three landscape types (native plant communities, historic forest, and landscaped) (Figure 17).

VMP objectives for management of the Native Plant Communities Zone, covering about 394 acres on the Presidio, are:

- to protect and enhance existing native plant communities and their remaining habitat by removing threats to native species, repairing damage to habitat, and increasing reproductive success; and
- to restore and enlarge native plant communities by reclaiming habitat from past development.

These objectives would be accomplished by the implementation of a long-term community-based habitat restoration program and by developing protective buffer areas between native plant community and historic forest management zones.

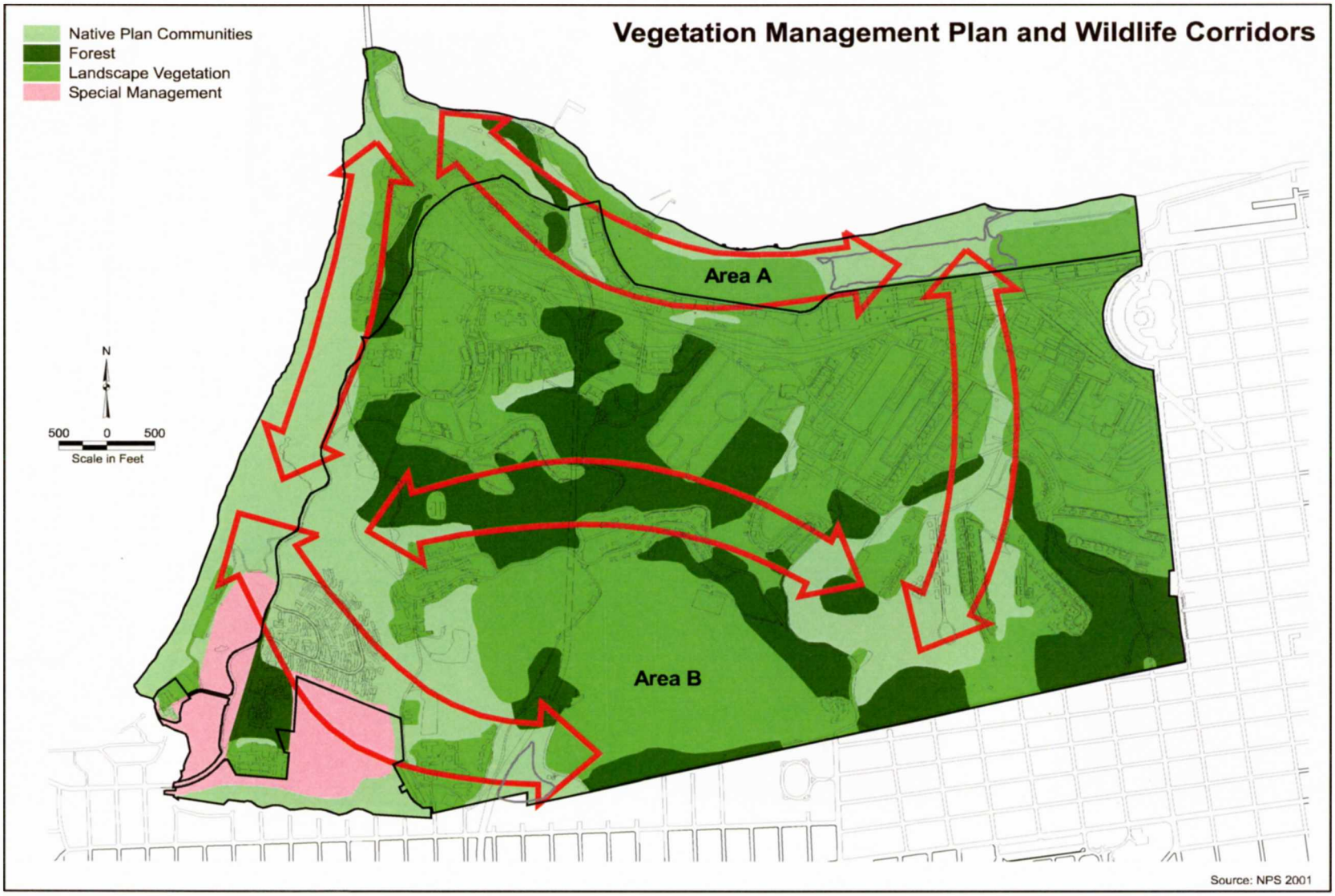
Management objectives for the 264-acre Historic Forest Management Zone include:

- to maintain the unique cultural landscape and character of the historic forest as guided by the NHPA;
- to preserve healthy trees;
- to rehabilitate the aging forest;
- to increase structural and species diversity, and encourage natural regeneration; and
- to protect and enhance valuable forest wildlife habitats.

VMP objectives for the 778-acre Landscape Vegetation Management Zone are:

- to maximize sustainable practices in plan development, implementation, and maintenance of landscape vegetation projects;
- to identify, document, and map historic and existing landscape plantings and plant species;
- to retain existing historic landscapes and historic plants whenever feasible;
- to select appropriate replacement plant material considering historic use, design intent, function, potential impacts to native plants, and sustainability;
- to identify and treat hazardous tree conditions; and
- to identify and maintain heritage landmark trees.

Figure 17 *Natural Resources*



AFFECTED ENVIRONMENT

Natural Resources

The VMP also designates a Special Management Zone in the southwest area of the Presidio, which is subject to further planning before a determination of treatment is made.

History of Vegetation on the Presidio

Historically, natural communities thrived throughout the Presidio and occupied sandy habitats of dune origin, particularly in the Lobos basin, serpentine-derived uplands or cliffsides exposed to the ocean, and serpentine slopes on the western Bay side of the Marina basin. Both dune and serpentine soils supported many specially adapted plant species, some of which are largely or exclusively restricted to these soil types. At one time, stands of native forests composed of prominent groves of coast live oak, California bay, madrone, and California buckeye, could have been scattered within pockets of the Presidio (Vasey 1996). Now the only native upland tree-dominated community, coast live oak woodland, occupies about six acres (Presidio Trust 2001).

Native plant communities on the Presidio currently consist of approximately 171 acres of remnant and restored indigenous natural vegetation (Vasey 1996, Presidio Trust 2001). Recent restoration efforts have increased native vegetation by approximately 10 acres at Lobos Dunes, 5 acres at Feral Dunes, and 25 acres at Crissy Field.

Because the distinctions between plant communities boundaries are often not clearly defined on-site, synonymous names used to identify vegetation resources by varying authors of past reports prepared for the Presidio are given in parentheses. Further information about the native plant communities continued below is contained in the GMPA and in the VMP.

Native Plant Communities

Native plant species and communities are those that occurred as a result of natural processes on the Presidio and its general vicinity prior to European settlement. Approximately 90 percent of the native vegetation of the Presidio has been displaced by the initial forest plantings and their subsequent expansion, previous Presidio land management activities, urban expansion, and the spread of invasive exotic species. Native plant species and communities on the Presidio have undergone progressive degradation because of habitat fragmentation, ecosystem conversion from sand and serpentine-based vegetation communities to artificial forest, and competition from invasive exotic species. The Presidio's remaining native plant communities currently occupy approximately 10 percent of the Presidio land area (171 acres) occurring primarily on west- and north-facing coastal bluffs extending from Crissy Field to Baker Beach, and as scattered habitat fragments in the southwestern and southeastern portions of the Presidio. Although most of the Presidio's remaining natural communities are small, and often isolated, they provide an essential refuge for a diversity of native plants communities and associated special-status plant species, some of which have been almost entirely lost in San Francisco (Vasey 1996). Figure 18 shows the location of native plant communities in both Areas A and B.

Non-native plant communities are those that are predominantly composed of species that were deliberately or inadvertently introduced by humans during and post European settlement. A survey found 161 non-indigenous species representing 41 percent of the 389 plant species, many of which are highly invasive, within the Presidio's natural areas (Vasey 1996). Several trees and shrub species are native to other parts of California, but not native to the Presidio. Many species are garden "escapes." Most are invasive weedy species that constitute threats to indigenous habitat and native species. Where ice plant, ripgut brome, or soft chess have overwhelmed the native species, the community is categorized as "ice plant mats and non-

native grasses on dunes" (Vasey 1996). On the Presidio, ice plant mats occur on sandy soils above Baker Beach, between Washington Boulevard and the PHSH, and north of Lobos Creek. There are also areas dominated by Cape, English, and Algerian ivies.

Plant Communities Occurring only in Area A

Wetland Communities

In Area A, tidal action was introduced behind part of the foredune system on Crissy Field, restoring about 15 acres of tidal prism. Subsequent planting efforts, which reintroduced approximately 22 native plant species over the past few years, have resulted in the restoration of 3 acres of coastal salt marsh vegetation.

Upland Communities of Area A

The northern foredune community forms a transition along the coastline between the marine habitat of the Pacific Ocean and terrestrial habitats farther inland. The foredunes are composed of active sand dunes that have not been stabilized by vegetation, and are subject to movement of sand from wind and wave erosion. As dunes move inward, they become vegetated and more stable. On the Presidio, the foredune community covers a total of approximately 14.2 acres, occurring near the mouth of Lobos Creek, and extending north to the cliffs beyond the shoreline at Baker Beach and to the Crissy Field dunes. Remnants of the northern foredune community persist between the Crissy Field wetland and San Francisco Bay. It is dominated by beach sagewort, sand verbena, silver beach weed, coast buckwheat, Chamisso's lupine, beach primrose, American dune grass, and strawberry. Plants associated with this community are tolerant of desiccating, salt-bearing winds. Coastal dune systems on the San Francisco peninsula also support unique plant and insect communities (Vasey 1996; Hafernik 1994). The extent of the foredune community has been greatly reduced from its historic distribution and this community is now rare in California (CDFG n.d.).

Plant Communities Occurring in both Areas A and B

Wetland and Riparian Communities of Areas A and B

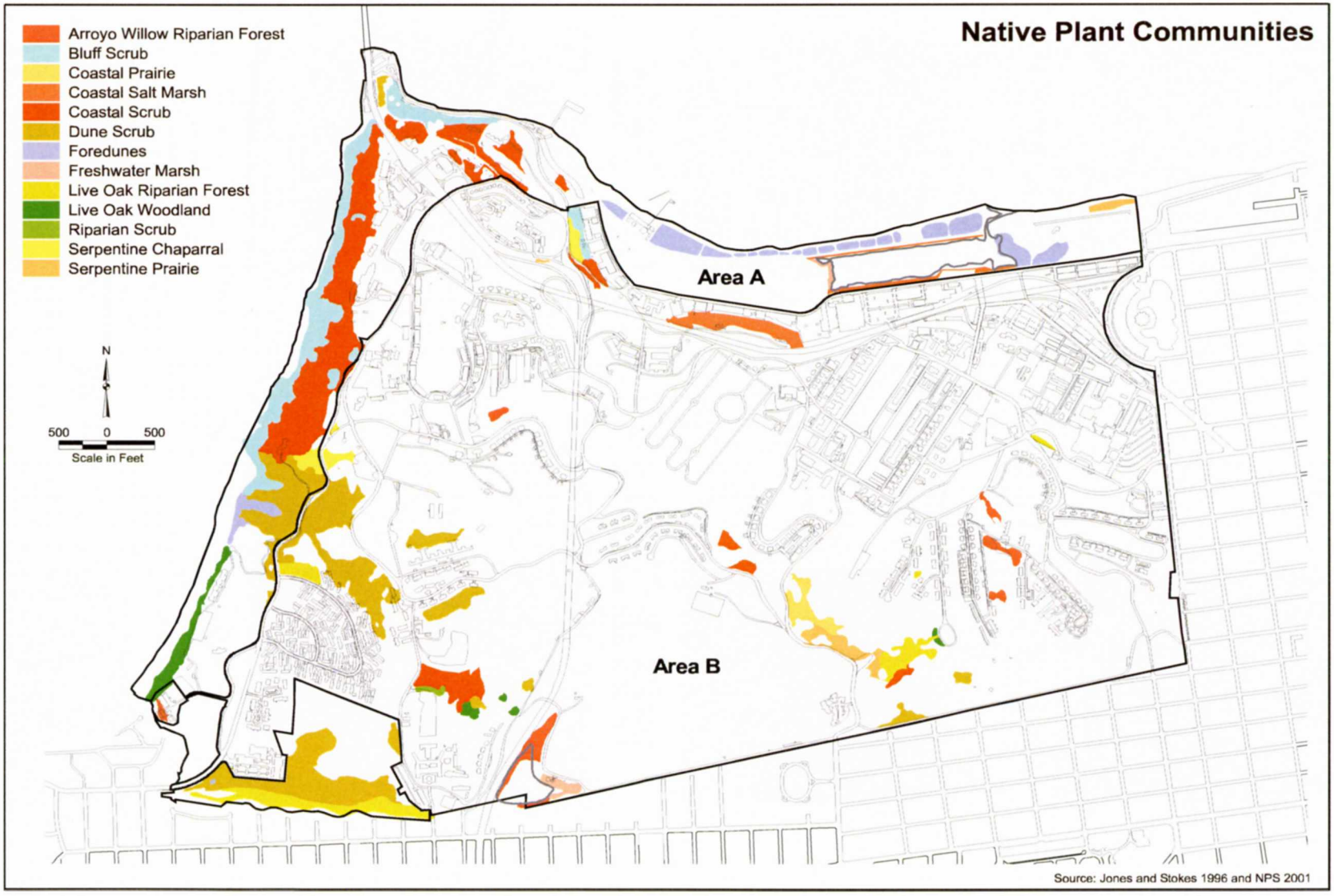
To date, 20[1] areas of fresh water wetland and riparian vegetation, totaling about 29.4 acres, have been identified in both Areas A and B (see Figure 19). Palustrine emergent wetlands (represented by freshwater marsh and freshwater seep communities, discussed below) are found in the vicinity of permanent seeps and pond margins. Palustrine shrub-scrub wetlands (represented by the central coast riparian scrub community) and palustrine forest communities (represented by arroyo willow riparian forest and coast live oak riparian forest) occur along the margins of creeks and Mountain Lake. In addition, 15 additional wetland-like areas, totaling 43.3 acres, have been identified (Wood 1999). Although these areas may not meet the criteria required for classification as jurisdictional wetlands, they provide important wetland habitat values for wildlife, such as seasonal water sources, cover, and food.

Coastal freshwater marsh – This is an herbaceous community occurring in areas with perennial inundation or soil saturation in the root zone. On the Presidio, it covers 1.8 acres dominated by emergent wetland plants such as tules or bulrushes, rushes, and sedges. Much emergent and aquatic vegetation grows along the edges of Mountain Lake in the South Hills Planning District.

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[1] A systematic wetland inventory is currently underway and will be completed in Summer 2001.

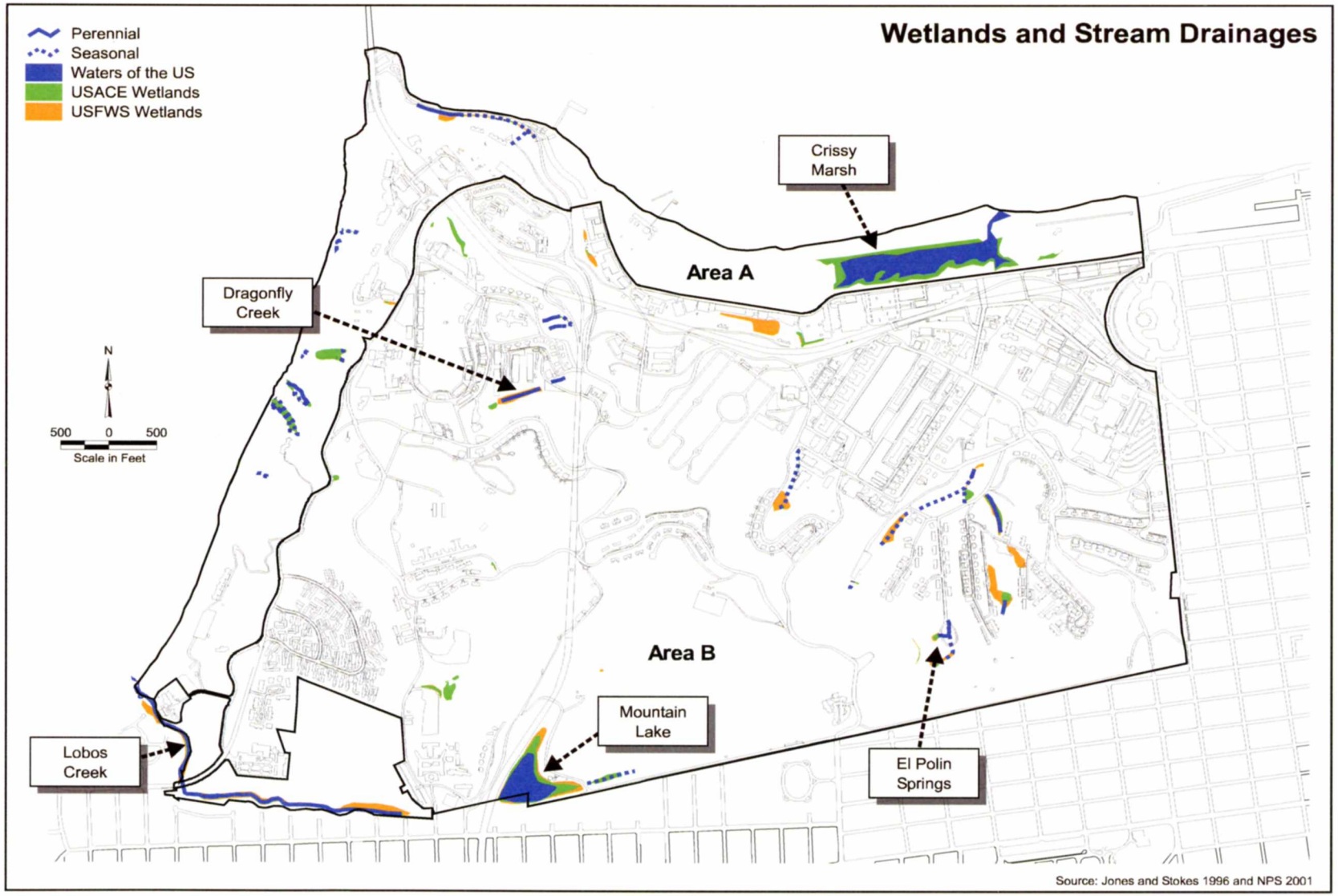
Figure 18 *Natural Resources*



AFFECTED ENVIRONMENT

Natural Resources

Figure 19 *Natural Resources*



AFFECTED ENVIRONMENT

Natural Resources

The 18-acre Crissy Field wetland is one component of the larger Crissy Field Restoration Project, designed to restore approximately 100 acres of bayfront shoreline to enhance natural, cultural, and recreational values. Construction of the wetland and adjacent foredune habitat was completed in November 1999. The wetland is designed to function as a tidal salt marsh. Over 35,000 native salt marsh and upland plants presenting 25 species have been planted in the wetland.

Four plant communities occur on the restored site. The salt marsh community is dominated by cordgrass, pickleweed, salt grass, and marsh gumplant. The foredune community is comprised of sand verbenas, beach sagewort, beach bur, beach strawberry, beach salt bush, morning glory, beach pea, and American dune grass. The backdune scrub community has been restored with plantings of shrubs including coyote brush, mock heather, lizard tail, buckwheat, beach primrose and sticky monkey flower. Dune gilia and San Francisco spineflower, special-status plant species indigenous to the Presidio, have been established in the backdune. About one-third of the restored wetland consists of a freshwater wetland, or dune swale that supports silverweed, water parsley, yellow and arroyo willows, dogwood, cow clover, and several species of rushes and sedges.

Freshwater seeps – These are composed of vegetation similar to that of freshwater marsh, occur at sites with seasonal or perennial soil saturation resulting from groundwater seepage. On the Presidio, small seeps and springs occur in northern coastal scrub in Areas A and B and on permanently moist or wet soils north of the PHSH tennis courts in the South Hills Planning District. Although they cover little area, these small wetlands provide a rich species diversity (Vasey 1996). For example, the special-status Franciscan thistle occurs only in this community.

Riparian communities – These are dominated by native plants, such as willows and alders, that are adapted to moist growing conditions along streams and other drainages. In general, riparian communities throughout California and especially in the San Francisco region are considered sensitive because of very high wildlife values, limited extent in this arid region, and substantial losses of extent and values resulting from historic and recent human activities and development. Riparian communities provide shelter, nesting sites, forage and water for a wide variety of wildlife species, including migratory bird species.

In the Presidio, riparian vegetation is represented by three native plant communities (Figure 18), described below.

Central coast live oak riparian forest, - Covering 1.8 acres of the Presidio, is a hardwood forest dominated by coast live oak trees that occurs along drier, outer floodplains of perennial streams. This community generally occupies a transitional zone between moist, willow-dominated areas and drier, upland shrublands. The oak riparian forest adjacent to Lobos Creek in Area A is the last stand associated with a riparian area within the northern San Francisco Peninsula. Lobos Creek supports one of the least fragmented pieces of undeveloped riparian habitat in the city and one of the areas of highest wildlife habitat value in the Presidio (Harding Lawson Assocs. 1996). Its understory supports a diversity of plant species, but in some areas it is degraded by a dense cover of English and Cape ivies.

Central coast arroyo willow riparian forest, - Often occurring in pure dense stands of arroyo willow trees, these develop in the wettest zones of perennial and intermittent creeks and ponds below the zone where live oak riparian forest is established. Arroyo willow riparian forest occurs over 5.7 acres along the central reach of Lobos Creek and the northern margin of Mountain Lake, and in a few scattered locations along the El Polin Spring/Tennessee Hollow drainage in the East Housing Planning District. Arroyo willow riparian forest is relatively uncommon at the Presidio and in San Francisco, and is the richest existing indigenous native community on the Presidio (Vasey 1996).

Central coast riparian scrub – This is a dense stream- or lake-associated community with sandy soils and gravel bars dominated by large native shrubs including California blackberry and small trees, such as willows adapted to high moisture levels and frequent flooding. Central coast riparian scrub occurs on 0.4 acre in association with arroyo willow riparian forest at Mountain Lake and in a small section of the eastern tributary of the Tennessee Hollow Drainages System. An isolated stand of riparian scrub occurs east of Battery Caulfield Road, north of the PHSH. This stream- or lake-associated community is dominated by shrubs and small trees including California wax myrtle, coyote brush, and arroyo willow.

Upland Communities of Areas A and B

Bluff scrub – In the Presidio this is relatively continuous along the steep bluffs facing the ocean from Battery Crosby to south of Fort Point, and along the bayshore from Fort Point to west of Crissy Field, covering a total of 22.1 acres on the Presidio. It is more fragmented on the bayshore side and on the more interior upland cliffsides. Bluff scrub also occurs on serpentine outcrops at Fort Point and north of Baker Beach. Bluff scrub is dominated by low shrubs and prostrate herbaceous species including California blackberry, poison oak, lizard tail, and toyon. The bluff scrub community has the highest concentration of native species and natural diversity on the Presidio (Vasey 1996).

Northern coastal scrub – This occurs at a slightly higher elevation on adjacent gentle slopes and inland areas. Coastal scrub extends inland of bluff scrub from Battery Crosby to west of Crissy Field, and at 3 scattered locations in the south central portion of the Presidio in the Main Post and residential Planning Districts. Much of the 43.6 acres mapped as coastal scrub occur on serpentine soils and could support inclusions of serpentine scrub. This community is dominated by California blackberry, poison oak, prostrate and erect coyote brush, golden yarrow, toyon, and arroyo willow.

Central dune scrub – This is an inland sand dune community of shrubs and annual and perennial wildflowers that is characterized by densely packed shrubs interspersed with scattered grassy openings. The largest remaining patches of dune scrub occur on the bluffs below Lincoln Boulevard south of Battery Crosby, between Lincoln Boulevard and Washington Boulevard, on the restored Lobos Creek dunes north of Lobos Creek, and on sites east of the PHSHs north parking lot. The Lobos Creek dunes were a playing field and disturbed area that was restored in 1995. Dune scrub occurs on the sand terrace slopes above Baker Beach and extends up sandy inland dunes east toward and beyond Mountain Lake. Dune scrub occurs over a total of 48.5 acres in Area A and Area B within the South Hills Planning District and the East Housing Planning Districts. It is dominated by mock heather, lizard tail, bush monkeyflower, coyote brush, bush lupine, Chamisso's lupine, poison oak, California coffeeberry, and California blackberry. Several special- status plant species (San Francisco campion, San Francisco wallflower, San Francisco spineflower, dune gilia, and San Francisco lessingia) are found in association with this community. The extent of the dune scrub community has been greatly reduced from its historic distribution, and it is considered to be a rare community in California.

Serpentine scrub (Chaparral) – This covers 3.5 acres on the Presidio and intergrades with serpentine grassland and serpentine barrens. Serpentine (a soil derived from serpentinite rock) contains low levels of nutrients, such as nitrogen, that are essential to plant growth, and high levels of minerals that are toxic to most plants, such as nickel. Many plant species, including several special-status species described below, are considered "serpentine endemics." Small patches of serpentine scrub occur on well-developed serpentine soils southwest of Crissy Field in the Main Post Planning District, south of the World War II Memorial on either side of Lincoln Boulevard in Area A, and the South Hills Planning District. The indigenous serpentine natural communities on the Presidio are more diverse than natural communities occurring on sandy substrates, and support many rare plant species (Vasey 1996).

Coastal terrace prairie – This was once the most common plant community on the Presidio but now covers less than 3 acres in the western area of the Presidio (Vasey 1996). Coastal prairie is dominated by California oatgrass, purple needlegrass, foothill needlegrass, and many non-native grasses. Coastal prairie is considered to be a sensitive community because its extent has been drastically reduced in California due to agricultural practices and urban development. (CDFG n.d.)

Serpentine bunchgrass grassland (Prairie) – This is a sensitive grass- and herb-dominated community restricted to well-developed serpentine soils in more protected, drier, less windy, and more sunny uplands. On the Presidio, the serpentine bunchgrass community occurs on about 4 acres within the South Hills Planning District. The upper portions of the rocky serpentine ridge running south from Fort Point to the southern Presidio entrance at Arguello Boulevard once contained large areas of serpentine bunchgrass prairie (Vasey 1996). It is dominated by purple needlegrass and foothill needlegrass as well as serpentine-endemic special-status species such as the Presidio clarkia and Marin western flax.

Coast live oak woodland – This develops in moist, sheltered sites away from the immediate coast. A total of 5.3 acres of live oak woodland occur on the Presidio. Only small, scattered stands of coast live oaks with an understory of shrubs or grass occur on the Presidio. A stand of short, multitrunked coast live oaks occurs on about 1.7 acres of stabilized dunes northeast of the PHSH in the South Hills Planning District. Historically, other native trees (such as buckeye, madrone, or California bay) could have occurred with coast live oak.

Special-Status Plant Species

Special-status species of plants are those legally protected under FESA, species proposed or candidates for listing under FESA, and "sensitive" species that are considered sufficiently rare by the scientific community to qualify for such listing. As a federal agency, in accordance with Section 7 of the FESA, the Trust is required to consult as necessary with the USFWS to ensure that its actions do not jeopardize the continued existence of species listed as endangered or threatened under FESA or their designated Critical Habitats. Section 7 consultations with the USFWS was initiated during the scoping phase for the PTIP, and will continue to ensure that the plan is in compliance with federal law and will not jeopardize the continued existence of any special-status species nor its habitat.

Thirteen endangered, threatened, and sensitive plant species listed, proposed, or candidates for listing under FESA, Species of Special Concern designated by the USFWS, and species considered sensitive by the California Native Plant Society (CNPS) known to occur on the Presidio are designated in Table 4 and shown on Figure 20 (USFWS 2001). Four plant species listed as endangered under FESA occur on the Presidio: Raven's (Presidio) manzanita, Presidio clarkia, California sea-blite and San Francisco lessingia. One species, Marin dwarf flax, is listed as threatened under the FESA. Two species, Franciscan thistle and dune gilia, are proposed for listing under FESA. Six other plant species are considered Species of Special Concern by the USFWS. Coast rockcress is included on CNPS List 4, a watch list of plants that are declining in numbers in California. Five of these plant species are also listed as endangered, and one is listed as threatened by the State of California. The State of California's Endangered Species Act (CESA) protects endangered species, although state law is not applicable to federal lands.

The Raven's Manzanita Recovery Plan was published by the USFWS in 1984. The focus of the recovery effort for this federally-listed endangered species is protection of the existing wild manzanita plant and identification of new receptor sites for establishment of daughter clones. An update to the management objectives for the Raven's manzanita is expected later this year, as described below.

Table 4: Known Occurrences of Special-Status Plant Species on the Presidio

Common Name	Scientific Name	Federal/State/ CNPS Status	Habitat	Area
Coast rock cress	*Arabis blepharophylla*	--/--/4	Coastal Scrub, Serpentine Scrub	A
Raven's manzanita	*Arctostaphylos hookeri* ssp. *ravenii*	FE/CE/1B	Serpentine Scrub	B
San Francisco Bay spineflower	*Chorizanthe cuspidate* var. *Cuspidata*	(FSC)/--/1B	Lobos Creek Dunes, Dune Scrub	A,B
Franciscan thistle	*Cirsium andrewsii*	--/--/proposed 1B	Coastal Bluff Serpentine Seeps	A
Presidio clarkia	*Clarkia franciscana*	FE/CE/1B	Serpentine Coastal Prairie, Serpentine Barrens and Rock Outcrops	A
San Francisco wallflower	*Erysimum francisanum*	(FSC)/--/4	Dune Scrub, Coastal and Bluff Scrub, Serpentine Grassland	A
Dune gilia	*Gilia capitata* ssp. *chamissionis*	--/--/proposed IB	Dune Scrub, Coastal Scrub	A
San Francisco gumplant	*Grindelia hirsutula* var. *maritima*	(FSC)/--/1B	Serpentine Scrub	
Marin western flax	*Hesperolinon congestum*	FT/CT/1B	Serpentine Grassland and Barrens	A,B
San Francisco lessingia	*Lessingia germanorum*	FE/CE/1B	Lobos Creek Dunes, Dune Scrub	A,B
San Francisco popcorn flower (a)	*Plagiobothrys diffusus (P. reticulatus* var. *rossianorum)*	(FSC)/CE/1B	see footnote a.	
San Francisco campion	*Silene verecunda* ssp. *verecunda*	(FSC)/--/1B	Dune Scrub	A
San Francisco owl's-clover	*Triphysaria floribunda*	(FSC)/--/1B	Serpentine Scrub	

Source: California Department of Fish and Game Natural Diversity Database Special Vascular Plants, Bryophytes and List, January 2001 and National Park Service (1995b).

Notes:

Status definitions:

-- = no listing status

Federal: U.S. Fish and Wildlife Service (50 CFR 17.12, 61 FR 40:7596-7613, Feb. 28, 1996)

FE = listed as endangered under the Federal Endangered Species Act

FT = listed as threatened under the Federal Endangered Species Act

(FSC) = Federal Special Concern Species (former Category 2 candidates)

State: California Department of Fish and Game (1995)

CE = listed as endangered under the California Endangered Species Act

CT = listed as threatened under the California Endangered Species Act

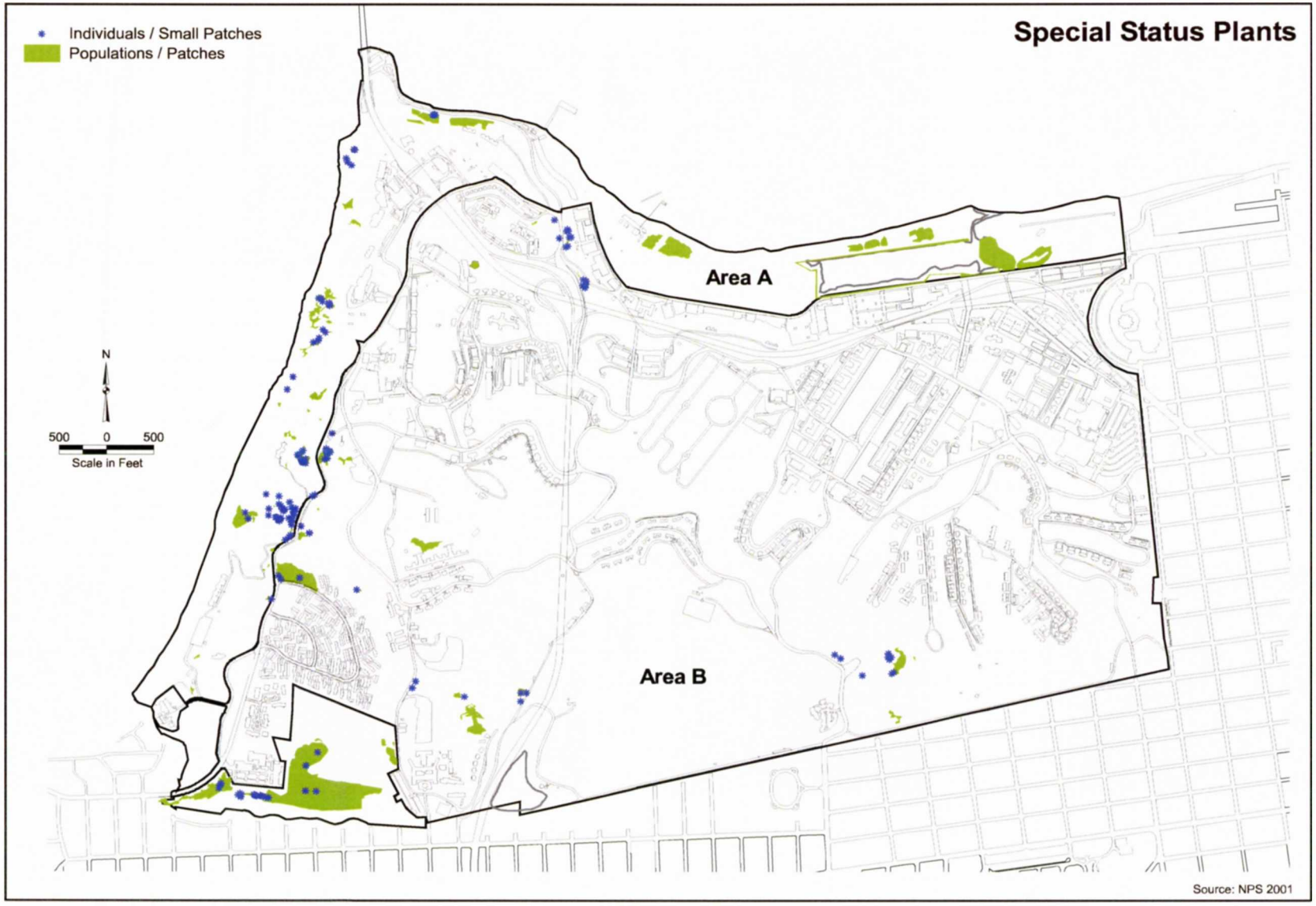
CNPS: California Native Plant Society (Skinner and Pavlik 1994)

1B = List 1B species: rare, threatened, or endangered in California and elsewhere

4 = List 4 species: a "watch-list" of plants of limited distribution

(a) Last known occurrence at the Presidio (1933), not included on Figure 20.

Figure 20 *Natural Resources*



AFFECTED ENVIRONMENT

Natural Resources

Recovery plans for two federally-listed plant species occurring on the Presidio are also contained in the Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area (USFWS 1999). The plan addresses the recovery of the Presidio clarkia and the Marin dwarf flax. It outlines protection and management strategies and actions for the remaining populations to ensure the long-term survival of the species. Strategies include preserving the largest possible block of serpentine habitat, establishing protective buffer areas, reducing trampling and disturbance, and allowing for potential expansion of the population. In addition, unoccupied suitable habitat would be protected, and the effectiveness of various techniques for opening new habitat would be evaluated. Although not discussed in the Recovery Plan, these measures would also benefit the Franciscan thistle, San Francisco wallflower, and the coast rock cress.

In addition, the USFWS is preparing a Draft Recovery Plan for Coastal Plans of the Northern San Francisco Peninsula. The recovery plan will address two species: San Francisco lessingia (*Lessingia germanorum* Cham.) and Raven's manzanita (recently treated taxonomically as *Arctostaphylos hookeri* G. Don ssp. *ravenii* P. Wells). The recovery plan is expected to be released in Fall 2001. Once approved, this recovery plan will provide an update for and merge with the 1984 Raven's manzanita plan described above. The plan will include actions that would benefit other federally-listed species that are ecologically associated with these principal species.

Special-status species within the native plant communities on the Presidio are concentrated in central dune scrub, serpentine scrub, and serpentine grassland communities, discussed in the previous text on plant communities (Table 4 and Figure 18). The rapid spread of invasive exotic plant species is one of the most critical threats to the function of these communities and the viability of the Presidio's native flora (Vasey 1996).

California Sea-blite – This was recently reintroduced into the Crissy Field marsh by the GGNRA. It is a wind-pollinated, succulent-leafed, perennial shrub in the goosefoot family. The historic range of this species was limited to the San Francisco estuary and the vicinity of Morro Bay. California sea-blite had been extirpated from San Francisco Bay; there have been no valid reports or collections of this species from the Bay since the mid-twentieth century. Prior to its reintroduction, Morro Bay hosted the only surviving population, where it is restricted to the upper-intertidal zone within coastal salt marsh habitat.

Coast rock cress – This is a perennial plant with rose-purple flowers borne on a stalk arising from a basal rosette of leaves. It occurs in scattered locations in bluff scrub and coastal scrub communities. In the Year 2000 survey, 3 formerly located populations were not found. However, 2 new populations were mapped on the coastal bluffs.

Dune gilia – This is an annual plant with a skunk–like odor and bright blue-violet flowers. It occurs in open sandy areas within the central dune scrub plant community habitats.

Franciscan thistle – This is endemic to the San Francisco Bay region. It is a short-lived, perennial plant found in serpentine seeps, streamsides, slope wetlands and coastal sites where the soil is saturated perennially, or nearly so. On the Presidio, 1 population of the Franciscan thistle occurs along the coastal bluff at Fort Point, and several populations occur along the serpentine seeps of the coastal bluffs immediately south of the Golden Gate Bridge in Area A.

Marin dwarf flax – This is a small annual with pink to rose-colored petals. One population occurs on serpentine barrens in serpentine scrub and grassland habitats in Area A. A population was recently extirpated (last seen in the early 1990s) from Inspiration Point in the South Hills Planning District.

AFFECTED ENVIRONMENT

Natural Resources

Presidio clarkia – This is an annual with lavender-pink petals shading to white near the middle and a bright reddish-purple base. It is endemic to serpentine coastal prairie and serpentine rock outcrops. Only 3 populations are known, 1 located in the Oakland Hills in the East Bay, and 2 on the Presidio. Of the 2 Presidio populations, only the Inspiration Point population in the South Hills Planning District is a natural historic population; the second population at the World War II Memorial was established by direct seeding in the 1970s. Habitat for the Presidio clarkia is affected by the establishment of non-native vegetation, resulting in increased competition for water and light and a build-up of organic material, and creating low-light and high-nutrient conditions less favorable for the clarkia (Bode 2000).

Raven's manzanita – This is a mat-like, perennial shrub, with prostrate stems. It is endemic to the Presidio. The only known surviving individual of this species under natural conditions, estimated to be over 30 years old, occurs on a small portion of a 0.6-acre serpentine outcrop in the general vicinity of the World War II Memorial in Area B (USFWS 1984). Clones from this plant have been introduced in several places in the adjacent area and across Lincoln Boulevard in Area B (although the parent plant is in Area B, clones were planted in both areas). Habitat for this species is degraded by trampling, by social trail development, and invasion by exotic plants, especially Cape ivy and iceplant (GGNRA 1994). In addition, predation by a recent invasion of tussock moth larvae and an infectious fungus have partially to fully defoliated some plants, and could be responsible for the dieback of some clones. The current focus of the recovery effort for the species is protection of existing manzanita plants and identification of new receptor sites for transplants. The 1984 USFWS Raven's Manzanita Recovery Plan is currently being updated, and will include the publication of additional management objectives and recovery actions (Baye 2000).

San Francisco campion – This is a perennial with white to rose flowers. It occurs in dune scrub habitat. Two populations are known to occur in the South Hills Planning District, and 1 population in Area A at North Baker Beach.

San Francisco gumplant – This is a perennial with gray-green leaves and yellow flowers borne in a head. It occurs in serpentine scrub in the Fort Scott Planning District and on serpentine soils in bluff and coastal scrub communities.

San Francisco lessingia – This is an annual with deep lemon-yellow flowers borne in a terminal head. It is endemic to the northern San Francisco peninsula from San Mateo County north to the Presidio. It was formerly widespread regionally throughout open sandy habitats. Today, 5 of its 6 remaining small populations are within the Presidio. One of these populations near Battery Caulfield was reintroduced in the 1980s by the U.S. Army. Lessingia occurs naturally in early central dune scrub habitat on remnant and re-created dunes in the Lobos Valley and at Crissy Field. In Area B, lessingia is found at Rob Hill in the South Hills Planning District along the Presidio Hills Golf Course Road cut in the South Hills Planning District, and north of the PHSH. Lessingia thrives within areas of small-scale natural disturbances and gaps, and is interspersed within the larger dune vegetation community itself. On the Presidio, it occurs only on coastal sand in small-scale blowouts or land slippages, eroding areas, or habitat disturbed by the removal of invasive exotic plant species. The populations are found on stable, mature, partly lithified dunes, such as those occurring on the Oceanview and Colma formations north and south of the mobile dune sheet, at the tip of Baker Beach. The entire northern San Francisco recovery area for this species is located within the Presidio, because San Francisco lessingia requires specific aspect (exposure to wind), elevation, slope, and soil conditions that are geographically specific, and cannot be duplicated elsewhere (personal communication Baye).

San Francisco owl's clover – This is a short annual with small creamy white flowers borne in a dense spike. It is a Central Coast endemic that was once widespread on the San Francisco peninsula, but is now restricted to 2 populations occurring on serpentine scrub in the South Hills Planning District, and serpentine-derived soils north of the Log Cabin in the Fort Scott Planning District. The Fort Scott population of approximately 500 individuals was found in April 2001.

San Francisco spineflower – This is an annual with decumbent, soft-hairy stems and hairy, white-to-rose flowers with a central tooth on the petal. It occurs in sandy openings in dune scrub. On the Presidio, populations are known to occur at the Crissy Field dunes and swales, Battery Caulfield, North Baker Beach, Baker Dunes and the Lobos Creek dunes in Area A, and the Presidio Hills Golf Course and Rob Hill in the South Hills Planning District.

San Francisco wallflower – This is a biennial to subshrub with cream-colored to yellow flowers. It occurs in foredune, dune scrub, bluff scrub, and coastal scrub communities in both Areas A and B.

Exotic Plant Species

Exotic species are non-native species that were deliberately or indirectly introduced as the result of human activities. All remnant natural communities on the Presidio are vulnerable to invasion by exotic species. Non-native plant species can alter the biological diversity of native communities by outcompeting and displacing native vegetation, changing natural successional patterns, and altering soil composition. Introduced trees have affected the Presidio's microclimates by limiting natural processes, such as wind movement, by acting as windbreaks, collecting moisture from summer fog, increasing shade, and altering soil conditions. Because fire has been suppressed on the Presidio, fire-intolerant non-native species are increasing. Additionally, non-native plants do not usually provide optimum forage for native wildlife because they did not evolve together.

In 1883, the U.S. Army initiated a tree-planting program to establish a forest on the Presidio. This Historic Forest occupies approximately 457 acres throughout the Presidio, consisting of up to 400,000 nonindigenous trees. The survivors of these plantings are primarily blue gum eucalyptus, Monterey cypress, Monterey pine, and acacias (Vasey 1996).

Following disturbance to foredune and dune scrub communities, non-native species, such as ice plant, exotic annual grasses, and forbs, have become dominant species at many sites, often approaching 100 percent cover. Ice plant was planted by the U.S. Army in many of these areas to provide cover and to stabilize soils to correct erosive conditions resulting from over-grazing and disturbance. The most invasive exotic plant species currently affecting remnant native habitat include European annual grasses, such as tall fescue, orchard, purple velvet and erharta grasses; Cape, English, and Algerian ivies; oxalis; iceplant and narrow-leafed iceplant; pampas grass; French broom; acacias; prickly ox-tongue; sow thistle; and Italian thistle.

Ecological Restoration and Habitat Enhancement

The goal for ecological restoration efforts is to restore both natural processes and function. The VMP identifies sites proposed for native species and native habitat restoration. Most of these sites are adjacent to existing native plant communities, located on sandy and serpentine soils, which support a number of special-status plant species, or are riparian or aquatic habitats that have high value to wildlife. Following the identified actions in the VMP could expand the current native ecosystems of the Presidio from almost 170 acres to 394 acres, an increase of approximately 220 acres.

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Ecological restoration activities consistent with the goals and objectives of the VMP are occurring on approximately 210 acres of the Presidio, including Lobos Creek Dunes, North Baker Beach, the PHSH Planning District, Rob Hill, Inspiration Point, and the Crissy Field Marsh (see Figure 21). These natural resource stewardship efforts are supported and accomplished by shared resources between the NPS, the Trust, and the Golden Gate National Parks Association through integrating community participation and educational opportunities into all phases of restoration. Some of these habitat restoration activities include removal of non-native vegetation, native plant propagation, revegetation, and monitoring.

Additional areas proposed for restoration under the VMP include existing dune, bluff, coastal scrub, and grassland areas; the Mountain Lake and Lobos Creek drainage areas; the three tributaries and associated riparian corridor of the Tennessee Hollow creek; serpentine grassland and scrub communities; areas suitable for rare plant species in dune and riparian areas; and areas where remnant native plant communities and wetland areas can be enhanced or enlarged. To preserve the unique genetics of the Presidio flora, all plant material will be derived from populations of native species presently or historically occurring on the Presidio. All ecological restoration sites will be monitored until the established success criteria are met.

Vegetation management actions identified in the VMP include:

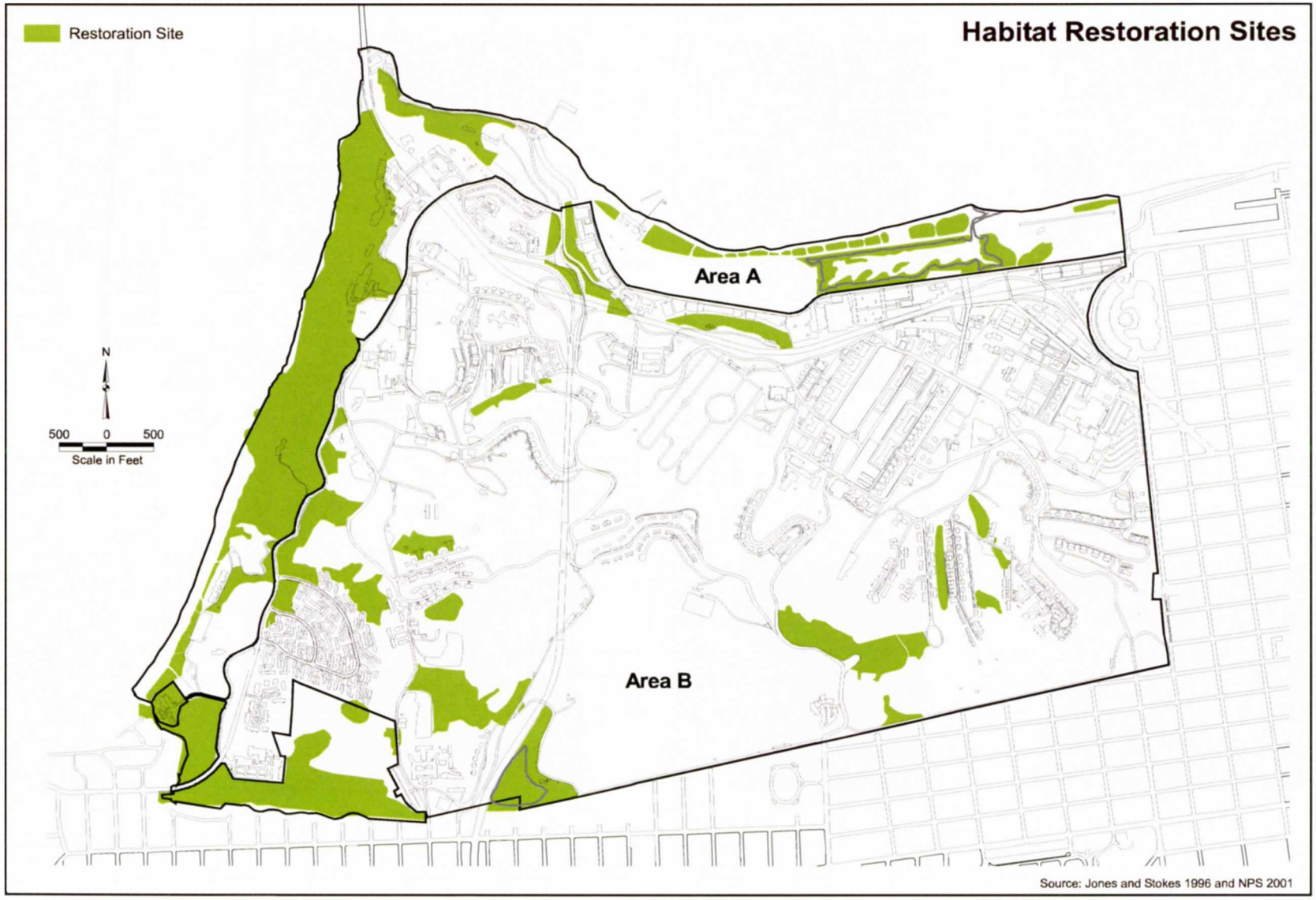
- removing threats to native species, repairing damage to habitat, and increasing reproductive success;
- the restoration and enlargement of native plant communities by reclaiming habitat from past development, non-native species, and non-native trees outside of the historic forest management zone;
- the preservation and enhancement of rare plant species habitats by evaluating species-specific habitat needs, and giving high priority to actions that preserve and enhance those habitats; and
- protection and enhancement of wildlife habitat by expanding habitat for native plants, increasing native species and habitat diversity, avoiding disturbance to non-native forests with high-wildlife value, and avoiding disturbance to wildlife habitat during critical times of the year (e.g., nesting bird season).

Under the VMP, threats to all biological resources will be removed or mitigated to the greatest extent feasible. Habitat fragmentation and loss of biological diversity often result from the invasion of non-native plants into native plant communities. To address the control of invasive non-native plants the Trust will follow the objectives in the VMP including preventing introduction of non-native species, and controlling and removing existing non-native species. Exceptionally invasive plants, such as Andean pampas grass, Australian fireweed, Bermuda buttercup, French broom, Cape ivy, gorse, European dune grass, and sow thistle, have the highest priority for eradication, and will be controlled or removed wherever they are found on the Presidio. Iceplant, albizia, wattles (acacia), velvet grass, orchard grass, bentgrass, European annual grasses, prickly ox-tongue, and myoporum will also be actively managed as they particularly threaten serpentine communities. Control activities will be limited in areas where the non-native plant material is considered important to the preservation of the historical integrity of cultural resources.

Restoration actions will be planned and evaluated on a site-specific basis by a multidisciplinary team so that impacts on sensitive resources can be minimized. All restoration and Trust operational activities will use current best-management practices to provide the highest level of protection for both physical and biological resources. All restoration planning will be coordinated with the future area planning efforts.

In addition, ecological restoration activities will focus on the recovery of federally listed species. The 13 special-status plant species described in Table 4 will be protected and their populations will be monitored. Actions

Figure 21 *Natural Resources*



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Natural Resources

to recover the species and restore their associated habitats identified in USFWS Recovery Plans will be undertaken in coordination with the USFWS to ensure that actions comply with the FESA.

Integrated Pest Management

On the Presidio, Integrated Pest Management (IPM) practices developed by the University of California Statewide Integrated Pest Management Project are followed to control exotic pest plants, outbreaks of damaging insects, and plant pathogens. IPM develops and promotes the use of integrated, ecologically-sound pest management programs in California. IPM is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Approved pesticides are used only after there is indication that they are needed, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and nontarget organisms, and the environment (UC Davis n.d.).

IPM practices for general pests have been developed, and plans for the Golf Course are almost complete. An integrated program emphasizing nonchemical methods will be used to control exotic plants and encourage the establishment and growth of native plants. Non-native species with the potential to threaten native species and ecosystems, and that can be successfully controlled, will also be managed and eradicated where possible. Animal pests to facilities and human health will also be controlled using IPM practices. Non-native wildlife pests will be controlled in order to conserve rare species, preserve historical integrity of cultural resources, conserve facilities in developed areas, or manage a human health hazard.

WILDLIFE

Compared to vegetation and wetlands resources, only limited wildlife studies have been completed on the Presidio and more information is needed. Despite its isolation from large corridors of natural habitats, the Presidio is a valuable refuge, providing habitat for amphibians, reptiles, invertebrates, birds, and mammals. Although species diversity is often low for much of the wildlife, the diversity and richness of bird species is remarkably high for such a small acreage of habitat. Many of the areas, both natural and landscaped, provide important habitat structure for birds. The native scrub habitat, open spaces, riparian woodlands, available water, and cultural forest provide a variety of important habitat values.

In Area A, Crissy Field Marsh provides important aquatic habitat open to San Francisco Bay. Invertebrate species, such as crabs and aquatic insects that colonize the marsh, provide significant foraging opportunities for wildlife, especially shorebirds. These wildlife values will be affected by stormwater changes, outfalls, and noise and light pollution conditions. Bay and ocean dwelling special-status wildlife species that could be affected by spills of toxic materials, pollutants discharged through storm drains, or sediment resulting from erosion, include fish, such as steelhead and salmon, as well as the river lamprey, Pacific lamprey, and green sturgeon. Vegetation, microorganisms, and filter-feeding invertebrates occurring in the Crissy Field Marsh remove some sediment and pollutants from waters discharged into the marsh before they enter the ocean or bay; however, such discharges should be addressed and mitigated prior to reaching the marsh habitat.

Threats also affect the diverse wildlife within Area B of the Presidio. Habitat fragmentation and the isolation of open space by urban interfaces are inherent characteristics of Presidio. As fragmentation and isolation of wildlife habitat continues throughout the larger Bay Area, the importance of the Presidio's open space areas as a refuge increases. The Presidio's native

wildlife resources could also be affected by non-native species such as Norway rats, bullfrogs, carp, spotted bass, feral cats, European starlings, pigeons, and red foxes. Native problem species include unnaturally elevated populations of skunks, raccoons, corvids, and the brown-headed cowbird, which parasitizes open-cup nests of neotropical-migratory birds. Disturbances to wildlife and/or their habitats can result from park operations, visitors and their pets, off-trail bikes, dogs, hikers, special events, excessive lighting and noise, vehicle hits, tree and scrub removals, unpermitted collections, wildland fire suppression, erosion, construction, and environmental contaminants.

Applicable Laws and Regulations

The Federal Endangered Species Act of 1973, as previously described under the Vegetation section, would also be applicable for certain wildlife species known to, or with the potential to occur, at the Presidio.

In addition to FESA, the Migratory Bird Treaty Act of 1918 makes it unlawful to "take" (e.g., kill, harm, harass) any migratory bird listed in 50 CFR 10, including their nests, eggs, or products. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, and many others.

The Migratory Bird Executive Order of January 11, 2001 directs executive departments and agencies to take certain actions to further implement the Migratory Bird Treaty Act, and defines the responsibilities of each federal agency taking actions that have, or are likely to make, a measurable affect on migratory bird populations. All project actions within the Presidio must comply with this act; therefore, they cannot result in unauthorized take of migratory birds.

Wildlife History

Since the late 1800s, at least 262 vertebrate species have been recorded at the Presidio: 8 amphibians, 15 reptiles, 224 birds, and 14 mammals (Presidio of San Francisco 1997). These wildlife species are consistent with what is known about wildlife habitat relations in the communities present today. Other species, such as deer, could have occurred, but are no longer present on the Presidio. Historical land management practices on the Presidio displaced, altered, and reduced approximately 90 percent of the native vegetation, and have resulted in an associated loss of native plant species and diversity and diminished wildlife habitat. Extensive areas of native habitat were altered by the introduced forest stands or removed for development. Nonetheless, the Presidio provides important remnant wildlife habitat within the urban environment of San Francisco, where wildlife and wildlife habitat are scarce, and serves as an important link to coastal forests to the north and south. Wildlife corridors and bird locations are shown in Figures 17 and 22. Current forest areas and tree resources are shown on Figure 23.

Wildlife-Habitat Relationships

Mountain Lake supports a range of native-resident bird species, such as ducks, gulls, and grebes, as well as spring and fall migrants. Exotic species of fish, such as carp and spotted bass, as well as non-native bullfrogs and turtles, are the only fish, amphibians, and reptiles that occur in the Lake. These exotic species have successfully outcompeted the local aquatic fauna, such as the California red-legged frog and western pond turtle, that historically occurred in the Lake. Surrounding woodland provides habitat for red-shouldered hawks and willow flycatchers (special-status bird species).

The diverse community types occurring in the vicinity of Lobos Creek provide a range of habitats that support a number of aquatic and terrestrial

wildlife species. Dune community plants provide habitat for birds and reptiles, as well as breeding and foraging sites, nectar sources, and host plants for insects, including butterflies and bees. Riparian scrub provides valuable habitat for wildlife. On the Presidio, riparian scrub occurs along Lobos Creek and in a small 0.5-acre patch at a sandy seep (spring) north of the PHSH tennis court. The diversity of species in riparian habitat is highly dependent on structural characteristics and extent of habitat. Remnant patches of riparian vegetation, although isolated and small in size, provide resting sites for migratory birds and limited habitat for resident species of birds, such as warblers. Such vestiges of riparian vegetation exist in Tennessee Hollow and at Dragonfly Creek as well as at the PHSH, Mountain Lake, and Lobos Creek. A population of California quail is established in dense willow cover adjacent to a seep-fed seasonal wetland located north of the PHSH. Native shrubs, such as toyon and coyote brush, provide structural diversity and increased habitat value wherever they occur. Replacement of native habitat by lawns and landscaping, the spread of invasive exotic animals and plants, predation by domestic cats and dogs, and trampling and digging by dogs have altered wildlife communities occurring in the Presidio significantly by affecting ecosystem function, reducing vascular plant species richness, reducing insect abundance in certain plant communities, and reducing habitat for indigenous wildlife. Playfields, lawns, non-native plantings, and invasive plants provide little habitat value for wildlife other than generalist, opportunistic species, such as jays, blackbirds, starlings, house sparrows, raccoons, opossums, gophers, and small rodents. The populations of several of these opportunistic species have increased significantly due to human influences (primarily increased refuse) on the Presidio. Tall eucalyptus, pines, and cypresses provide nesting sites for raptors, although suitable undisturbed open grassland habitat and riparian forest foraging habitat for raptors is limited on the Presidio. These tree species also provide valuable habitat for woodpeckers, owls, flycatchers, and other songbirds. Exotic wildlife species, including the red fox and fish and bullfrogs at Mountain Lake, have a negative affect by preying on indigenous wildlife and reducing their populations.

Wildlife Resources Within the Presidio

Despite its isolation from undeveloped natural habitats, the Presidio is a valuable refuge-providing habitat for a variety of amphibians, reptiles, birds, and mammals, although species diversity is often low. The Trust will reduce threats to existing native wildlife populations and restore extirpated native animal species whenever feasible.

Birds

For many years, members of the Golden Gate Audubon Society have conducted informal year-round surveys of birds occurring on the Presidio. More than 200 species of birds are known to use the Presidio, as many as 50 of these for nesting. Because the Presidio is located along the Pacific Flyway, a route heavily used by spring and fall migrants, vegetated areas on the Presidio provide valuable resting places, as well as food and water sources for migrating birds. Figure 22 shows locations of sensitive birds in both Areas A and B. Figure 17 shows corridors used by wildlife.

Year-round resident and migrant birds account for the greatest number of wildlife species observed on the Presidio. The dunes provide foraging opportunities and nesting sites for shorebirds such as snowy plover and black oystercatcher. The mixed evergreen forest provides shelter and nest sites for a variety of birds, including great-horned owl, red-shouldered hawk, hairy woodpecker, purple finch, red crossbill, Steller's jay, American goldfinch, lesser goldfinch, Say's phoebe, olive-sided flycatcher, and Pacific-slope flycatcher. Of particular importance is the use of the Presidio native and non-native forests by neotropical migrants, for which the Presidio is an island of suitable habitat bounded by water on three sides, and by urban development on the south. Species that use these forests include the orange-crowned warbler, common yellowthroat, Wilson's warbler, Bewick's wren, and Swainson's thrush. The Presidio's tree and shrub dominated communities also provide essential habitat for wintering birds

and for locally declining resident bird species that have been extirpated elsewhere in San Francisco, such as the California quail, western screech owl, wrentit, and Hutton's vireo. Furthermore, because urban development in the Bay Area has resulted in removal of many old trees, dead and decadent conifers in the Presidio's historic forest provide important habitat for cavity-nesting birds such as the barn owl, chestnut-backed chickadee, red-breasted nuthatch and pygmy nuthatch. Other bird species that could use habitats on the Presidio include pied-billed grebe, Virginia rail, sora, red-tailed hawk, American kestrel, band-tailed pigeon, tree swallow, violet-green swallow, cliff swallow, barn swallow, spotted towhee, and hooded oriole. For a description of special-status birds that are found on and within the vicinity of the Presidio, please see below.

Mammals

The mixed evergreen forest within the Presidio provides shelter and den sites for a variety of medium to small mammals. The riparian forest provides cover and breeding sites for opossums, skunks, and raccoons, which may forage in dunes or grassland (Harris 1993).

The most prevalent and diverse group of mammals within the Presidio appear to be bats. Ultrasound monitoring conducted on the Presidio from January to December 1994 indicated that 6 bat species known from pre-existing records for San Francisco County—red bat (*Lasiurus blossevillii*), hoary bat (*Lasiurus cinereus*), California myotis (*Myotis californicus*), Yuma myotis (*Myotis yumanensis*), Mexican free-tailed bat (*Tadarida brasiliensis*), and the big brown bat (*Eptesicus fuscus*)—forage in the Presidio. Mountain Lake had the highest level of bat activity and was the primary foraging area for the Mexican free-tailed bat, the most abundant bat species on the Presidio, accounting for 70 to 90 percent of all identified acoustic events. At Polin Spring and Hicks Athletic Field, the forest edge, at the interface between multi- aged forest stands and open areas had the greatest diversity of bat species.

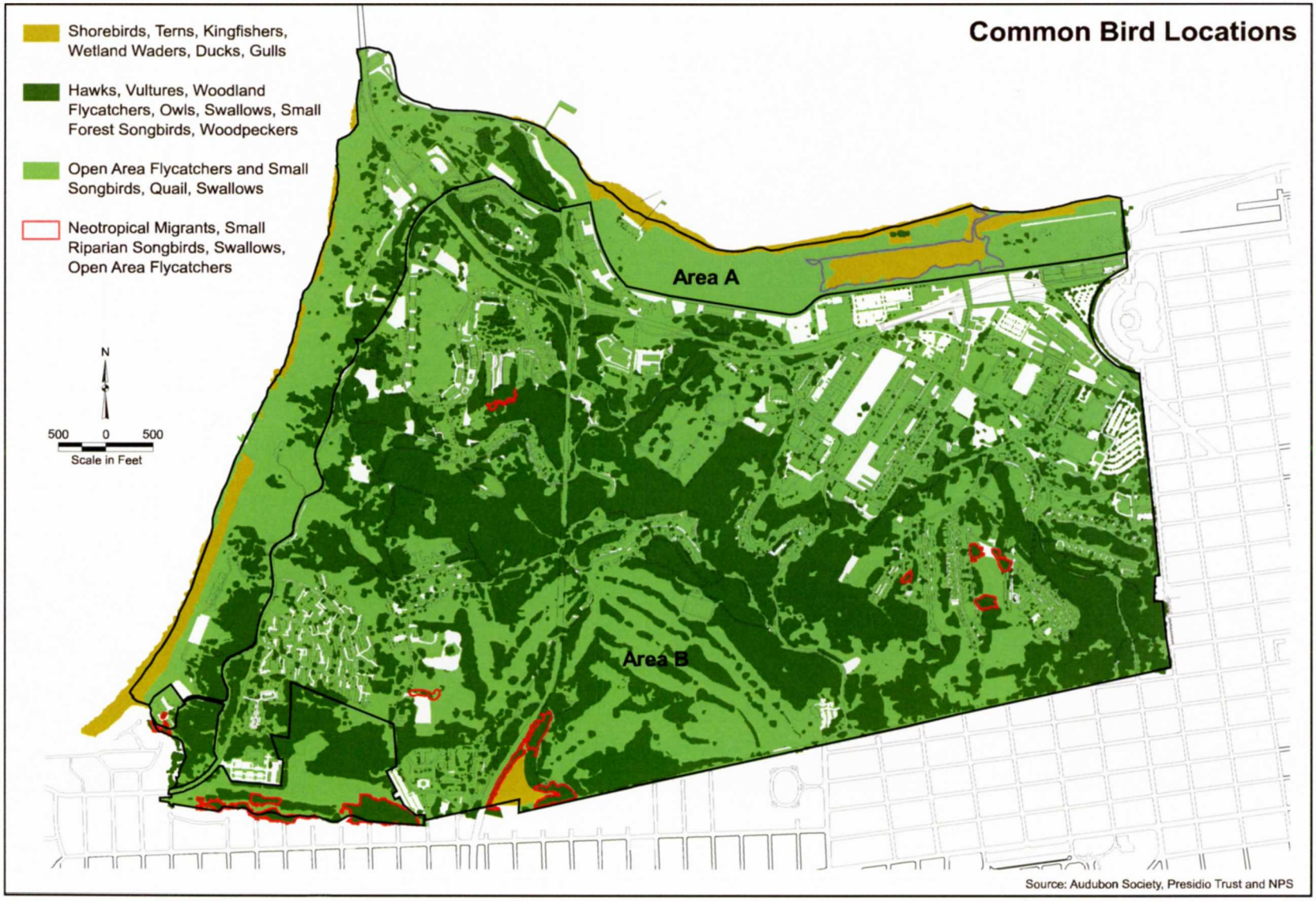
Typically, bat activity is at a peak in mid-summer. The extremely low levels of bat activity at the Presidio in summer suggest that none of the species detected maintains breeding populations there. Greater levels of bat activity in the Presidio in fall-winter-spring could be due to a large increase in the population of Mexican free-tailed bats, which have large summer breeding colonies in hotter inland areas, and then migrate to the margins of San Francisco Bay where moderate temperatures allow winter foraging. The Presidio is important fall-winter-spring habitat for the Mexican free-tailed bat and hoary bat. Observations suggest that the Presidio is located on a migratory flyway for the red bat and hoary bat (Pierson 1995).

For a discussion of special-status mammals that could occur on or within the vicinity of the Presidio, please see below.

Amphibians and Reptiles

There have been few studies to document the amphibians and reptiles occurring on the Presidio. Although 8 amphibians and 15 reptiles have been reported since the 1800s (Jones & Stokes 1997), additional inventory and monitoring, and further field studies are lacking, as there is no wildlife specialist at the Presidio. However, a few area-specific surveys have occurred, including at Mountain Lake, which supports only non-native reptiles and amphibians. Although museum specimens of the native California red-legged frog and western pond turtle have been collected at Mountain Lake, these native species have been replaced through habitat modifications and exotic species competition. The non-native red-eared slider and other non-native turtles have replaced the western pond turtle, and the bullfrog has replaced native tree frogs and red-legged frog. The bullfrog, together with the non-native fish in Mountain Lake, are strong predators of other amphibians that otherwise could live there. The Mountain Lake Enhancement project does not specifically address how to approach this problem; however, it does support research on control methods. A survey of the Baker Beach area in the late 1890s (Howell,

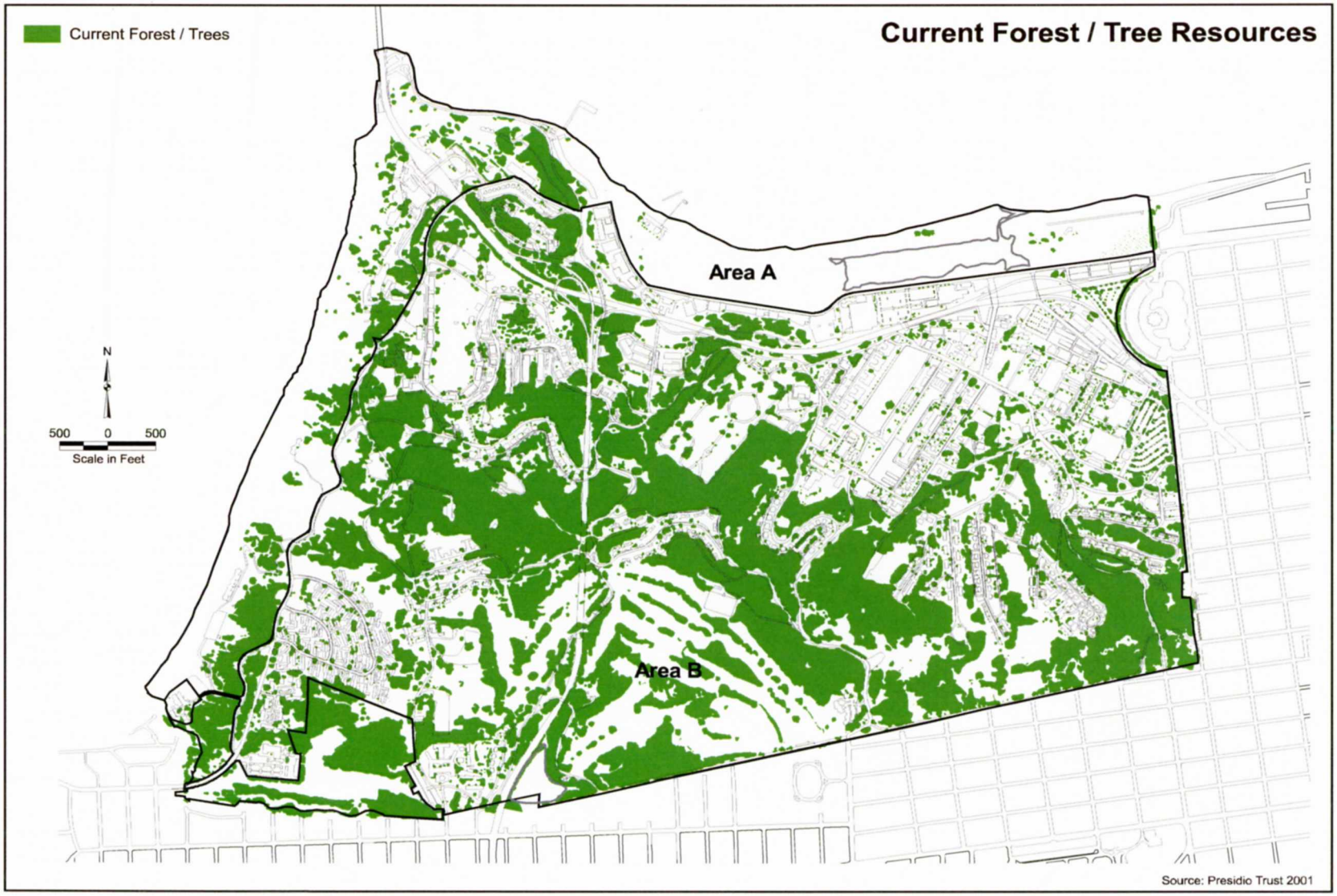
Figure 22 *Natural Resources*



AFFECTED ENVIRONMENT

Natural Resources

Figure 23


Current Forest / Trees
Current Forest / Tree Resources
Area A
Area B
N
500 0 500
Scale in Feet
Source: Presidio Trust 2001

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Natural Resources

unpublished) documented the presence of an unknown snake, most likely the coast garter snake, and the western fence lizard. Other native species commonly observed on the Presidio are California slender salamanders, western fence lizards, and alligator lizards. Salamanders are often seen in the Presidio, and recently Pacific tree frogs have been observed in the Fort Scott Planning District.

Aquatic Animals

Aquatic resource data have been gathered at Lobos Creek for several purposes. The University of San Francisco has collected field data at Lobos Creek as part of an environmental monitoring class, as well as for a thesis project. Taxa common in slow-moving water (e.g., *Argia* sp., amphipods) were the major components of the benthic macroinvertebrate collected (Codemo et al. 1995). Fish consist of 1 species: threespine stickleback (*Gasterosteus aculeatus*). Other than flow considerations, existing habitat conditions are good for threespine stickleback. These fish are closely associated with emergent vegetation and slow water, which are characteristic of much of Lobos Creek. Minimum fish densities at four sites sampled in 1998 ranged from 22 to 560 fish per 100 m^3. Major fish passage barriers are present at several locations along Lobos Creek, and preclude movement of fish between the creek and the Pacific Ocean. Fish known to occur in Area B are found at Mountain Lake. These non-native fish include carp, mosquito fish, and spotted bass. No native fish have been identified. Non-native fish disrupt natural aquatic systems by preying on native fish and amphibians. The Mountain Lake Enhancement Plan does not specifically address measures that provide for control of non-native fish and amphibian populations, nor reintroduction strategies for native wildlife within the Lake; however, the PTIP does acknowledge the problem and defines treatments to create a deeper and cleaner lake.

Arthropods

Little is known about arthropods that have no special status. One study conducted at Lobos Dunes in 2000 identified much diversity at that site (Lacabanne 2000). This study found that human impacts affecting wind and wind "blowouts" were major factors affecting dune ecology. The introduction of non-native grasses also has had a great negative effect on biodiversity at Lobos Dunes and the PHSH. Non-native grasses colonize open sand, use nutrient resources, soil, and water, and result in the loss of plant and animal diversity, and the progression of natural succession. Planted or accidental introductions of other non-native plant species, habitat fragmentation by construction of the coastal highway, and military occupation are some human influences that have altered the natural terrain and ecosystem processes that native central dune habitat requires to function properly. These activities changed natural wind disturbances, interrupted the progression of sand movement inland, changed soil chemistry, and affected resources needed for the reproduction of native species, including arthropods.

Special-Status Animal Species

Special-status species of animals are those legally protected under the FESA, species proposed or candidates for listing under FESA, and "sensitive" species that are considered sufficiently rare by the scientific community to qualify for such listing. As a federal agency, in Accordance with Section 7 of the FESA, the Trust is required to consult as necessary with the USFWS to ensure that its actions do not jeopardize the continued existence of species listed as endangered or threatened under FESA or their designated Critical Habitats. Section 7 consultation with the USFWS was initiated during the scoping phase for the PTIP and will continue to ensure that the plan is in compliance with federal law and will not jeopardize the continued existence of any special-status species nor its habitat. Special-

status animal species that could potentially occur or are known to occur on the Presidio are designated in Table 5.

Surveys have been conducted for the California red-legged frog (*Rana aurora draytonii*), San Francisco forktail damselfly (*Ischnura gemina*), Leech's skyline diving beetle (*Hydroporous leechi*), and Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*). Surveys were conducted in 1992 and 1994 by Dr. John Hafernik of San Francisco State University at Mountain Lake, Lobos Creek, and other areas within the Presidio (Hafernik and Mead 1992; Jones & Stokes Assoc. 1995). Additional surveys have been conducted for the Lobos Creek restoration plan (PWA 1995). More recent surveys for the forktail damselfly have been conducted by Presidio staff. Surveys for sensitive amphibians (western pond turtle and California red-legged frogs) were conducted in 1994 by E. Ely and later by Presidio staff.

Based on the above surveys for listed sensitive species, only the San Francisco forktail damselfly has been found to occur on the Presidio. A small population of San Francisco forktail damselflies has been located in a drainage feature near Fort Point.

At Mountain Lake, no confirmed western pond turtles were found in surveys conducted for the Presidio Management Plan (Jones & Stokes 1995) nor in visual surveys conducted in 1996 by the Park and in 2000 by California Academy of Science (personal communication Laws). Only introduced red-eared sliders (more than 30 individuals) and soft-shelled turtles have been observed at Mountain Lake.

Historically, the federally threatened California red-legged frog *(Rana aurora draytonii)* and Federal Species of Concern western pond turtle (*Clemmys marmorata*) were likely abundant at Mountain Lake. The California Academy of Science has a record of a red-legged frog collected from Mountain Lake prior to 1906 (personal communication Vindum).

Currently, there is only one known population of California red-legged frogs in San Francisco (personal communication Ely). No historic references to western pond turtles at Mountain Lake have been found, although references to western pond turtles collected in San Francisco between 1856 and 1892 have been found in museum collections (M.R. Jennings and M.P. Hayes 1994).

The cause of native turtle and frog absence at Mountain Lake could be related to overharvesting for food sources (Lockington 1879; Jenning and Hayes 1984), introduced predators, abnormally high densities of native predators, and loss of adjacent terrestrial habitat. Pre-1900 frog harvest data suggest a short-lived, but heavy exploitation to supply demand in San Francisco markets. As with the California red-legged frogs, a considerable market was present for turtles in the late 1800s (Holland 1991). Depletion of native turtle populations within San Francisco and adjacent areas resulted in hunters moving as far away as the San Joaquin Valley to supply demand (Holland 1991). Turtles also face almost certain reproductive failure in areas of abnormally high predators. Raccoon predation has reportedly resulted in the loss of up to 97 percent of turtle nests in a given area (Holland 1994).

Special-Status Arthropods

Seven special-status arthropod species have the potential to occur on the Presidio, because the Presidio is within their known geographic range, and specific habitats required by these species are present (Table 5). In 1994, surveys were conducted to provide presence or absence data for Federal Species of Concern, including the San Francisco forktail damselfly (*Ischnura gemina*), the globose dune beetle (*Coelus globosus*), Ricksecker's water scavenger beetle (*Hyrdochara rickseckeri*), Leech's skyline diving beetle (*Hydroporus leechi*), the bumblebee scarab beetle (*Lichnanthe ursina*), the tree lupine moth, and the federally endangered mission blue butterfly (*Icaria icariodes missionensis*).

Table 5: Occurrence and Potential Occurrence of Special-Status Wildlife Species on the Presidio

Common Name	Scientific Name	Federal/State Status	Habitat	Area
San Francisco forktail damselfly	*Ischnura gemina*	(FSC)/-	Observed near Fort Point (Potential habitat at Seeps and Springs in Area B)	A
Globose dune beetle	*Coelus globosus*	(FSC)/-	Dunes and sandy areas such as Crissy Field, Baker Beach. None observed.	A
Ricksecker's water scavenger beetle	*Hydrochara ricksecker*i	(FSC)/-	Riparian areas such as Lobos Creek. None observed.	A
Bumblebee scarab beetle	*Lichnanthe ursina*	(FSC)/-	Dunes and sandy areas such as Crissy Field, Baker Beach. None observed.	A
Mission blue butterfly	*Icaricia icariodes missionensis*	FE/-	Coastal scrub with populations of *Lupinus albifrons, L. variicolor* (known from the Presidio), and *L. formosus.* None observed.	A
Monarch butterfly	*Danaus plexippus*	CDFG overwintering phenomenon	Eucalyptus Grove North of Kobbee Drive in winter.	
Winter-run Chinook salmon	*Oncorhynchus tshawytscha*	FT/SE	San Francisco Bay, Lobos Creek. None observed.	A
California red-legged frog	*Rana aurora draytonii*	FT/CSC, Protected	*Recorded from Mountain Lake; following restoration, Lobos Creek may be suitable, but prefers ponds and lakes. None observed.	(A)
Southwestern pond turtle	*Clemmys marmorata pallida*	(FSC)/CSC, Protected	*Mountain Lake, but now extirpated. None observed.	(A)
San Francisco garter snake	*Thamnophis sirtalis tetrataenia*	FE/SE, Fully Protected	Never occurred in San Francisco; requires ponds or marshes with emergent vegetation and red-legged frogs. None observed.	Ø
Brown pelican	*Pelecanus occidentalis*	FE/SE, Fully Protected	Occurs along coastal areas of Presidio	A
Bald eagle	*Haliaeetus leucocephalus*	FT Delisted/SE, Fully Protected	Migrates through San Francisco and Presidio	A,B
Peregrine falcon	*Falco peregrinus*	FT Delisted/SE,	Migrates through San Francisco and Presidio	A,B
Willow flycatcher	*Empidonax trailii*	-/SE	*Recorded from Lobos Creek	A
Yuma Myotis	Myotis yumanensis	(FSC)/CSC	Potentially detected over Mountain Lake in 1994	A

Source: California Department of Fish and Game Special Animals (January 2000).

Notes:

Status definitions:

-- = no listing status

Federal: U.S. Fish and Wildlife Service (50 CFR 17.12, 61 FR 40:7596-7613, Feb. 28, 1996)

FE = listed as endangered under the federal Endangered Species Act

FT = listed as threatened under the federal Endangered Species Act

(FCS) = Federal Special Concern Species (former Category 2 candidates)

State: California Department of Fish and Game (1995)

CE = listed as endangered under the California Endangered Species Act

CT = listed as threatened under the California Endangered Species Act

CSC = California Special Concern Species

*Historical occurrence

AFFECTED ENVIRONMENT

Natural Resources

Neither the globose dune beetle nor the bumblebee scarab beetle was found in coastal sand dune habitat on the Presidio. However, a number of mydas flies (*Nemomydas tenuipes*) were collected in coastal sand dune habitat. The mydas fly has no special legal status. However, it is potentially rarer and more threatened than the federally-listed Mission blue butterfly (Hafernik 1994). The Presidio is the only place where the species has been observed recently.

Although Leech's skyline diving beetle is widely distributed in the western United States, there little published information concerning its natural history. It is believed to have been extirpated from its type locality along Skyline Boulevard in Pacifica, San Mateo County. No skyline diving beetles were observed during surveys of suitable aquatic habitats at Lobos Creek and Mountain Lake.

The Mission blue butterfly inhabits grasslands and coastal scrub communities. Its larvae feed on three perennial species of lupines occurring in nearby San Mateo County. On the Presidio, *Lupinus albifrons* occurs in native grassland areas and *Lupinus variicolor* occurs on coastal bluffs near the Golden Gate Bridge. Surveys of this area, however, did not detect eggs, larvae, or larval feeding damage. Based on the known distribution of the Mission blue, it is unlikely that the Presidio was ever part of its historic range (Hafernik 1994).

The monarch butterfly's life cycle incorporates a southward migration from northern breeding grounds to warmer, over-wintering areas on the coast. Along the migration route, particular staging grounds have been identified as necessary to the continued survival of this species. Monarch butterflies were observed in a grove of eucalyptus trees located north of Kobbe Drive in 1986. This eucalyptus grove continues to provide a winter roost site for monarch butterflies between the months of November and February or March. An additional over-wintering site is also located south of the roosting site. Under California law (1988 Statues Chapter 540), over-wintering colonies of the monarch butterfly are recognized as "special resources" in California. The International Union for the Conservation of Nature and Natural Resources has determined that the protection of over-wintering colonies is a top priority and that the colonies should be considered a "threatened phenomenon." The California Department of Fish and Game has been charged with delineating wintering colonies and establishing management plans to maintain the viability of this population. Although the State of California and California Department of Fish and Game regulations do not apply to federal land, the designation of the monarch butterfly as a special resource indicates that it is a species in decline.

Ricksecker's water scavenger beetle is a rare, relatively unknown beetle that has been collected in only six localities in creeks, ponds, and vernal pools in the San Francisco Bay Area. No Ricksecker's water scavenger beetles were observed during surveys of suitable aquatic habitats at Lobos Creek and Mountain Lake.

The San Francisco forktail damselfly is endemic to the San Francisco Bay Area. Populations are known from coastal and bay wetlands from Santa Clara to Marin and Sonoma Counties. The forktail damselfly is one of the most restricted in distribution. However, recent discovery of new populations in Sonoma County have resulted in the status of this species being downgraded from a Federal Species of Concern. The San Francisco forktail damselfly was observed in two consecutive years (Fall 1999 through Spring and Fall 2000) in a seep area along Marine Drive in Area A, near Fort Point. Although closely-related damselfly species have been observed, no forktail damselflies were observed in areas surveyed (i.e., potential aquatic habitat occurring at Lobos Creek, Mountain Lake, and Dragonfly Creek in Area B). In Area B, potential habitat for the San Francisco forktail damselfly (open still-water pools with fringing vegetation and sunny spots for perching) is present in Tennessee Hollow and in a seep behind Building 926. At present, Dragonfly Creek may be too shady to

provide optimum habitat for the San Francisco forktail damselfly (personal communication Castellini).

The tree lupine moth (*Grapholita edwardsiana*) occurs in coastal sand dunes in the San Francisco Bay Area in association with its larval food plant *Lupinus arboreus*. Because the adult moth is common where tree lupine occurs, its status has been downgraded from a Federal Species of Concern. The tree lupine moth was found to be common near Lobos Creek in 1988 and continues to be common on tree lupines found throughout the Presidio and at Mountain Lake.

The Xerces blue butterfly (*Glaucopsyche xerces*) lived in coastal sand dunes in the vicinity of San Francisco. It was last observed in the Presidio, and in 1941, was determined to be extinct.

Special-Status Fish

Several special-status fish species occur in San Francisco Bay on their way to spawning grounds in tributaries of the bay and delta (Table 6). However, no spawning habitat for these species is present in the vicinity of the Presidio. Pacific herring are not listed by the State of California or the federal government; however, because they are harvested for their roe, they are an important species in the economy of the San Francisco Bay Area. As such, the CDFG gives herring special consideration and requires use of protective measures during sensitive times of the year. The only project-related impacts on fish occurring in San Francisco Bay or the Pacific Ocean would be impacts from stormwater runoff.

Special-Status Reptiles and Amphibians

Lobos Creek is within the historic range of the California red-legged frog, the southwestern pond turtle, and the legless lizard. However, these species have not been observed in recent surveys and are not expected to occur in the Lobos Creek corridor or elsewhere on the Presidio. Non-native bullfrogs, non-native fish, and red-eared sliders that prey on red-legged frogs and turtles occur in Mountain Lake. At this time, San Francisco County has not been proposed by the USFWS as Critical Habitat for the California red-legged frog (USFWS 2000).

Special-Status Birds

A total of 29 special-status bird species have been observed on the Presidio (Jones & Stokes 1997). Almost half of these species are seasonal visitors or rare or uncommon migrants flying over the Presidio during their spring and fall migration along the Pacific flyway. Migratory birds could rest at Mountain Lake. Many of the Presidio's special-status bird species occur in the ocean or San Francisco Bay. Six special-status bird species have been known to occur along Lobos Creek.

Four special-status passerines (song birds) have been recorded at the Presidio: loggerhead shrike, willow flycatcher, yellow warbler, and saltmarsh yellowthroat. The loggerhead shrike occurs throughout the United States, Mexico, and central Canada, and is a year-round resident in California. The shrike prefers open grassland with interspersed patches of scrub or wooded habitat. The loggerhead shrike formerly occurred in open areas in San Francisco such as Lake Merced, Golden Gate Park, McLaren Park, and Candlestick Park. There are no nesting records for San Francisco County. The willow flycatcher and yellow warbler are summer and fall migrants, using dense willow habitat within the north and east arms of Mountain Lake for roosting areas. Neither nests on the Presidio because nesting habitat is limited. Although observed in all seasons, common yellowthroats are uncommon visitors to Mountain Lake. It is suspected that they nest in emergent vegetation surrounding the Lake. The saltmarsh yellowthroat is the most likely subspecies of common yellowthroat to occur

Table 6: Special-Status Marine Species Potentially Affected by Activities in Area A and Area B

Species		Status
Fish		
1	Winter-run Chinook salmon	State and Federal Endangered
2	Fall/late fall-run Chinook salmon	Federal Candidate Species
3	Spring-run Chinook salmon	State Threatened, Federal Threatened
4	Coho Salmon Central California ESU	Federal Threatened (State listing only applies to those spawning populations south of San Francisco Bay)
5	Steelhead South/Central California ESU	Federal Threatened
6	Steelhead Central Valley ESU	Federal Threatened
7	Delta Smelt	State and Federal Threatened
Other Fish Species of Concern		
	River Lamprey	(Federal Species of Concern) California State Species of Concern
	Green sturgeon	(Federal Species of Concern) California State Species of Concern
	Pacific herring	Pacific herring are not listed at either the State or Federal level, however, they are an important economical and ecological species in the San Francisco Bay.
Reptiles		
	Sea turtles	All sea turtles are listed as Federal Endangered or Threatened, but the status in San Francisco Bay area is unknown.
Birds		
Included because of human activity in foraging areas.		
1	California Brown Pelican	State and Federal Endangered (nesting colony)
2	Peregrine Falcon	Federal Delisted, State Endangered
3	California Least Tern	State and Federal Endangered
Marine Mammals (a)		
All are protected under the Marine Mammal Protection Act. Harbor seals, California sea lions, and Steller's sea lions potentially occur within the off-shore vicinity of the Presidio.		

Source: U.S. Fish and Wildlife Service. Correspondence. September 3, 1998.

on the San Francisco peninsula. However, the subspecific status of yellowthroats at Mountain Lake has not been determined. In addition, the olive-sided flycatcher, sharp-shinned hawk, Coopers hawk, and merlin occur in the vicinity of Mountain Lake. Figure 22 shows areas where special-status bird species occur, including habitat considered sensitive because it is used by breeding resident and migratory birds, resting for fall migrants, and a population of California quail.

The establishment of a population of California quail on the Presidio is significant because quail populations have declined dramatically in urban areas due to loss of habitat, and disturbance and predation by domestic dogs and cats. Because they have been extirpated or are extremely rare elsewhere in San Francisco, and are restricted in distribution, the California quail, western screech owl, wrentit, and Hutton's vireo could be considered species of local concern. A mated pair of western screech owls might have been historically observed on the Presidio, and recent surveys have indicated their presence at Inspiration Point. Palm trees near the LAMC and other areas on the Presidio define the northern breeding limits for the hooded oriole (Jones & Stokes 1997).

Although they are not federal or State-listed species, the CDFG considers some raptors to be a California Species of Concern when nesting. Only the more common raptor species, such as red-tailed and red-shouldered hawks and American kestrel, have been confirmed as breeding on the Presidio. However, these species are considered to be special-status species by the Golden Gate chapter of the Audubon Society due to their small populations and restricted available resources within the Presidio. Other raptors occurring on the Presidio include the Cooper's hawk, sharp-shinned hawk, and northern harrier. The CDFG considers these hawks to be California Species of Concern while they are nesting (CDFG 2001). The merlin is considered to be a California Species of Concern in areas where it spends the winter. The western screech owl is not federally or State listed as threatened, endangered or as a Species of Concern; however, it could be considered to be a sensitive species because it is not common in the City and County of San Francisco.

Special-Status Mammals

Two special-status mammals have been observed on the Presidio (Harris 1993). The salt marsh vagrant shrew is restricted to saltmarsh habitats in the southern and central San Francisco Bay Region, and might have occurred in salt marshes located between Fort Point and Crissy Field in Area A, although there are no records documenting its presence there (Jones & Stokes 1997). No suitable habitat for the shrew occurs in that area today, although restoration of the Crissy Field tidal marsh could create new habitat for the shrew in the future.

The *Yuma myotis* is the only bat species known to occur on the Presidio (Pierson 1995). It is somewhat tolerant of human disturbance, and is one of the few species of bats persisting in relatively urbanized areas.

Marine mammals potentially occurring along the shores of the Presidio include harbor seals, California sea lions, and Steller's sea lion. These species are protected by the Marine Mammal Protection Act. Because no haulouts or rookeries of these species occur in the vicinity of the Presidio (CNDDB 2001), no further discussion of marine mammals is provided in this EIS.

Exotic Animals

Introduced mammal species occurring on the Presidio include the house mouse and Norway rat. Introduced bird species include the rock dove (common pigeon), European starling, and house sparrow. These are aggressive species, which often outcompete native species for nesting sites and food. Introduced bullfrogs and fish also impact native fauna by

competing for habitat and preying upon native wildlife. Feral domestic cats prey upon both exotic and introduced wildlife and are responsible for a dramatic decline in native songbirds in urban areas. Dogs, on- or off-leash, could have negative impacts by pursuing wildlife and by scent-marking.

At the Presidio, native pests are defined as animal or plant populations that interfere with the purposes of the Presidio/park. Native pests would be allowed to function unimpeded except where control is desirable to prevent the loss of the host or host-dependent species from the ecosystem; to prevent outbreaks of the pest from spreading outside the Presidio; to conserve threatened, endangered, or unique plant specimens or communities; to preserve, maintain, or restore the historical integrity of cultural resources; to conserve and protect plants and animals in developed zones; and to manage a human health hazard as defined by the Centers for Disease Control or to protect against a significant threat to public safety.

IPM methods to control exotic animals include habitat manipulation and reduction of food sources. Elimination of sources of visitor-generated food wastes that attract animal pests is (and will continue to be) accomplished by providing an adequate number of waste receptacles and collecting waste on a daily basis. Older buildings will be inspected for holes or cracks providing entry to rodents, and sealed if necessary.

Natural Resource Research, Inventories, and Monitoring

The Trust and NPS have been and will continue to conduct inventories and research on existing wildlife and habitats, allowing for a greater understanding of the value of open space at the Presidio. Monitoring will detect and describe any changes in this fragmented habitat over time. The current joint Trust and NPS effort to restore habitats and corridors for California quail near the PHSH demonstrates the interplay of habitat protection, restoration, and corridor enhancement.

Additional inventories will be performed to determine the presence of terrestrial invertebrate and vertebrate species. Further studies are also needed to gain information about maintaining the health of Presidio wildlife populations and their habitats. Wildlife surveys of the Presidio will be conducted as part of projects and monitoring programs. The Presidio is currently developing a program to monitor migrating and nesting birds. A monitoring system will be established in order to collect information on use of habitats occurring in the Presidio by raptors, bats, mammals, reptiles, amphibians, rare insects, and aquatic species. The feasibility of reintroducing individual native wildlife populations will be explored on an individual basis.

To the extent possible, information will be shared with interested scientific and local communities.

All research, data gathering, and specimen collection will be carried out in accordance with professional standards pertaining to survey, inventory, monitoring, and research. Independent studies conducted in parks are not required to address specifically identified management issues or information needs. However, these studies, including data and specimen collection, require scientific collecting permit. Projects will be administered and conducted only by fully qualified personnel. Information gained will be used to prepare and periodically update natural resource management plan that is prepared jointly with the NPS. Similarly, high-quality, scientifically acceptable information, data, and impact assessments will guide planning for Presidio operations, development, and management activities that might affect natural resources.

3.3.2 WATER RESOURCES

WETLANDS, STREAMS, AND DRAINAGES

There are approximately 67.8 acres of water features, including wetlands, and other special aquatic areas described in this section. These areas include those subject to jurisdiction of the Corps under Section 404 of the Clean Water Act of the United States (CWA), and USFWS wetlands according to the Cowardin classification (Cowardin *et. al.*, 1979), which will receive protection by the Trust and NPS under Executive Order 1190; and wetland-like areas (Figure 19). Notable water features include Lobos Creek and scattered seeps and drainages in Area A, Mountain Lake, Dragonfly Creek, El Polin Spring, tributaries in the Tennessee Hollow watershed, and a number of seeps in the Fort Scott and South Hills Planning Districts.

Many of the wetland features in the Presidio are subject to Section 404 of the CWA. These "jurisdictional" wetlands, totaling 7.1 acres (Figure 19), meet all three criteria of supporting wetland soils, wetland vegetation, and wetland hydrology. An additional 1.6 acres have not been officially delineated, but would potentially be subject to Section 404. Approximately 15.6 acres are defined by, or potentially defined by the USFWS Cowardin classification system. This definition requires that only one criterion (soils, vegetation, or hydrology) be attained. This definition expands wetland areas to include features such as mudflats and rocky intertidal zones, and classifies wetlands rather than delineating them. The Trust uses the USFWS definition, and has adopted a planning principle of protection, enhancement and "no loss" of existing wetland features; the Trust will strive to achieve a longer-term goal of net gain of wetlands through restoration of previously degraded or destroyed wetlands, such as Tennessee Hollow, where natural drainage features have been largely eliminated and/or altered by past filling, grading and construction, leaving only isolated segments of the riparian corridor.

Wetlands studies conducted on the Presidio include a wetland delineation and vegetation study (Wood 1999), a bioassessment conducted in Presidio watersheds as a baseline study for riparian restoration plans (Castellini 2000), and a wetlands delineation of Mountain Lake (Buisson, E, and L. Castellini 2000).

Applicable Laws and Regulations

The following discussion provides an overview of the CWA and other laws and regulations relevant to wetlands and streams. These laws and policies mandate that the filling of wetlands be avoided to the greatest extent possible. If development activities result in adverse impacts to wetland features, they could result in conditions of approval requiring mitigation. Each permit action is also subject to compliance with NEPA.

Section 404 of the Clean Water Act – Wetlands and other water resources receive protection under Section 404 of the CWA. The CWA requires that a permit be obtained from the Corps prior to the discharge of dredged or fill materials into any "waters of the United States." Waters of the United States are broadly defined in the Corps' regulations (33 CFR 328) to include navigable waterways, their tributaries, and adjacent wetlands. The upper limit of jurisdiction in non-tidal streams and lakes is defined by the ordinary high-water mark or the upper boundary of adjacent wetlands, whichever is higher.

Wetlands are defined by the CWA as: "Those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that normally do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." Under this definition, three criteria must be attained for classification as a jurisdictional wetland: dominance of wetland vegetation, presence of wetland hydrology

(inundation or saturation for a specific period of time), and the occurrence of hydric (wetland) soils.

A second wetland definition reflecting the broader habitat values associated with wetlands is the definition of wetlands used by the USFWS for their National Wetlands Inventory. The USFWS Cowardin system classifies wetlands based on vegetative life form, flooding regime, and substrate material. For the purposes of this definition, wetland features must attain one or more of three criteria. The Trust classifies and maps wetlands using this system.

Wetlands and other waters of the United States subject to Section 404 of the CWA in the Presidio include Lobos Creek in Area A (one of the last flowing perennial creeks in the City of San Francisco); Mountain Lake; El Polin Spring; tributaries and portions of the Tennessee Hollow drainage within the East Housing Planning District; and scattered seeps and drainages in Area A, and the Fort Scott and South Hills Planning Districts.

Section 401 Clean Water Act – The California Regional Water Quality Board (RWQCB) and the U.S. Environmental Protection Agency (EPA) set water quality standards that are ecologically protective to aquatic systems (RWQCB, 1995; EPA, 2000). Water Quality Certification or waiver from the RWQCB is required before a Section 404 permit becomes valid. The RWQCB also reviews the project for consistency with Waste Discharge Requirements under the State land disposal regulations. In reviewing the project, the RWQCB may consider impacts to waters of the State, and may recommend mitigation for filling of wetlands and other impacts in accordance with the State wetland policy.

Federal Executive Orders (EOs)

Two EOs require federal agencies to assure the protection of wetlands in undertaking federal actions. These EOs are internal management tools by which the President develops and communicates policy applicable to the executive branch. EO 11990 (Protection of Wetlands) was issued in 1977 "...to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands, and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative..." This order provides that federal agencies are to take a leadership role in the preservation and enhancement of wetlands. Agencies are directed to include wetlands considerations in their assessments under NEPA. Projects underway and emergency assistance efforts were exempted from this EO. EO 11988 (Floodplain Measurements) was issued in 1977, and instructs federal agencies to avoid undertaking activities that would adversely affect floodplains or floodplain management.

The Unified Federal Policy for a Watershed Approach to Federal Land and Resource Management (October 2000) provides a framework for a watershed approach to federal land and resource management activities. The policy incorporates the following guiding principles: use a consistent and scientific approach to manage federal lands and resources and to assess, protect, and restore wetlands; and identify specific watersheds in which to focus funding and personnel and accelerate improvements in water quality, aquatic habitat, and watershed conditions.

Streams, Lakes, and Wetlands

The Tennessee Hollow watershed in the East Housing Planning District, and the Fort Scott watersheds (including that of Dragonfly Creek) drain the northern half of the Presidio into San Francisco Bay. The Tennessee Hollow watershed drains approximately 275 acres of the eastern Presidio and has three tributaries. El Polin Spring is the source of the middle tributary. Stream flow of the El Polin/Tennessee Hollow drainage system is mostly confined to open concrete ditches or underground culverts. Groundwater discharge in the form of springs is present in the central tributary (El Polin Spring) and the eastern tributary. Outfall from this

watershed is discharged on the southeastern shore of the Crissy Field wetland. The Fort Scott watershed drains approximately 200 acres and features springs that feed Dragonfly Creek, a perennial stream located east of the parade ground, adjacent to Ralston Avenue. The stream flows over a natural sandy substrate before entering a section of concrete channel leading to an underground culvert where it discharges to the bay.

In the Lobos basin, a wind-driven build-up of sands from the massive dune system that once occupied western San Francisco dammed up perennial seeps and springs occurring along the southwestern slopes of the Presidio's serpentine divide, forming Mountain Lake, Lobos Creek, and smaller dune seeps. The northeastern slopes of this divide produced perennial wetlands draining down valleys, such as Tennessee Hollow, and out of the Fort Scott highlands. These seeps, springs, and streams once drained into a large coastal estuary, approximately 18 acres of which have been recreated by the NPS and Golden Gate National Parks Association in Area A. Other wetland features within this basin include a seep-fed seasonal wetland north of the PHSH and a seep north of Infantry Terrace. Numerous natural wetlands occupied both dune areas of Lobos basin and the serpentine slopes and lowlands of the Marina basin. The Marina basin wetlands are now largely gone. Although wetlands are widely distributed throughout the Presidio's natural areas, they are generally very restricted in area. Because the Presidio is one of the last refuges for San Francisco's once widespread and richly diverse wetlands, and because a diversity of resident and migratory wildlife species are dependent upon them, wetlands occurring on the Presidio have a special conservation value regardless of their jurisdictional status.

Mountain Lake, which is in part also under the jurisdiction of the City of San Francisco, is a natural spring-fed, 4.02-acre lake in the South Hills Planning District. Because of numerous direct and indirect human impacts over time, Mountain Lake is now 40 percent smaller in area and less than one-third of its original depth. Water quality has declined and periodic algal booms and fish kills occur. Water quality and terrestrial habitat enhancement measures are addressed in the Mountain Lake Enhancement Plan (2001).

Lobos Creek is the last free-flowing stream in the City of San Francisco. It is fed by seeps and springs from a sandy aquifer located south of the Presidio and receives recharge from the golf course. Lobos Creek is approximately one mile long. From its headwaters near the 17th Avenue, the creek flows westward toward Lincoln Boulevard, where it meanders in a narrow channel and through an approximately 500-foot long underground culvert. In December 1996, the Richmond Transport Project removed the Lobos Creek outfall structure and the creek now discharges directly into the ocean at Baker Beach. The Trust is working the NPS to ensure that adequate streamflow remains in the creek to support fish and wildlife.

Activities of early settlers resulted in substantial physical and biological changes that affected the species composition and spatial arrangement of plant communities along Lobos Creek and influenced its present day ecology. However, Lobos Creek supports one of the least fragmented pieces of undeveloped riparian habitat in the City and one of the areas of highest wildlife habitat value in the Presidio (Harding Lawson 1996).

The hydrologic characteristics of many of these wetland features have been substantially altered by the construction of buildings, placement of fill, and the removal and alteration of vegetation cover. Activities proposed under PTIP could further reduce or prevent the restoration of key hydrologic features.

Ocean and Bay

Area B directly affects ocean environments through the withdrawal of water at Lobos Creek. This activity changes the creek and ocean ecological system within that interface. Other activities within the Presidio could lead

to contaminated stormwater runoff, which, if allowed to reach the bay or ocean, could adversely affect special-status fish species and marine mammals, as discussed in the previous Biological Resources section.

Water Quality

The Presidio has implemented and is operating under the Presidio of San Francisco Stormwater Management Plan (1994), which includes a detailed Storm Water Pollution Prevention Plan that outlines erosion prevention and sedimentation control measures used by the Presidio to avoid contamination of storm drains and surface water resources. The Stormwater Management Plan is being updated to reflect changes in storm water routing as well as new permitting requirements. Water quality is also addressed for specific water resources, including Lobos Creek, Mountain Lake and Crissy Marsh.

The water quality of surface and groundwater resources related to Lobos Creek is monitored regularly. The Lobos Creek Water Quality Management Plan (Urban Watershed Project 2001), produced as a collaborative effort with the NPS, serves as a basis for a joint program to improve water quality of the creek between the Trust, the NPS and the City and County of San Francisco. A new water collection system and culvert under Lincoln Boulevard will be constructed, and will lead to a better natural creek system, as well as more dependable water quality.

The Mountain Lake Enhancement Plan was recently developed to improve water quality in the lake, restore surrounding native habitat, and improve visitor access. The proposed plan includes dredging and mechanical aeration to improve water quality, exotic species removal, native plant community restoration, trail improvements, interpretive overlooks, and restoration of the lake's former east arm.

Storm water runoff at the Presidio is treated with a series of oil and water separators before discharge into Crissy Marsh. Water quality objectives and numerical water quality standards for Crissy Marsh are established in the RWQCB water quality control plan (basin plan) to protect the established beneficial uses of the water bodies (RWQCB 1995). The beneficial uses for groundwater and surface water at Crissy Field are identified in the Basin Plan and are applied by the RWQCB on a case-by-case basis. Important beneficial uses designated for the bay include contact and noncontact recreation, commercial sport fishing, and shellfish harvesting.

Hydrogeology

This section briefly describes the geologic units found on the Presidio and the occurrences of groundwater.

The Presidio's underlying stratigraphy consists primarily of unconsolidated sediment of the Colma formation that overlies the Franciscan formation, a complex assemblage of sandstone, siltstone, shale, and metamorphic rocks (Schlocker 1974). The Colma formation consists of fine- to medium-grained sand with moderate amounts of clay and silt. Sediments are generally unconsolidated and were deposited in estuarine and coastal environments. Much of the Lobos basin and northern Presidio support dune and beach sands and estuarine sediments. Serpentinite outcrops and serpentine and Franciscan soils are found along the western coastal bluffs and within parts of the Marina basin.

Groundwater at the Presidio occurs within Colma formation, dunes and Franciscan bedrock. It occurs in both the bedrock and overlying unconsolidated sediments. The quantity and quality of groundwater are highly dependent on the type and thickness of the geologic materials present. In addition, the historic land uses within the Presidio have affected groundwater quality in some areas. Subsurface data are currently lacking on the Presidio, and a thorough understanding of the natural groundwater complexity of both the Franciscan bedrock and the Colma formation aquifers is lacking. Some subsurface groundwater data have been collected

as a part of the Wetland Feasibility Study (Dames & Moore 1995), the Environmental Remediation Program (Erler & Kalinowski, Inc. 2000), the Doyle Drive Hydrology and Water Resources Technical Report (**Source** 2001), and is ongoing as a part of the Tennessee Hollow restoration effort.

3.3.3 VISUAL RESOURCES

OVERVIEW OF THE VISUAL CHARACTER OF THE PRESIDIO

Presidio Setting

Located at the northern tip of the San Francisco peninsula, the 1,480-acre Presidio of San Francisco is bordered by the San Francisco Bay on the north, the Pacific Ocean on the west, and the City of San Francisco on the south and east. The Presidio is visible from many viewpoints around the Bay, including the Marin Headlands, Mount Tamalpais, Angel and Alcatraz Islands, and from San Francisco's waterfront and elevated areas within the city, such as Twin Peaks.

The Presidio of San Francisco is part of the GGNRA and the National Park system. As such, and subject to the Trust Act, the Trust manages the Presidio's significant scenic resources in a manner consistent with sound principles of land use planning and management, and that protects the Presidio from development and uses that would destroy its scenic beauty.

The Presidio is a major visual resource for the San Francisco Bay Area from a variety of perspectives. From a distance, the forested landscape appears as a natural wooded series of low ridges in marked contrast to surrounding urban landscapes.

From a vantage point in the Marin Headlands, the entire Presidio is visible, with the Golden Gate Bridge in the foreground and the City of San Francisco in the background. The western edge of the Presidio slopes steeply from the Pacific Ocean covered with pale, grey-green coastal scrub vegetation that moves upslope to the dark green forest that tops the hills in the park. On the north coastal area, the slopes are steep near the foot of the Golden Gate Bridge, at Fort Point. From the San Francisco Bay, past the level expanse of Crissy Field, warehouse buildings that border the former airfield are framed by the densely vegetated hills. Other buildings are visible within the Presidio in addition to those at Crissy Field, but it is the forested landscape that dominates its visual character. From this or any other perspective, the dense stands of trees within the Presidio easily differentiate it from the adjacent City of San Francisco.

Entering the Presidio from the Golden Gate Bridge (U.S. Highway 101/ Doyle Drive), motorists travel along an elevated roadway that passes through the Presidio. From this roadway, developed areas within the Presidio are visible, but the character of the area is park-like.

Important Views

One of the factors that affected the selection of the Presidio for use as a military post was the availability of strategic views of the Pacific Ocean and the Golden Gate. Those views that were once strategic now offer visitors opportunities for enjoyment of the park. As shown in Figure 24, views from within the Presidio include vistas toward the Golden Gate Bridge, Marin Headlands, Angel Island, and Alcatraz, as well as to the Pacific Ocean and San Francisco Bay. Other vistas that once provided distant views are now obscured to some degree by vegetation, including Inspiration Point, along Washington Boulevard on the western slope of Rob Hill, and on Lincoln Boulevard overlooking Crissy Field. Other important historic and contemporary vista points within the Presidio include Presidio Boulevard, views from the Letterman Planning District, Infantry Terrace,

Main Post, Golden Gate Bridge Overlook, coastal overlooks, World War II Memorial, Wherry housing, and the PHSH.

In addition to distant views from the Presidio, visitors experience a sense of visual enclosure within the natural areas and forests of the Presidio, in contrast to the visual experiences of the nearby cityscape outside of the Presidio. Historically, visual links were created between different developed areas within the Presidio, such as between the Officers' quarters on Infantry Terrace and the main parade ground, and between the main parade ground and Crissy Field, although some of these vistas have been obscured by vegetation and new construction.

Views from Bay Area counties surrounding the Presidio are affected from by the amount of light shining into the night sky, especially in areas adjacent to the Golden Gate Bridge, a prime viewing site.

3.3.4 AIR QUALITY

This section discusses regulated pollutants, air quality management plans, air quality conditions and monitoring, and the local emissions source inventory.

REGULATED POLLUTANTS

Through the federal Clean Air Act as amended, and the California Clean Air Act as amended, federal and state regulatory agencies set upper limits on the ambient airborne concentrations of six criteria pollutants. These are ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter, and lead. Particulate matter is regulated as inhalable particulate matter less than ten microns in diameter (PM_{10}), and fine particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). Ozone is a secondary pollutant formed by the reactions of nitrogen oxides (NO_x) and reactive organic gases (ROG). Nonattainment status is designated by the agencies for areas where the ambient air quality standards are not met. The nine-county San Francisco Bay Area Air Basin has a history of recorded violations of federal and state ambient air quality standards for ozone, carbon monoxide, and PM_{10}. The U.S. EPA has classified the Bay Area a moderate nonattainment area for ozone, and as a maintenance area for carbon monoxide until at least 2008 (40 CFR 81.305).[2] The California Air Resources Board (CARB) has given the Bay Area state-level nonattainment status for ozone and PM_{10}.

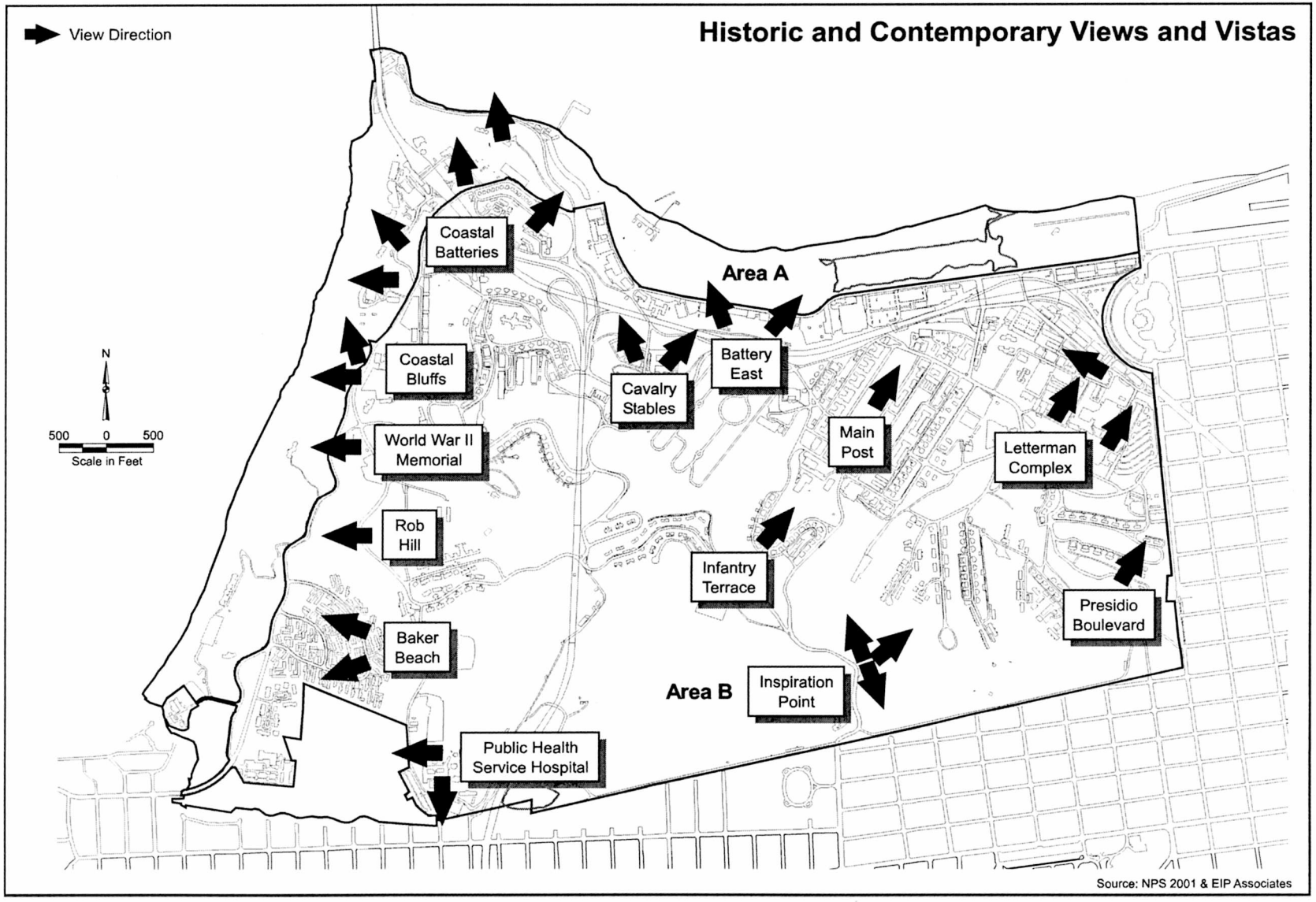
Toxic air contaminants, which have the potential to cause cancer or could pose a present or potential hazard to human health, are also regulated through federal, state, and local programs. Unlike criteria pollutants, there are no regional ambient air quality standards for toxic air contaminants, primarily due to the localized nature of the adverse health impacts caused by toxic air contaminant emissions. Control of toxic air contaminants from mobile sources, including organic compounds, particulate matter from diesel exhaust, and lead, is generally achieved through fuel efficiency or engine performance standards defined at the state or federal level. Stationary sources are regulated through locally managed permitting programs that restrict criteria and toxic contaminant emissions through emission control standards found in federal, state, and local rules.

Odors can affect air quality in densely developed areas where diverse land uses can either cause or be in close proximity to odor producers. While offensive odors rarely cause any physical harm, they can be unpleasant and cause distress among the public, and generate citizen complaints. Outside of developed areas, odors also play a natural role as an air quality-related value capable of transmitting aromatic information. Managing offensive odors is accomplished through Bay Area Air Quality Management District

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[2] California Air Resources Board 1996.

Figure 24 *Natural Resources*



AFFECTED ENVIRONMENT

Natural Resources

(BAAQMD) regulatory control (Regulation 7, Odorous Substances), and appropriate land use management to provide suitable buffer zones around odor sources.

AIR QUALITY MANAGEMENT PLANS

State Implementation Plan

The federal Clean Air Act, as amended, and the California Clean Air Act are the primary drivers for attaining and maintaining ambient air standards. The federal act contains conformity provisions that help to ensure that individual plans and projects throughout the region do not produce more emissions than are allowed by local air quality plans. These laws also provide the basis for implementing agencies to develop mobile and stationary source performance standards.

The BAAQMD is the primary agency responsible for managing compliance with the ambient air quality standards in the Bay Area. The BAAQMD's planning efforts to attain and maintain the standards are contained within two basic plans: the State Implementation Plan (SIP) and the Clean Air Plan (CAP) specify the means of maintaining the federal and state standards, respectively.

The federally required SIP was last revised in 1999 to respond to exceedances of the federal ozone standard during the mid- to late-1990s.[3] The SIP is a compilation of plans and regulations that govern how the region and state will comply with the federal Clean Air Act requirements to attain and maintain the ozone standard. Along with the BAAQMD, the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) also contribute to the SIP.

Under Section 176(c) of the federal Clean Air Act, federal actions in nonattainment areas or maintenance areas must conform to applicable implementation plans approved under the Clean Air Act (e.g., the SIP). A formal conformity determination is required for federal actions when the total direct and indirect emissions of nonattainment pollutants from a proposed project exceed specified thresholds. For any federal action in the Bay Area causing more than 100 tons per year ROG, NO_x, or CO, the general conformity rule would apply (40 CFR 51.853). Federal actions causing emissions below these thresholds are presumed to conform with the SIP.

The Clean Air Act requires federal land managers to protect a park's air quality values from adverse impacts. Section 118 of the Clean Air Act requires that federal facilities comply with existing federal, state, and local air pollution control laws and regulations. Through environmental review, permit compliance, and contracting processes, the Trust ensures that activities within its administrative jurisdiction meet existing laws and regulations and that external sources of air pollution are controlled or mitigated to the extent possible to protect the air quality and resource values. Because the Presidio is part of the GGNRA, the area is designated as a Class II area within the federal Clean Air Act and amendments. When compared to a Class III designation, federal Class II designation provides additional protection by reducing the allowable increases in pollutant concentrations that may occur.

Bay Area Clean Air Plan

The Clean Air Plan is a state-level requirement of the California Clean Air Act. The SIP required by the federal Clean Air Act is partially based on control measures from the CAP. The BAAQMD's 2000 Clean Air Plan

[3] Ozone Attainment Plan for the 1-Hour National Ozone Standard, ABAG, BAAQMD, and MTC, adopted June 1999.

(adopted December 20, 2000) specifies the means by which the region will meet the state standard for ozone. This plan is updated and reevaluated every three years. The state PM_{10} standards are also exceeded in the region. However, no state plan is required to meet state PM_{10} standards.

The CAP components for attaining the state ozone standards include transportation control measures (TCMs) that may be implemented by local jurisdictions. Additionally, the CAP recommends that local land use plans provide for buffer zones around uses that might be sources of toxic air contaminants or odors. The Trust has jurisdiction to manage land use and provides coordination for potential sources of toxic contaminants or odors. The Trust also manages transportation demand. In the effort to reduce transportation demand by Presidio tenants, residents, and visitors, the Trust developed and is implementing a Transportation Demand Management program that would implement the TCMs of the 2000 CAP. The relevant 2000 CAP TCMs are:

- TCM 1: Support Voluntary Employer-Based Trip Reduction Programs
- TCM 9: Improve Bicycle Access and Facilities
- TCM 12: Improve Arterial Traffic Management
- TCM 15: Local Clean Air Plans, Policies, and Programs
- TCM 17: Conduct Demonstration Projects
- TCM 19: Promote Pedestrian Travel
- TCM 20: Promote Traffic Calming Measures

San Francisco General Plan

Local environmental plans and policies also recognize community goals for air quality. The San Francisco General Plan (City and County of San Francisco n.d.) includes the 1997 Air Quality Element. Objectives include reducing traffic-related emissions, coordinating land use, and reducing road and construction-related dust. It is the policy of the Trust to achieve consistency with the San Francisco General Plan by managing transportation demand, land use, and construction activities within the Presidio.

AIR QUALITY CONDITIONS AND MONITORING

The California Air Resources Board (ARB) compiles inventories and projections of emissions for the Bay Area. The projections show the planned reductions in emissions of ozone precursors expected to bring the area into attainment. Substantial reductions in CO emissions from 1996 to 2010 are attributed to the stringent emission controls that have been or will be imposed on motor vehicles and stationary sources. PM_{10} is forecast to increase, mostly due to the growth in motor vehicle travel in the Bay Area. SO_2 is also forecast to increase throughout the region.

The BAAQMD operates two air quality monitoring stations in San Francisco, one near Potrero Hill and one downtown. Both stations are downwind of the Presidio. Therefore, neither station would provide a representative indication of the superior air quality expected at the Presidio. No additional air quality monitoring is conducted within the GGNRA.

Violations of the state and federal standard for ozone persist in the region. However, in San Francisco, neither federal nor state ozone standards have recently been exceeded. Only state standards for PM_{10} have been recently exceeded. Pollutants from San Francisco tend to be carried into the more sheltered areas of the region and cause violations of the standards there. Therefore, the region will continue to benefit from further efforts to control emissions that originate in San Francisco.

Toxic air contaminants are monitored by a region-wide network of stations maintained by the BAAQMD. The results of the monitoring indicate that the health risks from ambient toxic air contaminants have been gradually decreasing over the past ten years. In 1998, the region-wide ambient presence of toxic air contaminants resulted in an estimated average cancer

risk of about 200 in one million, based on a lifetime exposure. This is down from approximately 350 in one million based on 1991 data (BAAQMD 1999).

LOCAL SOURCE INVENTORY

Traffic-related emissions of criteria pollutants are generated along the roadways throughout the Presidio including U.S. Highways 1 and 101. Traffic congestion in the Presidio or on the nearby roadways or intersections can occasionally result in localized elevated concentrations (hotspots) of carbon monoxide if heavy traffic coincides with stagnant weather conditions. Diesel trucks, buses, and other equipment, are sources of particulates in diesel exhaust, which are considered to be a toxic air contaminant.

Existing stationary sources at the Presidio are largely unused. These include equipment in the Letterman Planning District, which is currently not operational and is planned for demolition. The PHSH and other facilities at the Presidio include natural gas-fired boilers for heat and steam generation. These sources are exempt from BAAQMD permitting requirements and federal performance standards because each unit has a heat-input capacity of less than 10 million British thermal units per hour. Other small stationary sources that could be present at the Presidio are also below the thresholds for requiring permits.

3.3.5 NOISE

NOISE TERMINOLOGY

Sound levels are the audible intensities of air pressure vibrations and are most often measured with the logarithmic decibel scale (dB). To consider the human response to the pitch and loudness of a given sound in the context of environmental noise, the A-weighted frequency-dependent scale (dBA) is usually employed. The equivalent energy indicator, L_{eq}, is an average of noise over a stated time period, usually one-hour. The day-night average, L_{dn}, is a 24-hour average, which accounts for the greater sensitivity of most people to nighttime noise. The sound level that is exceeded ten percent of the time is known as L_{10}. Generally, a 3 dB difference at any time is noticeable to most people and a difference of 10 dB is perceived as a doubling of loudness.

NOISE CONTROL REGULATIONS AND PROGRAMS

Traffic Noise

Federal management of highway noise can be found in Federal Highway Administration (FHWA) regulations (23 CFR 772). Federal or federally-aided highway projects and construction of highway projects, must conform with the FHWA noise standards. The FHWA Noise Abatement Criteria (NAC), which aims to protect noise-sensitive land uses from highway noise, is summarized in Table 7. The FHWA procedures state that noise impacts from traffic are serious enough to warrant consideration of abatement when noise levels for the project approach or exceed the Noise Abatement Criteria or when they substantially exceed existing noise levels. FHWA regulations do not include specific criteria for noise caused by construction or demolition activities.

General Construction/Demolition Noise

Local noise control for the urban neighborhoods surrounding the Presidio is the San Francisco Noise Ordinance (Article 29 of the San Francisco Police Code, 1994). The noise ordinance regulates construction noise, fixed-source noise, and unnecessary, excessive, or offensive noise disturbances within the city. The construction noise regulations in Sections 2907 and 2908 of the San Francisco Police Code provide that:

Table 7: FHWA Noise Abatement Criteria (Hourly dBA)

	Activity Category	$L_{eq}(h)$	$L_{10}(h)$
A	Lands on which serenity and quiet are of extraordinary significance and serve as important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.	57 (Exterior)	60 (Exterior)
B	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.	67 (Exterior)	70 (Exterior)
C	Developed lands, properties, or activities not included in Categories A or B above.	72 (Exterior)	75 (Exterior)
D	Undeveloped lands.	None Applicable	None Applicable
E	Residences, motels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.	52 (Interior)	55 (Interior)

Source: 23 Code of Federal Regulations, Part 772, Table 1.

Notes: Either L_{eq} or L_{10} (but not both) may be used on a project.

- Construction noise is limited to 80 dBA at 100 feet (ft.) from the equipment during daytime hours (7 a.m. to 8 p.m.). Impact tools are exempt provided that they are equipped with intake and exhaust mufflers.
- Nighttime construction (8 p.m. to 7 a.m.) that would increase ambient noise levels by 5 dBA or more is prohibited unless a permit is granted by the Director of Public Works.

The Trust is committed to complying with provisions equivalent to the standards in the San Francisco Noise Ordinance.

Interior Noise

Noise standards for interior spaces are included in Title 24 of the California Code of Regulations (California Noise Insulation Standards, California State Building Code [Part 2, Title 24, CCR], 1995). These standards would govern interior noise levels and apply to all new (permitted after 1974) multifamily residential units (hotels, motels, apartments, condominiums, and other attached dwellings). These standards would also require that acoustical studies be performed prior to construction at residential building locations where the existing exterior L_{dn} exceeds 60 dBA. Such acoustical studies would be required to establish a design that will limit maximum L_{dn} noise levels to 45 dBA in any habitable room. As part of the Trust compliance process, the Trust would enforce the noise insulation requirements equivalent to the standards of Title 24 with building permit conditions.

EXISTING NOISE CONDITIONS

Traffic on the roadways of the Presidio is the major source of environmental noise. Away from roadways, the Presidio is generally quieter than the surrounding urban environment of San Francisco because natural noise sources dominate and there is less urban activity. Other non-traffic noise is caused by human activity (primarily recreational), occasional aircraft overflights, and use of mechanical equipment for building operations (e.g., ventilation systems) or landscaping.

The results of recent noise monitoring are summarized in Table 8. In the vicinity of State Highway 1, and U.S. Highway 101 (including Doyle Drive and Richardson Avenue), existing traffic noise levels are commonly above 67 dBA, the FHWA Noise Abatement Criterion for recreation areas, parks, and residences. Additionally, noise levels above 67 dBA can occasionally occur adjacent to some of the internal roadways of the Presidio and near the entry gates; this noise can be exacerbated by buses accessing the Presidio (Bowlby and Associates 1998). Peak noise levels above 85 dBA were observed outside City residences adjacent to accelerating San Francisco Muni buses leaving Presidio gates. Away from traffic noise and noise from other human activity, the natural environment provides noise levels commonly below 60 dBA.

NOISE-SENSITIVE AREAS

Natural sounds are intrinsic elements of the environment that are often associated with parks and park purposes. They are inherent components of "the Presidio's significant natural, historic, scenic, cultural and recreational resources" protected under the Trust Act. They are vital to the natural functioning of areas within the Presidio and may provide valuable indicators of the health of various ecosystems. Examples of areas within the park where quiet is of significance include Crissy Marsh, Tennessee Hollow, El Polin Spring, Inspiration Point, Mountain Lake, and Lobos Creek. The natural soundscapes of these areas include the sound of running water, waves crashing, and birds singing. Intrusive sounds are of concern because they could impede the Trust's (or in the case of Crissy Marsh, NPS's) ability to manage and protect these resources. Intrusive sounds are also a matter of concern to park visitors. Noise can also distract visitors from the resources and purposes of cultural areas, i.e., the tranquility of

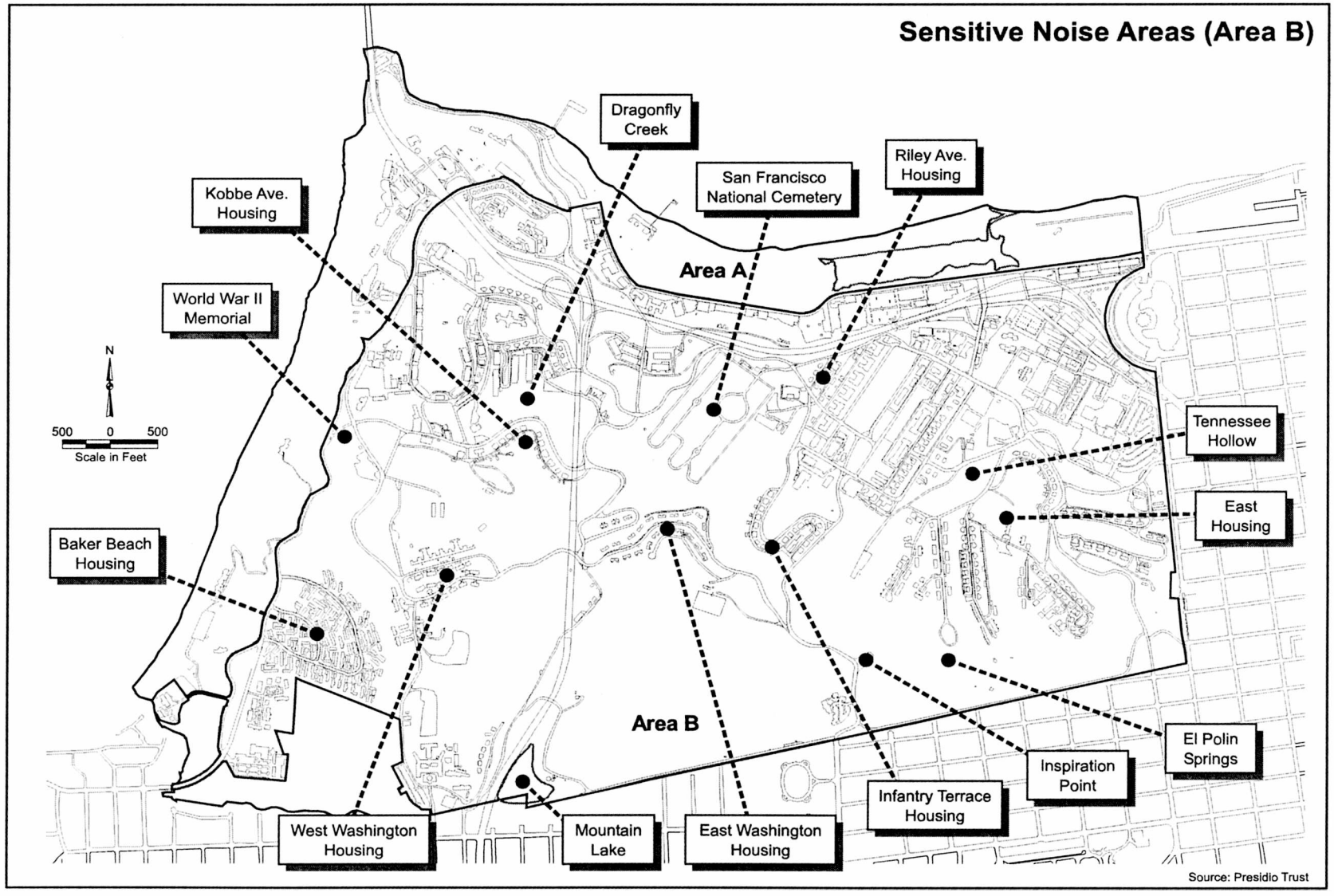
Table 8: Summary Of Short-Term Noise Measurements

Site	Description	Time	Dominating Noise Source	Hourly L_{eq} (dBA)	L_{10} (dBA)
R1	Lyon Street at Francisco and Richardson	11:10 a.m.	Richardson/Highway 101	69.4	72.5
R2	3030 Lyon Street (Lombard Street Gate)	11:45 a.m.	Lyon Street	60.5	64.0
R3	Presidio Boulevard at #545	12:25 p.m.	Buses Accelerating	67.9	69.1
R4	Gorgas at Sternberg (LDA)	12:55 p.m.	Shielded from Richardson	61.4	63.9
R5	Marina Boulevard Gate at Lyon Street	12:55 p.m.	Marina Boulevard	71.5	75.6
R6	Presidio Boulevard Gate at Pacific Street	7:10 a.m.	Presidio Gate Traffic	78.5*	69.2*
R7	Arguello Boulevard Gate at Jackson Street	7:45 a.m.	Arguello Gate Traffic	63.3	65.7
R8	El Camino del Mar (Lincoln Gate)	8:25 a.m.	Lincoln Gate Traffic	66.2	69.2
R9	Pershing at #1502	1:30 p.m.	Lincoln Boulevard	60.8	63.5
R10	Public Health Service Hospital at #1810	9:05 a.m.	Park Presidio	59.6	61.4
R11	Kobbe at #1304	9:40 a.m.	Elevated Highway 1	63.1	64.9
R12	Storey at #1290 Backyard	10:10 a.m.	Highway 101/1	68.0	69.6
R13	Armistead at #1253	10:35 a.m.	Highway 101	65.1	66.3
R14	Doyle Drive at #106 (Main Post)	11:10 a.m.	Doyle/Highway 101	72.1	73.8
R15	Moraga at #50 (Officer's Club)	11:55 a.m.	Main Post Activity	59.9	64.0

Source: EIP Associates, *Short-Term Ambient Noise Measurements*, 1999 and 2001.

Notes: * Includes passby of emergency vehicles with sirens.
Tests were duration of 15 to 30 minutes, taken on February 23, 1999 and February 2, 2001.

Figure 25 *Natural Resources*



AFFECTED ENVIRONMENT

Natural Resources

historic settings and the solemnity of monuments. Examples of these areas within the Presidio include the Fort Scott parade ground, San Francisco National Cemetery, and the World War II Memorial.

Examples of other resources that need to be protected (known as sensitive uses or sensitive receptors) include residences, schools, day care centers, parks, hospitals, convalescent centers, and recreational facilities. Existing and planned noise-sensitive uses would include:

- recreational users at the Presidio;
- residences within the City of San Francisco and within the Presidio; and
- lodging, day care, or senior-housing uses that may be associated with some of the proposed development alternatives.

The current mix of land uses at the Presidio includes recreational opportunities throughout. Recreational users in some highly developed areas of the Presidio would not be considered noise-sensitive. For example, recreational users in the Letterman Planning District are generally people using the YMCA facilities and/or tennis courts, and they would not be considered noise-sensitive, because the facilities are either indoors or are located in a built environment typical of the urban commercial/residential mixed use areas in San Francisco. Locations of existing noise-sensitive areas are depicted on Figure 25.

3.4 THE COMMUNITY

Community resources of the Presidio include land use, socioeconomic conditions, including population, employment and housing, schools, visitor facilities, recreation, and public safety, including fire protection and park police. The Community Affected Environment section discusses the existing conditions for these issue areas at the Presidio, surrounding neighborhoods, and the Bay Area region.

3.4.1 LAND USE

The following section is an update of the discussion of Presidio land uses and adjacent communities provided in the GMPA EIS.

MAJOR LAND AND BUILDING USES AND LAND USE MANAGEMENT

The 1,490-acre Presidio is at the northern tip of the San Francisco peninsula on the Golden Gate at the point where San Francisco Bay empties into the Pacific Ocean. The Presidio is bounded by these bodies of water on two sides. South of the Golden Gate Bridge, the Presidio is part of the GGNRA's 72,000 acres of open space. The densely developed City and County of San Francisco borders the former military post on the south and east. The Presidio, together with Golden Gate Park and Lincoln Park, includes most of the remaining open space within the city (most other areas are highly developed for commerce, residences, and entertainment). For the residents of San Francisco and the 7 million inhabitants of the nine Bay Area counties, the Presidio is both a forested refuge and a cultural landmark amid a densely urbanized setting. Overall, the park's existing land use pattern is mostly suburban, and less intense than the neighboring areas of San Francisco. However, the pattern is diverse, comprised of seven distinct planning districts with a range of uses and development character (Figure 26).

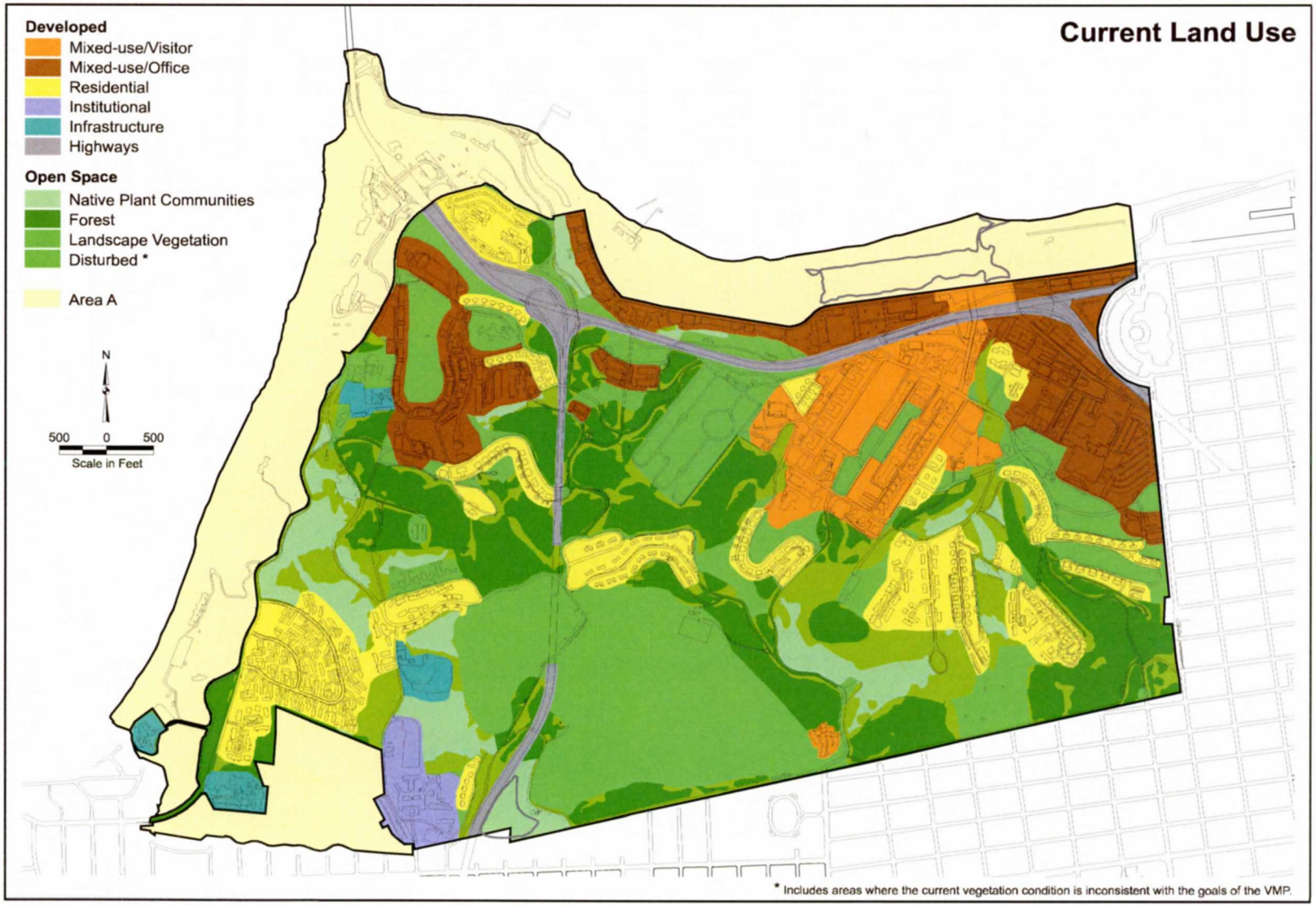
The Trust manages a majority of the Presidio's land area. The Trust's area of responsibility, defined in Title I of the Trust Act as Area B, includes the interior 80 percent of the park (1,168 acres). NPS manages Area A, the coastal area of the Presidio (324 acres), and also provides public safety (by contract to the Trust) and interpretive functions throughout the Presidio. Figure 26 illustrates Areas A and B.

Within Area B, approximately 472 acres, or 40 percent are developed and 696 acres, or 60 percent, are open space (see Table 1 in the Alternatives chapter). As shown in Table 1, the forested area extends over 200 acres. Of the developed areas, about 168 acres (36 percent) are used for residential purposes, and about 138 acres (29 percent) are in office and mixed use. Institutional and visitor with mixed use occupy about 103 acres, or 22 percent of the land area. Highway rights-of-way and other infrastructure encompass about 63 acres, or 13 percent of the land.

As listed in Table 1 (in the Alternatives Chapter), within this developed area is a total building area of 5.96 million gross square feet (gsf), of which 3.53 million gsf, (59 percent) are non-residential building area and 2.43 million gsf (41 percent) are residential building area. (This is based on previous uses; approximately one-third of the buildings are occupied or leased, as shown in Table 9.) There are 731 buildings, of which 421 (58 percent) are historic and 310 (42 percent) are non-historic. Historic structures and the cultural landscape are discussed in the Historic Resources section. Many land uses, as well as different potential users, are represented within the Presidio, as defined below and shown in Figure 26.

Mixed Use/Visitor: Community Focus- Mix of museums, visitor orientation, educational programs and Presidio community services (e.g. child care, post office, bank). Focus is on uses that support the Presidio community as a

Figure 26


Current Land Use
Developed
Mixed-use/Visitor
Mixed-use/Office
Residential
Institutional
Infrastructure
Highways
Open Space
Native Plant Communities
Forest
Landscape Vegetation
Disturbed *
Area A
N
500 0 500
Scale in Feet
* Includes areas where the current vegetation condition is inconsistent with the goals of the VMP.

AFFECTED ENVIRONMENT

The Community

Table 9: Current Land Use

Land Use	Square Feet
Office	768,508
Retail	163,554
Industrial/Warehouse	336,495
Infrastructure	46,507
Lodging	0
Conference	24,451
Cultural/Educational	82,354
Military	70,925
Recreational	80,780
Residential	1,796,938
Total Square Footage	**3,370,512**

place to visit, live, and work. Secondary uses include office, recreation, lodging, retail and residential.

Mixed Use/Visitor: Cultural Focus- Mix of museums, cultural and educational programs focused towards visitors. Secondary uses include visitor lodging, office, recreation and some retail.

Mixed Use/Office/Residential- Uses include a primary allocation to office with some support services and residential as a complement to the office activities.

Residential- Uses include all residential units maintained as part of the Trust residential program including houses, duplexes, apartments, single residence occupancies, and dormitories.

Institutional/Residential- Includes uses such as training, conference, and lodging with supporting residential, office, and general services linked to the institutional functional. It can include campus-like setting cluster of buildings for studies and conferencing.

Infrastructure- Uses include those facilities and utility structures that are essential to the day-to-day running of the park. These include water treatment facility, high voltage structures and substations, and maintenance facilities.

Open Space- Areas that are outside the built-up or developed environment and largely unoccupied by buildings, roads, sidewalks, parking areas, similar hardscape areas, and landscaping. Open space encompasses forest, landscaped areas, dunes, wetlands and riparian areas, native plant communities, trails, and the golf course. It also includes small, informal open areas within more developed parts of the Presidio that are available for recreational experiences and public use.

U.S. Highways 101 and 1- Highway 101 is an east-west connection to the Golden Gate Bridge and areas outside the Presidio. Highway 1 is a north-south grade separated highway that traverses the Presidio before merging with Highway 101 just south of the Golden Gate Bridge.

Since the departure of the U.S. Army, office and residential uses when combined make up about 80 percent of the existing uses in the Presidio. Retail, office, conference, industrial, and warehouse uses have continued in formerly occupied military buildings or in buildings that have been converted for these uses. Currently, office uses include non-profit organizations, foundations, and for-profit entities, such as real estate development and management companies, software and computer-related development companies, and film and design production businesses. Office uses are located primarily in the Main Post and Letterman Planning Districts. Current leasing agreements in the Presidio include short-term leases (1 to 5 years) to long-term ground leases (up to 55 years). Long-term leasing and committed space are listed in Table 10.

Table 10: Long Term Non-Residential Leases and Committed Space (a)

Building	Tenant	Building Area (sf)
106	Arnold Palmer Golf Management Company (National Office)	7,098
300, 315-319, 322-324, 346, 358	Arnold Palmer Golf Management Company (Presidio Golf Course)	NA
1187, 1188	Exploratorium	26,960
385	Fort Mason Foundation Exhibit Center	10,585
603	Golden Gate National Parks Association (GGNPA) Crissy Field Education Center	
135	Golden Gate National Parks Association (GGNPA)	25,776
130	Interfaith Center	7,160
116	Internet Archives	2,970
	Letterman Digital Arts Ground Lease	Approx. 900,000
210	Post Office	2,700
63, 1151, 1152	Presidio Community YMCA	46,821
38	Presidio Internet Center Partners	61,573
39	S.F. Film Centre	55,310
387	S.F. Unified School District (Child Care Center)	19,170
1029, 1030	Swords to Plowshares	46,000
1012, 1013, 1014, 1016	Thoreau Center I	73,200
1000-4, 1007-9	Thoreau Center II	84,768
Total		**481,892**

(a) Leases Greater than 5 Years

Residential uses continue in houses and barracks constructed for military use, and include former single- and multi family residences. Today, there are 1,116 housing units in 21 neighborhoods throughout the park. Approximately 300 units in the Presidio were built before World War II, and most of these are single-family or duplex units. Of the 1,116 housing units, 302 units are historic housing and 814 are non-historic housing. The remaining units are multi family apartments built after the war. In addition, there are 538 "group quarters" (single room occupancy/dorm rooms in former barracks, dorms, or bachelor officers quarters) located in 19 buildings in the Main Post, Letterman, and Fort Scott Planning Districts.

There are 472 acres associated with building uses, and 696 acres associated with open space. Open space includes native plant communities, forests, landscape vegetation and natural yet disturbed areas. It also includes areas for recreation including baseball fields, multi-use fields and the Presidio Golf Course.

SURROUNDING LAND USE

San Francisco Neighborhoods

The Presidio is bordered to the south and east by the City of San Francisco. The Richmond district is south of the Presidio. Presidio Heights and Pacific Heights are to the southeast, and the Marina district is to the east. The neighborhoods surrounding the Presidio are primarily residential with neighborhood commercial districts dispersed throughout (see Figure 27).

The Richmond district, south of the South Hills Planning District, includes the Seacliff, Lake, Presidio Heights, and Jordan Heights/Laurel Heights neighborhoods. The Seacliff and Presidio Heights neighborhoods are defined by large, single-family detached homes, with some larger multi-unit buildings in Presidio Heights. The majority of the other residential uses adjacent to the Presidio in the Richmond district are single-family homes, single-family homes with second units, and two-family homes. Three-family homes and residential mixed-use districts exist a few blocks farther south. The Richmond district also includes neighborhood commercial land uses in the vicinity of the Presidio generally along Sacramento Street, California Street, Clement Street, and Geary Boulevard.

The Pacific Heights district is southeast of the Presidio, east of the East Housing Planning District, and east and south of the South Hills Planning District. It is similar to the Seacliff and Presidio Heights neighborhoods in that it is comprised of large single-family detached homes. Areas of one-family homes, two-family homes and larger multiplexes surround the detached homes. The Pacific Heights district also includes neighborhood commercial districts in the vicinity of the Presidio generally along Divisadero Street, and Fillmore Street.

The Marina district is east of the Presidio, east of the Main Post, Crissy Field, and Letterman Planning Districts. In the vicinity of the Presidio, it is a combination of single-family homes, two-family homes and three-family homes. Residential mixed-use districts exist a few blocks farther east. The Marina district also includes neighborhood commercial land uses in the vicinity of the Presidio generally along Chestnut Street, Lombard Street, and Union Street.

Area A

Area A of the Presidio is under the jurisdiction of the NPS, and is comprised of approximately 32.2 acres of largely ocean- and bayside property, with a limited amount of building space and facilities. Area A includes Baker Beach, coastal bluffs, Fort Point, the Golden Gate Bridge plaza, Crissy Field north of Mason Street, Lobos Creek and Lobos Dunes. In addition, areas of native plant communities, including bluff scrub, coastal scrub and foredunes, and sensitive plant occurrences, including San Francisco gumplant, coast rock cress, Franciscan thistle, are located in Area

A. Also in Area A, Crissy Field is one of the most popular visitor/recreational use areas and the Golden Gate toll plaza and Fort Point are key visitor destination sites.

APPROVED PLANS

Presidio General Management Plan Amendment (GMPA)

The GMPA set forth concepts for managing the Presidio's resources. It also laid out site concepts, land use plans, and building treatments for 13 distinct planning districts. It called for 348 historic buildings to be rehabilitates for new uses, and 276 buildings totaling 1.5 million sf to be removed. Some new construction was also specified. The GMPA envisioned both public and private organizations establishing a mix of uses at the Presidio, with an emphasis on organizations with missions related to environmental, social, and cultural issues. The GMPA also recognized the need for a new management structure to oversee building leasing, operation, and maintenance, and to work cooperatively with the NPS.

City and County of San Francisco General Plan

The Presidio is under exclusive federal jurisdiction; therefore it is not directly subject to state and local land use plans, policies, or regulations. The Trust seeks to minimize possible conflicts between Trust activities and City policies, and consults with the City to achieve consistency wherever possible. Lacking any jurisdiction, the City has not developed any site-specific plans for the Presidio property. The *San Francisco General Plan* (City and County of San Francisco, n.d.) contains general land use policies and objectives for San Francisco, including housing, transportation, commercial, and recreation and open space policies. Specifically relative to the Presidio, Policy 5 of the Recreation and Open Space element calls for the preservation of the open space and natural, historic, scenic, and recreational features of the Presidio. Generally, the plan supports the preservation of San Francisco's relatively dense mixed-use neighborhoods. There is an emphasis on public transit and pedestrian use rather than on the automobile.

3.4.2 SOCIOECONOMIC ISSUES/HOUSING SUPPLY

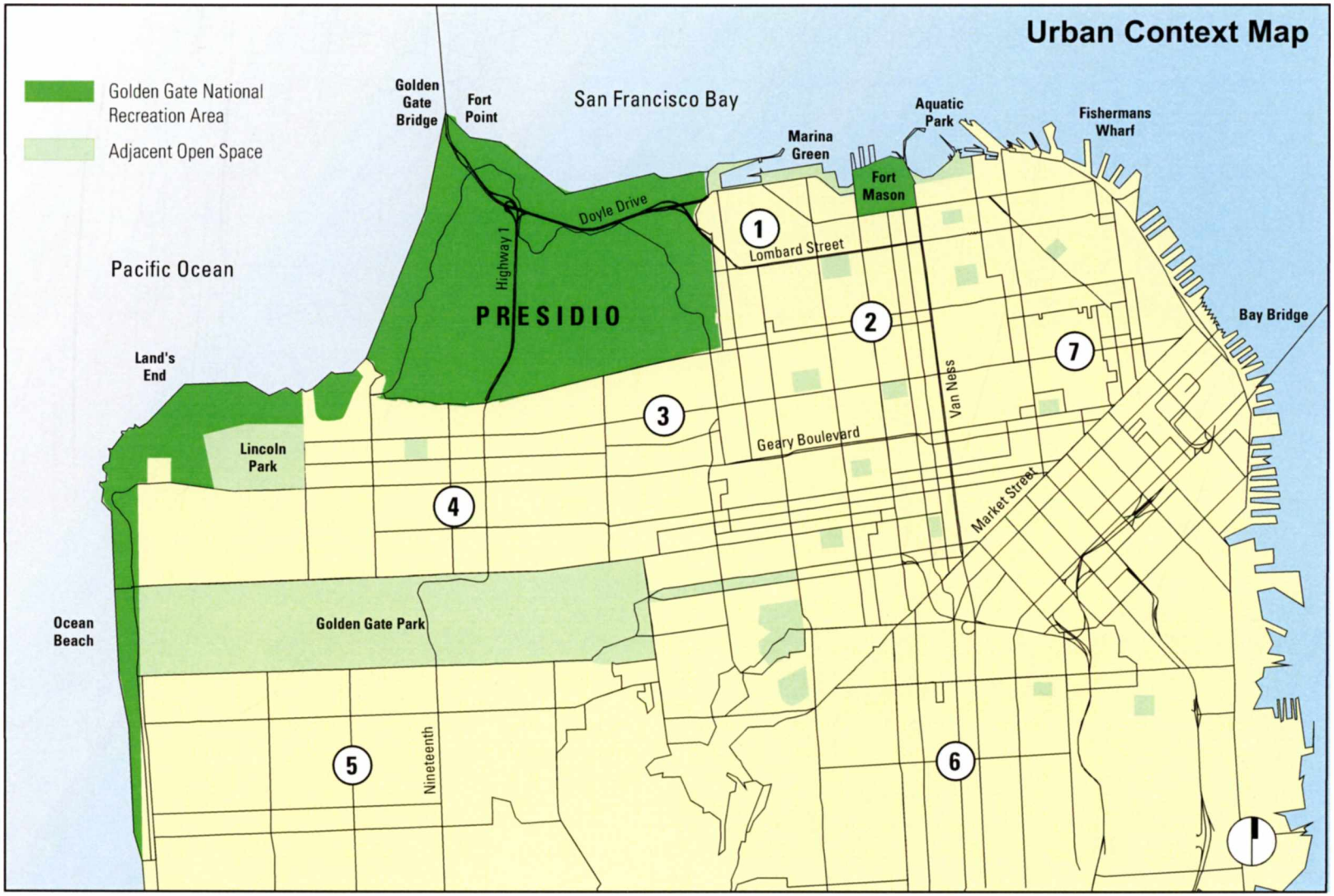
POPULATION

This section describes the population and household characteristics of the San Francisco Bay Area, the City and County of San Francisco, and the Housing Impact Area associated with the PTIP. Existing conditions and projections are discussed, setting a foundation for the analysis of the PTIP socioeconomic impacts in subsequent sections.

Bay Area

The Presidio is located at the northwestern point of the City and County of San Francisco, the center of the San Francisco Bay Area. As the fifth largest metropolitan area in the United States, the Bay Area is a major population, economic, and financial center, and includes nine counties with a total population of 6.9 million according to the Association of Bay Area Governments (ABAG). This population comprises approximately one-fifth of California's 34 million residents. The Bay Area includes the counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. While some definitions of the Bay Area add Santa Cruz as a tenth county, this analysis adheres to a nine-county definition as set forth by ABAG. As shown in Table 11, the Bay Area has experienced significant population growth over the last decade, increasing by 15 percent between 1990 and 2000. Over the next 20 years, ABAG projects the region to grow to over 8 million people, an approximately 16 percent increase over the current population. Population projections are summarized in Table 12.

Figure 27 *The Community*



1. Marina District
2. Pacific Heights
3. Presidio Heights
4. Richmond District
5. Sunset District
6. Mission District
7. Financial District

AFFECTED ENVIRONMENT

The Community

Table 11: Population and Household Trends

	1990	2000	Total Percent Change 1990-2000	Average Annual Change 1990-2000
San Francisco				
Population (a)	723,959	799,000	10.4%	1.0%
Households	305,584	315,550	3.3%	0.3%
Average Household Size	2.29	2.46	–	0.7%
Household Type (b)				
Families	46%	45%	–	-0.3%
Non-Families	54%	55%	–	0.2%
Tenure (c)				
Owner	35%	N/A	–	-
Renter	65%	N/A	–	-
Bay Area				
Population (a)	6,020,147	6,930,600	15.1%	1.4%
Households	2,245,865	2,438,060	8.6%	0.8%
Average Household Size	2.61	2.78	–	0.6%
Household Type (b)				
Families	65%	72%	–	1.0%
Non-Families	35%	28%	–	-2.2%
Tenure (c)				
Owner	60%	N/A	–	-
Renter	40%	N/A	–	-

Sources: Association of Bay Area Governments, *Projections 2000*; Claritas, Inc.; 1990 U.S. census; Bay Area Economics, 2000.

Notes:

(a) Population, Households, Average Household Size from ABAG, *Projections 2000.*
(b) Data from Claritas, Inc.
(c) Data from 1990 U.S. census.

Table 12: Population and Household Projections

	2000	2005	2010	2015	2020	Percent Change 2000-2020
Population						
San Francisco	799,000	815,600	818,800	812,900	808,800	1.2%
Bay Area	6,930,600	7,380,100	7,631,400	7,832,600	8,026,900	15.8%
Households						
San Francisco	315,550	321,710	326,130	329,080	331,470	5.0%
Bay Area	2,438,060	2,553,930	2,656,650	2,753,440	2,839,630	16.5%

Sources: Association of Bay Area Governments, *Projections 2000*; Bay Area Economics, 2000.

San Francisco

ABAG reports that the City and County of San Francisco has 799,000 residents, making it the fourth largest county in the Bay Area. While San Francisco has grown over the last decade, it has expanded at a significantly slower pace than the rest of the region, largely due to a lack of available land. As shown in Table 11, San Francisco grew at an average annual rate of 1 percent between 1990 and 2000. In contrast, the Bay Area grew at an average annual rate of 1.4 percent. As shown in Table 12, ABAG expects this trend to continue over the next 20 years, only forecasting 1 percent total growth for San Francisco between 2000 and 2020 while the Bay Area is projected to grow by 16 percent over the same period.

Table 11 also presents household data for San Francisco and the region. In general, San Francisco households are smaller than Bay Area-wide households. San Francisco's average household size is 2.46 persons per household, compared to a regional average household size of 2.78. San Francisco's higher density, smaller dwelling units, and greater proportion of non-traditional households contribute to this difference.

Tables 13 and 14 show that San Francisco households also tend to be less affluent than Bay Area-wide households. San Francisco's mean household income is $68,600, while the Bay Area has a mean household income of $76,400 (in 1995 dollars). San Francisco's lower mean income is accounted for by larger proportions of lower-income households, as indicated in Table 14. ABAG forecasts show that this pattern will continue over the next two decades. In 2020, Bay Area households are projected to have a mean income of $94,200, while San Francisco households are projected to have a mean income of $86,400 (in 1995 dollars). However, San Francisco's mean household income has grown at a slightly greater pace than the region's. The city's mean household income grew by 21 percent over the last decade, while the regional figure grew by only 19 percent.

Table 13: Mean Household Income Trends

	1990 (a)	2000	2020	% Change 90-'00	% Change '00-'20
San Francisco	$56,600	$68,600	$86,400	21%	26%
Bay Area	$64,100	$76,400	$94,200	19%	23%

Sources: Association of Bay Area Governments, *Projections 2000*; Bay Area Economics, 2000.

Note:

(a) All income amounts are expressed in 1995 dollars as calculated by ABAG.

San Francisco households are generally older than regional households. Table 15 shows that San Francisco's median age is 39.8 years and the Bay Area median is 36.9 years. Both reported figures are higher than the state median age of 34.6 years.

Presidio Population

The Presidio currently has a resident population of approximately 2,330 residents. Based on the results of a 1999 survey of existing Presidio-based employees, Presidio households have an average of 2.7 residents and a median household income of $58,465.

Among the existing Presidio population, military families occupy 57 residential units. At the time that the GMPA was adopted, the U.S. Sixth Army was expected to use approximately 550 to 600 housing units for an indefinite time period. The U.S. Sixth Army has since departed the Presidio.

Table 14: Household Income Distribution (Year 2000)

	San Francisco		Bay Area	
2000 Income	**Number**	**% of Total**	**Number**	**% of Total**
Less than $15,000	42,668	13.1%	239,991	9.4%
$15,000 to $24,999	32,595	10.0%	213,442	8.4%
$25,000 to $34,999	30,667	9.4%	218,359	8.6%
$35,000 to $44,999	32,091	9.9%	228,318	8.9%
$45,000 to $49,999	12,312	3.8%	103,438	4.1%
$50,000 to $59,999	28,128	8.7%	220,959	8.7%
$60,000 to $74,999	35,404	10.9%	302,996	11.9%
$75,000 to $99,999	42,078	13.0%	375,581	14.7%
$100,000 to $149,999	34,999	10.8%	350,309	13.7%
$150,000 to $249,999	24,142	7.4%	224,158	8.8%
$250,000 to $499,999	6,405	2.0%	52,995	2.1%
$500,000 or More	3,191	1.0%	22,328	0.9%
Total (a)	**324,680**	**100.0%**	**2,552,874**	**100.0%**
Median Income	**$53,630**		**$62,571**	

Sources: Claritas, Inc.; Bay Area Economics, 2000.

Notes:

(a) Total number of households differs from Table 12, Population and Household Trends, due to different data sources.

Table 15: Median Age 1990 and 2000

	1990	2000
San Francisco	35.6	39.8
Bay Area	33.4	36.9
California	31.3	34.6

Source: Claritas, Inc.; Bay Area Economics, 2000.

HOUSING IMPACT AREA

Bay Area housing markets do not conform uniformly to geographic and jurisdictional boundaries. Therefore, an analysis of housing market conditions and the housing impact of PTIP requires a distinct study area. The Housing Impact Area is the area in which most employees working at the Presidio are expected to reside. This Area is also expected to contain the households created by future employment at the Presidio. Methodology for identifying the Housing Impact Area (HIA) is presented below.

Defining the Housing Impact Area

Two main data sources were used in defining the HIA. First, zip code data from a 1999 survey of major Presidio employers were examined to determine the residential patterns of current Presidio employees. The sample represents 983 individuals, approximately 51 percent of the Presidio Area B total employment in 1999.

The second data source was the Metropolitan Transportation Commission's (MTC) *Commuter Forecasts for the San Francisco Bay Area 1990-2020*, which organizes commute data into "superdistricts." The HIA analysis uses commuters to Superdistrict 2 – the Richmond district Superdistrict – as a proxy for Presidio employees. Commute patterns for 2020 were used to reflect the anticipated build-out date for the Presidio. The complete MTC data set is contained in Appendix D, Socioeconomic/Housing Supply.

By cross-referencing the survey data and superdistrict data, a preliminary Housing Impact Area was drawn. As a general rule, superdistricts that generated over 1 percent of current commuters to the Presidio were included in the HIA, although some superdistricts with smaller shares of total commuters were also incorporated due to their geographic proximity to the Presidio.

The final HIA is shown in Table 16.

Housing Impact Area Characteristics

The HIA population characteristics are summarized in Table 17. According to MTC, the HIA had 3.4 million persons in 2000, and is projected to increase by 11 percent to 3.8 million persons by 2020. The number of households is projected to grow by 11 percent, from 1.2 million to 1.4 million between 2000 and 2020. The average household size is expected to rise from 2.66 to 2.69 in 2010, and fall once more to 2.66 in 2020. Over the same period, the mean household income is projected to rise from $57,618 to $71,162 (in constant 1989 dollars as calculated by MTC).

EMPLOYMENT

Bay Area

The Bay Area regional economy is one of the most dynamic and innovative economies in the world. In addition to being a leading center of knowledge-based industries (e.g., information technology, high-

Table 16: Definition of the Housing Impact Area

District of Residence	Superdistrict Number	District of Work	Number (a)	% of All Commuters to Richmond Superdistrict
Downtown SF	1	Richmond district	5,506	5.4%
Richmond district	2	Richmond district	32,373	31.7%
Mission District	3	Richmond district	15,711	15.4%
Sunset District	4	Richmond district	8,035	7.9%
Daly City/San Bruno	5	Richmond district	8,270	8.1%
San Mateo/Burlingame	6	Richmond district	2,216	2.2%
Hayward/San Leandro	17	Richmond district	1,482	1.5%
Oakland/Alameda	18	Richmond district	4,495	4.4%
Berkeley/Albany	19	Richmond district	1,467	1.4%
Richmond/El Cerrito	20	Richmond district	2,391	2.3%
Concord/Martinez	21	Richmond district	1,605	1.6%
Vallejo/Benicia	25	Richmond district	1,204	1.2%
Fairfield/Vacaville	26	Richmond district	1,242	1.2%
Novato	32	Richmond district	680	0.7%
San Rafael	33	Richmond district	2,330	2.3%
Mill Valley/Sausalito	34	Richmond district	3,228	3.2%
Total			**92,235**	**90.3%**
All Commuters to Richmond Superdistrict (b)			**102,141**	

Sources: Metropolitan Transportation Commission, *Commuter Forecasts for the San Francisco Bay Area, 1990-2020*; Bay Area Economics, 2000.

Notes:

(a) Forecasts for 2020.

(b) Remaining 9.7 percent of commuters originate from superdistricts with less than 1 percent of commuters or from elsewhere.

Table 17: Housing Impact Area Population Characteristics

Housing Impact Area (a)	2000	2020	Change 2000-2020	% Change 2000-2020
Population	3,380,940	3,765,136	384,196	11%
Households	1,243,115	1,381,584	138,469	11%
Average Household Size	2.66	2.66	0	0%
Average Workers per Household	1.26	1.38	0.11	9%
Mean Household Income (b)	$57,618	$71,162	$13,544	24%

Sources: Metropolitan Transportation Commission *Superdistrict and County Summaries of ABAG Projections, 2000;* Bay Area Economics, 2000.

Notes:

(a) Housing Impact Area includes the MTC superdistricts listed in Definition of the Housing Impact Area Table.

(b) In constant 1989 dollars.

performance computing, biosciences, telecommunications, multimedia, the Internet, e-commerce), the region serves as the banking and financial center for the western United States, and has a thriving entertainment and tourism industry. The Bay Area's strategic location as a gateway to the Pacific Rim also positions it as a major international trade and transportation hub. All of this economic activity is reflected in substantial employment growth, relatively low unemployment rates, strong retail spending, and a historically strong real estate market.

According to estimates from ABAG, total 2000 employment in the Bay Area exceeded 3.6 million jobs. ABAG reports that total Bay Area employment increased by 482,510 jobs between 1990 and 2000, a 15 percent gain. An additional 999,360 new jobs are projected for the Bay Area between 2000 and 2020. Employment data for the region are shown in Table 18.

Services comprise the largest employment sector in the Bay Area, accounting for 1.4 million jobs in 2000, over 37 percent of all employment. The second largest category is the combined Wholesale Trade and Retail Trade sectors which together make up 779,580 jobs in 2000, approximately 22 percent of total jobs. With 558,790 jobs and over 15 percent of total employment, Manufacturing represents the third largest sector.

According to ABAG estimates, Services employment will grow by 528,400 new jobs between 2000 and 2020, at an average annual growth rate of 1.6 percent. By 2020, Services are projected to comprise almost 41 percent of all jobs. A large portion of this growth is projected to occur in Business Services, which would add 196,810 new jobs between 2000 and 2020, at an average annual growth rate of 1.6 percent. This trend follows a national shift in the economy towards the Service sector.

The combined Wholesale Trade and Retail Trade industries are expected to add 172,480 new jobs between 2000 and 2020. However, these sectors' combined share of total employment would fall to 20.3 percent. By 2020, the Manufacturing sector is projected to fall to 14.5 percent of total employment.

San Francisco

Table 18 presents employment data by industry sector for the City and County of San Francisco. ABAG currently estimates that there are 628,860 jobs in San Francisco, with employment expected to increase to 731,660 over the next twenty years, at an average annual rate of 0.8 percent. In contrast to the region, Services jobs comprise the largest share of the San Francisco economy, with 277,710 jobs, or 44.2 percent of total employment. Business services, a subcategory of Services, represent 18.5 percent of total jobs. Wholesale and Retail Trade are the second largest industry sectors, combining to almost 17 percent of total employment with 106,460 jobs.

Over the next two decades, ABAG anticipates the growth of the Service sector's prominence in the San Francisco economy, increasing by 69,300 jobs at an average annual growth rate of 1.1 percent. Approximately 47 percent of San Francisco jobs are projected to be in the Services by 2020. As with the region, expansion in the Business Services sector drives much of this growth. By 2020, Business Services are projected to make up 21.8 percent of total employment with 159,220 jobs.

Housing Impact Area

Table 19 contains employment data by industry sector for the Housing Impact Area. ABAG projects employment to grow from 1.8 million to 2.2 million between 2000 and 2020, at an average annual rate of 1.0 percent. Once again, the Service sector represents the bulk of the area's economy, with 711,861 jobs and over 39 percent of total employment. By 2020, the

Table 18: Employment Projections by Industry Sector - Bay Area and San Francisco

BAY AREA

	1990		2000		2020		Avg. Annual Change
INDUSTRY SECTOR	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**'00-'20**
Agriculture and Mining	36,980	1.2%	37,780	1.0%	36,550	0.8%	-0.2%
Construction	148,360	4.6%	185,800	5.0%	223,230	4.8%	0.9%
Manufacturing	516,920	16.1%	558,790	15.1%	680,790	14.5%	1.0%
High Technology	*273,790*	*8.5%*	*302,920*	*8.2%*	*349,820*	*7.5%*	*0.7%*
Transportation/Public Utilities	189,390	5.9%	223,570	6.1%	293,390	6.3%	1.4%
Wholesale Trade	192,000	6.0%	199,620	5.4%	266,280	5.7%	1.5%
Retail Trade	534,960	16.7%	579,960	15.7%	685,780	14.6%	0.8%
Finance, Insurance & Real Estate	228,310	7.1%	240,550	6.5%	280,700	6.0%	0.8%
Services	1,067,460	33.3%	1,390,860	37.7%	1,919,260	40.9%	1.6%
Business Services	*370,550*	*11.6%*	*541,050*	*14.7%*	*737,860*	*15.7%*	*1.6%*
Government	291,700	9.1%	271,660	7.4%	301,970	6.4%	0.5%
Total Employment	**3,206,080**	**100%**	**3,688,590**	**100%**	**4,687,950**	**100%**	**1.2%**

CITY AND COUNTY OF SAN FRANCISCO

	1990		2000		2020		Avg. Annual Change
INDUSTRY SECTOR	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**'00-'20**
Agriculture and Mining	2,300	0.4%	2,300	0.4%	2,180	0.3%	-0.3%
Construction	16,350	2.8%	19,750	3.1%	23,130	3.2%	0.8%
Manufacturing	39,790	6.9%	41,800	6.6%	46,580	6.4%	0.5%
High Technology	*3,700*	*0.6%*	*4,370*	*0.7%*	*6,850*	*0.9%*	*2.3%*
Transportation/Public Utilities	40,290	7.0%	44,180	7.0%	49,380	6.7%	0.6%
Wholesale Trade	30,560	5.3%	25,150	4.0%	28,770	3.9%	0.7%
Retail Trade	80,120	13.8%	81,310	12.9%	88,600	12.1%	0.4%
Finance, Insurance & Real Estate	75,400	13.0%	75,820	12.1%	82,960	11.3%	0.5%
Services	229,470	39.6%	277,710	44.2%	347,010	47.4%	1.1%
Business Services	*103,440*	*17.9%*	*116,630*	*18.5%*	*159,220*	*21.8%*	*1.6%*
Government	64,900	11.2%	60,840	9.7%	63,050	8.6%	0.2%
Total Employment	**579,180**	**100%**	**628,860**	**100%**	**731,660**	**100%**	**0.8%**

Sources: Association of Bay Area Governments, *Projections 2000*; Bay Area Economics, 2000.

Table 19: Employment Projections by Industry Sector - Housing Impact Area

Housing Impact Area

	2000		2020		Average Annual Change
Industry Sector	**Number**	**Percent**	**Number**	**Percent**	**'00-'20**
Agricultural	12,631	0.7%	11,953	0.5%	-0.3%
Manufacturing	151,786	8.4%	181,290	8.1%	0.9%
Wholesale	97,421	5.4%	120,881	5.4%	1.1%
Retail	286,220	15.8%	326,942	14.7%	0.7%
Service	711,861	39.3%	940,841	42.2%	1.4%
Other	550,162	30.4%	648,054	29.1%	0.8%
Total Employment	**1,810,081**	**100.0%**	**2,229,961**	**100.0%**	**1.0%**

Sources: Metropolitan Transportation Commission, *Superdistrict and County Summaries of ABAG's Projections 2000, 1990-2020;* Bay Area Economics, 2000.

Service sector is expected to comprise 42.2 percent of the economy, with 940,841 jobs.

Presidio Employment

Reports prepared for the Trust state that there are currently approximately 2,020 employees in the Presidio. A 1999 Presidio employee survey found that approximately 41 percent of Presidio-based employees work for government agencies, 16 percent are in the private sector, and 42 percent are in non-profit organizations. (Figures do not total 100 percent due to rounding.)

HOUSING

This section describes the current housing market conditions in the Housing Impact Area. It examines the housing stock, rental and ownership markets, and affordability. Although the housing market is likely to shift dramatically between 2000 and the PTIP implementation, this information helps to establish the baseline conditions for analysis. This section also includes data on existing housing stock at the Presidio.

The Bay Area housing market has traditionally ranked as one of the most expensive housing markets in the country due to strong population and employment growth and lack of developable land. During the recent Internet-led economic boom, the Bay Area's regional housing market became the most expensive in the nation. It is anticipated that this trend of high housing costs will continue. ABAG projects a potential of 503,360 additional dwelling units and an 509,940 additional households between 1995 and 2020 for the Bay Area, resulting in a net shortage of 6,580 units.

The Housing Impact Area, as a subset of the Bay Area, suffers from similar conditions. The housing market in the Housing Impact Area is discussed in detail in the following section.

Housing Stock

As shown in Table 20, ABAG estimates the total current number of occupied units in the Housing Impact Area to be 1.2 million. Approximately 694,774, or 55.9 percent, of these are single-family dwellings, and 548,341, or 44 percent, are multifamily dwellings. The total number of occupied units is expected to increase to 1.4 million by 2020, but the breakdown between single and multifamily units is projected to remain relatively constant.

Table 20: Housing Stock in Housing Impact Area

	2000		2020			
Superdistrict	**Number of Units (a)**	**% of Total**	**Number of Units (a)**	**% of Total**	**% Change in Number of Units 2000-2020**	**Change as % of Total New Units**
Downtown SF	61,580	5.0%	66,946	4.8%	9%	3.9%
Richmond district	97,847	7.9%	100,465	7.3%	3%	1.9%
Mission District	107,691	8.7%	114,762	8.3%	7%	5.1%
Sunset District	48,471	3.9%	49,352	3.6%	2%	0.6%
Daly City/San Bruno	97,391	7.8%	105,603	7.6%	8%	5.9%
San Mateo/Burlingame	79,568	6.4%	88,479	6.4%	11%	6.4%
Hayward/San Leandro	119,795	9.6%	130,919	9.5%	9%	8.0%
Oakland/Alameda	166,522	13.4%	172,685	12.5%	4%	4.5%
Berkeley/Albany	67,792	5.5%	71,515	5.2%	5%	2.7%
Richmond/El Cerrito	83,901	6.7%	93,717	6.8%	12%	7.1%
Concord/Martinez	82,733	6.7%	96,506	7.0%	17%	9.9%
Vallejo/Benicia	49,752	4.0%	59,092	4.3%	19%	6.7%
Fairfield/Vacaville	80,568	6.5%	120,116	8.7%	49%	28.6%
Novato	21,439	1.7%	25,449	1.8%	19%	2.9%
San Rafael	42,443	3.4%	47,464	3.4%	12%	3.6%
Mill Valley/Sausalito	35,622	2.9%	38,514	2.8%	8%	2.1%
MFD (b)	**548,341**	**44.1%**	**599,742**	**43.4%**	**9%**	**37.1%**
SFD (c)	**694,774**	**55.9%**	**781,842**	**56.6%**	**13%**	**62.9%**
Total	**1,243,115**	**100.0%**	**1,381,584**	**100.0%**		**100.0%**

Sources: Metropolitan Transportation Commission, *Superdistrict and County Summaries of ABAG's Projections 2000, 1990-2020*; Bay Area Economics, 2000.

Notes:

(a) Only includes occupied units.
(b) MFD = Multifamily dwelling.
(c) SFD = Single family dwelling.

Three counties – Solano, Contra Costa, and Alameda – are expected to absorb approximately 68 percent of new housing constructed in the Housing Impact Area between 2000 and 2020. In Solano, the Fairfield/Vacaville Superdistrict alone is expected to gain almost 40,000 occupied units, which represents over 28 percent of all occupied units constructed in the Housing Impact Area during this period. In west Contra Costa County, the Richmond/El Cerrito and Concord/Martinez Superdistricts together account for 23,589 occupied new units, or 17 percent of total units projected to be built in the Housing Impact Area. Finally, in Alameda, the Hayward/San Leandro, Oakland/Alameda, and Berkeley/Albany Superdistricts contain over 15 percent of occupied units projected to be built in the Housing Impact Area over the next two decades.

Rental Market

Table 21 presents rental housing cost data for the Housing Impact Area. Rental rates in the Housing Impact Area increased significantly over the last two years. Between 1998 and 2000, the average rent rose by approximately 29.6 percent, and vacancy rates fell 2.4 percentage points. According to a Real Facts survey of multifamily complexes with at least 50 units, the average rent in the Housing Impact Area was $1,537 a month and the average vacancy rate was 1.4 percent, as of the end of the third quarter 2000.

Table 22 contains data on rental affordability in the Housing Impact Area. Affordable rents are calculated for households at the 25th percentile, the median, and the 75th percentile of Bay Area incomes in 2000. Bay Area household incomes (see Table 14) are used as a proxy for Presidio employees' household incomes. Households at the 25th percentile of household income can afford a monthly rent of $837; households at the median household income can afford a monthly rent of $1,564; and households at the 75th percentile of household income can afford a monthly rent of $2,541. All affordable rents include utilities, and represent 30 percent of the household income. Table 22 shows the monthly rent ranges of various unit types in the Housing Impact Area. These can be compared to the affordable rents for each income level to offer a sense of what unit types are available within affordable ranges.

Ownership Market

Table 23 contains data on all full, verified, confirmed sales in the Housing Impact Area between October 1, 2000 and October 31, 2000. Using these sales as a sample, the median single-family home in the Housing Impact Area is $316,000. The median sale price of a condominium in the Housing Impact Area during the same period is $235,000.

Table 24 presents an affordability analysis for ownership housing in the Housing Impact Area, using the Bay Area 2000 household income distribution (see Table 14) as a basis for determining affordability. Again, Bay Area household incomes are used as a proxy for Presidio employees' household incomes. Households at the 25th percentile of household income can afford 2 percent of the single-family homes sold during October 2000 in the Housing Impact Area. Households with the median household income can afford 26 percent of the single-family homes sold during the same period, and households at the 75th percentile can afford 57 percent of homes sold.

Condominiums are somewhat more affordable. Households at the 25th percentile of household income can afford 4 percent of condominiums sold in October within the Housing Impact Area. Households at median and 75th percentile of household incomes can afford 33 percent and 69 percent of condominiums, respectively.

Table 21: Overview of the Housing Impact Area Rental Housing Market

CURRENT MARKET DATA

Unit Type	Number	Percent of Mix	Avg. Sq Ft	Avg. Rent (a)
Studio	8,517	7.1%	486	$1,286
1 BR/1 BA	50,725	42.3%	692	$1,394
2 BR Twnhse	3,202	2.7%	1,068	$1,646
2 BR/1 BA	21,771	18.1%	865	$1,437
2 BR/2 BA	31,279	26.1%	1,001	$1,798
3 BR Twnhse	483	0.4%	1277	$1,895
3 BR/2 BA	4,078	3.4%	1,261	$2,241
Totals	**120,055**	**100.0%**	**821**	**$1,537**

AVERAGE RENT HISTORY

Unit Type	1998(b)	1999(b)	2000 (b)	1998-2000 Change
Studio	$929	$997	$1,174	17.8%
1 BR/1 BA	$983	$1,061	$1,276	20.3%
2 BR Twnhse	$1,216	$1,357	$1,551	14.3%
2 BR/1 BA	$1,031	$1,106	$1,312	18.6%
2 BR/2 BA	$1,275	$1,367	$1,656	21.1%
3 BR Twnhse	$1,423	$1,582	$1,755	10.9%
3 BR/2 BA	$1,545	$1,678	$2,056	22.5%
All	$1,089	$1,176	$1,411	20.0%

OCCUPANCY RATE

Year(b)	Average Occupancy
1998	96.1%
1999	97.0%
2000	98.5%

AGE OF HOUSING INVENTORY

Year	Percent of Inventory
Pre 1960s	5%
1960s	30%
1970s	29%
1980s	29%
1990s	7%

Sources: Real Facts, Inc.; Bay Area Economics, 2000.

Notes:

(a) September 2000 data.
(b) 1998-99 – 4 quarter average; 2000 – 3 quarter average.

Table 22: Rental Housing Affordability Analysis

INCOME AND AFFORDABILITY

Income Level	Estimated Household Income (a)	Monthly Affordable Rent (b)
25th percentile	$33,462	$837
Median	$62,571	$1,564
75th percentile	$101,652	$2,541

RENTS (c)

Unit Type	Average Low Rent (d)	Average High Rent (e)	Average Rent
Studio	$1,235	$1,389	$1,286
1 BR/1 BA	$1,349	$1,483	$1,394
2 BR Twnhse	$1,624	$1,691	$1,646
2 BR/1 BA	$1,402	$1,506	$1,437
2 BR/2 BA	$1,739	$1,916	$1,798
3 BR Twnhse	$1,853	$1,853	$1,895
3 BR/2 BA	$2,195	$2,195	$2,241
Totals	**$1,491**	**$1,630**	**$1,537**

Sources: Real Facts, Inc.; Claritas, Inc.; Bay Area Economics, 2000.

Notes:

(a) From Estimated 2000 Household Income Distribution Table.
(b) Affordable rent is considered to be 30% of household income, including utilities.
(c) From Real Facts survey of apartment complexes with 50 or more units in Housing Impact Area. Rents as of September 2000, and include 2BR and 3BR townhouses.
(d) Average Low Rent is a weighted average of lowest-rent units in apartment complexes surveyed.
(e) Average High Rent is a weighted average of highest-rent units in apartment complexes surveyed.

Table 23: Overview of Housing Impact Area For-Sale Housing Market

Single Family Residences			Condominiums		
Sale Price	**Number of Units**	**% of Total**	**Sale Price**	**Number of Units**	**% of Total**
Less than $100,000	47	1.9%	Less Than $100,000	46	7.4%
$100,000 to $124,999	45	1.8%	$100,000 to $149,999	86	13.8%
$125,000 to $149,000	87	3.6%	$150,000 to $159,999	16	2.6%
$150,000 to $174,999	152	6.2%	$160,000 to $169,999	25	4.0%
$175,000 to $199,999	183	7.5%	$170,000 to $179,999	23	3.7%
$200,000 to $224,999	141	5.8%	$180,000 to $189,999	18	2.9%
$225,000 to $249,999	142	5.8%	$190,000 to $199,999	21	3.4%
$250,000 to $274,999	199	8.1%	$200,000 to $209,999	29	4.7%
$275,000 to $299,999	134	5.5%	$210,000 to $219,999	17	2.7%
$300,000 to $324,999	118	4.8%	$220,000 to $229,999	19	3.1%
$325,000 to $349,999	99	4.0%	$230,000 to $239,999	20	3.2%
$350,000 to $374,999	112	4.6%	$240,000 to $249,999	12	1.9%
$375,000 to $399,999	104	4.2%	$250,000 to $259,999	13	2.1%
$400,000 to $449,999	164	6.7%	$260,000 to $269,999	22	3.5%
$450,000 to $499,999	144	5.9%	$270,000 to $279,999	12	1.9%
$500,000 to $549,999	108	4.4%	$280,000 to $289,999	14	2.3%
$550,000 to $599,999	73	3.0%	$290,000 to $299,999	10	1.6%
$600,000 to $649,999	73	3.0%	$300,000 to $399,999	89	14.3%
$650,000 to $699,999	58	2.4%	$400,000 to $499,999	49	7.9%
$700,000 to $749,999	45	1.8%	$500,000 and Above	81	13.0%
$750,000 to $799,999	38	1.6%	**Total (a)**	**622**	**100.0%**
$800,000 to $849,999	24	1.0%	**Median Sale Price**	**$235,000**	
$850,000 to $899,999	25	1.0%			
$900,000 to $949,999	18	0.7%			
$950,000 to $999,999	8	0.3%			
$1,000,000 to $1,499,999	44	1.8%			
$1,500,000 to $1,999,999	24	1.0%			
$2,000,000 and Above	40	1.6%			
Total (a)	**2,449**	**36.2%**			
Median Sale Price	**$316,000**				

Sources: First American Real Estate Services; Bay Area Economics, 2000.

Note:

(a) Represents all full, verified, and confirmed sales within the Housing Impact Area between 10/01/00 and 10/31/00.

Table 24: For-Sale Housing Affordability Analysis

		Single-Family Residences			Condominiums		
Income Level	Estimated Household Income (a)	Affordable Sale Price (b)	Number of Affordable Units (c)	% of All Sales	Affordable Sale Price (d)	Number of Affordable Units (e)	% of All Sales
25th percentile	$33,462	$108,010	57	2%	$82,381	23	4%
Median	$62,571	$219,697	633	26%	$184,586	203	33%
75th percentile	$101,652	$356,917	1385	57%	$321,805	429	69%

Sources: Claritas, Inc.; First American Real Estate Services; Bay Area Economics, 2000.

Notes:

(a) From Table 14: Estimated 2000 Household Income Distribution.
(b) Assumes 8.0 percent annual fixed interest, 30 year term, 20 percent of sale price down payment, 1.3 percent property tax, 0.2 percent of sale price annual insurance, 0.75 percent hazard insurance, 30 percent of household income available for principal, interest, taxes, insurance.
(c) Of all full and verified single-family home sales in Housing Impact Area from 10/01/00 to 10/31/00. Table 23 contains sales data.
(d) Assumes 8.0 percent annual fixed interest, 30 year term, 20 percent of sale price down payment, 1.3 percent property tax, 0.2 percent of sale price annual insurance, $250/month homeowners dues, 30 percent of household income available for principal, interest, taxes, insurance.
(e) Of all full and verified condominium sales in Housing Impact Area from 10/01/00 to 10/31/00.

Presidio Housing Stock

The Presidio currently has 1,116 multifamily and single-family housing units. As of June 2001, approximately 873 of these were occupied. See Table 25 for details on unit types and quantities. In addition, the Presidio currently has approximately 538 single-room occupancy units.

Table 25: Current Presidio Housing Inventory

	1-BR	2-BR	3-BR	4-BR	5+BR	Total
Historic	10	26	136	99	30	301
Non-Historic	0	210	362	243	0	815
Inventory Total	10	236	498	342	30	**1,116**

Source: Presidio Trust; Bay Area Economics, 2001.

Presidio Residential Leasing Programs

The Trust has implemented several residential leasing programs designed to provide a range of housing opportunities at the Presidio. In the general residential leasing program, rents are set to reflect market conditions, pursuant to the Trust's residential leasing policy. Although some of these units have been rented temporarily to the general public, it is anticipated that Presidio-based employees and their families eventually will occupy a significant portion of Presidio housing. To that end, the Trust has established a priority system to ensure that Presidio based employees have the first opportunity to lease residential units. For the purposes of providing and expanding housing opportunities for Presidio-based employees, the Trust has adopted a Preferred Renter Program, a Public Safety Housing Program, and a Housing for Small Households Program.

The Preferred Renter Program offers reduced rental rates to Presidio employee households earning up to 100 percent of district median income adjusted for household size. Eligible participants are Presidio-based employees that are employed for a minimum of 32 hours per week. Tenants pay 40 percent of income for rent, including utilities. One hundred and fifty (150) units set aside for this program in Quarry, MacArthur, Sanches, and Wherry are allocated as follows: (i) 30 percent of units for households earning 30 percent of the district median ($22,470); (ii) 55 percent of units for households earning up to 80 percent of median ($59,920); and 15 percent of units for households earning up to 100 percent of median ($74,900). This schedule assumes income levels for four person households, and is adjusted annually according to U.S. Department of Housing and Urban Development guidelines.

The Public Safety Housing Program houses up to 40 full-time Presidio-based fire fighters and U.S. Park Police officers. Program participants pay either 25 or 30 percent of individual salary for rent and utilities. Units designated for this program are the same as for the Preferred Renter Program and units in the West Washington and North Fort Scott neighborhoods.

To ensure housing opportunities for smaller employee households, the Trust has initiated a program to make available selected single room occupancy units in Building 1028 in the Letterman Planning District (Letterman Apartments). A total of 58 units are anticipated to be available to lower-income Presidio-based employees. Monthly rents range from $475 to $525, depending on income levels. First priority is given to employee households earning up to 50 percent of the district median income ($26,225 for a one-person household and $29,950 for a two-person household).

Presidio Housing Rehabilitation

The Trust is implementing a program to rehabilitate or repair, as necessary, a large number of housing units to be leased. Since this effort was initiated in the summer of 1998, more than 400 units have been made available for

rent. These newly leased units, combined with units leased by NPS prior to Trust efforts, result in 873 occupied units under Trust management.

3.4.3 SCHOOLS

SAN FRANCISCO UNIFIED SCHOOL DISTRICT

The San Francisco Unified School District (SFUSD) is the fifth largest school district in California and operates a total of 76 elementary schools, 17 middle schools, and 18 senior high schools (SFUSD 2000). Data from the State of California Department of Education show that K-12 enrollment in the 1999-2000 school year is 62,041 students (State of California Department of Education 2001). Over the seven school years from 1993-1994 through 1999-2000, SFUSD enrollment has been a relatively stable 62,000 students in grades K-12. Enrollment has ranged from a high of 62,830 in 1996 to a low of 61,950 in 1998.

The SFUSD employed 6,980 persons in FY 1999-2000, including 76 central office administrators, 199 school administrators, and 2,671 classified personnel (e.g., clerical, maintenance, transportation, food service workers). SFUSD also employed 34 librarians, 143 counselors/ psychologists/ social workers/ nurses, and 3,857 teachers. In FY 1999-2000 the student/teacher ratio was 16:1. The annual budget for SFUSD in FY 1999-2000 totaled $432,931,000 (SFUSD 2000).

Data in the *Base Closure Final Environmental Impact Statement for Presidio of San Francisco* (U.S. Army Corps of Engineers 1991) indicate that in 1990 there were 840 students enrolled in San Francisco public schools who were dependents of military or civilian employees at the Presidio. This figure represented 28 percent of the 3,000 Presidio dependents of military and civilian employees who were aged five to 18 in 1990.

Discussions with the SFUSD Education Placement Center reveal that school-age children living at the Presidio during U.S. Army occupancy attended elementary, middle, and high schools located in the neighborhoods surrounding the Presidio (Wells 2000). Table 26 lists 12 public elementary, middle, and high schools that the Education Placement Center has identified as the principal school sites where children living at the Presidio are expected to attend in the future. Table 26 shows that these schools have a capacity in 1999-2000 of 10,452 students, and an enrollment in 1999-2000 of 10,093. When separated by school/grade level, Table 26 shows that in 1999-2000 the seven elementary schools (K through fifth grade) have capacity for an additional 273 students; the three middle schools (sixth through eighth grade) have capacity for an additional 221 students; and the two high schools (ninth through 12th grade) are overcapacity by 135 students.

In 2000, there were 128 school age children residing at the Presidio. Because the Presidio is under exclusive federal jurisdiction, no property tax flows to the SFUSD. In order to offset the loss of revenue due to federal property being exempt from local property tax the federal government established the School Impact Aid program, administered by the U.S. Department of Education. Under this program school districts are compensated for non-military students living on federal property when a parent works on federal property, as well as civilian students whose parent works on federal property. In fiscal year 2000 SFUSD received approximately $67,000 from the Impact Aid Program for all federal facilities in San Francisco. SFUSD estimated compensation is approximately $235 per pupil residing at the Presidio.

3.4.4 VISITOR EXPERIENCE

The Presidio has a number of programs and facilities that provide visitors with opportunities to learn about the Presidio's history, resources, and efforts to transform from a military post to a national park. Visitor

Table 26: Presidio Neighborhood Public School Enrollment

School	Location	Capacity 1999-2000	Enrollment 1999-2000	Excess And (Over) Capacity
Alamo Elementary School	250 23rd Avenue	678	692	(14)
Argonne Alternative Elementary School	680 18th Avenue	400	400	0
Cabrillo Elementary School	735 24th Avenue	401	316	85
Golden Gate Elementary School	1601 Turk Street	400	320	80
John Swett Alternative Elementary School	727 Golden Gate Avenue	372	334	38
Lafayette Elementary School	4545 Anza Street	531	492	39
Sherman Elementary School	1651 Union Street	500	455	45
		3,282	**3,009**	**273**
Marina Middle School	3500 Fillmore Street	1,000	896	104
Presidio Middle School	450 30th Avenue	1,200	1,138	62
Roosevelt Middle School	460 Arguello Boulevard	870	815	55
		3,070	**2,849**	**221**
Galileo High School	1150 Francisco Street	1,900	1,843	57
George Washington High School	600 32nd Avenue	2,200	2,392	(192)
		4,100	**4,235**	**(135)**
	TOTAL	**10,452**	**10,093**	

Sources: San Francisco Unified School District; SFUSD School Profiles 1999-2000; Bay Area Economics, 2000.

information centers located in Area B include the William Penn Mott Jr. NPS Visitor Center and the Crissy Field Center. Other visitor facilities include interpretive wayside signs, exhibition halls, special event venues, scenic overlooks, a native plant nursery, and the Calvary Stables. Programs provided by the National Park Service, Trust, and tenants give visitors a greater understanding of the park and its resources.

As authorized by Congress in the Trust Act, the NPS, in cooperation with the Trust, is responsible "for providing public interpretive services, visitor orientation, and educational programs on all lands within the Presidio." The NPS and Trust are jointly working on a Presidio Interpretive Plan (PIP) that will provide a framework for carrying out interpretive programs. The PIP will identify Presidio interpretive themes and stories, describe how they connect with each other, and identify where and how they can be best conveyed to the visiting public. These interpretive programs are instrumental in creating a vibrant and educational visitor experience.

According to the National Park Service's visitation database from the year 2000, the GGNRA (including Muir Woods National Monument, Fort Point, and the SF Maritime Museum) had approximately 20.5 million recreational visitors (NPS Visitation Database, www.nps.gov). As part of the PTIP planning and environmental review process, the Trust generated Presidio-specific estimates for current (2001) visitation as well as projected estimates for each of the alternatives evaluated in this EIS. Based on these estimates, current recreational visitation within the Presidio is assumed to be roughly 4.8 million, with 2 million visitors to Area A and 2.8 million in Area B. Although the methodology used to estimate current (2001) and projected future visitation levels is the same, it differs from the GGNRA-wide estimates compiled by the NPS. The purpose of presenting GGNRA-wide information above is to provide some general context for the reader, however, it is important to note that these figures use different methodologies and are therefore not directly comparable.

INTERPRETATION/VISITOR INFORMATION FACILITIES

William Penn Mott Jr. NPS Visitor Center-The William Penn Mott Jr. NPS Visitor Center is the main contact point for visitors to the national park. The center is open year-round and is located in Building 102 on Montgomery Street at the Main Post. The Visitor Center contains a theater and rotating exhibits, and serves as a primary staging area for ranger-led tours and other interpretive programs. The Visitor Center also contains some of the Army's historical memorabilia formerly housed in the now closed Presidio Museum.

The Crissy Field Center and Warming Hut-The Crissy Field Center is located in Building 603, on the corner of Mason and Halleck Streets. Opened in Spring 2001, its goal is to welcome visitors to Crissy Field and create connections between GGNRA sites and Bay Area communities. Managed by the Golden Gate National Parks Association (GGNPA), the center provides classroom space, a laboratory, and a café.

The Crissy Field Warming Hut, opened in 2001, provides park information at the west end of Crissy Field (Area A) along with a bookstore and café.

Fort Point National Historic Site- The Fort Point National Historic Site is located within Area A and is managed by the NPS. It provides educational programs for school groups, a self-guided and audio tour of the Fort, two videos, bookstore, and visitor information.

Informal Visitor Information Centers- Other buildings distribute printed visitor information, such as park brochures, maps and other publications, to visitors. These include the Trust's headquarters located at Building 34, the Leasing Office in Building 558, the Golden Gate Club in Building 135, and the Presidio Officer's Club in Building 50. Many leased buildings also have display areas where current events, transit information, and

publications are available to visitors, such as at the Thoreau Center in Building 1016 or the Presidio Alliance offices in Building 563.

Wayfinding Kiosks and Signage, and Wayside Signs-Wayfinding kiosks being installed throughout the Presidio contain information about transit, hiking and bicycling routes, points of interest, and noteworthy attractions.

To support visitor, resident, and employee use of the Park, and to provide visitors with a sense of entry into the Presidio, entrance signs are located at all major gates. Once inside, directional signage, resembling the signs historically used by the Army, directs visitors to key features of the park.

Interpretive panels are being installed at various locations throughout the Presidio. Within Area B, these signs are located throughout the Main Post, along Funston Avenue, at the Crissy Overlook on Lincoln Boulevard, on Lover's Lane, at the National Cemetery, Inspiration Point, the former Military Intelligence School on Crissy Field, Mountain Lake, the World War II Memorial, and at various habitat restoration sites. Wayside signs at various locations throughout the Presidio Golf Course are also planned.

INTERPRETATION PROGRAMS

The National Park Service provides a variety of interpretive programs to visitors. These programs include traditional ranger-led walking tours, and programs at Crissy Field Center focusing on such themes as environmental stewardship, curriculum-based learning, sustainability, youth development, community involvement, public service, restoration and visitor services.

VISITOR FACILITIES

Main Post Parade Ground - The Main Post's parade ground is a key focal point for visitor activity that offers capacity for large group gatherings, including concerts, exhibits, races, runs, expositions, cultural events, picnics, rides, filming and displays. Pershing Square is located at the south end of the Parade Ground. This square hosts historic, military and ceremonial events, and interpretive demonstrations and talks.

Presidio Officers' Club- The former Officers' Club, located in Building 50 on the Main Post, is the oldest building on the Presidio. The Officers' Club was renovated and re-opened to public use in 2001. The Trust's pilot "At the Presidio" project makes use of the building as exhibition space for traveling exhibits. The building is also available for special events, performances, lectures and other festivities.

Herbst International Exhibition Hall- On the Presidio's Main Post, the Herbst International Exhibition Hall, renovated in 1996, is a freestanding building with 5,476 square feet of exhibition space. It offers facilities for regional, national and international exhibitions and special events and is managed by the Fort Mason Foundation. In addition to exhibit space, the Exhibition Hall offers a gift shop, food service, and staging and storage areas.

Post Chapel- The chapel, located in Building 130 on the Main Post, provides a venue for a variety of cultural and artistic events. A growing music program, interfaith ceremonies, and other cultural events are held regularly at the Presidio Chapel, sponsored by the Interfaith Center.

Golden Gate Club- The GGNPA manages the Golden Gate Club as a meeting, conference and special event facility. The building accommodates training classes, workshops, meetings, weddings and receptions in its three ballrooms and seven dedicated meeting rooms.

Native Plant Nursery- This nursery, managed by the GGNRA and NPS, is located east of the Fort Scott parade grounds and west of the Cavalry Stables at Building 1244. Full-time staff, volunteers and students propagate

native plant species at the nursery, while visitors are introduced to nursery operations and propagation techniques, Presidio restoration efforts, and plant biology.

Recycling/compost center- the recycling center, located in the Fort Scott Planning District, is open to visitors and serves as a model facility and education site. The recycling center was established by the trust in cooperation with the San Francisco Conservation Corps. Young adults engaged in job-training collect recyclable materials from park tenants, recreation sites, and special events. A comprehensive composting program diverts organic debris from waste that would otherwise be sent to landfills. This program serves as an educational tool for visitors and school groups. The educational component of the composting program is managed in a partnership with the Golden Gate National Parks Association, and is located in Building 1244.

Cavalry Stables- The U.S. Park Police operates a stable and paddock at Cavalry Stables for their mounted patrol. The facility itself is not open to general visitors, but it is used for NPS educational programs with school groups related to the history of the cavalry and the Buffalo Soldiers in the Philippine American War.

Scenic Viewing- The parking area and plaza at Inspiration Point have been upgraded, and views of the bay are being enhanced through tree removal and other treatments. The plaza, when completed, will contain interpretive signage and a trail connection to the Ecology Trail. Other key overlooks are located off Lincoln Boulevard (view of Crissy Field, the bay, and downtown) and Washington Avenue (ocean and Golden Gate). The World War II Memorial located above Lincoln Boulevard at Kobbe Avenue also serves as an overlook over the Pacific Ocean.

Scenic viewing is also enjoyed by following the 49-mile Scenic Drive that winds its way through the Presidio, including through sections of the Main Post, the historic forest, and along Lincoln Boulevard.

World War II Memorial-The American Battle Monuments Commission's "West Coast Memorial to the Missing" overlooks the Pacific Ocean, in western Fort Scott. A curved wall of California granite bears the names of 412 members of the Armed forces who lost their lives in the offshore Pacific coastal waters during World War II. The memorial was dedicated on November 29, 1960, and was recently restored.

The Log Cabin- This former non-commissioned officers club in Fort Scott (Building 1299) provides space for events, meetings, and other festivities.

Pet Cemetery- The pet cemetery, located north of the Cavalry Stables under Doyle Drive, is the final resting place for pets of Army families. It has been maintained at its present size since the transfer of the Presidio from the Army.

Exhibits in Leased Buildings-Various tenants in leased buildings have developed interpretation programs, and use public lobbies and hallways for exhibiting information about the building, its association with Presidio history or other park resources, or to interpret their own mission and activities. Examples include the Thoreau Center in Building 1016, which has historical photographs lining the hallways, and the San Francisco Film Institute in Building 39, which has temporary exhibitions and photographs of award-winning film directors in the hallways.

VISITOR SERVICES

Lodging- Currently, overnight lodging is not available at the Presidio to the general public; however, Buildings 42, 1027, and 1028 are dormitories for participants in internship and volunteer programs.

Food Services- A variety of food service facilities currently offer a selection of menu options at the Presidio. These include breakfast and lunch cafes, snack facilities, a full-service restaurant, and fast food restaurants.

PARK-BASED PROGRAMS

"At The Presidio"- "At The Presidio" is a Trust pilot project. The project addresses such themes as exploration and opportunity, mobility and innovation, and heritage and the arts, through exhibitions, performances, and conversations. The main ballroom of the Presidio Officers' Club was temporarily converted in 2001 into an exhibition hall as an interim venue for the project.

Exhibitions, Events and Cultural Programs- Both the Trust and the NPS work to bring special programs and events to the Presidio for visitors. Examples of the exhibits, events, and cultural programs to date include:

- *Presidio Pasados,* an annual event commemorating the establishment of San Francisco and focusing on history, culture and archaeology;
- Memorial Day and Veteran's Day celebrations;
- Community events, such as the Halloween Parade and Haunted House, a Day of Thanks to celebrate Thanksgiving, and the Christmas Tree Lighting Ceremony;
- Folklife festivals, such as the Aloha Festival; and
- Special events, including marathons and bike rides.

Tenant-based Programs- Many tenants of the Presidio sponsor programs for the Presidio in which community members, local residents, and park visitors may participate. These programs cover a range of fields, from environmental, art, music, history, and general education. The Thoreau Center in Building 1016, for instance, offers an assortment of lectures, seminars, and brown bag series for employees and the general public. The Presidio Alliance in Building 563 serves as a community center, offering two large rooms for events, exhibitions of local artists' work, as well as public forums, lectures, and training programs. The San Francisco Film Institute in Building 39 has hosted temporary exhibits in conjunction with its annual film festival.

Stewardship Programs-Natural and Cultural- The Trust, in collaboration with the NPS and GGNPA, provides volunteer stewardship programs, organizes volunteer workdays, offers lectures and presentations, and sponsors events and other festivities focused on natural area protection and restoration. Three facilities currently support stewardship programs, including two Natural Resources Field offices and the Native Plant Nursery. Summer archaeology programs for students have also been held to help increase the understanding and preservation of the Presidio's history, including a program focused on the El Presidio site on the Main Post.

3.4.5 RECREATION

The Presidio contains many of San Francisco's highly valued recreation and large open space areas. Some of the recreation areas within and adjacent to the Presidio are under the jurisdiction of different agencies. The NPS manages the beaches on the coast and bay, the City and County of San Francisco manages the Julius Kahn playground within the Presidio's boundaries and the Mountain Lake Park just outside. Recreation opportunities range from the private and contemplative to the most active and interactive.

PRESIDIO RECREATIONAL USER GROUPS

As stated in the GMPA EIS, Presidio users can be classified into four main groups: (1) neighborhood, (2) city, (3) regional, and (4) tourist. The places visited, the length of stays, and the frequency of visits vary among the groups.

AFFECTED ENVIRONMENT

The Community

Neighborhood users live in or immediately around the Presidio and visit routinely. This group frequently uses the parks and playgrounds in the Presidio, particularly Mountain Lake Park and the Julius Kahn Playground.

City users are people who live or work in the city not far from the Presidio. Many of these users walk, bicycle, or jog to the Presidio; others drive or ride the bus. Many city users visit Crissy Field or Baker Beach, and use a variety of the Presidio's trails on the weekends.

Regional users come from throughout the Bay Area to the Presidio. Their use is limited primarily to the weekends, and occurs less frequently than city or neighborhood users.

Tourists travel from all over the country and the world to visit San Francisco. The popular 49-Mile Scenic Drive leads many of these visitors along the northern and western edges of the Presidio. Many tourists stop for a short time to view the Golden Gate Bridge and the bay, but seldom focus specifically on the Presidio. Tourists who do visit the Presidio enjoy the National Park Service's William Penn Mott Jr. Visitor Center and other key features of the park, such as Crissy Field, Fort Point, the National Cemetery or the coastal defense batteries.

RECREATION USES

Recreation uses range from organized to informal. Active sports are provided for at a variety of indoor and outdoor facilities, and are accommodated informally in larger open spaces. Hiking occurs throughout the Presidio, although some areas are closed to protect sensitive plant species and populations, to support restoration efforts, or to ensure visitor safety. Bicycling is allowed on roads and on some designated multi-use trails. Horseback riding is not allowed on the Presidio, other than by the U.S. Park Police's mounted patrol unit. The Trust requires dogs to be on leash when in Area B.

Recreation uses may also be defined on a spectrum from passive to active, from quiet reflective moments in the historic forest, to playing softball at a defined field, or enjoying a large group gathering at the Main Post parade ground after a race through the Presidio.

TRAILS AND BIKEWAYS

Currently there are nearly 37 miles of trails available for recreational use within Area A and Area B. Of those 37 miles, there are 11 miles of bicycling trails, 6 miles of multi-use trails, and 20 miles of walking/hiking trails. Ten miles of the pedestrian trails are unofficial "social trails," created by park users, but not part of the Presidio's official trail system. Existing trails in Area A and B include the Golden Gate Promenade, the California Coastal Trail, an ecology trail, Lobos Dunes Trail, and portions of the Bay Area Ridge Trail, the San Francisco Bay Trail, and the Juan Bautista de Anza National Historic Trail.

Two heavily used trails exist in Area A: the Golden Gate Promenade and the California Coastal Trail. The Promenade provides a route from Aquatic Park to the Golden Gate Bridge. This trail follows the alignment of the San Francisco Bay Trail along Crissy Field to Fort Point offering views of the restored dune and marsh system. The California Coastal Trail links the Presidio with the coastline of California, offering three miles of trail from Baker Beach to the Golden Gate Bridge. This trail offers views of coastal bluffs of serpentine rock and sweeping vistas of the Pacific Coast. It was named the State Millennium Trail in 2000.

The Juan Bautista de Anza National Historic Trail commemorates the 1775-1776 expedition from Mexico to the Bay Area to form a presidio and mission. Three miles of trail follow the party's course from Mountain Lake to the Golden Gate. A wayside exhibit is located at Mountain Lake interpreting the expedition.

Within Areas A and B, a 2.5-mile stretch of the Bay Area Ridge Trail enters the Presidio at the Arguello Gate, and travels through the historic forest, crossing Fort Scott before reaching the Golden Gate Bridge. This scenic trail accommodates both hikers and bicyclists and is a segment of a planned 450-mile regional trail.

Bicycles are allowed on designated multi-use trails, such as the Golden Gate Promenade at Crissy Field, on portions of the Bay Area Ridge Trail, and on paved roads. Improvements have been made on some of these roads to incorporate striped bike lanes and to incorporate directional signage developed for the City of San Francisco's bicycle route system.

Currently the NPS and the Trust are collaborating on a Presidio Trails and Bikeways Plan. As part of this planning effort, visitor surveys were conducted to gather trail and bicyclist user data on current use patterns, desired connections, and destinations. The surveys indicate that the most frequently used trails are the Crissy Field Promenade and the Coast Trail, and that the most frequently used roads are Lincoln and Arguello Boulevards. Overall, most of the people surveyed had used Presidio trailways 2-4 times per week in the past 6 months, with the primary reason for use being exercise (recreation was second). Most of the people interviewed believed the current condition of trails and bikeways to be "good." The highest priority for possible improvements was to improve dangerous intersections, followed by provision of clear, safe trail connections. The top ranking priorities for new use and design policy ideas were to close trails to protect cultural and natural resources, and provide occasional street closures (to vehicles) (MIG, Inc. December 2000).

This master plan will identify a network of trail and road-based corridors that link building sites, natural/cultural destinations, regional trails, public transit stops, and other recreational or open space features of the Presidio. Other elements of the plan include designating bicycle lands on roads, bicycle parking/storage opportunities, periodic road closures for cycling uses, trail informational signs, and trailheads.

RECREATION FACILITIES

Outdoor Recreation Facilities

A wide range of outdoor recreation facilities are currently provided at the Presidio in Area B, including court and field sport facilities, a golf course, playgrounds, picnic areas, and a group campground. The locations of outdoor recreation facilities are shown in Figure 28.

Sport Complexes-Various sport complexes ranging from baseball fields, tennis courts, basketball courts, volleyball courts, playgrounds, and multi-use fields, are spread throughout the Presidio.

Of the five baseball fields located at the Presidio, the Fort Scott area has two lit baseball fields located within the Parade Ground. Two multi-use fields (Morton Street Field and the Julius Kahn Field) and a baseball field (Paul Goode Field) are dispersed within the East Housing Planning District. These fields are unlit and are within the Tennessee Hollow watershed. The NPS closed the former Pop Hicks ballfield in the East Housing Planning District due to remediation concerns. The planning district is currently used by the U.S. Park Police for a dog training facility and for informal recreation.

Of the twelve tennis courts at the Presidio, seven are administered by the Presidio YMCA. Two tennis courts of the Fort Scott Planning District are located west of Kobbe Avenue. One of the two tennis courts now serving the Letterman Planning would be removed to allow construction of the 23-acre LDA Planning Center. Three tennis courts serve the Main Post. The Main Post provides one tennis court that is located next to the Presidio

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Bowling Center and two tennis courts off of Infantry Terrace. Within the East Housing Planning District, there is a tennis court on Ruger Street and four courts at the Julius Kahn Playground, which are managed by the City and County of San Francisco. The Trust manages the tennis court north of the PHSH Planning District.

The Fort Scott Planning District also offers two basketball and volleyball courts.

Presidio Golf Course-The 160-acre Presidio Golf Course was established in 1895 as one of the earliest golf courses on the West Coast. In 1995, the U.S. Army officially transferred the Presidio Golf Course to the stewardship of the National Park Service, and opened the course to public use. The concession contract for operating the golf course was awarded to the Arnold Palmer Golf Management Company. Subsequently the Trust re-authorized the company to manage the course. Since the GMPA's adoption, construction of a new clubhouse and maintenance facilities was completed, and the greens, the irrigation system, and the driving range were rehabilitated. The clubhouse is open to the public, and offers a full service Pro Shop, restaurant and meeting space.

Julius Kahn Playground- The City of San Francisco's Department of Recreation and Parks operates the Julius Kahn Playground under a 99-year ground lease. These facilities serve Presidio residents and visitors from the surrounding area. The playground, located on West Pacific Avenue, is popular for its larger play structures, forested surroundings, and targeted programming of arts and sports activities for children and adults. A basketball court, four tennis courts, and a multi-use sports field surround the playground's two sand surface play equipment areas.

Residential Playgrounds- Twelve playgrounds and "tot-lots" are spread among the residential neighborhoods of the Presidio. East Housing offers three playgrounds; West Washington Housing has three playgrounds; and East Washington Housing provides another. Wherry housing is served by three playgrounds; Pilot's Row and Kobbe Avenue are each accommodated by one playground. These playgrounds are available to both Presidio residents and visitors.

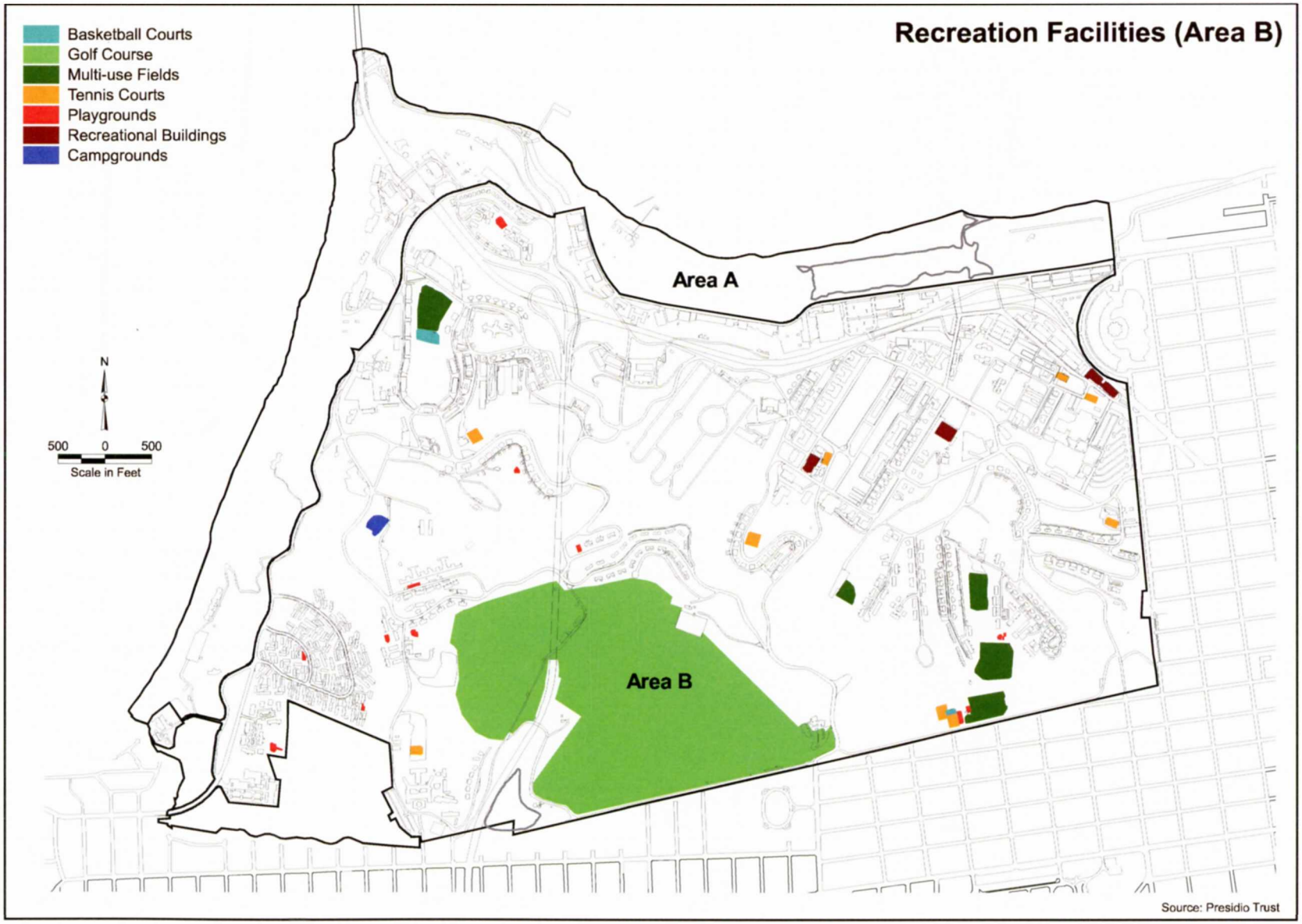
Mountain Lake- Mountain Lake is one of the few remaining freshwater lakes in San Francisco, and is the only lake within the Presidio. Within the Presidio, Mountain Lake does not have built recreational facilities other than benches adjacent to the lake's shoreline and the Juan Bautista de Anza National Historic Trail surrounding the lake's edge. However, the lake fronts the popular Mountain Lake Park with playground equipment, jogging trails, picnic areas, tennis courts and a Par Course operated by the City and County of San Francisco. Efforts are underway to enhance the lake and its surrounding banks to improve visitor experience.

Community Garden- The Presidio Community Garden is located in the Fort Scott Planning District on a site that served as a World War II Victory Garden. The garden was re-established beginning in 1996 by a group of residents and park employees. Garden membership is open to residents, employees, and long-time park volunteers. Currently the garden has around 20 members. Members work in an individual plot as well as communal spaces. A work party meets each month to perform garden maintenance and special projects.

Rob Hill Group Camping Area - The Rob Hill Camping District, located in the forest above the coastal bluff provides organized group camping experiences. Two campsites are maintained, holding a maximum of 30 people each. The sites contain picnic tables, barbecue grills, a spigot, and restrooms. The Trust issues camping permits. Both the Bay Area Ridge Trail and the Juan Bautista de Anza National Historic Trail pass nearby.

Picnic Areas- Various picnic areas are located throughout the Presidio. The most frequented are those at Baker Beach, Fort Point, Crissy Field, El Polin

Figure 28 *The Community*



AFFECTED ENVIRONMENT

The Community

Spring, Rob Hill, Mountain Lake Park, and Julius Kahn Playground. Picnic tables are also provided outside some office buildings, such as Buildings 34, 102 and 1016.

Indoor Recreation Facilities

Indoor recreational facilities that serve Area B include the Main Post Gymnasium (Building 63), Letterman Gymnasium (Building 1152), the Letterman Pool (Building 1151), and the Presidio Bowling Center (Building 93). A swimming pool is provided at Building 1151, operated by the Presidio YMCA.

Some former Army recreation facilities exist, but are not currently in use. These include the now vacant Fort Winfield Scott Gymnasium (Building 1226), Fort Winfield Scott Recreation Center (Building 1387), and the Main Post Community Center (Building 122).

Presidio YMCA- In early 1997, the new Presidio YMCA merged with the Richmond district and Buchanan branches to form the Presidio Community YMCA. The Presidio YMCA rehabilitated and leased the building that was once home to the U.S. Army YMCA (Building 63). Membership in the Presidio YMCA provides access to one gym, squash and racquetball courts, and seven outdoor tennis courts throughout the Presidio. A separate facility in the Letterman Planning District contains two pools. Memberships are available to park employees and tenants as well as the general public. The YMCA also sponsors special events and overnight trips.

Presidio Bowling Center- The Bowling Center on the Main Post provides twelve bowling lanes with a snack bar and grill, jukebox, foosball table, and arcade room. Every year, approximately ten adult leagues and youth leagues regularly use the facility in addition to the general public.

PASSIVE RECREATION

Passive recreational opportunities abound at the Presidio. Lobos Creek and woodlands in the south hills provide opportunities for contemplation, natural history exploration, bird and wildflower observation, and other passive recreation experiences. Grasslands at Inspiration Point offer wildflower displays, solitude, and sweeping views of the bay, while bird watching at Mountain Lake has become a valued visitor experience. These and other open spaces create opportunities for visitors to explore the now scarce natural systems of the San Francisco region, as well as to participate in the restoration of those systems.

3.4.6 PUBLIC SAFETY

LAW ENFORCEMENT

Law enforcement services at the Presidio are provided by the U.S. Park Police (USPP) San Francisco Field Office (SFFO). At present, the USPP has an authorized strength of 83 sworn law enforcement positions, and 33 of these authorized positions are dedicated to the Presidio. In the beginning of Fiscal Year 2001, 6 of the 33 positions were vacant.

USPP law enforcement functions include vehicle patrol, motorcycle patrol, foot patrol, horse-mounted patrol, bicycle and trail bike patrol, search and rescue, emergency medical service support, traffic safety, criminal investigations, narcotics enforcement, dispatch, emergency communications, and administrative support. Emergency calls at the Presidio have an average response time of less than three minutes, while the non-emergency response time is less than ten minutes. The Trust area of the Presidio (Area B) is divided into two beats patrolled 24 hours a day, typically each patrol beat with two patrol cars with a single officer. Currently there is no police station available 24 hours a day, only a dispatch center that can be called via 911 to report incidents.

The Community

Between March 2000 and 2001, the USPP responded to 6,452 incidents in the Presidio (including Area B and some of Area A). Approximately 15.5 percent of these incidents were classified as "selective enforcement," which mainly include responses to citizen complaints for parking violations. An additional 10.0 percent of incidents were responses to false security alarms in Presidio buildings, and 9.7 percent of incidents were routine security checks through Presidio properties.

To augment USPP in special or unusual circumstances, the USPP has entered into a mutual aid agreement with the San Francisco Police Department (SFPD) whereby assistance will be provided by SFPD law enforcement personnel at the request of the USPP. However, since the USPP has exclusive federal jurisdiction at the Presidio, neither the San Francisco Police Department nor the California State Police have the statutory authority to lead law enforcement operations at the Presidio, including response to dangerous and volatile emergency calls (e.g., workplace or domestic violence, a hostage situation) requiring a special weapons and tactics (SWAT) team. While the SFPD would provide back up assistance under its mutual aid agreement with the USPP, the expectation by the SFPD is that the USPP will maintain first response SWAT team capabilities.

In Fiscal Year 2001, the USPP budgeted $3,463,000 for Presidio related operations. Approximately 90 percent of the budget was for total personnel costs (sworn officers, civilians, and overtime expenses), including funding dedicated for vacant positions. Area A of the Presidio is part of Bayside division. This division has a $4.167 million budget with 46 FTE officers additional plus special programs revenue. Additionally, there are 6 law enforcement rangers that patrol Area A from 8 a.m. to 4 p.m.

Pursuant to an Interagency Agreement with NPS, the Trust will make a payment of $5.95 million in Fiscal Year 2001 to the NPS as reimbursement of NPS's costs of providing law enforcement fire and safety services. Approximately $3,463,000 of this payment is designated for law enforcement services, representing one hundred percent of Presidio-related operations. Additionally, the Trust will reimburse NPS by approximately $190,000 toward the operation of a communications/dispatch center that supports both fire protection and law enforcement functions at the Presidio.

FIRE PROTECTION AND EMERGENCY RESPONSE

Fire protection and emergency medical services at the Presidio are provided by the NPS's Presidio Fire Department. The response area for Fire Station 1, located on the Main Post, encompasses the Presidio, upper and lower Fort Mason, and the North District of GGNRA (Fort Baker, Fort Barry, Fort Cronkhite). Fire and emergency medical calls at the Presidio have an average response time of less than three minutes. In addition, the Presidio Fire Department staffs Fire Station 2 in the Marin Headlands on a 24-hour basis. The response area for Fire Station 2 is Fort Cronkhite, Fort Barry, and Fort Baker. Station 2 provides secondary response on the Presidio as well. The Presidio Fire Department plans to move Fire Station 2 to East Fort Baker to better serve the proposed conference center and for a more central location in the areas the station serves in Marin. Current staffing levels of 6 would increase by 7 to 8 firefighters. Presidio Fire Department equipment includes 3 fire trucks, 1 quint fire truck (ladder truck with pumper), and 1 ambulance. The Presidio Fire Department has 42 authorized fire fighter positions.

To augment Presidio Fire Department forces in special or unusual circumstances, the NPS has entered into a mutual aid agreement with the San Francisco Fire Department (SFFD) whereby assistance will be provided by SFFD personnel at the request of the Presidio Fire Department.

In Fiscal Year 2001, the total budget for the Presidio Fire Department is approximately $3.1 million. Approximately $2.3 million of the budget or 75 percent is supported by payments from the Trust to reimburse NPS for its costs of services pursuant to an Interagency Agreement for fire prevention and suppression services. Additionally, the Trust contributes approximately $190,000 to the operation of a communications/dispatch center that supports both fire protection and low enforcement functions at the Presidio.

3.5 TRANSPORTATION AND CIRCULATION

This section describes existing transportation conditions within and in the vicinity of the Presidio in San Francisco. This assessment is based in part on the *Presidio Transportation Planning and Analysis Technical Report*, July 1994, *The Presidio Traffic Update Report of Findings*, December 1996 and the *Presidio Bus Management Plan*, September 1998. In addition, the information obtained from these reports was supplemented and updated with new traffic, transit, and parking data collected specifically for this study. The following are the components of the transportation system that are addressed in this section:

- Roadway Network,
- Traffic Characteristics,
- Transit Services,
- Bicycle and Pedestrian Circulation, and
- Parking.

3.5.1 ROADWAY NETWORK

The Presidio of San Francisco is located in the northwest corner of San Francisco, with roadways connecting to the Marina and Cow Hollow neighborhoods to the east and the Richmond, Sea Cliff and Presidio Heights neighborhoods to the south. All of the intersections within the Presidio, as well as those connecting the Presidio with the rest of the City, are either two-way or all-way STOP controlled. The nearest signalized intersections to the Presidio are just outside the Marina Boulevard and Gorgas Avenue gates. The key roadways within and near the Presidio are shown in Figure 29 and described below.

Lincoln Boulevard - Lincoln Boulevard runs generally east-west in the eastern portion of the Presidio and north-south in its western portion, and serves as the primary thoroughfare in the Presidio. It begins at the intersection of Presidio Boulevard/Letterman Drive and ends at the intersection of 25th Avenue/El Camino del Mar. Lincoln Boulevard contains two lanes each way between Torney Avenue and Montgomery Street, and one lane each way west to El Camino del Mar.

Presidio Boulevard - Presidio Boulevard contains one lane each way, and begins at Funston Avenue in the Main Post Planning District, connects to Lincoln Boulevard/Letterman Drive near the Letterman Planning District, and continues north-south in the eastern portion to the southern boundary where it becomes Presidio Avenue in San Francisco.

Mason Street - Mason Street provides east-west access through the Crissy Field Planning District along the Presidio's north coast. Mason Street connects to Marina Boulevard and Doyle Drive at the Presidio's northeast gate. At its western terminus, Mason Street indirectly connects to Lincoln Boulevard by way of two minor roadways (Crissy Field Avenue and McDowell Avenue). Mason Street at the northeast gate has one through lane and one right-turn only lane on in the eastbound direction, and one lane in the westbound direction.

Gorgas Avenue - Gorgas Avenue provides east-west access on the northeast side of the Presidio. It connects with U.S. Highway 101 and Lyon Street at an eastern gateway and provides access to Crissy Field via Halleck and Marshall Streets at its western terminus. Although Gorgas Avenue is wider west of General Kennedy Avenue, it only has one lane each way. The roadway narrows east of General Kennedy Avenue, but has an additional two eastbound lanes and one westbound lane.

Lombard Street - Lombard Street runs east-west from its intersection with Presidio Boulevard near the Letterman Planning District, and extends into

San Francisco to the east. Lombard Street has one lane each way. It serves as the primary gateway to the eastern portion of the Presidio. *U.S. Highway 101* - U.S. Highway 101 near the Presidio is composed of the southern Golden Gate Bridge approach, Doyle Drive, Richardson Avenue, and Lombard Street (from Richardson Avenue south). Doyle Drive runs generally east-west through the northern portion of the Presidio before becoming Richardson Avenue. Richardson Avenue generally has three lanes in each direction and runs diagonally (northwest – southeast) from Doyle Drive until it merges with Lombard Street about two blocks east of the Presidio's eastern boundary. U.S. Highway 101 carries the majority of the east-west traffic between the Golden Gate Bridge and areas outside the Presidio. Although it connects with most intersecting streets in the city, the only connection to roadways within the Presidio is at the Golden Gate viewing area near the Golden Gate bridge. Near the eastern boundary of the Presidio, U.S. Highway 101 intersects with Francisco Street just outside the Gorgas Avenue gate.

Arguello Boulevard - Arguello Boulevard has one lane each way, and runs north-south from its intersection with Moraga Avenue in the Main Post, extending south through the Presidio's southern boundary. It serves as a gateway to the Richmond district of San Francisco.

Washington Boulevard - Washington Boulevard is primarily a residential street with one lane each way. It runs east-west from its intersection with Lincoln Boulevard at the western edge of the Presidio and extends eastward to Arguello Boulevard.

Park Boulevard - Park Boulevard is a connecting arterial with one lane each way. It runs north-south from its intersection with Lincoln Boulevard and extends southward to intersect with Washington Boulevard.

Kobbe Avenue - Kobbe Avenue has one lane each way, and runs east-west from its intersection with Lincoln Boulevard at the western edge of the Presidio to its intersection with Park Boulevard. Although it is primarily a residential street, Kobbe Avenue provides east-west access into the Fort Scott Planning District within the Presidio.

15th Avenue/Wedemeyer Street/Battery Caulfield Road - Fifteenth Avenue provides access to the Richmond district of San Francisco. Fifteenth Avenue is a predominantly residential street outside the Presidio. It becomes Battery Caulfield Road just inside the Presidio's boundary in the vicinity of the Public Health Service Hospital (PHSH). Battery Caulfield Road is a north-south roadway with one lane each way that connects the PHSH Planning District to Washington Boulevard.

14th Avenue - Fourteenth Avenue is a former automobile entrance that now provides pedestrian and bicycle access to the Presidio.

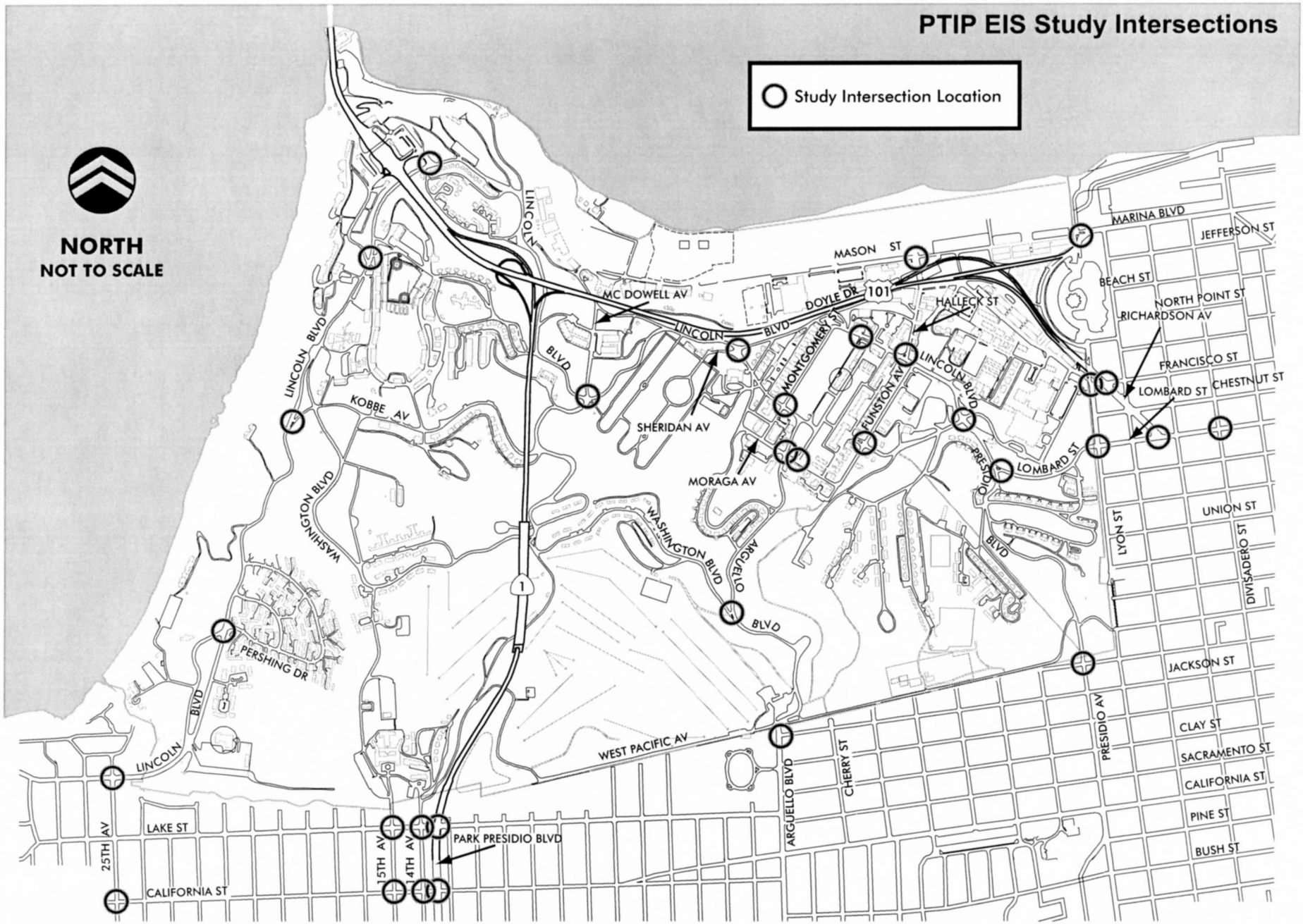
TRAFFIC CHARACTERISTICS

Gateway Traffic

As part of the *Presidio Bus Management Plan* study, 24-hour machine traffic counts were conducted at the nine Presidio gates during the second week of May (spring conditions), the first week of August (summer conditions), and the third week of November (fall conditions) in 1998. Table 27 provides a summary of daily traffic volumes at each gate on the average weekday, as well as the peak hour traffic volumes for a weekday.

The data indicate that, on a daily basis, the gate with the highest weekday traffic volumes during both the spring and summer is the Lombard Gate, with 21 percent and 23 percent of total gate traffic, respectively. A similar relationship applies to the peak hour conditions for weekday and weekend days. Peak hour weekday gateway volumes collected in November and December of 2000 for this study indicate a similar number of vehicles

Figure 29 *Transportation and Circulation*



Map Source: *Presidio Traffic Update, Report of Findings, December 1996* - Robert Peccia and Associates

Data Source & Graphics: *Wilbur Smith Associates*

AFFECTED ENVIRONMENT

Transportation and Circulation

Table 27: Presidio Gateways Traffic Volume Summary Weekday Average Daily and PM Peak Hour Volumes (1998)

	Weekday Average Daily						Weekday Peak Hour					
	Spring		Summer		Fall		Spring		Summer		Fall	
Gate	ADT	Percent of Total	ADT	Percent of Total	ADT	Percent of Total	vph	Percent of Total	vph	Percent of Total	vph	Percent of Total
Mason St.	5,313	8%	6,095	9%	4,251	7%	509	9%	575	9%	412	7%
Gorgas Ave.	2,357	4%	2,267	3%	2,059	3%	211	4%	279	5%	186	3%
Lombard St.	13,500	21%	15,631	23%	13,084	21%	1,110	19%	1,256	21%	1,102	19%
Presidio Ave.	11,501	18%	9,591	14%	13,848	22%	1,012	17%	838	14%	1,255	22%
Arguello Blvd.	6,234	9%	7,418	11%	6,893	11%	608	10%	711	11%	700	12%
15th Ave.	864	1%	783	1%	920	1%	82	1%	75	1%	93	2%
Lincoln Blvd./25th Ave.	9,771	15%	9,414	14%	8,785	14%	904	16%	962	16%	821	14%
Plaza West	8,387	13%	8,470	13%	6,570	10%	660	11%	592	10%	493	9%
Plaza East	6,923	11%	8,057	12%	6,757	11%	771	13%	778	13%	705	12%
Total	**64,850**	**100%**	**67,726**	**100%**	**63,167**	**100%**	**5,867**	**100%**	**6,066**	**100%**	**5,767**	**100%**

Source: *Presidio Bus Management Plan-Support Document: Summary and Analysis of Data Collected in 1998*, September 1999.

Notes:

ADT = Average Daily Traffic
vph = vehicles per hour
Traffic volumes include both entering and exiting volumes at the gates.

entering and exiting the Presidio today compared to that observed in the spring and summer of 1998. As shown in Table 28, a total of 5,967 vehicles were observed at the Presidio's gateways during the weekday p.m. peak hour, with the greatest percentage of traffic (21 percent) traveling through the Lombard Street gateway. The 25th Avenue/El Camino del Mar, Presidio Avenue and Arguello Boulevard gateways accommodated most of the remaining traffic, with 18 percent, 17 percent and 14 percent of the p.m. peak hour daily traffic, respectively.

Table 28: Presidio Gateways Traffic Volume Summary Weekday PM Peak Hour Volumes (2000)

Gate	November/December Vehicles per Hour	Percent of Total
Mason St.	456	8%
Gorgas Ave.	196	3%
Lombard St.	1,260	21%
Presidio Ave.	1,002	17%
Arguello Blvd.	815	14%
15th Ave.	107	2%
Lincoln Blvd./25th Ave.	1,072	18%
Plaza West	325	5%
Plaza East	734	12%
Total	**5,967**	**100%**

Source: Wilbur Smith Associates, 2000.

Notes:

Traffic volumes include both entering and exiting volumes at the gates.

The 1998 daily traffic volumes of 63,000 to 67,000 at the gates represent an increase in volumes from 1996 when the Presidio was largely vacant, and to a lesser extent, from 1991 conditions, when the Army still occupied much of the Presidio. In 1996 the average weekday traffic volume was 48,800 vehicles per day, while the average weekday traffic volume in 1991 was 58,000 vehicles. The total weekday traffic volume through the Presidio gates in 1988 was 52,630 vehicles per day (CH2M Hill 1989). The increase in traffic volumes between 1996 and 1998 is due to increased occupancy and use of buildings at the Presidio and an increase in the amount of through traffic.

Seasonal Variation

Estimates of seasonal variation of traffic within the Presidio were calculated and documented in the Presidio Traffic Analysis (Peccia 1992). Additional seasonal traffic count data were collected in 1998 and 2000. Weekday traffic volumes in the Presidio are primarily work-related, so they do not vary significantly by season, unlike weekend traffic, which is primarily recreational. Counts in 1998 indicate that weekday traffic volumes were between 63,000 and 67,000 throughout the year, while weekend traffic ranged from 58,000 in the fall to 75,000 in the summer. Weekday p.m. peak hour traffic volumes include even more work-related trips than weekday daily traffic volumes, and therefore vary the least amount by season.

The San Francisco County Transportation Authority (SFCTA) conducted peak hour traffic counts at Presidio gate intersections in May 2000 as part of their effort to develop a Citywide travel demand forecasting model. A comparison of p.m. peak hour counts made at a small number of intersections in December 2000 by Wilbur Smith Associates and the SFCTA p.m. peak hour counts made in May, 2000 indicate that the December counts were generally 10 to 28 percent less than the counts made in May. In order to account for the seasonal variation in traffic volumes, the intersection turning movement counts conducted in the winter of 2000 for the purposes of this analysis were adjusted upward by 15 percent to represent an average weekday in the peak season.

Through Traffic

According to origin/destination survey data collected in 1996, the Presidio's seven major entrances (not including 15th Avenue and Gorgas Avenue) carry significant pass-through traffic (Peccia 1996). Pass-through traffic was defined as any vehicle that moved through the Presidio in ten minutes or less. As shown in Figure 30, the study indicated that Lombard Street and Presidio Boulevard have the highest pass-through percentages, with the majority of their pass-through traffic moving between these two gateways. On weekdays, 50 percent of the traffic at the Lombard Street entrance is pass-through, with 78 percent of this traffic destined to Presidio Boulevard. At the Presidio Avenue entrance, 39 percent of the traffic is pass-through, with 95 percent destined to Lombard Street. The *1996 Traffic Update* supported the conclusion from the 1991 analysis that this route may be used by motorists to bypass difficult street patterns and terrain southeast of the park. Arguello Boulevard also had a notable percentage of travel through the Lombard Street gateway, presumably for the same reason.

The Lincoln Boulevard entrance (at 25th Avenue and El Camino Del Mar) had the next highest pass-through percentages, with most of its through trips either entering or leaving at the Merchant Road and Golden Gate Viewing Plaza entrances. The data show that this is a primary pass-through route to the bridge.

Marina Boulevard also serves as a pass-through route to the bridge, primarily in the westbound direction. It is assumed that this route is used as a bypass to Doyle Drive westbound. Very few eastbound pass-through trips were observed, presumably because Presidio roadways in the eastbound direction are much less convenient.

Intersection Analysis

A total of 33 intersections were selected as study intersections for the analysis, as shown in Figure 29. These intersections represent key access points to the Presidio and/or are key intersections internal to the Presidio roadway network. These intersections most likely would experience the greatest increase in traffic volume due to the proposed alternatives being evaluated in this study. The study intersections include:

1. Lombard/Richardson
2. Lyon/Lombard
3. Francisco/Richardson
4. Gorgas/Lyon/Francisco
5. Doyle/Marina/Lyon
6. Mason/Marina/Lyon
7. Lincoln/Halleck
8. Presidio/Funston
9. Letterman/Presidio/Lincoln
10. Lombard/Presidio
11. Presidio/Pacific
12. Arguello/Jackson
13. Washington/Arguello
14. Arguello/Moraga
15. Graham/Moraga
16. Sheridan/Montgomery
17. Lincoln/Sheridan
18. Lincoln/Park/McDowell
19. 14th/Lake
20. 15th/Lake
21. Lincoln/25th/El Camino del Mar
22. Lincoln/Bowley/Pershing
23. Lincoln/Kobbe
24. Lincoln/Merchant

25. Lincoln/Storey
26. Lincoln/GGB Viewing Area
27. Lincoln/Graham
28. Divisadero/Lombard
29. Park Presidio/Lake
30. Park Presidio/California
31. 14th/California
32. 15th/California
33. 25th/California

The turning movement traffic volumes at the study intersections were counted during the morning and afternoon peak commute periods (7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.) in May 2000 and November and December 2000. The peak hour total intersection traffic volume during each two-hour period was determined for each intersection to be used for the intersection capacity analysis. In order to account for the seasonal variation in traffic volumes, the intersection turning movement counts conducted in the winter of 2000 for the purposes of this analysis were adjusted upward by 15 percent.

The a.m. and p.m. peak hour intersection operations analysis was conducted according to the methodology described in the 1994 Highway Capacity Manual (HCM) (Transportation Research Board 1994). The HCM methodology calculates the average delay experienced by a vehicle traveling through the intersection, and assigns a corresponding level of service (LOS). The levels of service range from LOS A, indicating volumes well below capacity with vehicles experiencing little or no delay, to LOS F, indicating volumes near capacity with vehicles experiencing extremely high delays. An intersection operating at LOS D or better is generally considered to be operating acceptably. Levels of service E and F are undesirable and generally considered unacceptable.

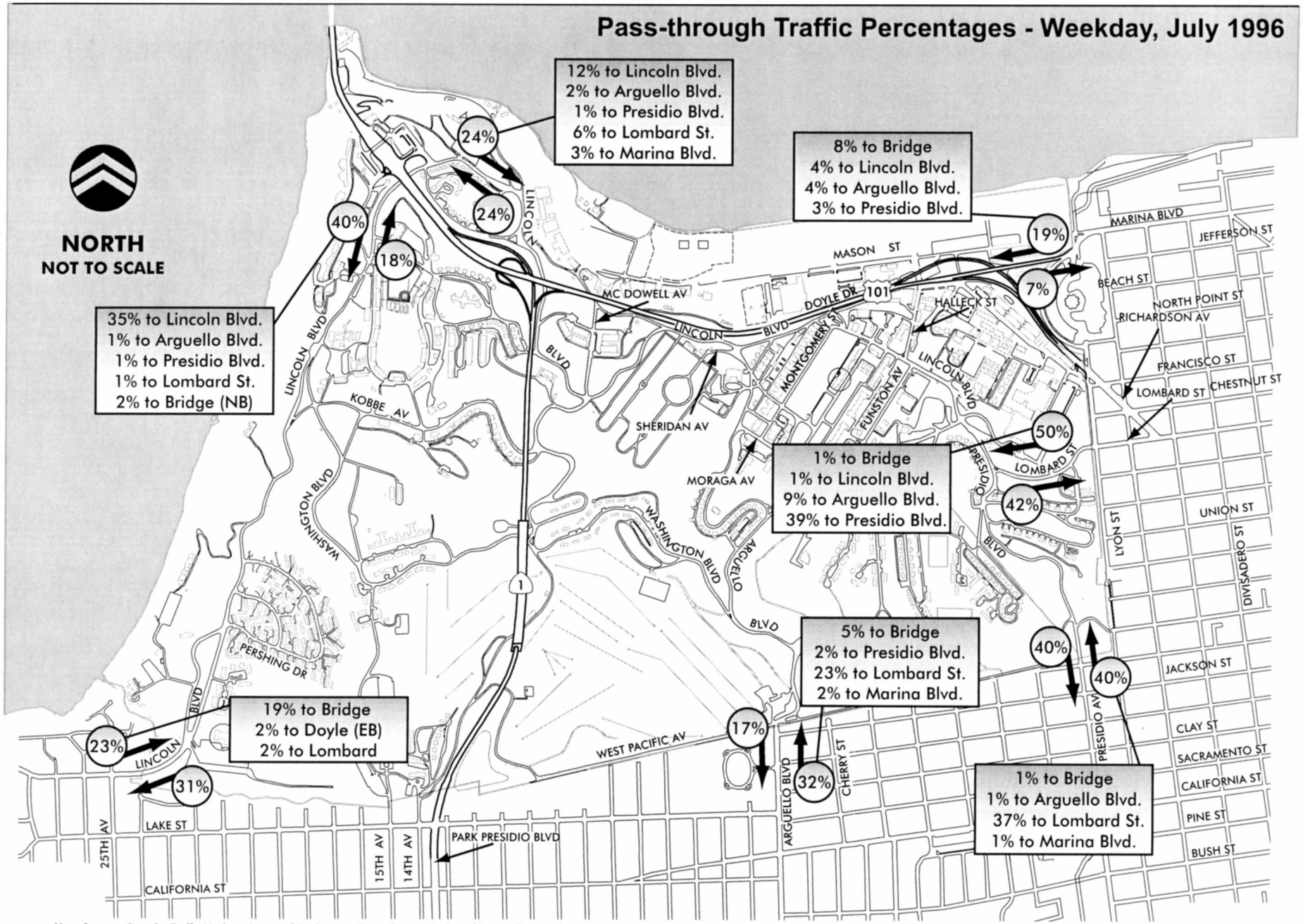
The HCM provides different methodologies and level of service criteria for signalized and unsignalized intersections. Levels of service for signalized intersections are based on the weighted average delay per vehicle for all vehicles approaching the intersection. Because a signal regulates the flow of traffic through the intersection from all approaches, the operation of any one traffic movement is directly related to other traffic movements through the intersection. Therefore, a single level of service accurately represents the operation of the intersection overall.

At unsignalized intersections, the compatible traffic turning movements are not coordinated to occur simultaneously; therefore, the delay experienced by the traffic on any one approach could be quite different from that of any other approach. At two-way STOP-sign controlled intersections, traffic on the uncontrolled (major) approaches does not stop, therefore, it incurs very little delay. Traffic on the stop-controlled (minor) approaches must wait for a gap in traffic flow before entering the intersection. Therefore, delay for traffic on the minor approaches depends on the traffic volumes on the major approaches. Consequently, for two-way STOP-sign controlled intersections, although the average delay per vehicle for the entire intersection is provided in the tables, the level of service provided is for the worst approach, in order to indicate the range of operation of each approach.

Table 29 presents the existing delay per vehicle and LOS for the 33 study intersections for both the a.m. peak hour and p.m. peak hour. All of the intersections internal to the Presidio operate acceptably (LOS D or better) during both the a.m. and p.m. peak hours. The two study intersections that do not currently operate at an acceptable LOS are Lombard and Lyon Streets, which operates at LOS E during the a.m. peak hour, and Park Presidio Boulevard and California Street, which operates at LOS E during the p.m. peak hour.

The intersection of Marina Boulevard/Mason Street/Lyon Street/Doyle Drive has five approaches and two different types of control devices;

Figure 30 *Transportation and Circulation*



Map Source: *Presidio Traffic Update, Report of Findings, December 1996* - Robert Peccia and Associates

Data Source & Graphics: *Wilbur Smith Associates*

AFFECTED ENVIRONMENT

Transportation and Circulation

Table 29: Intersection LOS Operating Conditions: Existing (2000) AM and PM Peak Hour Conditions

Intersection		Control Device	AM Peak Hour LOS	PM Peak Hour LOS
1.	Lombard/Richardson	Traffic Signal	A	A
2.	Lyon/Lombard	All-way STOP	E	D
3.	Francisco/Richardson	Traffic Signal	B	B
4.	Gorgas/Lyon/Francisco (a)	All-way STOP	C	B
5.	Doyle/Marina/Lyon	Traffic Signal	A	B
6.	Mason/Marina/Lyon (b)	One-way STOP	A	B
7.	Lincoln/Halleck	Two-way STOP	B	B
8.	Presidio/Funston	All-way STOP	A	A
9.	Letterman/Presidio/Lincoln	All-way STOP	A	A
10.	Lombard/Presidio	All-way STOP	C	C
11.	Presidio/Pacific	All-way STOP	B	B
12.	Arguello/Jackson	All-way STOP	B	C
13.	Washington/Arguello	Two-way STOP	A	A
14.	Arguello/Moraga	Two-way STOP	A	B
15.	Graham/Moraga	Two-way STOP	A	A
16.	Sheridan/Montgomery	All-way STOP	A	A
17.	Lincoln/Sheridan	Two-way STOP	B	B
18.	Lincoln/Park/McDowell	Two-way STOP	B	B
19.	14th/Lake	Two-way STOP	C	C
20.	15th/Lake	All-way STOP	B	B
21.	Lincoln/25th/El Camino del Mar	All-way STOP	D	D
22.	Lincoln/Bowley/Pershing	Two-way STOP	C	C
23.	Lincoln/Kobbe	Two-way STOP	C	C
24.	Lincoln/Merchant	Two-way STOP	A	C
25.	Lincoln/Storey	Two-way STOP	B	B
26.	Lincoln/GGB Viewing Area	Two-way STOP	C	C
27.	Lincoln/Graham	All-way STOP	B	A
28.	Divisadero/Lombard	Traffic Signal	B	B
29.	Park Presidio/Lake	Traffic Signal	B	C
30.	Park Presidio/California	Traffic Signal	B	E
31.	14th/California	Two-way STOP	C	D
32.	15th/California	Two-way STOP	C	C
33.	25th/California	Traffic Signal	B	B

Source: Wilbur Smith Associates, January 2001.

Note: For two-way STOP-controlled intersections, the LOS is presented for the worst approach.

(a) Three of four approaches stop. The Lyon Street approach does not stop.
(b) Of the three approaches, only the Lyon Street approach stops.

therefore, it was analyzed as two separate but adjacent intersections. The intersection of Marina Boulevard/Mason Street and Lyon Street is an unsignalized intersection that carries relatively low volumes of traffic, which is metered by the adjacent traffic signal. Therefore, the intersection operates well during both the morning and afternoon peak commute periods. The adjacent intersection of Marina Boulevard/Doyle Drive and Lyon Street is controlled by a semi-actuated traffic signal activated by vehicles on the Lyon Street approaches, with relatively low volumes of traffic on the Lyon Street approach, allowing it to operate well also.

The intersection of Richardson Avenue, Lyon Street, Francisco Street, and Gorgas Avenue was analyzed as two separate adjacent intersections: the signalized intersection of Richardson Avenue and Francisco Street, and the STOP-sign controlled intersection of Francisco Street/Gorgas Avenue and Lyon Street. Both of the intersections operate at LOS B during both the a.m. and p.m. peak hours. Although the geometric configuration of this intersection could be confusing to drivers, the traffic on Francisco Street is minimal and requires only a small portion of the signal cycle time, allowing the traffic signal to operate efficiently. The traffic volumes traveling through the intersection of Francisco Street, Lyon Street, and Gorgas Avenue are relatively light, and are served adequately by the three-way STOP-sign control device.

The all-way STOP-sign controlled intersection of Lyon and Lombard Streets is the only intersection that does not operate acceptably during both the a.m. and p.m. peak hours. During the p.m. peak hour, the intersection operates acceptably at LOS D, but during the a.m. peak hour, due to substantially more traffic entering the Presidio through the Lombard Street gate than in the afternoon peak hour, the intersection operates at LOS E.

3.5.2 TRANSIT SERVICES

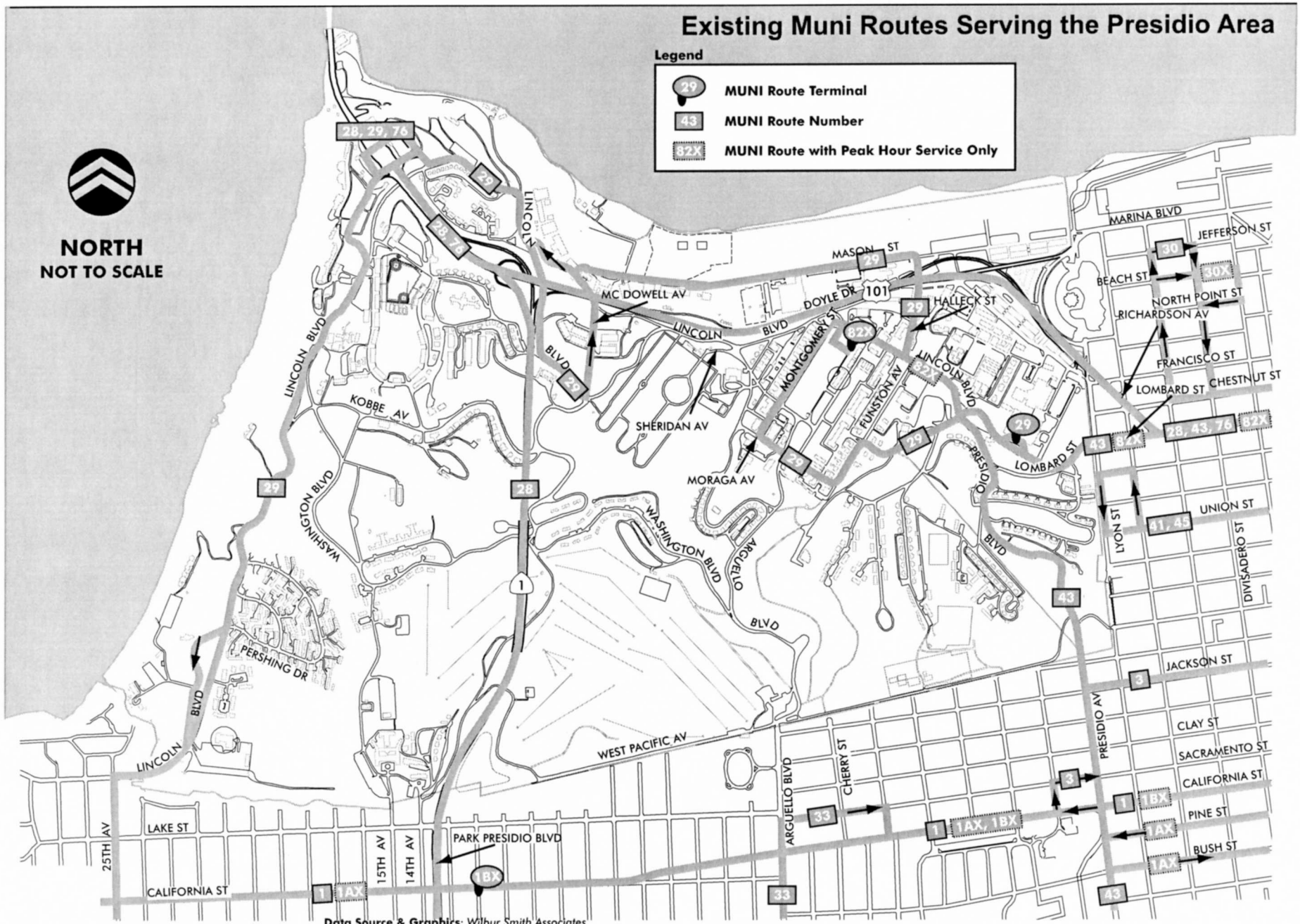
Public transit systems serving the Presidio include the San Francisco Municipal Railway (Muni) and the Golden Gate Bridge, Highway and Transportation District (Golden Gate, Transit or GGT). These services provide access to other regional carriers such as BART, AC Transit, CalTrain, SamTrans, and the regional ferry system. In addition, there are private transit carriers that accommodate specific needs not served by the public systems.

Muni

Muni provides regular scheduled daily transit service directly to the Presidio on four routes (28-19th Avenue, 29-Sunset, 43-Masonic and 82X-Presidio and Wharves Express), as well as to the adjacent neighborhoods near Presidio gates on another eight routes (1-California, 1AX-California "A" Express, 1BX-California "B" Express, 3-Jackson, 30-Stockton, 30X-Marina Express, 33-Stanyan, 41-Union and 45-Union-Stockton), as shown in Figure 31. Table 30 presents the Muni bus lines serving the Presidio or its immediately adjacent neighborhoods, including route descriptions and the weekday a.m. and p.m. peak period headways.

The northeastern portion of the Presidio has the most extensive transit service in the Park with convenient stops for the 29-Sunset, 43-Masonic, and 82X-Presidio and Wharves Express at the Main Post and/or Letterman Planning Districts. The 29-Sunset also provides direct transit service to the western portion of the Park, with stops along Lincoln Boulevard between 25th Avenue and the Golden Gate Bridge Toll Plaza. Buses on the 43-Masonic stop at Letterman and East Housing while traveling between the Lombard Street and Presidio Boulevard gateways. The 28-19th Avenue route stops at the Golden Gate Bridge Toll Plaza within the Presidio, but also serves the Letterman Planning District with a stop on Richardson Avenue at Francisco Street. The 82X-Presidio Wharves Express, which

Figure 31 *Transportation and Circulation*



Map Source: *Presidio Traffic Update, Report of Findings, December 1996* - Robert Peccia and Associates

Data Source & Graphics: *Wilbur Smith Associates*

AFFECTED ENVIRONMENT

Transportation and Circulation

Table 30: Nearby Muni Transit Lines

Muni Route	Description	AM/PM Peak Period Schedule Headway
1-California	Daily route connecting Outer Richmond area (Geary/33rd Ave.) through the Financial District to the Embarcadero BART/Muni station to Howard/Main, near the Transbay Terminal.	9/8 minutes
1AX-California 'A' Express	Weekday peak periods peak direction only service connecting Geary/33rd Ave. to Davis/Pine in the morning and Davis/Pine to 33rd Ave./Geary in the afternoon.	10/15 minutes
1BX-California 'B' Express	Weekday peak periods peak direction only service connecting California/12th Ave. to Davis/Pine in the morning, and Davis/Pine to Park Presidio Blvd./California St. in the afternoon.	6/15 minutes
3-Jackson	Daily route connecting Presidio Heights to the Financial District (Sansome/Sutter).	10/10 minutes
28-19th Avenue	Daily route connecting Daly City BART Station to Highway 101 via 19th Avenue and Park Presidio Boulevard.	11/12 minutes
29-Sunset	Daily route connecting the Presidio to the Bayview area primarily via 25th/Sunset Avenue. Provides a connection to Golden Gate Transit at Golden Gate Bridge Plaza.	30/30 minutes
30-Stockton	Daily route connecting Marina District (Broderick/Beach Streets) to the Caltrain Station (4th St./Townsend St.).	4/5 minutes
30X-Marina Express	Weekday peak period peak - direction only service connecting the Marina District (Beach/Divisadero) to the Financial District, the Embarcadero Muni/BART station, and terminating at Howard/Beale near the Transbay Terminal in the morning. Afternoon service connects Howard/Embarcadero to Broderick/Jefferson.	5/10 minutes
33-Stanyan	Daily route connecting Laurel Heights and the Mission District via Arguello, Stanyan, Clayton, 18th Street, and Potrero.	15/15 minutes
41-Union	Weekday peak periods only connecting Greenwich/ Lyon with downtown San Francisco.	10/6 minutes
43-Masonic	Daily route connecting the Marina District to the Excelsior District via Lombard. Presidio and Masonic Streets.	15/10 minutes
45-Union/Stockton	Daily local route connecting Greenwich/Lyon with Caltrain Depot at 4th/Townsend.	8/8 minutes
76-Marin Headlands	Sundays only and some holidays.	60 minutes
82X-Presidio and Wharves Express	Weekday peak periods, peak direction only connecting Letterman and Main Post with the Caltrain Depot.	29/25 minutes

Source: Muni 2000 Schedule.

provides peak hour service in the commute direction only, enters and exits the Presidio via Lombard Street, and serves the Main Post and Letterman Planning Districts with stops on Anza Avenue at Lincoln Boulevard, Lincoln Boulevard just east of Funston Avenue, and Letterman Drive.

Lines 41-Union and 45-Union-Stockton provide service to the corner of Greenwich and Lyon Streets just outside the Lombard Street gate. Lines 30-Stockton and 30X-Marina Express serve the Marina neighborhood, and are within two to three blocks of the Gorgas Avenue gate and Mason Street gate. The 1-California and 1AX/1BX-California Expresses run along California Street, and are within two blocks of the 15th Avenue and the 25th Avenue gates. The 33-Stanyan runs on Arguello Boulevard, connecting with the Mission neighborhood and is within three blocks of the Arguello gate. The 3-Jackson line runs along Jackson Street and Presidio Avenue, stopping one block from the Presidio Boulevard gate. In addition to these weekday services, route 76-Marin Headlands is a Sunday- and Holiday-only service that runs from downtown, stops at the intersection of Richardson Avenue and Francisco Street and Golden Gate Plaza, and then continues north to the Marin Headlands.

Recent ridership data on the number of passengers boarding or alighting from a bus within the Presidio are not available from Muni. However, visual observation of current passenger loads in the vicinity of the Presidio indicates low ridership with substantial excess capacity (Wilbur Smith Associates 2000). The Trust monitored bus operations and ridership for the 82X-Presidio and Wharves Express route within the Presidio in July 2000. The monitoring data indicate 16 passengers and 23 passengers on board 82X-Presidio and Wharves Express buses during the a.m. peak hour and p.m. peak hour, respectively. Current transit ridership within the Presidio is low for a number of reasons. The Presidio currently has free parking, and a substantial portion of existing buildings within the Presidio are currently vacant, which yields a substantial surplus of available parking spaces. Also, many buses serving the Presidio either begin or end their runs at or near the Presidio or operate in a reverse commute direction. Access to bus connections just outside the Presidio has been limited until Presidio shuttle service is fully operational.

Recent ridership data are available for each line's maximum load point, defined as the location along the route at which the highest level of ridership typically occurs. In all instances, the maximum load point occurs at a substantial distance from the Presidio. Table 31 presents the maximum load points for the various bus lines serving the Presidio or its adjacent neighborhoods, during the a.m. and p.m. peak commute periods. Table 31 indicates that the Muni lines serving the Presidio area are well-used at their respective maximum load points, but that many of the Muni lines directly serving the Presidio have available capacity.

Golden Gate Transit

Golden Gate Transit operates bus lines and ferry routes between San Francisco and counties in the Golden Gate corridor of Marin and Sonoma Counties. Twenty-six of their bus lines pass through the Presidio during the a.m. and p.m. peak hours, all stopping at the Golden Gate Bridge Plaza. All transbay lines but one (Route 50) proceed into San Francisco on U. S. Highway 101, with a stop at the corner of Richardson Avenue and Francisco Street. Although ridership data are not available by bus stop, previous observations indicate that few passengers were originating or terminating their trips in the Presidio (Wilbur Smith Associates 2000).

Peak hour transbay service ridership data collected in October 2000 provided by GGT are presented in Table 32. The ridership data presented in Table 32 represent the average passenger load at the Golden Gate Bridge Plaza during the peak hour by route. The data indicate that in general, GGT buses operate with excess capacity during both the a.m. and p.m. peak commute hours, with the overall peak hour load factor being highest for the typical commute directions (southbound in the morning and northbound in

Table 31: Existing Muni Passenger Loads

Muni Line	Direction	AM Peak Hour Maximum Load Point	AM Peak Hour Peak Hour Load	AM Peak Hour Peak Hour Capacity	AM Peak Hour Load Factor	PM Peak Hour Maximum Load Point	PM Peak Hour Peak Hour Load	PM Peak Hour Peak Hour Capacity	PM Peak Hour Load Factor
1	to Howard/Main	Clay/Powell	1,075	1,008	107%	Clay/Polk	594	1,481	40%
	to Geary/33rd	Sacramento/Polk	374	882	42%	Sacramento/Powell	1,229	1,386	89%
1AX	to Davis/Pine	California/Park Presidio	382	432	88%	n.a.	n.a.	n.a.	n.a.
	to Geary/33rd	n.a.	n.a.	n.a.	n.a.	Davis/Pine	248	314	79%
1BX	to Davis/Pine	California/Fillmore	658	707	93%	n.a.	n.a.	n.a.	n.a.
	to Park Presidio/California	n.a.	n.a.	n.a.	n.a.	Davis/Pine	280	393	71%
3	to Sutter/Sansome	Post/Powell	303	410	74%	Post/Polk	136	347	39%
	to Presidio/California	Sutter/Polk	108	473	23%	Sutter/Powell	241	378	64%
28	to Ft. Mason	19th Ave/Lincoln	231	378	61%	19th Ave/Sloat	370	447	83%
	to Daly City BART	19th Ave/Sloat	191	567	34%	19th Ave/Lincoln	466	520	90%
29	to Letterman	Geneva/BART	280	325	86%	Suns/Noriega	204	357	57%
	to Fitzgerald/Keith	Suns/Noriega	171	252	68%	Geneva/BART station	280	252	111%
30	to 4th/Townsend	Stockton/Sutter	832	945	88%	Stockton/Sutter	855	851	101%
	to Broderick/Beach	Stockton/Sutter	753	914	82%	Stockton/Sutter	797	882	90%
30X	to Howard/Embarcadero	Chestnut/Van Ness	932	945	99%	n.a.	n.a.	n.a.	n.a.
	to Beach/Scott	n.a.	n.a.	n.a.	n.a.	Chestnut/Van Ness	475	567	84%
33	to Arguello/Maple	18th/Castro	118	252	47%	18th/Castro	170	252	68%
	to Potrero/25th	18th/Mission	103	252	41%	18th/Castro	158	252	63%
41	to Main/Howard	Union/Columbus	718	788	91%	Union/Jackson	76	473	16%
	to Lyon/Greenwich	Union/Columbus	79	441	18%	Union/Columbus	328	725	45%
43	to Chestnut/Fillmore	Geneva/Mission	576	536	108%	Masonic/Haight	353	630	56%
	to Munich/Geneva	Forest Hill Station	312	583	54%	Masonic/Haight	451	693	65%
45	to 4th/Townsend	Stockton/Sutter	527	536	98%	Stockton/Sutter	913	614	149%
	to Lyon/Greenwich	Stockton/Sutter	452	551	82%	Stockton/Sutter	519	599	87%
82X	to Anza/Lincoln	4th/Townsend	160	189	85%	n.a.	n.a.	n.a.	n.a.
	to 4th/Townsend	n.a.	n.a.	n.a.	n.a.	Beale/Mission	133	252	53%

Source: Muni, FY 1999-2000 Transit Data.

Notes:

n.a. – Data not available.
Peak hour capacity is based on the Muni Bus and Metro FY 1999-2000 Weekday Conditions. It assumes an appreciable number of standees per vehicle (somewhere between 60 percent and 80 percent of the number of seated passengers, depending on the specific transit vehicle configuration) and may not include the effects of missed or late runs.
Peak hour ridership is assumed to be 60 percent of the two-hour peak period ridership.
Note that the 82X maximum load points occur south of Market Street, while almost all Presidio-destined passengers embark and disembark at Market Street (Presidio Trust Transportation Manager), 2001.

Table 32: Golden Gate Transit Bus Passenger Loads – 2000

GGT Route	AM Peak Hour - Northbound Buses/ Hour	Number of Pass.	Pk. Hr. Capacity	Load Factor	AM Peak Hour – Southbound Buses/ Hour	Number of Pass.	Pk. Hr. Capacity	Load Factor	PM Peak Hour - Northbound Buses/ Hour	Number of Pass.	Pk. Hr. Capacity	Load Factor	PM Peak Hour - Southbound Buses/ Hour	Number of Pass.	Pk. Hr. Capacity	Load Factor
2	n.a.	n.a.	n.a.	n.a.	4	153	170	90%	3	91	128	71%	n.a.	n.a.	n.a.	n.a.
3	n.a.	n.a.			1	11	43	26%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	n.a.	n.a.	n.a.	n.a.	7	311	298	105%	11	311	468	67%	n.a.	n.a.	n.a.	n.a.
8	n.a.	n.a.	n.a.	n.a.	2	63	85	74%	4	76	170	45%	n.a.	n.a.	n.a.	n.a.
18	n.a.	n.a.	n.a.	n.a.	5	174	213	82%	4	138	170	81%	n.a.	n.a.	n.a.	n.a.
20	2	58	85	68%	2	47	85	55%	2	46	85	54%	2	45	85	53%
24	n.a.	n.a.	n.a.	n.a.	9	292	383	76%	8	258	340	76%	n.a.	n.a.	n.a.	n.a.
26	n.a.	n.a.	n.a.	n.a.	3	123	128	96%	4	103	170	61%	n.a.	n.a.	n.a.	n.a.
28	n.a.	n.a.	n.a.	n.a.	2	46	85	54%	2	21	85	25%	n.a.	n.a.	n.a.	n.a.
30	1	3	43	7%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1	9	43	21%
32	n.a.	n.a.	n.a.	n.a.	1	25	43	59%	1	26	43	61%	n.a.	n.a.	n.a.	n.a.
34	n.a.	n.a.	n.a.	n.a.	1	33	43	78%	1	23	43	54%	n.a.	n.a.	n.a.	n.a.
38	n.a.	n.a.	n.a.	n.a.	3	90	128	71%	3	98	128	77%	n.a.	n.a.	n.a.	n.a.
44	n.a.	n.a.	n.a.	n.a.	2	52	85	61%	2	50	85	59%	n.a.	n.a.	n.a.	n.a.
48	n.a.	n.a.	n.a.	n.a.	2	58	85	68%	2	51	85	60%	n.a.	n.a.	n.a.	n.a.
50	2	56	85	66%	3	38	128	30%	2	49	85	58%	2	61	85	72%
54	n.a.	n.a.	n.a.	n.a.	6	213	255	84%	5	173	213	81%	n.a.	n.a.	n.a.	n.a.
56	n.a.	n.a.	n.a.	n.a.	3	102	128	80%	4	142	170	84%	n.a.	n.a.	n.a.	n.a.
70	2	60	85	71%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
72	n.a.	n.a.	n.a.	n.a.	3	118	128	93%	4	138	170	81%	n.a.	n.a.	n.a.	n.a.
74	n.a.	n.a.	n.a.	n.a.	4	153	170	90%	4	128	170	75%	n.a.	n.a.	n.a.	n.a.
76	n.a.	n.a.	n.a.	n.a.	5	176	213	83%	5	124	213	58%	n.a.	n.a.	n.a.	n.a.
78	n.a.	n.a.	n.a.	n.a.	2	46	85	54%	2	37	85	44%	n.a.	n.a.	n.a.	n.a.
80	1	9	43	21%	2	54	85	64%	2	73	85	86%	3	85	128	67%
90	1	13	43	31%	1	26	43	61%	1	20	43	47%	n.a.	n.a.	n.a.	n.a.
93	n.a.	n.a.	n.a.	n.a.	3	31	128	24%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total	**9**	**199**	**383**	**52%**	**76**	**2,435**	**3,230**	**75%**	**76**	**2,176**	**3,230**	**67%**	**8**	**200**	**340**	**59%**

Source: Golden Gate Bridge Highway and Transportation District, October 2000 data.

Notes:
Peak hour capacity assumes 42.5 passengers per bus.
n.a. = Not applicable; indicates that no runs are made on that route during that particular time period.

the afternoon). The average a.m. peak hour load factor in the southbound direction is 75 percent, and the average p.m. peak hour load factor in the northbound direction is 67 percent. As shown in Table 32, these load factors are an average across all transbay GGT routes operating during the morning and afternoon peak hours. Certain routes are more heavily used than others; five GGT routes have average a.m. peak hour load factors of 90 percent or higher. In addition, some buses within the peak hours are more crowded than others.

Presidio Internal Shuttle

An internal shuttle is planned for the Presidio. The shuttle service will serve the entire Presidio with frequent stops in all seven planning districts of the park. Clean fuel buses would connect residential area commercial areas, and visitor destinations within the park, as well as key transfer points to Muni and Golden Gate Transit buses. Shuttle service will be provided on both weekdays and weekends at a frequency of 15 to 30 minutes depending on time of day and day of week. Limited shuttle service is currently planned to start on an interim basis in August 2001 using standard fuel buses for approximately six to twelve months.

Tour Buses and Charter Services

On a typical summer weekday, 180 non-Muni tour buses carry visitors to and from Presidio attractions such as the Golden Gate Bridge Plaza, Fort Point, and the Visitor Center on the Main Post. The Golden Gate Bridge is the primary attraction. They also stop at several scenic overlooks along the 49-mile drive (Peccia 1999). During the spring and fall seasons, about 210 and 220 non- Muni tour buses enter the Presidio on a typical weekday. No formal passenger count data are available to determine the amount of service provided.

3.5.3 BICYCLE AND PEDESTRIAN CIRCULATION

The Presidio does not have a continuous system of sidewalks, bicycle trails and bicycle lanes. Sidewalks and marked pedestrian crossings are provided sporadically throughout the Presidio. In many cases within the Presidio, pedestrians and bicyclists must mix with vehicles on the street system to move from one area to another.

Sidewalks within the Presidio are generally provided in areas that are currently well-occupied, such as the western portion of the Letterman Planning District and along Lincoln Boulevard in the Main Post. Most intersections within the Main Post and along Lincoln Boulevard have marked pedestrian crossings.

Pedestrian movements were collected at the 35 study intersections during field surveys conducted in November and early December of 2000. At the intersection of Presidio Boulevard/Lincoln Boulevard/Letterman Drive, a total of 72 pedestrian movements were observed on the four crosswalks during the a.m. peak hour, and 62 pedestrian movements during the p.m. peak hour (note that more than one movement could be attributed to a single pedestrian). At the intersection of Mason and Lyon Streets, where there is a considerable amount of recreational pedestrian activity, 144 and 191 pedestrian movements were observed during the a.m. peak hour and p.m. peak hour, respectively. Many of these pedestrians are likely traveling to and from Crissy Field.

There are several bicycle routes within the Presidio, although bicycles and vehicles share a standard-width roadway along most of these routes. As shown in Figure 32, Lombard Street, Presidio Boulevard, Mason Street, Arguello Boulevard, 14th Avenue, and El Camino del Mar are part of the designated San Francisco Citywide Bicycle Routes (Routes #4, #55, #2, #65, #69, and #95, respectively) that continue into the Presidio. Most of these routes are Class III facilities (signed route only - bicyclists share

roadway with vehicles), although the travel lanes that vehicles and bicycles share are generally wider in the southwestern portion of the Park. Mason Street has Class I (separate off-street path) and Class II facilities (dedicated, striped bike lanes on roadway edge).

The Presidio is a popular location for recreational bicycling, particularly on weekends. At the intersection of Presidio Boulevard/Lincoln Boulevard/Letterman Drive, 11 bicyclists were observed in November 2000 during the weekday a.m. peak hour, and 14 bicyclists during the weekday p.m. peak hour (it should be noted that counts would likely be much higher during non-winter seasons). At the intersection of Mason Street/Lyon Street, 66 and 76 bicyclists were observed during the weekday a.m. peak hour and p.m. peak hour, respectively. Bicycle data gathered at the Presidio entrances in 1998 indicate that about 1,700 bicyclists entered and exited the Presidio on a spring or fall weekday. On spring and fall weekend days, 3,500 and 3,000 were observed entering or leaving the Presidio, respectively. Bicycle and pedestrian counts conducted in October 1999 at eleven locations in the Presidio from 7 a.m. to 10 p.m. confirmed those findings. Weekday observations totaled 5,900 bicyclists and pedestrians, while weekend observations at the same locations amounted to 23,500, almost four times the weekday count. The weekday peak hour occurred between 7 a.m. and 8 a.m., representing 14 percent of the total daily count, while the weekend peak hour occurred between 10 a.m. and 11 a.m., representing 11 percent of the total daily count.

The Marina Boulevard gate accommodates the greatest percentage of bicycle traffic, accommodating 23 to 45 percent of the total bicycle to and from the Presidio. The Lombard Street gate accounts for approximately six to eleven percent of the total daily bicycle trips into and out of the Presidio. A comprehensive study of pedestrian and bicycle conditions within the Presidio is currently underway (*Draft Presidio Bikeways and Trails Master Plan*).

3.5.4 PARKING

Parking supply and occupancy information in the Main Post and Letterman Planning Districts was collected on Tuesday, January 9, 2000 during the weekday midday peak period (between 10 a.m. and 2 p.m.). Parking supply and occupancy for the remainder of Area B was obtained from aerial photographs taken on a typical Friday in March 2000.

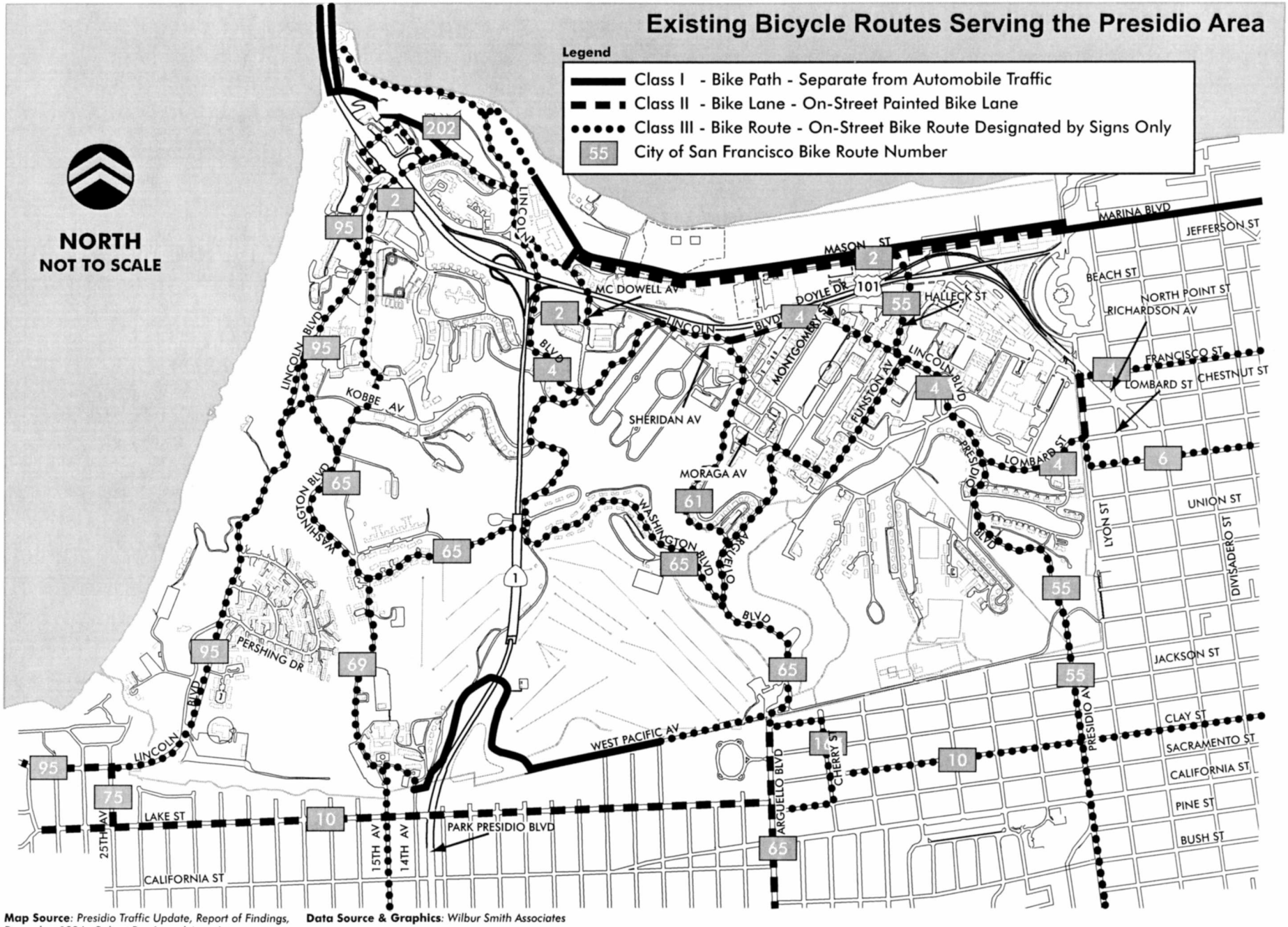
Table 33 tabulates the parking supply and utilization of the parking facilities within Area B of the Presidio by planning district. There are a total of approximately 7,790 parking spaces within Area B, with about 1,979 (25 percent) of the spaces occupied during the midday period. Parking facilities within each of the Presidio planning districts are between 17 percent and 30 percent occupied, indicating that there is substantial available parking in all planning districts.

Table 33: Parking Supply and Current Utilization Within Area B

Planning District	Spaces Available	Spaces Occupied	Percent Occupied
Main Post and Crissy Field	3,292	888	27%
Letterman	1,448	309	21%
Fort Scott	829	139	17%
East Housing	664	198	30%
South Hills and Public Health Service Hospital	1,557	445	29%
Total	**7,790**	**1,979**	**25%**

Source: Wilbur Smith Associates, March 2000 and January 2001; Presidio Trust May 2001.

Figure 32 *Transportation and Circulation*



Map Source: *Presidio Traffic Update, Report of Findings, December 1996* - Robert Peccia and Associates

Data Source & Graphics: *Wilbur Smith Associates*

AFFECTED ENVIRONMENT

Transportation and Circulation

3.6 UTILITIES

The Presidio's utility systems date from almost every period of the Presidio's history of development as a military installation. Consequently, many of its older facilities have required significant upgrading and replacement and the Trust has an ongoing program of capital investment in its infrastructure systems. Utilities in the Presidio include water treatment, water distribution, wastewater collection, solid waste disposal, and electrical distribution. The Utilities Affected Environment section discusses the treatment, supply and distribution of these utilities.

3.6.1 WATER SUPPLY AND DISTRIBUTION

WATER SUPPLY

The Trust has water resource management responsibilities and authorities to provide water to Presidio users. Because the Presidio is now only partially occupied, Presidio water has been supplied primarily from Lobos Creek which is treated at the Presidio Water Treatment Plant. Lobos Creek is a 1.3-mile free-flowing stream that drains an approximately 3.2-square-mile drainage basin. Lobos Creek is the last remaining urban coastal stream in San Francisco that drains into the Pacific Ocean. Diversions from this water resource are limited by natural stream flow volumes and by resource protection objectives provided in the Lobos Creek Restoration Plan (Philip Williams & Associates, Ltd. 1995). Lobos Creek is in Area A.

The main source of water for Lobos Creek is the Lobos groundwater drainage basin, a 3.2-square-mile underground aquifer extending from under the southwest quarter of the Presidio south to Golden Gate Park and west to the Palace of the Legion of Honor. The aquifer is recharged directly by rainwater and indirectly by flows that leak under the paved streets of San Francisco. The outfall from the aquifer flows both on the surface via Lobos Creek and underground via permeation below sea level at roughly equal rates. The aquifer is also the source of water for Mountain Lake on the Presidio and several wells in the vicinity. Mountain Lake apparently does not have any direct surface connection to Lobos Creek.

The surface of the groundwater recharge area is primarily sand dune geology. The ground consists of sand blown into layers over thousands of years from beaches along the Pacific Ocean. The shape of the creek bed follows the clay Colma Formation several meters below the stream. The steep drop of the Colma Formation at Baker Beach results in a one-way outfall from Lobos Creek to the Pacific Ocean. The Lobos Creek drainage basin captures an average annual rainfall of 23 inches per year. Rainfall has the potential to contribute to creek flows, but because most of the unpaved land north of Lobos Creek is composed of northern dune sands, rainfall is readily absorbed into the ground to recharge the aquifer. Thus, little surface runoff collects in the Lobos Creek bed for immediate downstream flow. Daily flow in Lobos Creek ranges from 1.2 million gallons per day (mgd) in dry years to 2.1 mgd in wet years. A minimum stream flow of 500,000 gallons per day, or 0.5 mgd, has been estimated to be the basic in-stream flow necessary to ensure resource preservation.

PRESIDIO WATER DEMAND

The City and County of San Francisco (CCSF) historically supplied up to one-third of the Presidio's water demand, and several points of interconnection are currently maintained between the CCSF water supply system and the Presidio. CCSF currently supplies potable water to the Trust for its use as a retail customer and, the Trust provides water use projections to CCSF for planning purposes. During times of drought or low runoff, when the CCSF water system may be vulnerable in its ability to provide a safe reliable source of water, the Trust may be allocated a drought allotment based on an examination of domestic water usage, irrigation water usage,

and water produced from the Lobos Creek Water Treatment Plant. Under CCSF emergency conditions, the Trust would consider supplying water to the CCSF for the purpose of augmenting its total water supply if Trust water is available beyond the amounts necessary to meet all Presidio service needs (based on a rationed domestic use and restricted irrigation schedule), and ensure resource protection objectives and minimum stream flows within Lobos Creek are met.

Total current water use within the Presidio is estimated to be 0.8 million gallons per day. Approximately 15 percent of this total is water supplied by the CCSF and approximately 43 percent is used for irrigation (versus domestic service). Based on available records, in 1997 there was a total water use of 0.8 mgd, all of which were purchased. In 1998 there was a total water use of 0.7 mgd (0.4 mgd treated and 0.3 mgd purchased). In 1999 there was no change in the amount used, but 0.6 mgd was treated and 0.1 mgd was purchased. In 1998 there was a total water use of 0.8 mgd (0.7 mgd treated and 0.1 mgd purchased).

FIRE FLOW

The Presidio water distribution system provides water for domestic and irrigation purposes as well as internal building sprinkler systems and fire hydrants. The NPS Fire Department requires that a minimum of 3.0 million gallons of the total 6.0 million gallons of water stored in the Presidio reservoir is reserved for fire flow. Fire flow is defined as the rate of the flow of water combined with the duration of flow to equal the supply of water reserved for fire emergencies. The Uniform Fire Code establishes the required volume and duration of fire flow that must be present within a certain distance of a structure according to the type of construction, size of the building, and other site layout conditions. The GMPA EIS (Nolte and Associates 1991) identified water distribution system deficiencies that resulted in inadequate fire flow to the Letterman Complex, and improvements have since been made to the water distribution system that have increased the fire flow available. Other improvements to the water distribution system have been ongoing as required to ensure adequate fire flow to new development throughout the Presidio to meet the Uniform Fire Code.

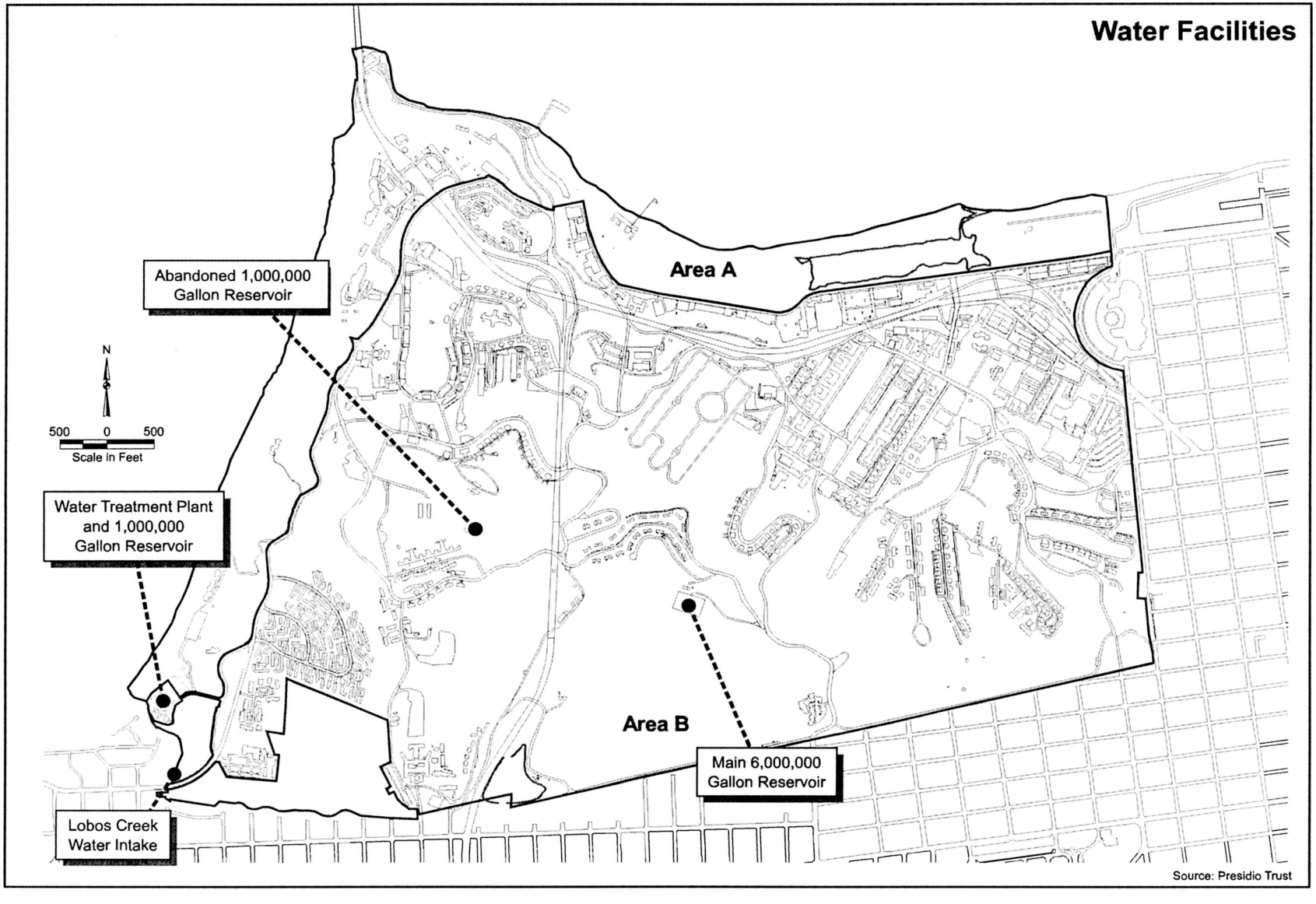
WATER TREATMENT AND DISTRIBUTION

The Trust is responsible for daily operations of the Presidio water treatment plant as well as the operation and maintenance of the water distribution system at the Presidio. The Presidio Water Treatment Plant (PWTP) takes water from Lobos Creek and treats it to potable water standards for use by Presidio tenants. Lobos Creek is a spring-fed creek that runs along the southwest border of the Presidio. In order to preserve the natural riparian environment of the Lobos Creek watershed, the PWTP is constrained on the amount of water it can take from the creek and must maintain a 500,000 mgd flow past the treatment plant's extraction point. When water demands at the Presidio exceed the amount that can be met by the creek, supplemental water supply (up to 1 mgd) is purchased from the City and County of San Francisco.

The PWTP is permitted by the State of California Department of Health Services (DHS). Water produced at the plant must meet stringent water quality requirements. Water quality testing is accomplished through the use of independent laboratories. The PWTP has consistently met or exceeded all water quality standards as required by the California Safe Drinking Water Act. The PWTP was upgraded in 1995, both seismically and for its conventional treatment technology (flocculation and settlement, sand filtration, and chlorine/fluorine treatment). The current plant capacity is 2.0 mgd, but daily production ranges from 0.4 mgd in winter to 1.0 mgd in summer.

The Trust operates and maintains approximately 51 miles of water distribution system at the Presidio. The Trust provides all new water

Figure 33


Water Facilities
Abandoned 1,000,000 Gallon Reservoir
Area A
N
500 0 500
Scale in Feet
Water Treatment Plant and 1,000,000 Gallon Reservoir
Area B
Main 6,000,000 Gallon Reservoir
Lobos Creek Water Intake
Source: Presidio Trust

AFFECTED ENVIRONMENT

Utilities

connections required for building rehabilitation and new construction activities at the Presidio. Upgrades to the Presidio Water Distribution System consist of many individual small projects. Ongoing upgrades include eliminating dead ends, adding loops and valves in strategic locations, and reducing the number of lead joints throughout the distribution system. These upgrades will improve water quality and keep water outages to a minimum. As an example, the Trust has replaced approximately 100 lead joints in the distribution system as part of an ongoing effort to improve water quality. Measured lead levels in Presidio drinking water ranged from 0.5 to 64 parts per billion (ppb) in 1993. By 1999, the levels had dropped to less than 1 to 10 ppb. This represents an appreciable increase in water quality to Presidio tenants.

RECLAIMED WATER

In addition to the water conservation previously described, the concept of providing reclaimed water as a way to reduce potable water consumption for non-potable uses (i.e., irrigation) has long been considered at the Presidio. It was identified in the 1994 GMPA as a desired future condition. Since 1994, major new projects requiring irrigation at the Presidio (i.e., Crissy Field, LDA project) have been conditioned to require installation of necessary infrastructure (i.e., purple piping) in anticipation of the future provision of reclaimed water.

At the time the GMPA was prepared, it was assumed that the City and County of San Francisco would develop a reclamation plant and the Presidio would have access to recycled water from this plant. To date, the City had not developed these capabilities and the Trust is now considering implementation of an on-site treatment plant (through a separate planning and environmental review process). It is anticipated that the plant would be designed for implementation in phases, with the first phase providing recycled water (at a minimum) in the Letterman and Crissy Field Planning Districts.

3.6.2 PRESIDIO SEWER SYSTEM

SYSTEM OVERVIEW

The storm and sanitary sewer collection systems are two separate systems at the Presidio--in contrast to the City and County of San Francisco systems, which are not separated. Sanitary sewage is collected from buildings at the Presidio and discharged into the restored City's sanitary sewer system. Storm water is collected from throughout the Presidio and routed to outfalls that discharge into the Crissy Field Marsh, the San Francisco Bay or the Pacific Ocean.

WASTEWATER COLLECTION AND DISPOSAL

The sanitary sewer system is comprised of approximately 50 miles of sewer lines. The system is generally in fair condition, but the Trust anticipates that further upgrades will be needed to comply with proposed EPA regulations and permits.

During the U.S. Army occupancy at the Presidio, the annual wastewater flow from the Presidio to the City and County of San Francisco sanitary sewer system was estimated at 475 million gallons per year due to massive infiltration from the storm water system (U.S. Army Corps of Engineers 3-25). Main sanitary sewer lines were sliplined (a smaller diameter high density polyethylene pipe was inserted into the existing sewer line) by the U. S. Army in preparation for transfer of the Presidio. Total annual wastewater flow from the Presidio to the City and County of San Francisco sanitary sewer system in 2000 is roughly 120 million gallons.

Wastewater discharging from the east side of the Presidio is transported to the Southeast Water Pollution Control Plant (SEWPCP) for treatment and disposal. The SEWPCP has a peak secondary treatment capacity of 150

mgd in dry weather, and 250 mgd in wet weather. In 2000, the SEWPCP treated an average of approximately 67 mgd. Wastewater discharging from the west side of the Presidio is transported to the Oceanside Water Pollution Control Plant (OWPCP) for treatment and disposal. The OWPCP has a peak secondary treatment capacity of 43 mgd under dry weather, and 65 mgd in wet weather. In 2000, the OWPCP treated an average of approximately 17 mgd.

During wet weather, if the storage, pumping, and treatment capacity of the wastewater system is exceeded, a combined sewer overflow (CSO) occurs. The system was designed to meet a design criterion of one to ten CSOs per year, depending on location (per NPDES Permit #CA0038610). Although the SWPCP has a greater treatment capacity than the OWPCP, the sewer systems leading to the plants are the main limiting factor in the treatment process. The system serving the OWPCP has a greater capacity to absorb increased flows, and as a result, fewer CSOs occur annually in the Oceanside basin. When CSOs occur, they are comprised of approximately 94 percent storm water and 6 percent sanitary sewage.

Since taking over operation of the sewer collection system at the Presidio, the Trust has upgraded the sanitary sewer infrastructure by surveying the existing condition of the sanitary sewer piping, repairing leaking joints, and separating all illegal storm water connections. The separation of the storm water and sanitary sewer system has been a priority. The storm water system repair performed at Crissy Field (see Storm Drainage section below), and a program of upgrading roof connections to the storm water system greatly reduced the inflow of storm water into the sanitary sewer system.

The Trust is scheduled to complete a survey and video inspection of the entire sanitary main system in 2001. Upon completion of the survey, the Trust is planning to purchase a sliplining and manhole-sealing machine and commence sliplining the system in 2002. This could add approximately 50 to 60 years to the lifetime of the sewer pipes and 20 to 30 years to the lifetime of manholes. Additionally, the Trust is scheduled to begin rebuilding three of the seven sanitary sewer lift stations on the Presidio beginning in late 2001.

The West Side sanitary sewer system has undergone partial rehabilitation, as past neglect and improper maintenance of the system have led to its current state of disrepair. The improvement project entailed rehabilitating the Baker Beach district sanitary sewer system by tracing the existing systems, cutting roots from the lines, surveying and repairing broken lines, and injecting an approved root inhibitor where needed. The rehabilitation work that has been performed has greatly reduced the number of sewer overflows in the system. Due to the age and poor maintenance of all Presidio sewer systems, this will be the typical type of infrastructure improvement project required in many of the residential neighborhoods.

3.6.3 STORM DRAINAGE

The Trust is responsible for operating and maintaining the storm water collection systems at the Presidio. Storm water is collected from throughout the Presidio and routed underground to outfalls that discharge into the restored Crissy Field Marsh, San Francisco Bay or the Pacific Ocean. The Trust maintains approximately 33 miles of storm sewers throughout the Presidio. It is generally in fair to good condition. However, the Trust anticipates further upgrades will be needed to comply with proposed EPA regulations and permits.

The GMPA EIS indicated that portions of the storm drainage system were not adequate to convey the runoff from the 10-year storm event. Several system upgrades have occurred to address these system deficiencies; however, all of the upgrades identified in the GMPA EIS have not been completed. The Presidio's hilly terrain makes flooding an unlikely issue throughout most of the Presidio. Flat areas such as Crissy Field are most

prone to flooding, and Crissy Field has been the focus of most recent system upgrades.

Multiple drainage basins, which are roughly approximate to the PTIP planning districts, comprise the Presidio. The existing storm drainage capacity of the basins is discussed below.

Main Post and Crissy Field

Together these two planning districts are separated into five different drainage basins designated by their respective outfall pipe. These are basins D, E, F, G-H, and I-J-K-L.

The D basin is serviced by a 72-inch pipe, and extends through the Main Post, Letterman, and East Housing Planning Districts. The 72-inch pipe is over designed and, at a conservative estimate, has a capacity of 350 cubic feet per second (cfs). The portion of the D basin that lies within the Main Post Planning District falls roughly between Anza Street and Funston Avenue. It has a 10-year design flow of 31.6 cfs.

The E and F drain systems recently had their outfalls reconstructed to discharge into the Crissy Field wetland. Since the primary cause of flooding is the inability to discharge collected storm water, the reconstruction of these outfalls eliminates potential impacts from accumulated beach sand and facilitates drainage. An oil/water separator was installed on the discharge line to enhance the quality of the water flowing into the wetlands.

The E drainage basin is relatively small. It is bounded by Mason Street on the north, Lincoln Street on the south, Hallack Street on the east, and tapers out by Building 211 on the west. This area has a 10-year design flow rate of 8.0 cfs and a conveyance capacity of 8.8 cfs. The E basin has sufficient capacity for an additional 0.8 cfs.

The F drainage basin falls roughly between Taylor Road and Anza Street. It has a 10-year design flow of 62.8 cfs. The primary outfall pipe is a 24-inch diameter Reinforced Concrete Pipe (RCP) with a full flow capacity of 132.9 cubic feet per second cfs. The F basin has sufficient capacity for an additional 70.1 cfs.

The G-H and I-J-K-L drain systems were newly installed in 2000. They are designed for the 50-year storm event. These new systems drain the Stable area, the west side of Crissy Field (from Building 610 west), and the western portion of the Main Post (from Taylor Road west).

Letterman

The Letterman Planning District is served by three outfalls: B-4, C, and D. Outfall B-4, a 42-inch pipe with an 85 cfs capacity, is currently being designed to discharge into the Crissy Field wetlands. Again, this route prevents the accumulation of beach sand and facilitates drainage. A very small portion of the Letterman Planning District lies within the D drainage basin, and drainage basin C picks up flow from a very small area that extends between the Letterman and Crissy Field Planning Districts. Outfall C is a 24-inch pipe and has sufficient capacity to accommodate the 10-year event.

Fort Scott

The Fort Scott Planning District is situated on a plateau high above sea level. All water from Fort Scott flows down gradient and discharges into the San Francisco Bay via outfall L-2, L-4, or M. The drainage basins discharging to L-4 and M are mostly along the Crissy Field Planning District, and will not be affected greatly from additional flows from the main Fort Scott Planning District. Outfall L-2 will be the system that receives the main flow. This outfall is currently in need of repair. If not

cleared weekly, water flows from inlets and manholes in the Crissy Field parking lot during intense storm events.

East Housing

The East Housing Planning District lies mostly within the Tennessee Hollow drainage basin. All of the storm water runoff in this drainage basin is conveyed, via open channel and sewer pipe, to outfall D.

South Hills and Public Health Service Hospital

The South Hills and Public Health Service Hospital Planning Districts are in a steeply sloped area that includes the Wherry housing area and the Public Health Service Hospital. There are no areas of flooding as all storm water runoff from this area flows toward Lincoln Boulevard or 15th Avenue, and is discharged into the CCSF Richmond Transport sewer system.

WATER QUALITY

The Presidio currently relies on the City of San Francisco to receive and treat all wastewater generated within the park. Future plans call for a reclaimed water system (discussed in more detail in the Water Supply and Distribution section) to treat wastewater generated at the Presidio, and to store the reclaimed water on-site for irrigation use. Storm water runoff at the Presidio is currently treated with a series of oil and water separators before discharge into the Crissy Field Marsh.

The 1994 Presidio of San Francisco Stormwater Management Plan (SWMP) includes a detailed Stormwater Pollution Prevention Plan (SWPPP) that outlines erosion prevention and sedimentation control measures to avoid contamination of storm drains and surface water resources. The SWMP is being updated to reflect changes in storm water routing (updated maps are being prepared), and to address new permitting requirements. As of November 1999, federal enclaves such as the Presidio were included in National Pollutant Discharge Elimination System (NPDES) Phase II requirements. While the Presidio has not completed this new permitting with the Regional Water Quality Control Board (RWQCB), the SWMP was written with the intent to comply with Best Management Practices (BMPs), and form the basis for an NPDES permit application. Existing storm water treatment and use of the BMPs included in the existing SWPPP are essentially in compliance with NPDES Phase II requirements.

Additionally, the Trust is planning upgrades to the storm water collection system in the Main Post Planning District. These improvements will include the upgrade to the inlet grates and replacement of crushed pipe segments. Upgrades will help prevent system blockages and conveyance of storm water from this area.

3.6.4 SOLID WASTE

REGULATIONS

The State of California authorizes a local enforcement agency (a city or county) to permit, inspect, and enforce solid waste handling and disposal activities in its jurisdiction. A variety of types of disposal sites are permitted, including municipal solid waste facilities, which receive domestic solid waste as well as a various other waste types. For example, construction and demolition debris disposal sites specialize in the disposal of construction and demolition debris as well as its diversion from the waste stream through various recycling techniques. Other waste sites accept strictly regulated types of waste. Some solid waste facilities are permitted to accept a broad range of the waste types described above. A federal agency disposing of waste at one of these permitted sites must comply with all appropriate state and local laws.

SOLID WASTE GENERATION

The Trust handles solid waste disposal through contracts with private haulers. According to the latest available estimates, approximately 22,000 tons of solid waste are generated at the Presidio every year, and sent to Contra Costa County waste disposal sites (U.S. Army Corps of Engineers 1991). These estimates are conservative, because the Trust is developing a comprehensive waste management system to minimize the park's impact on the solid waste stream.

There are 20 solid waste landfill sites in the nine-county Bay Area (California Integrated Waste Management Board and State Board of Equalization 1999). The number of solid waste disposal sites available for the disposal of waste from the Presidio increases to 28 when adjacent counties, such as San Joaquin, Yolo and San Benito, are included.

As of FY 2000, the Presidio diverted approximately 25 percent of materials from the waste stream annually as a result of waste reduction efforts. The Presidio has a goal of diverting 50 percent of the waste stream. The practices that are being implemented by the Trust to meet waste reduction goals are:

- Curbside residential recycling program;
- Comprehensive recycling program for all non-residential facilities;
- Special-event recycling;
- Public recreation on-site recycling;
- Salvage program for equipment, supplies, and building materials;
- Construction and demolition waste management plan; and
- Organic debris composting.

The Trust is building infrastructure and programs to maximize the capability to handle materials on-site in a closed-loop system. Whenever possible, materials are reused or recycled on-site, minimizing disposal, handling, and transport. Asphalt and concrete are recycled from roadwork, and concrete from building deconstruction will be recycled and reused on site. When planning for the removal of any buildings, the following hierarchy of waste management is used:

- Adaptive reuse and renovation of building on-site;
- Adaptive reuse of building off-site by moving the building;
- Deconstruction of the buildings for reuse of components elsewhere;
- Salvage all possible elements and materials from buildings for "value-added" reuse. In the case of selective demolition, separate materials on site for recycling and reuse; and
- Demolish and separate recyclable and compostable materials from the waste.

The Trust is working closely with tenants to provide waste reduction education. The San Francisco Conservation Corps (SFCC) operates a community recycling center in the Presidio and conducts school education programs, youth job training, and waste reduction outreach. The Presidio composting program collaborates with SFCC and conducts additional education programs for local schools, summer camps, and the general public.

3.6.5 ENERGY CONSUMPTION AND DISTRIBUTION

This section describes electrical and natural gas facilities in the Presidio. Ongoing energy conservation efforts are also described.

PRESIDIO ELECTRICAL SUPPLY

In 1990, 57,378 megawatt-hours of electricity were distributed at the Presidio serving 6,664,000 sf of building space. This translates into an average electric intensity of 8.61 watts per square foot (W/sf). In 1999, 21,208 megawatt-hours of electricity were distributed at the Presidio

serving 2.9 million sf of buildings; this translates into an average electric intensity of 7.33 W/sf.

The total load capacity of the Presidio's electrical infrastructure is 7,307 kilovolt amps (kVA). Pacific Gas & Electric's (PG&E) feeders entering into the Presidio currently have approximately 3,000 kVA of spare capacity. Existing current demand at the Presidio is 4,307 kVA.

The Trust operates and maintains the electrical distribution system at the Presidio. The system consists of approximately 42 miles of above-ground and under-ground electrical lines. The Presidio is a bundled service customer of PG&E, and receives electric service at primary voltage at two major points of connection (Greenwich and Main Post substations). The Trust's high voltage department then distributes power to the various facilities at the Presidio. The high voltage department maintains two major substations (Greenwich and Main Post), as well as 12 emergency back-up generators at various buildings across the Presidio.

The Trust upgraded the Main Post substation in order to increase the reliability of the electric distribution system at the Presidio. The work consisted of overhauling the 12 kV circuit breakers and retapping the major bus bars. This work required an eight-hour electrical outage, which was carefully coordinated with the affected tenants.

Having its own local high voltage maintenance shop allows the Trust to respond in a very timely manner to electrical outage problems at the Presidio. A typical response time for an electrical outage at the Presidio is under 10 minutes. It also allows the Trust to carefully coordinate with Presidio tenants any required power outages for system maintenance.

The Trust has several ongoing projects and practices to maintain the integrity and reliability of the electrical distribution system at the Presidio:

- Substation upgrades and maintenance; and
- Undergrounding of overhead electrical lines when lines require replacement or upgrade.

In addition, the Trust is planning a major distribution system condition assessment, and will be planning distribution system upgrades with additional under grounding efforts for the system as a whole.

The Trust is in the conceptual design phase for a micro-cogeneration plant that will supply 3 to 4 MW of electricity to the Presidio's grid, and heating and domestic hot water to Presidio tenants. Two electrical generating technologies being considered by the Trust include natural gas fired fuel cell and natural gas fired turbines. Both technologies have high efficiency, very low air emissions, and recoverable waste heat for use in a heat exchanger. This project will enhance the reliability of the Presidio's electric supply and demonstrate the commercial viability of high efficiency natural gas based micro-cogeneration.

NATURAL GAS SUPPLY

The natural gas distribution facilities at the Presidio are owned and operated by PG&E. In 1990, 6.7 million therms of natural gas were distributed through the system to the U.S. Army and other users at the Presidio. In 1999, 1.2 million therms of natural gas were distributed to users throughout the Presidio.

ENERGY CONSERVATION

Federal energy management policy is articulated in Executive Order 13123. The major goals of Executive Order 13123 are summarized below:

- Greenhouse Gas Reduction Goals: reduce greenhouse emissions by 30 percent by 2010 as compared with 1990;
- Energy Efficiency Improvement Goals: reduce energy consumption per square foot by 30 percent in 2005 and 35 percent in 2010 as compared with 1985;
- Renewable Energy: strive to expand the use of renewable energy by implementing renewable energy projects and purchasing renewable energy;
- Petroleum: reduce the use of petroleum by switching to less greenhouse gas intensive, non-petroleum energy sources and by eliminating unnecessary fuel use; and
- Source Energy: strive to reduce total energy use and associated greenhouse gas as measured at the source.

The best available baseline information to determine if the Presidio has met the energy efficiency improvement goals is from 1990. In 1990, 869,231 million British thermal units (BTUs) of energy were consumed at the Presidio serving 6.7 million sf of buildings with an annual energy index of 130,437 BTU per square foot. In 1999, 190,451 million BTUs of energy were consumed at the Presidio serving 2.9 million square feet of buildings with an annual energy index of 65,807 BTU per sf. This change represents a 50 percent reduction in energy usage from the 1990 baseline usage.

3.7 PRESIDIO TRUST OPERATIONS

The Trust Act requires that the Trust preserve and enhance the Presidio's resources for public use, while managing Area B of the Presidio to become financially self-sufficient by Fiscal Year (FY) 2013. Self-sufficiency requires that by 2013 annual revenues generated by Trust operations meet or exceed the annual operating expenses without need of further continuing annual federal appropriations. In addition, the Trust must ensure that the Presidio generates sufficient revenues to meet long-term capital needs.

In FY 2000, the Trust had expenditures of $67.7 million and 259 full-time equivalent staff were employed. Expenditures included $38.6 million of operations expenditures (including $514,000 allocated for special events/public programs), $12.5 million for capital projects, $12.9 million for environmental remediation, and $3.7 million of finance, insurance, and contingency costs. Inflows available to fund these expenditures include $23 million of revenue (including residential and non-residential leasing, utility fees, and development permits and passthroughs) and $44.7 million of other funding sources (including $24.2 million of appropriations, $12.9 million earmarked for environmental remediation, and $6 million of borrowing from the federal treasury). The FY 2000 cash flow is shown on Table 34.

The Presidio Trust FY 2001 budget calls for expenditures of $115.5 million and 455 full-time equivalent staff will be employed. Expenditures include $53 million of operations expenditures (including $1.8 million allocated for public programs), $36.6 million for capital projects, $20 million for environmental remediation, and $5.7 million of finance, insurance and contingency costs. Inflows available to fund these expenditures include $47 million of revenue (including residential and non-residential leasing, utility fees, and development permits and passthroughs) and $69 million of other funding sources (including $23.4 million of appropriations, $20 million earmarked for environmental remediation, and $22.5 million of borrowing from the federal treasury). The FY 2001 budget is shown on Table 34.

Table 34: Presidio Trust Budget Comparison

	REVISED FISCAL YEAR 2000	FISCAL YEAR 2001
INFLOWS		
REVENUES		
Residential	$13,141,138	$20,041,810
Non-residential	$3,616,820	$9,531,512
SDC (No DOD in FY 2001)	$2,000,839	$2,578,138
Utilities, Telephone & Tap Fees	$3,300,000	$3,070,800
Permits/Compliance	$50,000	$1,100,000
Demolition - Letterman	$0	$8,000,000
Other	$897,980	$2,634,120
Subtotal - Revenue	$23,006,777	$46,956,380
OTHER INFLOWS		
Appropriation	$24,233,000	$23,400,000
DOE Funding for Utility Improvements	$0	$1,300,000
DOD Funding for Housing Improvements	$1,000,000	$1,000,000
Environmental Remediation	$12,924,155	$20,079,982
Interest Earned on Investments	$550,000	$750,000
Borrowing	$6,000,000	$22,500,000
Subtotal - Other Inflows	$44,707,155	$69,029,982
TOTAL INFLOWS	**$67,713,932**	**$115,986,362**
OUTFLOWS		
EXPENDITURES		
General Counsel	$2,153,109	$2,569,474
Facilities	$18,785,908	$21,497,223
Real Estate	$1,455,408	$3,602,386
Planning	$3,221,751	$6,731,146
Special Events/Public Programs	$513,937	$2,804,483
Administration/Operations	$6,539,071	$9,843,447
Law Enforcement, Fire & Safety	$5,950,000	$5,950,000
Subtotal - Expenditures	$38,619,184	$52,998,159

Presidio Trust Operations

Table 34: Presidio Trust Budget Comparison

	REVISED FISCAL YEAR 2000	FISCAL YEAR 2001
OTHER OUTFLOWS		
Capital Projects	$12,490,343	$36,611,048
Environmental Remediation	$12,924,155	$20,079,982
Finance & Insurance Costs	$1,635,250	$1,735,250
Contingency/Unknown Projects	$2,045,000	$4,055,000
Subtotal - Other Outflows	$29,094,748	$62,481,280
TOTAL OUTFLOWS	**$67,713,932**	**$115,479,439**
NET CASH FLOW	**$0**	**$506,923**

Sources: The Presidio Trust Fiscal Year 2001 Budget; Bay Area Economics, 2001.

ENVIRONMENTAL CONSEQUENCES AND MITIGATION

4.1 INTRODUCTION TO THE ANALYSIS

4.1.1 SCOPE OF THE ANALYSIS

This section describes the potential environmental effects of the alternatives under review. An Environmental Screening Form (ESF) was prepared to determine the appropriate scope of the EIS analysis. The ESF was based on preliminary environmental analysis and early public scoping.

The ESF (provided in Appendix A) determined there would be no measurable effects on the following impact topics that were included in the GMPA EIS due to changed circumstances or new opportunities since preparation of the GMPA, and, therefore, do not require additional analysis in this Supplemental EIS:

- Health Care,
- Geology and Soils,
- Floodplains,
- Climate, and
- Human Health, Safety, and the Environment.

As a result of the ESF analysis and public scoping, the following impact areas are addressed in this chapter:

- Cultural Resources: Historic Resources, Cultural Landscape, and Archaeology;
- Natural Resources: Biological Resources, Water Resources, Visual Resources, Air Quality, and Noise;
- The Community: Land Use, Socioeconomics and Housing, Schools, Visitor Experience, Recreation, and Public Safety (Police, Fire, and Emergency Services);
- Transportation and Circulation: Roadway Networks, Parking, Pedestrian and Bicycle Facilities, Public Transportation, and Construction Traffic;
- Utilities: Water Supply, Wastewater Treatment and Disposal, Storm Drainage, Solid Waste, and Energy (Electricity, Natural Gas, and Conservation); and
- Presidio Trust Operations.

In some sections, the analysis relies on information and analysis contained in the GMPA EIS, which is cited or summarized as appropriate. Each topic section includes the following elements:

Methodology - Explains the methods used to determine whether an impact would occur. Some impacts are evaluated quantitatively, either with simple calculations or through computer modeling. Examples of quantitative analyses are roadway operations, which are determined through the use of a traffic model, and demand for school services, which is determined by applying a factor (students per household) to the anticipated population of the Presidio under each alternative, then comparing that figure to the number of spaces available in the school system. If quantitative analysis is used, the model or calculations are explained. Other impacts are evaluated qualitatively, where the quality, not necessarily the quantity, of the resource is considered. Examples of such impacts include changes in visual character and land use compatibility. Applicable federal laws and regulations are evaluated for their ability to reduce the impacts of the alternatives.

In order to measure the magnitude of impacts, a baseline condition must be identified. The baseline is the condition that best describes Area B of the Presidio as it would be if no action was taken on the PTIP. The GMPA 2000 alternative includes the level of development and activity that would be expected to occur in the absence of any action on the PTIP. Therefore,

the impacts of all other alternatives are compared to the GMPA 2000 alternative.

Potential Impact - Describes the impacts of the alternatives. Where relevant, both direct and indirect effects are described.

Every alternative is evaluated under each impact heading, in the following order:

- GMPA 2000,
- Draft Plan,
- Resource Consolidation,
- Sustainable Community,
- Cultural Destination, and
- Minimum Management.

Mitigation Measures - Includes measures adapted from the GMPA EIS and new mitigation described in the impact discussion.

4.2 CULTURAL RESOURCES

This section evaluates potential impacts to historic resources, including the NHLD, and potential impacts to the Presidio cultural landscape, and to archaeological resources within the Presidio. The evaluation methodology, potential impacts for each alternative, and mitigation measures to address potential impacts are discussed.

4.2.1 HISTORIC ARCHITECTURAL RESOURCES AND THE CULTURAL LANDSCAPE

METHODOLOGY

Potential effects on historic architectural resources and the Presidio cultural landscape are assessed in this section by determining the potential for physical changes, including building rehabilitation, landscape changes, building demolition and new construction, under each alternative. The effectiveness of PTIP elements and regulatory requirements that would reduce or eliminate potential adverse effects are also described.

Section 110 of the NHPA sets out the broad historic preservation responsibilities of federal agencies to ensure that historic preservation is fully integrated into ongoing programs. Under Section 110(f), special protection is to be afforded to NHLs. Under that provision a federal agency must, "to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm" to a NHL that could be directly and adversely affected by an undertaking such as the proposed plan.

Section 106 of the NHPA requires federal agencies to take into account the effects of their actions on historic properties and to seek comments from an independent reviewing agency, the Advisory Council on Historic Preservation (ACHP). The revised regulations of the ACHP (Title 36 of the Code of federal Regulations at part 800) provide the methodology for assessing impacts on historic resources and detail the requirements of the consultation process. When a project is complex and is expected to continue over time, as is the PTIP, the regulations allow development of a Programmatic Agreement that governs ongoing and future activities undertaken as part of the project or plan it addresses. Once a Programmatic Agreement is finalized, implementation of the Programmatic Agreement satisfies the agency's obligations under Section 106 and 110(f) of the NHPA.

Under the Trust Act, the Trust is directed to develop a comprehensive management program to reduce expenditures and increase revenues to the maximum extent feasible. The program must include demolition of structures that cannot be cost effectively rehabilitated, and that are identified in the GMPA for demolition. The Trust is also directed to evaluate for possible demolition and/or replacement those buildings identified as categories 2 through 5 in the Presidio of San Francisco Historic Landmark District Historic American Building Survey (HABS) Report, 1985.

POTENTIAL IMPACTS

IMPACTS ON INDIVIDUAL BUILDINGS AND/OR THE NATIONAL HISTORIC LANDMARK DISTRICT

GMPA 2000 Alternative

Under the GMPA 2000 alternative, substantial rehabilitation of historic buildings would be conducted in accordance with the Guidelines for Rehabilitating Buildings at the Presidio of San Francisco (NPS 1995), and the Secretary of the Interior Standards for the Rehabilitation of Historic

Cultural Resources

Properties (NPS 1992). The Secretary's Standards direct the manner in which historic buildings are altered, in order to ensure that historic integrity is retained and to ensure that the rehabilitation is below the threshold of an adverse effect. Rehabilitation would have a beneficial effect on buildings, because it would reverse and/or prevent deterioration. Stabilization of buildings for which no use is immediately available would re-establish structural stability and weather-resistance as necessary, also resulting in a beneficial impact.

Under the GMPA 2000 alternative, a maximum of up to 1.12 million square feet (sf) of buildings could be demolished. The majority of this demolition would be of non-contributing buildings in the Crissy Field, East Housing, and South Hills Planning Districts. Demolition of non-contributing buildings would not impair the integrity of the NHLD, and could improve the NHLD by removing elements that are not consistent with its historic period.

Those contributing buildings designated for demolition in the GMPA would be the only historic buildings subject to demolition under the GMPA 2000 alternative. Demolition of these structures (Buildings 113,118,681,683,1221,1221A, 1285, 1369, 1387, 1390 and 1779) was analyzed in the GMPA EIS, which concluded that "the removal of 48 historic buildings would have an adverse effect on the NHLD but would not affect the status of the landmark." The GMPA EIS further concluded that overall impacts on historic buildings would be beneficial, due to the amount of building rehabilitation proposed. Because only those buildings previously identified for demolition would be demolished in the GMPA 2000 alternative, there would be no new adverse effect from demolition of contributing structures under this alternative.

Up to170, 000 sf of new construction could occur under the GMPA 2000 alternative, concentrated in the Main Post, PHSH, and Fort Scott Planning Districts. New construction could have an adverse affect on individual buildings and/or the NHLD as a whole if its design, density, massing, building spacing, figure-ground relationship, or streetscape would compromise the character-defining features of the surrounding historic setting, affecting the overall integrity of the NHLD. New construction under the GMPA 2000 alternative would be subject to several controls to ensure compatibility with surrounding buildings and the NHLD. Specifically, adopted GMPA EIS mitigation calls for preparation of guidelines for compatible new construction, and compliance with the Secretary of Interiors Standards for the Rehabilitation of Historic Properties, which would ensure that new construction is compatible with existing historic buildings and the NHLD. Under the GMPA 2000 alternative, new construction would also be subject to further review under Section 106 of the NHPA, and would have to comply with Planning Principles and Planning District Guidelines contained in the PTIP. The Planning Principles require that the mass, scale, style and color of new construction be compatible with the historic setting of the Presidio. For example, new building heights would not be allowed to exceed the height of existing adjacent buildings or key landscape features. The Planning District Guidelines identify character-defining features of each planning district that would need to be maintained or enhanced.

In summary, the GMPA 2000 alternative would not have a new significant adverse impact on historic resources, because demolition of historic buildings would not differ from the GMPA, rehabilitation of historic buildings would comply with Secretary of Interior Standard's for the Rehabilitation of Historic Properties, and the relatively small amount of new construction would be designed to be compatible with its historic setting. Compatibility of new construction would be accomplished by conformance with the Secretary's Standards, the PTIP Planning Principles and Planning District Guidelines, the future development of area-wide or project specific design guidelines, and by compliance with Section 106 of the NHPA. This alternative would also include execution of a Programmatic Agreement with the NPS, State Historic Preservation Officer

(SHPO), and the ACHP pursuant to Section 106 of the NHPA. A draft of the proposed agreement is included in Appendix C.

This alternative would not comply with the Trust Act requirements regarding a comprehensive management program to examine the cost effectiveness of building demolitions.

Draft Plan Alternative

In accordance with the PTIP Planning Principles, the Draft Plan alternative would preserve, rehabilitate, and reuse historic structures to the maximum extent feasible. Rehabilitation and reuse would occur in accordance with the Secretary of Interior's Standards for the Treatment of Historic Properties (NPS 1992) and the Guidelines for Rehabilitating Buildings at the Presidio of San Francisco (NPS 1995). Every reasonable effort would be made to incorporate compatible adaptive uses that require minimal alteration of the character defining materials, features, spaces and spatial relationships of historic buildings and their settings, while meeting financial and other goals. In cases where adequate historical documentation exists, historic buildings may be partially restored to permit better understanding of their significance, which would have a beneficial effect on historic resources. This may involve the removal of later additions to historic buildings and restoration of documented historic features.

With its commitment to no net loss of housing, the Draft Plan alternative would emphasize replacement of any housing that is removed with new housing in existing building space. Subdivision of non-historic residential buildings, and/or conversion of non-residential buildings to residential use would be required to minimize the amount of new residential construction. Historic residential buildings could be subdivided in some cases, and historic non-residential or group housing (e.g., dormitories, barracks) buildings could be converted to use as dwelling units. While the precise buildings that would be subject to subdivision or conversion have not been determined, mitigation requiring conformance with the Secretary of the Interior's Standards would ensure no adverse effect on the buildings involved.

Under the Draft Plan alternative, a maximum of up to 1.07 million sf of buildings could be demolished (approximately 500,000 sf less than under the GMPA 2000 alternative). The majority of this demolition would be of non-contributing buildings in the Fort Scott, East Housing and South Hills Planning Districts. Demolition of non-contributing buildings would not impair the integrity of the NHLD, and could improve the NHLD by removing elements that are not consistent with its historic period.

Under the Draft Plan alternative, historic structures that may not be cost-effectively rehabilitated or re-used would also be evaluated for possible demolition or replacement. Any loss of buildings that are individually historically significant or that contribute to the significance of the NHLD would be an adverse effect. In addition, the status of the NHLD could be impaired through the loss of contributing buildings, if demolitions differ from those proposed in the GMPA. (These demolitions were determined not to affect the status of the NHLD, as explained above.)

The extent to which demolitions would differ from those proposed in the GMPA, and the potential for impacts to the NHLD, cannot be assessed until more specific information is developed. Future site-specific or district-level planning would evaluate the cost effectiveness of building demolition versus rehabilitation of the remaining buildings identified for demolition in the GMPA, and the buildings identified in categories 2 through 5 in the 1985 HABS report. When buildings are identified for demolition, consultation pursuant to Section 106 of the NHPA would be required. Additional public input would also occur. Mitigation would require recordation of buildings proposed for demolition to Historic American Building Survey standards. In addition, samples of significant building materials may be salvaged and preserved. Precise measures would be

developed in consultation with the State Historic Preservation Officer and the ACHP.

A maximum of 710,000 sf of new (replacement) space could be constructed under the Draft Plan alternative (approximately 540,000 sf more than under the GMPA 2000 alternative). The exact location of new construction is not known at this time, but would occur in areas of existing development. Consequently, it is possible that new construction would occur in the vicinity of historic and contributing buildings. As discussed under the GMPA 2000 alternative, new construction could have an adverse affect on individual buildings and/or the NHLD as a whole if its design, density, massing, building spacing, figure-ground relationship, or streetscape compromises the characteristics of the surrounding historic setting. New construction that may have an adverse effect would be subject to further review under NEPA and Section 106 of the NHPA, and would have to comply with Planning Principles and Planning District Guidelines contained in the PTIP. The Planning Principles require that the mass, scale, style and color of new construction be compatible with the historic setting of the Presidio. For example, new building heights would not be allowed to exceed the height of existing adjacent buildings or key landscape features. The Planning District Guidelines identify character-defining features of each district that would need to be maintained or enhanced.

New construction would be designed and sited to be compatible with the historic setting, and would be limited to structures of similar size to existing buildings in areas of development as provided by the Trust Act. Through the application of the Planning District Guidelines, and Section 106 consultation (including consultation regarding site-specific design guidelines and/or schematic designs for new construction) the Trust would ensure that new construction is compatible with the existing historic setting, and that the integrity of the NHLD is not substantially impaired. The PTIP's commitment to ensure the compatibility of new construction would preclude the introduction of large new buildings except in areas where similar size buildings currently exist.

In summary, the Draft Plan alternative may have a new adverse impact on individual historic resources and on the NHLD due to (unspecified) future building demolition, which may exceed demolitions anticipated under the GMPA. These potential demolitions would be the subject of further planning and consultation. No adverse effects to individual resources or to the significance of the NHLD would occur as a result of rehabilitation of historic buildings, which would comply with Secretary of Interior's Standard for the Rehabilitation of Historic Properties, and significant effects related to new construction would be avoided by ensuring that planning and design work is consistent with the Planning Principles and Planning District Guidelines, and is subject to further consultation under Section 106.

With additional study of potential building demolitions, this alternative would comply with the Trust Act requirements regarding a comprehensive management program. This alternative would also include execution of a Programmatic Agreement with the NPS, SHPO and ACHP pursuant to Section 106 of the NHPA. A draft of the proposed agreement is included in Appendix C.

Resource Consolidation Alternative

Under the Resource Consolidation alternative, up to 1.91 million sf of existing building space could be demolished to allow expanded wetlands restoration at Crissy Field, and to allow for native plant habitat and open space restoration in the southwest part of the Presidio. This amount of demolition would be substantially more than under either the GMPA 2000 or Draft Plan alternative, and would include removal of the PHSH and an associated set of seventeen auxiliary historic buildings to create open space. The majority of the remaining buildings to be demolished would be the noncontributing residential buildings in the south of the Presidio. However,

approximately 400,000 sf that would be demolished have not been identified, and are anticipated to be in the Main Post, Fort Scott, East Housing, and South Hills Planning Districts. Demolition in these areas could affect contributing buildings.

Demolition of the PHSH complex, including removal of all the historic buildings and cultural landscapes, would be considered an adverse effect of this alternative. Historical and architectural recordation and salvage would reduce the effect of demolition. Similarly, cultural landscape features from the historic PHSH complex would be incorporated into the new landscaping, but would not fully offset the removal of this historic complex. Demolition of any other contributing buildings not called out for demolition in the GMPA could affect the overall status of the NHLD as well as the individual resource concerned. Building demolition would be subject to further consultation under Section 106 of the NHPA.

Because there would be more demolition than under the GMPA 2000 or Draft Plan alternatives, it is likely that there would be less rehabilitation occurring under the Resource Consolidation alternative. All rehabilitation would comply with the Secretary of Interior's Standards for the Rehabilitation of Historic Properties, and thus would constitute a beneficial effect of the alternative.

A maximum of 1.24 million sf of new (replacement) space could be constructed under the Resource Consolidation alternative, which is more than under either the GMPA 2000 or Draft Plan alternatives. The exact location of new construction is not known at this time, but would occur in areas of existing development within planning districts in the northern sections of the park. Consequently, it is possible that new construction would occur in the vicinity of historic and contributing buildings. As discussed under the GMPA 2000 alternative, new construction could have an adverse affect on individual buildings and/or the NHLD as a whole if its design, density, massing, building spacing, figure-ground relationship, or streetscape compromises the characteristics of the surrounding historic setting. New construction that could have an adverse effect would be subject to further review under NEPA and Section 106 of the NHPA, and would have to comply with Planning Principles and Planning District Guidelines contained in the PTIP. The Planning Principles require that the mass, scale, style and color of new construction be compatible with the historic setting of the Presidio. For example, new building heights would not be allowed to exceed the height of existing adjacent buildings or key landscape features. The Planning District Guidelines identify character-defining features of each planning district that would need to be maintained or enhanced.

New construction would be designed and sited to be compatible with the historic setting, and would be limited to the replacement of existing structures of similar size in existing areas of development as provided by the Trust Act. Through the application of the Planning District Guidelines, and Section 106 consultation (including consultation regarding site-specific design guidelines and/or schematic designs for new construction) the Trust would ensure that new construction is compatible with the existing historic setting, and that the integrity of the NHLD is not substantially impaired. The Resource Consolidation alternative's commitment to ensure the compatibility of new construction could ultimately preclude the introduction of the maximum levels of potential new construction identified for each planning district.

In summary, the Resource Consolidation alternative would not have adverse effects on the NHLD due to rehabilitation or new construction. However, effects due to demolition would be more severe than under either the GMPA 2000 or Draft Plan alternative, because more demolition would occur, and because the PHSH would be removed. By encompassing further planning related to building demolitions, this alternative would comply with the Trust Act requirements regarding a comprehensive management program. This alternative would also include execution of a Programmatic

Agreement with the NPS, SHPO, and ACHP pursuant to Section 106 of the NHPA. With this alternative, the proposed Programmatic Agreement included in Appendix C would be expanded to address the specific proposed demolition of the PHSH complex.

Sustainable Community Alternative

In accordance with Planning Principles, the Sustainable Community alternative would preserve, rehabilitate and reuse historic structures to the maximum extent feasible. Rehabilitation would occur in accordance with the Secretary of Interior's Standards for the Treatment of Historic Properties (NPS 1992) and the Guidelines for Rehabilitating Buildings at the Presidio of San Francisco (NPS 1995). Every reasonable effort would be made to incorporate compatible adaptive uses that require minimal alteration of the character defining materials, features, spaces and spatial relationships of historic buildings and their settings, while meeting financial and other goals. In cases where adequate historical documentation exists, historic buildings may be partially restored and preserved to permit better understanding of their significance, which would have a beneficial effect on historic resources. This may involve the removal of additions to historic buildings and restoration of documented features.

Under the Sustainable Community alternative, up to 0.62 million sf of built space could be demolished, which is the least amount of demolition of any of the alternatives except for the Minimum Management alternative. While most of the demolition would affect non-contributing buildings, such as Wherry housing, the approximately 200,000 sf of demolition that could occur in the Main Post and Crissy Field Planning Districts could include historic and/or contributing buildings. Although the total potential for demolition of historic buildings would be reduced under this alternative, the possibility that historic buildings would be removed would not be eliminated. The potential loss of historic buildings would be considered an adverse effect of this alternative. Demolition of any contributing buildings not called out for demolition in the GMPA could affect the status of the NHLD, as well as the individual resource concerned. Building demolition would be subject to further consultation under Section 106 of the NHPA.

Under this alternative, there could be approximately 890,000 sf of new (replacement) construction. The exact location of new construction is not known at this time, but it would occur in areas of existing development. Consequently, it is possible that new construction would occur in the vicinity of historic and contributing buildings. As discussed under the GMPA 2000 and Draft Plan alternatives, new construction could have an adverse affect on individual buildings and/or the NHLD as a whole if its design, density, massing, building spacing, figure-ground relationship, or streetscape compromises the characteristics of the surrounding historic setting. New construction that could have an adverse effect would be subject to further review under NEPA and Section 106 of the NHPA, and would have to comply with Planning Principles and Planning District Guidelines contained in the PTIP. The Planning Principles require that the mass, scale, style and color of new construction be compatible with the historic setting of the Presidio. For example, new building heights would not be allowed to exceed the height of existing adjacent buildings or key landscape features. The Planning District Guidelines identify character-defining features of each planning district that would need to be maintained or enhanced.

New construction would be designed and sited to be compatible with the historic setting, and would be limited to the replacement of existing structures of similar size in existing areas of development as provided by the Trust Act. Through the application of the Planning District Guidelines, and Section 106 consultation (including consultation regarding site-specific design guidelines and/or schematic designs for new construction) the Trust would ensure that new construction is compatible with the existing historic setting, and that the integrity of the NHLD is not substantially impaired.

In summary, the Sustainable Community alternative could have a new averse impact on individual historic resources and on the NHLD due to (unspecified) building demolition, which could include demolitions not anticipated under the GMPA. These potential demolitions would be the subject of further planning and consultation. No adverse effects to individual resources or to the significance of the NHLD would occur as a result of rehabilitation of historic buildings, which would comply with Secretary of Interior Standard's for the Rehabilitation of Historic Properties. Effects related to new construction would be avoided by ensuring that planning and design work is consistent with the PTIP Planning Principles and Planning District Guidelines, and would be subject to further consultation under Section 106.

With additional study of potential building demolitions, this alternative would comply with the Trust Act requirements regarding a comprehensive management program. This alternative would also include execution of a Programmatic Agreement with the NPS, SHPO and ACHP pursuant to Section 106 of the NHPA. A draft of the proposed agreement is included in Appendix C.

Cultural Destination Alternative

This alternative would be similar to the Draft Plan alternative, except that it would increase the amount of demolition, and potential new (replacement) construction. As with the Draft Plan alternative, historic structures would be preserved, rehabilitated and reused to the maximum extent feasible. Rehabilitation would occur in accordance with the Secretary of Interior's Standards for the Treatment of Historic Properties (NPS 1992) and the Guidelines for Rehabilitating Buildings at the Presidio of San Francisco (NPS 1995). Every reasonable effort would be made to incorporate compatible adaptive uses that require minimal alteration of the character defining materials, features, spaces and spatial relationships of historic buildings and their settings, while meeting financial and other goals. In cases where adequate historical documentation exists, historic buildings may be partially restored and preserved to permit better understanding of their significance, which would have a beneficial effect on historic resources. This may involve the removal of additions to historic buildings and restoration of documented features.

There would be a potential for demolition of up to 1.37 million sf in this alternative, which is more than under either the GMPA 2000 or the Draft Plan alternative. The majority of demolitions would affect non-contributing, non-historic structures, in the Fort Scott, East Housing and South Hills Planning Districts, including Wherry Housing and residential buildings along East and West Washington. Demolition of non-contributing buildings would not impair the integrity of the NHLD, and could improve the NHLD by removing elements that are not consistent with its historic period.

Under the Cultural Destination alternative, historic structures that may not be cost-effectively rehabilitated or re-used would also be evaluated for possible demolition or replacement. Any loss of buildings that are individually historically significant or that contribute to the significance of the NHLD would be an adverse affect. In addition, the status of the NHLD could be impaired through the loss of contributing buildings, if demolitions exceeded those proposed in the GMPA. (These demolitions were determined not to affect the status of the NHLD, as explained above.)

The extent to which demolitions would differ from those proposed in the GMPA, and the potential for impacts to the NHLD, cannot be assessed until more specific information is developed. Future site-specific or district-level planning would evaluate the cost effectiveness of building demolition versus rehabilitation of the remaining buildings identified for demolition in the GMPA, and the buildings identified in categories two through five in the 1985 HABS report. When buildings are identified for demolition, consultation pursuant to Section 106 of the NHPA would be required.

Additional public input would also occur. Mitigation would require recordation of buildings proposed for demolition to HABS standards. In addition, samples of significant building materials may be salvaged and preserved. Precise measures would be developed in consultation with the SHPO and the ACHP.

A maximum of 1.37 million sf of new space could be constructed under the Cultural Destination alternative. The exact location of new construction is not known at this time, but would occur in areas of existing development. Consequently, it is possible that new construction would occur in the vicinity of historic and contributing buildings. As discussed under the GMPA 2000 alternative, new construction could have an adverse affect on individual buildings and/or the NHLD as a whole if its design, density, massing, building spacing, figure-ground relationship, or streetscape compromises the characteristics of the surrounding historic setting. New construction that could have an adverse effect would be subject to further review under NEPA and Section 106 of the NHPA, and would have to comply with Planning Principles and Planning District Guidelines contained in the PTIP. The Planning Principles require that the mass, scale, style and color of new construction be compatible with the historic setting of the Presidio. For example, new building heights would not be allowed to exceed the height of existing adjacent buildings or key landscape features. The Planning District Guidelines identify character-defining features of each planning district that would need to be maintained or enhanced.

New construction would be designed and sited to be compatible with the historic setting, and would be limited to the replacement of existing structures of similar size in existing areas of development as provided by the Trust Act. Through the application of the PTIP Planning District Guidelines, and Section 106 consultation (including consultation regarding site-specific design guidelines and/or schematic designs for new construction) the Trust would ensure that new construction is compatible with the existing historic setting, and that the integrity of the NHLD is not substantially impaired. The Trust's commitment to ensure the compatibility of new construction could ultimately preclude the introduction of the maximum levels of potential new construction identified for each planning district.

With additional study of potential building demolitions, this alternative would comply with the Trust Act requirements regarding preparation of a comprehensive management program. This alternative would also include execution of a Programmatic Agreement with the NPS, SHPO, and ACHP pursuant to Section 106 of the NHPA. A draft of the proposed agreement is included in Appendix C.

Minimum Management Alternative

Under the Minimum Management alternative, there would be no demolition or new construction. Existing buildings would be rehabilitated and leased for new uses garnering maximum possible financial return. Rehabilitation of buildings that contribute to the NHLD would conform to essential code requirements, the Guidelines for Rehabilitating Buildings on the Presidio of San Francisco (NPS 1995) and the Secretary of the Interior's Standards for the Rehabilitation of Historic Properties (NPS 1992). The Secretary's Standards direct the manner in which historic buildings are altered, in order to ensure that historic integrity is retained and to ensure that rehabilitation is below the threshold of an adverse effect. Rehabilitation projects would repair and restore elements of contributing buildings that could deteriorate if no maintenance or reuse of the resource were to occur.

Introducing new uses into contributing buildings based on financial criteria only could result in some uses that are not entirely compatible with the historic uses. For example, buildings that historically functioned as residences, stables, or hangars, could be converted to office use. Large concentrations of these new uses could affect the overall character of the

NHLD, although potential adverse effects would be balanced by the beneficial effects associated with building rehabilitation.

This alternative would not comply with the Trust Act requirements regarding a comprehensive management program. This alternative would also include execution of a Programmatic Agreement with the NPS, SHPO and ACHP pursuant to Section 106 of the NHPA. A draft of the proposed agreement is included in Appendix C.

IMPACTS ON THE PRESIDIO CULTURAL LANDSCAPE

GMPA 2000 Alternative

Under the GMPA 2000 alternative, there would be a substantial level of non-historic building demolition to expand open space, as well as a commitment to enhance natural areas, including areas in the South Hills, Tennessee Hollow, and an expanded Crissy Field marsh. Native plant communities and riparian corridors would be restored and the historic forest would be rehabilitated and preserved. Open space within Area B would increase from about 696 acres to about 794 acres, and native plant habitat would expand from 70 acres to about 209 acres. Habitat supporting rare or endangered species would be enhanced. Exotic plants would be removed. Wetland features would be protected, enhanced and restored where feasible. Historic linkages that were once physically or visually connected, such as the Main Post to Crissy Field connection, would be reestablished.

These and other changes to the cultural landscape would be generally beneficial. Features identified as significant (Land and Community Associates 1992) would generally be maintained or enhanced. The historic forest would be rehabilitated, and vegetation would be removed in other areas to restore historic vistas and views. Site improvements, such as removal of excess pavement, introduction of wayside exhibits, signs, site furniture, trails, paths, and lighting, would be compatibly designed to ensure no adverse effect on the NHLD.

The approximately 170,000 sf of new (replacement) construction that could occur under the GMPA 2000 alternative would be subject to several controls to ensure compatibility with surrounding buildings and the NHLD. Specifically, the GMPA EIS mitigation calls for preparation of guidelines for compatible new construction, and compliance with the Secretary of Interior's Standards for the Rehabilitation of Historic Properties, which would ensure that new construction is compatible with existing historic buildings and the NHLD. Also, under the GMPA 2000 alternative, new construction would be subject to further review under Section 106 of the NHPA, and would have to comply with Planning Principles and Planning District Guidelines contained in the PTIP.

Draft Plan Alternative

The Draft Plan alternative would involve less potential building demolition and more potential new construction than the GMPA 2000 alternative, and commits to further study of the feasibility of Crissy Field marsh expansion. In other ways, the Draft Plan alternative would be similar to the GMPA 2000 alternative with regards to the Presidio cultural landscape. Features identified as significant (Land and Community Associates, 1992) would generally be maintained or enhanced. The historic forest would be rehabilitated, and vegetation would be removed in other areas to restore historic vistas and views. Site improvements, such as removal of excess pavement, introduction of wayside exhibits, signs, site furniture, trails, paths, and lighting, would be compatibly designed to ensure no adverse effect on the NHLD.

New (replacement) construction would be subject to several controls to ensure compatibility with surrounding buildings and the NHLD. Specifically, new construction would be subject to further review under

Section 106 of the NHPA, and would have to comply with Planning Principles and Planning District Guidelines contained in the PTIP.

Resource Consolidation Alternative

The Resource Consolidation alternative would have the greatest amount of building demolition of any alternative, and would result in the most noticeable changes to the Presidio cultural landscape. As with the GMPA 2000 and Draft Plan alternatives, the non-historic Wherry housing would be removed, along with some non-historic housing in the Tennessee Hollow Planning District. These demolitions would allow for natural resource enhancements and habitat expansion. In addition, non-historic buildings would be removed to allow expansion of Crissy Field marsh, similar to the GMPA 2000 alternative, and historic and non-historic buildings and landscape features at the PHSH and along East and West Washington would be removed to allow for expanded natural areas in the southern portion of the park.

Native plant communities and riparian corridors would be restored and the historic forest would be rehabilitated and preserved. Open space within Area B would increase from about 696 acres to about 838 acres, more than in any other alternative. Native plant habitat would also be expanded, similar to the GMPA 2000 and the Draft Plan alternatives. Habitat supporting rare or endangered species would be enhanced. Exotic plants would be removed. Wetland features would be protected, enhanced and restored where feasible. Historic linkages that were once physically or visually connected, such as the Main Post to Crissy Field connection, would be reestablished.

With the exception of changes at the PHSH complex, the changes to the cultural landscape under this alternative would be generally beneficial. Features identified as significant by Land and Community Associates in 1992 would generally be maintained or enhanced. The historic forest would be rehabilitated, and vegetation would be removed in other areas to restore historic vistas and views. Site improvements, such as removal of excess pavement, introduction of wayside exhibits, signs, site furniture, trails, paths, and lighting, would be compatibly designed to ensure no adverse effect on the NHLD.

Substantial new construction would be subject to several controls to ensure compatibility with surrounding buildings and the NHLD. Specifically, new construction would be subject to further review under Section 106 of the NHPA, and would have to comply with Planning Principles and Planning District Guidelines contained in the Draft PTIP.

Sustainable Community Alternative

The Sustainable Community alternative would involve the least amount of demolition of any alternative, with the exception of the Minimum Management alternative, and would result in mostly beneficial changes to the cultural landscape, similar to the GMPA 2000 and the Draft Plan alternatives. Features identified as significant by Land and Community Associates in 1992 would generally be maintained or enhanced. The historic forest would be rehabilitated, and vegetation would be removed in other areas to restore historic vistas and views. Site improvements, such as removal of excess pavement, introduction of wayside exhibits, signs, site furniture, trails, paths, and lighting, would be compatibly designed to ensure no adverse effect on the NHLD.

The Sustainable Community alternative would involve somewhat more new construction than the GMPA 2000 alternative, and slightly less than the Draft Plan alternative. New construction would be subject to several controls to ensure compatibility with surrounding buildings and the NHLD. Specifically, new construction would be subject to further review under Section 106 of the NHPA, and would have to comply with Planning Principles and Planning District Guidelines contained in the PTIP.

Cultural Destination Alternative

The Cultural Destination alternative would have effects on the Presidio cultural landscape similar to the Draft Plan alternative, except that more non-historic housing would be removed to expand open space areas in the south of the park, and more new construction would occur in the north. Features identified as significant by Land and Community Associates in 1992 would generally be maintained or enhanced. The historic forest would be rehabilitated, and vegetation would be removed in other areas to restore historic vistas and views. Site improvements, such as removal of excess pavement, introduction of wayside exhibits, signs, site furniture, trails, paths, and lighting, would be compatibly designed to ensure no adverse effect on the NHLD.

New construction would be subject to several controls to ensure compatibility with surrounding buildings and the NHLD. Specifically, new construction would be subject to further review under Section 106 of the NHPA, and would have to comply with Planning Principles and Planning District Guidelines contained in the PTIP.

Minimum Management Alternative

Under the Minimum Management alternative there would be no demolition or new construction. The primary potential negative impact under this alternative would be neglect. Without appropriate attention to the rehabilitation and enhancement of contributing landscape features, portions of the cultural landscape could be neglected or removed.

MITIGATION MEASURES

The following mitigation measures apply to all alternatives unless otherwise noted.

Measures Adapted from the GMPA EIS

CR-1 *Documentation of Buildings to be Relocated or Removed.*

Before historic buildings or additions to historic buildings are relocated or removed, the Trust would document those buildings in their current setting. In general, documentation shall be to HABS standards. The precise nature and scope of individual documentation efforts shall be determined in consultation with the California State Historic Preservation Officer, and the Advisory Council on Historic Preservation during the Section 106 consultation process. Salvage, preservation, and curation of historic building fabric may be warranted in some situations.

CR-2 *Code Compliance.*

The Trust would upgrade buildings to meet life/safety standards and to comply with the Americans with Disabilities Act (ADA) as necessary. Rehabilitation of historic buildings would include modification to meet applicable building codes to the extent practicable.

CR-3 *Long-Term Maintenance & Preservation of Vacant Buildings.*

Following rehabilitation of historic buildings, the Trust would ensure that tenants are required to perform continued maintenance, thereby preventing damage to historic features and ensuring that buildings are adequately maintained including: regularly inspect unoccupied, stabilized buildings to ensure long-term preservation and safe conditions for park visitors; and

monitor the condition of vacant buildings and prioritize their stabilization and rehabilitation to ensure the maximum feasible preservation and protection of park resources.

CR-4 *Future Planning to Guide Demolition and New Construction.*

The Trust would complete additional planning prior to implementation of any project proposing demolition or new construction that could result in a new adverse effect on historic resources. Plans should conform to PTIP Planning Principles, PTIP Planning District Guidelines, and the Secretary of the Interior's Standards to the maximum extent feasible. Where conformance with the Secretary's Standards is not possible, plans should contain an analysis of any deviation from the Standards, including its rationale. All planning efforts would incorporate public input, and shall comply with Section 106 of the NHPA, as stipulated in a Programmatic Agreement. (See draft Programmatic Agreement, Appendix C.)

CR-5 *Historic Forest Restoration.*

The Trust would complete ongoing studies regarding the historic forest, and develop management strategies to guide future actions consistent with the objectives for the historic forest zone within the Presidio Vegetation Management Plan. Strategies would identify appropriate replacement species, tree stand management options, and exact areas for tree removal.

CR-6 *Monitor Visitor Impacts on Sensitive Resources.*

The Trust would monitor sensitive cultural resources, such as historic landscape features and vacant structures, and prioritize actions to reduce any adverse impacts on these resources caused by park visitors. Potential remedies may include temporary closure of areas, protective barriers, and informational signs.

New Mitigation

CR-7 *Compliance with Standards for Building Rehabilitation.*

The Trust would ensure that rehabilitation projects conform with the Guidelines for Rehabilitating Buildings at the Presidio of San Francisco (NPS 1995). If new uses are proposed for historic buildings, or if residential buildings are proposed for subdivision, the Trust would ensure that required building modifications conform with the Secretary of the Interior Standards for the Rehabilitation of Historic Properties (NPS 1992).

4.2.2 ARCHAEOLOGY

METHODOLOGY

Section 110 of the NHPA of 1966, as amended, specifies that archaeological resources must be taken into consideration before implementing any federal action. The Archaeological Resources Protection Act (ARPA) of 1979, as amended, defines archaeological resources; requires federal permits for excavation; provides for curation of materials, records, and other data; provides for confidentiality of archaeological site locations; and, in the 1988 amendment, requires the inventorying of public lands for archaeological resources. The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, as amended, outlines the federal government's responsibility for the treatment and ultimate disposition of human burials and grave-related materials. These laws, along with their implementing regulations and policies have been followed in analyzing potential impacts on archaeological resources.

POTENTIAL IMPACTS

DESTRUCTION OF, OR DAMAGE TO, ARCHAEOLOGICAL RESOURCES

GMPA 2000 Alternative

Based on prior archaeological discoveries at the Presidio and within the city and county of San Francisco, it is likely that additional significant subsurface prehistoric archaeological sites are present within the Presidio. The 218 years of military occupation has also resulted in the deposition of significant known historic archaeological resources as well as making the potential for additional site discoveries high.

There are three recorded prehistoric archaeological sites in the Presidio. There are numerous historic archaeological features, two of which -- *El Presidio de San Francisco* and the Crissy Field Quartermaster dump -- are undergoing extensive research and analysis by the Trust and NPS.

New construction on any part of the Presidio could adversely affect prehistoric and historic archaeological resources. The removal of structures, pavement, or vegetation on any part of the post would also have the potential to disturb archaeological resources. The restoration of riparian corridors, drainages, wetlands, and other water features, including El Polin Spring and Tennessee Hollow, could have a significant impact on archaeological resources, both prehistoric and historic. Most prehistoric sites in the San Francisco area have been discovered where aquatic-based foods were available and near freshwater streams or springs. In addition, ongoing repair and maintenance of buildings, structures, roads, and utilities near known archaeological sites or in archaeologically sensitive areas would increase the likelihood of resource disturbance.

Until preliminary designs are available for specific projects or planning districts, it would not be possible to accurately inventory and determine the effects of particular actions or groups of actions on archaeological resources. Direct effects would vary and be closely related to the nature and extent of specific ground disturbing actions. Direct effects on archaeological resources would be avoided to the extent possible through consultation between the project managers and the Trust's archaeological staff. If significant archaeological sites could not be avoided, a decision would be made to: abandon or redesign the proposed project to protect the archaeological site, proceed with the project under the terms of Stipulation XI Archaeology of the Programmatic Agreement (see Appendix C), or to consult with the State Historic Preservation Officer to develop mitigating measures, such as data recovery through archaeological excavation and recordation of sites. If previously unknown resources were discovered during construction subsequent to inventory efforts using best available technology, the Trust would comply with Programmatic Agreement Stipulation XII Discoveries.

The Main Post Planning District contains the site of *El Presidio de San Francisco*, the single most important archaeological site in the park. Restoration of the parade ground would be constructed in such a manner as to avoid impacts to the *El Presidio* site, and would conform to the recommendations adopted from the Archaeological Management Plan for this site. All other activities in proximity to the El Presidio quadrangle would be designed to minimize or avoid impacts to the site. The Tennessee Hollow riparian stream corridor restoration also has the potential for significant impacts to buried archaeological resources. The stream corridor has been characterized as archaeologically sensitive for sites of prehistoric occupation and U.S. Army eras (1861-1865, 1866-1890). No inventory has been conducted for the stream corridor restoration.

Building removal and site improvements to expand Crissy Marsh have high potential to impact significant prehistoric and historic archaeological sites.

Cultural Resources

The remains of a single human of Native American ancestry were discovered near the Commissary in 1972. Discovery of a prehistoric site during the construction of the current Crissy Marsh required project redesign and a significant extensive historic site was also discovered and scientifically excavated to allow for the wetlands development.

The west area of the Letterman Planning District is an area of archaeological sensitivity for prehistoric archaeological sites and historic archaeological evidence of U.S. Army occupations from 1865-1890.

Any new construction at the Fort Scott Planning District might adversely affect historic archaeological sites or buried architectural features associated with historic coastal defense batteries dating to 1891-1914. This area is not considered very likely to contain evidence of prehistoric occupation.

The PHSH Planning District is archaeologically sensitive for the discovery of historic sites dating to 1866-1890, which covers the activities of the earliest Marine Hospital. Building demolition, new construction, infrastructure upgrades, vegetation management, and native plant restoration all have the potential to impact archaeological sites.

The East Housing Planning District is archaeological sensitive for both prehistoric and historic archaeological sites. Evidence of Native American and Spanish presence has been archaeologically documented in the vicinity of El Polin Spring. The Tennessee Hollow riparian stream corridor restoration also has the potential for significant impacts to buried archaeological resources. The stream corridor has been characterized as archaeologically sensitive for sites of prehistoric occupation and U.S. Army eras (1861-1865, 1866-1890). No inventory has been conducted for the stream corridor restoration.

Impacts on archaeological resources from the Wherry housing removal are considered unlikely assuming that the demolition activities take place within the footprint of the original construction. Archaeological sites can be buried by shifting dunes and other natural processes but potential impacts may be avoided through construction constraints. Several areas identified for vegetation management or enhancement have the potential to impact archaeological resources. An archaeological survey and subsurface testing, if necessary, would be completed prior to initiation of individual vegetation projects. Expansion of native plant habitat has a high potential to impact prehistoric and historic archaeological sites. Vegetation projects would be redesigned in order to avoid impacts to significant archaeological resources.

In conclusion, direct impacts on all archaeological sites cannot be analyzed at the present time because all sites have not been identified. Many of the actions required to make utilities and other infrastructure safe and/or in compliance with current standards, as well as emergency repairs, might affect unknown or known archaeological resources. New construction as well as repair and maintenance of existing buildings, roads, and other features would increase the likelihood of damage to sites. Measures contained in the Programmatic Agreement would help avoid or mitigate some of these adverse impacts on sites. In addition, this alternative includes measures to protect archaeological resources, including systematic inventories of Area B, subsurface investigations, permits requiring archaeological review prior to ground disturbance, and evaluation, recordation, cataloging, storage, and/or display of resources, as appropriate.

Draft Plan Alternative

This alternative would have impacts similar to the GMPA 2000 alternative in all planning districts except for East Housing. Within this planning district, replacement housing within the Tennessee Hollow riparian corridor would have the potential to impact a significant archaeological area. Mitigation measures would avoid or mitigate these potentially adverse impacts on sites.

Resource Consolidation Alternative

Removal of housing and landscaping in the South Hills Planning District as proposed under this alternative has the potential to impact archaeological resources. Building demolition and landscape vegetation activities at the PHSH could also impact archaeologically sensitive areas. In addition, when compared to the GMPA 2000 alternative, this alternative has a higher potential to impact known and unknown archaeological sites in the north due to the greater amount of demolition and infill construction in as yet unspecified locations. The extent of this cannot be assessed without more specific information to be provided during subsequent planning and environmental review. The impacts could range from minimal to significant for both prehistoric and historic sites. Mitigation measures identified in the Programmatic Agreement would avoid or mitigate these adverse impacts on sites.

Sustainable Community Alternative

This alternative, when compared to the GMPA 2000 alternative, has a higher potential to impact known and unknown archaeological sites due to the greater amount of new construction in as yet unspecified locations. The extent of this effect cannot be assessed without more specific information to be provided during subsequent planning and environmental review. The impacts could range from minimal to significant for both prehistoric and historic sites. Mitigation measures would avoid or mitigate these adverse impacts on sites.

Cultural Destination Alternative

Removal of housing and landscaping in the NHLD as proposed under this alternative has the potential to affect archaeological resources. In addition, when compared to the GMPA 2000 alternative, this alternative has a higher potential to affect known and unknown archaeological sites in other planning districts due to the greater amount of new construction and demolition in as yet unspecified locations. The extent of this cannot be assessed without more specific information to be provided during subsequent planning and environmental review. The impacts could range from minimal to significant for both prehistoric and historic sites. Mitigation measures identified in the Programmatic Agreement would avoid or mitigate some of these adverse impacts on sites.

Minimum Management Alternative

This alternative would have minimal impacts on known or unknown sites since there would be no major demolition or new construction. As there would be no restoration of the Main Post parade ground or the riparian vegetation in Tennessee Hollow impacts, there would be no impacts to archaeologically sensitive areas in the El Presidio quadrangle and Tennessee Hollow corridor, respectively. Crissy Marsh would not be expanded and therefore impacts to archaeologically sensitive areas would not occur. There would be no unanticipated archaeological discoveries at the PHSH because no construction or demolition is proposed. Since demolition of Wherry housing or revegetation in undisturbed areas would not occur, potential impacts from unanticipated archaeological discoveries would not occur.

MITIGATION MEASURES

Measures Adapted from the GMPA EIS

Applicable measures from the GMPA EIS have been incorporated into the Programmatic Agreement and apply to all alternatives.

New Mitigation Measures

The following measures are found in the Programmatic Agreement and apply to all alternatives.

CR-8 *Archaeological Management Assessment and Monitoring Program.*

The treatment of archaeological properties would be handled in accordance with the terms of an Archaeological Management Assessment and Monitoring Program (AMA/MP) that is prepared for individual undertakings or groups of related undertakings. This program would ensure that all planned undertakings be reviewed by a qualified archaeologist prior to final design and/or approval. In addition to the AMA/MP, an archaeological research design would be prepared for any archaeological investigations that include testing for NR-eligibility, and test excavations or data recovery from prehistoric or historic sites that are known to be NR-eligible or are listed as contributors to the NHLD. The Trust's management of archaeological properties would be reviewed annually in accordance with Stipulation XXI of the PA.

CR-9 Ground Disturbing Activities.

Ground disturbing maintenance activities and construction projects would be closely observed in the vicinity of sensitive archaeological areas to discover, document, protect, and manage the archaeological record of the Presidio. During the planning process for such projects, an AMA/MP would be prepared to determine whether archival research, subsurface coring or trenching, and/or test excavations are required prior to ground disturbance. Archaeological monitoring is appropriate in areas of predicted archaeological sensitivity or for sampling purposes in areas that are not considered sensitive when the natural ground surface is obscured by paving or fill, or in other instances where a pedestrian survey or archaeological testing cannot reasonably be accomplished. Any required archaeological monitoring would be implemented in accordance with an AMA/MP, prepared by qualified personnel. If historic properties are discovered during implementation of an undertaking, a detailed report would be prepared. Large-scale ground disturbing activities would be monitored in accordance with an AMA/MP. Should circumstances arise where the Trust cannot address archaeological concerns in a manner consistent with the AMA/MP, the Trust would notify the SHPO.

CR-10 *Archaeological Grid and Database.*

The Trust anticipates that previously unidentified subsurface historic properties could be encountered within the NHLD boundary due to the placement of fill over some of the historic marsh areas, historic landfill depositions, and other modifications to the land over 218 years of military occupation. The Trust would maintain an archaeological grid map and database of archaeological information for the Presidio, in cooperation with NPS. The map would also identify those areas where additional research and inventory are required during future project planning phases.

CR-11 *Excavation Permits.*

The Trust would continue its policy of requiring all excavation permits to undergo archaeological review by qualified personnel, as defined in Stipulation III of the PA, prior to initiation of the requested activity. The excavation clearance process is included as Appendix B to the PA.

CR-12 *Archaeological Management Plan for El Presidio.*

The Trust would prepare an Archaeological Management Plan (AMP) for the Spanish Colonial site known as "El Presidio de San Francisco." The AMP would contain an inventory and evaluation of archival, architectural and archaeological features associated with this site; identify the likely

presence of other significant features in the area; describe strategies for maintaining the site; contain standard operating procedures; establish programs to increase public awareness of this archaeological resource; recover data of archaeological significance; and provide for curation of archaeological collections and associated records. The AMP would be subject to peer review by NPS, SHPO, and if deemed necessary by the Trust, other qualified personnel.

CR-13 *Curation of Archaeological Collections.*

All records associated with excavations and excavated materials not subject to NAGPRA that are deemed important for preservation would be accessioned, catalogued, and managed in accordance with 36 CFR Part 79, "Curation of Federally-Owned and Administered Collections."

CR-14 *Discoveries.*

If it appears that an undertaking would affect a previously unidentified property that could be eligible for inclusion in the National Register, or could contribute to the NHLD, or affect a known historic property in an unanticipated manner, the Trust would stop any potentially harmful activities in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the property until it concludes consultation with the SHPO.

CR-15 *Treatment of Discoveries.*

If the newly discovered property has not previously been included in or determined eligible for the NR and provisions for its treatment are not contained in an approved research design or AMA/MP, the Trust may assume that the property is eligible for purposes of the PA. The Trust would notify NPS and SHPO at the earliest possible time and consult to develop actions that shall take the effects of the undertaking into account. The Trust would notify the SHPO of any time constraints, and the Trust and the SHPO would mutually agree upon timeframes for this consultation but not to exceed 30 days. If treatment of the discovery is not included in an approved research design or AMA/MP, the Trust would develop written recommendations reflecting its consultation with NPS and SHPO and as necessary, would present a plan and schedule to implement these recommendations.

4.3 NATURAL RESOURCES

This section evaluates potential impacts to biological, water, visual, air quality and noise resources. The evaluation methodology, impacts for each alternative, and mitigation measures to address potential impacts are discussed. Mitigation may be adapted from the GMPA EIS, or be new measures.

4.3.1 BIOLOGICAL RESOURCES

METHODOLOGY

To assess the potential for direct impacts on biological resources, the extent of potential new development in each planning district was reviewed for each alternative in relationship to base maps of biological resources from the Affected Environment Chapter. It was assumed that new (replacement) construction could be sited anywhere in proposed developable areas within each planning district. The amount of square footage (demolition and new construction) was used to determine the relative magnitude of each impact. The intensity of land use, visitor use special events, and general operations was also considered in the analysis of biological effects. The GMPA EIS was reviewed to determine if its mitigation measures could be applied to reduce impacts. All mitigation measures are presented following the impact analysis. Measures adapted from the GMPA EIS are presented first, followed by new mitigation that was developed specifically in this EIS. Because this is a programmatic document, and future site-specific planning and environmental review would be completed, many of the mitigation measures are set up to provide standards, monitoring and other broad requirements that would be applied to future projects.

POTENTIAL IMPACTS

DIRECT AND INDIRECT EFFECTS ON NATIVE PLANT COMMUNITIES

All Alternatives

New construction generally requires clearing and grubbing of vegetation and the importation of fill materials where buildings, ornamental landscaping, paved streets or parking lots, and related facilities are to be located. These activities could result in a permanent loss and/or temporary disturbance of existing plants in the affected area, as well as adjacent areas resulting from increased human activity. Demolition activities, in particular staging and access, can similarly disturb on-site and adjacent vegetation. The creation and/or expansion of high intensity land uses and special events can also directly and indirectly affect native plant communities in various ways including elevated levels of visitor traffic, pets, and potential introduction of invasive non-native plants species. Infrastructure and operational requirements can also affect biological resources. All of these actions (demolition, construction, land use and general operations) can result in the direct or indirect loss or degradation of habitat function and size, potential fragmentation of habitat, reductions in numbers of individuals or loss of habitat to levels below those required to sustain any native plant population. Each alternative evaluated in this EIS proposes varying intensities of the activities described above. An alternative-by-alternative analysis is provided below.

GMPA 2000 Alternative

This alternative would increase the area of existing open space in Area B from about 696 acres to about 795 acres, and would expand the acreage of native plant habitat in Area B from about 70 acres to about 209 acres. The increase in native habitat would be a beneficial effect of this alternative.

The VMP would guide all protection, restoration, and enhancement of vegetation resources. Restoration of the ecological processes within the three tributaries of Tennessee Hollow would improve the creek and associated riparian corridor. The restored creek and riparian corridor would connect to an expanded tidal marsh at Crissy Field. Serpentine grasslands at Inspiration Point and a contiguous functioning dune system in the western section of the Presidio would be restored. Ecological restoration and protection activities would continue in the Lobos Creek Dunes, North Baker Beach, the PHSH Planning District, Rob Hill, the serpentine bluffs, Mountain Lake, Inspiration Point and many wetlands. As a result of these efforts, this alternative would increase important habitat for plant and wildlife on the Presidio. The GMPA 2000 alternative also identifies other corridors and sites proposed for restoration. Many of these areas are adjacent to existing native plant communities, where increased habitat could enhance rare or endangered plants and unique wildlife (see Figure 17, Natural Resources,Affected Environment Chapter).

The GMPA 2000 alternative would result in approximately 1.12 million square feet (sf) of demolition and up to 170,000 sf of new (replacement) construction. The demolition and new (replacement) construction could adversely affect native plant communities shown in Figure 18, Natural Resources, Affected Environment Chapter, if grading, staging, construction and/or landscaping were to occur in an area containing native plant communities or assemblage. Demolition or construction adjacent to these areas could also create indirect impacts including those caused by inadvertent trampling from vehicles or workers seeking convenient access or staging/storage space, pollution from spills or upsets, the introduction of incompatible soils and fill materials, and/or the inadvertent introduction of invasive non-native plant species. GMPA EIS mitigation measures would be applied to protect native habitat communities from the direct and indirect effects of demolition and new (replacement) construction. These measures include preparation and implementation of site-specific native revegetation plans and using local native plants to be propagated in a Presidio-based native plant nursery. It should be noted that the majority of the demolition activities proposed under the GMPA 2000 alternative would be necessary to implement restoration activities, and to provide an increase in open space.

Specific Measures to minimize direct and indirect effects on natural plant communities are presented in this EIS and include the use of buffers between sensitive resources and intensive activities. Where buffers are not feasible, fencing or other barriers would be erected. Best management practices for activities within and adjacent to native habitats would be developed and applied. The importation and use of incompatible soil material for ecological restoration efforts, and the inadvertent importation of invasive exotic seeds and plant materials in erosion control and soil materials used in construction and demolition projects would be prohibited. The alteration of local surface and groundwater hydrology that could affect the available water necessary for maintaining the richness and presence of localized plant communities and assemblages would also be prohibited. Construction, demolition and special events in proximity to sensitive natural areas would have an approved invasive non-native plant control program. In addition, a program to ensure that the protection, monitoring and restoration of Presidio ecosystems, including the critical control of invasive non-native plant species, are accomplished over the long-term would be in place. Taken together, these measures would protect native plant communities and/or assemblages from direct and indirect impacts.

Existing buildings would continue to be leased, so activities associated with rehabilitation, business operations, residential uses, recreational facilities, and visitor access would continue to increase. These activities could affect native plant communities and/or assemblages, and associated special-status species located within and outside of the native plant communities zone. Measures to ensure that native plant communities would be protected from these disturbances, including setbacks and/or barriers to protect native plant communities, would be required. High intensity land uses (including active recreational activities or special events) adjacent to native plant

communities and/or assemblages could result in indirect impacts, such as trampling from increased recreational use or informal access by people and their pets. Disturbed areas would be immediately revegetated with native species to reduce the potential of colonization by invasive non-native species. Timely restoration of these areas would also discourage intrusion into native communities from adjacent activity areas. Visitor access would be guided by the Presidio Trails and Bikeways Master Plan, as well as the best management practices and related monitoring activities required as mitigation in this EIS. Under this alternative, activities such as infrastructure development, building rehabilitation and increased land use activities in developed areas could also result in adverse impacts to remnant special-status species, wetland vegetation and native plant assemblages occurring outside of the VMP native plant community zone. Losses to other biological resources in developed areas, including the San Francisco owl's clover population north of the Log Cabin, and the remnant wetland vegetation communities in the Fort Scott, South Hills and Main Post Planning Districts, would occur if development was sited an areas supporting these vegetation communities and/or assemblages. Future site-specific planning and environmental review, in conjunction with the buffer and other requirements listed in this EIS, would be implemented to prevent such effects.

In conclusion, the GMPA 2000 alternative would provide an overall increase in the existing open space and native plant communities and would provide for the restoration of several natural areas and ecological corridors (i.e., Tennessee Hollow, expansion of Crissy Field Marsh, and restoration of serpentine grasslands at Inspiration Point). Demolition activities would be slightly higher than the Draft Plan and Sustainable alternatives, but new (replacement) construction would be substantially lower than any of the action alternatives (with the exception of Minimum Management). Direct and indirect impacts to native plant communities associated with demolition and construction would be minimized and/or eliminated through implementation of the mitigation measures identified in this section. Overall, this alternative would have the most beneficial effect on native plant communities and restoration, and would provide a substantial increase in the amount of existing open space. Impacts associated with proposed demolition, new (replacement) construction, and other disturbances can be minimized through implementation of the required mitigation.

Draft Plan Alternative

Under the Draft Plan alternative, existing open space would be increased from 696 to 793 acres, which represents a slight reduction (2 acres) in open space than would be realized under the GMPA 2000 alternative. This alternative would similarly result in an increase in the total amount of existing native plant communities (from 70 to 202 acres), but would be slightly less than the 209 acres proposed under the GMPA 2000 alternative. As with the GMPA 2000 alternative, the VMP would guide all protection, restoration, and enhancement of vegetation resources, including the restoration of the three tributaries and riparian corridor of Tennessee Hollow, which would be restored and connected to the marsh at Crissy Field. While the amount of open space would decrease only slightly when compared to the GMPA 2000 alternative, the potential for disturbance or loss of native plant and wildlife habitat would be higher because the Draft Plan alternative proposes somewhat greater development (i.e., replacement construction).

The Draft Plan alternative would result in approximately 1.07 million sf of demolition and up to 710, 000 sf of new (replacement construction). The demolition and new (replacement) construction could adversely affect native plant communities shown in Figure 18, Natural Resources, Affected Environment Chapter, if grading, staging, construction and/or landscaping were to occur in an area containing native plant communities or assemblages or where restoration is proposed. In comparison to the GMPA 2000 alternative, this represents roughly 500,000 sf less demolition and 540,000 sf more construction. Although there is a difference in the total square footage, the analysis of demolition and construction impacts (and

corresponding mitigation) provided above for the GMPA 2000 alternative would apply to this alternative. The impact on biological resources within the developed areas, as described above for the GMPA 2000 alternative, would also be the same for the Draft Plan alternative. Because this EIS tiers from the 1994 GMPA EIS and focuses on the incremental changes that would occur between the GMPA and each PTIP alternative, the analysis below is accordingly focused on the substantive (biological) differences between the GMPA 2000 alternative and the Draft Plan alternative.

Under the Draft Plan alternative, the PHSH parking area and Nike Missle Site (above the Nike swale) would be used for landscape vegetation and institutional/residential uses, respectively. This area is proposed for native plant habitat restoration under the GMPA 2000 alternative. The precise effect of the landscape and institutional/residential uses would depend on the type and extent of development proposed within each of these areas, with the Nike Missle Site being less sensitive, as described below. The surrounding area contains jurisdictional wetlands and populations of the federally-endangered San Francisco lessingia. Possible effects could include increased threat of non-native invasive plant species, introduction of structures that would obstruct wind fetch from Baker Beach (necessary for viable San Francisco lessingia habitat), and a possible reduction and re-configuration in the size and/or function of an existing jurisdictional wetland habitat (riparian and fresh water marsh vegetation). As a secondary effect of the potential change in hydrology of the wetland, it is possible that the existing adjacent early successional native vegetation could be converted to more shrubby vegetation assemblages. Other potential effects include the possible reduction in annual plant species richness and available habitat for San Francisco lessingia. Future activities would be subject to the mitigation measures presented in this EIS, as well as site-specific planning and environmental review. The mitigation measures identified in this EIS require use of buffer areas to protect sensitive species, restrictions on the use of non-native invasive plant species, and implementation of best management practices. In addition, the Trust would require that any use proposed on the existing parking area be designed to avoid obstruction to wind fetch from Baker Beach. Any proposed landscape construction and operations in this area would also be designed or otherwise conditioned to minimize changes in the local hydrology such that the surrounding native vegetation would not be adversely affected. As discussed in the Affected Environment Section, the USFWS is preparing a Recovery Plan to address the long-term recovery of both San Francisco lessingia as well as Raven's manzanita. As required by the mitigation in this EIS, the Trust would ensure compliance with the objectives and criteria of the Recovery Plan.

Under the Draft Plan alternative, approximately 1 acre of land in Tennessee Hollow proposed for native plant restoration under the GMPA 2000 alternative would be designated for residential use. Residential use of this land would interfere with a planned buffer and habitat link with adjacent areas. As required by the mitigation measures presented in this EIS, timely restoration of appropriate native buffer vegetation adjacent to this area would help reduce the indirect effects associated with this land use. In addition, future site-specific planning and environmental review would be completed.

Under the Draft Plan alternative, the feasibility and scope of Crissy Marsh expansion into Area B would be evaluated through future site planning and environmental analysis. Should this expansion not occur, this alternative could result in an adverse impact to the health of the tidal salt marsh communities.

Under the Draft Plan alternative, there would be an increase in the number of projected Presidio residents, visitors and employees. Overall the Draft Plan alternative would result in a more intensive use of the Presidio by the public that could indirectly affect the health of native plant communities, specifically the viability of sensitive habitats within in the PHSH, East Housing and Crissy Field Planning Districts. This could result in the increased potential for fragmentation, loss of natural processes or

disturbance to native plant communities, and have reduced ecological benefits compared to those defined under the GMPA 2000 alternative. In addition, similar to the GMPA 2000 alternative, existing buildings would continue to be leased, so activities associated with rehabilitation, business operations, residential uses, recreational facilities, and visitor access would continue to increase, which could affect native plant communities and/or assemblages, and associated special-status species located within and outside of the native plant communities zone. Measures to ensure that native plant communities would be protected from all disturbances, including setbacks and/or barriers to protect native plant communities, would be required.

In conclusion, the Draft Plan alternative would have a decreased beneficial effect on expansion of existing open space and native plant communities (by providing roughly 2 and 7 acres less, respectively, than the GMPA 2000 alternative) and through a reduction in planned restoration efforts. Although disturbances from demolition would be substantially less under the Draft Plan alternative, the projected land use levels and total amount of new (replacement) construction would be greater. Mitigation would be required to reduce potential adverse impacts on native plant communities, and future site-specific planning and environmental review would also be completed.

Resource Consolidation Alternative

Under the Resource Consolidation alternative, existing open space would increase from 696 to 839 acres, which represents a 44-acre increase over the GMPA 2000 alternative. Although this alternative would increase the total amount of existing native plant communities (from 70 to 208 acres), it would represent a slight reduction in the 209 acres proposed under the GMPA 2000 alternative. As with the GMPA 2000 alternative, the VMP would guide all protection, restoration, and enhancement of vegetation resources, including the restoration of the three tributaries and riparian corridor of Tennessee Hollow, which would be restored and connected to the expanded marsh at Crissy Field.

The Resource Consolidation alternative proposes roughly 1.91 million sf of demolition, and up to 1.24 million sf of new (replacement) construction. The demolition and new (replacement) construction could adversely affect native plant communities shown in Figure 18, Natural Resources, Affected Environment chapter, if grading, staging, construction and/or landscaping were to occur in an area containing native plant communities or assemblages or where restoration is proposed. In comparison to the GMPA 2000 alternative, this represents roughly 790,000 sf more demolition and over 1 million sf more new construction. Therefore, this alternative could have a greater potential to disturb native plant communities than the GMPA 2000 alternative. Measures identified above for the GMPA 2000 alternative would apply to this alternative and would minimize the potential loss or degradation of existing native plant communities from direct and indirect/adjacent activities and disturbances.

Under the Resource Consolidation alternative, approximately 1 acre of land in Tennessee Hollow proposed for native plant restoration under the GMPA 2000 alternative would be designated for residential use. Residential use of this land would interfere with a planned buffer and habitat link with adjacent areas. As required by the mitigation measures presented in this EIS, timely restoration of appropriate native buffer vegetation adjacent to this area would help reduce the indirect effects associated with this land use. In addition, future site-specific planning and environmental review would be completed.

Under the Resource Consolidation alternative, there would be a higher number of projected Presidio residents, visitors and employees. However, this alternative provides the greatest consolidation of intensive land use within the northern and eastern planning districts of the Presidio, resulting in a contiguous open space corridor in the southern planning districts.

Overall this would result in less potential for fragmentation or disturbance to native plant communities and have higher ecological benefits than the GMPA 2000 alternative. Existing buildings would continue to be leased, so activities associated with rehabilitation, business operations, residential uses, recreational facilities, and visitor access would continue to increase, which could affect native plant communities and/or assemblages, and associated special-status species located within and outside of the native plant communities zone. However, the increase in the overall amount of open space that would be achieved under this alternative would reduce some of the edge pressures on the native plant communities commonly associated with built environments. These would include the spread of invasive exotic species, increased visitor and tenant use, and increased disturbance from infrastructure. Measures to ensure that native plant communities would be protected from all disturbances, including setbacks and/or barriers to protect native plant communities, would be required.

In conclusion, the Resource Consolidation alternative would have a increased beneficial effect on expansion of existing open space and a lessened beneficial effect on the planned restoration of native plant communities (by providing roughly 44 acres more and 1 acre less, respectively), compared to the GMPA 2000 alternative. Demolition and new (replacement) construction activities would be substantially higher than the GMPA 2000 alternative. Overall, the Resource Consolidation alternative would have greater potential for direct effects on native plant communities during future construction. Implementation of the mitigation measures identified in this EIS would minimize these impacts, and future site-specific planning and environmental review would be required. Additionally, there would be a substantial increase in the amount of open space provided under this alternative, which would have a greater beneficial indirect impact than the GMPA 2000, by reducing edge effect and localized land use pressures from the developed environment on native plant communities.

Sustainable Community Alternative

Under the Sustainable Community alternative, existing open space would increase from 696 to 775 acres, which represents a 20-acre reduction when compared to the GMPA 2000 alternative. This alternative would similarly result in an increase in the total amount of native plant communities (from 70 to 208 acres), but would be slightly less than the 209 acres proposed under the GMPA 2000 alternative.

The Sustainable Community alternative would result in approximately 890,000 sf of demolition and up to 620,000 sf of new (replacement) construction. The demolition and new (replacement) construction could adversely affect native plant communities shown in Figure 18, Natural Resources, Affected Environment Chapter, if grading, staging, construction and/or landscaping were to occur in an area containing native plant communities or assemblages or where restoration is proposed. When compared to the GMPA 2000 alternative, this represents a reduction of approximately 310,000 sf in demolition and an increase of roughly 450,000 sf in new construction. Although the reduction in total demolition would lessen potential short-term impacts, it would also reduce the amount land available for open space and restoration activities. The increase in new (replacement) construction would create a greater potential to disturb native plant communities than the GMPA 2000 alternative. Measures identified above for the GMPA 2000 alternative would apply to this alternative and would minimize the potential loss or degradation of existing native plant communities from direct and indirect/adjacent activities and disturbances.

Under the Sustainable Community alternative, approximately 1 acre of land in Tennessee Hollow proposed for native plant restoration under the GMPA 2000 alternative would be designated for residential use. Residential use of this land would interfere with a planned buffer and habitat link with adjacent areas. As required by the mitigation measures presented in this EIS, timely restoration of appropriate native buffer vegetation adjacent to

this area would help reduce the indirect effects associated with this land use. In addition, future site-specific planning and environmental review would be completed.

The feasibility and scope of Crissy Marsh expansion into Area B would be evaluated through future site planning and environmental analysis. Should this expansion not occur, this alternative could result in an adverse impact to the health of the tidal salt marsh communities.

The projected land use levels would be greater under the Sustainable Community alternative, and could result in increased impacts on the viability of the native plant communities in and adjacent to the PHSH, East Housing and Crissy Field Planning Districts. Impacts could include the increased potential for fragmentation and loss of natural processes or disturbance to native plant communities. This alternative would have less ecological benefit than the GMPA 2000 alternative. Existing buildings would continue to be leased, so activities associated with rehabilitation, business operations, residential uses, recreational facilities, and visitor access would continue to increase, which could affect native plant communities and/or assemblages, and associated special-status species located within and outside of the native plant communities zone. Measures to ensure that native plant communities would be protected from all disturbances, including setbacks and/or barriers to protect native plant communities, would be required.

In conclusion, the Sustainable Community alternative would have a decreased beneficial effect on native plant communities (by providing approximately 1 acre less, as well as a 22-acre reduction in open space than the GMPA 2000 alternative). Demolition activities would be slightly lower than the GMPA 2000 alternative, but new (replacement) construction and projected land use levels would be substantially greater under the Sustainable Community alternative. Implementation of the mitigation measures identified in this EIS would minimize these impacts and future site-specific planning, and environmental review would also be completed.

Cultural Destination Alternative

Under the Cultural Destination alternative, existing open space would increase from 696 to 807 acres, which is 12 acres more than would be realized under the GMPA 2000 alternative. This alternative would result in an increase in the total amount of existing native plant communities (from 70 to 202 acres), which represents a 7 acre reduction from the GMPA 2000 alternative. While the amount of open space would increase under this alternative, the potential for disturbance or loss of native plant and wildlife habitat would be higher than the GMPA 2000 alternative, because it allows for substantially greater development.

The Cultural Destination alternative would result in approximately 1.37 million sf of demolition and 1.37 million sf of new (replacement) construction. The demolition and new (replacement) construction could adversely affect native plant communities shown in Figure 18, Natural Resources, Affected Environment Chapter, if grading, staging, construction and/or landscaping were to occur in an area containing native plant communities or assemblages or where restoration is proposed. When compared to the GMPA 2000 alternative, this represents an overall increase in demolition and construction (250,000 sf and 1.2 million sf, respectively). This alternative proposes the greatest amount of new (replacement) construction of all alternatives.

Under the Cultural Destination alternative, the PHSH parking area and Nike Missle Site (above the Nike swale) would be designated for landscape vegetation and institutional/residential uses, respectively. This area is proposed for native plant habitat restoration under the GMPA 2000 alternative. The surrounding area contains jurisdictional wetlands and populations of the federally-endangered San Francisco lessingia, and the

area as a whole is included within the planned restoration effort for enhancing the natural values of the larger ecological corridor. The precise effect of these land uses would depend on the type and extent of projects proposed within each of these areas. For a discussion of possible impacts and applicable mitigation measures, refer to Draft Plan alternative analysis, above.

Under the Cultural Destination alternative, approximately 1 acre of land in Tennessee Hollow proposed for native plant restoration under the GMPA 2000 alternative would be designated for residential uses. Residential use of this land would interfere with a planned buffer and habitat link with adjacent areas. As required by the mitigation measures presented in this EIS, timely restoration of appropriate native buffer vegetation adjacent to this area would help reduce the indirect effects of this land use. In addition, future site-specific planning and environmental review would further consider the precise use of this area and potential mitigation.

Under the Cultural Destination alternative, the feasibility and scope of Crissy Marsh expansion into Area B would be evaluated through future site planning and environmental analysis. Should this expansion not occur, this alternative could result in an adverse impact to the health of the tidal salt marsh communities.

Under the Cultural Destination alternative, there would be a higher number of projected Presidio residents, visitors and employees. Overall this alternative would result in a more intensive use of the Presidio by the public, which could indirectly affect the health of native plant communities, specifically the viability of sensitive habitats within in the PHSH, East Housing and Crissy Field Planning Districts. This could result in the increased potential for fragmentation, loss of natural processes or disturbance to native plant communities, and have reduced ecological benefits compared to those defined under the GMPA 2000 alternative. Existing buildings would continue to be leased, so activities associated with rehabilitation, business operations, residential uses, recreational facilities, and visitor access would continue to increase, which could affect native plant communities and/or assemblages, and associated special-status species located within and outside of the native plant communities zone. Measures to ensure that native plant communities would be protected from all disturbances, including setbacks and/or barriers to protect native plant communities, would be required.

In conclusion, the Cultural Destination alternative would have a increased beneficial effect on expansion of existing open space and a decreased beneficial effect on native plant communities (by providing roughly 13 acres more and 1 acre less, respectively, than the GMPA 2000 alternative) as well as a reduction in the benefits associated with planned restoration. Demolition and new (replacement) construction activities and overall land use levels would be greater than both the GMPA 2000 and Draft Plan alternatives. Implementation of the mitigation measures identified in this EIS would minimize these impacts, and future site-specific planning and environmental review would also be completed.

Minimum Management Alternative

Under this alternative, existing open space areas would be increased only slightly (from 696 to 702 acres), a substantial reduction from the 795 acres proposed under the GMPA 2000 alternative. No native plant community restoration would occur under this alternative (existing communities represent approximately 70 acres). In comparison to the restoration proposed under the GMPA 2000 alternative (209 acres), this would be a substantial reduction. Only those actions necessary to meet legislative requirements would be carried out. Management programs would be restricted to those that are already being conducted. Many of the provisions identified in the GMPA or the PTIP would not be implemented. Ecological restoration efforts that are currently underway would continue but would not expand into new areas as identified in the VMP. Major projects that

would be undertaken to expand or improve open space would be limited to Mountain Lake Enhancement Plan actions and landscape improvements at the LDA. Native plant communities would continue to occupy 70 acres of Area B. No restoration would occur in 139 acres of native plant communities. Wherry housing would not be removed for restoration of native plant habitat. The Minimum Management alternative would preclude opportunities to implement recovery actions for 3 federally threatened or endangered plant species (Presidio clarkia, Marin dwarf flax, and Raven's manzanita). It would also preclude active habitat restoration efforts to recover a fourth federally threatened and endangered species, the San Francisco lessingia. This would have an adverse impact on the viability of special-status species and associated remnant plant communities.

No demolition or new construction would occur under the Minimal Management alternative, so there would be little potential for the loss of existing native plant communities as a result of these activities. However, existing buildings would continue to be leased, so activities associated with rehabilitation, business operations, residential uses, recreational facilities, and visitor access would continue to increase, which could affect native plant communities and/or assemblages, and associated special-status species located within and outside of the native plant communities zone. Measures to ensure that native plant communities would be protected from all disturbances, including setbacks and/or barriers to protect native plant communities, would be required.

In conclusion, the Minimum Management alternative would have a substantial reduction in the beneficial effect on both existing open space and native plant communities (by providing roughly 93 acres less and 139 acres less, respectively, than the GMPA 2000 alternative). In particular, the failure to implement the native plant communities restoration objectives (as defined in the VMP) in existing "disturbed" habitat would have a significant reduction in the restoration benefits of the GMPA 2000 alternative, and in some cases create adverse biological effects. The projected land use levels would also be greater under the Minimum Management alternative, and could result in increased impacts to the viability of the native plant communities in and adjacent to all existing habitat restoration areas. Overall, the Minimum Management alternative would have the greatest direct effect on native plant communities.

DIRECT AND INDIRECT EFFECTS ON WILDLIFE

All Alternatives

The demolition, construction and/or operations associated with all alternatives could create a direct and indirect loss or degradation of native wildlife habitat (native plant communities and high-value wildlife habitat in landscaped areas and non-native forests) based on human activities including noise, pets, visual intrusion of humans, lighting. The more developed areas become, the less valuable they tend to be as wildlife habitat. New development could increase human presence and increase the potential for soil, wildlife and vegetation disturbance. The potential for human-wildlife interactions and human-induced impacts (such as the introduction of unnatural food sources) would also increase. The potential for an increase in depositing unwanted pets into parklands and also feeding pets outdoors could also occur, resulting in increased predation on wildlife from feral cats. The effects of human food on the behavior, distribution, and abundance of wildlife species would continue in existing developments, and could begin in new developments unless facilities, education enforcement, and appropriate garbage management areas are provided.

The removal of development from an area would increase the value of the habitat.

GMPA 2000 Alternative

The GMPA 2000 alternative would result in new development and the operation of new land uses (including intensive recreational and special event activities). Depending on where these activities are located, they could result in significant losses or degradation of existing native wildlife habitat or high value wildlife habitat in non-native forests or landscaped areas. Wildlife could be disturbed by people walking, running or exercising pets, by vehicles, by noise, and by increased lighting. However, under this alternative, native wildlife species and their habitats would be identified, protected, monitored and, where possible, restored. Forest areas would be managed to provide for wildlife habitat values, especially where important native habitat occurs adjacent, within and underneath the historic forest canopy. Sensitive habitat areas would be protected during forest rehabilitation.

Activities associated with demolition or construction in areas adjacent to valuable wildlife habitat could degrade adjacent habitat through the visual and noise intrusion associated with human activity, the inadvertent trampling by vehicles or workers seeking convenient access or staging/storage space, and pollution, including potential spills or upsets. The rehabilitation and/or conversion of historic structures and demolition of non-historic structures could result in the modification and/or loss of potential habitat for the federally-protected *Yuman myotis* and other species of bats. Mitigation identified in this EIS would require site-specific surveys at the time a particular activity is proposed. Information obtained during the survey would be used to design and implement protective measures (see mitigation section for additional detail). High intensity land uses (including recreational activities) adjacent to open space could result in indirect impacts to native animals and wildlife habitat through visual and noise impacts from human activities as well as trampling damage from human and pet access and predation by domestic and feral cats and dogs. Buffers and/or barriers between sensitive wildlife habitat and human activity would be provided as required by the mitigation measures presented in this EIS. New development and high intensity recreation and land use activities would be avoided within forest areas that support high, sensitive, unique and/or documented wildlife values. Best management practices for activities within and adjacent to sensitive wildlife habitats and corridors would be developed and applied. Long-term monitoring would occur to ensure protection of wildlife species. Feeding of animals outside would be prohibited, and garbage management would be initiated to reduce the influences of human food on wildlife. In addition, measures to protect wildlife from the effects of artificial light would be required.

In conclusion, the demolition, construction and new land uses proposed under the GMPA 2000 alternative could result in potential habitat degradation and wildlife disturbance. Through the mitigation measures required in this EIS and future site-specific planning and environmental review, the effect of these activities and subsequent impacts would be minimized. Overall, the habitat restoration efforts and expansion of open space areas proposed under the GMPA 2000 alternative would offset potential impacts, and provide a long-term beneficial effect on wildlife resources.

Draft Plan Alternative

The Draft Plan alternative would have similar wildlife impacts as described above for the GMPA 2000, including potentially significant loss or degradation of existing native wildlife habitat or high value wildlife habitat in non-native forests or landscaped areas. These impacts would be a direct result of proposed demolition, new (replacement) construction and increased visitor uses. Although the Draft Plan alternative proposes less demolition, there would be an overall increase in new construction and use levels; therefore, there would be a higher potential for wildlife impacts. As described for the GMPA 2000 alternative, these proposed activities would

be subject to a series of protective measures (mitigation) and the corresponding impact on wildlife would be minimized and/or eliminated.

One of the primary distinctions between the GMPA 2000 and Draft Plan alternative's effect on wildlife results from the proposed use of the parking are behind the PHSH and Nike Missle site for landscape vegetation and institutional/residential uses, respectively, rather than native plant restoration as proposed under the GMPA 2000 alternative. The area surrounding these features provides nesting habitat for California quail and other wildlife. The region as a whole is included within a current restoration planning effort to establish a functioning dune and wildlife corridor. The precise effect of the landscape vegetation and institutional/residential uses would depend on the type and extent of land uses proposed within each of these areas. Impacts on wildlife could occur either indirectly based on habitat changes and/or directly based on increased use levels. Please refer to the analysis of native plant communities above for a discussion of potential habitat changes and corresponding mitigation measures. With regard to use levels, the Trust would implement mitigation measures, such as use of buffer areas/set-back restrictions, monitoring and best management practices, to reduce wildlife impacts.

Under the Draft Plan alternative, approximately 1 acre of land in Tennessee Hollow proposed for native plant restoration under the GMPA 2000 alternative would be designated for residential use. Residential use of this land would interfere with a planned buffer and habitat link with adjacent areas. As required by the mitigation measures presented in this EIS, timely restoration of appropriate native buffer vegetation adjacent to this area would help reduce the indirect effects of this land use.

Expansion of Crissy Marsh is subject to additional study. If the marsh is not be expanded, foraging potential, species richness and abundance, and nesting habitat could all be adversely affected, as would the movement of aquatic invertebrates and fish. Water quality, temperature, the concentrations of suspended sediments and nutrients would all be influenced and could affect reproduction of aquatic organisms.

Implementation of measures identified in this EIS would avoid other direct impacts on wildlife habitat, and would partially avoid indirect affects of adjacent uses. Future site-specific planning would provide for buffer zones and/or barriers between human activity and wildlife habitat in the Presidio forest, and would provide protection from disturbing and/or impacting forestry practices and other noise and light sources, and protection of natural habitat for wildlife species.

In conclusion, the Draft Plan alternative would have a reduction in the habitat restoration benefits that would be realized under the GMPA 2000 alternative, and subsequently on wildlife habitat and movement. The direct impacts associated with proposed demolition, construction and use levels would be minimized through implementation of mitigation measures identified in this EIS, and future site-specific planning and environmental review would also be completed. Overall, the Draft Plan alternative would have greater potential for wildlife impacts than the GMPA 2000 alternative, based on an increase in proposed construction and use levels, as well as reduction in the amount of proposed restoration activities.

Resource Consolidation Alternative

Under the Resource Consolidation alternative, the potential for direct and indirect impacts on native and other high value wildlife habitats would be similar to that of the GMPA 2000 alternative. Although there would be substantially more construction and demolition under this alternative, the mitigation measures presented in this EIS would minimize the impact of these activities. In addition, existing space would continue to be leased, so activities associated with rehabilitation, business operations, residential uses, and recreational facilities would continue to increase. Overall, the increase in the amount of open space resulting from this alternative would

reduce some of the edge effect pressures, reduce much of the habitat fragmentation in the south western sections of the Presidio, provide a contiguous wildlife corridor, and reduce some of the urban pressures such as noise, light and increased visitor and operational activities.

Sustainable Community Alternative

Direct and indirect impacts on native and other high value wildlife habitats resulting from this alternative would be similar to but slightly less than the Draft Plan alternative. Demolition activities would be slightly lower than the GMPA 2000 alternative, but substantially higher for new (replacement) construction. The projected use levels would also be greater under the Sustainable Community alternative, and could result in increased impacts on wildlife, specifically in and adjacent to the East Housing and Crissy Field Planning Districts. Impacts could include the increased potential for habitat fragmentation, increased use levels, changed spatial configuration of restored wildlife habitat necessary for movement, and potential natural resource conflicts in specific areas. The site-specific impacts on wildlife, and protective mitigation measures under this alternative would also be similar to those described in the Draft Plan alternative. Implementation of these measures would minimize these impacts.

Cultural Destination Alternative

Under the Cultural Destination alternative, the potential for impacts would be similar to that of the Draft Plan alternative but more intense as this alternative proposes the greatest amount of new (replacement) construction, and second greatest amount of demolition, and projected use levels. In addition, existing space would continue to be leased, so activities associated with rehabilitation, business operations, residential uses, and recreational facilities would continue to increase. The site-specific impacts on wildlife, and protective mitigation measures under this alternative would also be similar to those described in the Draft Plan alternative. As with all of the alternatives, wildlife could be disturbed by demolition, construction, recreation, special events and other activities occurring adjacent to wildlife habitat. Although these activities would be more intense under this alternative, implementation of measures identified in this EIS would reduce impacts on wildlife and protect the natural habitat of wildlife species.

Minimum Management Alternative

No new construction or demolition would occur under this alternative. However, existing space would continue to be leased, so activities associated with rehabilitation, business operations, residential uses, and recreational facilities would continue to increase. Therefore, wildlife could be disturbed by human activity. As stated in the Direct Impacts on Native Plant Communities Section, only those actions necessary to meet legislative requirements would be carried out. Management programs would be restricted to those that are already being conducted. This would result in reduced integrity of wildlife corridors and reduced habitat available for wildlife species. The health of the Presidio forest would also continue to decline, with limited efforts placed on rehabilitation. This would affect many of the bird species that use the forest structure for roosting, nesting, and foraging. The potential decline in forest health and limited diversification of the forest would decrease habitat values. These impacts, taken together, would be a significant impact. Measures identified in this EIS would ensure that wildlife resources are identified protected and monitored.

NESTING HABITAT

All Alternatives

Tree and vegetation removal, trimming and pruning, and ground-clearing activities for construction, demolition and special events could result in the nest destruction, mortality, or disturbance of nesting, native migratory bird

species or result in nest abandonment.[1] Increased development and reduced habitat and forest restoration activities could also limit available nesting habitat for bird species on the Presidio.

GMPA 2000 Alternative

Depending on location and time of year, demolition and construction activities associated with this alternative could destroy nests or disturb nesting activities of birds protected under the Migratory Bird Treaty Act. In addition, ongoing use of the Presidio by visitors, tenants, and special events would continue. Without proper mitigation and controls, these activities could impact nesting wildlife.

As a federal agency, the Trust would be required to comply with the Migratory Bird Treaty Act. Measures identified in this EIS would require that any potentially disturbing activities be avoided during nesting season in sensitive areas, or if unavoidable, require pre-construction surveys during the nesting season, prohibit disturbance of active nests, and ensure that protected bird species that are nesting would not be destroyed or disturbed. Other measures, including restrictions on the use of artificial lighting and other intrusive activities, would further minimize the impact of this alternative.

[1] Disturbance or destruction of nests, eggs, or individuals of the European starling and the house sparrow and other non-native bird species are not considered a significant impact, because these birds are non-native species.

All Other Action Alternatives (with the exception of Minimum Management)

Based on the similarities in the nature and type of activities proposed under all action alternatives (with the exception of Minimum Management, as described below), the types of impacts that could affect nesting wildlife would be similar to the GMPA 2000 alternative. Construction and demolition activities, as well as increased use levels would be subject to the mitigation presented in this EIS. Other measures including restrictions on the use of artificial light would also be implemented. The amount of available nesting habitat available for nesting birds, however, would vary by alternative, with the Resource Consolidation alternative having the greatest increase (44 acres compared to the GMPA 2000 alternative) in open space, and the Sustainable Community alternative having the most substantial decrease in open space (22 acres less than GMPA 2000 alternative). Please refer to discussion under the Direct and Indirect Effects on Wildlife Section.

Minimum Management Alternative

Under this alternative, no demolition or new construction would occur, so nesting habitat would not be disturbed from these activities. However, visitor, tenant, activities would occur. As stated in the Direct and Indirect Effects on Wildlife Section, the Minimum Management alternative would provide the least amount of open space compared to the GMPA 2000 alternative. This would result in a decrease of approximately 92 acres of potential nesting habitat for birds. The health of the Presidio forest would also continue to decline, with limited efforts placed on rehabilitation. This would affect many of the bird species that use the forest structure for roosting, nesting, and foraging. The potential decline in forest health, and limited diversification of the forest would decrease habitat values. Additionally, this alternative would have the greatest habitat fragmentation and edge effect pressures from disturbance and potential increased use

levels. Mitigation measures identified in this EIS would be required to monitor wildlife and restrict the use of artificial light to ensure that nesting habitat would not be disturbed. Overall, this alternative would have the least beneficial impact on nesting wildlife when compared to the GMPA 2000 alternative.

WILDLIFE MOVEMENT

All Alternatives

New construction, demolition and increased activities from Trust and tenant operations, special events and visitors could result in disruptions to wildlife movement by removing habitat from wildlife corridors or by concentrating intensive human activities in or adjacent to wildlife corridors.

GMPA 2000 Alternative

Wildlife corridors would benefit from the native plant habitat restoration and enhancement, forest restoration and wetlands and drainage corridor restoration that would occur under this alternative. At the same time, activities associated with the 1.1 million sf of demolition and 170,000 sf of new (replacement) construction, to the extent that they occur in or adjacent to wildlife corridors, could disrupt wildlife movement and migration. Intensive activities, including recreation and special events, in or adjacent to wildlife corridors, could also be disruptive. Future site-specific planning and environmental review would take into consideration and promote wildlife corridors, especially as the focus of habitat restoration activities, wherever feasible and beneficial for the resource, to reduce potential impacts.

Draft Plan Alternative

This alternative would result in 1 million sf of demolition and 710,000 sf of new (replacement) construction. As with the GMPA 2000 alternative, the potential exists for disruption to wildlife movement or migration from demolition, construction, or intensive human activities proposed by this alternative that are sited in or adjacent to movement corridors.

In particular, development at the Nike Missile Site and landscaping of the parking area north of the PHSH could further fragment habitats already adjacent to an urban interface. The proposed use of these areas (proposed for native plant restoration under the GMPA 2000) for institutional/ residential and landscape vegetation, respectively, could effect the movement and health of the limited population of the California quail, in this area as well as other nesting, roosting and foraging species. The existing wetland habitat could also be affected for wildlife use. Fragmentation and increased disturbance from invasive exotic species, buildings and infrastructure, and potential increased use levels would limit the viability of both wildlife habitats and wildlife movement within these and adjacent areas. Increased potential visitor, tenant, pet use, and associated human disturbances within these areas would also potentially affect wildlife movement within the corridor. Implementation of the mitigation measures identified in this EIS, including those restricting the use of invasive exotic species and installation of protective barriers, would help reduce the impact. However, future proposals for these sites would be subject to site-specific planning and environmental review. Depending on the specific proposals for these sites, consultation with USFWS and the Army Corps of Engineers may also be required to ensure compliance with FESA and Section 404 of the Clean Water Act. Overall, the potential for disrupting wildlife under this alternative could be greater than the GMPA 2000 alternative.

Resource Consolidation Alternative

This alternative proposes approximately 1.9 million sf of demolition and 1.2 million sf of new (replacement) construction. Potential effects on wildlife movement resulting from this activity and/or land uses/special events would be similar to those described for the GMPA 2000 and Draft Plan alternatives. However, to the extent that the Resource Consolidation alternative would provide more open space than would the other alternatives, it would have the greatest potential of enhancing wildlife corridors. Future site-specific planning and environmental review would direct the focus of restoration to corridors supporting wildlife movement wherever feasible. Overall, this alternative would have the most beneficial effect on wildlife movement.

Sustainable Community Alternative

The Sustainable Community alternative provides for approximately 620,000 sf of new (replacement) construction, a substantial increase from the GMPA 2000 alternative. In addition, this alternative would provide less demolition than the GMPA 2000 alternative, and an increase in visitor use. Combined, these could result in increased intensive activities, including recreation and special events, in or adjacent to wildlife corridors, which could be disruptive to wildlife. Therefore, the potential for disrupting wildlife under this alternative could be greater than the GMPA 2000 alternative. Future site-specific planning and environmental review would also take into consideration and promote wildlife corridors, especially as the focus of habitat restoration activities, wherever feasible and beneficial for the resource, to reduce potential impacts. Future site-specific planning and environmental review would identify and promote wildlife corridors as the focus of habitat restoration activities wherever feasible to reduce impacts. In addition, implementation of the mitigation measures identified in this EIS would be required in future site-specific planning to further reduce the impact of demolition, construction, and land/visitor use on wildlife.

Cultural Destination Alternative

In general, the impacts associated with demolition and construction would be similar to the Draft Plan alternative; however, they would be more intense under this alternative due to the increase in proposed square footage (for both demolition and construction). Implementation of the mitigation measures identified in this EIS would be required in future site-specific planning to reduce these effects. The site-specific impacts on wildlife corridors, and protective mitigation measures under this alternative would also be similar to those described in the Draft Plan alternative. However, this alternative would provide approximately 12 acres more open space than the GMPA 2000 alternative, and could have a greater potential of enhancing wildlife corridors. Future site-specific planning and environmental review would direct the focus of restoration to corridors supporting wildlife movement wherever feasible.

Minimum Management Alternative

Under this alternative, there would not be any demolition, new construction, or increased habitat restoration, so existing wildlife corridors would not be altered or enhanced. However, corridors providing wildlife movement would continue to be fragmented, which would limit wildlife movement within the Presidio. This would be a significant adverse impact on wildlife movement.

DIRECT AND INDIRECT EFFECTS ON SPECIAL-STATUS PLANTS

All Alternatives

Direct loss of special-status plants, or actions affecting reproductive success, population size, natural distribution, and/or natural processes

necessary to perpetuate a special-status (rare, threatened or endangered) species, including loss or degradation of habitat function and size, or reductions in numbers of individuals or loss of habitat to levels below those required to sustain any native plant population could result from demolition, new (replacement) construction and/or land use and special event activities located in areas that provide habitat for special-status plant species. All actions that could affect federally threatened or endangered species would be coordinated in consultation with the USFWS.

Please refer to the discussion in the Direct and Indirect Effects on Native Plant Communities Sections for additional applicable mitigation measures and protective actions.

GMPA 2000 Alternative

Under this alternative, all 13 rare or endangered plant species currently on the Presidio would be identified, protected, enhanced and monitored. The VMP would guide all protection, restoration, and enhancement of vegetation resources, including the implementing objectives for restoring habitat necessary to recover and expand special-status species populations. Restoration activities would focus on actions identified by USFWS to recover the five federally listed plant species found on the Presidio, and expand their associated habitats. Removal of Wherry housing and restoration of the area as native dune habitat, restoration of the serpentine grassland and scrub communities at Inspiration Point, and the coastal serpentine bluffs would have a beneficial impact by substantially increasing habitat necessary for the recovery of special-status species within those areas.

Future site-specific planning and environmental review would ensure that indirect impacts on any special-status species from adjacent demolition, new (replacement) construction or land uses would also be removed by providing buffers between sensitive resources and intensive activities or through other effective measures. Where buffers are not feasible, fencing or other barriers would be erected. Best management practices for activities within and adjacent to special-status species habitat would be developed and applied. The importation and use of incompatible soil material for ecological restoration efforts, and the inadvertent importation of invasive exotic seeds and plant materials in erosion control and soil materials used in construction and demolition projects would be prohibited. In addition, a program to ensure that their protection is accomplished over the long-term, monitoring and restoration of the Presidio's special-status species, including the critical control of invasive non-native plant species, would be in place. Taken together, these measures would protect special-status species from indirect impacts. In addition, populations of both the San Francisco gumplant and the San Francisco owl's clover are found in the developed sections of the Fort Scott Planning District. Best management practices would be implemented within and adjacent to these areas to protect these species.

In conclusion, the GMPA 2000 alternative would provide an overall increase in the quality and quantity of habitat for special-status species. Direct and indirect impacts to special-status species associated with demolition, construction and increased land use activities would be minimized and/or eliminated through implementation of the mitigation measures identified in this section. Overall, this alternative would have the most beneficial effect on native plant communities and subsequently special-status species restoration, and would provide a substantial increase in the amount of existing open space. Impacts associated with proposed demolition, new (replacement) construction, and other disturbances would be minimized through implementation of the required mitigation.

Draft Plan Alternative

The general effects associated with demolition, construction and land/visitor use (and corresponding mitigation requirements) described above for the

GMPA 2000 alternative would similarly apply for this alternative. Similarly, the beneficial effects from increased habitat restoration in the Inspiration Point, coastal serpentine bluff communities and removal of housing structures at Wherry housing would apply under this alternative. Under the Draft Plan alternative, the PHSH parking area and Nike Missle Site (above the Nike swale) would be used for landscape vegetation and institutional/residential uses, respectively. This area is proposed for native plant habitat restoration under the GMPA 2000 alternative. The precise effect of the landscape and institutional/residential uses would depend on the type and extent of development proposed within each of these areas, with the Nike Missle Site being less sensitive, as described below. The surrounding area contains jurisdictional wetlands and populations of the federally-endangered San Francisco lessingia. Possible effects on these resources could include increased threat of non-native invasive plant species, and the introduction of structures that would obstruct wind fetch from Baker Beach (necessary for viable San Francisco lessingia habitat), as well as potential reduction in annual plant species richness and available habitat for San Francisco lessingia. As a secondary effect of the potential change in hydrology of the wetland, it is possible that the existing adjacent early successional native vegetation could be converted to more shrubby vegetation assemblages. Future activities would be subject to the mitigation measures presented in this EIS, as well as site-specific planning and environmental review. The mitigation measures identified in this EIS require use of buffer areas to protect sensitive species and restrictions on the use of non-native invasive plant species. In addition, the Trust would require that any use proposed on the existing parking area be designed to avoid obstruction to wind fetch from Baker Beach. Any proposed landscape construction and operations in this area would also be conditioned to minimize changes in the local hydrology, such that the surrounding native vegetation would not be adversely impacted. As required by the mitigation in this EIS, the Trust would ensure compliance with the objectives and criteria of the Recovery Plan.

Concentrated visitor activities could also increase the potential for off trail use, increasing trampling and erosion. Potential development within this area could also affect habitat for three other special-status species (the San Francisco spineflower, the San Francisco wallflower, and dune gilia). However, the mitigation measures identified for San Francisco lessingia and other federally-listed species would ensure protection of these species.

In conclusion, the Draft Plan and GMPA 2000 alternatives would have similar overall special-status plant species impacts, with the Draft Plan alternative having a greater potential to adversely impact San Francisco lessingia in the PHSH area. However, through the implementation of the mitigation required in this EIS, the adverse impacts to lessingia and other special-status plant species would be minimized, and the Trust would work cooperatively with the USFWS to ensure that relevant Recovery Plans are effectively implemented.

All Remaining Alternatives (Except Minimum Management)

Impacts of the remaining alternatives (except Minimum Management) on special-status plants, and protection measures that would be incorporated into future site-specific planning would similar to the GMPA 2000 alternative.

Minimum Management Alternative

No new construction would occur under this alternative, so there would not be any adverse impact on existing special-status plant populations from new construction. However, the retention of the Wherry housing would preclude recovery of a federally-endangered plant species, the San Francisco lessingia, which would be a significant, adverse impact.

Under this alternative, recovery objectives and actions for 3 other federally-listed plant species (the Presidio clarkia, Marin dwarf flax, and Raven's

manzanita) would not be fully achieved on the Presidio, and could result in the inability to recover those species.

Best management practices, restrictions on the import and use of incompatible soils in restoration efforts, and control of invasive exotic plant species would be required to protect these species. In addition, populations of both the San Francisco gumplant and the San Francisco owl's clover are found in the developed sections of the Fort Scott Planning District. Best management practices during operations and for increased use levels within and adjacent to these areas would be necessary to protect these species.

Overall, the Minimum Management alternative would have the least beneficial effect on the protection, habitat enhancement and recovery of special-status species on the Presidio. The retention of Wherry housing and potential reduction of habitat restoration efforts in 139 acres of available habitat would have an adverse impact on special-status plant species.

DIRECT EFFECTS ON SPECIAL-STATUS ANIMALS

All Alternatives

Demolition and new (replacement) construction could result in the take of special-status (rare, threatened or endangered) wildlife species, or adversely affect the reproductive success, population size, natural distribution, and/or natural processes necessary to perpetuate a special-status wildlife species; reduce numbers of individuals or loss of habitat to levels below those required to sustain any native population; interfere with movement of any sensitive wildlife species; or result in loss or degradation of habitat function and size resulting in fragmentation and habitat loss. Additionally, the increase in use levels (including recreation activities, special events, pet use, etc.) could result in disturbance to special-status wildlife species.

Please refer to the discussion in the Direct and Indirect Effects on Wildlife Sections for additional applicable mitigation measures and protective actions.

GMPA 2000 Alternative

Although the restoration of native habitats, and the rehabilitation and diversification of the historic forest proposed under this alternative would benefit special-status animals, other activities could potentially have adverse impacts. New (replacement) construction and high intensity recreation and land use activities within or adjacent to habitats that support special-status wildlife could adversely impact these resources. The rehabilitation and/or conversion of historic structures and demolition of non-historic structures could result in the modification and/or loss of potential habitat for the special-status species (candidate) *Yuman myotis* bat. *Yuma myotis* is somewhat tolerant of human disturbance and is one of the few species of bats persisting in relatively urbanized areas. In addition, proposed construction and demolition activities could affect overwintering habitat for the monarch butterfly. The overwintering phenomenon is considered sensitive by the CDFG. Mitigation identified in this EIS would require site-specific surveys at the time a particular activity is proposed. Information obtained during the survey would be used to design and implement protective measures (see mitigation section for additional detail).

Best management practices for activities within and adjacent to special-status wildlife habitats and corridors would be developed and applied. Long-term monitoring would occur to ensure protection of sensitive wildlife species. Measures identified in this EIS would require that any potentially disturbing activities be avoided in areas supporting nesting or residing special-status wildlife species. For unavoidable activities, all actions that could affect federally, or state-listed threatened or endangered species would be coordinated in consultation with the USFWS, and CDFG respectively.

In conclusion, the GMPA 2000 alternative would provide an overall increase in the quality and quantity of habitat for special-status species. Direct and indirect impacts to special-status species associated with demolition, construction and increased use levels would be minimized and/or eliminated through implementation of the mitigation measures identified in this section. Overall, the restoration activities proposed under this alternative would have a beneficial effect special-status species. Impacts associated with proposed demolition, new (replacement) construction, and other disturbances would be minimized through implementation of the required mitigation.

All Remaining Alternatives (Except Minimum Management)

Based on the similarities in the nature and type of activities proposed under all action alternatives (with the exception of Minimum Management as described below), the types of impacts that could affect special-status wildlife would be similar to the GMPA 2000 alternative described above. The mitigation requirements described above, including pre-construction surveys and consultation with relevant resource agencies, would be implemented for all alternatives.

Minimum Management Alternative

Under this alternative, there would be no new development, so habitat for special-status animal species would not be affected from construction and demolition activities. However, habitat restoration efforts for plant and associated wildlife values would not increase beyond current restoration efforts, and in comparison to the GMPA 2000 alternative this would represent a reduction in potential habitat for special-status wildlife species.

MITIGATION MEASURES

The following measures would apply to all alternatives.

Adapted from the GMPA EIS Measures

NR-1 *Native Plant Communiities.*

To reduce the possibility of colonization by non-native plant species, areas of native vegetation disturbed by construction, infrastructure repair, and increased land use activities would be immediately revegetated with native species. A site-specific revegetation plan would be prepared for each construction project. Revegetation needs would be identified early to allow time to establish seedlings from onsite plants and thus avoid contamination of the gene pool. Wherever possible, planting materials (seeds and cuttings) from the local Presidio gene pool would be used. The Trust would support a native plant propagation center and nursery to ensure that local stock was available for use in revegetation. The Trust would consult with the Soil Conservation Service, the California Native Plant Society, National Park Service, Golden Gate National Parks Association and other technical experts on native plant propagation techniques. All revegetation efforts would be protected by buffers and/or barriers during establishment, and maintained and monitored for at least three years.

NR-2 *Wildlife.*

A wildlife survey of Area B would be prepared as part of the Vegetation Management Plan. A monitoring program would be established to identify potential cumulative and activity/site-specific impacts on birds and other species. From monitoring information, mitigating measures and best management practices would be developed to reduce any impacts.

NR-3 *Threatened, Endangered, Rare and Sensitive Species.*

To ensure long-term protection and mitigate any visitor-related impacts, a Presidio-wide inventory and monitoring program for rare and endangered plant and animal species would continue, and all populations would be protected and restored. Future wildlife and aquatic species surveys would be completed and if they uncover additional animal species of concern, management objectives would be developed and programs implemented for the particular species.

New Mitigation Measures

NR-4 *Special – Status Species.*

Rare or endangered plant species, including any federal-and state-listed threatened and endangered species that are found to occur in the Presidio, would be monitored annually and protected. Identified actions would be taken to recover these species, and their habitats would be enhanced. Any future rare or endangered species found on the Presidio would also be afforded the same protection and restoration measures. All special-status wildlife would be inventoried and monitored, and habitat would be protected and restored. Restoration activities would focus on actions identified in USFWS Recovery Plans necessary to recover the five federally-listed plant species found on the Presidio, and restore their associated habitat in compliance with the FESA. During future site site-specific planning and environmental review, the Trust would review future projects to ensure that proposed uses and activities are consistent with and help further the recovery objectives stated in the adopted Recovery Plans.

NR-5 *Wildlife and Native Plant Communities.*

To protect wildlife and native plant communities, the Trust would implement the following measures:

- Schedule heavy equipment use, to the greatest extent feasible, to avoid areas where soils are wet and prone to compaction;
- Enforce leash restrictions;
- Implement non-native wildlife control measures;
- Provide signage and/or other educational devices to encourage voluntary compliance with protection measures;
- Prevent unnecessary vehicular and human intrusion and use into native and sensitive habitat communities from adjacent construction, demolition and intensive special events and recreation activities;
- Prohibit the use of erosion control measures and mulches that contain non-native plant seeds;
- Prohibit the use of irrigation, fertilizers, and herbicides in areas adjacent to, or up-gradient from sensitive biologic resources; and
- Prepare interpretive materials and signage in areas of increased tenant use adjacent to natural habitat areas and sensitive native plant communities.

In addition, during project planning, site construction of new development and planned intensive human activities would be located at least 100 feet from the edge of existing native plant communities and/or assemblages. If this is not feasible, the following measures should be used:

- Install protective fencing or other barriers around affected native plant communities and natural habitat;
- Plant dense native vegetation buffers to discourage access by humans, pets, and equipment into the native plant communities and other sensitive natural habitats for wildlife;
- Regularly inspect the affected areas for any impacts or damage to biological resources;
- Revegetate native plant areas affected by construction immediately with native plant species appropriate to the area and grown from local seed stock, to reduce the potential of colonization by non-

native species. If a natural resource specialist determines that interim erosion control and site stabilization measures would be beneficial, this measure would be implemented prior to revegetation;

- Prepare and implement site-specific restoration action and/or revegetation plans. Native plant material would be grown and collected in and from Presidio resources;
- Monitor potential impacts of these protected areas from increased visitor and tenant use and install and/or modify protective fencing if impacts to resources occur; and
- Coordinate all future trail planning and recreational activities in areas adjacent to habitat restoration sites and sensitive wildlife habitat with an interdisciplinary team including a qualified biologist or natural resource specialist.

NR-6 *Best Management Practices.*

Establish and implement both Presidio-wide and site-specific best management practices for construction/demolition activities, development of new and/or expanded tenant and visitor activities and special events adjacent to natural habitats.

NR-7 *Artificial Light.*

Minimize the intrusion of artificial light into the night scene of ecosystems, and limit the level of human-caused sound during construction-related activities, public and tenant events, changed land use activities, overall plan development, and site planning. Restrict the use of artificial lighting to those areas where security, basic human safety, and specific cultural resource requirements must be met. Use minimal-impact lighting techniques, and shield the use of artificial lighting where necessary to prevent the disruption of the night sky, physiological processes of living organisms, and similar natural processes. Develop standard measures for lighting that ensure minimum disturbance to areas of natural darkness, and wildlife habitat, and reduce excess fugitive light in natural areas. Ensure no gain in light levels in natural habitats, to the greatest extent feasible. Develop and implement best management practices minimizing interior and exterior fugitive light and sound.

NR-8 *Natural Sounds.*

Identify areas important to natural soundscapes, both for recreation and wildlife, and monitor when construction, special events or other activities occur that could be detrimental to this value. Identify mitigation measures on a project-specific basis, which could include seasonal restrictions based on nesting activity.

NR-9 *Wildlife and Wildlife Habitat.*

To reduce the effects on wildlife and wildlife habitat:

- A qualified wildlife biologist would conduct a site visit during project planning and assess the potential for any sensitive wildlife species, including bats, or their habitat to occur on or adjacent to the project site. If sensitive animal species are found, the project would be redesigned or project timeline modified in accordance with the biologist's recommendations to avoid impacts. If avoidance is not feasible, species-specific and site-specific mitigation plans shall be developed, and regulatory agency consultation pursued (if needed) to mitigate direct take and replace habitat for the impacted species; and
- Any vegetation removal would follow the park guidelines for protection of nesting birds. This includes guidelines on timing of vegetation and removal.

NR-10 *Crissy Field Marsh.*

If the Crissy Field Marsh feasibility study identifies priority areas within the Trust jurisdiction critical to ensuring the health of the marsh, the Trust would ensure that the Crissy Field Planning District efforts are completed and implemented in a timely manner, such that decisions regarding the scope of potential marsh restoration could be implemented. Restoration planning and implementation efforts would occur in coordination with the NPS and GGNPA and other stakeholder agencies.

NR-11 *Public Health Service Hospital.*

To ensure additional protection of the existing wetland and lessingia habitat near the PHSH, the following measures would be implemented:

- Future uses on the parking lot site would be designed to effectively avoid obstruction of the wind fetch from Baker Beach; and
- Proposed landscape construction and operations at the parking lot and Nike Missle site would be designed or otherwise conditioned to minimize changes in the local hydrology such that surrounding native vegetation is not adversely impacted.

NR-12 *Cumulative Activities.*

Cumulative disturbance to natural habitat areas would not exceed 20 acres within any given year. No more than 5 acres of that disturbance should be concentrated within one wildlife corridor, sensitive habitat or plant community without approval from a professional ecologist. This would not apply to disturbances created by natural storm or environmental events, which, if such events occur, would be restored or treated consistent with natural resources objectives. If this threshold value must be exceeded, then a professional ecologist would approve a strategy for implementing the proposed projects, and would identify any additional resource protection mitigation prior to the implementation of specific projects. Any projects that contribute to exceeding the value would have approved biological monitoring guidelines in place.

4.3.2 WATER RESOURCES

METHODOLOGY

The hydrologic impact assessment addresses the alternatives' potential effects on surface and groundwater hydrology and hydrologic resources. These resources include overland, undirected flow and deliberately channeled surface flow, watersheds, drainages, lakes, creeks, springs, seeps, and groundwater aquifers and infiltration areas.

To assess the potential for direct impacts on wetlands, streams and associated resources, the extent of new (replacement) construction in each planning district was reviewed for each alternative in relationship to base maps of wetlands and streams as described in the Affected Environment Chapter. It was assumed that new construction could be sited within developable areas shown in Figures 3, 5, 7, 9, 11, and 13 of the Alternatives Chapter. All new (replacement) construction would be limited to developed areas. If resources could be potentially affected, mitigation measures were identified to reduce impacts.

Indirect impacts, including downstream erosion and sedimentation, discharges of other pollutants, and increased urban runoff on wetlands, and streams are also analyzed. This analysis considers the location of potential demolition and new (replacement) construction and increased use levels in relation to downstream hydrologic resources. To address indirect impacts on wetlands, streams and associated resources, the maps were again reviewed to identify those resources that could be affected. If the above measures were not adequate to address the impacts of adjacent demolition or construction activities or increased human activity (e.g., trampling,

clearing of vegetation) from adjacent land uses, including recreational activities, additional mitigation measures were identified.

POTENTIAL IMPACTS

DIRECT AND INDIRECT IMPACTS

All Alternatives

Impacts on wetlands, streams, associated freshwater marsh, seep, and riparian vegetation, and other hydrologic resources could result from adjacent demolition or construction activities, or increased human activity (e.g., trampling by dogs and humans, clearing of vegetation) from adjacent land uses, including recreational activities. Under all alternatives, however, there would be no net increase in new development (i.e., proposed demolition would always be greater than proposed new construction). Additional impacts could also result from activities that redirect or increase/decrease surface and groundwater flow, alter aquifer recharge, or increase and concentrate impervious surface area, thereby increasing runoff volume and velocity, resulting in increased erosion.

GMPA 2000 Alternative

The GMPA 2000 alternative would increase the area of open space from about 696 acres to about 795 acres, and would expand the acreage of native plant habitat from about 70 acres to 209 acres, including wetland vegetation. Restoration of hydrological processes would occur within the three tributaries of Tennessee Hollow creek system and Dragonfly creek, and would improve the natural process of the creek and riparian corridors. The restored Tennessee Hollow riparian corridor would connect to an expanded tidal marsh at Crissy Field. Wetlands at Mountain Lake would also be enhanced and protected. As a result of these efforts, this alternative would improve the quality of wetland and stream resources within the Presidio.

The GMPA 2000 alternative provides for approximately 1.12 million sf of demolition and 170,000 sf of new (replacement) development. Depending on its location, new development or increased recreational and land use pressures could affect the following wetlands and stream drainages, which are located within or directly adjacent to landscaped areas or development areas (presented by planning district/general use areas).

Main Post:

- NWI wetland near Battery Blaney north of Doyle Drive;
- NWI wetland between Doyle Drive and Lincoln Boulevard, near Building 150;
- NWI wetland near Building 654 north of Doyle Drive by intersection of Mason Street and Crissy Field Avenue; and
- jurisdictional wetland within drainage, and drainage southeast of southeast corner of Cemetery west of Infantry Terrace.

Residential neighborhoods:

- Jurisdictional wetland near Pop Hicks Field west of Quarry housing; and
- NWI wetland south of Presidio Boulevard near Footbridge west of Presidio Terrace.

South Hills:

- Drainage and jurisdictional wetland east of Mountain Lake in Golf Course; and
- jurisdictional wetland east of West Washington neighborhood immediately west of Compton Road and north of Washington Boulevard.

As further details about site-specific activities affecting wetlands and stream corridors are developed, the Trust would undertake applicable compliance steps, including obtaining any necessary permits, under the Clean Water Act Section 401, 402, and 404 programs. These permits would require avoidance, to the greatest extent feasible, and compensation for most impacts on wetlands and streams. The Clean Water Act regulatory process requires compliance with federal "no net loss of wetlands" policies, and includes a public and agency review process and a Section 404 (b)(1) alternatives analysis that would in practice be likely to require avoidance of impacts on aquatic habitats or compensation for losses in extent and values.

The integrity of groundwater infiltration areas and aquifer systems, and surface and groundwater levels, and the rate and direction of surface and groundwater flow could also be directly affected by new development. Therefore, mitigation would be required to provide for the preservation and avoidance of all unique geologic and subsurface water features to the greatest extent feasible, and/or compensation for impacts on infiltration areas, aquifer systems, and geologic stratigraphy on the Presidio.

New (replacement) construction could concentrate impervious surface area, increasing runoff volume and velocity, resulting in increased erosion. Future site-specific planning would ensure that all newly constructed impervious surfaces address and prevent, to the greatest extent feasible, increased water runoff volume and velocity, as well as reduced water infiltration.

Staging and storage areas could also disturb adjacent wetlands, streams and associated habitats. If fuels, chemicals or other liquids stored adjacent to wetlands or streams were to spill, they could contaminate water and soils. High intensity land uses (including recreational activities) adjacent to wetlands or stream drainages could result in indirect impacts, such as trampling from informal access by people and their pets. Visitor access would be guided under the Presidio Trails and Bikeways Plan to protect sensitive resources. Visitor numbers and uses would be monitored and measures taken to reduce visitor impacts on wetlands and drainages. Future site-specific planning would ensure that measures would be developed to prevent visitors from trampling vegetation and creating social trails in wetland habitat. In addition, protective buffer zones would be established between wetland and riparian habitats and project-related disturbances to prevent construction and construction-related activity encroachment into the habitat areas and reduce potential disturbances. Barriers and restrictions if necessary would also be implemented to discourage inappropriate activities that could degrade wetlands and streams.

In conclusion, the demolition, construction and new land uses proposed under the GMPA 2000 alternative could result in potential wetland degradation and disturbance. Through the mitigation measures required in this EIS, the effect of these activities and subsequent impacts would be minimized. Overall, the restoration of hydrologic processes and expansion of open space areas proposed under the GMPA 2000 alternative would offset potential impacts providing a long-term beneficial effect on wetland resources.

Draft Plan Alternative

Under the Draft Plan alternative, existing open space would be increased from 696 to 793 acres, which represents a slight reduction (2 acres less) from the amount of open space that would be realized under the GMPA 2000 alternative. Although the Draft Plan proposes less demolition than the GMPA 2000 alternative, there would be an overall increase in new (replacement) construction and use levels. Therefore, there would be a higher potential for wetland impacts. As described for the GMPA 2000 alternative, all new construction would be limited to developed areas, and would be subject to the mitigation required in this EIS. Overall, the impacts of the Draft Plan alternative would be similar to the GMPA 2000, with the following exceptions.

ENVIRONMENTAL CONSEQUENCES

Natural Resources

Under the Draft Plan alternative, the PHSH parking area and Nike Missle Site (above the Nike swale) would be used for landscape vegetation and institutional/residential uses, respectively. This area is proposed for native plant habitat restoration under the GMPA 2000 alternative. The surrounding area contains jurisdictional wetlands. The precise effect of the landscape vegetation and institutional/residential uses would depend on the type and extent of projects proposed within each of these areas. Possible effects could include a change in the existing hydrology of this wetland resulting from increased runoff, erosion and changes in subsurface flows. Future activities would be subject to the mitigation measures presented in this EIS, as well as site-specific planning and environmental review. The mitigation measures identified in this EIS require use of buffer areas, best management practices and requirements that proposed landscape construction and operations at the parking area be designed or otherwise conditioned to minimize changes in the local hydrology to ensure existing wetlands are not adversely affected (see Biology Mitigation Section). Development within the Nike Missile Site could also affect the hydrology of this wetland system by potentially altering the infiltration to, and integrity of groundwater infiltration areas and aquifer systems. Based on its upland and more distant location, the Nike Missile Site would likely have less direct impact on the existing wetland. Use of best management practices and other standard drainage and vegetation protection measures would be required, and would help ensure the wetland system is not adversely impacted.

The feasibility and scope of Crissy Field Marsh expansion into Area B would be evaluated through future site planning and environmental analysis. Should this expansion not occur, this alternative could result in an adverse impact to the hydrologic function of the tidal marsh system.

Depending on its location, demolition, new (replacement) construction and increased use levels/activities in landscaped and existing developed areas could affect the same wetland and drainage features described under the GMPA 2000 alternative. Future site-specific area planning would strive for "no net loss" of wetland features, and include applicable compliance steps. As described in the mitigation section, if avoidance of wetland features and hydrologic resources is infeasible, compensation would occur.

The integrity of groundwater infiltration areas and aquifer systems, and surface and groundwater levels, and the rate and direction of surface and groundwater flow could be altered by new (replacement) construction. Future planning and environmental review processes would consider this on a site-specific basis and mitigation would be required to provide for the preservation and avoidance of unique geologic and subsurface water features to the greatest extent feasible, and/or compensation for impacts on infiltration areas, aquifer systems, and geologic stratigraphy on the Presidio.

Beneficial impacts would result from the enhancement of Mountain Lake and restoration of Dragonfly Creek and the three tributaries in Tennessee Hollow creek, and the demolition of housing, removal of impervious surfaces and the reduction of below ground infrastructure in segments of the South Hills Planning District.

In conclusion, the Draft Plan alternative would have a slight reduction in the wetland restoration benefits that would be realized under the GMPA 2000 alternative. The direct impacts associated with proposed demolition, construction and land use activities would be minimized through implementation of mitigation measures identified in this EIS. Future site-specific planning and environmental review would also be completed. Overall, the Draft Plan alternative would have greater potential for wetland impacts than the GMPA 2000 alternative based on an increase in proposed construction and use levels, as well as reduction in the amount of proposed restoration activities.

Resource Consolidation Alternative

Under the Resource Consolidation alternative, the potential for direct and indirect impacts on wetlands would be similar to that of the GMPA 2000 alternative. Although there would be substantially more construction and demolition under this alternative, the mitigation measures presented in this EIS would minimize the impact of these activities, and there would not be a net increase in new construction. In addition, existing building space would continue to be leased, so activities associated with rehabilitation, business operations, residential uses, and recreational facilities would continue to increase. Water resources would also benefit from the demolition of housing, and removal of impervious surfaces and infrastructure in the South Hills Planning District and within the PHSH Planning District. The removal of Quarry Road would also potentially increase the viability of the creek restoration efforts with the Tennessee Hollow corridor. Other beneficial impacts would result from the enhancement of Mountain lake and restoration of Dragonfly Creek and the three tributaries in Tennessee Hollow creek, the expansion of the Crissy Field Marsh, and the demolition of housing, removal of impervious surfaces and the reduction of below ground infrastructure in segments of the South Hills Planning District. Overall, the Resource Consolidation alternative would have the greatest beneficial effect on wetlands. The increase in the amount of open space resulting from this alternative would help offset some of the edge effect pressures as well as reduce some of the urban pressures, such as increased visitor and operational activities.

Sustainable Community Alternative

Direct and indirect impacts on wetlands resulting from this alternative would be similar to but slightly less than those of the Draft Plan alternative. Demolition activities would be slightly lower than the GMPA 2000 alternative, but substantially higher for new (replacement) construction. Impacts could include the increased potential for habitat fragmentation, increased use levels, and potential natural resource conflicts in specific areas. The site-specific impacts on wetlands, and protective mitigation measures under this alternative would also be similar to those described in the Draft Plan alternative. Implementation of these measures would minimize these impacts. Future site-specific planning and environmental review would also be completed.

Cultural Destination Alternative

Under the Cultural Destination alternative, the potential for impacts would be similar to that of the Draft Plan alternative but more intense as this alternative proposes the greatest amount of new (replacement) construction, and second greatest amount of demolition, and overall use levels. In addition, existing space would continue to be leased, so activities associated with rehabilitation, business operations, residential uses, and recreational facilities would continue to increase. The site-specific impacts on wetlands, and protective mitigation measures under this alternative would also be similar to those described in the Draft Plan alternative. As with all of the alternatives, wetlands could be disturbed by demolition, construction, recreation, special events and other activities occurring adjacent to wetland habitat. Although these activities would be more intense under this alternative, implementation of measures identified in this EIS would reduce impacts on wetlands.

Minimum Management Alternative

Under this alternative, restoration efforts would be restricted to those that are already being conducted. Many of the provisions identified in the GMPA or PTIP would not be implemented. The only major wetland restoration project that would be undertaken would be the Mountain Lake Enhancement Plan. Native plant communities would continue to occupy 70 acres, and ecological restoration efforts would focus on only protecting and maintaining the integrity of existing habitat.

There would not be any demolition or new construction, so the loss of wetlands or stream corridors to new development would not occur. However, known losses to wetland resources would occur in 139 acres of the VMP native plant community zone, where restoration efforts would not be completed. Losses to rehabilitation efforts necessary to restore the natural hydrologic processes and function within hydrologic resources, including Dragonfly creek, the three tributaries of the Tennessee Hollow creek, the dune slack north of the PHSH and other wetland systems, would not occur. Activity levels and associated indirect impacts could increase, because existing space would continue to be leased. These combined would result in an adverse impact.

WATER QUALITY IMPACTS

All Alternatives

Erosion and sedimentation, discharges of other pollutants, and urban runoff could degrade the quality of water in wetlands and streams, and waters of the bay and ocean. These actions could degrade wetlands, streams, and associated resources adjacent to or downstream from demolition, construction and operational areas (including coastal riparian and wetland habitats in Area A).

GMPA 2000 Alternative

The GMPA 2000 alternative has the potential to create indirect downstream impacts from erosion, sedimentation, and discharges of other pollutants resulting from demolition, new (replacement) construction, and various Presidio operations. Erosion and associated downstream sediment discharges could occur because of vegetation and soil disturbance from construction or demolition, or from increases in storm water runoff resulting from increased areas of impermeable surfaces. Pollution could also result from contaminants such as oil or grease entering the storm drain system and discharging into streams and wetlands.

Federal and state National Pollutant Discharge Elimination System (NPDES) permit requirements would address non point-source storm water pollution issues and other potential water quality impacts discussed above. The Trust would implement municipal pollution prevention activities, such as street sweeping and new development controls designed to prevent and reduce storm water and other water resource contamination. Regular monitoring and maintenance of oil/water separators would be performed to treat all storm water before discharge into Crissy Lagoon and San Francisco Bay.

In addition, pavement would be removed and replaced with permeable surfaces as much as possible and other measures would be implemented to increase groundwater quality. The Presidio Stormwater Management Plan requires use of Best Management Practices and other measures to ensure that water flowing to creeks, the bay, marshes and the ocean meets water quality standards. Existing water resources would be further protected through the implementation of water conservation programs and waste disposal programs.

Finally, removal of undesignated trails (many on eroding soils or currently causing erosion of cultural and natural resources), and implementation of guidelines for maintaining trails such that they reduce erosion as called for in the Presidio Trails and Bikeways Plan would reduce indirect impacts to water resources.

All Remaining Alternatives (Except Minimum Management)

The remaining alternatives (except Minimum Management) would have greater potential than the GMPA 2000 alternative to create indirect downstream impacts from erosion, sedimentation, and discharges of

pollutants due to the higher levels of demolition, new (replacement) construction, and operations. Continued implementation of the Presidio Stormwater Master Plan and the Presidio Trails and Bikeways Plan, together with implementation of mitigation measures identified in this EIS would reduce indirect water quality impacts of these alternatives.

Minimum Management Alternative

There would be no new construction or demolition under this alternative, so there would be no indirect downstream impacts from erosion, sedimentation, and discharges of other pollutants resulting from demolition, new construction, and operations of proposed projects. However, pollution could result from contaminants such as oil or grease entering the storm drain system and discharging into streams and wetlands as a result of current management practices. Best Management Practices would be required to ensure that water flowing into creeks, the bay, marshes, and the ocean meet water quality standards.

MITIGATION MEASURES

The following measures would apply to all alternatives.

Adapted from the GMPA EIS Measures

NR-13 *Wetlands/Compliance.*

As further details about site-specific activities affecting wetlands and stream corridors are developed, the Trust would undertake applicable compliance steps, including obtaining any necessary permits, under the Clean Water Act Section 401, 402, and 404 programs.

NR-14 *Visitor Management.*

To reduce potential visitor impacts on the wetlands, adjacent storm drainages, and other areas meeting wetland criteria, visitor numbers and uses would be monitored on a recurring basis, and measures would be taken to reduce impacts as necessary. Informational leaflets, wayside signs, and regulatory measures would be employed as warranted.

New Mitigation

NR-15 *Best Management Practices.*

The Trust would develop and employ Best Management Practices including but not limited to:

- Maintaining appropriate erosion and siltation controls during construction, and permanently stabilizing all exposed soil or fill;
- Initiating water conservation programs and waste disposal programs for Trust operations as well as for residents and tenants, including education and monitoring.
- Ensuring that all newly constructed impervious surfaces prevent, to the greatest extent feasible, increased water runoff volume and velocity, reduced water quality and reduced water infiltration.
- Ensuring protection of normal movement, migration, reproduction, or health of aquatic fauna, including low flow conditions;

- Properly maintaining structures or fill so as to avoid adverse impacts to aquatic environments and public safety;

- Placing excavated fill on non-sensitive upland sites, and stabilizing all material with compatible erosion control techniques; and

- Monitoring storm drain run-off into Crissy Field Marsh and implementing measures to reduce any high levels of organics, sedimentation and contaminants.

NR-16 *Future Design.*

During the future site-specific planning and environmental review processes, projects would be designed to preserve and avoid unique geologic, subsurface and surface water features, such as semi and confined aquifer systems, during construction, and demolition activities to the greatest extent feasible. Future projects would also be designed or otherwise conditioned to achieve the following: prevent interference with groundwater recharge such that there is no net deficit in aquifer volume or a lowering of, or obstruction to the groundwater table; and prevent alterations in drainage patterns, currents or course of direction of water movements.

NR-17 *Demolition and Construction Activities.*

During future site-specific planning and environmental review, proposed demolition, new (replacement) construction and intensive human activities would be sited at least 100 feet (or greater distance if deemed necessary to avoid indirect effects) from the edge of existing wetlands, seeps, riparian vegetation or from the top of bank of unvegetated stream channels where feasible. If this is not feasible, the following measures shall be used:

- install fencing or other barriers adjacent to affected wetlands, streams and associated habitats to prevent inadvertent human, pet or equipment access in wetland systems. Other barriers could include the planting of dense native vegetations;

- regularly inspect the affected areas to enforce compliance; and/or

- provide signage and/or other educational devices to encourage voluntary compliance.

NR-18 *Compensation.*

If it is not feasible to avoid losses to wetland or associated groundwater resources, the Trust would compensate for lost extent and value by implementing a compensatory mitigation program with quantifiable performance criteria and monitoring to document success. Corrective actions would be implemented if restoration success is not demonstrated through an adaptive management approach until all performance criteria are attained.

NR-19 *Future Design.*

During the planning process, projects would be designed to prevent alterations to drainage patterns or water movement, in a manner that would result in erosion or siltation on or off site; prevent substantial runoff water which could exceed the capacity of either existing or planned storm water drainage systems, or the infiltration rates of surrounding soils; and prevent additional sources of polluted runoff.

4.3.3 VISUAL RESOURCES

METHODOLOGY

For this EIS analysis, the description of each alternative was reviewed to determine the extent to which changes in Trust Implementation Plan (PTIP) could affect visual resources in the Presidio. GMPA EIS measures were evaluated to determine if they were adequate to mitigate impacts that could occur under the alternatives. Although no measures were identified specifically to address impacts to visual resources, measures designed to reduce impacts on the NHLD, including guidelines for new construction and treatment of the Presidio's cultural landscape, and for the protection of native plan communities, including historic forest restoration and non-historic forest removal, would serve to protect and enhance visual resources (see pages 28 through 30 of the GMPA EIS).

The GMPA EIS includes measures to mitigate impacts identified for the GMPA. These measures would also be applicable to all (current) alternatives.

Some of the historic, non-historic, and naturalized forests in the Presidio have blocked some of the historic vistas from the Presidio. Therefore, some modifications to these forests could actually improve the scenic opportunities within the Presidio. One of the actions of the VMP would be to restore and maintain scenic vistas. Therefore, the extent to which each of the alternatives would implement this portion of the VMP is analyzed.

Elements of each alternative were also evaluated to determine the extent to which they would lessen impacts on visual resources. Where appropriate, measures adapted from the GMPA EIS and/or the additional mitigation measures were formulated to reduce or avoid identified impacts.

POTENTIAL IMPACTS

CHANGE IN VISUAL CHARACTER

GMPA 2000 Alternative

Under the GMPA 2000 alternative, cultural and natural resources throughout the Presidio would be protected and enhanced, historic buildings that contribute to the Presidio's status as a National Historic Landmark would be rehabilitated for new uses, some non-historic buildings would be demolished to enhance open space, native plant communities and riparian corridors would be restored, wetlands expanded (i.e., Crissy Field Marsh) and the historic forest would be rehabilitated and preserved as part of the cultural landscape. A number of structures would be removed to increase open space and enhance the natural environment, including Wherry housing, MacArthur housing, the PX and Commissary, and wings of the PHSH. The Main Post parade ground would be restored, Mountain Lake would be enhanced, and vegetation resources would be protected and enhanced as identified in the VMP.

The removal of approximately 1.12 million sf of existing structures would have a positive effect on the visual quality of the Presidio by opening historic view corridors and, because buildings that would be removed are not considered historic (e.g., Wherry housing), their demolition would not be considered a negative effect. That is, they would not be buildings that contribute substantially to the visual character of the Presidio's built environment, which is largely tied to its historic character. Areas where buildings would be removed (and not replaced with new structures) would generally be used to reestablish native plant communities, which would have a positive effect on visual resources, because vegetation would generally be considered more visually pleasing than a developed environment.

Further, the GMPA 2000 alternative would implement the VMP, which includes forest management and removal components that would open historic view corridors from important viewpoints throughout the Presidio, including Inspiration Point, Washington Boulevard near Rob Hill, Lincoln Boulevard overlooking Crissy Field, coastal defense batteries, and the Golden Gate Bridge viewing area. Also as part of the VMP, non-native vegetation would be removed or modified to retain historic visual connections, such as between Infantry Terrace and the Main Post.

New construction would be limited, but, where allowed, it would be compatible with the historic setting through elements of massing, scale, materials, style, and color, in accordance with the Secretary of Interior's Standards for the Treatment of Historic Properties. This would ensure that the historic character of the Presidio is not changed.

Under this alternative, important characteristics of the historic forest, such as framed views, windbreaks, and visual screens, would be restored or maintained. Historic vistas, such as those from Inspiration Point and Rob Hill, would be restored, protected, and maintained, and would offer improved visual access to the Golden Gate and the San Francisco Bay. New building heights would not exceed that of existing adjacent buildings or key landscape features, such as bluffs and forests. This would ensure that key views are not blocked, such as those near Crissy Field. Furthermore, efforts would continue to enhance views (such as views to nearby landmarks such as the Golden Gate Bridge, Marin Headlands, Angel Island, Alcatraz, the Palace of Fine Arts, and the city skyline), to restore historic visual connections, and to provide screening from elements that disrupt historic associations. These efforts would result in a positive effect by improving existing and restoring historic views.

Mitigation measures adapted from the GMPA EIS would ensure that development would be compatible with the character of existing historic structures in the Presidio and that the visual character of the Presidio would not be substantially altered.

This alternative has the potential to increase light or glare in the Presidio, which would affect the character of the Presidio and day and nighttime views. To prevent the loss of dark conditions and of natural night skies, the Presidio would seek the cooperation of residents and tenants to prevent or minimize the intrusion of artificial light. The Trust restricts the use of artificial lighting to those areas where security, basic human safety, and specific cultural resource requirements must be met. Where artificial lighting is required, minimal impact lighting techniques and shielding of artificial lighting would be used where necessary to prevent the disruption of the night sky, natural cave processes, physiological processes of living organisms, and similar natural processes.

An Area B lighting plan would be developed and implemented and would include standards and guidelines for lighting to further mitigate effects of artificial light in the Presidio.

Draft Plan Alternative

This alternative would allow more development than would be allowed under the GMPA 2000 alternative. New development beyond that considered in the GMPA 2000 alternative could include: infill construction in the Letterman Planning District; development of a model sustainable community in Tennessee Hollow consistent with riparian restoration requirements to replace housing proposed for demolition under the GMPA 2000 alternative; and infill development within the Fort Scott Planning District. Replacement construction for buildings that are demolished would be designed and limited to ensure that the association, feeling, and setting of the remaining elements of the historic cultural landscape would not be severed or impaired. Historic visual connections would be restored under this alternative and screening from elements that disrupt historic

associations would be provided. Wherry housing would be removed in the long term to provide open space and native plant habitat.

Like the GMPA 2000 alternative, there is potential for restoring historic views and creating positive visual changes with the removal of existing structures. However, new construction would not block key views, and would be compatible with existing historic development. Scenic views would be restored, maintained, and enhanced. Furthermore, cultural resource mitigation measures adapted from the GMPA EIS would ensure that development would be compatible with the character of existing historic structures in the Presidio and that the visual character of the Presidio would not be substantially altered.

Like the GMPA 2000 alternative, development under this alternative could introduce new light into the Presidio that could affect the character of the Presidio or day or nighttime views. Implementation of a Presidio-wide plan, as well as the mitigation requiring shielded fixtures and restrictions on use of mercury lights would minimize potential adverse effects.

Resource Consolidation Alternative

Under this alternative, the Presidio would substantially increase open space in the south and focus the built environment in the northern portion of the Presidio, including new infill construction for mixed use and housing. Buildings would be rehabilitated for new uses, and the primary goal would be the reuse of existing structures along with compatible new construction to generate sufficient funds to make open space improvements and park enhancements. This alternative would include more building space than the GMPA 2000 alternative, but the overall square footage would be reduced compared to the existing conditions.

Similar to the GMPA 2000 alternative, building removal would include the Wherry housing, the PX and the Commissary to allow an expanded Crissy Field Marsh in Area B (subject to additional studies and environmental review) after removal of the PX and Commissary. This alternative would also include demolition in addition to that in the GMPA 2000 alternative, including removal of the entire PHSH, East and West Washington apartments, and selected demolition along Crissy Field to allow for native plant habitat and open space restoration. In the areas where significant demolition takes place, this alternative would convert some of the roads to trials and pathways.

This alternative would have a beneficial effect by increasing the open space in the south, as well as with the expansion of the Crissy Field Marsh (subject to additional environmental review) after removal of the PX and Commissary. This alternative, like the GMPA 2000 alternative, also includes restoration of the Main Post parade ground, which would result in a positive change to the visual character of the main post.

A potentially negative effect of this alternative is that it includes provisions for more square footage than the GMPA 2000 alternative. Depending on the placement of additional structures, there is potential that views could be blocked. However, new building heights would not exceed that of existing adjacent buildings or key landscape features, so new construction would not block key views. This alternative also provides for the restoration, maintenance, and enhancement of views. Furthermore, mitigation measures adapted from the GMPA EIS would ensure that development would be compatible with the character of existing historic structures in the Presidio, and that the visual character of the Presidio would not be substantially altered.

Like the GMPA 2000 alternative, development under this alternative could introduce new light into the Presidio that could affect the character of the Presidio or day or nighttime views. At the same time, because it would increase open space, which would not have extensive lighting, some portions of the Presidio would be darker than under current conditions.

Mitigation requiring that new lighting fixtures be shielded, and prohibiting mercury lights would ensure that adjacent properties, including residential and natural areas, are not adversely affected by project-related lighting.

Sustainable Community Alternative

This alternative would allow more building square footage than the GMPA 2000 alternative. Wherry housing would be removed under this alternative to enhance native plant habitat. New construction under this alternative would be sited and designed to protect the character and integrity of the NHLD, and would be limited to the replacement of existing structures of similar size in existing areas of development, as provided by the Trust Act. Unlike the GMPA 2000 alternative, housing in the South Hills Planning District would be removed to provide an additional 14 acres of landscaped area and 1 acre of native vegetation. This alternative would also consider, through future site planning studies and environmental analysis, the feasibility and scope of expanding the Crissy Field Marsh into Area B.

Like the GMPA 2000 alternative, there is potential for restoring historic views and creating positive visual changes with the removal of existing structures. However, new building heights would not block key views, and would be compatible with existing historic development. Further, scenic views would be restored, maintained, and enhanced. Also, under this alternative, mitigation measures adapted from the GMPA EIS would ensure that development would be compatible with the character of existing historic structures in the Presidio, and that the visual character of the Presidio would not be substantially altered.

Like the GMPA 2000 alternative, development under this alternative could introduce new light into the Presidio that could affect the character of the Presidio or day or nighttime views. Mitigation that requires shielded fixtures and prohibits mercury lights would ensure that adjacent properties, including residential and natural areas, are not adversely affected.

Cultural Destination Alternative

Under this alternative, open space, historic forest areas, and recreational opportunities would be expanded. The historic character and integrity of the NHLD would be protected while allowing changes that would maintain the park's vitality.

This alternative would allow more new (replacement) construction than the GMPA 2000 alternative. Like the GMPA 2000 alternative, Wherry housing would be removed under this alternative to enhance native plant habitat. Also under this alternative, new construction would be sited and designed to protect the character and integrity of the NHLD, and would be limited to the replacement of existing structures of similar size in existing areas of development, as provided by the Trust Act. This alternative differs from the GMPA 2000 alternative in that housing in the South Hills Planning District would be removed to provide an additional 14 acres of landscaped area and 1 acre of native vegetation. This alternative would also include demolition beyond that in the GMPA 2000 alternative in Fort Scott and the Main Post Planning Districts. Also under consideration for this alternative would be the feasibility and scope of expanding the Crissy Field Marsh into Area B, through future site planning studies and environmental analysis.

This alternative would have positive effects similar to the GMPA 2000 alternative related to the removal of Wherry housing and the restoration of views from that area, as well as the restoration of the main parade ground. This alternative would also limit construction to the replacement of existing structures of similar size in already developed areas and ensure that new construction is sited and designed to protect the character and integrity of the NHLD. Landscaping or native plant restoration at these sites would provide additional open space in the South Hills Planning District, which would be a positive visual amenity.

A potentially negative visual effect of this alternative is that it includes provisions for more square footage than the GMPA 2000 alternative. Depending on the placement of new structures, there is potential that views could be blocked. However, new building heights would not exceed those of existing adjacent buildings or key landscape features, which would ensure that new construction would not block key views. Also, this alternative would provide for the restoration, maintenance, and enhancement of views. Furthermore, mitigation measures adapted from the GMPA EIS would ensure that development would be compatible with the character of existing historic structures in the Presidio and that the visual character of the Presidio would not be substantially altered.

Like the GMPA 2000 alternative, development under this alternative could introduce new light into the Presidio, which could affect the character of the Presidio or day or nighttime views. Because development intensity would be shifted to the northern portion of the Presidio, the increase in light would be more noticable in the north, and there would be a corresponding reduction in light intensity in the south. Mitigation requiring shielded fixtures and prohibiting mercury lights would ensure that adjacent properties, including residential and natural areas, are not adversely affected.

Minimum Management Alternative

Under the Minimum Management alternative there would be no significant physical changes beyond those underway; no significant park enhancements would occur, and no new building construction would occur. Therefore, there would be no potential for building design to be incompatible with the existing visual character of the Presidio.

While the Minimum Management alternative would not result in any changes to the Presidio that would change its character or result in the loss of historic views, neither would it result in the beneficial effects on views that would occur under the GMPA 2000 alternative. For example, because there would be no demolition of buildings, including Wherry housing, the potential for the opening of historic views would be lost under this alternative. Only ecological restoration efforts that are currently underway would continue; historic and non-historic forest would be preserved and maintained in its present configuration. Restoration would not expand into new areas as identified in the VMP and native plant communities would not be expanded beyond the 40 acres currently occupied. Some historic views have been blocked by forests that have naturalized outside of historic forest boundaries. Without the ability to replace these naturalized forests with lower-growing, native species, the opportunity to restore these historic views would be lost.

There would be no new sources of light or glare associated with this alternative because there would be no new construction. Effects of light and glare would not change from existing conditions under this alternative.

MITIGATION MEASURES

Adapted from the GMPA EIS Measures

The GMPA EIS does not include mitigation specific to visual resource impacts.

New Mitigation

Mitigation measures identified elsewhere in this document (specifically CR-5 through CR-6 and NR-1 and NR-7) would reduce visual resource impacts to a level of insignificance.

4.3.4 AIR QUALITY

METHODOLOGY

General Construction/Demolition Activities

Demolition and construction activities require use of heavy equipment, which would create fugitive dust particulate matter (PM_{10}), and emissions of other pollutants, such as nitrogen oxides (NO_x) carbon monoxide (CO), sulfur dioxide (SO_2), and reactive organic gases (ROG) from diesel fuel combustion. Construction emissions for individual projects would be intermittent and temporary and would occur on varying schedules and at varying levels of intensity; however, they could still cause adverse effects on local air quality.

The Bay Area Air Quality Management District (BAAQMD) has developed an analytical approach that obviates the need to quantitatively estimate these emissions (BAAQMD 1996). The BAAQMD recommends that a standard set of feasible PM_{10} control measures be implemented for all construction activities. Emissions of other contaminants (NO_x, CO, SO_2, and ROG) that would occur in the exhaust from heavy equipment are included in the regionwide inventory that is the basis for regional attainment and are not expected to impede attainment of maintenance of the ambient air quality standards. Demolition, renovation, or removal of asbestos containing building materials is subject to BAAQMD Regulation 11, Rule 2. Through environmental review, permit compliance, and contracting processes, the Presidio Trust ensures that activities within its jurisdiction comply with such air quality rules. The BAAQMD recommended measures for dust control are shown in Table 35.

Consistency with Regional Clean Air Plans

The BAAQMD recommends use of specific criteria and methodologies for evaluating air quality impacts from implementation of plans (BAAQMD 1996). Conformity with the federally-mandated SIP is discussed in Chapter 5, Consultation and Coordination. The alternatives are evaluated for consistency with regional air quality plans and policies, specifically the 2000 Clean Air Plan (CAP), adopted December 20, 2000 (BAAQMD 2000). The consistency determination depends upon population growth, implementation of transportation control strategies, and planning for land use conflicts caused by sources of toxic air contaminants or odors. Quantification of future air pollutant emissions is not necessary to complete this analysis.

The CAP relies upon regionwide population growth projections to assess the emission inventory associated with regionwide transportation and energy demand, and is updated every 3 years. The basis for the population projections of the 2000 CAP is *Projections '98*, published by the Association of Bay Area Governments (ABAG). For the Presidio, *Projections '98* includes the housing and employment projections of the 1994 GMPA. Because population-based emissions from transportation and energy demand would vary proportionally with the housing and employment opportunities at the Presidio, any alternative providing housing or employment growth greater than that specified by the 1994 GMPA may be inconsistent with the assumptions used in the current 2000 CAP.

The CAP also relies upon implementation of transportation control measures (TCMs) by local jurisdictions. Although the Presidio is federally-managed land, to satisfy the general objectives of the GMPA in an environmentally responsible manner, the Trust has developed and is implementing TCMs to reduce air emissions from Presidio-related activities. The extent that each alternative would implement TCMs is reviewed.

Table 35: Feasible Control Measures for Construction Emissions of PM_{10}

Fugitive Dust Control	The following controls should be implemented at all construction sites.
Basic Control Measures (all construction sites)	Cover all trucks hauling soil, sand, and other loose materials, *or* require all trucks to maintain at least two feet of freeboard.
	Water all active construction areas at least twice daily.
	Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas.
	Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.
	Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
Enhanced Control Measures (sites greater than 4 acres)	All "Basic" control measures listed above.
	Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).
	Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.)
	Limit traffic speeds on unpaved roads to 15 mph.
	Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
	Replant vegetation in disturbed areas as quickly as possible.
Optional Control Measures (sites near sensitive receptors)	Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
	Install wind breaks, or plant trees/vegetative wind breaks at windward side(s) of construction areas.
	Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.
	Limit the area subject to excavation, grading and other construction activity at any one time.

Source: BAAQMD 1996.

The CAP aims to minimize conflicts between land uses by prescribing adequate buffer zones to avoid impacts related to toxic air contaminants or odors. Uses that would be sensitive to odors or toxic air contaminants would include residences, lodging uses, and childcare facilities. The extent that each alternative would provide appropriate separation between sensitive uses and potential producers of odors or toxic air contaminants is reviewed.

Potential Localized CO Violations

Motor vehicle use causes emissions of carbon monoxide. These emissions can, under certain circumstances, build up near congested intersections where numerous vehicles idle and cause violations of the ambient air quality standards. In the San Francisco Bay Area Air Basin, CO levels have, in the past, caused violations. However, CO concentrations in the San Francisco Bay Area have not violated the standards since 1991, and the region is no longer classified as a nonattainment area for this pollutant. Provided that future localized CO concentrations do not exceed the standards, the regionwide effects of carbon monoxide emissions do not require analysis.

Analysis of future localized CO concentrations depends upon alternative-specific vehicle activity at intersections provided by the transportation analysis for this EIS. The Caltrans-approved dispersion model, CALINE4, is used with guidance from the BAAQMD (BAAQMD 1996) to estimate localized CO concentrations near heavily congested intersections. Intersections operating at level of service (LOS) D or better are not normally expected to cause substantial CO buildup, because at these less congested intersections, the pollutant is better able to dissipate. At intersections operating at LOS E or F, carbon monoxide buildup is more likely, yet still uncommon. Detailed analysis is presented for select locations where project traffic (if more than an additional 100 vehicles per hour) would cause LOS to decline to D, E, or F. Poor future level of service or a substantial deterioration in performance induced by the alternatives are the considerations for selecting intersections.

Due to heavy highway traffic, potential violations in the year 2010 have been identified for certain locations in close proximity to either U. S. Highway 101 or U. S. Highway 1. Violations were predicted in the GMPA EIS at roadside locations along U. S. Highway 101 near the U. S. Highway 1 interchange and at the Golden Gate Bridge Toll Plaza, in Area A. No violations were projected for intersections internal to the Presidio Area B or in the surrounding neighborhoods. Because some of the alternatives would substantially affect future performance of intersections within the Presidio and the adjacent neighborhoods, the future localized CO concentrations could change. Table 36 shows the results of the analysis for localized CO concentrations.

Regional Emissions

Motor vehicle trips and stationary sources associated with development under the alternatives could cause emissions of criteria pollutants ROG, NO_x, CO, and PM_{10}. Regional emissions caused by project-related traffic are estimated for each alternative using the BURDEN component of EMFAC2000, developed by the California Air Resources Board (CARB). The total vehicular emissions anticipated to occur in 2020 for the San Francisco subregion of the Bay Area are used as the basis for projecting the level of emissions that would be caused by each alternative, depending on the number of new vehicle trips related to the alternative. This takes into account the full range of vehicle trip types (e.g., home-work, home-commercial) and vehicle fleet composition (e.g., autos, buses, heavy trucks).

In the GMPA EIS, the total emissions of ROG, NO_x, and PM_{10} due to mobile sources were found to be significant. Emissions related to the new

Table 36: Predicted Localized CO Concentrations at Congested Intersections

	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
1-Hour Average (ppm)						
Letterman/Presidio/Lincoln	4.2	4.3	4.4	4.4	4.4	4.3
Lombard/Presidio	4.4	4.5	4.6	4.6	4.5	4.5
Presidio/Pacific	4.2	4.3	4.3	4.4	4.3	4.3
Lyon/Lombard	4.1	4.2	4.2	4.2	4.2	4.1
14th/Lake	4.0	4.0	4.0	4.0	4.0	4.0
Lincoln/25th/El Camino del Mar	4.3	4.3	4.3	4.4	4.3	4.4
Lincoln/Merchant	4.1	4.2	4.2	4.2	4.2	4.2
25th/California	4.2	4.2	4.2	4.3	4.3	4.3
8-Hour Average (ppm)						
Letterman/Presidio/Lincoln	2.7	2.7	2.7	2.7	2.7	2.7
Lombard/Presidio	2.7	2.8	2.8	2.8	2.8	2.8
Presidio/Pacific	2.7	2.7	2.7	2.7	2.7	2.7
Lyon/Lombard	2.6	2.7	2.7	2.7	2.7	2.6
14th/Lake	2.5	2.5	2.5	2.6	2.6	2.6
Lincoln/25th/El Camino del Mar	2.7	2.7	2.7	2.7	2.7	2.8
Lincoln/Merchant	2.7	2.7	2.7	2.7	2.7	2.7
25th/California	2.7	2.7	2.7	2.7	2.7	2.7

Source: EIP Associates, 2001.

Notes:

The California ambient air quality standards are 20 ppm (1-hr) and 9 ppm (8-hr). The national standards are 35 ppm (1-hr) and 9 ppm (8-hr).
Concentration are based on CALINE4 output which are adjusted with future anticipated background CO concentrations of 3.5 ppm (1-hr) and 2.3 ppm (8-hr).

vehicle trips generated by each of the alternatives are quantified in Table 37.

Each alternative would also result in emissions from the use of electricity and natural gas consumption. Future stationary and area sources that could be associated with the proposed uses in some alternatives would, in general, be minor and would not be likely to cause substantial emissions (examples of these sources would be heating facilities for housing, office, visitor services, and cultural/educational uses). These emissions would be a fraction of the emissions caused by project-related traffic. New stationary sources that might have more substantial emissions (e.g., independent power production facilities) would be subject to permitting requirements. Indirect emissions associated with electricity generation could also occur at plants that are outside of the San Francisco Bay Area Air Basin.

POTENTIAL IMPACTS

GENERAL CONSTRUCTION/DEMOLITION ACTIVITIES

GMPA 2000 Alternative

The GMPA 2000 alternative would result in approximately 1.12 million sf of demolished building space and 170,000 sf of replacement construction. Ongoing rehabilitation (with this alternative and all other alternatives) could also cause limited emissions, possibly requiring control. Mitigation measures calling for implementation of BAAQMD recommendations (Table 35) for construction and other ground disturbing activities and managing demolition activities would reduce this impact.

Draft Plan Alternative

Moderate levels of demolition (approximately 1.07 million sf) and a minimum level of new construction (approximately 710,000 sf) would occur under this alternative over the life of the plan. This would be similar to, but slightly more extensive, than activities that would occur under the GMPA 2000 alternative. Mitigation measures calling for implementation of BAAQMD recommendations would reduce this impact.

Resource Consolidation Alternative

A maximum level of demolition (approximately 1.91 million sf) and moderate levels of new construction (approximately 1.24 million sf) would occur under this alternative over the life of the plan. This would be more intense than similar activities under the GMPA 2000 alternative. Mitigation would reduce this impact through implementation of BAAQMD recommendations.

Sustainable Community Alternative

A minimum level of demolition (approximately 890,000 sf) and a minimum level of new construction (approximately 620,000 sf) would occur under this alternative over the life of the plan. This would be similar to the GMPA 2000 alternative. As with other alternatives, BAAQMD recommendations would reduce this impact.

Cultural Destination Alternative

Moderate levels of demolition (approximately 1.37 million sf) and moderate levels of new construction (approximately 1.37 million sf) would occur under this alternative over the life of the plan. This level of activity would

Table 37: Estimated Average Weekday Emissions from Vehicle Trips

Pollutant	GMPA 2000 (lb/day)	Draft Plan (lb/day)	Resource Consolidation (lb/day)	Sustainable Community (lb/day)	Cultural Destination (lb/day)	Minimum Management (lb/day)
Average Weekday Vehicle Trips	40,175	50,535	49,625	55,517	54,472	55,836
Reactive Organic Gases (ROG)	208	261	257	287	282	289
Nitrogen Oxides (NO_x)	403	507	498	557	546	560
Carbon Monoxide (CO)	1,263	1,588	1,560	1,745	1,712	1,755
Particulate Matter (PM_{10})	19	23	23	26	25	26
Compared to GMPA 2000						
Net New Average Weekday Vehicle Trips	0	10,360	9,450	15,342	14,297	15,661
Reactive Organic Gases (ROG)	0	54	49	79	74	81
Nitrogen Oxides (NO_x)	0	104	95	154	143	157
Carbon Monoxide (CO)	0	326	297	482	449	492
Particulate Matter (PM_{10})	0	5	4	7	7	7

Source: EIP Associates, 2001

Notes:

Emission estimates based on use of the CARB EMFAC2000 model for the San Francisco Subregion.

be more intense than under the GMPA 2000 alternative. BAAQMD recommendations would reduce this impact.

Minimum Management Alternative

No demolition or new construction would be associated with this alternative. Rehabilitation would cause only limited emissions. Therefore, no impact would occur.

CONSISTENCY WITH REGIONAL CLEAN AIR PLANS

GMPA 2000 Alternative

The 2000 CAP accounts for the adopted GMPA, which projected about 2,000 residents and 4,800 new jobs at the Presidio by 2010 (pages 160 and 167 of EIS in GMPA). (Note that the alternatives analysis in this EIS are for the year 2020). Should housing and employment growth occurring under the GMPA 2000 alternative outpace the GMPA, emissions from regionwide transportation and energy demand would exceed those already considered in the CAP. Some facilities would be demolished under this alternative that would not be replaced. As a result, buildout of the GMPA 2000 alternative would provide for about 1,660 residents and 6,730 employees. Because job growth could outpace the projections in the adopted GMPA, the emissions attributable to growth at the Presidio could be inconsistent with those assumed in the 2000 CAP. Consequently, attainment of the ambient air quality standards in the region may be delayed. However, future CAP revisions (anticipated to occur in 2003) would incorporate the growth anticipated under this alternative.

Along with the above growth analysis, the CAP relies on jurisdictions implementing certain transportation demand and land use management measures. The Presidio Trust Transportation Demand Management Program would implement the TCMs of the CAP. In addition the PTIP would coordinate land uses to provide buffer zones and avoid conflicts from toxic contaminants or odors. Therefore, these aspects of the alternative would be consistent with the CAP.

Draft Plan Alternative

Housing and employment growth under this alternative (about 3,720 residents and 7,190 employees) could induce emissions from transportation and energy demand that would be inconsistent with the assumptions of the CAP. Similar to the GMPA 2000 alternative, future CAP revisions (anticipated to occur in 2003) would incorporate the long-term growth anticipated to occur through 2020 under this alternative. Also similar to the GMPA 2000 alternative, this alternative would coordinate land uses to avoid conflicts due to odors and toxic air contaminants and would implement TCMs contained in the CAP.

Resource Consolidation Alternative

Housing and employment growth related to this alternative (about 2,230 residents and 8,480 employees) could induce emissions that would be inconsistent with the assumptions of the CAP. However, future CAP revisions (anticipated to occur in 2003) would incorporate the growth anticipated to occur through 2020 under this alternative. In addition, this alternative would coordinate land uses to avoid conflicts due to odors and toxic air contaminants and would implement TCMs contained in the CAP.

Sustainable Community Alternative

Housing and employment growth related to this alternative (about 3,330 residents and 7,520 employees) could induce emissions that would be inconsistent with the assumptions of the CAP. However, future CAP revisions (anticipated to occur in 2003) would incorporate the growth anticipated to occur through 2020 under this alternative. In addition, this

alternative would coordinate land uses to avoid conflicts due to odors and toxic air contaminants and would implement TCMs contained in the CAP.

Cultural Destination Alternative

Housing and employment growth under the Cultural Destination alternative (about 3,990 residents and 7,840 employees) could induce emissions that would be inconsistent with those assumed in the CAP. However, future CAP revisions (anticipated to occur in 2003) would incorporate the growth anticipated to occur through 2020 under this alternative. In addition, this alternative would coordinate land uses to avoid conflicts due to odors and toxic air contaminants and would implement TCMs contained in the CAP.

Minimum Management Alternative

Housing and employment growth under the Minimum Management alternative (about 3,600 residents and 7,820 employees) could induce emissions that would be inconsistent with the assumptions of the CAP. As with the GMPA 2000 alternative, future CAP revisions (anticipated to occur in 2003) would incorporate the growth anticipated to occur through 2020 under this alternative.

POTENTIAL LOCALIZED CO VIOLATIONS

GMPA 2000 Alternative

As shown in Table 36, future CO concentrations under this alternative would range up to 4.4 parts per million (ppm) for 1-hour averages and 2.7 ppm for 8-hour averages, which do not exceed the ambient air quality standards. Under this alternative, the Trust Transportation Demand Management (TDM) program would further reduce CO emissions.

Draft Plan Alternative

Similar to the GMPA 2000 alternative, future CO concentrations under this alternative would range up to 4.5 ppm for the 1-hour average, and 2.8 ppm for the 8-hour average. These levels would not exceed the ambient air quality standards. Under this alternative, the Trust TDM program would further reduce CO emissions.

Resource Consolidation Alternative

Future CO concentrations under this alternative would range up to 4.6 ppm for the 1-hour concentration, and 2.8 ppm for the 8-hour concentration and would not exceed the ambient air quality standards. Under this alternative, the Trust TDM program would further reduce CO emissions.

Sustainable Community Alternative

Future CO concentrations under this alternative would range up to 4.6 ppm for the 1-hour average, and 2.8 ppm for the 8-hour average. These concentrations would not exceed the ambient air quality standards. Under this alternative, the Trust TDM program would further reduce CO emissions.

Cultural Destination Alternative

Future CO concentrations under this alternative would range up to 4.5 ppm for the 1-hour average, and 2.8 ppm for the 8-hour average, and would not exceed the ambient air quality standards. Under this alternative, the Trust TDM program would further reduce CO emissions.

Minimum Management Alternative

Future CO concentrations under this alternative would range up to 4.5 ppm for the 1-hour concentration, and 2.8 ppm for the 8-hour concentration. These levels would not exceed the ambient air quality standards. Under this alternative, the Trust TDM program would further reduce CO emissions.

REGIONAL EMISSIONS

GMPA 2000 Alternative

The GMPA 2000 alternative would generate approximately 40,200 internal and external daily vehicle trips in 2020. At that time, these trips would cause about 208 lbs/day of ROG and 403 lbs/day of NO_x. TCMs would be implemented by the Trust through the TDM program to reduce the number and length of vehicle trips. The effects of the emissions would be adequately reduced by maintaining consistency with the regional CAP as described above.

Draft Plan Alternative

The Draft Plan alternative would generate up to 50,500 daily vehicle trips, about 10,400 trips more than the GMPA 2000 alternative. The increased emissions of NO_x from motor vehicle trips would be substantially above levels that would occur with the GMPA 2000 alternative (54 lbs/day more of ROG and 104 lbs/day more of NO_x) As with the GMPA 2000 alternative, TCMs in the TDM program would reduce trips, and the effects of the emissions would be adequately reduced by maintaining consistency with the regional CAP.

Resource Consolidation Alternative

The Resource Consolidation alternative would generate up to 49,600 daily vehicle trips, about 9,500 more trips than the GMPA 2000 alternative. The increased motor vehicle trips would substantially increase regional emissions of NO_x, by up to 95 lbs/day more than the GMPA 2000 alternative. As with the GMPA 2000 alternative, TCMs in the TDM program would be implemented to reduce air emissions from vehicle trips, and the effects of the emissions would be adequately reduced by maintaining consistency with the regional CAP.

Sustainable Community Alternative

The Sustainable Community alternative would generate up to 55,500 daily vehicle trips, about 15,300 trips more than the GMPA 2000 alternative. The increased motor vehicle trips would substantially increase regional emissions of NO_x (up to 79 lbs/day of ROG and 154 lbs/day of NO_x more than the GMPA 2000 alternative). As with the GMPA 2000 alternative, TCMs and TDM measures would reduce air emissions from vehicle trips, and the effects of the emissions would be adequately reduced by maintaining consistency with the regional CAP.

Cultural Destination Alternative

The Cultural Destination alternative would generate up to approximately 54,500 daily vehicle trips. Compared to the GMPA 2000 alternative, net new trips would be 14,300. The increased motor vehicle trips would cause a substantial increase in regional emissions of NO_x (up to 74 lbs/day of ROG and 143 lbs/day of NO_x more than the GMPA 2000 alternative). As with the GMPA 2000 alternative, implementation of TCMs and TDM measures would reduce air emissions from vehicle trips, and the effects of the emissions would be adequately reduced by maintaining consistency with the regional CAP.

Minimum Management Alternative

The Minimum Management alternative would generate approximately 55,800 vehicle trips per day. Compared to the GMPA 2000 alternative, approximately 15,700 net new trips would occur under this alternative. This would substantially increase ROG and NO_x emissions by 81 and 157 lbs/day respectively over the GMPA 2000 alternative. As with the GMPA 2000 alternative, TCMs would reduce air emissions from vehicle trips, and the effects of the emissions would be adequately reduced by maintaining consistency with the regional CAP.

MITIGATION MEASURES

Measures Adapted from the GMPA EIS

The following measures are updated from the mitigation specified in the GMPA EIS to be consistent with the 1996 recommendations of the BAAQMD for construction. These measures would apply to all alternatives except Minimum Management.

NR-20 *Basic Control Measures.*

To reduce construction-generated particulate matter (PM_{10}) emissions, construction contractors would implement as appropriate the BAAQMD's recommended control measures for emissions of dust during construction (see Table 35). Basic control measures are: (1) water all active construction areas at least twice daily; (2) cover all trucks hauling soil, sand, and other loose materials or require trucks to maintain at least 2 feet of freeboard; (3) pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas; (4) sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas; and (5) sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

NR-21 *Transportation Control Measures.*

The Presidio Trust Transportation Demand Management Program would implement the TCMs of the 2000 CAP. In addition the PTIP would coordinate land uses to provide buffer zones and avoid conflicts from toxic contaminants or odors.

New Mitigation

NR-22 *Deconstruction/Demolition Techniques.*

To the extent feasible, the Trust would apply an environmentally effective approach, including a combination of deconstruction and demolition techniques, to remove outdated structures and to reduce PM_{10} emissions from demolition activities.

4.3.5 NOISE

METHODOLOGY

Three major sources of noise are analyzed in this section: noise related to demolition and construction activities, noise from traffic throughout the Presidio, and noise from miscellaneous stationary sources. The strategies used for noise control in the Presidio depend on the source of the noise. Local noise control for neighborhood surrounding the Presidio is provided through the San Francisco Noise Ordinance (Article 29 of the San Francisco Police Code, 1994). Traffic and highway noise, and measures of effects on noise-sensitive lands within the Presidio, are characterized using

Federal Highway Administration criteria, as shown in Table 7 of the Natural Resources, Affected Environment Chapter.

General Construction/Demolition Noise

Demolition and construction activities would create intermittent impacts on the noise environment. This noise could at times be distinctive and disruptive of the natural noise environment of the Presidio. The impacts on land uses within the Presidio and in the nearby neighborhoods would vary widely according to the type of construction methods and equipment used as various components of each alternative are constructed. The sensitivity of the area or user experiencing the noise, and the distance between reception and noise source would also influence the perceived severity of noise.

Although the exact nature and schedule of demolition and construction activities associated with implementation of any alternative cannot be predicted at this time, it is foreseeable that demolition, grading, excavation, building fabrication and finishing, and associated truck traffic would occur. Demolition activities could include mechanical wrecking or deconstruction techniques and concrete crushing. Construction could also require use of impact tools such as pile drivers. At any one location, the effects of noise from demolition or construction would be short-term for the specific proposal being implemented. Typical noise levels from construction equipment would be between approximately 75 dBA and 100 dBA measured 50 feet from the source, depending primarily on the type of equipment (NPS 1994).

The analysis of the potential impacts of demolition or construction noise relies on a comparison of the anticipated effects of each alternative with the limitations of the San Francisco Noise Ordinance. The ordinance limits construction noise during daytime hours to 80 dBA at 100 feet and during nighttime hours to five dBA above the ambient noise levels at the property line. This method of analysis is consistent with the approach used in the GMPA EIS.

Short-term construction activities, impact tool use, and demolition activities could be disruptive to park users and other people within close proximity of the activity. As determined in the GMPA EIS, erecting barriers around construction equipment and restricting access to construction sites would reduce noise impacts, but not to a level of insignificance to those closest to (i.e., within 250 feet) construction equipment (NPS 1994). Presidio tenants, recreational users, and certain residences within the city of San Francisco could experience significant impacts if the physical constraints of a particular site preclude provision of suitable buffer distance. In certain circumstances, restricting access within a 250-foot radius of all construction activities may not be possible. Examples of these circumstances are:

- where repair of infrastructure would occur near occupied buildings or noise sensitive areas (see Figure 25, Natural Resources, Affected Environment chapter);
- where rehabilitation work would occur at buildings adjacent to occupied uses; or
- where rehabilitation of stream drainages or habitat would occur near noise sensitive areas.

These effects were characterized in the GMPA EIS. Measures adapted from the GMPA EIS are included below with appropriate modifications. Additional mitigation is identified as warranted.

Traffic Noise

This impact addresses the dual circumstances of new development to either generate traffic that would cause increased noise, or place residences or other new sensitive uses in areas of the Presidio experiencing unacceptable noise from traffic. Traffic on the major highways and internal roadways of

the Presidio is the primary existing source of noise, and under each alternative it is anticipated to gradually increase compared to existing conditions. New traffic noise could affect noise sensitive areas of the Presidio (see Figure 25, Natural Resources, Affected Environment Chapter) and noise sensitive residences within the City of San Francisco.

The analysis of traffic noise impacts relies on a comparison of observed and modeled noise levels at locations where substantial traffic changes are expected to be induced by an alternative. For roadways internal to the Presidio and near noise sensitive areas, traffic volumes that would occur under each alternative were compared to determine if the alternative would cause a noticeable noise increase. To assess effects in the City of San Francisco near the Presidio gates, peak hour noise levels for each alternative are estimated for each gate. Future noise levels are predicted by using California reference vehicle noise levels and a Caltrans noise propagation model (Caltrans 1998). The results are shown in Table 38. If any alternative would cause noticeable traffic noise increases at any noise sensitive area (beyond those anticipated under the GMPA), the impact is identified and evaluated for significance.

Significance of impacts depends on the existing conditions. At some locations throughout the Presidio, existing noise conditions are known to approach or exceed the Noise Abatement Criteria (NAC) established by the Federal Highway Administration (FHWA) (see Table 7, Natural Resources, Affected Environment chapter). The GMPA EIS initially identified these areas (page 211, Final EIS), and the short-term noise measurements presented in Table 8 of the Natural Environment, Affected Environment chapter generally confirm the earlier findings.

The GMPA EIS (page 211, Final EIS) identified various locations internal to the Presidio where GMPA development would induce noise increases that would be above background levels, but would not be substantial. Examples of locations expected to experience increased noise from traffic internal to the Presidio are the areas along Lincoln Boulevard, Lombard Street, and Presidio Boulevard, and the San Francisco National Cemetery, Presidio Golf Course, World War II Memorial, Lobos Creek Valley, and forested areas used for passive recreation.

The GMPA EIS also identified the following districts where potential future development within the Presidio could be exposed to highway noise above the FHWA NAC:

- East Washington Housing and Kobbe Avenue Housing along Highway 1;
- PHSH residences along Park Presidio;
- Fort Scott housing along U. S. Highway 1 and north of U. S. Highway 101;
- Religious Activities Center (building #682);
- Mountain Lake Park along Park Presidio and U. S. Highway 1;
- Riley Avenue Housing along U. S. Highway 101;
- Letterman Planning District;
- Main Post offices on Montgomery Street along U. S. Highway 101;
- Main Post PX/Commissary;
- Harmon Hall (building #649);
- San Francisco National Cemetery along U. S. Highway 101; and
- Office uses at the west end of Crissy Field.

The short-term noise measurements presented in Table 8 of the Natural Resources, Affected Environment Chapter indicate that the following locations outside Presidio gates have existing traffic noise levels approaching or exceeding the FHWA NAC:

- City residences on Marina Boulevard near Lyon Street and Doyle Drive;
- City residences on Lyon Street at Francisco Street and Richardson Avenue;

Table 38: Traffic Noise Levels In Vicinity of Presidio Gates by Alternative

Location	GMPA 2000 (dBA)	Draft Plan (dBA)	Resource Consolidation (Dba)	Sustainable Development (dBA)	Cultural Destination (dBA)	Minimum Management (dBA)
2020 PM Peak Hour L_{eq}(h)						
Mason St.	65.2	66.8	67.9	68.1	67.9	66.9
Gorgas Ave.	61.9	62.6	62.8	62.6	62.5	62.5
Lombard St.	68.0	68.6	68.6	68.7	68.6	68.2
Presidio Ave.	69.3	70.1	70.2	70.3	70.1	69.8
Arguello Blvd.	67.6	68.8	69.7	70.0	69.6	69.2
15th Ave.	61.2	62.0	60.8	63.3	65.3	64.2
Lincoln Blvd./25th Ave.	68.8	69.0	69.2	69.4	69.1	69.6
Plaza West	64.5	64.5	64.5	64.5	64.5	64.5
Plaza East	67.4	67.4	67.4	67.4	67.4	67.4
Doyle Drive	65.2	66.5	67.3	67.7	67.5	67.0
Compared to GMPA 2000						
Mason St.	-	1.6	2.7	2.9	2.7	1.7
Gorgas Ave.	-	0.6	0.9	0.7	0.6	0.6
Lombard St.	-	0.6	0.5	0.7	0.5	0.2
Presidio Ave.	-	0.8	0.8	0.9	0.8	0.5
Arguello Blvd.	-	1.2	2.1	2.4	2.0	1.6
15th Ave.	-	0.9	-0.4	2.1	4.1	3.0
Lincoln Blvd./25th Ave.	-	0.2	0.4	0.6	0.3	0.8
Plaza West	-	-	-	-	-	-
Plaza East	-	-	-	-	-	-
Doyle Drive	-	1.3	2.1	2.5	2.4	1.9

Source: EIP Associates, 2001.

Notes:
Traffic noise levels in terms of L_{eq}(h) for 2020 p.m. peak hour traffic at 50 feet from the centerline of the roadway at the gate.
Includes all pass-through traffic, inbound and outbound.

- City residences on Presidio Avenue; and
- City residences on Lincoln Boulevard at El Camino del Mar and 25th Avenue.

Current Trust practices are intended to respond to existing excessive noise conditions when appropriate. To protect new development from unacceptable exterior noise environments, as discussed in the Affected Environment Chapter, new multi family residential units (lodging, apartments, or other attached dwellings) within the Presidio would be constructed according to standards equivalent to Title 24 of the California Code of Regulations. Implementation of these standards would provide suitable insulation to protect dwelling interiors from excessive exterior noise. If current practices and adapted GMPA EIS measures modified to apply to the PTIP would not be sufficient to protect noise sensitive areas from new traffic noise, additional mitigation is identified.

Noise from Stationary Sources

Stationary, or fixed, sources of noise could be located in almost any developed area of the Presidio at any given time. Ongoing activities that could require either short- or long-term use of stationary noise sources (e.g., mechanical equipment, landscaping equipment, electrical transformer systems, loading dock operations) include operation and/or maintenance of Presidio buildings, landscaping, and other infrastructure. Similar to the effects that would be caused by construction-related noise sources, the exact nature of stationary noise sources that would be associated cannot be predicted at this time. However, it is foreseeable that under any alternative, increased noise from building heating and ventilation equipment, site landscaping maintenance, and trash and freight loading would occur around newly occupied uses.

Analysis of stationary-source noise impacts is based on a programmatic review of the proposed uses, the surrounding noise-sensitive areas likely to be affected, and the potential ability of the proposed uses to be designed and operated in a manner that would avoid noise conflicts. The comparison is based on the limitations of the San Francisco Noise Ordinance (Article 29 of the San Francisco Police Code, 1994), which generally specifies that noise exceeding ambient noise levels by 5 dBA or more at the property line would be considered excessive. The GMPA EIS (page 212 Final EIS) noted that the future noise levels within the Presidio would increase due to the future development, but they would not violate the limits of the San Francisco Noise Ordinance. As such, the GMPA EIS did not identify mitigation measures for stationary sources. If current practices would not be sufficient to protect noise-sensitive areas from noise related to foreseeable stationary sources, additional mitigation is identified.

POTENTIAL IMPACTS

GENERAL CONSTRUCTION/DEMOLITION NOISE

GMPA 2000 Alternative

The GMPA 2000 alternative would involve the demolition of Wherry housing, a portion of the PHSH, and other existing structures, along with construction of approximately 170,000 sf of replacement uses over the life of the plan. For various construction activities, composite noise levels for overlapping operation of multiple pieces of equipment were identified. Noise levels would be attenuated by distance such that for activities occurring more than 250 feet from receptors would not be expected to exceed 80 dBA. Noise impacts on Presidio tenants, recreational users, and residents could be reduced to below 80 dBA by restricting access within 250 feet. Certain activities would be limited to daytime hours to minimize disruption. Furthermore, additional analysis would be conducted before initiating projects such as the rehabilitation of stream drainages along Tennessee Hollow and Lobos Creek or reconstruction of Doyle Drive (NPS 1994).

Strategies adapted from the GMPA EIS to require compliance with the San Francisco Noise Ordinance (e.g., construction of barriers around active sites and equipment, closure of certain sites during construction) would adequately reduce construction and demolition noise.

Draft Plan Alternative

This alternative would have similar potential to disrupt Presidio tenants, recreational users, and residences within the City of San Francisco as the GMPA 2000 alternative, because the levels of development would be similar to those that would occur under the GMPA 2000 alternative. As with the GMPA 2000 alternative, strategies adapted from the GMPA EIS would adequately reduce construction and demolition noise.

Resource Consolidation Alternative

This alternative would have greater potential than the GMPA 2000 alternative to disrupt Presidio tenants, recreational users, and residences within the City of San Francisco, because the levels of demolition and new construction would be greater than under the GMPA 2000 alternative. As with the GMPA 2000 alternative, strategies adapted from the GMPA EIS would adequately reduce construction and demolition noise.

Sustainable Community Alternative

This alternative would have similar potential to disrupt Presidio tenants, recreational users, and residences within the City of San Francisco as the GMPA 2000 alternative because the levels of development would be similar to those that would occur under the GMPA 2000 alternative. Compared to the GMPA 2000 alternative, demolition noise associated with removal of PHSH wings would not occur, and increased construction noise internal to the Presidio in the areas around the Main Post and East Housing would occur. As with the GMPA 2000 alternative, strategies adapted from the GMPA EIS would adequately reduce construction and demolition noise.

Cultural Destination Alternative

This alternative would have greater potential to disrupt Presidio tenants, recreational users, and residences within the City of San Francisco because the levels of demolition and new construction would be greater than under the GMPA 2000 alternative. As with the GMPA 2000 alternative, strategies adapted from the GMPA EIS would adequately reduce construction and demolition noise.

Minimum Management Alternative

No new construction or demolition would occur under the Minimum Management alternative. No substantial construction noise would occur from rehabilitation activities that would continue under this alternative.

TRAFFIC NOISE

With all alternatives, certain locations where existing noise conditions are known to approach or exceed the FHWA NAC (see Table 7, Natural Resources, Affected Environment chapter) would continue to experience adverse traffic noise without additional mitigation measures. Noise levels associated with traffic volume increases that would occur at Presidio gates are summarized in Table 38. Where substantial increases in traffic noise are anticipated to occur additional mitigation is identified.

GMPA 2000 Alternative

The GMPA 2000 alternative assumes demolition of certain facilities (such as Wherry housing) that would not be replaced. Nonetheless, traffic noise

increases would occur within the Presidio. Noise within the adjacent neighborhoods would also increase; however, the resulting noise levels would not exceed NAC. Implementation of mitigation to address vehicle noise reduction would be adequate for managing traffic noise.

Draft Plan Alternative

Certain sensitive areas within the Presidio would be adversely affected by traffic volume increases, which would increase noise levels more than those expected under the GMPA 2000 alternative. Traffic noise increases at these sensitive areas would be noticeable (greater than 3 dBA), and the resulting noise levels would not be acceptable for the affected land use. At the following locations, traffic noise levels would approach or exceed the FHWA NAC:

- Portion of San Francisco National Cemetery nearest Park and Lincoln (FHWA Noise Category A), and
- World War II Memorial on Kobbe at Lincoln (FHWA Noise Category A).

Compared to the conditions that would occur under the GMPA 2000 alternative, no City locations would experience noticeable (greater than 3 dBA) traffic noise increases.

Implementation of measures calling for periodically monitoring and mitigating traffic noise at the San Francisco National Cemetery and the World War II Memorial would ensure that noise levels are acceptable at sensitive sites. This measure specifies future analysis of noise management strategies (e.g., sound barriers or berms, vehicle restrictions, traffic calming) in an effort to maintain future noise levels below the NAC.

Resource Consolidation Alternative

The Resource Consolidation alternative would include new development at Fort Scott, Crissy Field, and Letterman Planning Districts, so traffic noise would tend to increase in the northern half of the Presidio.

Certain sensitive areas within the Presidio would be adversely affected by traffic volume increases that would occur on the internal road network beyond those expected under the GMPA 2000 alternative. At these locations, traffic noise levels would approach or exceed the FHWA NAC:

- Riley Avenue Housing nearest to Sheridan (FHWA Noise Category C), and
- World War II Memorial on Kobbe at Lincoln (FHWA Noise Category A).

Compared to the conditions that would occur under the GMPA 2000 alternative, no City locations would experience noticeable (greater than 3 dBA) traffic noise increases.

Rehabilitation of Riley Avenue Housing would conform to current practice of meeting standards equivalent to Title 24, which would provide an acceptable interior noise environment. Additionally, periodic monitoring of traffic noise levels to protect the World War II Memorial would ensure that noise levels are acceptable.

Sustainable Community Alternative

The Sustainable Community alternative would include new development that would largely follow the patterns of the GMPA 2000 alternative; traffic noise would tend to be distributed similarly.

Certain sensitive areas within the Presidio would be adversely affected by traffic volume increases that would occur on the internal road network under this alternative. At these locations, traffic noise levels would approach or exceed the FHWA NAC:

- Riley Avenue Housing nearest to Sheridan (FHWA Noise Category C),
- Portion of San Francisco National Cemetery nearest Park and Lincoln (FHWA Noise Category A), and
- World War II Memorial on Kobbe at Lincoln (FHWA Noise Category A).

Compared to the conditions that would occur under the GMPA 2000 alternative, no City locations would experience noticeable (greater than 3 dBA) traffic noise increases.

Rehabilitation of Riley Avenue Housing would conform to current practice of meeting standards equivalent to Title 24, which would provide an acceptable interior noise environment. Additionally, periodic monitoring of traffic noise levels, and instituting measures to protect the San Francisco National Cemetery and the World War II Memorial would ensure that noise levels are acceptable.

Cultural Destination Alternative

The Cultural Destination alternative would include new development at Fort Scott, PHSH, Crissy Field, and Letterman Planning Districts, so traffic noise would tend to increase in the northern half of the Presidio.

Sensitive areas within the Presidio that would be adversely affected by traffic volume increases are:

- Riley Avenue Housing nearest to Sheridan (FHWA Noise Category C),
- Portion of San Francisco National Cemetery nearest Park and Lincoln (FHWA Noise Category A), and
- World War II Memorial on Kobbe at Lincoln (FHWA Noise Category A).

Compared to the conditions that would occur under the GMPA 2000 alternative, no City locations would experience noticeable (greater than 3 dBA) traffic noise level increases except for locations near the PHSH. However, on 14th and 15th Avenues, the future traffic caused by this alternative would not cause noise levels approaching or exceeding the NAC, so the impact would be less than significant.

Rehabilitation of Riley Avenue housing would conform to current practice of meeting standards equivalent to Title 24. This would provide a suitable interior noise environment for occupants of the Riley Avenue housing. Periodic monitoring of traffic noise levels, and instituting measures to protect the San Francisco National Cemetery and the World War II Memorial would ensure that noise levels are acceptable.

Minimum Management Alternative

The Minimum Management alternative assumes more expedient leasing and reuse of facilities than would occur under the GMPA 2000 alternative. This would tend to increase traffic noise throughout the entire Presidio when compared to the GMPA 2000 alternative. Traffic noise increases would occur at certain sensitive areas within the Presidio (e.g., the San Francisco National Cemetery, the World War II Memorial) and mitigation would be implemented to appropriately protect these sensitive uses. Noise within the adjacent neighborhoods would also increase; however, the resulting noise levels would not exceed NAC or noticeably increase above those that would occur under the GMPA 2000 alternative.

NOISE FROM STATIONARY SOURCES

GMPA 2000 Alternative

The GMPA 2000 alternative would involve development of new uses that would generate increased noise from sources such as building operations equipment and increased human activity. For example, heating and ventilation systems would generate a steady level of low-level noise, and the population visiting, working, and living at the uses within the Presidio would generate more noise from human activity. This alternative (or any other alternative) would not include major stationary sources of noise. The resulting noise levels would not exceed the limitations of the San Francisco Noise Ordinance.

All Remaining Alternatives

Please refer to the discussion under the GMPA 2000 alternative.

MITIGATION MEASURES

Measures Adapted from the GMPA EIS

The following GMPA EIS measures are recommended to protect areas of the Presidio and the adjacent neighborhoods from construction and traffic noise.

NR-23 *General Construction/Demolition Noise.*

During construction, contractors and other equipment operators would be required to comply with the San Francisco Noise Ordinance (San Francisco Municipal Code, Section 2907b), which requires that each piece of powered equipment, other than impact tools, emit noise levels of not more than 80 A-weighted decibels (dBA) at 100 feet. To reduce noise impacts, barriers would be erected around construction sites and stationary equipment such as compressors; this would reduce noise by as much as 5 dBA. To further reduce noise impacts on visitors, some construction sites would be temporarily closed, and appropriate barriers placed at a distance of 250 feet from the sites.

NR-24 *Traffic Noise Reduction.*

Vehicle traffic throughout the Presidio represents the major source of existing and future noise, especially from U. S. Highways 101 and 1. Although the Trust cannot control the level of noise produced by privately owned vehicles, it can control which types of transit vehicles are used at the Presidio. The Trust would use and encourage other city and transit providers to select transit vehicles that produce less noise pollution. Energy-conserving government vehicles would be used by maintenance and other divisions. If possible, electric or other alternative vehicles would be used to reduce noise levels.

New Mitigation

The following measure would apply to all alternatives except GMPA 2000 and Minimum Management.

NR-25 *Traffic Noise Monitoring and Attenuation.*

Noise levels would be periodically monitored at the San Francisco National Cemetery and the World War II Memorial. Noise attenuation measures would be instituted, if feasible, when noise levels exceed the Noise Abatement Criteria standards. Examples of attenuation measures include sound barriers or berms, vehicle restrictions, and traffic calming.

4.4 THE COMMUNITY

This section evaluates potential impacts of the alternatives on land use, socioeconomic issues/housing supply, schools, visitor experience/interpretation and education, recreation, and public safety.

4.4.1 LAND USE

METHODOLOGY

This analysis involved identifying current land uses at the Presidio, as well as current land uses in the surrounding community and in Area A. Proposed changes in building and land uses were then compared to existing uses to determine the potential for incompatible uses. For the purposes of this analysis, incompatibility would occur if a new use could conflict with adjacent land uses, compromise the nature and character of the Presidio or surrounding neighborhoods. Other impacts from new land uses (such as adversely affecting historic properties or increasing traffic and noise) are discussed in their respective issue sections within this EIS.

POTENTIAL IMPACTS

GMPA 2000 Alternative

Impacts Due to Proposed Uses

This alternative proposes a center for research and learning, housing public interest tenants whose mission's center on solutions to environmental, social, and cultural problems. The incorporation of this land use program and associated visitor services and accommodations would enhance the park as a visitor destination.

Under this alternative, with the exception of the removal of non-historic housing in the south and west, the general existing land use pattern at the Presidio would not change substantially. Housing would continue to be dispersed throughout the south and east. Overall housing units would be reduced by more than half, from about 1,650 to about 760.

Office and other mixed uses would continue to be concentrated in the northeast. The overall building square footage of Area B would be reduced to 5.01 million square feet (sf) by demolishing over 1.1 million sf of building to enhance park open space. About 650,000 sf of this would be derived from the Wherry housing site in the South Hills Planning District. The demolition would be somewhat offset by a relatively small amount of potential new construction (about 170,000 sf) at the Fort Scott, PHSH, and the Main Post Planning Districts as needed to augment proposed uses.

Visitor and cultural/educational uses would expand under this alternative. At the Fort Scott, East Housing, and PHSH Planning Districts, existing dormitory, residential, and hospital facilities would be adapted for educational, conference, and training uses with park mission-related programs. Expanded cultural programs, museums, and visitor-serving uses at the Main Post and Crissy Field (Area B) would result in the enhancement of these areas as the primary focus for park visitors. The Letterman Planning District would retain its primarily office land use orientation.

The amount of land dedicated to open space would significantly increase under this alternative. The removal of non-historic buildings in the South Hills, East Housing, and Crissy Field Planning District would increase open space by about 98 acres to 794 acres. These areas would primarily be used to enhance native habitat and natural resources such as the coastal dunes at the Wherry housing site, the riparian corridors within Tennessee Hollow, and an expanded marsh at Crissy Field.

Land uses in the neighborhoods surrounding the Presidio are primarily residential. These areas are densely developed, and proposed Presidio land uses would be generally compatible with surrounding uses. Proposed land uses would primarily be open space/recreation, with some residential, office, and institutional uses. Aside from the Letterman Digital Arts (LDA) project (reviewed under previous environmental analysis), the only other major change in historic land use adjacent to the neighborhoods would be the reoccupation of the PHSH Planning District as an education and training facility. This area has been relatively unused since base closure and although its reuse was previously analyzed in the 1994 GMPA EIS, it would represent a change in current activity levels in this area. (For a discussion of the noise, visual, traffic and other related effects of the proposed reuse activities and corresponding mitigation measures, refer to relevant sections in this EIS.) The remaining areas along the park's urban edge would continue to provide scenic, recreational, natural and open spaces. Since 1994, several improvements have been made in these areas including rehabilitation of the golf course (and opening to the public), rehabilitation of the Presidio Gate to improve pedestrian access and safety, rehabilitation of Building 1750/Lobos Creek restoration, Mountain Lake Enhancement Plan (under preparation), and the Crissy Field Marsh project (within Area A).

Draft Plan Alternative

Impacts Due to Proposed Uses

The general existing land use pattern at the Presidio would not change substantially under this alternative. New construction would be limited to the replacement of existing structures of similar size in existing areas of development, and design and siting of new construction would protect the character of existing uses. Housing would continue to be dispersed through the south and east. However, overall housing units would remain at present levels (1,650 units) due primarily to conversions of existing structures in the PHSH and Fort Scott Planning District. Phased removal of Wherry housing would allow for expanded open space in the South Hills Planning District and replacement infill housing construction in the Fort Scott (about 200 additional units) and Letterman (about 200 additional units) Planning District. Any demolition of housing units in Tennessee Hollow for riparian restoration would be replaced by more compatible construction outside the riparian corridor.

Office and other mixed uses would continue to be concentrated in the northeast. The overall building square footage of Area B would be reduced from 5.96 million sf to 5.6 million sf to enhance park open space. Approximately 710,000 sf of replacement construction and the retention of most of the building area in the Crissy Field Planning District would allow for some consolidation of land use in the north. These actions would increase the overall square footage of Area B over the GMPA 2000 alternative by about 590,000 sf. However, the amount of land dedicated to open space (793 acres) would remain roughly the same as the GMPA 2000 alternative (794 acres). This would represent a net increase of about 97 acres from current conditions (696 acres).

Under this alternative, expanded cultural programs, museums and visitor-serving uses in the Main Post and Crissy Field Planning Districts would result in the enhancement of these areas as the primary focus for park visitors. While allowing for some infill residential construction, the Letterman Planning District would retain its primarily office land use orientation.

Land uses along the Presidio's urban edge would be very similar to those described under the GMPA 2000 alternative and would be considered compatible with existing adjacent uses, which are primarily densely developed residential areas. In comparison to the GMPA 2000 alternative, the Draft Plan alternative proposed similar uses with slightly more built space (i.e., through greater reuse and/or less proposed demolition) in the

PHSH, East Housing and Letterman Planning Districts, and slightly less built space in the South Hills Planning District. Increased visitor-oriented uses in the Main Pose and Crissy Field Planning Districts would attract more visitors to the bayfront area of Area A. Introducing active visitor-oriented uses adjacent to a relatively passive recreation area could conflict with resource goals for the recently restored Crissy Field Marsh (Area A). Mitigation requiring monitoring of Area B uses, and coordination with the NPS to ensure that proposes uses compliment Area A, would minimize this potential impact. Overall, the Presidio would continue to provide important scenic, recreational, natural and open spaces at the edge of the city. (Refer to GMPA 2000 alternative for additional discussion of land uses in this area.)

Resource Consolidation Alternative

Impacts Due to Proposed Uses

This alternative would reduce square footage in Area B to a total of 5.3 million sf by removing more than 1.4 million sf of historic and non-historic structures in the south and an additional 200,000 sf in the Crissy Field Planning District to allow for restoration of open space. Overall, this alternative would include about 790,000 sf more demolition than is called for in the GMPA 2000 alternative. In addition to demolition proposed in the GMPA 2000 alternative, the Washington Avenue housing sites and the entire PHSH complex would be removed. The PX and Commissary site in the Crissy Field Planning District would also be demolished. This demolition would be offset by about 1.2 million sf of replacement construction at the Main Post, Letterman, and Fort Scott Planning Districts.

Unlike the GMPA 2000 alternative, this alternative would provide for more infill housing and related services in the Letterman Planning District to increase housing supply within walking distance of adjacent office uses. The South Hills Planning District would continue to serve as a primarily residential area with the potential for some new construction to replace housing removed to enhance open space.

This alternative would expand the Presidio's open space more than the other alternatives. The amount of land dedicated to open space would increase by about 44 acres over the GMPA 2000 alternative and by about 142 acres overall, to about 838 acres. These areas would be used to enhance native habitats at the Wherry housing and PHSH sites, restore the riparian corridors in Tennessee Hollow, enlarge Crissy Field Marsh, and expand potential scenic, recreation and outdoor opportunities for park visitors.

Under this alternative, residential use would become more consolidated in the north. A combination of conversion of existing structures and replacement construction would increase housing by 150 more units than provided for under the GMPA 2000 alternative units, but would reduce the housing supply from current levels to about 910 units. The alternative would also provide a more diverse housing supply and transit-oriented land use pattern.

Land uses along the Presidio's urban edge would be generally compatible with existing adjacent uses, which are primarily densely developed residential areas. Proposed land uses in this area primarily open space/recreation, with some residential, office and institutional uses. In comparison to the GMPA 2000 alternative, the Resource Consolidation alternative proposes to maximize open space along the Presidio's southern boundary and focus development in the northeast as previously described. This alternatives emphasis on natural resource enhancement rather than visitor destination would be compatible with Area A resources and management activities. Overall, this alternative would provide the greatest amount of open space and the Presidio would continue to provide important scenic, recreational, natural and open spaces at the edge of the city.

Sustainable Community Alternative

Impacts Due to Proposed Uses

This alternative envisions a sustainable live/work community in a park setting where those who live and work there would support Presidio and public interest-related park-wide programming. A moderate level of demolition in the south would be balanced by a modest level of new construction in the north.

This alternative would reduce square footage in Area B to 5.69 million sf. This alternative proposes about 230,000 sf less overall demolition than the GMPA 2000 alternative. It would retain the PX and Commissary site at Crissy Field (Area B). Demolition in the south would be offset by replacement construction in the Main Post, Crissy Field, and East Housing Planning Districts. Overall, this alternative would maintain the existing dispersed land use pattern in a manner consistent with the GMPA 2000 alternative.

Land uses would be more focused on residential and recreation uses that would enhance the community-oriented character of the park. The East Housing and Main Post Planning Districts would emphasize infill construction conversions to increase the park's housing supply. The PHSH Planning District would be converted to a primarily residential enclave at existing building densities. The Crissy Field Planning District would be the focus of balanced cultural uses with a strong recreational component.

The amount of land dedicated to open space would decrease by about 22 acres compared with the GMPA 2000 alternative with a net increase of about 77 acres overall, to a total of about 773 acres. These areas would be used to enhance native habitat and natural resources, such as the coastal dunes at Wherry housing and the Tennessee Hollow riparian corridor.

Similar to the GMPA 2000 alternative, the residential land use pattern would remain relatively dispersed. A major addition of housing units would occur through a combination of new construction and conversion of existing buildings at East Housing and PHSH, both relatively removed from the Main Post's non-residential center in the northeast. These actions would serve to mostly offset the loss of housing units at Wherry housing (which would not be replaced in the GMPA 2000 alternative). Overall, there would be about 1,430 units, almost twice the level of the GMPA 2000 alternative (but a decrease of 220 units from current levels).

Unlike the GMPA 2000 alternative, Presidio land uses along or near the boundary of city neighborhoods would change somewhat from their historic use. Land use changes would include conversion of the PHSH to a primarily residential use, and an increase in residential densities in the East Housing Planning District through conversions and new construction. However, because adjacent neighborhoods are densely developed, the proposed Presidio uses are expected to be generally compatible with these areas.

Intensification of existing land uses in the Main Post and Crissy Field Planning Districts would increase activity near the recently restored Crissy Field Marsh. However, this alternative's emphasis on enhancement of community and recreation rather than visitor destination would minimize impacts.

Cultural Destination Alternative

Impacts Due to Proposed Uses

This alternative proposes a world-class destination park featuring diverse cultural programs, extensive open space restoration and a dynamic sustainable community. It restores the historic land use pattern of built-up

mixed-use centers along the north waterfront contrasting with a contiguous open space area across the higher elevations to the south.

This alternative would retain Area B's existing 5.96 million sf by removing about 900,000 sf of non-historic housing from the South Hills and replacing it within the north. There would be about 250,000 sf more demolition than called for in the GMPA 2000 alternative. The additional square footage in the north would create a more compact, mixed-use visitor core than the GMPA 2000 alternative. Housing units (1,700) would more than double the amount proposed for the GMPA 2000 alternative (760 units) and would represent a slight increase over present levels (1,650 units). Housing would be increased through a combination of replacement construction and conversions of existing structures. It would also allow a more diverse housing stock to better meet the demands of the Presidio community.

New infill housing construction and related services at the Letterman Planning District would consolidate housing closer to the main activity areas. Potential new construction at the Main Post Planning District would provide a mix of uses to complement its historic spatial configuration and its role as the "heart of the Presidio." At the Fort Scott Planning District, additional construction would provide more efficient housing and infrastructure uses well away from its historic core.

Other built-up planning districts would retain their historic uses at more or less existing densities. The East Hills Planning District would continue to serve as a primarily residential area. The PHSH would be adapted for education uses with supporting residential uses. Non-historic structures would be removed to enhance open space, and could be replaced by more compatible structures that would house related uses.

In the South Hills Planning District, this alternative would further expand the GMPA 2000 alternative's concept to restore open space by removing the Washington Avenue housing sites. The amount of land dedicated to open space would increase by about 13 acres over the GMPA 2000 alternative and by about 111 acres overall, to about 808 acres. These areas would be used to enhance native habitat and natural resources, such as the coastal dunes at the Wherry housing site, the riparian corridors in Tennessee Hollow, and to expand scenic, recreation, and outdoor opportunities for park visitors, residents, and employees.

As with the GMPA 2000 alternative, Presidio land uses along or near the boundary of city neighborhoods would not change dramatically from their historic use. They would include primarily open space/recreational, with some residential, office and institutional uses and would be generally compatible with surrounding densely residentially developed uses. Aside from the LDA project, the only other major land use change adjacent to the neighborhoods would be the reoccupation of the PHSH as an education facility with supporting residential uses.

The intensification of visitor-oriented uses in the Main Post and Crissy Field Planning Districts would attract more visitors to the bayfront area of Area A. Introducing active visitor-oriented uses adjacent to a relatively passive recreation area could conflict with resource goals for the Crissy Field Marsh. Mitigation calling for monitoring of Area B uses, and coordination with the NPS to ensure that proposed improvements compliment Area A, would minimize this impact.

Minimum Management Alternative

Impacts Due to Proposed Uses

This alternative proposes only minimal management of the park to protect the visiting public and existing site resources. With no physical change in the built environment and no land use changes beyond leasing of existing structures, existing land use patterns would remain unaltered. Office and residential uses would continue to be the two predominant land uses at the

Presidio. Office uses would continue to be concentrated in the northeast with residential uses dispersed throughout the south and west totaling about 1,650 units.

Cultural and educational uses would remain a small component of overall land use. These uses would be concentrated in existing facilities primarily at the Main Post (e.g., NPS visitor center, childcare center) and Crissy Field Planning Districts (e.g., Crissy Center, archives center). With the exception of the additional open space associated with the LDA project, open space would remain at about 702 acres. The character and use of these open space areas would essentially not change.

Land uses along the Presidio's urban edge would be generally compatible with existing adjacent uses; however, there would be a substantial reduction in the open space benefits when compared to the GMPA 2000 alternative. The most substantive difference between the Minimum Management and GMPA 2000 alternative in this area would be the retention and reuse of the Wherry housing units as residences. Under the GMPA 2000 alternative, these units would be demolished and the area converted to open space/native plant communities.

Compliance with Applicable Land Use Plans and Policies

GMPA

The PTIP is an update to the GMPA, which is an amendment to the 1980 General Management Plan for the Golden Gate National Recreation Area. As a supplemental document, the PTIP would update the GMPA to guide the overall management of Area B of the park in keeping with the Trust's legislative purpose and legal and administrative mandates. The GMPA is the foundational plan that guides the Trust's planning and decision-making. The GMPA's importance is reinforced by both the Trust Act and Trust policy. The Trust Act directs the Trust to manage Area B in accordance with the "general objectives" of the GMPA, which were defined and set forth in Trust Board Resolution 99-11 ("General Objectives"). The PTIP is intended to provide a policy framework wholly consistent with the GMPA's General Objectives, and PTIP retains and builds on the GMPA's policies and principles. The PTIP also takes into account the Trust's mandate, policies, and new management approaches, and builds in a measure of flexibility not contemplated in the GMPA. Once adopted, PTIP will be the plan the Trust looks to in making future management and implementation decisions in Area B. The GMPA will remain unaltered as the plan for NPS' administration and management of Area A of the Presidio.

MITIGATION

The following measure would apply to all alternatives.

CO-1 *Monitoring of Area B Uses.*

The Trust would continually examine all Area B uses and coordinate with the NPS to ensure that proposed improvements would complement activities and low intensity uses within Area A, and that unanticipated and unacceptable impacts do not occur. Specific park uses would be guided by the PTIP Planning Principles and preferred uses identified in the PTIP Planning District Guidelines.

4.4.2 SOCIOECONOMIC ISSUES/HOUSING SUPPLY

METHODOLOGY

Housing Supply

This section describes the methodology for estimating the project impact under each alternative on housing demand in the Housing Impact Area

(HIA). The project impact is defined both in terms of existing conditions and as the difference between the impact under each alternative and the impact under the GMPA 2000 alternative, which represents the future baseline.

The specific methodology for the analysis involved the following steps:

Step 1: Employment Generation – The housing impact analysis begins with an estimation of the total number of jobs generated by each alternative. This process is displayed in Tables 1, 2, and 3 in Appendix D. For each alternative, the square footage of each land use is divided by its corresponding employee density (square feet per employee). This results in the total number of employees under each alternative, including existing employees at the Presidio. Employee densities from other studies completed for the Trust were used for this calculation.

The number of existing employees (2,020) is then subtracted to determine new employment. Finally, the number of new employees generated by the GMPA 2000 alternative is subtracted from the new employment generated by each alternative. This results in the number of new employees generated by each alternative in excess of the GMPA 2000 alternative employment. Employment under the GMPA 2000 alternative (6,734 jobs in 2020) was estimated by adjusting figures contained in the GMPA EIS. Adjustments included the addition of jobs associated with the LDA Complex, office use of Building 1750, and the second phase of the Thoreau Center, in addition to the use of conservative employment density factors for all office and lodging uses.

Step 2: Calculating Housing Supply – To determine the net new supply of housing, the anticipated number of units in each alternative was compared to the existing number of units and to the number proposed in the GMPA 2000 alternative. These calculations, shown in Table 4 and Table 6 in Appendix D, express the net new supply of housing in the Presidio.

Step 3: Calculating Housing Demand – In Step 3, housing demand is projected by translating total employment under each alternative and new project employment (calculated in Step 1) into households (see Table 39). This is done by dividing each employment figure by the number of employed residents per household in the Bay Area in 2020 (ABAG 2000). As part of the jobs/housing balance impact analysis, total demand by Presidio-based employees for housing on-site at the Presidio is estimated based upon a survey of Presidio-based employees (Sedway Group 2001 and Presidio Trust 1999). This demand estimate indicates the number of employees that would want to live at the Presidio, recognizing the importance of many factors such as renter/owner status, schools, and household type in residential locational decisions.

Step 4: Comparing Housing Supply and Demand – Table 39 contrasts housing supply with housing demand in the Presidio for all alternatives when compared to the GMPA alternative. The net new supply (from Step 2) is subtracted from the new household demand (from Step 3). The difference represents the "net-new" household demand in the HIA for all alternatives when compared to the GMPA alternative. All alternatives can also be compared to the existing housing supply, and the total adjusted Presidio-based housing demand can be compared to the projected supply (presented in Table 41). Any one of these three comparisons can be used to define the "jobs/housing balance."

Step 5: Regional Impact Analysis – The final step gauges each alternative's impact on the regional housing market. The last column in Table 39 presents each alternative's additional household demand as a percentage of the additional households in the HIA as projected by ABAG between 2000 and 2020. For the purposes of this analysis, the year 2020 is used as the Presidio build-out year for each alternative.

Single Room Occupancy/Dorm Room Analysis – Single room occupancy/dorm rooms are treated separately in Table 40. Only a supply-

Table 39: Presidio Housing Impact Analysis: New Demand and Supply of Each Alternative Compared to the GMPA 2000 Alternative

Alternative	New Employment (a)	New Household Demand (b)	Net New Supply (c)	Additional Household Demand in HIA (d)	% of Total New Households in HIA 2000 - 2020 (e)
GMPA 2000 (Future Baseline)	4,714	3,016	0	3,016	2.18
Draft Plan	459	293	738	(445)	-0.32
Resource Consolidation	1,746	1,117	367	750	0.54
Sustainable Community	788	504	686	(182)	-0.13
Cultural Destination	1,107	708	929	(221)	-0.16
Minimum Management	1,089	697	614	83	0.06

Sources: The Presidio Trust; Metropolitan Transportation Commission, Superdistrict and County Summaries of ABAG Projections, 2000; Bay Area Economics, 2001.

Notes:

(a) From Housing Appendix Table 3: Employment Generation Analysis.
(b) New Household Demand equals New Project Employment divided by Employed Residents per Household for the Bay Area in 2020: 1.563.
(c) From Housing Appendix Table 4: Presidio Single-Family and Multifamily Housing Supply.
(d) Additional Household Demand in HIA equals New Household Demand minus Net New Supply.
HIA = Housing Impact Area, as defined by Table 16 in the Affected Environment Community Chapter: Definition of The Housing Impact Area.
(e) Total New Households in HIA = 138,469. From Table 17 in the Affected Environment Community Chapter: Housing Impact Area Characteristics.

side analysis is completed, because the demand for single room occupancy/dorm rooms will be dependent on programmatic decisions of the Presidio Trust, rather than the general demand conditions associated with the residential real estate market. The number of proposed single room occupancy/dorm rooms under each alternative is compared to the number of units under the GMPA 2000 alternative (Table 40).

Table 40: Presidio SRO and Dormitory Housing Supply

Alternative	Proposed Units (a)	GMPA 2000 Units (b)	Net New Supply (c)
GMPA 2000	262	262	0
Draft Plan	410	262	148
Resource Consolidation	40	262	(222)
Sustainable Community	238	262	(24)
Cultural Destination	272	262	10
Minimum Management	538	262	276

Sources: The Presidio Trust; Bay Area Economics, 2001.

Notes:

(a) Proposed units represents the number of units under each alternative as proposed by the PTIP. Currently, there are 540 SRO/dorm units at the Presidio.
(b) GMPA 2000 Units represents the number of units proposed in 2020 under GMPA 2000.
(c) Net New Supply is the difference between Proposed Units and GMPA 2000 Units.

Jobs/Housing Balance

The concept behind a "jobs/housing balance" is to strike a balance between the number of households and the number of jobs in an area. A jobs/housing balance theoretically promotes a healthy housing market, where supply equals demand. Other benefits can also result, such as shorter commutes for residents and a reduction in traffic congestion.

As explained above (Step 4), Table 41 presents three separate comparisons that can be used to define the jobs/housing balance under each of the PTIP alternatives. The impact analysis provides comparisons of total housing demand to housing supply, comparisons of net new housing demand to housing supply, and comparisons of Presidio-based demand to supply.

Based on conversation with ABAG staff, this analysis assumes that the level of Presidio development projected by ABAG approximates the level of development under the GMPA, and any additional plans developed since the GMPA process (personal communication Fassinger). Therefore, any project impact resulting from each alternative represents an increase or decrease from ABAG's projected number of households in the HIA.

POTENTIAL IMPACTS

INCREASED DEMAND FOR HOUSING

GMPA 2000 Alternative

As shown in Table 39, new employment under the GMPA 2000 alternative would generate demand for 3,016 new households, or approximately 2.18 percent of the new households projected in the HIA between 2000 and 2020. Table 40 indicates that the GMPA 2000 alternative would result in 262 single room occupancy/dorm rooms.

Draft Plan Alternative

New employment under the Draft Plan alternative would generate demand for more housing units than the GMPA 2000 alternative, but would also maintain the existing supply of housing, unlike the GMPA 2000 alternative (see Tables 39 and 41). Overall, the Draft Plan alternative would reduce housing demand in the HIA by 445 households, or 0.32 percent of the

Table 41: Jobs/Housing Balance in the Presidio

Alternative	Total Presidio Housing Supply (a)	Supply as a Percent of New Housing Demand		Supply as a Percent of Total Housing Demand		Supply as a Percent of Presidio-based Demand	
		New Household Demand (b)	Jobs/ Housing Balance	Total Demand (c)	Jobs/ Housing Balance	Presidio-based Demand (d)	Jobs/ Housing Balance
GMPA 2000 (Baseline) (c)	502	3,016	17%	4,308	12%	1,148	44%
Draft Plan	1,240	3,309	37%	4,601	27%	1,219	102%
Resource Consolidation	869	4,133	21%	5,425	16%	1,419	61%
Sustainable Community	1,188	3,520	34%	4,812	25%	1,270	94%
Cultural Destination	1,431	3,724	38%	5,016	29%	1,319	108%
Minimum Management	1,116	3,713	30%	5,005	22%	1,317	85%

Sources: The Presidio Trust; Sedway Group; Bay Area Economics, 2001.

Notes:

(a) From Housing Appendix Table 6: Presidio Single-Family and Multifamily Housing Supply
(b) From Housing Appendix Table 7: Presidio Housing Impact (does not include SRO/dorm units)
(c) From Housing Appendix Table 9: Total Housing Demand Analysis
(d) Sedway Group, 2001.

additional households in the HIA between 2000 and 2020 when compared to the GMPA 2000 alternative. The Draft Plan alternative would create 410 single room occupancy/dorm rooms (see Table 40). This represents 148 more units than under the GMPA 2000 alternative, and 130 less than the existing conditions.

Resource Consolidation Alternative

The Resource Consolidation alternative would generate demand for more housing units than the GMPA 2000 alternative, and would maintain more of the existing supply of housing, but less than the Draft Plan alternative (see Tables 39 and 41). Overall, the Resource Consolidation alternative would result in demand for 750 new households in the HIA, or 0.54 percent of the additional households in the HIA between 2000 and 2020 when compared to the GMPA 2000 alternative.

The Resource Consolidation alternative would create 40 single room occupancy/dorm rooms (see Table 40). This is 222 fewer units than would be provided under the GMPA 2000 alternative and 500 less than existing conditions.

Sustainable Community Alternative

The Sustainable Community alternative would generate demand for more housing units than the GMPA 2000 alternative, and would maintain more than half of the existing supply (see Tables 39 and 41). Overall, the Sustainable Community alternative would reduce housing demand in the HIA by 182 households, or 0.13 percent of the additional households in the HIA between 2000 and 2020 when compared to the GMPA 2000 alternative.

The Sustainable Community alternative would create 238 single room occupancy/dorm rooms (see Table 40). This is 24 fewer units than would be provided under the GMPA 2000 alternative and 302 less than existing conditions.

Cultural Destination Alternative

The Cultural Destination alternative would generate more demand for housing than the GMPA 2000 alternative, and would provide the most housing among all the alternatives (see Tables 39 and 41). Overall, the Cultural Destination alternative would result in demand for 221 new households in the HIA, or 0.16 percent of the additional households in the HIA between 2000 and 2020 when compared to the GMPA 2000 alternative.

As shown in Table 40, the Cultural Destination alternative would create 272 single room occupancy/dorm rooms. This is 10 more units than would be provided under the GMPA 2000 alternative and 268 less than existing conditions.

Minimum Management Alternative

As shown in Tables 39 and 41, the Minimum Management alternative would generate more housing demand than the GMPA 2000 alternative and would maintain the existing housing supply. Overall, the Minimum Management alternative would increase housing demand in the HIA by 83 new households, or 0.06 percent of the additional households in the HIA between 2000 and 2020 when compared to the GMPA 2000 alternative.

Table 40 shows data on single room occupancy/dorm rooms and dormitory supply. The Minimum Management alternative would provide 538 single room occupancy/dorm rooms. This is 276 more units than would be provided under the GMPA 2000 alternative and represents the existing supply.

JOBS/HOUSING BALANCE

GMPA 2000 Alternative

Under the GMPA 2000 alternative, 502 housing units would be provided. This housing supply would meet approximately 12 percent of the demand for housing based upon total household demand generated under the alternative, and 17 percent of net new housing demand. Approximately 44 percent of demand by Presidio-based employees would be met by this alternative (see Table 41). The GMPA 2000 alternative would provide the least number of housing units among the alternatives due to the removal of existing housing, and as a consequence, contributes the least towards achieving a jobs/housing balance. As called for in the GMPA, progress towards the jobs/housing balance would be monitored over time. If additional housing for Presidio-based employees were needed, the conversion or adaptive rehabilitation of structures for residential use would be considered.

Draft Plan Alternative

Under the Draft Plan alternative, 1,240 housing units would be provided (not including SRO/dorm rooms). This housing supply would meet approximately 27 percent of the demand for housing, based upon total household demand generated under the alternative, and 37 percent of net new housing demand (see Table 41). This alternative would provide housing in a quantity sufficient to meet 102 percent of Presidio-based employees housing demand. Among the alternatives, the Draft Plan alternative would contribute the most to achieving a jobs/housing balance as measured by any of the three job/housing calculations. Progress towards the jobs/housing balance would be monitored over time. If additional housing for Presidio-based employees were needed, the conversion or adaptive rehabilitation of additional structures for residential use would be considered.

Resource Consolidation Alternative

Under the Resource Consolidation alternative, 869 housing units would be provided. This housing supply would meet approximately 16 percent of the total demand for housing, and 21 percent of net new housing demand. Approximately 61 percent of demand by Presidio-based employees would be met by this alternative (see Table 41). The Resource Consolidation alternative would result in a reduction of the existing housing supply due to the removal of existing housing. As a consequence, this alternative would contribute less towards achieving a jobs/housing balance than the Draft Plan, Sustainable Community, or Cultural Destination alternatives, but more than the GMPA 2000 alternative. As with these alternatives, progress towards the jobs/housing balance would be monitored over time. If additional housing for Presidio-based employees were needed, the conversion or adaptive rehabilitation of structures for residential use would be considered.

Sustainable Community Alternative

Under the Sustainable Community alternative, 1,188 housing units would be provided. This housing supply would meet approximately 25 percent of the total demand for housing, and 34 percent of net new housing demand (see Table 41). This alternative would provide housing supply in a quantity somewhat less than anticipated to be sufficient to meet Presidio-based employees housing demand (94 percent). Progress towards the jobs/housing balance would be monitored over time. If additional housing for Presidio-based employees were needed, the conversion or adaptive rehabilitation of structures for residential use would be considered.

Cultural Destination Alternative

Under the Cultural Destination alternative, 1,431 housing units would be provided, the largest quantity of housing proposed among the alternatives.

This housing supply would meet approximately 29 percent of the total demand for housing, and 38 percent of net new housing demand (see Table 41). This alternative would provide sufficient housing supply to meet anticipated Presidio-based employees housing demand (108 percent). As called for in the GMPA, progress towards the jobs/housing balance would be monitored over time. If additional housing for Presidio-based employees were needed, the conversion or adaptive rehabilitation of structures for residential use would be considered.

Minimum Management Alternative

Under the Minimum Management alternative, the existing 1,116 unit supply of housing would be retained. This housing supply would meet approximately 22 percent of the total demand for housing, and 30 percent of net new housing demand (see Table 41). This alternative's housing supply would meet approximately 85 percent of housing demand by Presidio-based employees, contributing less toward a jobs/housing balance than the Draft Plan, Sustainable Community, or Cultural Destination alternatives, but more than the GMPA 2000 and Resource Consolidation alternatives. Progress towards the jobs/housing balance would be monitored over time. If additional housing for Presidio-based employees were needed, the conversion or adaptive rehabilitation of structures for residential use would be considered.

MITIGATION MEASURES

Measures Adapted from the GMPA EIS

The following measure would apply to all alternatives.

CO-2 *Jobs/Housing Balance Monitoring*

Through the ongoing review of housing demand, occupancy and unit mix, progress towards the jobs/housing balance would be monitored. Housing opportunities would accommodate Presidio-based employees at a range of income levels.

4.4.3 SCHOOLS

METHODOLOGY

The effect of an alternative on schools is calculated by comparing the number of school children generated under each alternative to existing capacity at Presidio – serving public elementary, middle, and high schools.

Resident population estimates are shown in Table 42. The estimates for the number of school-aged children at the Presidio are based on the average number of children aged 5 through 10, 11 through 13, and 14 through 17 in the City and County of San Francisco from 1994 through 2000, as a percentage of the total population. From 1994 through 2000 an average of 5.6 percent of San Francisco's population was aged 5 through 10, an average of 2.8 percent was aged 11 through 13, and an average of 3.8 percent was aged 14 through 17 (Schools Appendix Table 1 in Appendix E). These ratios are applied to the Presidio resident population estimates under the alternatives to estimate the percentage of Presidio residents aged 5 through 10, 11 through 13, and 14 through 17 under each alternative. This

Table 42: PTIP Resident Population Estimates

Alternative	Residential Units	Residents	Dormitory Units	Dormitory Residents	Total Residential Population
GMPA 2000	510	1,260	260	400	1,660
Draft Plan	1,240	3,100	410	620	3,720
Resource Consolidation	870	2,170	40	60	2,230
Sustainable Community	1,190	2,940	240	360	3,330
Cultural Destination	1,430	3,580	270	360	3,990
Minimum Management	1,120	2,790	540	810	3,600

Source: Association of Bay Area Governments, Projections 2000; The Presidio Trust, Bay Area Economics, 2001.

Notes:

Household size assumptions based on current residential leasing data from the Presidio Trust.

Assumptions:
Household size (a): 2.5 persons
Residents per Dormitory Unit: 1.5 persons

Table 43: Public School Enrollment Estimates

Alternative	Residential Population	Total Residents 5-10	Total Residents 11-13	Total Residents 14-17	Presidio Public Elementary School Enrollment		Presidio Public Middle School Enrollment		Presidio Public High School Enrollment		Total Enrollment
					Build-Out	Public School Capacity (d)	Build-Out	Public School Capacity (d)	Build-Out	Public School Capacity (d)	
GMPA 2000	1,260	66	33	45	48	273	24	221	33	57 (at Galileo)	105
Draft Plan	3,100	163	82	112	119	273	60	221	82	57 (at Galileo)	261
Resource Consolidation	2,170	114	58	79	84	273	42	221	58	57 (at Galileo)	184
Sustainable Community	2,970	156	79	108	114	273	58	221	79	57 (at Galileo)	251
Cultural Destination	3,580	188	95	130	138	273	69	221	95	57 (at Galileo)	302
Minimum Management	2,790	147	74	101	107	273	54	221	74	57 (at Galileo)	235

Source: Woods & Poole Economics, Inc.; California Department of Education; Bay Area Economics, 2001.

Notes:

(a) San Francisco County, California 2000 Data Pamphlet, Woods & Poole Economics, Inc.
(b) California Department of Education, Education Demographics Unit.
(c) Population for non-dormitory units.
(d) Schools Appendix Table 2.

Assumptions:

% of Residents 5-10 (a) 5.6%
% of Residents 11-13 (a) 2.8%
% of Residents 14-17 (a) 3.8%
San Francisco Public School Enrollment Rate (b) 69.3%

process is displayed in Table 43. Estimates for the Presidio resident population are derived from current residential leasing information. A household size of 2.5 persons per household has been applied to the number of residential units assumed under each alternative to calculate a resident population. Residents of single room occupancy/dorm rooms have not been included in this analysis, because school age children will not occupy dormitory units at the Presidio.

Estimates for the population in San Francisco aged 5 through 10, 11 through 13, and 14 through 17 in 2000 are supplied by Woods & Poole Economics Inc. of Washington, D. C., an economic forecasting service that uses a database containing more than 550 economic variables for every county in the United States for every year from 1970 through 2025. Data provided by Woods & Poole are used regularly by county and state governments throughout the U.S. for planning purposes. Woods & Poole also provides data to federal agencies including the Department of Interior, Department of Defense, Environmental Protection Agency, and Department of Veteran Affairs.

The estimate of the percentage of Presidio school-aged children enrolled in San Francisco public schools is based on the total number of students in San Francisco public schools, as a percentage of the population in San Francisco aged 5 through 17. SFUSD enrollment data are provided on California Department of Education School District Web site, which shows that there were 62,041 children in kindergarten through 12th grade in the 1999-2000 school year. Demographic estimates from Woods & Poole show that there are a total of 90,960 children in San Francisco in 2000 aged 5 through 17. Dividing this total by the 1999-2000 K-12 population in SFUSD generates a public school enrollment rate of 68.2 percent.

However, between 1993-1994 and 1999-2000 the public school enrollment rate of San Francisco children aged 5 through 17 averaged 69.3 percent per year.[1] Over the 7 school years from 1993-1994 through 1999-2000, the public school enrollment rate for SFUSD has ranged from a high of 72.7 percent in 1994 to a low of 67.7 percent in 1998.[2] Therefore, for this purpose of this analysis, a public school enrollment rate of 69.3 percent has been selected for Presidio residents in 2000 and 2020. The school enrollment data are presented in Schools Appendix Table 1 in Appendix E.

The SFUSD high schools serving the Presidio are currently over their combined capacity. Galileo High School itself, however, has excess space for an additional 57 students. Therefore, if development under an alternative generates 57 or fewer public high school students, it is assumed that these students would be accommodated by Galileo High School, and a significant impact would not occur.

Note that comparing the number of Presidio school children at build-out (2020) to SFUSD's existing capacity is problematic; school enrollment and facilities are likely to change significantly over the next 20 years. SFUSD does not project enrollment and capacity needs beyond 1 year. Consequently, this analysis only provides a preliminary estimate of impacts, using the only available information.

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1 Years for which data is available from the State of California Department of Education, Education Demographic Unit.

2 Based on population estimates of San Francisco residents aged 5 through 17 provided by Woods & Poole Economics, Inc.

POTENTIAL IMPACTS

INCREASED DEMAND FOR SCHOOL FACILITIES

GMPA 2000 Alternative

As shown in Table 42, the GMPA 2000 alternative would generate 1,260 Presidio residents at build-out (excluding residents of single room occupancy/dorm rooms). This population would result in a total of 48 elementary school students, 24 middle school students, and 33 high school students in the SFUSD (Table 43). For SFUSD elementary and middle schools serving the Presidio (Schools Appendix Table 2), there would be no impact, because their capacity exceeds the number of public elementary and middle school students generate by the Presidio. Although SFUSD high schools serving the Presidio already have more students than their combined existing capacity, the 33 public high school students that would be generated by the Presidio could be absorbed by Galileo High School, which has excess space for 57 students (Schools Appendix Table 2).

Draft Plan Alternative

As shown in Table 42, the Draft Plan alternative would generate 3,100 Presidio residents at build-out (excluding single room occupancy/dorm rooms residents). This population would result in a total of 119 elementary school students, 60 middle school students, and 82 high school students in the San Francisco Unified School District (SFUSD). The Draft Plan alternative would generate 71 more elementary students, 36 more middle school students, and 49 more high school students than the GMPA 2000 alternative (Table 43). For SFUSD elementary and middle schools serving the Presidio (Schools Appendix Table 2), there would be no impact, because their capacity exceeds the number of public elementary and middle school students that the Presidio would generate. However, the additional high school students would exceed the capacity of Presidio-serving high schools by 25 students, including Galileo High. Mitigation identified in this EIS, requiring that the Trust collaborate with the School District to find space for these students, would reduce this impact.

Resource Consolidation Alternative

As shown in Table 42, the Resource Consolidation alternative would generate 2,170 Presidio residents at build-out (excluding dormitory residents). This population would result in a total of 84 elementary, 42 middle and 58 high school students. This alternative would yield 35 more elementary students, 18 more middle school students, and 24 more high school students than the GMPA 2000 alternative (Table 43). For SFUSD elementary and middle schools serving the Presidio, there would be no impact, because their capacity exceeds the number of public elementary and middle school students that the Presidio would generate. However, the additional high school students would exceed the capacity of Presidio - serving high schools by 1 student, including Galileo High (Schools Appendix Table 2). Mitigation identified in this EIS, requiring that the Trust collaborate with the School District to find space for these students, would reduce this impact.

Sustainable Community Alternative

As shown in Table 42, the Sustainable Community alternative would generate 2,970 Presidio residents at build-out (excluding single room occupancy/dorm room residents). This population would result in 114 elementary, 58 middle, and 79 high school students, which would be 66 more elementary students, 33 more middle school students, and 45 more high school students than the GMPA 2000 alternative (Table 43). For SFUSD elementary and middle schools serving the Presidio (Schools Appendix Table 2), there would be no impact, because their capacity exceeds the number of public elementary and middle school students that the Presidio would generate. However, the additional high school students

would exceed the capacity of Presidio-serving high schools by 22 students, including Galileo High. Mitigation identified in this EIS, requiring that the Trust collaborate with the School District to find space for these students, would reduce this impact.

Cultural Destination Alternative

As shown in Table 42, this alternative would generate 3,580 Presidio residents at build-out (excluding single room occupancy/dorm room residents). This population would result in 138 elementary, 69 middle and 95 high school students, which is 89 more elementary students, 45 more middle school students, and 62 more high school students than the GMPA 2000 alternative (Table 43). For SFUSD elementary and middle schools serving the Presidio (Schools Appendix Table 2), there would be no impact, because their capacity exceeds the number of public elementary and middle school students that the Presidio would generate. However, the additional high school students would exceed the capacity of Presidio-serving high schools by 38 students, including Galileo High. Mitigation identified in this EIS, requiring that the Trust collaborate with the School District to find space for these students, would reduce this impact.

Minimum Management Alternative

As shown in Table 42, the Minimum Management alternative would generate approximately 2,790 Presidio residents at build-out (excluding dormitory residents). This population would result in 107 elementary, 54 middle and 74 high school students, which is 59 more elementary students, 30 more middle school students, and 41 more high school students than the GMPA 2000 alternative (Tables 43). For SFUSD elementary and middle schools serving the Presidio, there would be no impact because their capacity exceeds the number of public elementary and middle school students generated by the Presidio. However, the additional high school students would exceed the capacity of Presidio-serving high schools by 17 students, including Galileo High. Mitigation identified in this EIS, requiring that the Trust collaborate with the School District to find space for these students, would reduce this impact.

MITIGATION MEASURES

Measures Adapted from the GMPA EIS

The GMPA EIS does not contain mitigation for schools.

New Measures

The following mitigation measure would apply to all alternatives except GMPA 2000.

CO-3 *Collaboration with SFUSD.*

The Trust would make all reasonable efforts to collaborate with SFUSD to locate necessary space for students residing at the Presidio and continue to participate in the Federal Impact Aid program.

4.4.4 VISITOR EXPERIENCE

Each alternative was analyzed for potential impacts on visitor experience, including visitor orientation, interpretation, public access, park tenants, and events and cultural programs.

Community

POTENTIAL IMPACTS

IMPACTS ON VISITOR EXPERIENCE

GMPA 2000 Alternative

Under the GMPA 2000 alternative there would be a variety of improvements to interpretive and educational opportunities within the Presidio. The William Penn Mott, Jr. NPS visitor center would continue to house a variety of interpretative services and media, and would provide enhanced visitor programs and services. In accordance with the Trust Act, the NPS would carry out interpretation and education activities at the Presidio. Other existing facilities and sites used for purposes of interpretation and delivering visitor information would continue, and additional visitor information and interpretation facilities would be provided in Area B. Interpretation would also be provided at several batteries. The former Spanish/Mexican Presidio site and the Marine hospital cemetery would be commemorated. Thus interpretation facilities would be disbursed throughout the park.

Existing park-based programs would continue and would benefit the visitor experience. Interpretation and education programs would be provided by the NPS. Additional visitor programs would be largely created and provided by park tenants. These tenants would provide educational opportunities and develop interpretive and stewardship programs. While this alternative would increase the number and range of programs provided for visitors, the level of programming would depend on the initiative of park tenants.

This alternative would attract approximately 3.7 million recreational visitors annually to Area B. Based upon visitation patterns in the Presidio, peak visitor use would occur primarily on weekend days and holidays with good weather.

Draft Plan Alternative

This alternative would provide a greater variety of visitor facilities for the visiting public than the GMPA 2000 alternative, including additional museums, a Sustainability Center, and exhibitions in leased buildings. Visitor activity would be concentrated in the Main Post and Crissy Field Planning Districts. The William Penn Mott, Jr. NPS Visitor Center would continue to house a variety of interpretative services and media, although it could be relocated to another location within the Presidio. In addition, a variety of museum facilities could be developed at the Presidio to serve local, national, and international visitors. A major museum may be located on the northern end of Area B in Crissy Field to complement existing facilities and programs there. Other Crissy Field buildings may be used for visitor facilities, such as rehabilitated historic hangars. Small and large museums could also be located at the Main Post and relate to themes of cultural heritage, immigration and exploration, the West Coast's technological innovation, and the Presidio's dynamic natural environment. In addition, a Center for Sustainability would become a new visitor facility demonstrating sustainable practices to park visitors.

Under the Trust Act, the NPS would be responsible for carrying out interpretation and education activities at the Presidio in cooperation with the Trust. The Trust would assist the NPS in developing and implementing collaborative interpretive and stewardship programs. The Trust would also facilitate educational opportunities for visitors, and support interpretive programs, events, and outreach. Park rangers, volunteers, and tenants would organize and lead visitor activities. The Presidio's cultural, natural, and recreational resources, along with facilities renovated for such purposes by the Trust or by tenants, would provide the setting for a range of interpretive and educational programs. To ensure consistency and coordination among programs, the Trust would play a significant role in the delivery of programs. Program quality and quantity would depend on lease revenues and philanthropic support.

The Trust, in cooperation with the NPS, would provide easily accessible orientation and information. Information/ orientation kiosks and outdoor recreational panels would be installed at key points in Area B. The NPS' wayside signage program would be completed. The jointly-developed Presidio interpretation plan would also be completed. Future site planning would further refine and identify visitor activity and interpretation facility improvements.

Access to the Presidio and its facilities would be enhanced. To the maximum extent possible, solutions to barriers confronting visitors and Presidio employees with mobility and other impairments would be developed. Access improvements would conform to the requirements of the Uniform Federal Accessibility Standards. The Trust would work collaboratively with the NPS to assure publications and programs would be designed to be accessible to individuals with special needs, including information for foreign visitors and visitors with sight, hearing, mental, and mobility impairments.

Public access to portions of important historic buildings would be maintained and complemented by interpretive displays. Tenants may provide meaningful interpretive and educational opportunities for visitors. Presidio tenants would support park programming in a variety of ways: by directly providing a program to park visitors; by contributing financially; or by offering in-kind services to a park program. The Trust would support activities such as military pageantry, festivals, educational programs, and other special events.

This alternative would attract approximately 7.7 million recreational visitors annually to Area B. Based upon visitation patterns in the Presidio, peak visitor use would occur primarily on weekend days and holidays with good weather. On these days, feelings of overcrowding could occur, especially in the Main Post and Crissy Field Planning Districts. In such an event, visitors desiring solitude or a more contemplative experience would need to seek these experiences in less developed areas of the park or avoid peak use times. Mitigation measures identified in this EIS would be required to ensure that visitation levels would not exceed desired conditions, and that unacceptable impacts to park resources and visitor experiences would not occur.

Resource Consolidation Alternative

This alternative would provide less variety of visitor facilities for the public than the GMPA 2000 alternative. Visitor facilities would be centered on the Main Post and Crissy Field Planning Districts, with more emphasis on the restored areas of the South Hills Planning District. The William Penn Mott Jr. NPS Visitor Center would continue to provide visitor orientation and interpretation services and the NPS would continue to provide the lead in interpretation to the public. The main focus for visitor experience would be on environmental stewardship and preservation activities. Some museum spaces could be dedicated to visitors under this alternative; however, interpretation and visitor services would receive more focus in the restored open space areas of the South Hills Planning District than in the GMPA 2000 alternative. A new Center for Sustainability would be established and be a key visitor facility under this alternative.

This alternative would provide more funding for programs than under GMPA 2000 alternative, which would focus more on resource protection and sustainability education than on arts, culture, or history. The NPS would continue to have the lead in providing interpretive programming and services. The Trust would provide expanded educational and other programmatic opportunities to visitors to supplement the efforts of the NPS. Mission-related tenants would provide a small number of programs.

Programs would focus on instilling great understanding and awareness of park resource values. More emphasis would be placed on stewardship projects and programs related to sustainable practices. New programs

would be created in the restored South Hills Planning District. Mission-related tenants at the Presidio would continue to be involved in providing programming for the local community and for visitors.

This alternative would attract approximately 6.5 million recreational visitors annually to Area B. Mitigation measures identified in this EIS would be required to ensure that visitation levels would not exceed desired conditions, and that unacceptable impacts to park resources and visitor experiences would not occur.

Sustainable Community Alternative

This alternative would provide less variety of visitor facilities for the public than the GMPA 2000 alternative, although it would still be beneficial to visitor experience. The Main Post and Crissy Field Planning Districts would be centers for visitor activities. The NPS would continue to have the lead in providing interpretation services, and the William Penn Mott, Jr. NPS Visitor Center would continue as the main contact point for visitor orientation and education. Visitor services would continue to serve national and international audiences; however, facilities and programs would have more emphasis on serving local visitors and residents of the Presidio. Some museum spaces dedicated to Presidio-related themes and stories would be provided, although less emphasis would be placed on providing museums to attract national and international visitors.

This alternative would increase the number and range of programs provided for visitors compared to the GMPA 2000 alternative. The NPS would continue to have the lead in providing interpretive programming. The Trust would expand program offerings by developing educational and other cultural activities for visitors and for the community. Mission-related tenants would continue to provide a small number of programs for visitors and the Presidio community.

Under this alternative, the focus for these visitor programs would be to serve community-based residents and local visitors. A moderate level of programs would be provided. While park visitors could still have access, residents and tenants would be primary audiences for programming in the areas of education, research, learning, culture, history, arts, and innovation. Stewardship opportunities, some arts and entertainment programs, and additional active recreational facilities would also enhance livability and visitor attraction.

This alternative would attract approximately 8.4 million recreational visitors annually to Area B. Mitigation measures identified in this EIS would be required to ensure that visitation levels would not exceed desired conditions and that unacceptable impacts to park resources and visitor experiences would not occur.

Cultural Destination Alternative

This alternative would provide a greater variety of visitor facilities for the visiting public than the GMPA 2000 alternative, through additional museums, a Sustainability Center, and exhibitions in leased buildings. Visitor activity would be concentrated in the Main Post and Crissy Field Planning Districts. The William Penn Mott, Jr. NPS Visitor Center would continue to house a variety of interpretative services and media, although it could be relocated to another location within the Presidio. In addition, a variety of museum facilities could be developed at the Presidio to serve local, national, and international visitors. A major museum may be located on the northern end of Area B in the Crissy Field Planning District to complement existing facilities and programs there. Other Crissy Field buildings might be used for visitor facilities, such as rehabilitated historic hangars. Small and large museums could also be located at the Main Post, related to themes of cultural heritage, immigration and exploration, the West Coast's technological innovation, and the Presidio's dynamic natural

environment. In addition, a Center for Sustainability would become a new visitor facility demonstrating sustainable practices to park visitors.

This alternative would have the same number and range of programs for visitors as provided in the Draft Plan alternative.

This alternative would attract approximately 7.9 million recreational visitors annually to Area B. Mitigation measures identified in this EIS would be required to ensure that visitation levels would not exceed desired conditions and that unacceptable impacts to park resources and visitor experiences would not occur.

Minimum Management Alternative

Under this alternative, minimal actions would be taken to expand visitor opportunities beyond existing facilities. The William Penn Mott, Jr. NPS visitor center would continue to offer a variety of interpretative services and media. Use of other existing visitor facilities for purposes of interpretation and delivering visitor information would continue. Only minimal additional interpretive or orientation signage would be installed. Leased buildings would not be required to install exhibits pertaining to the Presidio's interpretive themes.

Basic interpretation and education programs would continue, but on a reduced basis. Other programs, such as the pilot "At the Presidio" program, would most likely not occur. Tenant-based public programs would be minimal, as such programs would be encouraged, but not required. Special events may occur, but not to the extent of the other alternatives. For these reasons, the Minimum Management alternative would provide few benefits to enhance visitor experience.

This alternative would attract approximately 4.9 million recreational visitors annually to Area B. Mitigation measures identified in this EIS would be required to ensure that visitation levels would not exceed desired conditions and that unacceptable impacts to park resources and visitor experiences would not occur.

MITIGATION MEASURES

Measures Adapted from the GMPA EIS

The GMPA EIS does not include mitigation for visitor experience impacts.

New Mitigation

The following measures would apply to all alternatives except GMPA 2000.

CO-4 *Limitations of Visitor Opportunities.*

The Trust would limit visitor opportunities to those that are suited and appropriate to the significant natural, historic, scenic, cultural, and recreational resources of the Presidio. Only those visitor activities that are consistent with the Trust Act and appropriate to the purpose for which the park was established would be allowed. The Trust would welcome tenants to provide activities consistent with these requirements.

CO-5 *Prohibitions on Visitor Uses.*

The Trust would prohibit visitor uses that would impair park resources or values or would unreasonably interfere with NPS interpretive activities or other existing, appropriate park uses. As future plans are developed for Crissy Field (Area B), the Trust would cooperate with the NPS to the extent practicable to seek consistency with that agency's visitor management policies and procedures and improvements made to Area A. The Trust would also consider the effects on Crissy Field's visitors (Area A) when

determining the appropriateness of future visitor activities. Any new form of visitor activity in Crissy Field (Area B) would not be allowed until after environmental review has determined that it would not result in an unacceptable impact on Crissy Field (Area A) resources. Proposed activities would be consistent with any carrying capacity decisions made in an NPS formal planning process such as the Visitor Experience and Resource Protection (VERP) framework.

CO-6 *Management Controls.*

The Trust would impose management controls on visitor uses to ensure that the Presidio's resources are protected. If an ongoing or proposed activity would cause unacceptable impacts to park resources, adjustments would be made to the way the activity is conducted, including placing limitations on the activity, so as to eliminate the unacceptable impacts. Any restrictions would be based on professional judgment, law and policy, the best available scientific study or research, appropriate environmental review, and other available data. As visitor use changes over time, the Trust would decide if management actions are needed to keep use at acceptable and sustainable levels.

CO-7 *Special Events.*

The Trust would require appropriate permit conditions are imposed for special events to ensure that park resources are protected.

CO-8 *Monitoring of Visitor Levels.*

The Trust would monitor visitation levels to ensure that park uses would not unacceptably impact Presidio resources, including visitor experience. Visitor carrying capacities for managing visitor use would be identified if necessary.

4.4.5 RECREATION

METHODOLOGY

Each alternative was analyzed for potential impacts on recreational activities and use. Activities range from passive to active and may or may not depend on unique features of the Presidio. Passive recreation includes walking on interpretive trails, bird watching, gardening, or picnicking. Active recreation includes ball sports, bicycling, or participating in large group festivities at special events. Activities that depend on the Presidio's unique natural and cultural resources include scenic viewing from overlooks, and participation in stewardship programs. Activities that do not depend on unique resources of the Presidio, and could be accommodated in other locations include court sports, picnic grounds, or playgrounds. Each alternative was then analyzed for its impact on the spectrum of recreational activities at the Presidio. Please refer to the Visitor Experience environmental consequences section for a discussion of impacts on the Presidio's interpretive and educational programs.

POTENTIAL IMPACTS

IMPACT ON RECREATIONAL ACTIVITIES

GMPA 2000 Alternative

Most of the built recreational facilities, including the swimming pool, bowling center, ballfields, golf course, tennis courts, group camping area, picnic areas, and gymnasiums, would remain and be open to the public, except those facilities needed to be removed to meet other planning objectives, such as the removal of Morton Street ballfield to accommodate the restoration of Tennessee Hollow. The two ballfields at Fort Scott would be removed and the parade ground restored, providing space for large group

assembly and improved visual access to the Golden Gate. The tennis court behind the PHSH would be relocated. The GMPA initially called for the retention of the Pop Hicks ballfield and the creation of a picnic area; however, this ballfield has subsequently been removed due to remediation concerns. This area will be restored as determined in a separate Remediation Investigation/Feasibility Study. The GMPA 2000 alternative would also rehabilitate and enhance the Rob Hill group camping area. Existing trails would be improved, some existing social trails removed or relocated, and other new trails constructed in accordance with the Presidio Trails and Bikeways Master Plan.

Under this alternative, high quality, appropriate recreation activities would be provided for a wide range of visitors. Recreation programs would be offered by the Trust or by park tenants to expand visitor experiences. Passive recreational experiences would be increased and diversified through the creation of new open space areas and through the continued restoration of both remnant natural areas and decadent forest stands. Larger open spaces would be improved for active outdoor activities and informal play. This alternative would expand the availability of recreation-related programs, provide a spectrum of recreation opportunities, and be beneficial to recreation.

Draft Plan Alternative

Under this alternative, most existing recreation facilities would be retained and enhanced except where removal is needed to meet other planning objectives (such as completion of Doyle Drive, Tennessee Hollow, or environmental remediation). The Trust would evaluate additional recreational uses, facilities, and levels of use necessary to maintain a balance of recreational experiences and protection of park resources. Options for additional built facilities, indoors and outdoors would be considered. No new forms of recreational activity are being proposed. Two ballfields at Fort Scott would be removed to restore the parade ground, providing an area for large group assembly and enhancing the views of the Golden Gate. Rob Hill group camping area would be enhanced, and possibly relocated to a more suitable location. Existing trails would be improved, some existing social trails removed or relocated, and other new trails constructed in accordance with the Presidio Trails and Bikeways Master Plan.

Under this alternative, high quality, appropriate recreation activities would be provided for a wide range of visitors. Open space and recreational amenities would be managed to provide settings for both intimate and large-group gatherings. Landscaped areas and small open spaces would be maintained for passive recreation. Larger open spaces would be improved for active outdoor activities and informal play. Passive recreation would be increased and diversified through the creation of new open space areas and through the continued restoration of both remnant natural areas and decadent forest stands.

Resource Consolidation Alternative

Under this alternative, additional emphasis would be placed on providing opportunities for stewardship, nature appreciation, and solitude. Impacts on recreation would be similar to the Draft Plan alternative. However, closure of Washington Boulevard to vehicles resulting from the removal of East Washington and West Washington housing would further benefit bicyclists and pedestrians using that area.

Sustainable Community Alternative

This alternative would have similar impacts on recreation as the Draft Plan alternative.

Cultural Destination Alternative

This alternative would have similar impacts on recreation as the Draft Plan alternative.

Minimum Management Alternative

All existing recreational facilities, including athletic fields, playgrounds, tennis courts, hiking and bicycling trails, picnic areas, golf course, bowling alley, and gymnasiums would be retained for public use. No new trails and bikeways would be established. Trail repair and maintenance would only occur as needed to protect resources. Additionally, this alternative would not include any demolition or new construction. Therefore, no loss of buildings or facilities would occur. There would be no significant recreation impact due to the retention of all existing recreational facilities.

There would be little change in the spectrum of recreational activities at the Presidio. A decline in opportunities to participate in stewardship programs would occur, as few areas would be restored. No new recreational programs would be created.

MITIGATION MEASURES

Measures Adapted from the GMPA EIS

No measures for recreational activities were identified in the GMPA EIS.

New Mitigation

The following measures would apply to all of the alternatives.

CO-9 *Recreational Use Management Objectives.*

The Trust would develop and implement specific, measurable visitor management objectives as components of planning area studies to ensure that recreational uses and activities within Area B could be sustained without damaging park resources or values.

CO-10 *Relocation or Replacement of Recreational Facilities.*

Should any recreational facilities need to be relocated in conjunction with other planning objectives, such as through the restoration of Tennessee Hollow or the reconfiguration of Doyle Drive, their relocation or replacement would be considered during activity- or planning area-specific studies and environmental review.

CO-11 *Trail Maintenance and Enhancement.*

Upon completion and approval of the Presidio Trails and Bikeways Master Plan, the Trust would implement priorities for trail repair, stabilization and enhancement, and initiate a Trails Stewardship Program to promote public support and interest in trail maintenance and enhancement activities.

4.4.6 PUBLIC SAFETY

METHODOLOGY

Law Enforcement

The Commander of the United States Park Police (USPP) San Francisco Field Office (SFFO), the Assistant Commander for Operations of the USPP San Francisco Field Office, the Assistant Commander for Administration of the USPP San Francisco Field Office, and the Administrative Lieutenant of

the USPP San Francisco Field Office were presented with data outlining the range of land use, resident, and employee assumptions under the alternatives under consideration in this analysis. In an interview, the USPP staff described the additional resources that would be required under each alternative in order to maintain current service levels.

Fire Protection Emergency Response

The Presidio Fire Department Fire Chief and Assistant Fire Chief were presented with data outlining the range of land use, resident, and employee assumptions under the alternatives being considered in this analysis. In an interview, the Presidio Fire Department Fire Chief and Assistant Fire Chief described the required long-term planning that would be required under each alternative in order to maintain current service levels.

POTENTIAL IMPACTS

INCREASED DEMAND FOR LAW ENFORCEMENT

GMPA 2000 Alternative

As with many other public services, law enforcement services do not readily change in proportion to changes in population. As the resident and employee populations at the Presidio increase, and calls for police service increase, the USPP would scale up its operations as necessary in order to maintain current service levels. The envisioned level of operations could include a new police station at the Main Post, the establishment of full time desk service (a police station open 24 hours a day with a desk sergeant to manage police activities at the station), and the establishment of a total of four patrol beats in Area B. Increased services could include an additional police substation, station equipment, additional law enforcement vehicles, additional law enforcement personnel, additional dispatchers, additional administrative staff, and additional supplies and equipment for these personnel.

Established police standards call for 4.5 to 5.5 full-time equivalent (FTE) patrol officers per beat per shift (three shifts per day to maintain 24 hour coverage). The establishment of two new 24-hour patrol beats would necessitate 27 to 33 new general patrol officer positions. Other staffing that would need to expand to serve additional calls include two investigators, one I.D. technician, five desk officers, two motorcycle patrol officers, and one to two horse-mounted patrol officers.

For the GMPA 2000 alternative, the USPP estimates that the start-up costs for hiring additional personnel, purchasing new vehicles and other equipment, and setting up a police substation (in building space to be provided by the Presidio Trust) could total up to $752,000. The annual costs for staffing, recruitment, equipment, and supplies are estimated to be as much as $2.6 million. This cost estimate does not include any of the expenses related to the relocation of the USPP from its current location in Building 1217 to a more suitable location at the Main Post.

The increase in resident and employee population at the Presidio projected in the GMPA 2000 alternative would potentially raise the number of calls for police service. Mitigation, which requires that law enforcement services be reviewed and expanded as necessary as development occurs, would ensure that law enforcement services remain at adequate levels.

Draft Plan Alternative

As with the GMPA 2000 alternative, the increase in resident and employee populations at the Presidio projected under the Draft Plan alternative would potentially increase calls for police service. The operational level of service described under the GMPA 2000 alternative, above, would be needed to serve the increased demand. As with the GMPA 2000 alternative, law

enforcement services would need to be reviewed and expanded as necessary as PTIP is implemented to ensure that law enforcement services remain at adequate levels.

Resource Consolidation Alternative

The increase in resident and employee population at the Presidio projected in the Resource Consolidation alternative and the resultant rise in calls for police service would require the operational level of service described under the GMPA 2000 alternative above. As with the GMPA 2000 alternative, law enforcement services would need to be reviewed and expanded as necessary as PTIP is implemented to ensure that law enforcement services remain at adequate levels.

Sustainable Community Alternative

The increase in resident and employee population at the Presidio projected in the Sustainable Community alternative and the resultant rise in calls for police service would require the operational level of service described under the GMPA 2000 alternative above. As with the GMPA 2000 alternative, law enforcement services would need to be reviewed and expanded as necessary as PTIP is implemented to ensure that law enforcement services remain at adequate levels.

Cultural Destination Alternative

The increase in resident and employee population at the Presidio projected in the Cultural Destination alternative, and the resultant rise in calls for police service would require the operational level of service described under the GMPA 2000 alternative above. As with the GMPA 2000 alternative, law enforcement services would need to be reviewed and expanded as necessary as PTIP is implemented to ensure that law enforcement services remain at adequate levels.

Minimum Management Alternative

The current level of operational capacity for the USPP is not adequate to serve the Minimum Management alternative. As with the GMPA 2000 alternative, law enforcement services would need to be reviewed and expanded as necessary as PTIP is implemented to ensure that law enforcement services remain at adequate levels.

INCREASED DEMAND FOR FIRE PROTECTION AND EMERGENCY RESPONSE

GMPA 2000 Alternative

As with many other public services, fire protection, and emergency response services do not readily change in proportion to changes in population. Build-out of the GMPA 2000 alternative would result in significant increases in resident and employee populations but no significant increase in the square footage of buildings that would need fire protection. Because the increase in population is an important life-safety factor, the Fire Department would have to review and adjust its operations in order to maintain current service levels in order to meet National Fire Protection Association (NFPA) 1500 standards. The Fire Department does not have a long-range plan in place to determine the long-terms needs for fire protection and emergency response, thus additional analysis will be required. This analysis would set forth requirements for adjusting Fire Department operations, and identify any required new facilities and personnel.

The increase over current levels in resident and employee population at the Presidio projected in the GMPA 2000 alternative would increase the number of calls for fire protection and emergency response. Fire protection and emergency response services would need to be reviewed and expanded

as necessary as PTIP is implemented to ensure that fire protection services remain at adequate levels.

All Remaining Alternatives

As with the GMPA 2000 alternative, the increase in resident and employee populations at the Presidio projected under each of the remaining alternatives would increase calls for fire protection and emergency response. The operational level of service described under the GMPA 2000 alternative, above, could be needed to serve an increase in demand. As with the GMPA 2000 alternative, fire protection and emergency response services would need to be reviewed and expanded as necessary as PTIP is implemented to ensure that fire protection services are provided at adequate levels.

MITIGATION MEASURES

Measures Adapted from the GMPA EIS

The GMPA EIS does not contain mitigation for law enforcement, fire protection, or emergency services.

New Mitigation

The following mitigation measure would apply to all alternatives.

CO-12 *Expansion of Public Safety Services.*

As PTIP is implemented, the Trust would work with USPP and NPS public safety service providers to review public safety service standards set forth in the Presidio Public Safety Analysis (NPS 1994) and identify any appropriate increases in staff, equipment, and facilities in order to maintain adequate services. The Trust would work jointly with NPS to study and identify appropriate locations for USPP and NPS public safety facilities.

4.5 TRANSPORTATION AND CIRCULATION

METHODOLOGY

The analysis of transportation impacts is based on information included in the 1994 Presidio Transportation Planning and Analysis Technical Report NPS 1994b which analyzed the potential environmental effects from implementation of the GMPA. The analysis of potential effects that would result from the PTIP is summarized in this section, based upon the PITP Background Transportation Report (Presidio Trust 2001).

To estimate future traffic conditions for the year 2020, key assumptions had to be developed, and then incorporated into estimates of travel demand and trip generation to determine potential transportation impacts. These key assumptions are summarized below.

Presidio Live/Work Model

Based on the Trust's live/work model and the mix of land uses provided for each alternative, it was assumed that:

- Most of the employed residents living in the Presidio would also work within the Presidio;
- Persons employed within the Presidio could walk, bike, or ride the internal shuttle service to destinations within the Presidio; and
- Trips internal to the Presidio would be more likely to be made by non-automobile modes.

Transportation Demand Management Program

Implementation of a Transportation Demand Management (TDM) program would improve transit, pedestrian, and bicycle conditions and would thereby reduce auto usage to Presidio destinations. The transportation demand management strategies that are assumed to be common for all alternatives include:

- Mandatory participation and commitment to trip-reduction requirements by all non-residential tenants;
- A clean-fuel shuttle bus serving the entire Presidio with direct connections to San Francisco Municipal Railway (Muni) and Golden Gate Transit (GGT) routes;
- On-site sale of transit passes;
- Transit and ridesharing information disseminated on kiosks within the Park, the Trust's website, and employee orientation programs;
- Mandatory event-specific TDM programs for all special events;
- Periodic monitoring of traffic volumes and mode choice among Presidio residents and employees;
- Express bus service to regional transit connections (e.g., BART, Transbay Terminal);
- Secured bicycle parking; and
- Parking Management Program.

In addition, as part of the TDM Program, a series of additional parking management measures would be implemented to reduce parking demand in the Presidio under the action alternatives (Draft Plan, Resource Consolidation, Sustainable Community, and Cultural Destination). These measures would, in part, avoid adverse parking conditions in adjacent city neighborhoods by further reducing the number of vehicles in need of parking. These additional measures would include:

- A constrained supply of parking spaces within the Presidio; and
- A parking regulation and fee program.

4.5.1 ROADWAY NETWORK

In general, the existing roadway network within the Presidio would be maintained. Minor improvements to the roadway network were assumed, including opening the 14th Avenue gate, and converting the 14th Avenue and 15th Avenue gates to a one-way couplet, with 14th Avenue accommodating inbound traffic and the 15th Avenue gate accommodating outbound traffic. In addition, as outlined in the GMPA Background Transportation Report (Peccia 1994), Halleck Street was assumed to be realigned at its southern end so that it connects with Lincoln Boulevard at Anza Avenue.

There have been a number of studies conducted by the City and County of San Francisco and Caltrans on the need for reconstructing Doyle Drive. These efforts include the Doyle Drive Task Force Study (February 1991), a Caltrans Project Study Report (Caltrans 1993), and the Doyle Drive Intermodal Study (San Francisco Guideway Associates 1996), which identified need and developed design alternatives and preliminary cost estimates for the reconstruction of Doyle Drive. Preliminary concepts include the replacement of the current structure with a parkway built to Caltrans standards that would provide direct vehicular access to the Presidio. In addition, multimodal access into and out of the Presidio was proposed through a "transit center" that would be accessed by GG, Muni, and the Presidio internal shuttle. An Environmental Impact Statement (EIS)/ Environmental Impact Report (EIR) is currently underway, with publication of the draft document planned for the fall of 2001 for preliminary engineering and design documents representing 30 percent design completion. The current schedule calls for selection of a preferred alternative in the first quarter of 2002.

For the purposes of this analysis, it is assumed that, as part of the proposed Doyle Drive Reconstruction Project, a grade-separated interchange with Doyle Drive would provide access to and from the Presidio at Girard Road, near the Main Post and Letterman Planning Districts under all alternatives. The direct connection to Doyle Drive would relieve some of the congestion at the Lombard Street gate. Due to the limited capacity of the left-turn movement from Lombard Street to Lombard Street, the Doyle Drive access would become a primary entrance into the Presidio, with the Lombard Gate generally serving as a secondary entrance. The Girard Road interchange is included in all Doyle Drive alternatives.

It should be noted that, as an interim improvement prior to the completion of the Doyle Drive Reconstruction Project, access to the Letterman Planning District will be improved by reconfiguring the existing intersection on Richardson Avenue in the vicinity of the Presidio's Gorgas Gate. The Trust has prepared and submitted to Caltrans a combined Project Study report/Project report (PSR/PR) for their review and approval. The recommended alternative in the PSR/PR calls for the intersection of Gorgas Avenue and Richardson Avenue to be reconfigured to provide outbound movements. A northbound left-turn movement will be accommodated by a left-exit slip ramp from Richardson Avenue passing beneath the marina Viaduct southbound exit ramp structure and intersecting with Gorgas Avenue. The existing roadway between Gorgas Avenue and Lyon Street would be reconstructed as a one-way roadway heading towards Lyon Street.

In addition to the assumed changes to the roadway network within and adjacent to the Presidio, all of the alternatives assume minor modifications to Muni and GGT routes to connect to the proposed Presidio shuttle. Muni routes that currently enter the Presidio through the Lombard gate were assumed to continue on Doyle Drive and enter the Presidio via the proposed ramps near Girard Road, where the buses would share a common stop with the Presidio shuttle route and GGT routes. All of the alternatives, except Minimum Management, also assume improvements to the pedestrian and

bicycle circulation network throughout the Presidio, consistent with the Presidio Bikeways and Trails Master Plan.

FUTURE TRAVEL DEMAND FORECASTS

The San Francisco County Transportation Authority (SFCTA) countywide travel demand forecasting model was used to develop the travel forecasts for cumulative development and growth through the years 2020 in the region, as well as to determine travel demand to and from the Presidio for the various alternatives. This approach results in a cumulative impacts assessment for year 2020 conditions that takes into account both the future development expected at the Presidio, as well as the expected growth in housing and employment for the remainder of San Francisco and the nine-county Bay Area.

The most up-to-date version of the SFCTA countywide model estimates future traffic and transit travel demand for the entire nine-county Bay Area region based on land use and employment forecasts prepared by the San Francisco Planning Department for the County plus regional growth estimates developed and adopted by the Association of Bay Area Governments (ABAG) in 1998 (Projections '98) for the remainder of the Bay Area region. The SFCTA model divides the entire Bay Area region into approximately 1,750 geographical areas, known as Transportation Analysis Zones (TAZs); about 800 of them are within San Francisco, 30 in the Presidio.

The SFCTA model estimates the future travel demand for each TAZ, determines the origin and destination and mode of travel (auto, transit, or other) for each trip, and assigns those trips to the transportation system (roadway network and transit lines). The SFCTA model was used to characterize the "without project" condition, by identifying the future background (non-Presidio related) growth in travel demand, plus the potential for travel growth that might occur in Area A of the Presidio, as well as possible changes in travel patterns for pass-through (or cut-through) traffic.

The SFCTA model has been developed as a tool to forecast future traffic volumes on major regional traffic facilities such as the Golden Gate Bridge, Lombard Street, Park Presidio Boulevard, or on major local streets. It is not designed to provide accurate traffic forecasts on local streets at the block-by-block level, nor to forecast turning movements at intersections, which are necessary to determine future intersection operating conditions. Therefore, a subsequent step was undertaken to derive future travel related to Area B of the Presidio.

In the second step, the land use components of the various alternatives were quantified by planning district, and used as input to estimate the Area B transportation impacts on the surrounding transportation network on a daily basis, as well as during typical weekday a.m. and p.m. peak commute hours. Travel demand associated with each land use was calculated for each of the 26 TAZs within Area B, based on standard daily, a.m. and p.m. trip generation rates. Person trips generated and attracted by Area B were distributed to eight different geographical origin/destination areas, including four San Francisco areas and three other regions in the Bay Area based on information supplied by the San Francisco Planning Department or obtained from the SFCTA model. The mode split analysis then determined the portion of these trips made via automobile, transit, or other mode of transportation, based upon the origin/destination of the trips, their purpose, and the availability of various travel modes. Finally, automobile occupancy rates were applied, to yield the average number of individuals in a vehicle, and thus, determine the number of vehicles that would be traveling to and from Area B of the Presidio.

Based upon the future traffic conditions in the vicinity of the Presidio (as estimated by the SFCTA model) and the additional vehicle trips that would result for a given Area B alternative (based on trip generation for each land

use), vehicles were then assigned to individual streets within and adjacent to the Presidio. These future traffic volumes were used in the analysis of future traffic operating conditions for each alternative.

TRAVEL DEMAND

Table 44 presents the projected daily, a.m. peak hour and p.m. peak hour travel demand estimates for typical weekday conditions for the ten alternatives being analyzed for transportation impacts. Daily and peak hour travel demand would vary by alternative, depending on the land use elements contained in the alternatives and the intensity of use. The number of weekday daily person-trips would range from 73,248 person-trips for the GMPA 2000 alternative to 112,904 person-trips for the Sustainable Community alternative. In general, approximately nine percent of the daily trips generated by each alternative occur during the a.m. peak hour, and about twelve percent occur during the p.m. peak hour.

The projected travel demand shown in Table 44 represents typical weekday daily, a.m. peak hour and p.m. peak hour conditions. Special events that may take place at the Presidio would attract additional visitors and would result in a greater travel demand than estimated in Table 44.

The transportation modal split for the alternatives reflects implementation of improvements to encourage transit, pedestrian and bicycle modes and discourage single-occupant vehicle travel. The overall modal split (which is the percentage of total trips that would occur via a private vehicle, transit, bicycle, or as a pedestrian) would vary by alternative. For the action alternatives, the modal split would be approximately 63 percent by auto, 20 percent by transit, and 17 percent by walking and bicycle. All of the alternatives assume that mode split would vary by location within the Presidio. For example, persons living or working in the Letterman or Main Post Planning District are more likely to use transit than those living or working at the Fort Scott or the South Hills Planning Districts, because of proximity to better transit. For the GMPA 2000 alternative, the modal split would be 67 percent by auto, 17 percent by transit, and 16 percent by walking and bicycle, while the modal split for the Minimum Management alternative would be 73 percent by auto, 14 percent by transit, and 13 percent by walking and bicycle.

During the a.m. peak hour, the number of Area B vehicle-trips generated by the alternatives would range from between 4,039 vehicle-trips for the GMPA 2000 alternative to 5,874 vehicle-trips for the Minimum Management alternative. During the p.m. peak hour, vehicle-trips would range from 3,897 vehicle-trips under the GMPA 2000 alternative to 6,744 vehicle-trips for the Minimum Management alternative. Tables 1 and 2 of Appendix F show a.m. and p.m. peak hour person trips by mode of travel and by planning district.

POTENTIAL IMPACTS

INCREASED CONGESTION ON LOCAL ROADWAYS

Future 2020 traffic volumes were developed for each of the alternatives at all study intersections, which include the gateways to the Presidio. In addition to anticipated growth in vehicles traveling to and from the Presidio, regional growth throughout San Francisco and the greater Bay Area is expected to contribute to increase traffic on roadways near the Presidio. As traffic volumes on these roadways increase and the roadways surrounding the Presidio become more congested, more drivers are expected to choose to drive through the Presidio to get to and from other parts of San Francisco and Marin County. One of the primary pass-through routes in the Presidio today is between the Presidio Boulevard and Lombard Street gates. A substantial change in this particular pass-through traffic volume is not expected. However, due to the expected growth in regional traffic volumes, pass-through traffic would increase between the Golden Gate Bridge and the 25th Avenue, Arguello Boulevard and Presidio Boulevard gates.

Table 44: Estimated Trip Generation (a) by Travel Mode Weekday Daily, A.M. and P.M. Peak Hour

	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Daily Person Trips (b)						
Auto	49,085	64,993	61,821	71,551	69,979	67,362
Transit	12,124	20,134	19,583	21,504	21,960	12,483
Other(c)	12,038	18,504	17,332	19,848	20,625	12,452
Total Person-Trips	73,248	103,632	98,737	112,904	112,564	92,297
Vehicle-Trips(d)	40,175	50,535	49,625	55,517	54,472	55,836
A.M. Peak Hour Person-Trips						
Auto	4,627	5,395	5,677	5,858	5,788	6,700
Transit	1,177	1,742	1,884	1,851	1,888	1,307
Other	1,086	1,554	1,604	1,645	1,706	1,245
Total Person-Trips	6,889	8,691	9,165	9,354	9,381	9,252
Vehicle-Trips	4,039	4,517	4,908	4,881	4,843	5,874
P.M. Peak Hour Person-Trips						
Auto	4,717	6,261	7,481	8,597	8,525	8,063
Transit	1,168	1,942	2,375	2,588	2,675	1,504
Other	1,148	1,776	2,086	2,372	2,499	1,491
Total Person-Trips	7,034	9,980	11,942	13,557	13,699	11,057
Vehicle-Trips	3,897	4,887	6,029	6,698	6,655	6,744

Source: Wilber Smith Associates, 2001.

Notes:
(a) Includes inbound and outbound trips
(b) Person-trips refer to trips made by all modes
(c) Other includes walk, bicycle and other modes
(d) Vehicle trips calculated by dividing the auto person trips by the average number of persons per vehicle.

Table 45 presents the p.m. peak hour traffic volumes at the Presidio gates for existing (2000) and future (2020) conditions, which includes both entering and exiting traffic. Weekday p.m. peak hour volumes through the gateways would increase from 5,953 vehicles per hour in 2000, to between 8,625 (GMPA 2000 alternative) and 11,433 (Minimum Management alternative) vehicles per hour, an increase of between 45 and 92 percent.

The Presidio Avenue, Lincoln Boulevard/25th Avenue, Arguello Boulevard, and Lombard Street gates would have the greatest traffic volumes during the p.m. peak hour. The greatest increase in traffic volumes from existing conditions is anticipated to occur at the Presidio Avenue, Lincoln Boulevard/25th Avenue, and the Plaza East gates. The new gateway provided as part of the reconstruction of Doyle Drive would also accommodate a substantial portion of the additional trips generated by the alternatives.

Based on the future projected traffic conditions, and the estimated traffic volumes for each of the alternatives, the future 2020 traffic operating conditions were calculated for the study intersections, as show in Tables 46 and 47 for a.m. and p.m. peak hour conditions, respectively.

GMPA 2000 Alternative

The GMPA 2000 alternative would generate 40,175 daily vehicle trips. The growth in traffic would increase congestion at study intersections. As shown in Tables 46 and 47, of the 33 studied intersections, eight would operate at unacceptable levels (LOS E or F) under the GMPA 2000 alternative during the a.m. peak hour, and ten during the p.m. peak hour. The poor operating conditions at these intersections reflect the increase in traffic volumes traveling to and from the land uses in Area B of the Presidio, as well as relatively modest increases in traffic traveling to and from Area A and expected increases in pass-through traffic resulting from regional traffic growth.

The intersections that would operate at an unacceptable level of service under the GMPA 2000 alternative are:

	LOS E or F	
	A.M. Peak	P.M. Peak
Intersection	**Hour**	**Hour**
Lyon/Lombard	X	X
Letterman/Presidio/Lincoln	X	
Lombard/Presidio	X	X
Presidio/Pacific	X	X
Lincoln/25th/El Camino del Mar	X	X
Lincoln/Bowley/Pershing	X	X
Lincoln/Merchant		X
Lincoln/Golden Gate Bridge Viewing Area	X	X
Park Presidio/Lake		X
Park Presidio/California		X
14th/California		X
25th/California	X	

All of these study intersections, except for the three intersections of Lincoln Boulevard/Bowley Avenue, Park Presidio Boulevard/Lake Street and Park Presidio Boulevard/California Street, could be mitigated to an acceptable level of service (LOS D or better) through improvements identified in the GMPA EIS, or additional mitigation measures identified for this analysis, as described in the mitigation section of this chapter and summarized in Table 48.

The intersection of Lincoln Boulevard/Bowley Avenue would experience a decrease in traffic volumes as a result of the removal of Wherry housing; however, approximately 20 vehicles per hour would still travel on the intersection minor (STOP-sign controlled) approaches during the a.m. and p.m. peak hours. These vehicles would experience substantial delays as a result of the higher volume of vehicles traveling along Lincoln Boulevard, which are not required to stop. Because of the relatively low volume of

Table 45: Presidio Gateways Traffic Volume Summary Year 2000 and 2020 - Weekday P.M. Peak Hour

Gate	Existing Conditions	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Mason St.	456	568	743	1,080	1,077	1,041	1,021
Gorgas Ave.	196	305	293	361	336	330	370
Lombard St.	1,260	1,189	1,260	1,330	1,411	1,354	1,332
Presidio Ave.	1,002	1,636	1,662	1,938	1,962	1,887	1,960
Arguello Blvd.	815	1,037	1,249	1,635	1,720	1,569	1,711
15th Ave.	93	207	468	68	347	589	546
Lincoln Blvd./25th Ave.	1,072	1,456	1,540	1,621	1,727	1,578	1,820
Plaza West	325	554	554	554	554	554	554
Plaza East	734	1,074	1,074	1,074	1,074	1,074	1,074
Doyle Drive	0	599	715	957	988	950	1,045
Total	**5,953**	**8,625**	**9,558**	**10,618**	**11,196**	**10,926**	**11,433**
Cut through traffic (%)	**35%**	**49%**	**45%**	**40 %**	**38%**	**39%**	**37%**

Source: Wilbur Smith Associates, 2001.

Notes:

Includes inbound and outbound vehicle trips.

Table 46: Year 2000 and 2020 Intersection Levels of Service – A.M. Peak Hour

		Existing Conditions	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
1.	Lombard/Richardson	A	A	A	A	A	A	A
2.	Lyon/Lombard	**E**/B	**F**/B	**F**/B	**F**/B	**F**/B	**F**/B	**F**/B
3.	Francisco/Richardson	B	B	B	B	B	B	B
4.	Gorgas/Lyon/Francisco	C	B	B	B	B	B	B
5.	Doyle/Marina/Lyon	A	A	A	A	A	A	A
6.	Mason/Marina/Lyon	A	B	B	B	B	B	B
7.	Lincoln/Halleck	B	A	A	A	A	A	B
8.	Presidio/Funston	A	B	B	C	B	B	C
9.	Letterman/Presidio/Lincoln	A	E/B	E/B	**F**/B	E/B	**E**/B	**F**/B
10.	Lombard/Presidio	D	**F**/B	**F**/B	**F**/B	**F**/B	**F**/B	**F**/B
11.	Presidio/Pacific	B	**E**/B	**E**/B	**F**/B	**F**/B	**E**/B	**F**/B
12.	Arguello/Jackson	B	C	C	**E**/A	D	D	**E**/A
13.	Washington/Arguello	A	B	B	B	B	B	B
14.	Arguello/Moraga	A	C	C	C	C	C	C
15.	Graham/Moraga	A	B	B	C	B	B	C
16.	Sheridan/Montgomery	A	A	C	C	C	B	B
17.	Lincoln/Sheridan	B	B	B	B	B	B	B
18.	Lincoln/Park/McDowell	B	B	B	B	C	B	B
19.	14th/Lake	C	D	**E**/A	C	D	**E**/A	**F**/B
20.	15th/Lake	B	C	C	C	C	C	C
21.	Lincoln/25th/El Camino del Mar	D	**F**/C	**F**/C	**F**/C	**F**/C	**F**/C	**F**/D
22.	Lincoln/Bowley/Pershing	C	**F**	**F**	**F**	**E**	**F**	**F**
23.	Lincoln/Kobbe	C	B	D	B	D	B	**F**/A
24.	Lincoln/Merchant	A	D	**E**/C	D	**E**/D	D	**F**/D
25.	Lincoln/Storey	B	B	C	B	B	C	B
26.	Lincoln/GGB Viewing Area	C	**E**/C	**F**/C	**F**/C	**F**/C	**F**/C	**F**/C
27.	Lincoln/Graham	B	A	B	B	B	B	C
28.	Divisadero/Lombard	B	B	B	B	B	B	B
29.	Park Presidio/Lake	B	C	C	C	C	C	D
30.	Park Presidio/California	B	B	B	B	B	B	B
31.	14th/California	C	D	D	D	D	D	**F**/D
32.	15th/California	C	C	C	C	C	C	C
33.	25th/California	B	**E**/B	**F**/B	**E**/B	**F**/B	**E**/B	**F**/C

Source: Wilbur Smith Associates, 2001.

Notes:
Unacceptable service levels are shown bold.
Unmitigated LOS/Mitigated LOS

Table 47: Year 2000 and 2020 Intersection Levels of Service – P.M. Peak Hour

		Existing Conditions	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
1.	Lombard/Richardson	A	A	A	A	A	A	A
2.	Lyon/Lombard	D	**F**/B	**F**/B	**F**/B	**F**/B	**F**/B	**F**/B
3.	Francisco/Richardson	B	B	B	C	C	C	C
4.	Gorgas/Lyon/Francisco	B	B	B	B	B	B	B
5.	Doyle/Marina/Lyon	B	B	B	B	B	B	B
6.	Mason/Marina/Lyon	B	B	B	C	C	C	C
7.	Lincoln/Halleck/Anza	B	A	A	B	C	C	D
8.	Presidio/Funston	A	D	C	D	D	D	D
9.	Letterman/Presidio/Lincoln	A	D	**E**/B	**F**/B	**F**/B	**F**/B	**F**/C
10.	Lombard/Presidio	D	**F**/B	**F**/B	**F**/C	**F**/C	**F**/C	**F**/C
11.	Presidio/Pacific	B	**E**/B	**F**/B	**F**/B	**F**/B	**F**/B	**F**/B
12.	Arguello/Jackson	C	D	**E**/A	**F**/B	**F**/B	**F**/B	**F**/B
13.	Washington/Arguello	A	B	B	C	C	D	C
14.	Arguello/Moraga	B	B	C	**E**/C	D	**F**/B	C
15.	Graham/Moraga	A	B	B	B	B	B	B
16.	Sheridan/Montgomery	A	A	B	C	C	B	B
17.	Lincoln/Sheridan	B	B	B	C	B	B	B
18.	Lincoln/Park/McDowell	B	B	B	B	C	C	C
19.	14th/Lake	C	D	**F**/A	D	**F**/A	**F**/B	**F**/A
20.	15th/Lake	B	B	C	B	B	C	C
21.	Lincoln/25th/El Camino del Mar	D	**F**/B	**F**/B	**F**/C	**F**/C	**F**/C	**F**/D
22.	Lincoln/Bowley/Pershing	C	**E**	**F**	**F**	**F**	**F**	**F**
23.	Lincoln/Kobbe	C	B	**F**/A	**F**/A	**F**/A	**F**/A	**F**/A
24.	Lincoln/Merchant	C	**E**/C	**F**/C	**F**/D	**F**/D	**F**/D	**F**/C
25.	Lincoln/Storey	B	C	C	B	B	C	C
26.	Lincoln/GGB Viewing Area	C	**F**/D	D	**E**/D	**E**/D	**E**/D	D
27.	Lincoln/Graham	A	A	B	B	C	C	C
28.	Divisadero/Lombard	B	B	B	B	B	B	B
29.	Park Presidio/Lake	C	**F**	**F**	**F**	**F**	**F**	**F**
30.	Park Presidio/California	**E**	**F**	**F**	**F**	**F**	**F**	**F**
31.	14th/California	D	**E**/C	**F**/D	**F**/C	**F**/C	**F**/D	**F**/C
32.	15th/California	C	C	D	C	D	**E**/D	**E**/D
33.	25th/California	B	D	**E**/B	**E**/B	**F**/C	**F**/C	**F**/D

Source: Wilbur Smith Associates, 2001.

Notes:
Unacceptable service levels are shown bold.
Unmitigated LOS/Mitigated LOS

Table 48: Intersection Mitigation Measures and Applicable Alternatives

Mitigated Intersection	Mitigation Number	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Presidio/Pacific	TR-1	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.
Arguello/Jackson	TR-2		P.M.	A.M./P.M.	P.M.	P.M.	A.M./P.M.
Lincoln/25th/El Camino del Mar	TR-3	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.
Lombard/Presidio	TR-4	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.
Lincoln/GGB Viewing Area	TR-6	A.M./P.M.	A.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M.
Lincoln/Merchant	TR-7	P.M.	A.M./P.M.	P.M.	A.M./P.M.	P.M.	A.M./P.M.
Lincoln/Kobbe	TR-8		P.M.	P.M.	P.M.	P.M.	A.M./P.M.
14th/Lake	TR-11		A.M./P.M.		P.M.	A.M./P.M.	A.M./P.M.
Lyon/Lombard	TR-12	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.
Arguello/Moraga	TR-5; TR-13(a)			P.M.		P.M.	
Letterman/Presidio/Lincoln	TR-14	A.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.
14th/California	TR-15	P.M.	P.M.	P.M.	P.M.	P.M.	A.M./P.M.
15th/California	TR-16					P.M.	P.M.
25th/California	TR-17	A.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.	A.M./P.M.

Source: Wilbur Smith Associates, 2001.

Notes:

A.M./P.M. – indicates whether mitigation required in a. m. or p.m. peak hour or both.
TR-X = number of applicable mitigation measure. See "mitigation" at the end of this chapter for identified improvements.

(a) Resource Consolidation alternative only.

traffic on Bowley Avenue (less than 2 percent) compared to Lincoln Boulevard, the intersection does not meet the minimum warrants that would require signalization. The intersection could still be signalized because of other considerations such as pedestrian movements or accidents.

The intersections of Park Presidio Boulevard/Lake Street and Park Presidio Boulevard/California Street are expected to operate at LOS F during the p.m. peak hour. The GMPA 2000 alternative would be expected to contribute less than two percent to the total p.m. peak hour traffic volumes at these two intersections, well within the range of daily traffic variations, which would indicate that the anticipated poor operating conditions at these two intersections would be primarily due to overall regional traffic growth. Both intersections are currently signalized, and left turns are restricted from both directions of Park Presidio Boulevard. Neither intersection could be feasibly mitigated as an at-grade intersection. Due to regional growth, an 11 percent increase in p.m. peak hour traffic volumes is expected at these intersections between now and 2020. If this level of growth does not occur because of traffic flow constraints at the Golden Gate Bridge or farther south on Park Presidio Boulevard, the intersections may not operate at LOS F. These potential traffic flow constraints are being evaluated in the Doyle Drive EIS/EIR.

It should be noted that the intersections of 14th Avenue and 25th Avenue with California Street are in the City of San Francisco, so improvements at these two intersections would be beyond the jurisdiction of the Trust.

This alternative also includes implementation of a TDM program, an internal shuttle system, coordination with local transit providers and other strategies intended to reduce automobile use, which could decrease the actual number of daily trips generated by this alternative, so that the impacts on local intersections would be reduced.

Draft Plan Alternative

The Draft Plan alternative is estimated to generate 50,535 daily vehicle trips in 2020, or 26 percent more trips than would be generated by the GMPA 2000 alternative. As a result, as shown in Tables 46 and 47, the Draft Plan alternative would result in unacceptable service levels (LOS E or F) at the same intersections as the GMPA 2000 alternative, which is considered the baseline condition (see above for full discussion), except for the intersection of Lincoln Boulevard/Golden Gate Bridge Viewing Area in the p.m. peak hour. The Draft Plan alternative would also result in unacceptable service levels at the following intersections:

	LOS E or F	
	A.M. Peak	P.M. Peak
Intersection	**Hour**	**Hour**
Arguello/Jackson		X
Lincoln/Merchant	X	
Letterman/Presidio/Lincoln		X
14th/Lake	X	X
Lincoln/Kobbe		X
25th/California		X

All of these intersections would operate at acceptable levels with the improvements identified under the GMPA 2000 alternative, and with additional mitigation that specifically addresses those intersections. It should be noted that the intersections of 25th Avenue with California Street, Arguello Boulevard with Jackson Street, and 14th Avenue with Lake Street are in the City of San Francisco, so improvements at these intersections would be beyond the jurisdiction of the Trust. This alternative also includes strategies for reducing single-occupancy vehicle trips, which would also further reduce vehicular delays at local intersections.

Resource Consolidation Alternative

The Resource Consolidation alternative is estimated to generate 49,625 daily vehicle trips in 2020, or 24 percent more trips than would be generated by the GMPA 2000 alternative. As a result, as shown in Tables 46 and 47, the Resource Consolidation alternative would result in unacceptable service levels (LOS E or F) at the same intersections as the GMPA 2000 alternative, which is considered the baseline condition, plus the following intersections:

	LOS E or F	
	A.M. Peak	P.M. Peak
Intersection	Hour	Hour
Arguello Boulevard/Jackson	X	X
Letterman/Presidio/Lincoln		X
Arguello/Moraga		X
Lincoln/Kobbe		X
25th/California		X

All these intersections would operate at acceptable levels with the improvements identified under the GMPA 2000 alternative, and with additional mitigation that specifically addresses these intersections. It should be noted that the intersections of 25th Avenue with California Street and Arguello Boulevard with Jackson Street are in the City of San Francisco, so improvements at these intersections would be beyond the jurisdiction of the Trust. This alternative also includes strategies for reducing single-occupancy vehicle trips, which would also further reduce vehicular delays at local intersections.

Sustainable Community Alternative

The Sustainable Community alternative is estimated to generate 55,517 daily vehicle trips in 2020, or 38 percent more trips than would be generated by the GMPA 2000 alternative. As a result, as shown in Tables 46 and 47, the Sustainable Community alternative would result in unacceptable service levels (LOS E or F) at the same intersections as the GMPA 2000 alternative, which is considered the baseline condition, plus the following intersections:

	LOS E or F	
	A.M. Peak	P.M. Peak
Intersection	Hour	Hour
14th/Lake		X
Lincoln/Merchant	X	
Letterman/Presidio/Lincoln		X
Arguello/Jackson		X
Lincoln/Kobbe		X
25th/California		X

All of these intersections would operate at acceptable levels with the improvements identified under the GMPA 2000 alternative, and with additional mitigation that specifically addresses these intersections. It should be noted that the intersections of 14th Avenue with Lake Street, 25th Avenue with California Street, and Arguello Boulevard with Jackson Street are in the City of San Francisco, so improvements at these intersections would be beyond the jurisdiction of the Trust. This alternative also includes strategies for reducing single-occupancy vehicle trips, to the extent of the other alternatives.

Cultural Destination Alternative

The Cultural Destination alternative is estimated to generate 54,472 daily vehicle trips in 2020, or 36 percent more trips that would be generated by the GMPA 2000 alternative. As a result, as shown in Tables 46 and 47, the Cultural Destination alternative would result in unacceptable service levels

(LOS E or F) at the same intersections as the GMPA 2000 alternative, plus the following intersections:

	LOS E or F	
	A.M. Peak	P.M. Peak
Intersection	Hour	Hour
Arguello/Jackson		X
14th/Lake	X	X
Arguello/Moraga		X
Letterman/Presidio/Lincoln		X
Lincoln/Kobbe		X
15th/California		X
25th/California		X

All of these intersections would operate at acceptable levels with the improvements identified under the GMPA 2000 alternative, and in mitigation that specifically addresses these intersections. It should be noted that the intersections of Arguello Boulevard with Jackson Street, 14th Avenue with Lake Street, 15th Avenue with California Street and 25th Avenue with California Street are in the City of San Francisco, so improvements at these intersections would be beyond the jurisdiction of the Trust. This alternative also includes strategies for reducing single-occupancy vehicle trips, which would also further reduce vehicular delays at local intersections.

Minimum Management Alternative

The Minimum Management alternative is anticipated to generate 55,836 vehicle trips per day, approximately 39 percent more trips than would be generated by the GMPA 2000 alternative. As shown in Tables 46 and 47, unacceptable service levels (LOS E or F) would occur at the same intersections as the GMPA 2000 alternative, except at the intersection of Lincoln Boulevard/Golden Gate Bridge Viewing Area in the p.m. peak hour. The Minimum Management alternative would also result in unacceptable service levels at the following intersections:

	LOS E or F	
	A.M. Peak	P.M. Peak
Intersection	Hour	Hour
Arguello/Jackson	X	X
Lincoln/Merchant	X	
Letterman/Presidio/Lincoln		X
14th/Lake	X	X
Lincoln/Kobbe	X	X
14th/California	X	
15th/California		X
25th/California		X

Traffic operations at all these intersections can be improved to acceptable levels through improvements identified under the GMPA 2000 alternative, and in mitigation that specifically addresses these intersections. It should be noted that the three intersections with California Street are in the City of San Francisco, so improvements at these intersections would be beyond the jurisdiction of the Trust. This alternative would not include strategies for reducing single-occupancy vehicle trips, to the same extent as the other alternatives.

4.5.2 PARKING

Table 49 presents a summary of the weekday parking demand, as compared to the supply for each alternative. A parking demand and supply summary by planning district is shown in Table 3 of Appendix F. With the exception of the Minimum Management alternative, each alternative would reduce the existing number of parking spaces within the Presidio as part of the parking management strategy to discourage single-occupant auto use.

Table 49: Parking Supply and Demand by Alternative

	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Supply	7,777	9,629	9,835	9,883	9,930	11,180
Demand	7,313	7,965	8,459	8,215	8,616	9,418
+Surplus/ (Deficit)	464	1,664	1,376	1,668	1,314	1,762

Source: Wilbur Smith Associates, 2001.

GMPA 2000 Alternative

The GMPA 2000 alternative would provide approximately 7,780 parking spaces, and is estimated to have a demand for about 7,320 spaces, resulting in a surplus of 460 spaces, or six percent. The average weekday parking demand would almost exactly be accommodated within the proposed supply.

Under this alternative, special events would be scheduled and coordinated based on parking availability, and events would be regulated to ensure that supply meets expected demand including demand from Area A of the Presidio. Events requiring large amounts of parking would not be scheduled concurrently with other events or Presidio peak-parking demand periods, if combined parking demand would exceed the available supply within Area B of the Presidio.

Draft Plan Alternative

The Draft Plan alternative would generate a demand for about 7,970 parking spaces, or 9 percent greater than the estimated parking demand generated by the GMPA 2000 alternative in 2020. The Draft Plan alternative would provide approximately 9,630 spaces. The result would be a surplus of 1,660 spaces, or 21 percent more than the estimated average weekday parking demand. The surplus of parking spaces could potentially compromise the efforts of the TDM program to reduce single-occupant vehicles and encourage non-auto modes. The effect of excess parking supply would be reduced by mitigation measures requiring monitoring and adjustment of parking supply and demand, implementation of a TDM program, and reduction of the amount of parking available under this alternative.

As with the GMPA 2000 alternative, this alternative would accommodate special events, which could generate periodic additional demand for parking. Mitigation identified in this EIS would ensure that events would be coordinated so that demand would not exceed parking supply.

Resource Consolidation Alternative

The estimated parking demand for the Resource Consolidation alternative would be about 8,460 parking spaces, which would be about 16 percent greater than the estimated parking demand for the GMPA 2000 alternative. The Resource Consolidation alternative would provide approximately 9,840 parking spaces. This alternative would generate a surplus of 1,380 spaces, or 16 percent more than demand. The surplus of parking spaces could potentially compromise the efforts of the TDM program to reduce single-occupant vehicles and encourage non-auto modes. The effect of excess parking supply would be reduced by mitigation measures requiring monitoring and adjustment of parking supply and demand, implementation of a TDM program, and reduction of the amount of parking available under this alternative.

As with the GMPA 2000 alternative, this alternative would accommodate special events, which could generate periodic additional demand for parking. Mitigation identified in this EIS would ensure that events would be coordinated so that demand would not exceed parking supply.

Sustainable Community Alternative

The estimated parking demand for the Sustainable Community alternative would be about 8,220 parking spaces, which would be 12 percent greater than the estimated parking demand for the GMPA 2000 alternative in 2020. The Sustainable Community alternative would provide approximately 9,880 parking spaces, a surplus of 1,660 spaces, or 20 percent more than needed. The surplus of parking spaces could potentially compromise the efforts of the TDM program to reduce single-occupant vehicles and encourage non-auto modes. The effect of excess parking supply would be reduced by mitigation measures requiring monitoring and adjustment of parking supply and demand, implementation of a TDM program, and reduction of the amount of parking available under this alternative.

As with the GMPA 2000 alternative, this alternative would accommodate special events, which could generate periodic additional demand for parking. Mitigation identified in this EIS would ensure that events would be coordinated so that demand would not exceed parking supply.

Cultural Destination Alternative

The estimated parking demand for the Cultural Destination alternative would be about 8,620 parking spaces, which would be 18 percent greater than the estimated parking demand for the GMPA 2000 alternative in 2020. The estimated demand would be less than the proposed supply of approximately 9,930 spaces, resulting in a surplus of about 1,310 spaces, or 15 percent more than needed. The surplus of parking spaces could potentially compromise the efforts of the TDM program to reduce single-occupant vehicles and encourage non-auto modes. The effect of excess parking supply would be reduced by mitigation measures requiring monitoring and adjustment of parking supply and demand, implementation of a TDM program, and reduction of the amount of parking available under this alternative.

As with the GMPA 2000 alternative, this alternative would accommodate special events, which could generate periodic additional demand for parking. Mitigation identified in this EIS would ensure that events would be coordinated so that demand would not exceed parking supply.

Minimum Management Alternative

The Minimum Management alternative would generate a demand for approximately 9,420 parking spaces, and provide about 11,180 spaces, an excess of approximately 1,760 spaces, which could result in additional vehicle trips traveling to and from the Presidio. The additional vehicle-trips could affect the effectiveness of measures intended to reduce dependence on automobile, because free parking would provide an incentive that could compete with transit, ridesharing and similar programs. The effect of excess parking supply could be reduced by mitigation measures requiring monitoring and adjustment of parking supply and demand, implementation of a TDM program, and reduction of the amount of parking available, which are being proposed to a lesser extent under this alternative.

4.5.3 BICYCLE AND PEDESTRIAN CIRCULATION

Implementation of the alternatives would result in an increase in pedestrian and bicycle activity within the Presidio and on streets adjacent to the key gates. Under all alternatives, approximately 13 to 18 percent of all trips generated by the land uses are anticipated to occur by walking and bicycling as the primary mode. In addition, persons accessing the Presidio by auto or transit would also walk from transit stops and parking areas.

GMPA 2000 Alternative

The GMPA 2000 alternative would generate about 12,000 pedestrian and bicycle trips per weekday, increasing pedestrian and bicycle activity within the Presidio and on streets adjacent to key gates of the Presidio. The

increase in pedestrian and bicycle activity would generally be accommodated within the existing pedestrian and bicycle network. Planned improvements to the pedestrian and bicycle network throughout the Presidio would enhance the pedestrian and bicycle environment, and facilitate the safe and direct flow of pedestrians and bicyclists to and from the different parts of the Presidio. These planned improvements will be outlined in the Bikeways and Trails Master Plan, which will guide development of a comprehensive pedestrian and bicycle network throughout the Presidio. Implementation of the Bikeways and Trails Master Plan should ensure that bicycle and pedestrian facilities are adequate to meet the demand generated by this alternative.

Draft Plan Alternative

Under the Draft Plan alternative, there would be up to 18,500 bicycle and pedestrian trips per weekday, 54 percent more trips than under the GMPA 2000 alternative. The Bikeways and Trails Master Plan would ensure that facilities were developed to accommodate the bicycle/pedestrian demand generated by this alternative.

Resource Consolidation Alternative

Under the Resource Consolidation alternative, there would be up to 17,300 bicycle and pedestrian trips per weekday, which is 44 percent more trips than the GMPA 2000 alternative. The Bikeways and Trails Master Plan would ensure that facilities were developed to accommodate the bicycle/pedestrian demand generated by this alternative.

Sustainable Community Alternative

Under the Sustainable Community alternative, there would be up to 19,800 bicycle and pedestrian trips per weekday, which is 65 percent more trips than the GMPA 2000 alternative. The Bikeways and Trails Master Plan would ensure that facilities were developed to accommodate the bicycle/pedestrian demand generated by this alternative.

Cultural Destination Alternative

In the case of the Cultural Destination alternative, there would be up to 20,600 bicycle and pedestrian trips per weekday, which is 71 percent more trips than the GMPA 2000 alternative. The Bikeways and Trails Master Plan would ensure that facilities were developed to accommodate the bicycle/pedestrian demand generated by this alternative.

Minimum Management Alternative

As shown in Table 44, the Minimum Management alternative would generate 12,500 daily bicycle and pedestrian trips as the primary mode of access, which is three percent more trips than the GMPA alternative. The increase in pedestrian and bicycle activity would generally be accommodated within the existing pedestrian and bicycle network. Because the Minimum Management alternative would not include implementation of new programs such as the Bikeways and Trails Master Plan, improvements to the pedestrian and bicycle network would not be made, and the use of non-auto modes of travel would not be promoted.

4.5.4 TRANSIT SERVICES

The land uses associated with the PTIP alternatives would generate additional transit trips on Muni, GGT, and on the Presidio's internal shuttle. Table 44 summarizes the number of total transit trips per day for each alternative, while Table 50 summarizes the a.m. and p.m. peak hour transit trips by service provider by alternative. Under all alternatives, approximately 17 percent of all trips generated by the land uses are

Table 50: Transit Bus Peak Hour Presidio Ridership

Time Period & Service Provider	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
A.M. Peak Hour						
Muni	972	1,424	1,458	1,513	1,505	1,082
Golden Gate Transit	100	147	151	155	156	112
Internal Shuttle	201	246	189	243	298	154
Total	**1,273**	**1,817**	**1,798**	**1,911**	**1,959**	**1,348**
P.M. Peak Hour						
Muni	935	1,543	1,770	2,059	2,062	1,208
Golden Gate Transit	95	159	182	210	212	124
Internal Shuttle	266	307	294	399	489	215
Total	**1,296**	**2,009**	**2,246**	**2,668**	**2,763**	**1,547**

Source: Wilbur Smith Associates, 2001.

Note:

Total transit trips presented in this table may be greater than the number of employees, residents and visitors choosing to ride transit shown in Table 44 because some transit passengers may ride more than one transit service.

anticipated to occur by transit. About 77 to 83 percent of the transit trips would be on Muni, 8 percent on GGT and 9 to 15 percent on the internal Presidio shuttle. Tables 4, 5 and 6 in Appendix F summarize the predicted a.m. and p.m. peak hour ridership for Muni and GGT by route.

GMPA 2000 Alternative

In 2020, the GMPA 2000 alternative is expected to generate about 12,100 transit trips on a weekday daily basis, 1,180 transit trips during the a.m. peak hour, and 1,170 transit trips during the p.m. peak hour. Overall, the projected increase in transit ridership would be accommodated by the existing transit providers serving the Presidio and the internal Presidio shuttle. Planned improvements to transit service to and within the Presidio, as called for in this alternative, would also serve to accommodate the increase in transit demand. The increase in ridership on Muni lines would be distributed among the thirteen bus lines serving the Presidio and its vicinity, according to the expected geographic distribution of trips to and from the Presidio. The 82X-Presidio and Wharves Express, 43-Masonic, 29-Sunset and 28-19th Avenue are expected to carry the greatest portion (about 73 percent) of the Muni trips (see Appendix F, Tables 4 and 5). In general, these bus lines currently have available capacity in the vicinity of the Presidio and at the maximum load point, and the maximum load points occur a substantial distance from the Presidio. Adapted GMPA EIS mitigation measures supporting increased Muni frequencies would enhance transit service to the Presidio, and would increase the capacities available on these lines.

The increase in ridership on GGT would be distributed among the 26 GGT routes that serve the Presidio, and would increase the utilization of these lines. Because most GGT buses currently operate with capacity available for additional passengers, the addition of new riders to the bus routes would not substantially affect capacity utilization. However, five GGT routes currently operate at a capacity utilization of 90 percent or greater, and substantial increases on these lines would result in a significant impact unless GGT service on these lines is increased in the future.

The GMPA 2000 alternative would include an internal Presidio shuttle, which would accommodate the transit trips that occur within the Presidio and between Muni and GGT bus stops and internal locations. The service (routing, frequency, and vehicle size) would be structured to encourage use of the shuttle as a travel mode within the Presidio and would accommodate peak passenger demands. Mitigation calling for monitoring of transit demand and capacity, and coordination with GGT would reduce the potential impacts of this alternative on GGT.

Draft Plan Alternative

The Draft Plan alternative would generate about 20,100 daily transit trips, 66 percent more trips than the GMPA 2000 alternative. Under this alternative, there would be approximately 1,740 a.m. peak hour and 1,940 p.m. peak hour transit trips in 2020. The number of a.m. and p.m. peak hour transit trips expected under the Draft Plan alternative would exceed the number of GMPA 2000 a.m. peak hour and p.m. peak hour transit trips by 48 percent and 66 percent, respectively. As with the GMPA 2000 alternative, capacity on the Muni system should be adequate to serve the increased ridership, but the GGT routes are already operating near capacity. New mitigation, calling for increased frequency on Muni lines, the planned internal shuttle, and mitigation calling for monitoring of GGT routes and coordination with GGT would reduce the effects of this alternative on transit service.

Resource Consolidation Alternative

The Resource Consolidation alternative would generate about 19,583 daily transit trips, or 62 percent more trips than the GMPA 2000 alternative. Under this alternative, there would be approximately 1,880 a.m. peak hour

transit trips and 2,380 p.m. peak hour transit trips in 2020. The number of a.m. and p.m. peak hour transit trips expected under the Resource Consolidation alternative would exceed the number of GMPA 2000 a.m. peak hour and p.m. peak hour transit trips by 60 percent and 103 percent, respectively. As with the GMPA 2000 alternative, capacity on the Muni system should be adequate to serve the increased ridership, but the GGT routes are already operating near capacity. The adapted GMPA EIS measure, calling for increased frequency on Muni lines, the planned internal shuttle, and new mitigation, calling for monitoring of GGT routes and coordination with GGT would reduce the effects of this alternative on transit service.

Sustainable Community Alternative

The Sustainable Community alternative would generate about 21,500 daily transit trips, or 77 percent more trips than the GMPA 2000 alternative. Under this alternative, there would be approximately 1,850 a.m. peak hour transit trips and 2,590 p.m. peak hour transit trips in 2020. The number of a.m. and p.m. peak hour transit trips expected under the Sustainable Community alternative would exceed the number of GMPA 2000 a.m. peak hour and p.m. peak hour transit trips by 57 percent and 122 percent, respectively. As with the GMPA 2000 alternative, capacity on the Muni system should be adequate to serve the increased ridership, but the GGT routes are already operating near capacity. The GMPA EIS measure calling for increased frequency on Muni lines, the planned internal shuttle, and new mitigation, calling for monitoring of GGT routes and coordination with GGT would reduce the effects of this alternative on transit service.

Cultural Destination Alternative

The Cultural Destination alternative would generate about 22,000 daily transit trips, or 81 percent more trips than the GMPA 2000 alternative. Under this alternative, there would be approximately 1,890 a.m. peak hour transit trips and 2,680 p.m. peak hour transit trips in 2020. The number of a.m. and p.m. peak hour transit trips expected under the Cultural Destination alternative would exceed the number of GMPA 2000 a.m. peak hour and p.m. peak hour transit trips by 60 percent and 129 percent, respectively. As with the GMPA 2000 alternative, capacity on the Muni system should be adequate to serve the increased ridership, but the GGT routes are already operating near capacity. The adapted GMPA EIS measure calling for increased frequency on Muni lines, the planned internal shuttle, and new mitigation, calling for monitoring of GGT routes and coordination with GGT would reduce the effects of this alternative on transit service.

Minimum Management Alternative

The Minimum Management alternative would generate about 12,500 daily transit trips on Muni, GGT, and the Presidio's internal shuttle, approximately three percent more transit trips than those that would be generated under the GMPA 2000 alternative. Under this alternative there would be approximately 1,300 in the a.m. peak hour and 1,500 in the p.m. peak hour. The number of a.m. and p.m. peak hour transit trips expected under the Minimum Management alternative would exceed the number of GMPA 2000 a.m. peak hour and p.m. peak hour transit trips by 10 percent and 27 percent, respectively. As with the GMPA 2000 alternative, capacity on the Muni system should be adequate to serve the increased ridership, but the GGT routes are already operating near capacity. The GMPA EIS measure calling for increased frequency on Muni lines, the planned internal shuttle, and new mitigation measures calling for monitoring of GGT routes and coordination with GGT would reduce the effects of this alternative on transit service.

4.5.5 CONSTRUCTION TRAFFIC

GMPA 2000 Alternative

Under the GMPA 2000 alternative, approximately 1.12 million square feet (sf) would be demolished, and 170,000 sf would be newly constructed. Construction activities at the Presidio would include reconstruction of existing roadways, buildings, structural improvements and other seismic work, utility upgrades, and other infrastructure enhancements. For construction of new structures, the following phases would generally be included: demolition, excavation, installation of foundations, building structure, finishes, and landscaping. Construction vehicles would include trucks hauling construction debris and delivering construction materials and supplies, as well as construction worker vehicles. The volume of construction vehicles accessing the Presidio would vary, depending on the specific construction activity and the schedules of the various building elements of each of the alternatives. For individual projects, the duration of demolition and construction would be relatively short term.

Construction vehicles would generally access the Presidio via Lombard Street (through the Lombard gate), the Golden Gate Bridge Toll Plaza, Doyle Drive/Richardson Avenue, and Doyle Drive (via the proposed access at Girard Road). Construction traffic leaving the Presidio would generally use Lombard Street, the Golden Gate Bridge Toll Plaza, and Doyle Drive via the Marina Boulevard gate. Due to city traffic restrictions, construction traffic would not travel on Marina Boulevard. After completion of the Doyle Drive project, construction vehicles (depending on their origins and destinations) would be able to access the Presidio via the future Girard Road interchange.

Construction-related traffic could create some conflicts with local and regional traffic, especially from the larger construction vehicles. However, because construction vehicle trips traveling to and from the Presidio would be dispersed through the Bay Area, the vehicle trips on other regional roadways would not be substantial and would generally fall within the normal fluctuations of traffic. A comprehensive Construction Traffic Management Plan would be developed to provide specific routes and other measures to minimize potential traffic impacts.

Draft Plan Alternative

The Draft Plan alternative would result in 1.07 million sf of demolition and 710,000 sf of new construction. The construction activities anticipated under this alternative would be similar to those described under the GMPA 2000 alternative, although there would be more construction traffic, due to the increase in demolition and construction activities. Trucks would be expected to use the same access points and routes as described above. A comprehensive Construction Traffic Management Plan would ensure that construction traffic impacts were minimized.

Resource Consolidation Alternative

The Resource Consolidation alternative would result in 1.91 million sf of demolition and 1.24 million sf of new construction. The construction activities anticipated under this alternative would be similar to those described under the GMPA 2000 alternative, although there would be more construction traffic, due to the increase in demolition and construction activities. Trucks would be expected to use the same access points and routes as described above. A comprehensive Construction Traffic Management Plan would ensure that construction traffic impacts were minimized.

Sustainable Community Alternative

The Sustainable Community alternative would result in 890,000 sf of demolition and 620,000 sf of new construction. The construction activities anticipated under this alternative would be similar to those described under the GMPA 2000 alternative, although there would be somewhat more construction traffic, due to the increase in construction activities. Under the Sustainable Community alternative there would be less demolition activity than the GMPA 2000 alternative. Trucks would be expected to use the same access points and routes as described above. A comprehensive Construction Traffic Management Plan would ensure that construction traffic impacts were minimized.

Cultural Destination Alternative

The Cultural Destination alternative would result in 1.37 million sf of demolition and 1.37 million sf of new construction. The construction activities anticipated under this alternative would be similar to those described under the GMPA 2000 alternative, although there would be more construction traffic, due to the increase in demolition and construction activities. Trucks would be expected to use the same access points and routes as described above. A comprehensive Construction Traffic Management Plan would ensure that construction traffic impacts were minimized.

Minimum Management Alternative

There would be no new or additional demolition or new construction under this alternative, so construction-related traffic would be limited to activities related to renovation. The frequency of such trips would be minor compared to trips associated with grading, demolition, and construction, all of which would likely require hauling large amounts of material to and from the Presidio.

MITIGATION MEASURES

Mitigation Adapted from the GMPA EIS

Roadway Network

Some of the improvements recommended in the GMPA EIS were assumed as part of the baseline conditions in this analysis such as the realignment of Halleck Street to intersect with Lincoln Boulevard and Anza Street, and configuration of a one-way couplet at the 14th Avenue and 15th Avenue gates. In addition to these improvements, the following mitigation measures identified in the GMPA EIS, if adopted, would generally improve the operating conditions at the intersections to acceptable levels of service. Table 48 indicates which intersections require mitigation by alternative. It should be noted that mitigation measures TR-4 and TR-12 were identified and included in the Letterman Complex EIS.

TR-1 *Presidio Boulevard/Pacific Avenue Intersection.*

Remove parking at the intersection, add turning lanes, and install a traffic signal.

The GMPA EIS recommendations call for removing parking at the intersection, adding turning lanes, and installing a signal to improve intersection operations during the p.m. peak hour. Signalization of the intersection of Presidio Avenue/Pacific Street as recommended in the GMPA EIS would adequately mitigate the impacts of any alternative, and no additional mitigation measures would be necessary.

The Trust would coordinate with City and County of San Francisco to determine the contribution of each party to the cost of the improvements.

TR-2 *Arguello Boulevard/Jackson Street Intersection.*

Add turning lanes, and install a traffic signal.

The GMPA EIS recommended adding turning lanes and eventually adding a signal to improve LOS operation during the p.m. peak hour. Signalization of the intersection of Arguello Boulevard/Jackson Street as recommended in the GMPA EIS would adequately mitigate the impacts of any alternative, although additional turning lanes would not be necessary to improve the operation of the intersection to an acceptable level of service. No additional mitigation measures would be necessary.

The Trust would coordinate with City and County of San Francisco to determine the contribution of each party to the cost of the improvements.

TR-3 *Lincoln Boulevard/25th Avenue/El Camino del Mar Intersection.*

Install a traffic signal, and remove parking on the east side of 25th Avenue just south of Lincoln Boulevard in order to add a right turn lane to the northbound approach.

The GMPA EIS recommended removing parking at the intersection in order to add a lane to both the northbound and southbound approaches on 25th Avenue and the eastbound approach on El Camino del Mar, adding an exit lane to both the east and south legs of the intersection (Lincoln Boulevard and 25th Avenue), and installing a traffic signal to improve intersection operations to an acceptable LOS condition during the p.m. peak hour.

The extent of improvements recommended in the GMPA EIS for the intersection of Lincoln Bouelvard/25th Avenue would not be required to mitigate the effects of any of the alternatives in 2020. A traffic signal would be needed to yield an acceptable level of service during the a.m. peak hour and p.m. peak hour, but an additional lane would only be needed on the northbound approach. Removing on-street parking on the east side of 25th Avenue just south of Lincoln Boulevard in order to provide a right-turn lane in combination with the signal would adequately mitigate operation of the signal to an acceptable level of service during both the a.m. peak hour and p.m. peak hour.

The Trust would coordinate with City and County of San Francisco to determine the contribution of each party to the cost of the improvements.

TR-4 *Lombard Street/Presidio Boulevard Intersection.*

Signalize the intersection, widen all three legs of the intersection to add turn lanes to the northbound and westbound approaches, and provide two exit lanes on the east and north legs of the intersection.

The GMPA EIS recommended signalizing the intersection, and widening all three legs of the intersection to add turn lanes to the northbound and westbound approaches and provide two exit lanes on the east and north legs of the intersection. These improvements would adequately mitigate the impacts of any alternative, and no additional mitigation measures would be necessary for either the a.m. peak hour or p.m. peak hour.

The Letterman Complex EIS recommended the re-striping of the northbound approach only, in order to provide an exclusive right-turn lane.

TR-5 *Arguello Boulevard/Moraga Avenue Intersection.*

The GMPA EIS recommended signalizing this intersection and providing an additional lane on the eastbound approach. Although these measures would improve the operation of the intersection, the resulting level of service would not be acceptable. Mitigation Measure TR-13 describes the

additional improvements required at this intersection to provide acceptable operating conditions.

TR-6 *Lincoln Boulevard/Golden Gate Viewing Entrance Intersection.*

Install a left-turn lane on the southbound approach from the Golden Gate Viewing area as an interim improvement, and signalize the intersection as a final improvement.

The GMPA EIS recommended installing a left-turn lane on the southbound approach from the Golden Gate Viewing area as an interim improvement. The final recommendation was to signalize the intersection. These improvements would adequately mitigate the impacts of any alternative, and no additional mitigation measures would be necessary.

This intersection is located at the boundary between Area A and Area B. Therefore, the Trust would coordinate with the NPS and the Golden Gate Bridge Highway and Transportation District to determine the contribution of each party to the cost of the improvements.

TR-7 *Lincoln Boulevard/Merchant Road Intersection.*

Realign the intersections of Lincoln Boulevard/Merchant Road and Lincoln Boulevard/Storey Avenue to create a single signalized intersection with added left-turn lanes on both the eastbound and westbound approaches.

The GMPA EIS recommended realigning the intersections of Lincoln Boulevard/Merchant Road and Lincoln Boulevard/Storey Avenue to create a single signalized intersection with added left-turn lanes on both the eastbound and westbound approaches. These improvements would adequately mitigate the impacts of any alternative, and no additional mitigation measures would be necessary.

This intersection is located at the boundary between Area A and Area B. Therefore, the Trust would coordinate with the NPS to determine the contribution of each party to the cost of the improvements.

TR-8 *Lincoln Boulevard/Kobbe Avenue Intersection.*

Realign Washington Boulevard to form a perpendicular intersection with Lincoln Boulevard, adding left-turn lanes and signalizing the intersection, and convert Kobbe Avenue to a one-way eastbound street.

The GMPA EIS recommended realigning Washington Boulevard to form a perpendicular intersection with Lincoln Boulevard, adding left-turn lanes and signalizing the intersection. In coordination with this recommendation, the GMPA EIS recommended converting Kobbe Avenue to a one-way eastbound street. The improvements recommended for the intersection of Lincoln Boulevard/Kobbe Avenue/Washington Boulevard would adequately mitigate the impacts of any alternative, and no additional mitigation measures would be necessary.

Parking

The GMPA included a reduction in the total number of parking spaces that would be provided within the Presidio in order to encourage transit use and non-auto modes of travel. Monitoring of the long-term and short-term parking demand and implementation of TDM measures were required prior to removing major parking areas.

Bicycle and Pedestrian Circulation

The following measure would apply to all alternatives, except Minimum Management.

TR-9 *Bicycle and Pedestrian Amenities.*

Provide bicycle and pedestrian amenities such as shelters, benches, water fountains, secure bicycle racks, route lighting, and other facilities throughout the Presidio to encourage travel by foot and bicycle. This mitigation measure combined with the PTIP Planning Principles would provide a pedestrian and bicycle network that would adequately accommodate pedestrians and bicycles without creating hazards, barriers or access restrictions for pedestrians and bicyclists. No additional mitigation measures would be required.

Transit

TR-10 *Support Increased Muni Frequencies.*

Increase frequency of service on existing Muni lines as warranted.

Increased frequency on existing Muni lines with or without any extensions of these lines would increase the transit peak hour capacity, and consequently reduce passenger load factors on these lines.

New Mitigation

Roadway Network

The mitigation measures discussed above do not address all of the intersections that would be affected by implementation of the PTIP. Although the PTIP Planning Principles would reduce the effects of automobile traffic on the study intersections, additional improvements would still be required to mitigate impacts at some of the study intersections.

TR-11 *14th Avenue/Lake Street Intersection Improvements.*

Designate the 15th Avenue gate for outbound traffic, and open the 14th Avenue gate for inbound traffic. Install a traffic signal at the intersection of 14th Avenue/Lake Street.

The GMPA EIS recommended designating the 15th Avenue gate for outbound traffic, and opening the 14th Avenue gate for inbound traffic, without any change to two-way traffic patterns on the City portions of the streets. However, the intersection of 14th Avenue/Lake Street currently operates with two-way STOP-control, and the additional traffic volumes through this intersection that would result from the opening of the gate would cause the average delay and worst approach level of service at the intersection to reach unacceptable levels. The close proximity of this intersection to the signalized intersection of Park Presidio Boulevard/Lake Street would require a signal at the intersection of 14th Avenue/Lake Street. All-way STOP-control at this location would not result in an acceptable level of service, and could potentially result in queues on the westbound approach that could extend into the intersection of Park Presidio Boulevard/Lake Street.

The Trust would coordinate with City and County of San Francisco to determine the contribution of each party to the cost of the improvements.

Transportation and Circulation

TR-12 *Lyon Street/Lombard Street Intersection Improvements.*

When needed (i.e., prior to the intersection operations deteriorating to LOS E or F), signalize the intersection and restripe the eastbound approach to provide an exclusive left-turn lane and a shared right-through lane.

The same mitigation measure was identified and adopted in the Presidio Letterman Complex EIS.

It should be noted that there is an estimated width of 30 feet between the historic columns of the Lombard Street gate. While it would be possible to achieve three 11-foot wide lanes between the columns, large trucks may not be able to negotiate left or right turns at the gate without encroaching into the adjacent lane. Turn prohibitions for large vehicles could be implemented if necessary.

The Trust would coordinate with City and County of San Francisco to determine the contribution of each party to the cost of the improvements.

TR-13 *Arguello Boulevard/Moraga Avenue Intersection.*

When needed, signalize and restripe the intersection to provide right-turn lanes on the northbound and eastbound approaches, and provide a left-turn lane on the westbound approach. Signalization and the provision of an additional through lane on the eastbound approach were identified in the GMPA EIS, and are described in Mitigation Measure TR-5. Under the Resource Consolidation alternative, Washington Boulevard would be eliminated between Arguello Boulevard and Kobbe Avenue, and traffic destined for Fort Scott from Arguello Boulevard gate would travel through the Main Post. Therefore, the provision of the eastbound right-turn lane would only be required under the Resource Consolidation alternative.

TR-14 *Letterman Drive/Presidio Boulevard/Lincoln Boulevard Intersection.*

When needed, install a signal, widen Presidio Boulevard and restripe the northbound left-turn lane to a shared left-through lane. An additional northbound lane would be needed on Lincoln Boulevard north of Presidio Boulevard to accommodate this improvement.

TR-15 *14th Avenue/California Street Intersection.*

When needed, install STOP signs on the California Street approaches to this intersection and restripe to add a right-turn lane to the northbound approach. This improvement could require removal of some on-street parking spaces. The Trust would coordinate with City and County of San Francisco to determine the contribution of each party to the cost of the improvements. Although installing STOP signs on California Street would improve the operation of this intersection to an acceptable level of service, queues on the westbound approach could potentially extend into the intersection of Park Presidio Boulevard/California Street. Therefore, if queues on the westbound approach to this intersection are determined to affect the operation of Park Presidio Boulevard/California Street, a traffic signal may be warranted at the intersection of 14th Avenue/California Street. A traffic signal at this location would adequately mitigate the operation of the intersection to an acceptable level of service.

TR-16 *15th Avenue/California Street Intersection.*

When needed, install STOP signs on the California Street approaches to the intersection. The Trust would coordinate with City and County of San Francisco to determine the contribution of each party to the cost of the improvements.

TR-17 *25th Avenue/California Street Intersection.*

When needed, restripe to add a left-turn lane to both the eastbound and westbound approaches of the intersection. This improvement may require removal of some on-street parking spaces. The Trust would coordinate with City and County of San Francisco to determine the contribution of each party to the cost of the improvements.

Parking

The following measure would apply to all alternatives except GMPA 2000.

TR-18 *Presidio-Wide Parking Management Program.*

In order to reduce impacts of fee parking in Area B on parts of the Presidio outside the Trust's jurisdiction (Area A), the NPS is encouraged to implement parking regulations, time-limits and/or parking fees in potentially affected parking areas under its administration (notably, Crissy Field). The Trust would provide assistance to the NPS to ensure coordination and consistency of parking management within both Areas A and B. Should the NPS choose not to adopt or enforce this measure, or is otherwise opposed to it, implementation of parking management control in Area B would have an unavoidable adverse impact on parking in Crissy Field.

TR-19 *Transportation Demand Management (TDM) Program.*

The Trust would establish a TDM Program that would require tenants, and to a lesser extent, residents to participate in a TDM Program. The TDM program would establish the actions to be taken by the Trust and all park tenants and occupants to improve transit, pedestrian, and bicycle conditions, and to reduce automobile usage by all tenants, occupants and visitors, including:

- Carpool/vanpool programs;
- Periodic monitoring of traffic volume and mode choice among Presidio residents and employees;
- Transit and ridesharing information disseminated on kiosks within the park, the Trusts' website, and resident and employee orientation programs;
- Parking management program;
- Secure bicycle parking;
- Mandatory event-specific TDM programs for all special events;
- On-site sales of transit passes;
- Internal clean fuel shuttle bus;
- A transit hub in the Main Post Planning District that would facilitate transfers between Muni and Golden Gate Transit buses and the Presidio shuttle buses; and
- Express bus service to regional transit connections (e.g., BART, Transbay, Caltrain).

This measure would apply to all alternatives.

TR-20 *Reduce Parking Supply.*

In order for the parking supply to meet, but not substantially exceed, demand, the parking supply would be reduced to between 9,000 (Sustainable Community alternative) and 11,000 (Minimum Management alternative) parking spaces. This measure would apply to the Draft Plan alternative, the Resource Consolidation alternative, the Sustainable Community alternative, and the Minimum Management alternative.

Transportation and Circulation

Special Event Parking

The following measure would apply to all alternatives.

TR-21 *Special Event Parking Management.*

The TDM Program includes a comprehensive array of parking management strategies to be implemented through Trust administration of park-sponsored activities and special event permitting processes including coordination with the NPS. These TDM measures are recommended to discourage single-occupant automobile usage, encourage alternative modes of travel, and maximize use of available parking resources. Special events that could result in overflow parking would be coordinated to ensure that parking supply is not exceeded. Special events would be scheduled based on parking availability, would be regulated to ensure that supply meets expected demand including demand from Area A of the Presidio. Events requiring large amounts of parking would not be scheduled concurrently with other events or Presidio peak parking demand periods if combined parking demand would exceed the available supply within Area B of the Presidio. Sponsors may be required to provide special transit and bicycle services during their events to reduce expected parking demand and promote use of public transit, biking, walking, and remote parking lots.

Transit

The following measure would apply to all alternatives.

TR-22 *Transit Service Monitoring Program.*

The Trust currently monitors Muni operations and passenger loads within the Presidio. Continued monitoring of Muni service in the Presidio, and similar monitoring of GGT service at the Presidio would indicate any capacity problems, particularly on northbound GGT bus service during the p.m. peak hour. If the monitoring were to reveal insufficient capacity for northbound Presidio-generated passengers during the p.m. peak hour, coordinate potential improvements with the Golden Gate Bridge Highway and Transportation District.

Construction Traffic

TR-23 *Construction Traffic Management Plan.*

During pre-construction activities, the contractor(s) of individual projects would work with of the Trust to develop a Construction Traffic Management Plan. The plan would include information on construction phases and duration, scheduling, proposed haul routes, permit parking, staging area management, visitor safety, detour routes, and pedestrian movements on adjacent routes.

4.6 UTILITIES

This section evaluates potential impacts on utilities, including water supply and distribution, wastewater treatment and disposal, storm drainage, solid waste and energy consumption and distribution. The evaluation methodology, impacts for each alternative, and mitigation measures to address potential impacts are discussed under each topic area.

4.6.1 WATER SUPPLY AND DEMAND

METHODOLOGY

Water Demand

Housing unit numbers were converted to numbers of occupants based on a San Francisco area estimate of 2.5 occupants per residential unit, 1.5 occupants per dorm, and 1.5 occupants per lodging room (BAE 2001), to which a demand factor of 63 gallons per occupant per day (URS 2001) was applied, assuming full occupancy to provide a conservative estimate of residential water demand for all alternatives. Additional water demand factors from the Presidio Water Balance Report (URS 2001) were applied to proposed construction areas for the variety of land use types planned for all alternatives, and combined with residential water demand estimates to obtain average daily potable water demand. These calculations are shown in Water Supply and Demand Appendix G, Table 1.

At full occupancy of the Presidio, existing average daily demand for potable water (used for domestic purposes) was estimated at up to 0.89 million gallons per day (mgd) for the GMPA 2000 alternative. Potable water also is currently used for irrigation at the Presidio, and daily demand for irrigation water has reached as high as 1 mgd under summer high-use conditions. A combination of average daily domestic and peak irrigation water demands provides a conservative estimate of 1.89 mgd. Due to changes in land use, both type and amount, water demand has decreased by 820,000 gallons per day from estimated demand in the 1994 GMPA EIS. A summary of average daily demand for domestic use, peak irrigation use, and estimated water purchase requirements for all alternatives is presented in Table 51, assuming no changes (reduction) in demand due to the planned use of reclaimed water of conservation measures.

Table 51: Summary Of Projected Presidio Water Demand

Alternative	Average daily demand (mgd)	Approx. PWTP potable water production (mgd)	Net potable shortfall (mgd)
GMPA 2000	1.89	0.7	1.18
Draft Plan	1.86	0.7	1.14
Resource Consolidation	1.77	0.7	1.07
Sustainable Community	1.83	0.7	1.13
Cultural Destination	2.06	0.7	1.36
Minimum Management	1.52	0.7	0.82

Source: EIP Associates, Bay Area Economics, 2001.

POTENTIAL IMPACTS

INCREASED DEMAND FOR DOMESTIC WATER

GMPA 2000 Alternative

Under the GMPA 2000 alternative, average daily domestic water demand is estimated at 0.89 mgd. Peak irrigation demand of up to 1 mgd could occur during the summer months, for a total potable water demand of 1.89 mgd. On-site (Lobos Creek) water supply ranges from approximately 1.2 to 2.1 mgd. A minimum flow of 500,000 gallons per day (0.78 cfs) must pass the Lobos Creek water extraction point for support of downstream riparian

habitat (see Figure 33 in Affected Environment). The Presidio has a reliable, on-site supply of a minimum of 0.7 mgd, which is less than demand under this alternative. Therefore, supplemental water (up to 1.18 mgd under this alternative) would need to be purchased from the City and County of San Francisco (CCSF) or another agency when PWTP supply is not sufficient to meet demand.

As described in the Affected Environment Chapter, the Presidio has implemented a variety of water conservation measures. Additional measures to conserve water use and reduce average daily demand beyond those already in place at the Presidio would provide additional potable water savings, and reduce the potential for a net potable shortfall. The Trust is planning for contingency and access to additional sources of water (such as reclaimed water for irrigation water use within the park), and is implementing domestic and irrigation water conservation measures to reduce the overall consumption of water at the Presidio to fit within available supply.

Draft Plan Alternative

As shown in Table 51, overall demand for treated water for the Draft Plan alternative is estimated at 1.86 mgd (approximately 2 percent lower than the GMPA 2000 alternative). As noted above, a minimum of 0.7 mgd could be available for potable water demand from Lobos Creek. Supplemental water (up to 1.14 mgd) would need to be purchased from the CCSF or another agency when PWTP supply is not sufficient to meet demand.

Measures to conserve water use and reduce average daily demand beyond those already in place at the Presidio would provide additional potable water savings and avoid the potential for a net potable shortfall. The Trust is planning for contingency and access to additional sources of water (such as reclaimed water for irrigation water use within the park), and is implementing domestic and irrigation water conservation measures to reduce the overall consumption of water at the Presidio to fit within available supply.

Resource Consolidation Alternative

As shown in Table 51, overall demand for treated water for the Resource Consolidation alternative is estimated at 1.77 mgd (approximately 6 percent lower than the GMPA 2000 alternative). As noted above, a minimum of 0.7 mgd is available from Lobos Creek. Supplemental water (up to 1.07 mgd) would need to be purchased from the CCSF or another agency when PWTP supply is not sufficient to meet demand.

Measures to conserve water use and reduce average daily demand beyond those already in place at the Presidio would provide additional potable water savings and avoid the potential for a net potable shortfall, as discussed above.

Sustainable Community Alternative

As shown in Table 51, overall demand for treated water for the Sustainable Community alternative is estimated at 1.83 mgd (approximately 3 percent lower than the GMPA 2000 alternative). Supplemental water (up to 1.13 mgd) would need to be purchased from the CCSF or other agency when PWTP supply is not sufficient to meet demand.

As discussed above, measures to conserve water use and reduce average daily demand beyond those already in place at the Presidio would provide additional potable water savings and avoid the potential for a net potable shortfall.

Cultural Destination Alternative

As shown in Table 51, overall demand for treated water for the Cultural Destination alternative is estimated at 2.06 mgd (approximately 9 percent higher than the GMPA 2000 alternative). Supplemental water (up to 1.36 mgd) would need to be purchased from the CCSF or other agency when PWTP supply is not sufficient to meet demand.

Measures to conserve water use and reduce average daily demand beyond those already in place at the Presidio would provide additional potable water savings and avoid the potential for a net potable shortfall, as discussed above.

Minimum Management Alternative

As shown in Table 51, overall demand for treated water for the Minimum Management alternative is estimated at 1.52 mgd (approximately 20 percent lower than the GMPA 2000 alternative). The Minimum Management alternative would have the lowest water demand of all the alternatives. Supplemental water (up to 0.82 mgd) would need to be purchased from the CCSF or other agency when PWTP supply is not sufficient to meet demand.

Measures to conserve water use and reduce average daily demand beyond those already in place at the Presidio would provide additional potable water savings and avoid the potential for a net potable shortfall, as discussed above.

MITIGATION MEASURES

Measures adapted from the GMPA EIS

The GMPA EIS did not include mitigation for water supply and demand.

New Mitigation

Water Supply and Demand

The following measures would apply to all alternatives.

UT-1 *Demand Management Best Management Practices.*

The Trust, in cooperation with all its tenants and residents, would continue to implement Best Management Practices that encourage water conservation. Given the evolutionary nature of water conservation measures, the Trust would make provisions for the removal or addition of BMPs as the technical and economic reasonableness of measures are determined. Current BMPs are:

- Identify and repair all leaks through use of sophisticated electronic equipment to reduce distribution system losses;
- Install water meters and develop marginal cost pricing incentives for use of water beyond projected use allocations;
- Conduct water audits and monitor tenants' meters, water heaters, and plumbing fixtures;
- Install water-conserving devices in all retrofits. Retrofit requirements include installation of low-flow toilet and shower fixtures and faucet aerators;
- Limit potable water use for decorative purposes[1], water intensive planting, and irrigation on slopes exceeding 10 percent adjacent to hardscape;

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[1] Potable water would not be used to clean, fill or maintain levels in decorative fountains or artificial streams.

- Comply with the Irrigation Guidelines which include specific requirements for efficient and effective water application and installation of dual plumbing for irrigation;
- Prohibit use of additional water for new landscaping or expansion of existing facilities unless low water use landscaping designs and irrigation systems are employed;
- Avoid water waste, including but not limited to flooding or runoff into sewers or gutters;
- Hire or designate an in-house Water Conservation Coordinator;
- Provide comprehensive water conservation outreach efforts to tenants and residents, including brochures, newsletter announcements, posters, direct mailings, and other "attention getters;" and
- Participate in efforts being made by other water management agencies and relevant public agencies to identify and develop methods for providing accurate estimates of water savings due to conservation programs.

UT-2 *Water Shortage Emergency Response.*

The Trust would prepare a water shortage contingency analysis that includes the following elements:

- Stages of action to be undertaken in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions that are applicable to each stage;
- An estimate of the minimum water supply available based on the driest three-year historic sequence for water supply;
- Actions to be undertaken to prepare for, and implemented during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster;
- Additional, mandatory prohibitions against specific water-use practices during water shortages;
- Appropriate consumption reduction methods in the most restrictive stages that have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply;
- Penalties or charges for excessive use, if feasible; and
- A mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis.

UT-3 *Recycled Water Use.*

The Trust is proceeding with an evaluation and environmental review of an onsite phased water reclamation system (see UT-6 below) for use as a non-potable water source. The system would optimize the use of recycled water in the Presidio to reduce consumption of potable water for non-potable uses (i.e., irrigation), and also to lower the volume of wastewater discharged to the City's combined sewer system.

UT-4 *Water Purchases.*

In addition to more fully developing its existing water supplies, the Trust would continue to explore options that incorporate water purchases as a supplemental supply.

4.6.2 WASTEWATER TREATMENT AND DISPOSAL

METHODOLOGY

Wastewater generation under the various PTIP alternatives is projected by applying an 80 percent factor to water use estimates, which are discussed above. This methodology assumes that approximately 80 percent of all water used (excluding water used for irrigation purposes) enters the wastewater treatment and disposal system. Projected wastewater generation

is compared to current levels to determine whether there would be an adverse effect on the City's sanitary sewer system, which treats wastewater from the Presidio.

Each alternative is also compared to the GMPA 2000 alternative to determine the project impact in terms of wastewater generation. This process is contained in Table 52. The water inputs are shown in Table 1 in Appendix G.

POTENTIAL IMPACTS

INCREASED WASTEWATER GENERATION

GMPA 2000 Alternative

The GMPA 2000 alternative is projected to generate approximately 0.71 million gallons of wastewater per day (Table 52), 0.31 mgd more than the current Presidio wastewater flow to the City of San Francisco's sanitary sewer system. Under this alternative, the Presidio would become a model of responsible water use and a demonstration site for water conservation programs for potable and non-potable water. Mitigation measures would further reduce wastewater generation, and would limit flows to the City of San Francisco's sanitary sewer system to current levels by eventually reclaiming up to 1 mgd of wastewater for Presidio use, and implementing water conservation methods.

Table 52: Wastewater Generation

Alternative	Water Use (mgd)(a)	Wastewater Generation (mgd) (b)	Change from Current Flows (mgd) (c)
GMPA 2000	0.89	0.71	0.31
Draft Plan	0.86	0.69	0.29
Resource Consolidation	0.77	0.61	0.21
Sustainable Community	0.83	0.67	0.27
Cultural Destination	1.06	0.84	0.44
Minimum Management	0.52	0.41	0.12

Sources: EIP Associates; The Presidio Trust; Bay Area Economics, 2001.

Notes:

(a) Water use projections, less irrigation, from EIP.
(b) Wastewater generation is assumed to be 80 percent of domestic water consumption, excluding irrigation uses.
(c) Current flows are 400,000 gallons per day.
mgd = million gallons per day

Draft Plan Alternative

The Draft Plan alternative is projected to generate approximately 0.69 million gallons of wastewater per day (Table 52), 0.29 million gallons a day more than the current wastewater flow to the City of San Francisco's sanitary sewer system. Mitigation required under this alternative would, as with the GMPA 2000 alternative, reduce discharges to the City's system.

Resource Consolidation Alternative

The Resource Consolidation alternative is projected to generate approximately 0.62 million gallons of wastewater per day (Table 52), 0.22 mgd gallons a day more than the current wastewater flow to the City of San Francisco's sanitary sewer system. Mitigation required under this

alternative, similar to the GMPA 2000 alternative, would reduce discharges to the City's system.

Sustainable Community Alternative

The Sustainable Community alternative is projected to generate approximately 0.67 million gallons of wastewater per day (Table 52), 0.27 mgd gallons a day more than the current wastewater flow to the City of San Francisco's sanitary sewer system. Mitigation would reduce discharges to the City's system.

Cultural Destination Alternative

The Cultural Destination alternative is projected to generate approximately 0.85 million gallons of wastewater per day (Table 52), 0.45 mgd gallons a day more than the current wastewater flow to the City of San Francisco's sanitary sewer system. Mitigation would reduce discharges to the City's system.

Minimum Management Alternative

The Minimum Management alternative is projected to generate approximately 0.41 million gallons of wastewater per day (Table 52), only 0.01 mgd greater than current wastewater flow to the City of San Francisco's sanitary sewer system. Mitigation would further reduce wastewater generation, and limit flows to the City of San Francisco's sanitary sewer system to current levels.

MITIGATION MEASURES

Measures Adapted from the GMPA EIS

The GMPA EIS did not include mitigation for wastewater treatment.

New Mitigation

The following measures would apply to all alternatives.

UT-5 *Reduction of Onsite Wastewater Generation.*

The Trust would implement water conservation best management practices described in Measure UT-1 in the Water Supply and Demand section, to limit water usage at the Presidio, which would reduce wastewater generation as well. These practices would include repairing leaks, installing water meters, conducting water audits, retrofitting with water-conserving devices, limiting decorative water use, requiring low water use landscaping designs and irrigation systems, avoiding water waste (e.g., flooding, excess runoff), designating an in-house Water Conservation Coordinator, providing information to tenants and residents, and participating in the efforts of other water management agencies.

UT-6 *Limits on Offsite Wastewater Flows.*

The Trust would continue the development of the reclaimed water system and treatment plant (see also UT-3). As stated in the Affected Environment, the plant would have a minimum treatment capacity of 200,000 gallons a day. The Trust would ensure that the reclaimed water system and treatment plant would be properly sized to limit wastewater flows to the City of San Francisco combined system.

Table 53: Stormwater Runoff

	New Construction (sf)	Demolition (sf)	Net New Construction (sf)	Net New Construction (acres)	Q (cfs)	Change from GMPA 2000 (cfs)
GMPA 2000						
Main Post/Crissy/Stables	100,000	269,675	-169,675	-3.9	**-2.8**	N/A
Letterman	0	0	0	0.0	**0.0**	N/A
Fort Scott	50,000	4,541	45,459	1.0	**0.6**	N/A
East Housing	0	96,206	-96,206	-2.2	**-0.6**	N/A
South Hills	20,000	751,497	-731,497	-16.8	**-5.0**	N/A
Total					**-7.8**	N/A
Draft Plan						
Main Post/Crissy/Stables	243,000	36,103	156,897	3.6	**2.6**	5.4
Letterman	100,000	0	100,000	2.3	**1.8**	1.8
Fort Scott	170,000	80,346	89,654	2.1	**1.1**	0.6
East Housing	66,000	96,206	-30,206	-0.7	**-0.2**	0.4
South Hills	130,000	808,216	-678,216	-15.6	**-4.6**	0.4
Total					**0.7**	8.5
Resource Consolidation						
Main Post/Crissy/Stables	487,000	324,486	162,514	3.7	**2.7**	5.5
Letterman	465,000	77,680	387,320	8.9	**6.8**	6.8
Fort Scott	144,000	80,969	63,031	1.4	**0.8**	0.2
East Housing	164,000	159,994	-15,994	-0.4	**-0.1**	0.5
South Hills	0	1,263,302	-1,263,302	-29.0	**-8.6**	-3.6
Total					**1.6**	9.4
Sustainable Community						
Main Post/Crissy/Stables	405,000	97,929	307,071	7.0	**5.1**	7.9
Letterman	0	25,754	-25,754	-0.6	**-0.5**	-0.5
Fort Scott	0	32,609	-32,609	-0.7	**-0.4**	-1.0
East Housing	192,200	106,234	85,766	2.0	**0.5**	1.1
South Hills	20,000	629,750	-609,750	-14.0	**-4.2**	0.8
Total					**0.6**	8.4
Cultural Destination						
Main Post/Crissy/Stables	535,000	102,568	432,432	9.9	**7.2**	10.0
Letterman	410,000	77,680	332,320	7.6	**5.8**	5.8

Table 53: Stormwater Runoff

	New Construction (sf)	Demolition (sf)	Net New Construction (sf)	Net New Construction (acres)	Q (cfs)	Change from GMPA 2000 (cfs)
Fort Scott	200,00	80,346	119,654	2.7	**1.5**	0.9
East Housing	96,000	124,300	-28,300	-0.6	**-0.2**	0.4
South Hills	130,000	986,094	-856,094	-19.7	**-5.8**	-0.9
Total					**8.5**	16.3
Minimum Management						
Main Post/Crissy/Stables	0	0	0	0.0	**0.0**	2.8
Letterman	0	0	0	0.0	**0.0**	0.0
Fort Scott	0	0	0	0.0	**0.0**	-0.6
East Housing	0	0	0	0.0	**0.0**	0.6
South Hills	0	0	0	0.0	**0.0**	5.0
Total					**0.0**	7.8

Source: EIP; Presidio Trust; Bay Area Economics, 2001.

Notes:

Assumes a 10-year storm event of 1-hour duration, rainfall of 0.85 inches an hour, and runoff coefficient of 0.85.

Planning District	Runoff Coefficient
Main Post/Crissy/Stables	0.85
Letterman	0.90
Fort Scott	0.65
East Housing	0.30
South Hills	0.35

Runoff coefficients derived from conversations with Trust Utility staff and the 1994 Presidio Storm Water Management Plan.

The Trust would consider re-routing wastewater from the eastern side of the Presidio to the western side of the park, and discharging this flow to the City's Oceanside Water Pollution Control Plant (OWPCP). Re-routing of wastewater would occur during major storm events and as necessary. The sanitary sewer system serving the OWPCP has a greater capacity to absorb increased flows. Therefore, redirecting Presidio flows to the west side would help limit CSOs from the City's combined sewage system.

4.6.3 STORM DRAINAGE

METHODOLOGY

The complex nature of the Presidio storm drainage system requires an analysis by planning district. The amount of net new construction (i.e. new construction less demolition) in each planning district is used to estimate storm water runoff, assuming a 10-year storm event of one hour, and rainfall of 0.85 inches an hour. A distinct runoff coefficient is used for each planning district to reflect the varying surfaces across the Presidio. Coefficients were derived based on professional judgment of Trust staff and the Stormwater Management Plan. The coefficients are as follows:

- Main Post and Crissy Field: 0.85,
- Letterman: 0.90,
- Fort Scott: 0.65,
- East Housing: 0.30, and
- South Hills and Public Health Service Hospital: 0.35.

Note that this is a conservative methodology, as it assumes that all additional construction would only have one story. In all likelihood, new buildings would have additional floors, reducing the amount of exposed impervious area. For example, a 1 million square foot building with 4 equally-sized floors would create only an additional 250,000 square feet (sf) of exposed impervious surface.

The ability of each planning district's storm drainage system to accommodate the increased flows resulting from development under the alternatives is based on the professional judgment of Trust utilities staff. As a general rule, the increased flows projected under the alternatives did not pose a capacity problem for the existing storm drainage system, with the exception of the Fort Scott Planning District. The estimated additional flows were considered minor and easily managed. The approach to each planning district is described below.

Main Post and Crissy Field

This Planning District is served by outfall pipes D through L. System D has a 72-inch outfall pipe with sufficient capacity to accommodate additional flows from any of the alternatives. Systems E and F are expected to accommodate any increase in storm water flows due to the recent construction of Crissy Field outfalls. Their placement in wetlands prevents the accumulation of beach sand and subsequent blockage. Furthermore, Pipe F has additional capacity for 70.1 cfs, far greater than projected additional flow. Stormwater systems G, H, I, J, K, and L are designed for the 50-year event, and can therefore accommodate the additional flows.

Letterman

The Letterman Planning District is served by outfalls B-4, C, and D. As stated in the Affected Environment section, outfall B-4, a 42-inch pipe with an 85 cfs capacity, is currently being re-routed into the Crissy Field wetlands. Again, this route prevents the accumulation of beach sand and facilitates drainage. Outfall D is a 72-inch pipe with sufficient capacity to accommodate the additional flows from the alternatives. The Letterman Planning District consists of approximately 90 percent impervious area, and the existing storm drain system is adequate to accommodate all flows from the 10-year event. Even if the impervious area were increased to 100

percent impervious, the drainage system would still accommodate the 10-year event.

Fort Scott

Due to blockage problems, the existing drainage system serving the Fort Scott Planning District requires replacement.

East Housing

Outfall D (72-inch pipe with 350 cfs capacity) is large enough to accommodate additional flows. The Tennessee Hollow Restoration Project is expected to reduce the amount of impervious surface in this area, and therefore, will further limit storm water flows.

South Hills and Public Health Service Hospital

No flooding problems are anticipated due to the lack of net new construction in the area and the South Hills and Public Health Service Hospital Planning District's sloped landscape.

POTENTIAL IMPACTS

INCREASED DEMAND FOR STORMWATER DRAINAGE

GMPA 2000 Alternative

As shown in Table 53, none of the planning districts would experience an increase in storm water flow under the GMPA 2000 alternative, with the exception of Fort Scott. An additional 0.6 cfs of flow is projected for this Planning District. Fort Scott's existing drainage system is inadequate, and the additional flows would exacerbate the system flaws. The Federal and State National Pollutant Discharge Elimination System (NPDES) permit requirements, which include storm water reduction measures, and mitigation measures identified in this EIS, would reduce storm water runoff and require upgrades to the Fort Scott drainage system. These measures would be needed to ensure that the increased flow could be accommodated in this Planning District.

Draft Plan Alternative

As shown in Table 53, the Draft Plan alternative is projected to increase storm water flow in the Main Post, Crissy Field, Letterman, and Fort Scott Planning Districts. The projected increase in flow is 2.6 cfs in the Main Post and Crissy Field Planning Districts, 1.8 cfs in the Letterman Planning District, 1.1 cfs in the Fort Scott Planning District, and an overall reduction of 4.8 cfs in the East Housing and South Hills Planning Districts. The additional flow in the Main Post, Crissy Field, and Letterman Planning Districts would be negligible, given the large capacity of these drainage systems. As in the GMPA 2000 alternative, Fort Scott's existing drainage system is inadequate, and would require upgrading. Overall, this alternative would generate approximately 8.5 cfs more storm water runoff than the GMPA 2000 alternative. The NPDES permit requirements and additional mitigation to reduce storm water would be implemented.

Resource Consolidation Alternative

As shown in Table 53, the Resource Consolidation alternative is projected to increase storm water flow in the Main Post, Crissy Field, Letterman, and Fort Scott Planning Districts. The projected increase in flow is 2.7 cfs in the Main Post and Crissy Field Planning Districts, 6.8 cfs in the Letterman Planning District, 0.8 cfs in the Fort Scott Planning District and an overall reduction of 8.7 cfs in the East Housing and South Hills Planning Districts. The additional flow in the Main Post, Crissy Field, and Letterman Planning Districts would be negligible, given the large capacity of these drainage

systems. As in the GMPA 2000 alternative, Fort Scott's existing drainage system is inadequate, and would require upgrading, Overall, impacts under this alternative would generate approximately 9.4 cfs more stormwater runoff than the GMPA 2000 alternative. The NPDES permit requirements and additional mitigation to reduce storm water would be implemented.

Sustainable Community Alternative

As shown in Table 53, the Sustainable Community alternative is projected to increase storm water flow in the Main Post, Crissy Field, and East Housing Planning Districts. The projected increase in flow would be 5.1 cfs in the Main Post and Crissy Field Planning Districts, and 0.5 cfs in the East Housing Planning District, and an overall reduction of 5.1 cfs in the Letterman, Fort Scott, and South Hills Planning Districts. The additional flows in the Main Post, Crissy Field, and East Housing Planning Districts would be negligible, given the large capacity of these drainage systems. Overall, this alternative would generate approximately 8.4 cfs more storm water runoff than the GMPA 2000 alternative. The NPDES permit requirements and additional mitigation to reduce storm water would be implemented.

Cultural Destination Alternative

As shown in Table 53 the Cultural Destination alternative would increase storm water flow in the Main Post, Crissy Field, Letterman and Fort Scott Planning Districts. The projected increase in flow is 7.2 cfs in the Main Post and Crissy Field Planning Districts, 5.8 cfs in the Letterman Planning District, 1.5 cfs in the Fort Scott Planning District, and an overall reduction of 6.0 cfs in the East Housing and South Hills Planning Districts. The Letterman system could accommodate the increased flows, given the large capacity of its drainage system. As in the GMPA 2000 alternative, Fort Scott's existing drainage system is inadequate, and would require upgrading. Overall, this alternative would generate approximately 16.3 cfs more storm water runoff than the GMPA 2000 alternative. The NPDES permit requirements and additional mitigation to reduce storm water would be implemented.

Minimum Management Alternative

As no new construction is planned under the Minimum Management alternative, no increase in storm water flow is projected. However, since the GMPA 2000 alternative would generate a net decrease in storm water flows, in comparison this alternative generates 7.8 cfs more than the GMPA 2000 alternative. This calculation is shown in Table 53.

MITIGATION MEASURES

Measures Adapted from the GMPA EIS

The GMPA EIS did not include mitigation for storm drainage.

New Mitigation

The following mitigation measures would apply to all alternatives except the Minimum Management alternative.

UT-7 *Stormwater Drainage System Upgrades.*

Prior to any new construction, the Trust would ensure that necessary infrastructure upgrades to the storm water drainage system are performed to increase its capacity to accommodate greater storm water flows.

UT-8 *Stormwater Reduction.*

As part of planning for future projects under the PTIP, the Trust would adopt designs or measures to limit or eliminate impervious surfaces in order to reduce storm water runoff volumes. The Trust would practice natural storm water reduction by using on-site vegetation and landscaping as a filtration and retention system to the extent feasible. Grass, sand, and other porous surfaces, particularly when placed around non-porous surfaces such as asphalt, could significantly limit storm water runoff. Projects would be reviewed to determine if storm water flows could be limited through reduction of impervious surfaces and addition of porous surfaces.

4.6.4 SOLID WASTE

METHODOLOGY

This section describes the methodology for estimating solid waste generation by each PTIP alternative.

Step 1: Identifying Demolished, Newly Constructed, and Rehabilitated Space - The square footage to be demolished, constructed, and rehabilitated under each alternative is identified and separated into "residential wood-frame" and "non-residential wood-frame" structures (Table 54). All new housing is assumed to be wood-frame.

Step 2: Waste Generation - Each building activity and building type generates solid waste at a predictable volume, as estimated by the Environmental Protection Agency (EPA) (EPA 1989). The demolished, constructed, or rehabilitated square footage is multiplied by the corresponding factor to project the total amount of solid waste generated under each alternative (see Table 55).

Step 3: Estimating Project Impact - The solid waste generated under each alternative is compared to the waste generated under the GMPA 2000 alternative. The difference is defined as the project impact, and is presented as a percentage of the regional waste stream (see Table 56).

POTENTIAL IMPACTS

INCREASED SOLID WASTE GENERATION

GMPA 2000 Alternative

Demolition, construction, and rehabilitation activities at the Presidio under build-out of the GMPA 2000 alternative would result in the disposal of up to 114,425 tons of debris, constituting 0.08 percent annually of the regional solid waste stream over the next twenty years (see Table 56). The Trust would reduce waste through efficient resource use, recycling and reuse, and by diverting organic material from waste and purchasing products composed of recycled materials. A solid waste management program would be implemented. Recycled asphalt and concrete would be used for paving where practical. Recycling bins would be available at all activity sites, and tenants would be encouraged to set aside indoor recycling areas. Mitigation measures would help minimize the solid waste generated by construction activities under this alternative. In addition, the Presidio Salvage Program would reclaim valuable equipment, supplies and materials and divert them from the waste stream. Building materials would be saved from deconstruction and selective demolition projects. These would be reused on the Presidio, and made into new products or art. Wood from downed trees would be used for value-added purposes such as construction projects or mulch, or would be sent off site to be used as fuel.

Table 54: Building Activity Summary (square feet)

	Demolition		New Construction		Rehabilitation	
	Residential Wood-Frame(a)	Non-Residential Wood-Frame(b)	Residential Wood-Frame(a)	Non-Residential Wood-Frame(b)	Residential Wood-Frame(a)	Non-Residential Wood-Frame(b)
GMPA 2000	702,661	419,258	0	170,000	677,311	4,162,643
Draft Plan	837,345	233,526	406,000	303,000	542,627	4,348,375
Resource Consolidation	1,079,011	827,420	319,000	921,000	300,961	3,754,841
Sustainable Community	712,689	179,587	0	617,000	667,283	4,402,314
Cultural Destination	1,043,317	327,671	771,000	600,000	336,655	4,254,230
Minimum Management	0	0	0	0	1,379,972	4,581,901

Sources: Wilbur Smith Associates; The Presidio Trust; Bay Area Economics, 2001.

Notes:

(a) Includes wood frame residential buildings. Assumes all new housing is wood-frame.
(b) Includes all other building types.

Table 55: Solid Waste Estimates

Type	Estimated Total Square Footage	Unit Generation (lbs./sf)	Tons of Debris
GMPA 2000			
Demolition Activity			
Residential Demolition	702,661	115	40,403
Non-Residential demolition	419,258	155	32,492
Total Estimated Annual Demolition	1,121,919		72,896
Construction Activity			
Residential Rehab	677,311	16.84	5,704
Non-Residential Rehab	4,162,643	16.84	35,056
Total Rehabilitation Construction	4,839,954		
Residential Construction	0	4.38	0
Non-Residential Construction	170,000	3.89	331
Total New Construction	170,000		
Total Estimated Construction	5,009,954		41,901
Total Estimated Construction and Demolition	6,131,873		114,425
Draft Plan			
Demolition Activity			
Residential Demolition	837,345	115	48,147
Non-Residential Demolition	233,526	155	18,098
Total Estimated Annual Demolition	1,070,871		66,246
Construction Activity			
Residential Rehab	542,627	16.84	4,570
Non-Residential Rehab	4,348,375	16.84	36,621
Total Rehabilitation Construction	4,891,002		
Residential Construction	406,000	4.38	889
Non-Residential Construction	303,000	3.89	589
Total New Construction	709,000		
Total Estimated Construction	5,600,002		42,669
Total Estimated Construction and Demolition	6,670,873		108,914
Resource Consolidation			
Demolition Activity			
Residential Demolition	1,079,011	115	62,043
Non-Residential	827,420	155	64,125
Total Estimated Annual Demolition	1,906,431		126,168
Construction Activity			

Table 55: Solid Waste Estimates

Type	Estimated Total Square Footage	Unit Generation (lbs./sf)	Tons of Debris
Residential Rehab	300,961	16.84	2,535
Non-Residential Rehab	3,754,481	16.84	31,619
Total Rehabilitation Construction	4,055,442		
Residential Construction	319,000	4.38	699
Non-Residential Construction	921,000	3.89	1,791
Total New Construction	1,240,000		
Total Estimated Construction	5,295,442		36,644
Total Estimated Construction and Demolition	7,201,873		162,812
Sustainable Community			
Demolition Activity			
Residential Demolition	712,689	115	40,980
Non-Residential Demolition	179,587	155	13,918
Total Estimated Annual Demolition	892,276		54,898
Construction Activity			
Residential Rehab	667,283	16.84	5,620
Non-Residential Rehab	4,402,314	16.84	37,075
Total Rehabilitation Construction	5,069,597		
Residential Construction	0	4.38	0
Non-Residential Construction	617,000	3.89	1,200
Total New Construction	617,000		
Total Estimated Construction	5,686,597		43,895
Total Estimated Construction and Demolition	6,578,873		98,792
Cultural Destination			
Demolition Activity			
Residential Demolition	1,043,317	115	59,991
Non-Residential Demolition	327,671	155	25,395
Total Estimated Annual Demolition	1,370,988		85,385
Construction Activity			
Residential Rehab	336,655	16.84	2,835
Non-Residential Rehab	4,254,230	16.84	35,828
Total Rehabilitation Construction	4,590,885		
Residential Construction	771,000	4.38	1,688
Non-Residential Construction	600,000	3.89	1,167
Total New Construction	1,371,000		
Total Estimated Construction	5,961,885		41,518
Total Estimated Construction and Demolition	7,332,873		126,904

Utilities

Table 55: Solid Waste Estimates

Type	Estimated Total Square Footage	Unit Generation (lbs./sf)	Tons of Debris
Minimum Management			
Demolition Activity			
Residential Demolition	0	115	0
Non-Residential Demolition	0	155	0
Total Estimated Annual Demolition	0		0
Construction Activity			
Residential Rehab	1,379,972	16.84	11,622
Non-Residential Rehab	4,581,901	16.84	38,587
Total Rehabilitation Construction	5,961,873		
Residential Construction	0	4.38	0
Non-Residential Construction	0	3.89	0
Total New Construction	0		
Total Estimated Construction	5,961,873		50,209
Total Estimated Construction and Demolition	5,961,873		50,209

Sources: "Characterization of Building-Related Construction and Demolition in the United States", U.S. EPA, Publication No. 530-R-98-010, June 1998;

Bay Area Economics, 2001.

Table 56: Solid Waste Impacts

	Total Debris (tons) (a)	Project Impact (tons) (b)	Annual Project Impact (tons) (c)	Percent of Total 1999 Tonnage (d)
GMPA 2000	114,425	N/A	5,721	0.08
Draft Plan	108,914	(5,072)	(254)	0.00 (e)
Resource Consolidation	162,812	48,825	2,441	0.04
Sustainable Community	98,792	(15,195)	(760)	-0.01
Cultural Destination	126,904	12,917	646	0.01
Minimum Management	50,209	(63,778)	(3,189)	-0.05

Sources: California Integrated Waste Management Board; Bay Area Economics, 2001.

Notes:

(a) From Table 55: Solid Waste Estimates.
(b) Project Impact is difference between each alternative and GMPA 2000.
(c) Assumes a 20-year buildout.
(d) Total 1999 Bay Area Solid Waste Tonnage: 6,851,632 (from Appendix H Table 1). This percentage is derived from the Annual Project impact divided by the total 1999 Bay Area Solid Waste Tonnage.
(e) Slightly less than 0.01%.

Draft Plan Alternative

Demolition, construction, and rehabilitation activities at the Presidio under build-out of the Draft Plan alternative would result in the disposal of up to 108,914 tons of debris (see Table 56). The waste would be generated primarily from the deconstruction/ demolition of the 1.1 million square feet, new construction of 709,000 million square feet and rehabilitation of 4.9 million square feet of building space (see Table 54).

The Draft Plan alternative would generate up to 5,072 tons less waste than the GMPA 2000 alternative, and would result in an annual reduction of 254 tons of debris. This tonnage represents approximately 0.01 percent of the 6.9 million tons total volume of waste disposed of in the nine-county Bay Area in 1999. Mitigation for this alternative would be the same as for the GMPA 2000 alternative.

Resource Consolidation Alternative

Demolition, construction, and rehabilitation activities at the Presidio under build-out of the Resource Consolidation alternative would result in the disposal of up to 162,812 tons of debris. The Resource Consolidation alternative would generate up to 48,825 tons more waste than the GMPA 2000 alternative, and would result in the disposal of an additional 2,441 tons of annual debris. This tonnage represents approximately 0.04 percent of the 6.9 million tons of waste disposed of in the nine-county Bay Area in 1999 (see Table 56). Mitigation for this alternative would be the same as for the GMPA 2000 alternative.

Sustainable Community Alternative

Demolition, construction, and rehabilitation activities at the Presidio under build-out of the Sustainable Community alternative would result in the disposal of up to 98,792 tons of debris. The Sustainable Community alternative would generate up to 15,195 tons less waste than the GMPA 2000 alternative, and would result in the reduction of solid waste by 760 tons annually. This tonnage represents approximately 0.01 percent of the 6.9 million tons of waste disposed of in the nine-county Bay Area in 1999 (see Table 56). Mitigation for this alternative would be the same as for the GMPA 2000 alternative.

Cultural Destination Alternative

Demolition, construction, and rehabilitation activities at the Presidio under build-out of the Cultural Destination alternative would result in the disposal of up to 126,904 tons of debris. This alternative would generate up to 12,917 tons more waste than the GMPA 2000 alternative, and would result in the disposal of an additional 646 tons of annual debris. This tonnage represents less than 0.01 percent of the 6.9 million tons of waste disposed of in the nine-county Bay Area in 1999 (see Table 56). Mitigation for this alternative would be the same as for the GMPA 2000 alternative.

Minimum Management Alternative

Demolition, construction, and rehabilitation activities at the Presidio under build-out of the Minimum Management alternative would include the disposal of up to 50,209 tons of debris. The Minimum Management alternative would generate up to 63,778 tons less waste than the GMPA 2000 alternative, and would result in the reduction of solid waste by 3,189 tons annually. This tonnage represents approximately 0.05 percent of the 6.9 million tons of waste disposed of in the nine-county Bay Area in 1999. Mitigation for this alternative would be the same for the GMPA 2000 alternative.

MITIGATION MEASURES

Measures Adapted from the GMPA EIS

The GMPA EIS did not include any mitigation for solid waste.

New Mitigation

The following mitigation would apply to all alternatives.

UT-9 *Waste Diversion.*

To the extent possible, the Trust would implement cost-effective, environmentally protective alternatives to disposal of demolition debris to help meet the mandates of the State's 1989 waste diversion law (requiring cities and counties to divert 50 percent of their waste streams from landfills by the year 2000) including the following:

- Selection of contractors who understand the processes involved and are able to maximize reuse and recycling of construction and demolition materials;
- Clearing salvageable items from structures prior to demolition activities, including such items as piping, flooring, doors, windows, bathroom fixtures and kitchen fixtures, hospital equipment, heaters, and lumber;
- Removing and encapsulating contamination before demolition to minimize commingling of the wastes and to maximize reuse of the uncontaminated materials;
- Bringing down buildings piece by piece, as in hand demolition, to recover the maximum amount of reusable materials;
- Size-reducing (especially concrete) and presorting and segregating materials after demolition to increase salvage value of the recovered materials, and to decrease tipping fees for different materials in the debris;
- Recycling materials on-site to lower both hauling and disposal costs; and
- Storing recovered materials within the Presidio to avoid flooding a market with too much recyclable materials at one time (which drives local prices down and reduces potential income from the sale of materials).

4.6.5 ENERGY CONSUMPTION AND DISTRIBUTION

Presidio Electrical Supply

METHODOLOGY

The proposed square footage for each land use is used to project the electrical use and demand generated under the various alternatives. Energy and demand factors are derived from Pacific Gas & Electric (PG&E) load study data and RS Means electrical demand data respectively. A coincidence factor of 25 percent and a system loss factor of 10 percent are assumed.

Office space with computer-intensive tenants uses substantially more electricity than other building uses, so it is separated from other office space in this analysis. It was determined that approximately 37 percent of office space would contain computer-intensive tenants. This process is contained in Energy Appendix I, Tables 1-6, and summarized in Table 57.

The projected electrical demand under each alternative is compared to the capacity of the existing on- and off-site electrical distribution system to determine if system upgrades are necessary. On-site demand must be served by transformers at the Main Post and Greenwich substations. Total demand must not exceed the total on-site transformer capacity of 13,275

kilowatts (kW). Individual transformers must also have the capacity to meet the demand from the buildings they serve. In terms of off-site requirements, PG&E's feeders entering into the Presidio currently have approximately 2,700 kW of spare capacity.[2] The Trust reports that existing current demand is 3,876 kW. Any alternative whose electrical demand exceeds the sum of spare capacity and existing demand (i.e. 6,576 kW) would, therefore, require off-site upgrades by PG&E.

POTENTIAL IMPACTS

DEMAND FOR ELECTRICITY

GMPA 2000 Alternative

Under the GMPA 2000 alternative, up to 59,969 megawatt-hours of electricity are projected to be consumed at the Presidio annually, with an average energy consumption index of 11.9 kilowatt hours (kWh) per square foot (see Table 57). The projected maximum demand under this alternative is 8,382 kW. The maximum demand would exceed PG&E's 6,576 kW feeder capacity to on-site substations, indicating that off-site infrastructure improvements by PG&E would be necessary. Construction of an on-site 3-4 MW cogeneration plant would contribute to the Presidio's energy supply, which would reduce dependence on outside electrical generators and aid with the increased demand. Total on-site transformer capacity would not be exceeded by this projected demand, although a more detailed analysis could indicate that older style transformers at a given substation may lack capacity. Mitigation measures would ensure that adequate electrical capacity exists by providing for upgrades to on- and off-site infrastructure. Furthermore, under this alternative, the Trust would maximize energy efficiency, monitor and control use, generate energy using efficient and clean technologies and purchase "green" power as needed.

Draft Plan Alternative

Under the Draft Plan alternative, up to 62,865 megawatt-hours of electricity are projected to be consumed at the Presidio annually, with an average energy consumption index of 11.1 kWh per square foot (see Table 57). This level of consumption is 4.8 percent greater than under the GMPA 2000 alternative. The projected maximum demand under this alternative is 10,017 kW. The maximum demand would exceed PG&E's 6,576 kW feeder capacity to on-site substations, indicating that off-site infrastructure improvements by PG&E would be necessary. As under the GMPA 2000 alternative, construction of an on-site cogeneration plant would aid with the increased demand. Total on-site transformer capacity would not be exceeded by this projected demand, although a more detailed analysis could indicate that older style transformers at a given substation may lack capacity. Mitigation measures for this alternative would be the same as for the GMPA 2000 alternative.

Resource Consolidation Alternative

Under the Resource Consolidation alternative, up to 69,022 megawatt-hours of electricity are projected to be consumed at the Presidio annually, with an average energy consumption index of 12.9 kWh per square foot (see Table 57). This level of consumption is 15.1 percent greater than under the GMPA 2000 alternative. The projected maximum demand under this alternative is 9,895 kW. The maximum demand would exceed PG&E's 6,576 kW feeder capacity to on-site substations, indicating that off-site infrastructure improvements by PG&E would be necessary. As under the

2 Per meeting between PG&E and the Trust, June 12, 2000.

Table 57: Electrical Use Projection Summary

Alternative	Total Area (million gsf) (a)	Projected Energy Use (million kWh/yr)	Electricity Index (kWh/sf)	Difference from GMPA 2000 (million kWh/yr)	% Difference from GMPA 2000	Projected Max Demand (kW)	PG&E Feeder Capacity (kW) (c)	Remaining Capacity (kW)
GMPA 2000	5.05	59.97	11.9	N/A	N/A	8,382	6.576	(1,806)
Draft Plan	5.64	62.86	11.1	2.90	4.8%	10,017	6.576	(3,441)
Resource Consolidation	5.34	69.02	12.9	9.05	15.1%	9,898	6.576	(3,319)
Sustainable Community	5.73	65.38	11.4	5.40	9.0%	10,113	6.576	(3,537)
Cultural Destination	6.01	68.27	11.4	8.29	13.8%	10,516	6.576	(3,940)
Minimum Management	6.01	68.31	11.4	8.34	13.9%	10,393	6.576	(3,817)

Source: Henwood Energy; Presidio Trust; PG&E; Bay Area Economics, 2001.

Notes:

(a) Total area is 44,760 gross sf higher than PTIP projections due to the inclusion of Building 102 in this analysis. Building 102 is technically in Area "A" of the Presidio, but is served electricity from the same feeders/transformers as other Area "B" buildings included in this analysis.

(b) Per meeting between Presidio Trust and PG&E 6/12/2000, regarding remaining capacity on feeders to the Presidio.

GMPA 2000 alternative, construction of an on-site cogeneration plant would aid with the increased demand. Total on-site transformer capacity would not be exceeded by this projected demand, although a more detailed analysis could indicate that older style transformers at a given substation may lack capacity. Mitigation measures for this alternative would be the same as for the GMPA 2000 alternative.

Sustainable Community Alternative

Under the Sustainable Community alternative, up to 65,374 megawatt-hours of electricity are projected to be consumed at the Presidio annually, with an average energy consumption index of 11.4 kWh per square foot (see Table 57). This level of consumption is 9.0 percent greater than under the GMPA 2000 alternative. The projected maximum demand under this alternative is 10,113 kW. The maximum demand would exceed PG&E's 6,576 kW feeder capacity to on-site substations, indicating that off-site infrastructure improvements by PG&E would be necessary. As under the GMPA 2000 alternative, construction of an on-site cogeneration plant would aid with the increased demand. Total on-site transformer capacity would not be exceeded by this projected demand, though a more detailed analysis could indicate that older style transformers at a given substation may lack capacity. Mitigation measures for this alternative would be the same as for the GMPA 2000 alternative.

Cultural Destination Alternative

Under the Cultural Destination alternative, up to 68,262 megawatt-hours of electricity are projected to be consumed at the Presidio annually, with an average energy consumption index of 11.4 kWh per square foot (see Table 57). This level of consumption is 13.8 percent greater than under the GMPA 2000 alternative. The projected maximum demand under this alternative is 10,516 kW. The maximum demand would exceed PG&E's 6,576 kW feeder capacity to on-site substations, indicating that off-site infrastructure improvements by PG&E would be necessary. As under the GMPA 2000 alternative, construction of an on-site cogeneration plant would aid with the increased demand. Total on-site transformer capacity would not be exceeded by this projected demand, although a more detailed analysis could indicate that older style transformers at a given substation may lack capacity. Mitigation measures for this alternative would be the same as for the GMPA 2000 alternative.

Minimum Management Alternative

Under the Minimum Management alternative, up to 68,313 megawatt-hours of electricity are projected to be consumed at the Presidio annually, with an average energy consumption index of 11.4 kWh per square foot (see Table 57). This level of consumption is 13.9 percent greater than under the GMPA 2000 alternative. The projected maximum demand under this alternative is 10,393 kW. The maximum demand would exceed PG&E's 6,576 kW feeder capacity to on-site substations, indicating that off-site infrastructure improvements by PG&E would be necessary. As under the GMPA 2000 alternative, construction of an on-site cogeneration plant would aid with the increased demand. Total on-site transformer capacity would not be exceeded by this projected demand, although a more detailed analysis could indicate that older style transformers at a given substation may lack capacity. Mitigation measures for this alternative would be the same as for the GMPA 2000 alternative.

MITIGATION MEASURES

Measures Adapted from the GMPA EIS

The GMPA EIS did not include mitigation for electrical use and infrastructure.

New Mitigation

The following measures would apply to all of the alternatives.

UT-10 *Improve Existing Onsite Electrical Infrasture.*

The Trust would address on-site infrastructure capacity through utility planning, and re-wiring or replacement of existing on-site transformers to re-distribute power to high demand areas.

UT-11 *Upgrade Off-site Electrical Facilities*

The Trust would work with PG&E to identify the necessary upgrades to off-site feeders, and would enter into an agreement with PG&E to cover the utility for its costs through regular transmission charges. PG&E would upgrade its feeders by laying additional cable between the PG&E substation at Larkin and O'Farrell and the Presidio substations to serve increased demand. PG&E staff report that the exact route to be trenched cannot be determined at this time, as it is subject to numerous factors, including the location of other concurrent trenching work and requirements of the City permitting system. In broad terms, the trenching route would run north towards Lombard, then west towards the Presidio, avoiding heavily residential neighborhoods (Juan Miller, PG&E).

UT-12 *Develop Cogeneration Capabilities*

The Trust would continue the development of on-site cogeneration capabilities to serve a portion of the increased electrical consumption and increase energy efficiency by capturing and reusing heat that would otherwise be wasted.

UT-13 *Environmental Building Design.*

Whenever possible, the Trust would incorporate the site's environmental conditions in building design solution, maximizing solar energy and utilizing natural light.

Mitigation Measure UT-15, in Energy Conservation, would also apply to this area.

Presidio Natural Gas Supply

METHODOLOGY

The natural gas demands of the various alternatives are estimated using current (1999) usage by square foot as a factor for estimating future demand. Demand under each alternative is then compared to peak demand under the military's occupation of the Presidio in 1990 to determine if adequate infrastructure exists to meet projected demand.

If projected demand would be below natural gas demand in 1990 (6.7 million therms), it is assumed that the existing natural gas distribution infrastructure is adequate and significant upgrades are unnecessary.

Natural gas use under each alternative is also compared to consumption under the GMPA 2000, the baseline alternative.

POTENTIAL IMPACTS

DEMAND FOR NATURAL GAS

GMPA 2000 Alternative

Development under the GMPA 2000 alternative would generate demand for up to 2.1 million therms of natural gas annually, with an index of 0.41 therms/square foot. This projected demand is 4.7 million therms below the Presidio's natural gas usage in 1990, demonstrating that the Presidio's natural gas distribution system has adequate capacity to meet demand under this alternative (see Table 58). Development under this alternative would adopt the principles of sustainable design and technology, and conservation measures would be practiced to minimize natural gas usage.

Draft Plan Alternative

Development under the Draft Plan alternative would generate demand for up to 2.3 million therms of natural gas annually, with an index of 0.41 therms/square foot. This projected demand is 4.4 million therms below the Presidio's natural gas usage in 1990, demonstrating that the Presidio's natural gas distribution system has adequate capacity to meet demand under this alternative. Natural gas usage under this alternative is 241,920 therms greater, or 12 percent more than would be consumed under the GMPA 2000 alternative (see Table 58). Development under this alternative would adopt the principles of sustainable design and technology, and conservation measures would be practiced to minimize natural gas usage.

Resource Consolidation Alternative

Development under the Resource Consolidation alternative would generate demand for up to 2.2 million therms of natural gas annually, with an index of 0.41 therms/square foot. This projected demand is 4.6 million therms below the Presidio's natural gas usage in 1990, demonstrating that the Presidio's natural gas distribution system has adequate capacity to meet demand under this alternative. Natural gas usage under this alternative is 117,050 therms greater, or 6 percent more than would be consumed under the GMPA 2000 alternative (see Table 58). Development under this alternative would adopt the principles of sustainable design and technology, and conservation measures would be practiced to minimize natural gas usage.

Sustainable Community Alternative

Development under the Sustainable Community alternative would generate demand for up to 2.3 million therms of natural gas annually, with an index of 0.41 therms/square foot. This projected demand is 4.4 million therms below the Presidio's natural gas usage in 1990, demonstrating that the Presidio's natural gas distribution system has adequate capacity to meet demand under this alternative. Natural gas usage under this alternative is 277,424 therms greater, or 14 percent more than would be consumed under the GMPA 2000 alternative (see Table 58). Development under this alternative would adopt the principles of sustainable design and technology, and conservation measures would be practiced to minimize natural gas usage.

Cultural Destination Alternative

Development under the Cultural Destination alternative would generate demand for up to 2.4 million therms of natural gas annually, with an index of 0.41 therms/square foot. This projected demand is 4.3 million therms below the Presidio's natural gas usage in 1990, demonstrating that the Presidio's natural gas distribution system has adequate capacity to meet demand under this alternative. Natural gas usage under this alternative is

Table 58: Natural Gas Use Projection (a)

Year	Occupied Area (a) (million sf)	Gas Usage (million therms)	Gas Index (million therms/sf)
1990	6.66	6.73	1.01
1999	2.89	1.18	0.41

	Occupied Area (million sf)	Gas Usage (b) (million therms)	Change from 1990 Usage (million therms)	Difference from GMPA 2000 (therms)	% Difference from GMPA 2000
GMPA 2000	5.01	2.05	(4.68)	N/A	N/A
Draft Plan	5.60	2.29	(4.44)	241,920	12%
Resource Consolidation	5.29	2.18	(4.57)	117,050	6%
Sustainable Community	5.69	2.33	(4.40)	277,424	14%
Cultural Destination	5.96	2.44	(4.29)	388,051	19%
Minimum Management	5.96	2.44	(4.29)	390,292	19%

Sources: The Presidio Trust; Bay Area Economics, 2001.

Notes:

(a) Occupied Area data from Presidio Trust.
(b) 1999 Gas Index applied to proposed square footages to project gas usage.

390,292 therms greater, or 19 percent more than would be consumed under the GMPA 2000 alternative (see Table 58). Development under this alternative would adopt the principles of sustainable design and technology, and conservation measures would be practiced to minimize natural gas usage.

Minimum Management Alternative

Development under the Minimum Management alternative would generate demand for up to 2.4 million therms of natural gas annually, with an index of 0.41 therms/square foot. This projected demand is 4.3 million therms below the Presidio's natural gas usage in 1990, demonstrating that the Presidio's natural gas distribution system has adequate capacity to meet demand under this alternative. Natural gas usage under this alternative is 390,287 therms greater, or 19 percent more than would be consumed under the GMPA 2000 alternative (see Table 58).

MITIGATION MEASURES

Measures Adapted from the GMPA EIS

No mitigation for natural gas was identified in the GMPA EIS.

New Mitigation

Mitigation measures listed under Energy Conservation would apply to this area. Specifically, these include UT-14 and UT-15.

Presidio Energy Conservation

METHODOLOGY

As discussed in the Affected Environment section, development activities at the Presidio must adhere to Executive Order 13123, which mandates that energy use at the Presidio must be reduced by 35 percent below 1985 levels by 2010. This analysis examines energy use at build-out (projected in 2020), rather than in 2010, assuming that energy usage at the Presidio will increase as development nears completion. Therefore, if energy usage under an alternative complies with Executive Order 13123 at build-out, it can be inferred that the alternative will also be in compliance in 2010.

Since 1985 energy usage data is unavailable, 1990 data is used as a proxy. Energy consumption at the Presidio decreased between 1985 and 1990, making 1990 a more conservative baseline for comparison. In 1990, 869,231 million British Thermal Units (BTUs) of energy were consumed at the Presidio, serving 6.664 million sf of buildings with an annual energy index of 130,437 BTU per square foot (see Table 59).

POTENTIAL IMPACTS

GMPA 2000 Alternative

Total energy usage under the GMPA 2000 alternative is projected to reach up to 410,083 million BTU (MMBTU) annually, or 81,854 BTU per square foot. This energy consumption level represents a 37.2 percent reduction from 1990 levels (see Table 59). This level of reduction meets Executive Order 13123 mandates. Mitigation measures would further reduce energy consumption at the Presidio under this alternative.

Table 59: Energy Conservation - Executive Order 13123 Compliance (a)

	Total Area (sf)	Total Electricity (kWh/yr)	Total Gas (therms)	Total Energy (MMBTU)	Energy Index (BTU/sf)	% Reduction from 1990 (a)	Difference from GMPA 2000 (BTU/sf)	% Difference from GMPA 2000
GMPA 2000	5,009,954	59,969,155	2,054,081	410,083	81,854	-37.2%	N/A	N/A
Draft Plan	5,600,002	62,864,792	2,296,001	444,158	79,314	-39.2%	(2,540)	-3.1%
Resource Consolidation	5,295,442	69,022,322	2,171,131	452,686	85,486	-34.5%	3,632	4.4%
Sustainable Community	5,686,597	65,373,756	2,331,505	456,271	80,236	-38.5%	(1,618)	-2.0%
Cultural Destination	5,961,885	68,262,468	2,442,373	477,417	80,078	-38.6%	(1,776)	2.2%
Minimum Management	5,961,873	68,313,192	2,444,368	477,590	80,107	-38.6%	(1,747)	-2.1%

Source: Presidio Trust; Bay Area Economics, 2001.

Notes:

(a) 1990 Energy Use is 130,437 BTU/sf.

Draft Plan Alternative

Total energy usage under the Draft Plan alternative is projected to reach up to 444,158 MMBTU annually, or 79,314 BTU per square foot. This energy consumption level represents a 39.2 percent reduction from 1990 levels. This level of reduction meets Executive Order 13123 mandates. Total energy usage is projected to be up to 3.1 percent less than usage under the GMPA 2000 alternative (see Table 59). Mitigation would further reduce energy consumption.

Resource Consolidation Alternative

Total energy usage under the Resource Consolidation alternative is projected to reach up to 452,686 MMBTU, or 85,486 BTU per square foot. This energy consumption level represents a 34.5 percent reduction from 1990 levels. This level of conservation just fails to reduce energy usage by 35 percent below 1990 levels. Total energy usage is projected to be up to 4.4 percent greater than usage under the GMPA 2000 alternative (see Table 59). Mitigation would further reduce energy consumption.

Sustainable Community Alternative

Total energy usage under the Sustainable Community alternative is projected to reach up to 456,271 MMBTU, or 80,236 BTU per square foot. This energy consumption level represents a 38.5 percent reduction from 1990 levels. This level of reduction meets Executive Order 13123 mandates. Total energy usage is projected to be up to 2.0 percent less than usage under the GMPA 2000 alternative (see Table 59). Mitigation would further reduce energy consumption.

Cultural Destination Alternative

Total energy usage under the Cultural Destination alternative is projected to reach up to 477,417 MMBTU, or 80,078 BTU per square foot. This energy consumption level represents a 38.6 percent reduction from 1990 levels. This level of reduction meets Executive Order 13123 mandates. Total energy usage is projected to be up to 2.2 percent less than usage under the GMPA 2000 alternative (see Table 59). Mitigation would further reduce energy consumption.

Minimum Management Alternative

Total energy usage under the Minimum Management alternative is projected to reach up to 477,590 MMBTU, or 80,107 BTU per square foot. This energy consumption level represents a 38.6 percent reduction from 1990 levels. This level of reduction meets Executive Order 13123 mandates. Total energy usage is projected to be up to 2.1 percent less than usage under the GMPA 2000 alternative (see Table 59). Mitigation would further reduce energy consumption.

MITIGATION MEASURES

The following measures would apply to all alternatives.

Measures Adapted from the GMPA EIS

UT-14 *Energy Conservation.*

The Trust would expand the energy conservation public education activities and develop specific measures to minimize building energy use for buildings to be renovated.

New Mitigation

UT-15 *Energy Conservation.*

The Trust would employ the following practices to meet the goals of Executive Order 13123 and minimize the environmental impacts of energy consumption throughout the built environment at the Presidio:

- Meet or surpass the energy conservation requirements of California Title 24 energy code during building rehabilitation where these requirements do not conflict with historic preservation objectives;
- Implement cost-effective energy conservation retrofits of buildings and utility infrastructure where these retrofits do not conflict with historical preservation objectives;
- Develop and implement energy education programs for staff, tenants and park visitors;
- Develop energy conservation and efficient energy generation demonstration projects;
- Purchase a significant portion of Presidio's electric needs not met with on-site generation from renewable energy sources; and
- Implement energy efficient appliance and computer purchasing programs.

4.7 PRESIDIO TRUST OPERATIONS

METHODOLOGY

This section discusses the potential impact on park management and operations due to federal appropriations declining to zero by fiscal year 2013. It also discusses the impact due to residential and non-residential leasing revenues; the cost of building replacement, rehabilitation and removal; annual operating costs; infrastructure improvement costs; the cost of transportation services, landscaping, and natural resources management; and other economic factors.

To analyze the impact, a financial model was developed to project and compare the financial results of each of the EIS alternatives. Consistent and conservative assumptions were applied to each alternative. The Financial Analysis Technical Memorandum in Appendix J, together with its attachments, describes the financial model and its results. The attachments to the Technical Memorandum include summary financial spreadsheets for each alternative and a summary of the land use and financial assumptions of the model. A more detailed explanation of (and documentary support for) the model assumptions are contained in the "Presidio Trust Implementation Plan Financial Model Assumptions and Documentation" binder at the Trust's business office.

The primary objectives of the financial analysis are 1) to confirm the short-term financial self-sufficiency of each alternative by 2013; 2) to determine the time needed to reach long-term financial sustainability, an aspect of financial self-sufficiency; and 3) to compare the financial performance of the alternatives.

To simulate the financial performance of the EIS alternatives, the Trust provided land use, market, phasing, financing, and operational assumptions as inputs into the financial model. The Trust's economic consultant, Sedway Group, provided other market-based assumptions, such as rental and vacancy rates. All assumptions and backup rationale have been made available for public review and comment. The financial model uses the inputs described above and applies a series of calculations to test both short-term financial self-sufficiency and long-term financial sustainability for each alternative.

An alternative is considered to generate a significant impact if the alternative does not achieve short-term financial self-sufficiency by 2013 and/or long-term financial sustainability, as mandated by the Trust Act Public Law 104-333.

POTENTIAL IMPACTS

GMPA 2000 Alternative

The financial model projects that in Fiscal Year (FY) 2013, under the General Management Plan Amendment (GMPA) 2000 alternative, Trust operations would generate approximately $53 million in revenues and approximately $49 million in total annual operating expenses. Capital projects would be completed by about 2035 and the implementation phase at the Presidio would be completed in approximately 2065. All projections are made in 2001 constant dollars. These data are shown in Tables 60 and 61.

The GMPA 2000 alternative did not reach financial self-sufficiency when first analyzed as a scoping alternative. As a result of modifying the financial assumptions, most significantly by extending the time for demolition of Wherry housing units, the alternative now would meet financial self-sufficiency in the EIS analysis, but would be more marginal

Table 60: Fiscal Year 2013 Financial Snapshot

Data in Millions Constant FY 2001 dollars	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Total Square Feet (millions)	5.0	5.6	5.3	5.7	6.0	6.0
Cash Flow Summary						
Total Annual Revenues	$53.4	$73.6	$68.1	$73.7	$71.0	$95.9
Less: Operating Expenses	($44.3)	($45.4)	($45.4)	($45.4)	($45.4)	($46.3)
Less: Programs	($2.0)	($10.0)	($8.0)	($8.0)	($10.0)	($2.0)
Less: Financing	($3.0)	($3.0)	($3.0)	($3.0)	($3.0)	($3.0)
Total Annual Operating Expenses	($49.3)	($58.4)	($56.4)	($56.4)	($58.4)	($51.3)
Total Annual Revenues Less Total Annual Operating Expenses (a)	$4.1	$15.2	$11.7	$17.3	$12.6	$44.6
Financially Self-Sufficient?	YES	YES	YES	YES	YES	YES
Funds Available for Capital Projects	$4.1	$15.2	$11.7	$17.3	$12.6	$44.6
Less: Capital Costs	($7.2)	($11.7)	($6.2)	($16.5)	($12.4)	($44.3)
Less: Capital Replacement Set-Asides (b)	$0.0	$0.0	$0.0	$0.0	$0.0	($26.8)
2013 Net Cash Flow (c)	($3.1)	$3.5	$5.5	$0.8	$0.2	($26.5)
Capital Projects						
Total Capital Projects	$485	$546	$449	$484	$521	$445
Funded Capital Projects (as of 2013)	$279	$328	$299	$333	$304	$445
Unfunded Projects (as of 2013)	$206	$218	$150	$151	$217	$0
Capital Replacement Fund Deficit	($71)	($76)	($73)	($77)	($75)	($25)

Notes:

(a) Financial self-sufficiency, as required by congressional mandate, is defined for the purposes of this analysis as FY 2013 total annual revenues in excess of FY 2013 total annual operating expenses.

(b) Capital replacement set-asides begin after the implementation phase has ended.

(c) Annual negative cash flow in any given year is covered by excess cash flow available from prior years.

These models have been prepared to compare different planning alternatives. They represent an illustration of what the financial results of the planning alternatives could look like based upon specific market, timing, financing, and operational assumptions. The results should not be relied upon or interpreted as a budgetary or accounting report or as controlling future implementation plans, decisions, or actions of the Trust.

Table 61: Capital Projects, Programs, and Cash Flow Summary

Data in Years or Millions Constant FY 2001 dollars	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Total Square Feet (millions)	5.0	5.6	5.3	5.7	6.0	6.0
Capital Projects						
Total Capital Costs	$485	$546	$449	$484	$521	$445
Funded Projects as of 2013	$279	$328	$299	$333	$304	$445
Unfunded Projects as of 2013	$206	$218	$150	$151	$217	$0
Year Capital Program Completed (a)	approx. 2035	approx. 2025 to 2030	approx. 2025	2020	approx. 2025 to 2030	2013
Year Implementation Phase is Completed (a) (b)	approx. 2065	approx. 2035 to 2040	approx. 2045	approx. 2025 to 2030	approx. 2040	2015
Programs						
Annual Program Expenditures	($2.0)	($10.0)	($8.0)	($8.0)	($10.0)	($2.0)

Notes:
(a) Completion years that fall beyond the 20-year timeframe of the financial model are approximations.
(b) The implementation phase is terminated after the completion of all capital projects and the funding of all capital replacement reserves.

These models have been prepared to compare different planning alternatives. They represent an illustration of what the financial results of the planning alternatives could look like based upon specific market, timing, financing, and operational assumptions. The results should not be relied upon or interpreted as a budgetary or accounting report or as controlling future implementation plans, decisions, or actions of the Presidio Trust.

than some other alternatives, because it would not be able to bear significant downturns in market rents and remain financially viable and require the longest period to complete the capital program and fully-fund reserves. (See Appendix J at pages 9-10).

Since this alternative would reach financial self-sufficiency by 2013 (revenues would cover expenditures without need of further annual appropriations) and achieve long-term sustainability (generates sufficient revenues to meet long-term capital needs), no adverse impacts on park operations are anticipated under build-out of the GMPA 2000 alternative. A relatively low level of public programs support would be fully funded and on-going operations, capital projects and replacements would be funded over the long-term.

Building Capital Costs - The building-related capital projects (including demolition) needed to build-out the GMPA 2000 alternative are estimated at $376 million, of which $206 million would be funded by 2013.

Infrastructure and Non-Building Capital Costs - The infrastructure and non-building capital costs under the GMPA 2000 alternative are estimated at $110 million, of which $73 million would be completed by 2013. These include rehabilitation for utilities, telecommunications systems, roads, and grounds. Infrastructure rehabilitation needs are described in more detail under the Affected Environment and Environmental Consequences Utilities sections.

With regard to infrastructure reserves, the PTIP financial model assumes that no reserves would be funded until the entire capital program is completed, because reserve set-asides are considered less necessary on recent capital improvements.

Transportation Services - A description of the transportation services and systems under this alternative is included in the alternatives section. The PTIP financial model assumes that parking revenue will be zero, net of transit services and transportation management programs.

Operations and Staffing - Under the GMPA 2000 alternative, approximately $44 million in operating expenses and $2 million in program expenses are projected for 2013.

The PTIP financial model assumes an operating cost of $6 million annually for public safety expenses. Model assumptions regarding public safety operating expenses are based upon existing agreements with the U.S. Park Police and NPS for law enforcement, fire prevention and suppression, and emergency medical response services. Public safety staffing needs are described in more detail under the Affected Environment and Environmental Consequences Public Safety sections.

Revenues - Under the land use, market, phasing, financing, and operational assumptions of the model, revenues under the GMPA 2000 alternative would total $53 million in 2013. The primary revenue-generating uses are office and residential space, which would generate $8 million and $4 million respectively in rental revenue in 2013.

Draft Plan Alternative

The financial model projects that in FY 2013 under the Draft Plan alternative, Trust operations would generate approximately $74 million in revenues and approximately $58 million in total annual operating expenditures. Capital projects would be completed between about 2025 to 2030, and the implementation phase at the Presidio would be completed between about 2035 and 2040. All projections are made in 2001 constant dollars. These data are shown in Tables 60 and 61.

Since this alternative would reach financial self-sufficiency by 2013 (revenues cover expenditures without need of further annual appropriations)

and achieve long-term sustainability (generates sufficient revenue to meet long-term capital needs), no adverse impacts on park operations are anticipated under build-out of the Draft Plan alternative. A relatively high level ($10 million annually) of public programs support would be fully funded and on-going operations, capital projects and replacements would be funded over the long-term. (See Appendix J at page 11).

Building Capital Costs - The building-related capital projects (including demolition) needed to build-out the Draft Plan alternative are estimated at $438 million, of which $254 million would be funded by 2013.

Infrastructure and Non-Building Capital Costs - The infrastructure and non-building capital costs under the Draft Plan alternative are estimated at $110 million, of which $74 million would be funded by 2013. These include rehabilitation for utilities, telecommunications systems, roads, and grounds. Infrastructure rehabilitation needs are described in more detail under the Affected Environment and Environmental Consequences Utilities sections.

Assumptions regarding infrastructure reserves are the same as under the GMPA 2000 alternative.

Transportation Services - A description of the transportation services and systems under this alternative is included in the alternatives section. The PTIP financial model assumptions regarding parking revenue, transit services, and transportation management programs are the same as under the GMPA 2000 alternative.

Operations and Staffing - Under the Draft Plan alternative, approximately $45 million in operating expenses and $10 million in program expenses are projected for 2013.

Model assumptions regarding operations and staffing are the same as under the GMPA 2000 alternative. Public safety staffing needs are described in more detail under the Affected Environment and Environmental Consequences Public Safety sections.

Revenues - Under the land use, market, phasing, financing, and operational assumptions of the model, revenues under the Draft Plan alternative would total $74 million in 2013. The primary revenue-generating uses are office and non-residential space, which would generate $18 million and $3 million respectively in rental revenue in 2013.

Resource Consolidation Alternative

The financial model projects that in FY 2013 under the Resource Consolidation alternative, Trust operations would generate approximately $68 million in revenues and approximately $56 million in total annual operating expenditures. Capital projects would be completed by about 2025 and the implementation phase at the Presidio would be completed in about 2045. These data are shown in Tables 60 and 61.

The Resource Consolidation alternative is somewhat more financially marginal than some other alternatives. It is not likely to remain financially viable if market rents decline significantly and requires until about 2045, the second longest period, to complete the capital program and fully refund revenues. (See Appendix J and pages 11-12). Since the alternative would reach financial self-sufficiency by 2013 (revenues cover expenditures without need of further annual appropriations) and achieve long-term sustainability (generates sufficient revenues to meet long-term capital needs), no adverse impacts to park operations are anticipated under build-out of existing conditions. A relatively moderate level ($8 million annually) of public programs support would be fully funded and on-going operations, capital projects and replacements would be funded over the long-term.

Building Capital Costs - The building-related capital projects (including demolition) needed to build-out the Resource Consolidation alternative are estimated at $321 million, of which $214 million would be funded by 2013.

Infrastructure and Non-Building Capital Costs - The infrastructure and non-building capital costs under the Resource Consolidation alternative are estimated at $128 million, of which $85 million would be funded by 2013. These include rehabilitation for utilities, telecommunications systems, roads, and grounds. Infrastructure rehabilitation needs are described in more detail under the Affected Environment and Environmental Consequences Utilities sections.

Assumptions regarding infrastructure reserves are the same as under the GMPA 2000 alternative.

Transportation Services - A description of the transportation services and systems under this alternative is included in the alternatives section. The PTIP financial model assumptions regarding parking revenue, transit services, and transportation management programs are the same as under the GMPA 2000 alternative.

Operations and Staffing - Under the Resource Consolidation alternative, approximately $45 million in operating expenses and $8 million in program expenses are projected for 2013.

Model assumptions regarding operations and staffing are the same as under the GMPA 2000 alternative. Public safety staffing needs are described in more detail under the Affected Environment and Environmental Consequences Public Safety sections.

Revenues - Under the land use, market, phasing, financing, and operational assumptions of the model, revenues under the Resource Consolidation alternative would total about $68 million in 2013. The primary revenue-generating uses are office and non-residential space, which would generate $21 and $4 million in rental revenue in 2013 respectively.

Sustainable Community Alternative

The financial model projects that in FY 2013 under the Sustainable Community alternative, Trust operations would generate about $74 million in revenues and about $56 million in total annual operating expenditures. Capital projects would be completed by about 2020 and the implementation phase at the Presidio would be completed between about 2025 and 2030. These data are shown in Tables 60 and 61.

Since this alternative would reach financial self-sufficiency by 2013 (revenues cover expenditures without need of further annual appropriations) and achieve long-term sustainability (generates sufficient revenue to meet long-term capital needs), no adverse impacts to park operations are anticipated under build-out of the Sustainable Community alternative. A relatively moderate level ($8 million annually) of public programs support would be fully funded and on-going operations, capital projects and replacements will be funded over the long-term.

Building Capital Costs - The cost of the building-related capital projects (including demolition) needed to build-out the Sustainable Community alternative is estimated at about $377 million, of which $261 million would be funded by 2013.

Infrastructure and Non-Building Capital Costs - The infrastructure and non-building capital costs under the Sustainable Community alternative are estimated at $108 million, of which $72 million would be funded by 2013. These include rehabilitation for utilities, telecommunications systems, roads, and grounds. Infrastructure rehabilitation needs are described in more detail under the Affected Environment and Environmental Consequences Utilities sections.

Presidio Trust Operations

Assumptions regarding infrastructure reserves are the same as under the GMPA 2000 alternative.

Transportation Services - A description of the transportation services and systems under this alternative is included in the alternatives section. The PTIP financial model assumptions regarding parking revenue, transit services, and transportation management programs are the same as under the GMPA 2000 alternative.

Operations and Staffing - Under the Sustainable Community alternative, approximately $45 million in operating expenses and $8 million in program expenses are projected for 2013.

Model assumptions regarding operations and staffing are the same as under the GMPA 2000 alternative. Public safety staffing needs are described in more detail under the Affected Environment and Environmental Consequences Public Safety sections.

Revenues - Under the land use, market, phasing, financing, and operational assumptions of the model, revenues under the Sustainable Community alternative would total $74 million in 2013. The primary revenue-generating uses are office and non-residential space, which would generate $17 and $5 million in rental revenue in 2013 respectively.

Cultural Destination Alternative

The financial model projects that in FY 2013 under the Cultural Destination alternative, Trust operations would generate about $71 million in revenues and about $58 million in total annual operating expenditures. Capital projects would be completed between about 2025 and 2030, and the implementation phase at the Presidio would be completed in about 2040. These data are shown in Tables 60 and 61.

The Cultural Destination alternative is somewhat more financially marginal than some other alternatives in that it is not likely to remain viable given substantial declines in market rents, and requires a relatively long period (until about 2040) to complete the implementation phase (complete the capital program and fully fund reserves). Since this alternative would reach financial self-sufficiency by 2013 (revenues cover expenditures without need of further annual appropriations) and achieve long-term sustainability (generates sufficient revenue to meet long-term capital needs), no adverse impacts to park operations are anticipated under build-out of existing conditions. A relatively high level ($10 million annually) of public programs support would be fully funded and on-going operations, capital projects and replacements will be funded over the long-term.

Building Capital Costs - The cost of building-related capital projects (including demolition) needed to build-out the existing conditions scenario is estimated at $401 million, of which $223 million would be funded by 2013.

Infrastructure and Non-Building Capital Costs - The infrastructure and non-building capital costs under the Cultural Destination alternative are estimated at $121 million, of which $80 million would be funded by 2013. These include rehabilitation for utilities, telecommunications systems, roads, and grounds. Infrastructure rehabilitation needs are described in more detail under the Affected Environment and Environmental Consequences Utilities sections.

Assumptions regarding infrastructure reserves are the same as under the GMPA 2000 alternative.

Transportation Services - A description of the transportation services and systems under this alternative is included in the alternatives section. The PTIP financial model assumptions regarding parking revenue, transit

services, and transportation management programs are the same as under the GMPA 2000 alternative.

Operations and Staffing - Under the Cultural Destination alternative, approximately $45 million in operating expenses and $10 million in program expenses are projected for 2013.

Model assumptions regarding operations and staffing are the same as under the GMPA 2000 alternative. Public safety staffing needs are described in more detail under the Affected Environment and Environmental Consequences Public Safety sections.

Revenues - Under the land use, market, phasing, financing, and operational assumptions of the model, revenues under the Cultural Destination alternative would total $71 million in 2013. The primary revenue-generating uses are office and non-residential space, which would generate $18 and $5 million respectively in rental revenue in 2013.

Minimum Management Alternative

The financial model projects that in FY 2013 under the Minimum Management alternative, Trust operations would generate about $96 million in revenues and about $51 million in total annual operating expenditures. Capital projects would be completed in 2013 and the implementation phase at the Presidio would be completed in 2015. All projections are made in 2001 constant dollars. These data are shown in Tables 60 and 61.

Since this alternative would reach financial self-sufficiency by 2013 (revenues cover expenditures without need of further annual appropriations) and achieve long-term sustainability (generates sufficient revenue to meet long-term capital needs), no adverse impacts on park operations are anticipated under build-out of the Minimum Management alternative. A relatively low level ($2 million annually) of public programs support would be fully funded and on-going operations, capital projects and replacements would be funded over the long-term.

Building Capital Costs - The building-related capital projects (including demolition) needed to build-out the Minimum Management alternative are estimated at $342 million, almost all of which would be funded by 2013.

Infrastructure and Non-Building Capital Costs - The infrastructure and non-building capital costs under the Minimum Management alternative are estimated at $103 million, all of which would be funded by 2013. These include rehabilitation for utilities, telecommunications systems, roads, grounds, and special planning district projects. Infrastructure needs are described in more detail under the Affected Environment and Environmental Consequences Utilities sections.

Assumptions regarding infrastructure reserves are the same as under the GMPA 2000 alternative.

Transportation Services - With the exception of Doyle Drive reconstruction and improvements associated with the 23-acre Letterman project, no other major road improvements are planned. Parking would continue to be provided in currently designated areas. Existing public transit would continue with no additional transit services. The PTIP financial model assumptions regarding parking revenue, transit services, and transportation management programs are the same as under the GMPA 2000 alternative.

Operations and Staffing - Under the Minimum Management alternative, approximately $46 million in operating expenses and $2 million in program expenses are projected for 2013.

Model assumptions regarding operations and staffing are the same as under the GMPA 2000 alternative. Public safety staffing needs are described in

more detail under the Affected Environment and Environmental Consequences Public Safety sections.

Revenues - Under the land use, market, phasing, financing, and operational assumptions of the model, revenues under the Minimum Management alternative would total $96 million in 2013. The primary revenue-generating uses are office space and non-residential space, which would generate $29 million and $7 million respectively in rental revenue in 2013.

MITIGATION MEASURES

No mitigation required.

4.8 CUMULATIVE IMPACTS

Cumulative impacts result when the incremental impacts arising from an action are added to those of other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions occurring over time (40 CFR Section 1508.7).

When evaluating the potential impacts of specific alternatives, the direct and indirect consequences of implementing an alternative are examined. In contrast, when evaluating cumulative impacts, the potential impacts of an alternative are reviewed in light of other activities that have occurred in the past and are likely to occur over time in the future. The cumulative analysis considers impacts in light of all the activities affecting a resource, not just the project in isolation.

When considering cumulative impacts, the geographic area to be examined can vary, depending on the resource topic. However, the context for cumulative impact evaluation is similar to the context for project impact evaluation. For example, the affected environment for a specific historic structure would be the site of the structure and a reasonable area around that locale. In contrast, the affected environment for air quality would be the entire regional air shed.

Identifying cumulative effects is a complex task. A question necessarily arises as to how far back to go in the history of an area to understand how current site conditions came about. Likewise, when looking forward at all "reasonable foreseeable future actions" there is a question of what is reasonably foreseeable, and how far into the future one must consider. Once cumulative effects are identified, the degree of significance of the cumulative effect must also be evaluated. Fortunately, because it has been under the management of a single steward for several hundred years, understanding the Presidio's past and future is less complicated than would be the case for a large site with a multiple-ownership history.

As shown in Table 1, Comparison of Alternatives, the six PTIP alternatives have many features in common. All alternatives would result in fewer acres of land in developed uses and more acreage in open space, as compared to current conditions. While the mix of building occupants and uses would vary among the alternatives, all alternatives would have the same or less square footage than current conditions. All but one alternative would have the same or fewer dwelling units and a similar or smaller resident population as compared to current conditions. In contrast, all alternatives would increase the number of employees over current conditions, and all alternatives would have a greater number of daily visitors than is currently the case.

The discussion of cumulative impacts below is organized by environmental resource topic. Table 62 indicates the plan, program, and/or projects that provide the context for evaluating cumulative impacts.

4.8.1 CULTURAL RESOURCES

IMPACTS ON HISTORIC RESOURCES AND THE CULTURAL LANDSCAPE

The PTIP analyses of potential impacts associated with each alternative address the potential for Trust actions to result in an adverse effect on the overall significance of the NHLD, as well as on individual resources and the Presidio cultural landscape. In this way, the analysis considers the potential for cumulative effects on cultural resources in Presidio Areas A and B. Because specific historic buildings are not identified for demolition, the likelihood and magnitude of potential cumulative effects on the NHLD cannot be fully understood at this time. Thus, any demolition of individually significant resources or contributing

ENVIRONMENTAL CONSEQUENCES

Cumulative Impacts

Table 62: Cumulative Context for Project and Cumulative Impact Analysis

	Cultural Resources			Natural Resources					The Community							Transportation and Circulation				Utilities						Operations
	Historic Resources	Cultural Landscape	Archaeology	Biological Resources	Water Resources	Visual Resources	Air Quality	Noise	Land Use	Socioeconomic Issues/ Housing Supply	School	Visitor Experiences	Recreation	Public Safety – Law Enforcement	Public Safety – Fire Protection	Roadway Network	Transit Services	Bicycle and Pedestrian Facilities	Parking	Wastewater Treatment and Disposal	Storm Drainage	Solid Waste	Presidio Electrical Supply	Natural Gas Supply	Energy Conservation	Operations
PLANS																										
Mountain Lake Enhancement Plan			•	•	•	•																				
Bikeway and Trails Master Plan			•	•	•	•												•								
Vegetation Management Plan				•	•	•																				
USFWS Recovery Plans				•	•	•																				
San Francisco Water Plan					•																					
Baylands Ecosystem Goals Project (Central Bay)							•																			
Clean Air Plan (San Francisco Air Quality Basin)							•									•										
San Francisco Bay Area Regional Transportation Plan (as included in SFCTA model)														•						•						
PROGRAMS																										
U.S. Presidio Police																										
Presidio Trust Water Resource Management																										

Table 62: Cumulative Context for Project and Cumulative Impact Analysis

	Cultural Resources			Natural Resources					The Community							Transportation and Circulation				Utilities						Operations
	Historic Resources	Cultural Landscape	Archaeology	Biological Resources	Water Resources	Visual Resources	Air Quality	Noise	Land Use	Socioeconomic Issues/ Housing Supply	School	Visitor Experiences	Recreation	Public Safety – Law Enforcement	Public Safety – Fire Protection	Roadway Network	Transit Services	Bicycle and Pedestrian Facilities	Parking	Wastewater Treatment and Disposal	Storm Drainage	Solid Waste	Presidio Electrical Supply	Natural Gas Supply	Energy Conservation	Operations
NPS's Presidio operations, GGNRA, other regional recreational opportunities												•							•							
DISTRICTS/ GEOGRAPHIC AREAS																										
San Francisco Water Pollution Control Plant																					•					
San Francisco School District											•															
Presidio Areas A and B															•											
Presidio and Adjacent Areas						•			•																	
9-County Housing Impact Area										•																
9-County Solid Waste Generation																							•			
Service Areas for Muni and GGT																	•									
PROJECTS																										
Letterman Digital Arts			•	•	•	•			•																	
Doyle Drive project			•	•	•	•			•							•										

Cumulative Impacts

Table 62: Cumulative Context for Project and Cumulative Impact Analysis

	Cultural Resources			Natural Resources					The Community							Transportation and Circulation				Utilities						Operations
	Historic Resources	Cultural Landscape	Archaeology	Biological Resources	Water Resources	Visual Resources	Air Quality	Noise	Land Use	Socioeconomic Issues/ Housing Supply	School	Visitor Experiences	Recreation	Public Safety – Law Enforcement	Public Safety – Fire Protection	Roadway Network	Transit Services	Bicycle and Pedestrian Facilities	Parking	Wastewater Treatment and Disposal	Storm Drainage	Solid Waste	Presidio Electrical Supply	Natural Gas Supply	Energy Conservation	Operations
Presidio Environmental Remediation Projects			•	•	•	•																				
Localized Noise								•																		
East Fort Baker														•												

Source: EIP Associates, 2001.

buildings in excess of demolitions proposed in the GMPA would require further analysis to determine the potential for cumulative effects to the NHLD. Alternatives that may demolish buildings other than those identified in the GMPA (or in addition to those identified in the GMPA) include the Draft Plan alternative, the Resource Consolidation alternative, the Sustainable Community alternative, and the Cultural Destination alternative.

Potential impacts associated with building rehabilitation under each alternative and with enhancements to the Presidio cultural landscape would be considered beneficial, due to conformance with the Secretary of the Interior's Standards, and thus would have the potential for beneficial cumulative effects.

Impacts associated with new construction activities would be considered less than significant, due to the overall "cap" on new construction, the Trust's commitment to enforce PTIP Planning Principles and Planning District Guidelines, and the requirement for further consultation under Section 106 of the National Historic Preservation Act. Thus, no significant cumulative effects of new construction have been identified.

The potential for cumulative impacts affecting resources in the region was assessed in the GMPA EIS, which concluded – despite the potential for specified demolitions within the Presidio – that the rehabilitation and preservation actions proposed "would have a positive cumulative effect on regional efforts to preserve [important] resources and their settings." Given constraints on wholesale demolition and commitments to resource preservation contained in the Trust Act, the NHPA, and proposed PTIP Planning Principles, this conclusion remains valid for all alternatives.

ARCHAEOLOGICAL RESOURCES

The cumulative context for archaeological resources includes projects in Areas A or B that could disturb or destroy archaeological resources during excavation or grading. Such projects, in addition to the PTIP alternatives, include the Doyle Drive Reconstruction Project, the Mountain Lake Enhancement Plan, the Bikeways and Trails Master Plan, and the LDA project.

Cumulative impacts on known prehistoric archaeological sites or historic archaeological resources are, in general, not expected to be adverse. Possible exceptions include prehistoric and historic sites in the Crissy Field Planning District, which could be subjected to impacts from the Doyle Drive Reconstruction Project. In particular, the alternatives with below-ground or tunnel features pose the greatest threat to buried prehistoric and historic archaeological sites. The Federal Highway Administration and Caltrans will be conducting further investigations to identify specific archaeological site boundaries and impacts to archaeological sites from each of the construction alternatives.

The Mountain Lake Enhancement Plan also has the potential to contribute to cumulative impacts on archaeological resources. The Mountain Lake enhancement is an ongoing project for which an archaeological management assessment will be prepared prior to implementation. The lake has the potential for prehistoric archaeological sites along the original shoreline and for remains of the 1776 de Anza Spanish encampment. An archaeological field survey and testing program will be conducted and the project will be redesigned if necessary to avoid impacts to significant archaeological sites.

No cumulative impacts are expected from the Bikeways and Trails Master Plan for which there is agreement to redesign routes and facilities to avoid all affects. The 23-acre LDA project is also not expected to contribute to

cumulative impacts, because no evidence of buried archaeological sites was found during a recent investigation, archaeological monitoring will take place during the demolition and new construction phases, and the process defined in the Programmatic Agreement, Archaeological Management Plan, and Discovery Process will be adhered to.

Because the selected PTIP alternative and the above projects will involve site investigations prior to excavation and monitoring for archaeological resources as needed during excavation, the likelihood that archaeological resources would be destroyed or damaged would be minimized. Therefore, cumulative impacts are not expected to be significant.

4.8.2 NATURAL RESOURCES

BIOLOGICAL RESOURCES

Although most of the Presidio's remaining natural communities are small, and often isolated, they provide an essential refuge for a diversity of native plants communities and associated special-status plant species, some of which have been almost entirely lost in San Francisco (Vasey 1996). Thus, the Presidio is a significant contributor to the region's biological diversity. These natural communities and other open space features also provide essential habitat for several hundred bird species, some of which are considered extirpated and others rare within the San Francisco bioregion. Many of these species have evolved with, and require the unique habitat-types found on the Presidio which are dependent on specific aspect (exposure to wind), elevation, slope, and soil conditions that are geographically specific, and cannot be duplicated elsewhere.

The San Francisco Bay Area is also one of six "hotspots" within the nation identified by the Nature Conservancy as requiring critical attention to improve and protect the regions current biological diversity. The six selected areas selected support high levels of biological richness, as well as having the highest percentage of species that are either imperiled or rare. Recent biological inventories have revealed a reduction in species richness, indicating the potential for a continued trend in plant species attrition. Some plant species that were historically found on the Presidio, such as the Franciscan manzanita, are extinct, others, such as the Marin dwarf flax, have been recently (within the past decade) locally extirpated from regions within the Presidio due to increased competition with invasive non-native species. Wildlife richness has also been greatly reduced, with many larger mammals no longer found on the Presidio, and other species, such as the Xerces blue butterfly, now extinct, with its last known sighting in the Lobos Valley on the Presidio.

During the past decade, community groups, the NPS, the GGNPA, and natural resources stewards have protected and restored important habitat connections and rare plant communities, as well as controlled and reduced some of the most invasive threats to the Presidio's biological resources. These efforts have led to restoration of several large areas including the Lobos Creek Dunes, Inspiration Point grasslands and components of the Crissy Marsh and dune systems. Most recently the Trust has coordinated with the NPS to implement pilot projects within the VMP, as well as completed the planning phase of the Mountain Lake Enhancement Plan. These efforts will result in increased species richness, the reintroduction and expansion of endangered species populations, and a net increase in habitat for native communities and wetland systems. Actions under the PTIP alternatives (such as habitat management and restoration) would contribute positively to these efforts, but new (replacement) construction and land use activities would also have site-specific impacts that would require mitigation.

Other projects and programs that could contribute cumulatively to biological effects include the Presidio Trails and Bikeways Plan, the Doyle Drive Reconstruction Project, the Environmental Remediation Program, VMP, Mountain Lake Enhancement and Restoration Program, Crissy

Marsh project, and implementation of the USFWS recovery plans for several listed plant species. Each of these programs/projects are in various stages of development, some still in the alternatives development phase, but all could have both beneficial and negative short-term and long-term impacts on the Presidio's biological resources. A brief discussion of each is provided below.

Construction of the Doyle Drive tunnel through the bluffs above Crissy Field has been identified as one potential action. The lead agencies for this project (San Francisco County Transportation Authority, Caltrans and FHWA) refining alternatives, which will be subject to environmental review. If the tunnel component was eventually selected, it would most likely result in an unavoidable adverse impact on the eastern segment of the bluffs, potentially resulting in a change to the hydrologic regime and loss and/or alteration of the localized vegetation richness and wetland habitat values. Loss of habitat for the re-introduction of special-status species could also occur. Another action also being considered at this time is the construction of a tunnel under the potential Tennessee Hollow creek and Crissy Marsh interface. Construction of the tunnel could result in an adverse impact to the localized hydrogeology, affecting the establishment of a healthy ecotone between Tennessee Hollow and Crissy Marsh. Elevated structures within the same footprint could affect the establishment of a diversity of vegetation species associated with that ecotone, depending upon the degree of shading. Increased noise, debris and dust from Doyle Drive construction activities adjacent to the marsh system and the western bluffs could also have a significant impact on the wildlife use of the areas, depending upon what mitigation and suppression measures are implemented with the project.

The NPS is preparing a draft Presidio Trails and Bikeways Plan for the Presidio. The Trust is a Cooperating Agency for the project and the Trails and Bikeways Plan (expected for release in fall 2001) will be subject to environmental review. Based on the public planning process completed to date, it appears that several possible actions in the plan could contribute cumulatively to biological impacts. In particular is the proposed removal of selected undesignated trails that currently bisect wetland features, or fragment much of the serpentine bluff habitat. If implemented, this action could have a beneficial impact on those areas. Proposed trail alignments that would maintain the same alignment within sensitive areas could continue to affect those habitats. Other proposed multimodal trail alignments could directly affect habitat for special status species in the southwestern section of the Presidio, and indirectly contribute to localized disturbance of wildlife. However, in general, it is anticipated that native plant communities and associated wildlife and special-status species would benefit by the management actions expected in the plan.

Clean up of the Presidio's environmental remediation sites as part of the Trust's Environmental Remediation Program may include excavation of materials, construction of caps, and monitoring of groundwater resources. The Final EIS for the program is expected later this year. The program identifies the location of known contaminants and proposed remedial actions, and the EIS analyzes the environmental effects associated with the proposed remedial actions and identifies mitigation. Based on the draft documents, remedial activities would occur within the following natural habitat areas: Inspiration Point, Crissy Field, Tennessee Hollow, dune and wetland habitats north of the PHSH Planning District, and the western dune and serpentine bluff habitat. It is anticipated that remedies would occur within or directly adjacent to habitat for the San Francisco lessingia, the Raven's manzanita, and the Presidio clarkia, resulting in the potential loss of individuals in the Inspiration Point and Lobos Valley areas. Activities would also occur within habitat for several other rare species, including the coast rock cress, San Francisco campion, San Francisco wallflower and San Francisco owls clover, as well as within and adjacent to wetland habitat. Implementation of the Environmental Remediation Program would also benefit native plant communities and associated wildlife and special-status species by coordinating subsequent habitat restoration efforts with

implementation of the PTIP and the VMP. Coordination would ensure that habitat disturbed during construction activities would be restored to the appropriate ecological community in a timely manner, benefiting special-status species, native plant communities and wildlife. Appropriate mitigation measures would be identified to ensure both short-term and long-term protection and enhancement of natural resources.

The USFWS has adopted or is in the process of preparing Recovery Plans for 4 species of federally-protected plants occurring within the Presidio: Marin dwarf flax, Presidio clarkia, Raven's manzanita, and San Francisco lessingia. The underlying goal of these Recovery Plans is to enlarge existing populations and provide for long-term conservation, with the ultimate objective being declassification of the species as threatened or endangered. These plans include specific recovery actions (i.e., restoration activities) that are needed to successfully meet the declassification objective. Implementation of these plans will have a beneficial effect on special status species within the Presidio. The Trust is committed to work with the USFWS to ensure that PTIP activities are coordinated these plans.

In 2001, the NPS completed its restoration of the Crissy Field Marsh. Within the northern waterfront area of the Presidio, a series of natural, cultural and recreational features were created. From a biological perspective, this action had a substantial beneficial effect on the native plant communities and wildlife habitat occurring within the Presidio. Specifically, this Crissy project established a new 18-acre tidal marsh and 14-acre northern foredune community in the Presidio.

Implementation of the pilot project and phases of the VMP, the Mountain Lake Enhancement Plan, and proposed Presidio-based restoration activities are anticipated to promote the USFWS Recovery Plans for several listed plant species; however, these actions could result in some short-term impacts. Potential short-term impacts could include impacts to wildlife species resulting from temporary losses of vegetation cover or conversions of vegetation communities and assemblages. Over the long-term, however, these actions would have a beneficial affect for special-status species, the natural plant communities that support them, and the wildlife populations with which those communities are associated.

In conclusion, programs and projects could contribute cumulatively to biological impacts at the Presidio. These projects/programs are in varying stages of development and implementation, and include activities being managed by outside agencies. The USFWS Recovery Plans, Crissy Field Marsh project, proposed VMP, proposed Mountain Lake Restoration and Enhancement Plan, and Presidio Trails and Bikeways Plan are all anticipated to have a long-term cumulative beneficial effect on biological resources, with some projects generating short-term adverse impacts during implementation. The proposed reconstruction of Doyle Drive could have a long-term adverse impact on biological resources in the Crissy Marsh Planning District; however, the project is still in the planning phase, and the lead agencies have not expressed preference for a particular alternative. In addition, the environmental review process has not been completed, so detailed information on the precise effects associated within any of the alternatives is not currently available. If, after future study, the Crissy Marsh expansion associated with various PTIP alternatives is deemed infeasible and some adverse change to the marsh environment occurs as a result of the future Doyle Drive reconstruction, this would represent a cumulative adverse impact on this new habitat area.

The proposed Environmental Remediation Program for the Presidio is anticipated to have site-specific adverse impacts on individual special-status plant species, and some areas supporting native plant communities. The effects to special-status species are subject to Section 7 consultation and mitigation to avoid or minimize potential impacts would be required. These activities, coupled with potential PTIP actions would contribute cumulatively to the special-status plant, native plant community, and wildlife habitat impacts at the Presidio. PTIP mitigation would help reduce

these impacts, and ensure long-term beneficial effects by protecting these resources by requiring the timely ecological restoration of disturbed remediation areas (upon construction of the area-specific remedy) and limiting the amount concurrent habitat disturbance (Presidio-wide). In addition, the long-term wildlife and vegetation monitoring would required as mitigation in this EIS would help create, monitor and maintain comprehensive data on the biological resources at the Presidio. These data will play an important role in future site-specific planning and environmental review activities, as well as the future evaluation of cumulative projects.

WATER RESOURCES

Cumulative impacts on existing stream drainage and wetland resources are not expected to be adverse. The Trust would strive to maintain "no loss" of wetland features, and adopt and enforce strict regulatory mechanisms to protect wetlands, lakes and streams. Other past, current or reasonably foreseeable future projects and programs that could contribute cumulatively to water resource impacts are discussed below.

The proposed reconstruction of Doyle Drive is still in the planning and environmental review stages; however, several draft concepts for potential alternatives have been identified. One of these preliminary draft alternatives would involve construction of a Doyle Drive tunnel, which could result in a change to the hydrologic regime and loss and/or alteration of the localized wetland features and processes, vegetation richness and associated wetland habitat values. The tunnel could also affect establishment of a healthy functioning wetland system between the freshwater inflow of Tennessee Hollow and Crissy Marsh.

Removal of the majority of undesignated trails followed by habitat restoration, as called for in the proposed Presidio Trails and Bikeways Master Plan, could have a beneficial impact on wetland features, but trails that currently bisect wetland features and would not be realigned would continue to contribute to cumulative impacts.

Clean up of the Presidio's numerous environmental remediation sites would occur within or directly adjacent to wetland habitats, and could result in either the short-term or long-term redirection of surface and groundwater flow within these areas. However, it is anticipated that the programs' long-term beneficial impacts to wetland features would exceed the short-term impacts by their coordination of subsequent habitat restoration efforts with implementation of the PTIP and the VMP. Appropriate mitigation measures would be identified to ensure both short-term and long-term protection and enhancement of wetland resources.

Finally, the proposed Mountain Lake Enhancement Plan would benefit native freshwater marsh and riparian communities and water quality values through restoration and management activities. This beneficial effect would contribute cumulatively to the water resources within the Presidio.

While the Doyle Drive Reconstruction Project could have an adverse effect on wetlands, the combined effect of the above projects and the PTIP alternatives (excluding Minimum Management) would be cumulatively beneficial, because there would be a net increase in wetland habitat and value.

VISUAL RESOURCES

The cumulative context of the Presidio's visual environment would be the Presidio itself and the adjacent areas in the City and County of San Francisco. In addition to development associated with the PTIP, there are other planning efforts underway that could affect the Presidio's visual resources, including the Presidio Trails and Bikeways Plan, the Mountain Lake Enhancement Plan, the Doyle Drive Reconstruction Project, and the VMP. In addition, changes within the 23-acre site in the Letterman

Planning District would include replacement of the existing 10-story former hospital, which would provide improved views within the Presidio.

Removal of the majority of undesignated trails and revegetation, as called for in the Presidio Trails and Bikeways Mater Plan, could have a beneficial effect on the visual quality in the park as the areas are returned to a natural state. Actions in the Mountain Lake Enhancement Plan would also enhance native vegetation, but would not substantially alter the visual environment in the Presidio.

Construction of improvements to Doyle Drive would generally improve views by placing portions of the roadway at or below ground level.

Over the long term, visual qualities on the area will be enhanced by activities in the VMP. For example, changes to the pygmy forest along the southern boundary of the park would enhance views from residences adjacent to the Presidio. The management of vegetation and the removal of non-historic tree cover would open views that have become blocked over time, which would have a positive effect on visual resources in the Presidio.

The areas adjacent to the Presidio are fully developed urban areas that are not expected to substantially change in visual character for the foreseeable future. Changes that would occur within the Presidio as a result of the alternatives would change the visual environment of the Presidio, resulting in positive visual changes. The changes would be incremental and localized, but would result in changes to views within the Presidio, as well as from adjacent areas.

AIR QUALITY

The San Francisco Bay Area Air Basin is the geographic area considered in evaluating cumulative air quality impacts. This regional air basin does not attain the state and federal standards for ozone. All emissions of reactive organic gases (ROG) and nitrogen oxides (NO_x) in the region contribute to cumulative regional increases in ozone levels. Regional air quality planning efforts aim to reduce ozone levels while allowing growth to occur. Any project that would not be consistent with regional clean air planning efforts is also considered to cause a significant cumulative impact because it would make attainment of air quality goals more difficult.

A significant cumulative impact would occur if an alternative would be inconsistent with the most recent Clean Air Plan (CAP). As discussed in the Consistency with Regional Clean Air Plans section, housing and employment growth related to each alternative could outpace the growth assumed in the current GMPA and the assumptions of the 2000 CAP, so that Presidio-related emissions could exceed levels assumed in the CAP. This potential increase in air emissions would be a significant and unavoidable cumulative impact.

NOISE

Noise is a localized issue limited to the geographic area adjacent to or in the vicinity of a project or activity. Noise can be short term, as during construction, or on going, as with noise from a highway. Short-term cumulative impacts could be related to concurrent Presidio construction projects and the reconstruction of Doyle Drive. Over the long term, new development within the Presidio would coincide with anticipated region-wide growth in traffic noise, especially from traffic on U.S. Highways 101 and 1. Increased traffic noise from cumulative growth on roadways within the Presidio is analyzed in the Environmental Consequences, Noise, chapter of this EIS above because traffic data for buildout conditions account for cumulative traffic increases. Noise from other sources and activities within the Presidio would add to this effect. These cumulative effects were analyzed in the GMPA EIS and were found to be minor. Under any alternative, these effects would occur, but would not substantially exceed

noise levels identified in the GMPA EIS, and the impact would remain less than significant.

4.8.3 THE COMMUNITY

LAND USE

The effects of the alternatives when added to the effects of other past, present, and forthcoming projects, would have a positive cumulative effect. In general, the projects–including the VMP, Mountain Lake enhancements, Crissy Field (Area A) improvements, the Bikeways and Trails Plan, and the Environmental Remediation Program–would increase open space, enhance park values, and improve the Presidio's natural and recreational qualities. Through these and other projects, the Presidio's open space would be expanded by about 9 to 45 acres. When fully implemented, open space would constitute about 60 to 72 percent of Area B's 1,168 acres. The projects would restore additional native plant habitat, reestablish portions of the historic forest, and enhance the historic setting. Most of the Area B open space improvements would take place in the southern part of the park, primarily through concentrating developed areas in the north, and removing residential areas in the south and expanding open space there. The cumulative effect of this change in land use patterns would be to provide a more park-like setting in many parts of the Presidio.

SOCIOECONOMIC ISSUES/HOUSING SUPPLY

Cumulative impacts take into account the combined effect of the Presidio development and other local developments on the regional housing market. The number of households (net of those residing in the Presidio) generated under each alternative is expressed as a percentage of the new households in the Housing Impact Area (HIA) between 2000 and 2020 (the HIA is defined in Table 16). The new households in the HIA, projected by ABAG, represent the cumulative household demand resulting from other local developments. The analysis for each alternative shows that when compared to the GMPA 2000 alternative, the impact of new housing demand on the regional housing supply is less than 1 percent, which is not considered significant. Compared to the GMPA 2000 alternative, all the other alternatives would contribute to improving the jobs/housing balance, because they would provide more housing supply relative both to the GMPA 2000 alternative and new employment generated. The Draft Plan alternative would contribute the most to achieving a jobs/housing balance based on three measures: (1) supply compared to total housing demand; (2) supply compared to net-new housing demand (over the GMPA 2000 alternative baseline); and (3) supply compared to housing demand from Presidio-based employee households (see Table 41). Implementation of the mitigation measures in the EIS would ensure that as many Presidio-based employees as possible have opportunities to live in the Presidio.

SCHOOLS

Residential development throughout the City of San Francisco is likely to generate additional public school students over the next twenty years. This development, in conjunction with each of the alternatives, will have a cumulative impact on school capacity. However, it is not possible to develop reasonable projections of cumulative impacts on total school capacity due to a multitude of variables including changes in state-mandated classroom size, the addition of temporary and permanent facilities, and changes in the percentage of San Francisco children in the public school system. ABAG projections indicate that San Francisco household size between 2000 and 2020 will decrease from 2.46 to 2.37 persons per household. The City's total population is projected to grow to 818,800 persons through 2010 and then decrease to 808,000 persons by 2020. Both trends suggest that public school enrollment may decrease slightly over the next twenty years, creating additional capacity for students. With the exception of high schools, City schools that serve the Presidio appear to have sufficient capacity to accommodate the anticipated school

population generated by each alternative. Galileo High School has some limited capacity, which could be exceeded by new Presidio-resident students. However, the increase in students is a very minor fraction of the total district enrollment and, in the absence of long-term student population projections, cannot be determined to be a significant impact.

VISITOR EXPERIENCE

Expanded facilities and programming under the PTIP would complement the visitor experience offered by the NPS's Presidio operations, the rest of the GGNRA, and other regional visitor resources. Cumulative regional development by NPS at the Presidio, the rest of the GGNRA, and other regional visitor resources would contribute to regional and national efforts to expand interpretive and educational opportunities for the public. Additional educational resources would be available to Bay Area residents and visitors. No adverse cumulative impacts on visitor facilities are anticipated for any of the alternatives.

RECREATION

The PTIP would enhance passive recreational and educational experiences and would increase and diversify recreational opportunities through the creation of new open space areas and through the continued restoration of remnant natural areas and historic forest stands. Other projects (in addition to the PTIP) at the Presidio, the rest of the GGNRA, and other regional recreation resources would contribute to recreational opportunities in the Bay Area. For example, improvements at Mountain Lake would include construction of a 350-foot unpaved trail with three overlooks along the east shore of the lake and an overlook with benches and interpretive exhibits on the lake's south shore. A $34 million rehabilitation of Crissy Field in Area A would provide 100 acres of restored parkland including a tidal marsh, promenade, boardsailing area, picnic areas, and bike path. The Trails and Bikeways Plan would provide a network of trail and road-based natural/cultural areas, regional trails, public transportation stops, and other recreational/open space features of the Presidio. All of these projects, in combination with the PTIP alternatives, would contribute substantially to enhancing recreation opportunities within the region.

PUBLIC SAFETY

Law Enforcement

Law enforcement is generally provided on a local level with cumulative development having little impact beyond a local jurisdiction. The United States Park Police (USPP) serves the Presidio with a dedicated operation with its own budget and personnel. Other development at the Presidio, including the LDA project, in combination with any of the proposed alternatives, would be adequately served if mitigation identified in this EIS (requiring a review and expansion of services as needed) is implemented. Cumulative regional development will have little or no impact on USPP Presidio operations at the Presidio, because the USPP would not operate outside of its jurisdiction.

Fire Protection and Emergency Services

Fire protection and emergency response is generally provided on a local level with cumulative development having little impact beyond a local jurisdiction. The Presidio Fire Department serves the Presidio with Fire Station 1, which also serves Presidio Area A. Fire Station 2, in the Marin portion of the GGNRA, provides backup for Fire Station 1 with additional backup being provided by the San Francisco Fire Department. Cumulative development elsewhere in the Presidio, including the LDA and Area A, would not increase the need for expanded services beyond those identified in the impact discussion. Other cumulative regional development would have little impact on Fire Station 1 of the Presidio Fire Department. The development of East Fort Baker would necessitate the relocation and

expansion of Fire Station 2 from the Marin headlands to East Fort Baker, but this relocation would not have a significant impact on the ability of Station 2 to provide backup services to Area B.

4.8.4 TRANSPORTATION AND CIRCULATION

ROADWAY NETWORK AND TRAFFIC

The future (2020) cumulative transportation effects of PTIP alternatives were determined using the San Francisco County Transportation Authority (SFCTA) travel demand forecasting model plus a detailed travel demand evaluation of the Area B elements to reflect full buildout conditions, for typical daily, a.m. and p.m. peak commute hour conditions. Under the year 2020 cumulative conditions, the transportation network away from the Presidio was assumed to be that currently contained in the SFCTA model, which reflects the projects currently included in the San Francisco Bay Area Regional Transportation Plan, prepared by the Metropolitan Transportation Commission. As discussed in the methodology section, the existing transportation network in the Presidio was adjusted to reflect assumptions about changes in the local highway network, including modifications to the 14th and 15th street gates, realignment of Halleck Street to connect with Lincoln Boulevard, and the provision of a grade-separated connection to Doyle Drive, in the vicinity of the Main Post and Letterman Planning Districts.

The impact analysis presented in the Transportation and Circulation section identifies the combined effects of PTIP alternatives along with projected growth in traffic volumes in the area, and thus provides a cumulative analysis of future year 2020 transportation conditions. As discussed in the Transportation and Circulation section, all of the PTIP alternatives would adversely affect the operation of local intersections. Mitigation measures either adapted from the GMPA EIS or identified as new mitigation in this EIS, would improve intersection operations to acceptable levels under cumulative conditions, except for the three intersections of Lincoln Boulevard/Bowley Avenue (a.m. and p.m. peak hours), Park Presidio Boulevard/Lake Street (p.m. peak hour) and Park Presidio Boulevard/California Street (p.m. peak hour), which would operate at an unacceptable level of service due to overall regional traffic growth.

The impact analysis presented the Environmental Consequences section of this EIS identifies the combined effect of PTIP along with projected growth in traffic volumes in the area, and thus provides a cumulative analysis of future year 2020 transportation conditions.

PARKING

All of the PTIP alternatives would provide sufficient parking to accommodate the expected cumulative weekday demand within Area B of the Presidio. The number of parking spaces proposed would exceed the estimated demand by 15 percent or more under all of the alternatives, except for the GMPA 2000 where the cumulative demand would closely match the supply. The surplus of parking spaces could potentially compromise the efforts of the TDM program to reduce single-occupant vehicles and encourage non-auto-modes. The effects of excess parking supply will be reduced by mitigation measures requiring monitoring and adjustment of parking supply and demand and, accordingly, a reduction of the amount of parking available.

Some special events could generate additional cumulative demand for parking beyond that of a typical weekday. Thus, special events would be scheduled and coordinated based on parking availability and events would be regulated to ensure that supply meets the cumulative demand.

BICYCLE AND PEDESTRIAN FACILITIES

Implementation of the Presidio alternatives would result in a substantial increase (about 200 percent) in pedestrian and bicycle activity within the Presidio and on streets adjacent to the key gates. Under all alternatives, approximately 15 to 18 percent of all trips generated by the land uses are anticipated to occur by walking and parking as the primary mode. The cumulative pedestrian and bicycle activity would be generally accommodated within the existing pedestrian and bicycle network, plus planned improvements to be outlined in the Bikeways and Trails Master Plan.

PUBLIC TRANSPORTATION

The alternatives would double or triple the current number of transit trips on Muni and GGT. About 75 or 80 percent of the additional transit trips would be on Muni and about eight percent on GGT. The increased of ridership on Muni lines would be distributed among the thirteen bus lines serving the Presidio and its vicinity, while the increase in ridership on GGT would be distributed among the 26 routes that serve the Presidio. In general, the Muni lines have available capacity in the vicinity of the Presidio and the maximum load points to accommodate the cumulative transit demand. GGT bus lines also generally have available capacity with the exception of five GGT routes (2, 4, 26, 72 and 74) that currently operate at a 90 percent or higher level of utilization. A substantial passenger increase on these lines would result in a cumulative impact unless GGT service on these lines is increased in the future to match the expected cumulative demand.

4.8.5 UTILITIES

WATER SUPPLY AND DEMAND

Cumulative impacts take into account the combined demand of the Presidio development and other development in the SFWP service area. For all alternatives, the Trust may need to meet some of its water demand with water supplied by the City and County of San Francisco (CCSF) or an other provider. Therefore, water demand from the alternatives must be considered in combination with demand in the City and from other CCSF customers. Projected water demands, as summarized in Table 51, indicate that the Presidio would require up to 1.36 mgd of water from CCSF or other water provider. According to the *Final Urban Water Management plan for the City and County of San Francisco Public Utilities Commission*, combined retail and wholesale water demand in the year 2020 is expected to reach approximately 407 mgd. The potential Trust demand of up to 1.36 mgd comprise approximately 0.33 percent of total CCSF water sales. Implementation of demand management Best Management Practices, actions that would be taken in response to water supply shortages, and recycled water use, would reduce per capita water demand at the Presidio, thereby reducing Trust reliance on purchases of CCSF water or an other provider. Because the CCSF has planned for service to cumulative development in its service area, including the small portion required by the Presidio, the cumulative impact on water supply would not be significant.

WASTEWATER TREATMENT AND DISPOSAL

Cumulative impacts take into account the combined effect of the Presidio and other local development on wastewater discharge to the City's sewage treatment system. The SFPUC reports that, under dry weather conditions, the City's sanitary sewer system has sufficient capacity to accommodate projected growth in San Francisco in the immediate future. However, the system's ultimate capacity under wet weather conditions has yet to be

determined (personal communication, Carlin). Currently, the Southeast Water Pollution Control Plant (SWPCP), which receives the greatest share of the City's wastewater flow, is operating at capacity under wet weather conditions (personal communication, Franza). The San Francisco 2000 Urban Water Management Plan projects an increase in water usage from 83.9 mgd to 85.8 mgd between 2000 and 2020, indicating an increase in wastewater flows over the same period. The SFPUC is exploring the possibility of increasing treatment capacity at the North Point Water Pollution Control Plant in response to these projections. Increased capacity at the North Point Plant would also limit flow to SWPCP and reduce the number of combined sewer overflows (CSOs) under wet weather conditions. Mitigation identified in this EIS would maintain the Presidio's wastewater flow to City treatment plants at current levels to the extent feasible , thus minimizing PTIP's cumulative impact on the City's sanitary sewer system. In addition, the Trust is investigating waste pumping to the west side, which, if feasible, would further reduce CSO events by shifting the Presidio's wastewater flow away from the SWPCP and to the Oceanside Water Pollution Control Plant.

It is difficult to develop reasonable projections of cumulative impacts on wastewater discharge due to the uncertain nature of commercial and residential development throughout the City. However, adoption of mitigation that would reduce historic flows from the Presidio and potentially develop a wastewater reclamation program at the Presidio would further reduce discharges.

STORM DRAINAGE

As the Presidio storm drainage system is largely exclusive to the Presidio, development outside the Presidio is not expected to generate additional drainage to the system. Conversely, the Presidio is not expected to add to storm water runoff into the City's system, since it is a separate system and drains to the bay or ocean. Therefore, no cumulative impacts on San Francisco's storm water system are anticipated. Implementation of the Presidio VMP, Presidio Trails Master Plan, Crissy Field rehabilitation project, Presidio Trails and Bikeways Plan, and the Mountain Lake Enhancement Plan, to the extent that they increase vegetation and other porous surfaces and reduce non-porous surfaces, will reduce storm water runoff within the Presidio storm drainage system.

SOLID WASTE

Cumulative impacts take into account the combined effect of the Presidio development and other local development in the nine-county Bay Area on regional solid waste generation. The analysis presented in the Environmental Consequences section of this document provides a cumulative impact assessment, by calculating the percentage of the regional waste stream produced by development under the alternatives. Construction activities under the alternatives would generate approximately .01 to .04 percent of the regional solid waste, as compared to the GMPA 2000 alternative. The GMPA 2000 alternative would generate .08 percent of the regional waste stream. Mitigation identified in this Draft EIS would further limit the production of solid waste.

ENERGY CONSUMPTION AND DISTRIBUTION

Electrical Supply

California is currently undergoing a statewide electrical crisis, with demand in excess of supply and costs increasing significantly as a result. The State of California has responded to this problem by negotiating long-term contracts for electricity, facilitating construction of new power plants, encouraging conservation measures, and investigating power generators' activities. As a major population and industrial center, the Bay Area has been particularly impacted by the power shortage. ABAG projects the regional population to grow by 16 percent and the number of jobs to

increase by 27 percent over the next twenty years, suggesting an increase in regional electrical consumption. Development at the Presidio under all the alternatives would contribute to this regional electrical demand. To limit the Presidio's impact on regional demand, mitigation identified in this EIS would be implemented. Measures would also be taken by the Trust would also be in compliance with Executive Order 13123, mandating that energy use at the Presidio be reduced by 35 percent below 1985 levels by 2010. These steps would further reduce the Presidio's impact on regional electrical demand and consumption.

Natural Gas Supply

As stated above, the regional population is projected to increase by 16 percent, and regional employment by 27 percent. This growth will lead to an increase in regional natural gas consumption. Development at the Presidio under all alternatives would represent a portion of this regional demand. To limit the Presidio's impact on regional demand, mitigation identified in this EIS would be implemented. In addition, measures taken by the Trust to reach compliance with Executive Order 13123 would reduce the Presidio's contribution to regional natural gas demand.

Energy Conservation

The cumulative analysis under the Energy Consumption and Distribution and Natural Gas Supply states that development under any of the Presidio alternatives would represent an increase in regional energy demand. However, compliance with Executive Order 13123 assures that the Presidio would reduce its energy consumption under each of its alternatives, thus limiting its impact on regional energy demand and furthering the goals of energy conservation.

CONSULTATION AND COORDINATION

5. CONSULTATION AND COORDINATION

5.1 HISTORY OF PUBLIC INVOLVEMENT

The Presidio considers public involvement and comment to be critical in shaping the updated vision for the Presidio's future. The following section describes the public involvement program for the PTIP and EIS.

Public Scoping

Federal Register Notices and Scoping Period

Planning officially began on June 30, 2000, with a Federal Register notice of intent to prepare a Supplemental EIS for PTIP, and to hold two public scoping meetings to determine the scope of impact topics and alternatives to be addressed in the EIS (65 Fed. Reg. 40707-08). On October 11, 2000, the Trust published in the Federal Register a second notice to add a third public scoping meeting, to make factual corrections, and to extend the previously announced scoping period from November 15, 2000 to December 8, 2000 (65 Fed. Reg. 60477-60478). In response to several requests from commenting organizations and members of the public, the Trust announced in a third Federal Register notice an additional extension of the public scoping period to January 15, 2001, to enable the public to review and comment on the alternatives prior to their being analyzed in the EIS (65 Fed. Reg. 67783).

Public Workshops

To ensure that the full range of issues and alternatives related to the PTIP and EIS were identified and addressed, the Trust invited all persons affected by or otherwise interested in the updated plan to participate in determining the scope and significance of issues to be analyzed in the EIS by submitting written comments, or by attending one or more of four community workshops. During the extended 6-month scoping period, about 470 people attended the workshops, many of whom provided written and oral comments during the meetings. The Trust announced the times and locations of the workshops in a variety of media, including publication in the Federal Register and the Presidio Post (the Trust's monthly publication), notification to persons on the Trust's mailing list (approximately 9,000 persons and organizations) and those that called or wrote requesting notice of subsequent events concerning the planning process, and posting on the Trust's web site (www.presidiotrust.gov).

At the first scoping meeting, held on July 12, 2000, the Trust made available information summarized from past planning workshops and other public outreach sessions, and sought the public's input on topics including Planning Principles, Presidio programs, transportation, housing, visitor services, and land use for purposes of both developing a reasonable range of alternatives, and identifying specific impacts to be evaluated in the EIS. During the second workshop, held on September 13, 2000, the Trust focused on the Trust Act's financial self-sufficiency mandate, and introduced the financial modeling approach to be used to compare the planning alternatives. At that workshop, the Trust summarized and solicited comments on financial modeling concepts that would be used to assess, confirm and compare the financial viability of each alternative evaluated in the EIS. After the July and September workshops, the Trust distributed mailers seeking public comments on both workshop topics, and provided a summary of public comments from the July workshop.

Using the information from the first two workshops and other public input, the Trust presented for public comment proposed conceptual alternatives to be addressed in the EIS, and proposed visions for the Presidio's future at a third workshop held on November 15, 2000. The fourth and final workshop during public scoping was hosted on December 13, 2000, at which time the

Trust responded to clarifying questions and listened to comments on the information that had been presented to date. The Trust made available for public review and inspection complete transcripts and copies of the materials from the September, November, and December workshops on the Trust's website and at the Trust's library.

Conceptual Alternatives Workbook

As part of the third scoping workshop, the Trust released the Conceptual Alternatives Workbook to summarize the information presented at the November 15, 2000, workshop. The purpose of the workbook was to seek public input on topics that would form the foundation of the plan update and environmental review. The first part of the workbook summarized information about the planning process and context. Next, key elements of the plan update – the Trust's proposed vision statement and Planning Principles – were presented for public review and comment. Finally, five preliminary conceptual plan alternatives were presented. The workbook also included a response form for use by the public to evaluate the concepts presented, select ideas they believed to be best for incorporation into the EIS alternatives, and to describe their own concept of a plan alternative if not already represented among the alternatives proposed.

In presenting the conceptual alternatives for public consideration, the Trust, using a 20-year financial model common to all alternatives, provided a preliminary financial analysis for each alternative. To fully explain the summary financial results, the Trust also provided financial spreadsheets detailing the financial inputs, and made publicly available a compendium of all financial assumptions, together with supporting documents, used in assessing the financial viability of each alternative. Each of the detailed preliminary financial summaries was made publicly available prior to the final public scoping workshop. By this means, as part of scoping, the Trust received and considered comments on the approach to the financial comparison of alternatives.

Agency Participation

In November 2000, the Trust provided background information regarding the planning and environmental review process for the PTIP, including the Conceptual Alternatives Workbook, to federal, state, regional, and local agencies as part of a request to participate in the plan update. Of the 37 agencies invited to comment, 5 agencies responded. The following is a brief summary of the comments received during consultation.

- Federal Agencies (National Park Service [NPS], U.S. Environmental Protection Agency [EPA]. U.S. Fish and Wildlife Service [USFWS])

  Comments focused on the needs for: the Crissy Field Marsh and Tennessee Hollow enhancements (NPS); consideration of an economically viable GMPA alternative (NPS); a commitment to protect cultural resources given the amount of proposed demolition and new construction (NPS); a vision that reflects the purpose for all national parks and the Presidio specifically (NPS); demolition of Wherry housing to support *Lessingia germanorum* recovery (NPS, USFWS); and sustainable transportation approaches (EPA).

- Regional Agencies (San Francisco Bay Conservation and Development Commission [BCDC])

  The BCDC stated that the plan update could affect the coastal zone. The primary concerns were whether the PTIP would be consistent with the Presidio's Park Priority Use designation for Area B; and whether sufficient public access would be provided through the Presidio and from destinations within the Presidio, to the shoreline.

- Local Agencies (City of San Francisco)

  The City expressed a preference for an alternative that supports a jobs/housing balance, minimizes housing demolition, and relies on public transit. The City also requested compensation for any services provided (e.g., transportation, water, sewer).

Consultation under the National Historic Preservation Act

The Trust initiated National Historic Preservation Act (NHPA) compliance early in the PTIP planning process, and has been in ongoing consultation under Section 106 of the NHPA with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP) to develop a Programmatic Agreement covering operations, maintenance, leasing, and rehabilitation activities as well as a framework for addressing future planning efforts following from PTIP, once adopted. As part of this ongoing consultation, the Trust is coordinating with NPS' cultural resources staff in the development of a the draft Programmatic Agreement, which has been included in Appendix C.

Coordination with NPS

During the course of the planning and environmental review process leading up to the PTIP and Draft EIS, the Trust held regular coordination meetings with the NPS. The intent of the meetings was to exchange information on key issues of interest to both agencies. The Trust provided funding support for a PTIP liaison within the NPS. The liaison has coordinated input to the Trust from all NPS branches, and has helped identify and address key PTIP issues that would affect Area A of the Presidio.

NPS reviewed and provided comments on the Trust's written scoping materials, including the Conceptual Alternatives Workbook summarizing proposed alternatives for study. After the close of scoping, the Trust held several focused sessions to review how the Trust was addressing NPS' scoping comments and comments on the EIS alternatives and on preliminary draft sections of the Plan. Trust staff with specific technical expertise met with counterpart staff within NPS to ensure technical and factual information was reviewed and adjusted. The Trust also hosted several focused sessions with NPS on the following topics: open space/natural resources. interpretation/programs, transportation and parking management, cultural resources, and sustainability. Each of the sessions included informal presentations, review of existing policies and proposed principles, and discussions on the subjects. Further meetings with NPS focused on receiving comments on the internal administrative review draft of PTIP and the EIS.

Scoping Report

Once the 6-month scoping period closed, the Trust made available for public review in the Trust Library a complete set of all written scoping comments. Also available in the Library and on the Trust's web-site were copies of workshop transcripts that recorded oral comments received during the various scoping workshops. The Trust prepared a post-scoping document that summarizes scoping comments and input. The report describes and summarizes the issues identified in 600 written and oral responses.

CONSULTATION AND COORDINATION

The following are among the issues raised during the scoping period, and considered by the Trust to be principal areas for study and analysis. In describing these issues, this section explains key differences between the scoping alternatives and the alternatives analyzed in the DEIS, and provides feedback to the public on how these issues have been addressed in PTIP and the EIS.

- Compatibility with and Relationship of PTIP to the GMPA

  A number of commentors did not want to see any change in the GMPA vision and questioned the need for and purpose of PTIP. Many of these commentors noted concerns that the Trust's planning proposals were a rejection of the GMPA, and commentors sought to retain many specific GMPA elements. Some commentors requested clarification of the relationship between the GMPA and PTIP. In response, the Purpose and Need discussion in the EIS and Chapter 1 (Introduction) of the Plan set out the underlying need and objectives the Trust seeks to meet in proposing that the GMPA be modified and updated. These sections of PTIP and the EIS also describe the relationship between the GMPA and PTIP in greater detail than was offered in the Trust's scoping materials.

  Since its inception, the Trust has carried out the mandates of the Trust Act by looking to the GMPA as the foundational plan that guides the Trust's planning and decision-making. Consequently, the plan alternatives for Area B have not been developed from a blank slate. The plan alternatives retain elements of the GMPA that have already been carried out or that do not warrant change. They incorporate many of the GMPA's foundations and concepts through the Planning Principles, which will become the specific goals and objectives for managing Area B in the future. At the same time, the plan alternatives build in modifications to the GMPA to obtain a measure of flexibility not contemplated in the GMPA, and to better reflect the Trust's differing mandate, policies, and approaches. The PTIP, once adopted by the Trust Board of Directors, will become the Plan governing the Trust's future management and implementation in Area B, and the GMPA will continue to govern NPS's management of Area A.

- Level of Demolition and New Construction

  Various commentors raised concerns during the scoping period about the proposed levels of demolition and new construction within the conceptual alternatives. They expressed concern that high levels of demolition and new construction would impair the NHLD.

  The Trust has addressed this concern by modifying the alternatives and by including policies governing historic resource protection that are applicable to all alternatives. Also, the potential effects of the proposed actions on the NHLD are thoroughly analyzed in the DEIS. By including the demolition and new replacement construction associated with the 23-acre Letterman Complex (900,000 square feet), the scoping alternatives created confusion by overstating the actual levels being proposed. The Letterman project was previously analyzed under a separate EIS, and need not be reanalyzed here. Each of the DEIS alternatives has been clarified by excluding the Letterman demolition and new construction figures, reducing the overall levels across all DEIS alternatives. Further, the proposed levels of demolition and new construction articulated for each alternative should be considered outer bounds for what could be proposed as part of future project implementation. Proposed demolition levels have been developed assuming largely the demolition of non-historic structures, such as removal of Wherry housing.

  The Trust is charged with managing the NHLD under its jurisdiction in a manner consistent with the Trust Act and the NHPA. To ensure that the status of the NHLD is not impaired during future implementation of the PTIP, the Trust will adhere to a number of substantive and

procedural safeguards. Planning Principles related to cultural resources, as set forth in Chapter 2 of the Draft Plan, and applicable to all alternatives, will guide future plans and projects. In addition, new construction would be subject to the planning guidelines for each planning district set forth in Chapter 5 of the Plan and would have to comply with Section 106 of the NHPA pursuant to the provisions of the Programmatic Agreement (draft included in Appendix C).

- Historic Resource Protection Concerns

Closely related to the comments concerning proposed levels of demolition and new construction were various comments requesting that the Trust underscore the importance of protecting historic resources in the NHLD. The Planning Principles governing cultural resource management, set forth in Chapter 2 of the Draft Plan, define policies that apply to all of the alternatives. These policies, together with proposed cultural resource mitigations, the process provided under the draft Programmatic Agreement (Appendix C) for compliance with federal historic preservation laws, and the application of planning district guidelines would ensure that the NHLD would not be impaired and individual resources would be preserved to the maximum extent feasible.

- Comprehensive Management Program

Scoping comments sought clarification on how and when the Trust will comply with the comprehensive management program requirement of the Trust Act. The Act requires the Trust to develop a comprehensive program for management of Area B. This comprehensive management program was intended to evaluate each structure identified for demolition in the GMPA to determine whether rehabilitation and reuse of the structure is cost-effective, to consider for possible demolition the buildings in categories 2 through 5 of the 1985 Historic American Buildings Survey (HABS) Report, to consider opportunities for new construction within existing areas of development, and to address administrative management issues.

The comprehensive management program consists of the Trust's ongoing management practices, operating procedures, policies, and programs, and will not be addressed by a single document or plan. The foundation of the comprehensive management program is nevertheless established in the PTIP. The PTIP establishes a goal of a maximum total building area of 5.6 million square feet without specifying what portion of that space would be contained in newly constructed buildings versus reused historic structures. The PTIP also identifies character-defining features of each planning district, along with specific Planning District Guidelines and area-wide Planning Principles. Future project- and district-level planning efforts would consider which buildings would be retained and which would be removed. These future, more site-specific plans would contain the cost-effectiveness evaluation called for in the Trust Act and would comply with NHPA requirements. Administrative management options would be continually reassessed so as to provide the most efficient delivery of administrative services.

- Open Space

A number of scoping comments focused on the need for the Trust to better define what is encompassed within the open space designation ("green space") depicted as part of the proposed conceptual plan alternatives presented in the November 15 Conceptual Alternatives Workbook. In response to these comments, the Trust has used the designations of the Vegetation Management Plan (VMP), developed and prepared by the NPS in cooperation with the Trust, as the framework for future resource management actions within open space areas of the Presidio. Using the categories of the VMP, the alternatives

in the EIS provide detailed open space definition, consisting of native plant communities, forest, and landscape vegetation as the basis for the alternatives analysis. The differences among the DEIS alternatives with respect to open space are arrayed in DEIS Table 1 and described in the DEIS alternatives descriptions. The DEIS then analyzes these differences as potential impacts on natural resources, land use, and visitor experience.

- Delete the Minimum Management Alternative

During the scoping period, several commentors suggested that the Minimum Management alternative (formerly referred to in the Conceptual Alternatives Workbook as the "Existing Conditions" alternative) should be screened out as unreasonable because it failed to make a commitment to remove Wherry housing to assure the recovery of the endangered San Francisco *Lessingia germanorum*. The Trust has elected to study one alternative (the Minimum Management alternative) that retains Wherry housing indefinitely in order to assess the potential effects of this alternative on the San Francisco *Lessingia*, and to have a base of comparison to other alternatives that propose the removal of Wherry housing. The Trust believes it will gain useful biological and financial information with which to compare the different alternatives, and make the final Plan decision by including one that does not remove Wherry housing. Consequently, the Minimum Management alternative has been retained for study.

- Habitat and Resource Enhancements

Many scoping comments sought specific habitat enhancement commitments, including the restoration of the Tennessee Hollow riparian corridor and the expansion of the Crissy Field Marsh. With respect to Tennessee Hollow, each of the alternatives (except for Minimum Management) makes a policy commitment to the restoration and enhancement of the Tennessee Hollow riparian stream corridor and acknowledges that the extent of the restoration will be subject to more site-specific implementation planning following further study and environmental review after PTIP is adopted. See Common Features and alternatives descriptions in the alternatives section of the DEIS and the Planning Principles related to Natural Resources in Chapter 2 of the Draft Plan.

The Crissy Field Marsh expansion is a component of two alternatives (GMPA 2000 and Resource Consolidation) and would be subject to further study and environmental review under the other DEIS alternative. These alternatives do not propose to decide the question about marsh expansion; instead, they do not preclude the possibility, while committing to further study, of the feasibility and efficacy of further marsh expansion.

- Programs

Various scoping comments questioned the Trust's modified program delivery proposal and the financial assumptions made with respect to park program funding. In response, the Trust has provided more detailed explanation of the different program delivery approaches, and has modified the financial assumptions to better evaluate the issue.

Some commentors would prefer to have the Trust exclusively select tenants with a business-mission related to park program themes, and have these tenants deliver and pay for park programs. This issue is discussed in the Presidio Programs chapter of the PTIP (Chapter 3) and in the DEIS. Chapter 3 of the Draft Plan acknowledges that the Trust seeks a broader visitor experience, an expanded variety of programs, and greater assurance that the Presidio's programmatic goals are achieved more consistently than was envisioned in the GMPA. A strong collaborative effort and a set of partnerships that will involve the

Trust, NPS, tenants, philanthropic organizations, cultural institutions, and community volunteers are proposed to meet this need.

To better evaluate the different methods of program delivery, the Trust has varied the assumptions of the financial model across the alternatives to reflect key differences in program delivery. The Draft Plan alternative would deliver cultural and educational programs predominantly through Trust-sponsored programs and partnerships, although some programs could still be delivered by mission-based tenants. This approach is intended to ensure a high-quality, consistent and long-tenure programming component despite inevitable fluctuation in tenant mix. The Draft Plan alternative's definition of programs is very broad (see Chapter 3 of the Draft Plan) to address all aspects of a successful visitor experience, encompassing such things as enhanced interpretation programs; museums and institutes (including Fort Scott); exhibitions, events, and cultural programs; community stewardship; sustainability and resource education programs; and Presidio community activities. For financial comparison purposes only, the Draft Plan alternative assumes just under 1 million square feet (about 26 percent of total non-residential square footage) in cultural/educational program use. The rental rate for this space is assumed at $9/sf. The alternative also assumes the Trust expends $10 million per year in expenses for this amount of cultural/educational programming.

In contrast, the GMPA 2000 alternative would deliver cultural and educational programs through mission-based tenants. For financial comparison, this alternative assumes about 500,000 square feet in cultural/educational uses and about another 500,000 for reduced rate office space for mission-related tenant uses. The Trust's cultural/ educational expenditures would be about $2 million/year under the GMPA 2000 alternative. By varying the approach in this way among the alternatives, each approach can be evaluated. Under the GMPA 2000 alternative, subsidized space would be provided to mission-related tenants, while under the Draft Plan alternative, financial resources would go directly to delivery of park programming.

- Financial Model

Various commentors requested that the Trust critically review and revisit certain assumptions of the financial model used to evaluate the financial viability of the alternatives. In response to these scoping comments, the Trust has revised a number of financial assumptions from those relied upon when the scoping alternatives (and accompanying financial analysis) were presented in November 2000. In general, the changes lowered the capital costs and shortened the time to completion of the capital program for all the alternatives, and improved the financial performance of the GMPA 2000 alternative.

Program Expenditures - The financial comparison of the alternatives now varies the projected level of program expenditure (from $2 million to $10 million annually) to reflect differences in the method of delivery and level of programming anticipated in different alternatives. (See "Programs" discussion immediately above).

Timing of Wherry Housing Demolition - The timing of the demolition of Wherry housing has been adjusted in response to scoping comments. The Trust modified the GMPA 2000 alternative to assume retention and leasing of Wherry housing until its demolition at the end of the GMPA planning period (between 2010-2012) rather than early in the GMPA planning period (by 2004). Comments also indicated strong support for delaying the demolition of Wherry housing so that its revenues could be used to fund other operating expenses and capital improvements. Therefore, the Draft Plan alternative assumes that Wherry housing is demolished in phases over a 30-year period (one-third by 2013, one-third by 2020, and one-third by 2030) and other

alternatives assume that Wherry housing is demolished in phases over a 20-year period (one-third by 2013 and the remaining two-thirds by 2020). Because the financial model extends over 20 years rather than the full 30 years planned for the phased demolition of Wherry housing removal in the Draft Plan alternative, the financial analysis treats the Draft Plan and other alternatives (except the GMPA 2000 alternative) similarly

Underground Parking Garage - In response to several commentors strongly opposed to the assumption of an underground parking garage to replace spaces lost due to the restoration of the Main Post parade ground, the assumed underground parking garage has been eliminated from the Draft Plan and the EIS. Consideration of options for providing parking within Area B has been deferred to future planning.

Parking Fees - A few scoping comments suggested that the Trust include parking fees among the anticipated revenues from Trust operations. The financial model retains the assumption that Trust-sponsored transit expenses and costs associated with parking supply and management issues would offset any parking revenues. This assumption has been made to retain conservatism in the financial assumptions and is considered reasonable because excess revenues received from parking management are expected to be reinvested in additional transportation management and transit programs at the Presidio. An explanation of the rationale supporting this assumption has been added to the "PTIP Financial Model Assumptions and Documentation" binder detailing the financial modeling assumptions.

Philanthropy - Scoping commentors suggested that the Trust should assume a level of philanthropic funding in the financial modeling of alternatives. Basing financial performance on receipt of donations, when there is no actual commitment of funds, is fiscally imprudent and inconsistent with the guiding principle of a conservative financial analysis. The Trust fully intends, however, as part of its future implementation efforts, to seek and accept philanthropic donations to assist in funding programs, activities and park needs.

Trust as Master Developer versus Third-Party Developers - Financial modeling at the time of scoping assumed that the Trust financed all development, including new construction projects. Several commentors noted that the Trust acting as master developer for all projects was unrealistic, and biased the alternatives in favor of higher capital costs and more development. In response, the Trust modified this assumption such that all alternatives now assume third-party financing of all new construction projects. This change substantially lowers the total capital costs, and shortens the time to completion of capital projects and reserve funding for all alternatives.

Operating Costs - Several commentors suggested that the Trust must indicate variations in operating costs among the different alternatives. The estimated operating costs relied upon in the financial model are based upon at least three years of actual operating experience of the Trust. They have not been adjusted relative to the differing amount of building space proposed among the six alternatives, because the use of variable operating cost scenarios would make it more difficult for public reviewers to compare one alternative to another. The difference in building space between the largest and smallest alternative studied is about 1 million sf or just over 15 percent. Because this reduction is not, in fact, fully proportional and there are some additional expenses associated with the management and maintenance of open or unbuilt space (e.g., landscaping costs, costs of maintaining open space), adjustment of operating costs to reflect actual variability was not considered material for purposes of a financial model designed to compare plan options.

Subsidized Space for Mission Related Tenants - At the time of scoping, no financial provision was made to reflect mission-related tenants. In response to commentors seeking tenant subsidies and program delivery through program enhancing mission-based tenants, the financial assumptions for the GMPA 2000 alternative have been modified to reflect differences in the method of program delivery among the alternatives. The GMPA 2000 alternative now assumes that programs are delivered and paid for predominantly by park tenants, and provision of these services is reflected in leasing a percentage of the non-residential space.

Capital Replacement Reserves and Steady-State Cash Flow - The concept of capital replacement reserves has been retained in the financial analysis, but is no longer presented in the spreadsheets as an accrued deficit because of the confusion it created. Instead, the concept is presented as a target date by which reserve funds would be available for the repair and replacement of all capital improvements under each alternative.

Past financial spreadsheets have also reported an estimate of steady-state cash flow, which are excess funds available over and above operating expenses once the capital costs and capital reserves have been fully funded. Given the speculative nature of projections extending beyond the 20-year model horizon, this figure has also been eliminated in favor of the target date by which reserve funds would be available.

Development of New Scoping Alternative

Among the key comments received during the scoping period were requests that the Trust develop and study a new alternative in the EIS. Comment letters received from several environmental and neighborhood groups asked the Trust to consider a "financially viable GMPA alternative," i.e., a new alternative patterned on the GMPA, but modified in only those ways necessary to make the alternative financially viable.

To better understand and clarify the request, the Trust met with the requesting groups to discuss the issues of importance, and to clarify the characteristics of the new alternative. In response, the Trust both modified the GMPA alternative and developed an alternative with lower costs and less development than many of the other conceptual scoping alternatives proposed by the Trust in the November 2000 scoping workshop.

Changes to the GMPA 2000 alternative in response to scoping comments has converted this alternative into the one requested by commentors. Specifically, by modifying assumptions regarding the timing of demolition of Wherry housing and changes in circumstances since the GMPA was adopted, the GMPA 2000 alternative has been made to "work" from a financial perspective in that it would achieve self-sufficiency by 2013. This alternative now poses a viable option for decision-makers.

The Trust also developed an alternative with minimal to no new construction (except the Letterman 23-acre project), measures to enhance and increase open space, low capital costs, and programs provided and paid for primarily by mission-related tenants, as was envisioned in the GMPA. This alternative was ultimately eliminated from consideration as being duplicative of the now modified GMPA 2000 alternative described above. A new alternative, based on scoping comments and prepublication consultation with commentors has been developed in its place.

Several months prior to the release of the Draft Plan and EIS, the Trust began a series of pre-publication consultation meetings to preview its proposed Draft Plan to key stakeholder groups and individuals. At the time of these meetings, the Trust was actively considering the Cultural Destination alternative as its Draft Plan alternative. The initial Draft Plan alternative maximized total square footage, allowed for the highest level of

demolition and new construction of all alternatives, and increased housing stock above currently existing levels. During consultation meetings, commenting groups urged the Trust to adopt a smaller Draft Plan alternative emphasizing the use of existing and reconfigured housing units and less new development.

In response, the Trust chose to present a new scoping alternative as the Draft Plan alternative in the DEIS. The Draft Plan alternative is now patterned more closely upon the land use elements of the GMPA, and incorporates the essential land use components requested by the scoping comment letters. It retains the land use pattern of the GMPA by removing Wherry housing (although over a longer period of time as requested by the commentors) and retaining a majority of East and West Washington housing for rehabilitation and reuse. It also retains the Public Health Service Hospital Complex for potential residential campus and educational uses. It increases the size and quality of the Presidio's open space and ensures the recovery of the endangered *Lessingia* through the removal of Wherry housing, but phases the demolition over an economically practicable period so that revenues can be generated in the interim to pay for other park improvements and upgrades. The Draft Plan alternative allows for a limited amount of new infill construction at appropriate locations. The alternative places more emphasis on the rehabilitation and reuse of existing buildings, and on achieving a favorable jobs/housing balance through the rehabilitation, conversion and reconfiguration of existing residential units. The Draft Plan also commits to resource enhancements including the restoration and expansion of a viable riparian corridor in Tennessee Hollow and a commitment to study the feasibility of further expansion of the Crissy Field Marsh. All of these elements were among the attributes of the new alternative that scoping commentors requested the Trust to develop and study.

To the extent that elements requested as part of the new alternative are not encompassed within the Trust's Draft Plan alternative, these elements are being studied as part of the GMPA 2000 alternative or other EIS alternatives.

5.2 COMPLIANCE WITH RELEVANT ENVIRONMENTAL LAWS AND EXECUTIVE ORDERS

Documentation of Trust compliance with federal environmental review laws and regulations is incorporated into the text of this Draft EIS. Compliance with key executive orders and federal laws is summarized here.

EXECUTIVE ORDERS

Executive Order 12898 (Environmental Justice)

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," directs federal agencies to assess whether their actions have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.

As shown in Table 63, based on the 2000 Claritas, Inc. data, the distribution of population within the City of San Francisco is as follows: 36 percent White, 36 percent Asian, 17 percent Hispanic, 10 percent Black and less than 1 percent Other. Claritas, Inc. reports that the median household income in San Francisco was $53,630 in 2000.

The population distribution within the census tracts that surround the Presidio ranges from nearly 84 percent white to just under 37 percent white. Median household incomes in these tracts range from a high of over $140,000 to a low of $52,000. While a number of tracts have significant minority populations, these high-minority tracts also have household

incomes above the city median. Given this information, the neighborhoods that surround the Presidio cannot be characterized as predominantly low-income or minority.

None of the proposed alternatives would create any adverse impacts on minority or low-income communities. Rather, the proposed alternatives would expand recreational and educational opportunities for the general population.

Executive Order 11988 (Floodplain Management)

Executive Order 11988 directs federal agencies to enhance floodplain values, to avoid development in floodplains, whenever there is a practicable alternative, and to avoid to the extent possible adverse impacts associated with occupancy or modification of floodplains.

None of the alternatives would support or allow incompatible development within a regulated floodplain. Should it be determined that a specific development project within Crissy Field/Area B would result in an unacceptable risk of flood loss and human safety based on the best information available during subsequent environmental review, the Trust would consider practicable alternatives or not construct the new structures and facilities within this area. In such cases, design would be governed by consideration of probabilistic estimates of risk of damage, and design and siting evaluations would consider the extent of this hazard to identify and implement appropriate flood protection measures.

Executive Order 11990 (Protection Of Wetlands)

Executive Order 11990 directs federal agencies to enhance wetlands values, to avoid development in wetlands, whenever there is a practicable alternative, and to avoid to the extent possible adverse impacts associated with occupancy or modification of wetlands. The Clean Water Act regulatory process requires compliance with Federal "no net loss of wetlands" policies, and includes a public and agency review process and a Clean Water Act Section 404 (b)(1) alternatives analysis that would in practice be likely to require avoidance of impacts on aquatic habitats or compensation for losses in extent and values.

The Presidio contains a variety of hydrologic resources, including wetlands, streams, groundwater infiltration areas, and associated freshwater marsh, seep, and riparian vegetation. The PTIP alternatives would, to the extent possible, restore natural habitat, including wetlands and stream corridors, which would increase the amount and quality of water resources.

Executive Order 11593 (Historic Properties)

Executive Order 11593 and Section 110 of the National Historic Preservation Act of 1996 (NHPA) provide direction for inventorying and evaluation of historic properties, and for initiating measures and procedures to provide for the maintenance, through preservation, rehabilitation, or restoration, of federally owned and registered sites at professional standards prescribed by the Secretary of the Interior

The Presidio has been systematically surveyed for historic resources as part of a 1992 revision of the nomination form for NHL status. As a result, buildings have been added to the list of contributing structures. As part of future project proposals and planning efforts, contributing buildings and structures would be proposed for preservation, rehabilitation, and re-use in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties* and *Standards for the Rehabilitation of Historic Properties.* Demolition of contributing buildings could have an adverse effect on the NHLD. The extent of demolition is not known at this time. However, when buildings are proposed for demolition, full consultation would be undertaken pursuant to Section 106 of the NHPA and proposals

Table 63: Race and Income in Census Tracts Surrounding the Presidio

Tract	Median HH Income	White	Black	American Indian	Asian	Other	Hispanic
127	$52,335	82.0%	0.4%	0.3%	12.3%	0.0%	5.0%
128	$83,480	82.3%	1.1%	0.1%	12.6%	0.1%	3.7%
132	$108,941	83.6%	0.7%	0.1%	11.4%	0.2%	4.0%
133	$96,726	77.7%	2.7%	0.2%	13.6%	0.2%	5.8%
134	$76,452	77.5%	5.6%	0.2%	10.4%	0.1%	6.2%
401	$64,234	41.6%	2.1%	0.2%	50.0%	0.1%	6.1%
402	$67,184	42.2%	1.2%	0.2%	52.7%	0.2%	3.5%
426	$61,797	39.3%	1.4%	0.1%	53.0%	0.1%	6.0%
427	$54,271	36.6%	1.9%	0.3%	54.3%	0.2%	6.7%
428	$144,388	70.4%	0.5%	0.1%	24.6%	0.2%	4.2%
San Francisco	$53,630	36.3%	9.9%	0.3%	36.1%	0.2%	17.2%

Source: Claritas, Inc; Bay Area Economics, 2001.

would be considered in accordance with the provisions of Section 104(c) of the Trust Act.

Executive Order 13123 (Efficient Energy Management)

Development activities at the Presidio must adhere to Executive Order 13123, which mandates an energy use reduction of 35 percent below 1985 levels by 2010. Total energy usage under the Draft Plan alternative is projected to reach 444,158 MMBTU, or 79,314 BTU per square sf. This energy consumption represents a 39 percent reduction from 1990 levels, consistent with Executive Order 13123. Under the PTIP, energy consumption would be further reduced with implementation of conservation measures.

Executive Order 13101 (Waste Reduction)

Federal Waste Reduction Policy is articulated in Executive Order 13101. Under this policy, federal agencies are guided to incorporate waste reduction into daily operations, to work to increase markets for recovered materials, and to prevent pollution. As of FY2000, the Presidio diverted approximately 25 percent of materials from the waste stream annually as a result of waste reduction efforts. The Trust has a goal of diverting 50 percent of the waste stream.

The practices that are being implemented by the Trust to meet waste reduction goals include recycling, salvage programs, and composting. The Trust is building infrastructure and programs to maximize the capability to handle materials on-site in a closed-loop system. Whenever possible, materials are reused or recycled on-site, minimizing disposal, handling, and transport. Asphalt and concrete are recycled from roadwork, and concrete from building deconstruction will be recycled and reused on site.

The Trust is working closely with tenants to provide waste reduction education. The San Francisco Conservation Corps (SFCC) operates a community recycling center in the Presidio and conducts school education programs, youth job training, and waste reduction outreach. The Presidio composting program collaborates with SFCC and conducts additional education programs for local schools, summer camps, and the general public.

Executive Order 13112 (Invasive Species)

Executive Order 13112 recognizes the ecological impacts of invasive species, discusses control measures to be taken to prevent the introduction of invasive species, and outlines the duties of each federal agency whose actions could affect the status of invasive species. It essentially directs federal agencies to prevent the introduction of potentially invasive exotic species, and to control invasive exotics on lands for which they are responsible. The rapid spread of invasive exotic plant species is one of the most critical threats to the viability of the Presidio's native flora.

Mitigation measures identified in this EIS would protect native plant communities from new development, and also call for preparation and implementation of site-specific native revegetation plans. To minimize impacts related to infrastructure development and building rehabilitation, areas of temporary disturbance would be revegetated as quickly as possible with appropriate locally native plant species and non-native species be controlled. These measures would also minimize the impact of invasion by non-native species.

Executive Order 12873 (Federal Acquisition, Recycling, and Waste Prevention)

The Trust complies with the Green Building Guidelines and Executive Order 12873 (Federal Acquisition, Recycling, and Waste Prevention) by

incorporating a comprehensive, integrated, and cost-effective approach to waste reduction. See "Solid Waste Disposal Act," below.

FEDERAL LAWS

Americans With Disabilities Act of 1990

Federal guidelines published in accordance with the Americans With Disabilities Act (ADA) define specific requirements for disabled access to parking facilities, pathways, and buildings. The accessibility requirements apply to private entities that provide public accommodations (Title III of ADA) and to government facilities (Title II of ADA). The Trust requires full compliance with the ADA.

Clean Air Act

Section 118 of the Clean Air Act requires that federal facilities comply with existing federal, state, and local air pollution control laws and regulations. The Trust must ensure that activities within its administrative jurisdiction meet existing laws and regulations, and that external sources of air pollution are controlled or mitigated to the extent possible to protect the air quality and resource values.

Federal actions that cause emissions of nonattainment pollutants are required to complete a formal conformity determination when total direct and indirect emissions caused by the action exceed specified thresholds (40 CFR 51.853). The conformity analysis evaluates whether a proposed action conforms to the State Implementation Plan (SIP) for a particular pollutant. The general conformity rule applies to any federal action in the Bay Area causing more than 100 tons per year ROG, NO_X, or CO. The analysis considers only those emissions that are reasonably foreseeable and that the Trust can practicably control through a continuing program responsibility (40 CFR 51.852).

Because the PTIP would allow future activities by developers that could result in indirect emissions, the Trust would maintain an ability to control certain future emissions through oversight activities (e.g., requiring emissions control during construction or demolition through contract terms, limiting other new sources through long-term lease agreements). Emissions that are not fully caused by the PTIP would not be within the control of the Trust, and are not included in the conformity analysis (Federal Register 1993).

At this time, none of the future emissions associated with implementation of the programmatic PTIP meet the dual criteria of being reasonably foreseeable and within the control of the Trust. Within any alternative, emissions related to demolition or construction activities associated with any of the alternatives could occur on varying schedules and at varying levels of intensity throughout the life of the plan. Because the scheduling and phasing of demolition or construction activities are not known, quantification of these emissions would be speculative.

However, based on the scale of the proposed demolition and construction activities, it is highly unlikely that, even if all activities occurred in the same year, that the 100-ton threshold would be exceeded. Future stationary and area sources that could be associated with the proposed uses in some alternatives would, in general, not be likely to cause substantial emissions (examples of these sources would be heating facilities for housing, office space, visitor services, and cultural/educational uses and landscaping equipment). Furthermore, stationary sources would be subject to the permitting regulations and requirements of the Bay Area Air Quality Management District (BAAQMD), and as such, would be exempt from the conformity analysis. Because emissions from mobile sources and motor vehicle trips associated with some alternatives would be affected by regional accessibility, ultimate trip origins or destinations, and other factors, they are not fully caused by the PTIP, and would not be within the

continuing control of the Trust. As a result, they are not included in the general conformity analysis.

Noise Control Act

The federal Noise Control Act of 1972 requires compliance with state and local requirements respecting control and abatement of environmental noise and provision of an environment free from noise that jeopardizes health or welfare. Federal management of highway noise is subject to Federal Highway Administration (FHWA) regulations. Federal or federally aided highway projects, and construction of highway projects, must conform with the FHWA noise standards.

Current Trust practice responds to existing excessive noise conditions when appropriate. During construction, contractors and other equipment operators would be required to comply with the San Francisco Noise Ordinance. To protect new development from unacceptable exterior noise environments, new multifamily residential units (lodging, apartments, or other attached dwellings) within the Presidio would be constructed according to standards equivalent to Title 24 of the California Code of Regulations. Implementation of these standards would provide suitable insulation to protect dwelling interiors from excessive exterior noise.

Clean Water Act

The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB) are responsible for ensuring implementation and compliance with the provisions of the federal Clean Water Act (CWA) and California's Porter-Cologne Water Quality Control Act. Along with the SWRCB and RWQCB, water quality protection is the responsibility of numerous water supply and wastewater management agencies, as well as city and county governments, and requires the coordinated efforts of these various entities.

A Section 401 CWA Water Quality Certification or waiver from the RWQCB is required before a Section 404 permit becomes valid. [An analysis of CWA Section 404 compliance is provided in the discussion under Executive Order 11990 (Protection of Wetlands), above.]

The Presidio is obtaining its National Pollutant Discharge Elimination System (NPDES) permit, and meanwhile adheres to its existing Stormwater Management Plan (1994), which was designed and written to follow NPDES requirements. The goal of the program is to enhance the quality of storm water discharging to Crissy Field Marsh, San Francisco Bay, or the Pacific Ocean. Additionally, the Trust is planning upgrades to the storm water collection system in the Main Post Planning District. These upgrades will include the upgrade to the inlet grates and replacement of crushed pipe segments. These repairs will help prevent system blockages and conveyance of storm water from this area.

In accordance with the NPDES program, new site development activities would be required to implement a Stormwater Pollution Prevention Plan (SWPP) that prescribes Best Management Practices (BMPs) to control erosion and runoff during construction and operation. Ongoing erosion and pollutant control measures would be incorporated into "as-built" plans outlining maintenance schedules for sediment control. The Trust would require park tenants and contractors to apply BMPs to their facilities and operations. Therefore, the proposed action would be consistent with CWA requirements pertaining to storm water management.

Coastal Zone Management Act and Estuary Protection Act

The Coastal Zone Management Act of 1972 addresses actions affecting coastal zones and requires that federal actions be consistent with state coastal zone management plans. Lands held in the public trust are subject to these requirements. Federal actions must be consistent with the California Coastal Act and Local Coastal Plan. The Estuary Protection Act

requires federal agencies, in planning for the use of development of water and related land resources, to give consideration to estuaries and their natural resources.

Bay Conservation and Development Commission (BCDC)

The San Francisco BCDC is a permitting authority with jurisdiction over areas of the Bay that are subject to tidal action, including a 100-foot shoreline band surrounding the Bay from the Mean High Water mark. The BCDC, pursuant to the Coastal Zone Management Act of 1972, as amended, and implementing federal regulations, is required to review federal projects within the bay and make a determination whether the project is consistent with the BCDC's amended coastal zone management program for San Francisco Bay. As a coastal zone agency, BCDC jurisdiction may extend beyond the 100-foot shoreline into adjacent lands identified in area plans. The BCDC has prepared a federally approved San Francisco Bay Plan that established policies to guide development in and along the Bay through a permitting process. Although PTIP activities would be confined to Area B, which does not include bay shoreline, PTIP-related activities could have an indirect effect on adjacent and downstream natural resources and recreation opportunities in Area A, which is under NPS jurisdiction. In addition, federal permits (e.g., CWA Section 401 and 404), which would be necessary to implement the PTIP, would also be subject to a consistency determination. The agency's concerns with actions that affect public access, recreation opportunities, vegetation management, and site remediation have been addressed in this EIS.

Endangered Species Act

Section 7 of the Federal Endangered Species Act (FESA) of 1973 directs all federal agencies to further the purposes of the Act. Federal agencies are required to consult with the U.S. Fish and Wildlife Service (USFWS) to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitat.

Section 7 consultation with the USFWS was initiated during the scoping phase for the PTIP. Consultation will continue to ensure that the Draft Plan and alternative actions are in compliance with federal law, and will not jeopardize the continued existence of any special-status species nor its habitat.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 makes it unlawful to "take" (i.e., kill, harm, or harass) any migratory bird listed in 50 CFR 10, including their nests, eggs, or products. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, and many others. The Migratory Bird Executive Order of January 11, 2001, directs executive departments and agencies to take certain actions to further implement the Migratory Bird Treaty Act, and defines the responsibilities of each federal agency taking actions that have, or are likely to make, a measurable affect on migratory bird populations. All project actions within the Presidio must comply with this act; therefore, they cannot result in unauthorized take of migratory birds. The PTIP, in combination with mitigation measures identified in this Draft EIS, would require preconstruction surveys during the nesting season, would prohibit disturbance of active nests, and would ensure that protected bird species that are nesting would not be destroyed or disturbed by clearing, demolition, or construction activities.

National Historic Preservation Act

Section 106 of the NHPA requires that a federal undertaking that could affect a property listed on the National Register of Historic Places or eligible for listing on the register be evaluated, with the participation of preservation agencies and the public. This law requires the agency

responsible for the proposed undertaking to take historic properties into account, but it does not prohibit the agency from damaging or destroying the resources. All demolition and construction would be conducted in accordance with Section 106.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act of 1979 defines archaeological resources; requires federal permits for excavation; provides for curation of materials, records, and other data; provides for confidentiality of archaeological site locations; and, in the 1988 amendment, requires the inventorying of public lands for archaeological resources. In addition, Section 110 of the NHPA specifies that archaeological resources must be taken into consideration before implementing any federal action.

Direct effects on archaeological resources would be avoided to the extent possible through consultation between the project managers and the Trust's archaeological staff. If significant archaeological sites could not be avoided, a decision would be made to abandon or redesign the proposed project to protect the archaeological site, proceed with the project under the terms of Stipulation XIII (Archaeology) of the Programmatic Agreement (see Appendix C), or to consult with the state historic preservation officer to develop mitigating measures such as data recovery through archaeological excavation and recordation of sites. If previously unknown resources were discovered during construction subsequent to inventory efforts using best available technology, the Trust would comply with applicable provisions of the Programmatic Agreement (Appendix C at Stipulation XIV, Discoveries).

No archaeological resources would be excavated without proper permits. Unauthorized excavation, removal, damage, alteration, or defacement of archaeological resources would be prohibited. All archaeological site data would remain confidential.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act of 1979 (PL 95-341) directs that Native American groups who might use or have direct or indirect interest in the Presidio be invited to participate in the planning process. In addition, Section 103(c)(6) of the Trust Act requires the Trust Board to provide opportunities for public comment regarding planning issues. Copies of this DEIS have been sent to the Native American Heritage Commission and 8 American Indian tribes.

Native American Graves Protection And Repatriation Act

The Native American Graves Protection and Repatriation Act of 1990 (PL 101-601; 104 Stat. 3049) as amended, outlines the federal government's responsibility for the treatment and ultimate disposition of human burials and grave-related materials. The Act requires consultation with certain Native American communities if circumstances regarding human remains, associated artifacts, or objects of cultural patrimony arise.

Comprehensive Environmental Response, Compensation and Liability Act

The Trust's environmental cleanup responsibilities for the Presidio are set forth in the "Memorandum of Agreement Regarding Environmental Remediation at the Presidio of San Francisco" among the U.S. Army, NPS, and the Trust ("the Presidio MOA"), and the related "Memorandum of Agreement for Environmental Remediation of Presidio of San Francisco" between the Trust and NPS ("Area A MOA"). The Trust's cleanup of nonpetroleum substances, pollutants, and contaminants on the Presidio is

addressed through environmental data collection, analyses, remedial design and implementation, and reporting and documentation requirements, separate from the PTIP EIS. The data collection, analyses, and cleanup efforts are being managed in accordance with federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and through regulations set forth in Title 40 of the Code of Federal Regulations (CFR). Cleanup of petroleum contamination is governed by Title 23 of the California Code of Regulations, California Health and Safety Code Chapters 6.5 and 6.8, and the National Oil and Hazardous Substances Contingency Plan (Title 40 CFR, Part 300). The overall cleanup of the Presidio is regulated by the State of California and the U.S. Environmental Protection Agency (EPA). Within the State, the California EPA (Cal-EPA) Department of Toxic Substances Control (DTSC) has oversight authority and jurisdiction over the non-petroleum CERCLA sites and locations subject to Health and Safety Code requirements. DTSC consults with EPA as necessary. The Cal-EPA Regional Water Quality Control Board is the lead on the cleanup of petroleum-contaminated sites.

Solid Waste Disposal Act

Under the Solid Waste Disposal Act, a federal agency disposing of waste at a permitted waste disposal sites must comply with all appropriate state and local laws. The Trust handles solid waste disposal through contracts with private haulers. Solid waste generated at the Presidio is disposed of in Contra Costa County waste disposal. The California Integrated Waste Management Act of 1989 requires cities and counties to divert solid waste from the waste stream, which can be achieved through a reduction in materials use, reuse, and recycling. Please see the discussion under Executive Order 13101 (Waste Reduction) for additional information.

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5.6 AGENCIES AND ORGANIZATIONS TO WHOM COPIES OF THE DRAFT EIS ARE BEING SENT

FEDERAL AGENCIES

Department of the Army, Corps of Engineers
Department of Energy, Oakland Office
Department of Commerce
National Marine Fisheries Service-Southwest Region
Department of the Interior, Office of Environmental Policy and Compliance
U.S. Fish and Wildlife Service
National Park Service, Pacific West Region
Environmental Protection Agency-Region Nine
Department of Transportation
Federal Highway Administration, California Division Office
Federal Transit Administration, Region Nine

FEDERAL ADVISORY GROUPS

Advisory Council on Historic Preservation
Golden Gate National Recreation Area Citizens Advisory Committee

STATE AGENCIES

California Coastal Commission
California Highway Patrol
Caltrans, District 4, Office of Transportation Planning
Department of Conservation
Department of Fish and Game, Region 3
Department of Parks and Recreation
Department of Toxic Substances Control
Native American Heritage Commission
Office of Historic Preservation
Office of Planning and Research
Regional Water Quality Control Board, Region 2
Resources Agency
State Clearinghouse
State Lands Commission

REGIONAL, COUNTY, AND MUNICIPAL AGENCIES

Bay Area Air Quality Management District
City and County of San Francisco
Golden Gate Bridge, Highway and Transportation District
Metropolitan Transportation Commission
Public Utilities Commission
San Francisco Municipal Railway
San Francisco County Transportation Authority
San Francisco Unified School District

AMERICAN INDIAN TRIBES

Amah Band of Ohlone/Costanoan Indians
Costanoan Band of Carmel Mission Indians
Costanoan Ohlone Rumsen-Mutsun Tribe
Costanoan-Rumsen Carmel Tribe
Federated Coast Miwok
Indian Canyon Band of Costanoan/Mutsun
Muwekma Indian Tribe
The Ohlone Indian Tribe

LIBRARIES

Marin Community Library
San Francisco Main Library
San Francisco Presidio Branch Library
San Francisco State University Library

ORGANIZATIONS

American Institute of Architects, San Francisco Chapter
American Planning Association, Northern California Chapter
American Society of Landscape Architects, San Francisco Chapter
Audubon Society, Golden Gate Chapter
California Historical Society
California Native Plant Society, Bay Chapter
California Heritage Council
Center for Citizen Initiatives
Council on America's Military Past – U.S.A.
Cow Hollow Association
Cow Hollow Neighbors in Action
Exploratorium
Fort Mason Foundation
Food, Land & People
Fort Point and Presidio Historical Association
Golden Gate National Parks Association
Interfaith Center at the Presidio
Lake Street Residents Association
League of Women Voters, San Francisco
Marina – Cow Hollow Neighbors and Merchants
National Parks Conservation Association
Natural Resources Defense Council
National Japanese American Historical Society
Neighborhood Association for Presidio Planning (NAPP)
Pacific Heights Residents Association
Pedal Power
People for the Presidio
Planning Association for the Richmond
Presidio Alliance
Presidio Challenge
Presidio Heights Association of Neighbors (PHAN)
Presidio Nonprofits Association
Presidio Performing Arts Foundation
Presidio Tenants Council
Residential Mayors
San Francisco Beautiful
San Francisco Bicycle Association
San Francisco Bicycle Advisory Committee
San Francisco Chamber of Commerce
San Francisco League of Conservation Voters
San Francisco Planning and Urban Research Association (SPUR)
San Francisco State University History Department
San Francisco Tomorrow
San Francisco Waldorf School
Sierra Club Presidio Committee
State of the World Forum
Swords to Plowshares Veterans' Academy
Tenants Council Steering Committee
Tenderloin Neighborhood Development Corporation
Transit First Market Street Alliance
Treasure Island Museum
University of California San Francisco (UCSF) Campus Planning
University of San Francisco (USF)
Urban Watershed Project
Wally Byam Caravan Club International (Northern California Unit)
Wilderness Society
World Jurist Association

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REFERENCES

6. REFERENCES

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REFERENCES

ACRONYMS

7. LIST OF ACRONYMS

ABAG	Association of Bay Area Governments
ACHP	Advisory Council on Historic Preservation
AMA	Archaeological Management Assessment
ANSI	American National Standards Institute
APE	Area of Potential Effects
ARG	Architectural Resources Group
ARPA	Archaeological Resources Protection Act
BAAQMD	Bay Area Air Quality Management District
BAE	Bay Area Economics
BCDC	Bay Conservation and Development Commission
BMPs	Best Management Practices
BTU	British thermal units
CAA	Clean Air Act
Caltrans	California Department of Transportation
CAP	Clean Air Plan
CARB	California Air Resources Board
CCR	California Code of Regulations
CCSF	City and County of San Francisco
CDFG	California Department of Fish and Game
CEPPC	California Exotic Pest Plant Council
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
cf	cubic feet
CFR	Code of Federal Regulations
cfs	cubic feet per second
CIWMB	California Integrated Waste Management Board
CMP	comprehensive management program
CNPS	California Native Plant Society
CO	carbon monoxide
CSO	combined sewer overflow
CTA	San Francisco County Transportation Authority
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DHS	Department of Health Services
DOE	Department of Energy
DOI	Department of the Interior
DOT	Department of Transportation
DPH	Department of Public Health
DTSC	Department of Toxic Substances Control
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESF	Environmental Screening Form
FEIS	Final Environmental Impact Statement
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FSC	Federal Species of Concern
FTE	full-time equivalent

LIST OF ACRONYMS

FY	fiscal year
GAO	General Accounting Office
GGBHTD	Golden Gate Bridge Highway and Transportation District
GGNPA	Golden Gate National Parks Association
GGNRA	Golden Gate National Recreation Area
GGT	Golden Gate Transit
GMP	General Management Plan
GMPA	General Management Plan Amendment
gpd	gallons of water per day
gpm	gallons per minute
GSA	General Services Administration
gsf	gross square feet
HABS	Historic American Building Survey Report
HASR	Historic Architectural Survey
HCM	Highway Capacity Manual
HIA	Housing Impact Area
HV	High Voltage
ICAP	Inventory/Condition Assessment Program
IPM	Integrated Pest Management
JKP	Julius Kahn Playground
kV	kilovolt, 1,000 volts
kVA	kilovolt amps, 1,000 volt amp
LAIR	Letterman Army Institute of Research
LAMC	Letterman Army Medical Center
LDA	Letterman Digital Arts Ltd.
L_{dn}	24-hour average noise
LEED	Leadership in Environmentally Efficient Design
L_{eq}	equivalent energy indicator
LOS	Level of Service
mgd	million gallons per day
ml	millimeter
MMBTU	million British thermal units
MTC	Metropolitan Transportation Commission
MUNI	San Francisco Municipal Railway
MW	megawatt
n.d.	no date
NAC	Noise Abatement Criteria
NAGPRA	Native American Graves Protection and Repatriation Act
NAPP	Neighborhood Associations for Presidio Planning
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHLD	National Historic Landmark District
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
PA	Programmatic Agreement
PG&E	Pacific Gas and Electric
PHSH	Public Health Services Hospital
PM_{10}	particulate matter
$PM_{2.5}$	fine particulate matter

LIST OF ACRONYMS

ppb	parts per billion
ppm	parts per million by volume
PSR	project study report
PTIP	Presidio Trust Implementation Plan
PWTP	Presidio Water Treatment Plant
PX	Post Exchange
RCP	reinforced concrete pipe
RCRA	Resource Conservation and Recovery Act
RFP	Request for Proposals
RFQ	Request for Qualifications
ROD	Record of Decision
ROG	Reactive Organic Gases
RWQCB	Regional Water Quality Control Board
RWS	Reclaimed Water System
SamTrans	San Mateo Transit
SEWPCP	Southeast Water Pollution Control Plant
sf	square feet
SFCTA	San Francisco County Transportation Authority
SFDPT	San Francisco Department of Parking and Traffic
SFFD	San Francisco Fire Department
SFFO	San Francisco Field Office
SFPD	San Francisco Police Department
SFUSD	San Francisco Unified School District
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO_2	sulfur dioxide
SRO	single room occupancy
SWAT	special weapons and tactics
SWPPP	Storm Water Pollution Prevention Plan
TAZ	Transportation Analysis Zone
TCM	transportation control measure
TDM	Transportation Demand Management
UCB	University of California, Berkeley
UCSF	University of California at San Francisco
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USPP	U.S. Park Police
VMP	Vegetation Management Plan
g/m^3	micrograms per cubic meter

LIST OF ACRONYMS

GLOSSARY

8. GLOSSARY

Adverse Effect - Harm to historic properties, directly or indirectly caused by a federal agency's action. The regulations set forth criteria of effect and adverse effect at 36 CFR § 800.9.

Air Pollutant - Any foreign or natural substance that is discharged, released or over-generated into the atmosphere that could result in adverse effects on humans, animal, vegetation or materials. Also known as an air contaminant. Examples include but are not limited to, smoke, charred paper, dust soot, grime, carbon, fumes, gases, odors, particulate matter, acids or any combination thereof.

Air Quality Management District - Local agency charged with controlling air pollution and attaining air quality standards. The Presidio is included in the Bay Area Air Quality Management District.

Ambient Air Quality Standard – Health- and welfare-based standards established by the state or federal government for clean outdoor air that identify the maximum acceptable average concentrations of air pollutants during a specified period of time.

Ambient Noise – The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term "ambient" is used to describe an existing or pre-project condition such as the setting in an environment noise study.

Ambient Noise Level - The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.

Archaeological Resources - The physical remains of past human activity, including evidences of such activity on the environment.

Area A - The predominately coastal area of the Presidio under the jurisdiction and management of the National Park Service.

Area B – The area of the Presidio under the administrative jurisdiction of the Trust. Area B is defined in Title I of the Trust Act and includes the interior (non-coastal) portion of the Presidio and nearly all built areas of the park.

Area of Potential Effects - The geographic area or areas within which an undertaking could cause changes in the character or use of historic properties, if any such properties exist there. This area always includes the actual site of the undertaking, and could also include other areas where the undertaking will cause changes in land use, traffic patterns, or other aspects that could affect historic properties.

Asbestos - A noncombustible, nonconducting, and chemically resistant mineral. Friable (easily crushed) asbestos, such as that contained in certain types of blown-on insulation or ceiling tiles, that is damaged, deteriorated, or easily accessible, represents a potential threat to human health.

Attainment - Achievement of air quality standards.

Best Management Practice (BMP) - Schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce water pollution. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, waste disposal or drainage from raw material storage.

Building Height - The vertical distance between finished grade and the top of a building. Building top is defined as the top of the finished roof in the case of a flat roof, and the average height of the rise in the case of the pitched or stepped roof. On a sloping site, this measurement is taken at the median grade height for each building face. Total building height is

calculated by determining the average height of all individual building faces.

Carbon Monoxide (CO) - A colorless, odorless toxic gas produced by the incomplete combustion of carbon containing substances. It is emitted in large quantities in the exhaust of gasoline-powered vehicles.

Capital Costs (also Capital Improvements) – Monies spent to rehabilitate, upgrade, or newly construct the built and natural environments, including residential and non-residential buildings, interior improvements, roads, utility systems, water and sewer systems, electrical and telecommunications systems, forests, and open spaces, among other items. Capital costs do not include operating expenses.

Capital Replacement Reserves (also Capital Replacement Set-Asides) – Monies set aside into a reserve account to assure that funds are available to replace any and all capital improvements in Area B, such as components of buildings or entire buildings, and park infrastructure including roads, grounds, natural areas, and utilities.

CNEL – Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 – 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.

Conformity - A process mandated in the federal Clean Air Act to insure that federal actions do not impede attainment of the federal health standards. General conformity sets out a process that requires federal agencies to demonstrate that their actions are neutral or beneficial to air quality.

Contingency Plan - A plan that is developed to provide a decision framework to address the potential for unidentified contamination discovered during construction activities. The plan allows for the management of contaminants in a timely manner that is protective of human health and the environment.

Construction Site - The location of construction activity.

Cooperating Agency - A federal agency, other than the one preparing the NEPA document (the lead agency), that has jurisdiction over the proposal by virtue of law or special expertise and that has been deemed a cooperating agency by the lead agency. Under some circumstances, state or local governments and/or Indian tribes may be designated cooperating agencies.

Criteria Air Pollutants - Air pollutants for which the federal or state government has established ambient air quality standards or criteria for outdoor concentration in order to protect public health.

Cultural Landscape - The organization and interrelationships of the natural and designed features of a site by use reflecting cultural values and tradition, and changes to those features over time. At the Presidio, this character is inextricably linked to its continuous military occupation since 1776.

Cultural Resources - An aspect of a cultural system that is valued by or significantly representative of a culture or that contains significant information about a culture. A cultural resource can be a tangible entity or a cultural practice. Tangible entities at the Presidio include archaeological resources, cultural landscapes and historic structures.

Cumulative Effects - Effects that are a result of incremental impacts of an action, when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (federal or nonfederal) or person undertakes such actions.

GLOSSARY

dB or dBA - A decibel is the standard unit of sound amplitude, or loudness; decibels are measured on a logarithmic (i.e., non-linear) scale. The A-weighted scale is adjusted for human sensitivity. For decibels, each increase in 10 dB multiplies the previous value by 10; for example, 50 dBA is 10 times louder than 40 dBA, while 60 dBA is 100 times louder than 40 dBA.

Deconstruction - The dismantling of a structure in a fashion that maximizes the recovery of materials and recycling.

Direct Effect - An impact that occurs as a result of the proposed action or alternative in the same place and at the same time as the action.

Endangered Species - Any species that is in danger of extinction throughout all or a significant portion of its range.

Environmental Impact Statement (EIS) - A detailed NEPA document prepared when a proposed action or alternatives have the potential for significant impact on the human environment.

Environmental Justice - The fair treatment for people of all races, cultures, and incomes, regarding the development of environmental laws, regulations, and policies.

Environmental Screening Process - The analysis that precedes a determination of the appropriate level of NEPA documentation.

Exceedance - A monitored level of concentration of any air contaminant higher than national or state ambient air quality standards.

Financial Management Program - A long-range projection required to be submitted to Congress based on the direction of the Trust Act setting forth an annual schedule of decreasing federal funding that will achieve self-sufficiency for the Trust by 2013.

Financial Sustainability – The long-term aspect of self-sufficiency. The premise that the Presidio must not only meet short-term self-sufficiency requirements in fiscal year 2013, but also be capable of sustaining its operations, performing the necessary building- and infrastructure-related capital improvements, and funding replacement reserves in perpetuity. This requires generating sufficient revenues from leasing and other activities to cover these long-term costs.

Financing Costs – The Trust has the authority to borrow $50 million from the U.S. Treasury. The costs associated with repayment of this loan (both principal and interest) are referred to as financing costs. For a full description of the terms of the U.S. Treasury loan, see the PTIP Financial Model Assumptions and Documentation binder at the Trust's business office.

Fire Flows - Water flows available for fighting fires. Fire flows at the Presidio can be deficient due to undersized water mains, bottlenecks created by pressure release valves or water meters, unusable piping or spacing of fire hydrants farther apart than permitted by the Uniform Fire Code.

Fugitive Dust - Dust particles that are introduced into the air through certain activities such, as excavation and site preparation during construction or some demolition activities, off-road vehicles, or any vehicles operating on open fields or dirt roadways.

General Management Plan Amendment (GMPA) - Developed through a four-year public planning process and adopted by the NPS in 1994, the plan outlines the vision and land uses for the Presidio as a national park in an urban area.

GLOSSARY

General Objectives of the GMPA - A directive of Congress incorporated into the Trust Act with which the Trust must comply. Because the GMPA text does not explicitly identify general objectives, the Trust Board determined and adopted the General Objectives of the GMPA in Trust Board Resolution 99-11. The General Objectives of the GMPA guide Trust policy and decisions about resource protection and land and building use in Area B of the Presidio.

Greensward - A linear landscape element consisting primarily of lawn and planted trees which serves as an open space in a built-up or urban setting.

Ground Lease -The right to use a land parcel for a definite length of time by a tenant who invests the necessary capital to develop and construct improvements (e.g., buildings) on the site.

Ground Rent - The rent paid for the use of land under the terms of a ground lease.

Groundwater - Subsurface water that occurs beneath the water table in soils and geologic formations that are fully saturated.

Guaranteed-Ride-Home Program - A program that assures an employee not arriving in his or her personal vehicle of a trip home. For example, an employee may have to work later than the departure time of his carpool or the last bus to his destination. The program would then provide the employee with a ride home in a company vehicle, subsidized taxicab or similar type vehicle.

Hazardous - Substances that are potentially harmful to human health or the environment.

Hazardous Wastes - A compound or compounds remaining for disposal or reclamation after use or after release to the environment.

Heritage Landmark Trees - Trees that have historic value, are outstanding botanical specimens, display unique traits, or serve a particular aesthetic function in the landscape.

Historic Designed Landscape - One that is consciously designed by a landscape architect-master gardener, architect or horticulturist according to established design principles.

Historic Views - Those views and view corridors which existed at the Presidio during its period of significance.

Historic Property - Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register. The term includes artifacts, records, and remains that are related to and located in such properties. The term "eligible for inclusion in the National Register" includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet National Register listing criteria.

Impact Topics - Specific natural, cultural or socioeconomic resources that would be affected by the proposed action or alternatives (including no action). The magnitude, duration and timing of the effect to each of these resources is evaluated in the Environmental Consequences section of an EIS.

Implementation Phase – The implementation phase is complete the year after all capital improvements are completed and capital reserves have been fully funded.

Indirect Effect or Impact - Reasonably foreseeable impacts removed in time or place from the proposed action. These are "downstream" impacts, future impacts, or the impacts of reasonably expected connected actions (i.e., growth of an area after a highway to it is complete).

Infill Construction – New construction that is located within an existing developed area, such as a building complex. Infill construction refers to new development within developable areas.

Integrated Pest Management - The coordinated use of pest and environmental information with available pest control methods to prevent unacceptable levels of pest damage by the most economical means and with the least possible hazard to people, property and the environment.

Issues - In NEPA, issues are environmental problems that could occur if the alterative (including no action) is implemented or continues to be implemented.

Landfill - A waste management unit at which waste is discharged in or on land for disposal.

Landscape Vegetation - Plant material, usually ornamental trees, shrubs, grass and plants growing around buildings or grounds that has been planted to beautify the site or for a utilitarian purpose such as screening a view.

L_{dn} - A day-night average noise level, a 24-hour average L_{eq}; it takes into account the greater annoyance of nighttime noise with a 10 dBA "penalty" added during the hours of 10:00 p.m. to 7:00 a.m.

Lead Agency - The agency either preparing or taking primary responsibility for preparing the NEPA document.

L_{eq} - The equivalent steady-state sound level is the average acoustic energy content of noise for a stated period of time. The L_{eq} of two different time-varying noise events are the same if the events deliver the same acoustic energy to the ear during exposure, no matter what time of the day or night they occur, unlike some other measurements that adjust for differences in noise sensitivity at night.

Letterman Complex - The 60-acre geographic area near the Lombard Street Gate in the Presidio that consists of approximately 50 buildings including the Letterman Army Medical Center, the Letterman Army Institute of Research, and the Thoreau Center for Sustainability.

Mitigation - A modification of the proposal or alternative that lessens the intensity of its impact on a particular resource.

National Environmental Policy Act (NEPA) – Federal legislation that establishes environmental policy for the nation. It provides an interdisciplinary framework for federal agencies to prevent environmental damage and contains "action forcing" procedures to ensure that federal agency decision-makers take environmental factors into account.

National Historic Landmark (NHL) - These historic properties are designated by the Secretary of the Interior as having special importance in the interpretation and appreciation of the nation's history. Section 800.10 of the Advisory Council on Historic Preservation regulations specify some special protections for NHLs under the Section 106 review process.

National Historic Preservation Act (NHPA) - The basic legislation of the national historic preservation program that established the Advisory Council on Historic Preservation and the Section 106 review process.

Native Plant Communities - A group of plants growing together that are composed primarily of native plants and that were most likely found on that particular site prior to European settlement.

GLOSSARY

NEPA Process - The objective analysis of an action to determine the degree of its environmental impact on the natural and physical environment; alternatives and mitigation that reduce that impact; and *full* and candid presentation of the analysis to, and involvement of, the interested and affected public. NEPA process may also be referred to generally as environmental review.

Nitrogen Oxides (NO_x) - Gases formed in great part from atmospheric nitrogen and oxygen and oxygen when combustion takes place under conditions of high temperature and high pressure; NO_x is a criteria air pollutant.

No Action alternative - Under NEPA, an alternative that provides a benchmark for comparison, enabling decision-makers to compare the magnitude of the environmental effects of the various alternatives. In the case of the PTIP, the no action alternative is the GMPA 2000 alternative, which reflects what would happen if no action were taken to update the existing plan for the Presidio.

Noise – Unwanted sound.

Nonnative Plants - Plant species that have been introduced (or have invaded through natural dispersal from a site where they were introduced) and did not occur on that site prior to European settlement. Even though a plant grows as a native species in a nearby location, if habitat for that species does not occur on the site and if it did not occur there as part of a native plant community, it is considered to be non-native. (For example, coast redwood occurs naturally within the Bay Area, but it is considered non-native to the Presidio.)

Period of Significance - A defined period of time during which a property established its historical association, meaning, or value.

Person Trip - A trip to or from the project made by one person in any mode of transportation: automobile, bus, transit, walking or bicycle.

Predicted Noise Level(s) - Future noise levels, resulting from predictable natural and mechanical sources and human activity including the project.

Presidio Trust - A federal government corporation established by Congress through enactment of the Trust Act (P.L. 104-333). The Trust has two fundamental missions: preserve and enhance the Presidio, as part of the national park system and achieve financial self-sufficiency by 2013.

Program Expenses – On-going annual operating expenses associated with delivering public programs, such as interpretive programs; museums and institutes; exhibitions, events and cultural programs; and community stewardship and resource education programs.

Programmatic Agreement - An agreement with historic preservation oversight agencies, the implementation of which satisfies the implementing agency's obligations under Section 106 and 110(f) of the National Historic Preservation Act to protect a National Historic Landmark.

Proposed Action - The alternative that the Lead Agency believes would fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical and other factors.

Receptors - Locations selected for determining noise or air quality impacts. These locations represent areas where frequent human use occurs, or is likely to occur in the foreseeable future.

Replacement Construction - Construction of new buildings that are intended to replace specific buildings that have been identified for demolition.

Revenues – The total income produced or generated by a given source. At the Presidio, these revenue sources include non-residential and residential buildings (building leases and ground leases), government appropriations, Treasury borrowing, utilities and telecommunications provision, parking provision, permit and salvage operations, special events, and other miscellaneous parkwide revenues.

Scope - The types of actions to be included in a project, the range of alternatives, and the impacts to be considered.

Scoping - Internal decision-making on issues, alternatives, mitigation measures, the analysis boundary, appropriate level of documentation, lead and cooperating agency roles, available references and guidance, defining purpose and need, etc. External scoping is the early involvement of the interested and affected public.

Section 7 - The section of the Endangered Species Act that outlines procedures for interagency cooperation to conserve federally listed species and designated critical habitats.

Section 106 - The section of the NHPA that requires federal agencies to consider the effects of their actions on historic properties and seek comments from an independent reviewing agency, the Advisory Council on Historic Preservation. The purpose of Section 106 is to avoid unnecessary harm to historic properties.

Section 110 – The section of the NHPA that sets out the broad historic preservation responsibilities of federal agencies to ensure historic preservation is fully integrated into ongoing programs.

Self-Sufficiency – The requirement, mandated by the U.S. Congress, that the Trust generate sufficient revenues at the Presidio to support Area B operations (including financing costs and programs) without federal appropriations, beginning in Fiscal Year 2013. Self-sufficiency has both a short-term and long-term aspect. See also Financial Sustainability.

Significant - A subjective interpretation of the intensity of impact, in several contexts, of the proposed action or alternatives.

Solid Waste - Any non-hazardous garbage, refuse or sludge, which is primarily solid, but could also include portions of liquid, semi-solid or contained gaseous material resulting from residential, industrial, commercial, agricultural, mining operations, and community activities.

Special-Status Species - Plants and animals with limited numbers or distribution that have special legal and policy protection. They are protected under federal and state Endangered Species Acts or other regulation, or are sufficiently rare to either be candidates or under consideration for such designation.

State Historic Preservation Officer - The official in each state who (among other duties) consults with federal agencies during Section 106 review. The SHPO administers the national historic preservation program at the state level, reviews National Register nominations, and maintains file data on historic properties that have been identified but not yet nominated. Agencies seek the views of the appropriate SHPO(s) while identifying historic properties and assessing effects of an undertaking on historic properties

State Implementation Plan – EPA-approved state plans for attaining and maintaining federal air quality standards.

Storm Water - Storm water runoff and surface runoff and drainage.

GLOSSARY

Storm Water Pollution Prevention Plan - Developed and implemented to address specific storm water discharge concerns for construction sites.

Streetscape - The characteristics and components that give identity to a particular street. This includes the street itself, the buildings that border it, its sidewalks, street trees, and site furniture.

Surface Water - Freshwater rivers, streams and lakes.

Sustainability - An activity that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainable Design - An alternative approach to traditional design that does not require a loss in the quality of life, but require a change in mind-set and a change in values toward less consumptive lifestyles. These changes embrace global interdependence, environmental stewardship, social responsibility and economic viability. Sustainable design recognizes the impacts of every design choice on the natural and cultural resources of the local, regional and global environments.

Threshold of Hearing – The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.

Threshold of Pain – Approximately 120 dB above the threshold of hearing.

Tiering - The coverage of general matters in broad environmental impact statements with subsequent statements incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared.

Toxic Air Contaminant (TAC) - An air pollutant, identified in regulation by the California Air Resources Board, that could cause or contribute to an increase in deaths or in serious illness, or could pose a present or potential hazard to human health. TACs are considered under a different regulatory process (California Health and Safety Code Section 39650 et seq.) from pollutants subject to California Ambient Air Quality Standards. Health effects due to TACs can occur at extremely low levels. It is typically difficult to identify levels of exposure that do not produce adverse health effects.

Transportation Demand Management (TDM) - A plan developed, using incentives or disincentives to discourage commuting using single-occupant vehicles, and to encourage travel by some other mode.

Treatment - A physical intervention, or development framework, carried out to achieve a historic preservation goal. Treatment options include preservation, restoration, reconstruction and rehabilitation.

Trust Act - The act that establishes the Trust as a federal government corporation subject to the requirements of the Government Corporation Control Act (P.L. 104-333). The Trust Act authorizes the Trust to manage a majority of the Presidio's land area by transfer of responsibility from the National Park Service in accordance with the purposes set forth in Section One of the Act that established the GGGNRA (P.L. 92-589) and the general objectives of the GMPA.

Undertaking - Under NHPA, a federal activity that is subject to Section 106 requirements. The term is intended to include any project, activity, or program, and any of its elements, that has the potential to have an effect on a historic property and that is under the direct or indirect jurisdiction of a federal agency or its licensed or assisted by a federal agency.

Value-added Reuse – Refers to salvaging materials that will be refined to increase their worth (e.g. wood timbers may be planned and refinished, then crafted into furniture).

Vehicle Trip - A trip to or from the project made by a transportation vehicle, primarily automobile. Equal to the number of person-trips made by automobile divided by the average numbers of persons per automobile.

Viewshed - The geographic area from which a site is visible, a collection of viewpoints.

Visitor Carrying Capacity – The type and level of visitor use that can be accommodated while sustaining the desired resource and visitor experience conditions.

Wetlands - Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

Windrow (or Windbreak) - A hedgerow or tight planting of trees made in open areas to protect a landscape or building from winds.

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APPENDIX A
Revised Environmental Screening Form

1. Background

- *Project Title* – Presidio Trust Implementation Plan
- *Agency* – The Presidio Trust, 34 Graham Street, P.O. Box 29052, San Francisco, CA 94129-0052
- *Project* – A comprehensive planning effort to update the July 1994 Final General Management Plan Amendment for Area B of the Presidio of San Francisco (Presidio Trust Implementation Plan or PTIP).
- *Contact Person* – John Pelka, NEPA Compliance Manager
- *Phone Number* – (415) 561-5300

2. Project Description

PTIP is a comprehensive planning and environmental review process under the NEPA to update the 1994 General Management Plan Amendment (GMPA) for the 1,164-acre portion of the Presidio of San Francisco under the Trust's jurisdiction (Area B). One important reason to update the GMPA is because in 1996, in part due to concerns over costs to implement the GMPA, Congress created the Presidio Trust. The Trust is required to preserve and enhance the Presidio's resources for public use while managing Area B to become financially self-sufficient by fiscal year 2013. The Trust pursues its goals in collaboration with the National Park Service, particularly in managing open space and interpretation services. The PTIP planning process will retain portions of the GMPA that have already been implemented or that do not warrant change, and focus on planning concepts that need a new look due to changes and new opportunities since 1994. The draft PTIP will include proposals for the vision, planning principles, and a conceptual framework for administering Area B, based on a range of alternatives that will be evaluated in the Draft Environmental Impact Statement for the project. For additional information, please refer to the enclosed Conceptual Alternatives Workbook (Presidio Trust 2000a).

3. Purpose of Environmental Screening Form and Supplemental EIS

The ESF is based on the results of a preliminary environmental analysis and early public scoping for the project.[1] This Environmental Screening Form (ESF) is being used to de-emphasize insignificant issues, and narrow the scope of the Environmental Impact Statement (EIS) for the PTIP accordingly. The PTIP EIS will supplement the GMPA Final Environmental Impact Statement (EIS) (National Park Service 1994a)[2]. The GMPA EIS is a program document that analyzed the environmental consequences of four alternatives for management and use of the Presidio, and identified mitigation measures to avoid or reduce adverse effects. The PTIP EIS will concentrate on new information relevant to environmental concerns that bear on the PTIP alternatives or their impacts. These issues include substantial changes that have occurred with respect to the circumstances under which the GMPA was prepared. NEPA Regulations encourage this approach to "focus on

[1] Refer to Public Scoping to Date section of the ESF. Public scoping to date also includes early consultation with the National Park Service in the PTIP environmental review and planning process (NPS 2000a). In response to the Trust's request for assistance in preparing the ESF, one NPS staff person submitted a memorandum with preliminary comments (NPS 2000b) for the Trust's consideration. This ESF has been revised to incorporate many but not all of her comments. A copy of the comment letter is available upon request.

[2] The Presidio GMPA EIS can be viewed at: the Presidio Trust, 34 Graham Street, San Francisco, California; Park Headquarters, Building 201, Fort Mason, San Francisco, California; or at the San Francisco Main Library, Government Information Center, Larkin and Grove Streets, San Francisco, California.

the issues which are ripe for decision and exclude from consideration issues already decided or not yet ripe" (Section 1508.28). After PTIP is complete and adopted by the Trust, additional site-specific plans and environmental analyses, as appropriate, will be prepared to fully implement the programmatic goals of the plan.

4. Environmental Screening Checklist

ARE ANY MEASURABLE EFFECTS POSSIBLE ON THE FOLLOWING IMPACT TOPICS THAT WERE DISCUSSED IN THE GMPA EIS DUE TO CHANGED CIRCUMSTANCES OR NEW OPPORTUNITIES SINCE PREPARATION OF THE GMPA?	Yes	No
1. Regional Economy and Employment?	☑	☐
2. City Services?	☑	☐
3. Solid Waste?	☑	☐
4. Health Care?	☐	☑
5. Housing?	☑	☐
6. Traffic and Transportation Systems?	☑	☐
7. Land Use, the Presidio Community, and Surrounding Neighborhoods?	☑	☐
8. National Historic Landmark District?	☑	☐
9. Archaeology?	☑	☐
10. Water Supply?	☑	☐
11. Water Quality?	☑	☐
12. Wetlands and Stream Drainages?	☑	☐
13. Native Plant Communities?	☑	☐
14. Wildlife?	☑	☐
15. Threatened, Endangered, Rare, and Sensitive Plant and Animal Species?	☑	☐
16. Park Management and Operations?	☑	☐
17. Geology and Soils?	☐	☑
18. Floodplains?	☐	☑
19. Climate?	☐	☑
20. Air Quality?	☑	☐

ARE ANY MEASURABLE EFFECTS POSSIBLE ON THE FOLLOWING IMPACT TOPICS THAT WERE DISCUSSED IN THE GMPA EIS DUE TO CHANGED CIRCUMSTANCES OR NEW OPPORTUNITIES SINCE PREPARATION OF THE GMPA?	Yes	No
21. Noise?	☑	☐
22. Visitor Experience?	☑	☐
23. Recreation and Public Access?	☑	☐
24. Scenic Viewing?	☑	☐
25. Human Health, Safety, and the Environment?	☐	☑
26. Energy Consumption?	☑	☐
27. Minority Populations and Low-Income Populations?	☑	☐
28. Other Significant Environmental Resources?	☑	☐

5. Preliminary Evaluation of Impacts

1. *Regional Economy and Employment?* YES. Land uses that differ from those specified in the GMPA, as well as increases in the numbers of visitors to the park, could have effects on the city and region. Construction and renovation activities would also contribute to the local and regional economy. The PTIP EIS will discuss the potential impact of the proposed action on the economy and employment in the Bay Area and the city of San Francisco.

2. *City Services?* YES. The PTIP EIS will discuss the potential impact due to additional requirements that the proposed action may place on city services, including utility systems, transportation services, the public school system, and public safety services.

3. *Solid Waste?* YES. The PTIP EIS will discuss the increased generation of solid waste, and effects on its landfills.

4. *Health Care?* NO. The effects of alternative uses of the Letterman Army Medical Center and Letterman Army Institute of Research were adequately addressed in the final Letterman Complex EIS. The increase, if any, in number of medical aid incidents requiring hospitalization due to the proposed alternatives would be distributed among area hospitals and would not impact area hospital services. Therefore, additional study under the PTIP EIS is not warranted.

5. *Housing?* YES. The PTIP EIS will discuss the potential impact on regional demand for housing units due to changes in Presidio employee housing demand, housing removals or conversions, and potential new construction.

6. *Traffic and Transportation Systems?* YES. The PTIP EIS will discuss the potential impact of alternative modes of travel, increased traffic, parking changes, demand for transit, and roadway improvements on

Presidio (Areas A and B) traffic, roadways, and parking and on the local and regional transportation network due to the proposed action. New information, to the extent known, on the effect of proposed Doyle Drive reconstruction on Presidio traffic will also be provided.

7. *Land Use, the Presidio Community, and Surrounding Neighborhoods?* YES. The PTIP EIS will discuss the potential impact on recreation/open space, institutional, commercial/office and residential use and acreage, total building square footage, residents and daily guests, and surrounding neighborhoods. Possible conflicts among the alternatives and the objectives of existing and proposed land use plans, policies, and controls will also be discussed.

8. *National Historic Landmark District?* YES. The PTIP EIS will discuss the potential for an adverse effect on historic properties and cultural landscape due to site changes to accommodate proposed uses, including landscape and circulation improvements and building rehabilitation, demolition and new construction.

9. *Archaeology?* YES. The PTIP EIS will discuss the potential for an adverse impact on known and potential prehistoric and historic resources due to ground-disturbing work resulting from the PTIP. The EIS will also include an efficient program to ensure that predicted and discovered archeological resources can be documented, conserved, and given consideration while keeping significant features and sites from adverse effect.

10. *Water Supply?* YES. The PTIP EIS will discuss the potential impact on water supply of Lobos Creek and historic demand for city water due to Presidio water consumption.

11. *Water Quality?* YES. The PTIP EIS will discuss potential degradation of water quality due to construction activities and increased urban runoff.

12. *Wetlands and Stream Drainage?* YES. The PTIP EIS will discuss the potential impact on wetlands and riparian habitat in Areas A and B of the Presidio due to changes in land use, building rehabilitation and construction, and any potential conflicts with the Vegetation Management Plan (NPS 1999).

13. *Native Plant Communities?* YES. The PTIP EIS will discuss the potential impact on the viability of native plant communities in the Presidio (Areas A and B) due to changes in land use, building rehabilitation and construction, and any potential conflicts with the Vegetation Management Plan (NPS 1999).

14. *Wildlife?* YES. The PTIP EIS will discuss the potential impact on native terrestrial and migratory bird species due to increased visitor use, noise and disturbance associated with construction activities, changes in land use, building rehabilitation and construction, and any potential conflicts with the Vegetation Management Plan (NPS 1999).

15. *Threatened, Endangered, Rare, and Sensitive Plant and Animal Species?* YES. The PTIP EIS will discuss the potential impact on special status species due to site development (including building rehabilitation), changes in land use, recreational activities, and any potential conflicts with the Vegetation Management Plan (NPS 1999).

16. *Park Management and Operations?* YES. The PTIP EIS will discuss the potential impact on park management and operations due to Federal appropriations declining to zero by fiscal year 2013, leasing of

residential and non-residential properties, building replacement, rehabilitation and removal, annual operating costs, infrastructure repair and revenues, transportation services, landscaping, and natural resources management.

17. *Geology and Soils?* NO. Information on topographic conditions, geologic hazards, and soils within the Presidio is provided on pages 102 and 103 in the GMPA EIS and is incorporated by reference and summarized in this document. The Presidio consists of a blanket of unconsolidated sediments (dune and beach sand, landslide debris, alluvium, artificial fill) overlying bedrock (mostly Franciscan mélange) which is exposed on cliffs and hills. Ground surface elevations range from sea level to about +1300 feet above mean sea level. The two major active faults near the Presidio are the San Andreas (about 9 kilometers west) and the Hayward (about 16 kilometers east) Strong earthquake shaking is highly likely to result from earthquakes on the San Andreas or Hayward faults, or other more distant faults in the San Francisco Bay Area.[3] Landslides are a major topographic hazard in the Presidio because of steep, hilly terrain and unstable sediments or weak bedrock formations. Prolonged rainfall, earthquakes, or continuous disturbance of the original terrain can trigger landslides. Soils in the Presidio are mostly excessively drained sands, artificial fill, and other Urban Land (asphalt, concrete, etc.), all of which are subject to seismic ground shaking hazards to some degree. Portions of the Main Post, Letterman Complex, and Crissy Field are located in a zone potentially subject to liquefaction during strong earthquake shaking. Future earthquake shaking may be exacerbated and damage intensified within these areas because the soft liquefiable sands may lose strength rapidly.

    Site-specific development projects implementing PTIP will require supplemental review to evaluate geologic and seismic hazards and to comply with the Seismic Hazard Mapping Act. The Trust will refer to the State of California's Seismic Hazard Zones map of the county (California Division of Mines and Geology 2000) and utilize Guidelines for Evaluating and Mitigating Seismic Hazards in California (California Division of Mines and Geology 1997) in developing mitigation design. Mitigation evaluations and preparation of mitigation designs will be performed by a California Certified Engineering Geologist and/or a Registered Geotechnical Engineer (to evaluate geologic subgrade, earthquake ground motion, and liquefaction), and/or Registered Structural Engineer (to evaluate structural safety), as appropriate. Because site-specific recommendations for the mitigation of geologic hazards will be incorporated into subsequent NEPA documents, more study at this program level of environmental review is not warranted.

18. *Floodplains.* NO. This impact topic was dismissed from further consideration in the GMPA EIS. Crissy Field is the only area within the Presidio that was historically subjected to minor recurrent flooding due to an inadequate local drainage system. Since preparation of the GMPA EIS, the Trust has installed $1.2 million of new storm drain improvements and a new stormwater outfall. These improvements have reduced the risk of flooding in the Crissy Field area. However, Crissy Field may be at risk from future tsunamis (seismic sea waves, also known as tidal waves) created by earthquakes or other disturbances in the Pacific Ocean.[4] Should it be determined that a specific development project within Crissy Field/Area B

[3] The California Division of Mines and Geology has calculated the ground motion using probabilistic seismic hazard methods as outlined in the joint Division and U.S. Geological Survey report, Division Open-File Report 96-08. For the Design Basis Earthquake (i.e., 10 percent chance of exceedance in 50 years), ground motion is calculated to be Peak Ground Acceleration (PGA) = 0.67*g*. A value over 0.65*g* is considered "violent shaking," with the potential for "heavy" damage to structures.

[4] According to the GMPA EIS, 19 tsunamis were reported at the Golden Gate between 1868 and 1968. The maximum tsunami was reported to be 7.4 feet. A tsunami of 7.9 feet occurs about once every 100 years.

would result in an unacceptable risk of flood loss and human safety based on the best information available during subsequent environmental review, the Presidio Trust would consider practicable alternatives or not construct the new structures and facilities within this area. In such cases, design will be governed by consideration of probabilistic estimates of the risk of damage resulting from tsunamis or other natural hazards. Design and siting evaluations would consider the extent of this flood hazard and include appropriate flood protection measures to minimize risks to human life and property and preserve its beneficial and natural values. The Presidio Trust will comply with requirements for development in floodplains contained in Executive Order 11988, Floodplain Management. Because none of the proposed alternatives would support or allow incompatible development within a regulated floodplain, more study at this program level of environmental review is not warranted.

19. *Climate.* NO. This impact topic was dismissed from further consideration in the GMPA EIS. None of the proposed alternatives would impact temperature, wind, precipitation, or other weather conditions or patterns. Therefore, more study under the PTIP EIS is not warranted.

20. *Air Quality?* YES. The PTIP EIS will identify areas in the Presidio that currently do not meet air quality standards due to existing conditions. The potential impact on air quality and sensitive receptors due to construction activities and plan implementation (numbers of vehicle trips and associated air pollutant emissions) and changes in procedures for assessing impacts since the GMPA EIS was completed as recommended by the Bay Area Air Quality Management District will be evaluated. The evaluation will discuss whether any alternatives would expose sensitive receptors to substantial pollutant concentrations.

21. *Noise?* YES. The PTIP EIS will discuss the potential impact on noise levels in noise-sensitive areas related to construction and traffic increases on internal and adjacent roadways using the San Francisco noise ordinance as a measure of impact.

22. *Visitor Experience?* YES. The PTIP EIS will discuss impacts of new uses and activity levels on the visitor experience in Areas A and B of the Presidio, and compatibility with the Presidio Interpretive Plan (under preparation).

23. *Recreation and Public Access?* YES. The PTIP EIS will discuss the potential impact on recreational opportunities and amenities to support recreational uses for park visitors, and effect on current users and public access throughout the Presidio. Any conflicts with the Presidio Bicycle and Trails Master Plan (in preparation) will also be discussed.

24. *Scenic Viewing?* YES. The PTIP EIS will discuss the potential impact on scenic viewing opportunities and visual qualities of the Presidio due to changes in Presidio-wide views from principal viewpoints within and outside the park. Effects from additional sources of lighting or sources of glare on day or nighttime views will also be discussed.

25. *Human Health, Safety, and the Environment?* NO. Several areas of contamination caused by hazardous substances, pollutants, and contaminants have been delineated at the Presidio (see the attached Environmental Remediation figure). Various sites contain volatile and semi-volatile hydrocarbons derived from petroleum products, pesticides, heavy metals, polychlorinated biphenyls, and polyaromatic hydrocarbons. Exposure to these materials, which may have carcinogenic or toxic properties, can result in

adverse human health and ecological effects. Soils and water at the site have been investigated, evaluations of the potential risk posed by contaminants under different scenarios have been prepared, and efforts to clean up the contamination have begun (National Park Service, 1993).

The Trust's cleanup of non-petroleum substances, pollutants, and contaminants on the Presidio is addressed through environmental data collection, analyses, remedial design and implementation, and reporting and documentation requirements, separate from the PTIP EIS. The data collection, analyses, and cleanup efforts are being managed in accordance with federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and through regulations set forth in Title 40 of the Code of Federal Regulations (CFR). Cleanup of petroleum contamination is governed by Title 23 of the California Code of Regulations (CCR), California Health and Safety Code Chapters 6.5 and 6.8, and the National Oil and Hazardous Substances Contingency Plan (Title 40 CFR, Part 300). The overall cleanup of the Presidio is regulated by the State of California and the U.S. Environmental Protection Agency (EPA). Within the State, the California EPA (Cal-EPA) Department of Toxic Substances Control (DTSC) has oversight authority and jurisdiction over the non-petroleum CERCLA sites and locations subject to Health and Safety Code requirements. DTSC consults with EPA as necessary. The Cal-EPA Regional Water Quality Control Board (RWQCB) is the lead on the cleanup of petroleum-contaminated sites ("Petroleum Program").

Formal mechanisms for implementing the cleanup consist of regulatory orders and memoranda of agreement (MOA). DTSC governs the cleanup of non-petroleum sites based on a Consent Agreement signed by the Trust and DTSC in August 1999 ("CERCLA Program"). The RWQCB issued Order No. 96-070, which covers petroleum cleanup activities. There are also two MOAs – Army, Trust, and NPS (MOA), and the Trust and NPS (Area A MOA). These MOA were finalized in May 1999 and identify the results of negotiations with the Army to complete the Main Installation investigation and to assume the lead for the cleanup. Both MOAs direct expedited cleanup and reuse of the Presidio while ensuring protection of human health and the environment.

Following passage of the Base Realignment and Conversion (BRAC) legislation in 1994, responsibility for cleanup of hazardous waste sites shifted from the U.S. Army to the Presidio. Along with the transfer of lead agency status to the Presidio Trust, the Army agreed to provide $100 million to be dispersed over four years to pay for the cleanup efforts. Under this agreement (by the Presidio Trust, NPS and the U.S. Army), the Trust will continue the Army's cleanup program and accelerate the schedule from a 30-year to a 10-year schedule.

Although the Presidio is not on the National Priorities List (Superfund), the cleanup is following the CERCLA cleanup process, which consists of:

- A Remedial Investigation (RI) Report, which summarizes the nature and extent of contamination, as determined by investigation overseen by DTSC. The RI incorporates risk assessment information based on existing and proposed land uses;

- A Feasibility Study (FS), which identifies remedial objectives, evaluates the feasibility of various remedial technologies, and develops remedial alternatives to address the remedial objectives identified for the site. A Draft and Final FS is prepared. The Draft is made available for public review and comment, in addition to soliciting input from regulatory agencies;

- A Remedial Action Plan (RAP), which describes in detail the remedial actions that will be undertaken to remedy contamination at the site. As with the Draft FS, a Draft RAP is made available for public and agency review and comment;

- A Remedial Design (RD) Document, which provides detailed technical plans and engineering designs for implementation of the remedial alternative selected in the RAP; and

- Implementation of remedial actions and long-term monitoring.

The cleanup of contaminated sites is still in progress. The Army completed the RI/FS for the Presidio Main Installation, Crissy Field and Directorate of Engineering and Housing (DEH) operable units (OU) in 1997-98. For the Main Installation OU, the Army's Final FS was largely rejected by a large number of commentors, who generally felt that the overall strategy for the Army's proposed cleanups was not sufficient for a national park. When the Trust took over the management of approximately 80 percent of the land at the Presidio in 1998, they began negotiations with the Army to complete the FS ("Revised Final FS") and to assume the lead for the cleanup. These negotiations were finalized by the two MOAs noted above. The Revised Final FS is currently being prepared but has not been released as a public review draft due to negotiations between the Trust, NPS, regulatory agencies and the Presidio RAB on what the preferred remedies will be in the FS document. It is anticipated the draft Revised Final FS Report of the Main Installation sites will be released for public comment in July 2001 at the earliest.

The 1997-98 RI/FS for the Main Installation sites was developed to follow the land use designations set forth in the Final GMPA (July 1994). Cleanup levels for known areas of contamination have either been pre-determined from past Army documents, or they are being revised and/or negotiated currently. Cleanup levels for petroleum contaminants are designated by their cleanup levels listed in the Order No. 96-070 Site Cleanup Requirements (SCRs) established by the U.S. Army and the California RWQCB in 1996. Crissy Field RAP and DEH RAP both have cleanup levels established for their respective remedial actions (these are in the library as well). The Main Installation sites, Public Health Service Hospital (PHSH) sites and any other sites on the Presidio not in the Petroleum Program, Crissy Field, DEH, or other MOUs, with the exception of the Firing Ranges, will have cleanup levels established in a separate stand-alone document to be released later this year. This document will build upon the risk assessment conducted by the Army during its RI/FS of the Main Installation sites.

Numerical cleanup standards will be established for land use types (e.g., residential, recreational, commercial, etc., as well as ecological). These standards will apply to each location proposed for development in the PTIP, which will be identified as part of the development of specific Area Plans for the planning districts. If there are changes to the land use designations resulting from PTIP implementation, the remediation goals could change if a cleanup standard that applies to the new land use designation is less stringent or more stringent. In other words, where action was required, it may no longer be necessary, or it may be more aggressive, depending on the scenario. New information regarding the Trust's cleanup program is being evaluated as it becomes available, and additional environmental analysis and public review will be performed, as required by federal and state laws and regulations.

Although the PTIP is on roughly the same schedule with Main Installation Revised Final FS, the PTIP and Main Installation cleanup are separate projects that are not specifically tied together in terms of their

release date. However, the Revised Final FS must take into account scenarios and preferred alternatives put forth in the PTIP EIS, as this may fundamentally change the land use designations where some of the Main Installation sites exist.

A Presidio-wide Contingency Plan (under development) covers unknown contamination that may be discovered at other areas of the Presidio during construction, demolition, or other development activities. This plan documents presumptive remedies for contamination that may be discovered and includes procedures for handling hazardous materials, stained soil, etc., and contact procedures for notifying the agencies and the public.

Public comment on the remediation goals and activities is addressed through the cleanup process itself. Under CERCLA, public comments received on the Draft FS and Draft RAP documents must be considered in the preparation of the Final RI/FS and Final RAP. The Trust has also prepared a Community Relations Plan in accordance with DTSC guidance and CERCLA requirements. It was released in January 2001 as a draft and, following receipt and incorporation of comments, will become final. Reports of the site investigation and remediation studies performed at the Presidio can be reviewed at the information repositories maintained at the Trust's library, 34 Graham Street, or at the library on the second floor of 1750 Lincoln Boulevard. Review copies of the Draft FS and Draft RAP will also be available at 34 Graham Street and 1750 Lincoln Boulevard. Individuals who wish to be notified of the release of these documents should contact Jane Packer, the Trust's Community Relations Specialist (415/561-4255).

Another opportunity for public comment on the cleanup is provided through the site Restoration Advisory Board (RAB). As part of the BRAC process, the RAB was established in 1994 and is heavily involved in negotiating cleanup of the Presidio with the Presidio Trust, state agencies, the National Park Service (NPS), and, historically, the U.S. Army. The RAB meets twice per month; every 2nd Tuesday is the official RAB meeting that is open to the public, agencies, the Trust and NPS, and other entities.

Therefore, potential impacts to human health, safety, and the environment following cleanup and implementation of the PTIP are not anticipated to be significant, and more study under the PTIP EIS is not warranted.

26. *Energy Consumption?* YES. The GMPA EIS determined that energy-reducing measures at the Presidio would have a minor but positive effect on energy conservation in the region. The Presidio Trust implements cost effective and aggressive energy efficiency practices and sustainable design principles in Trust and tenant facilities to significantly reduce energy consumption in accordance with Executive Order 13123 – Greening The Government Through Efficient Energy Management and its Green Building Guidelines (Presidio Trust 2000e). Energy consumption (per gross square foot) at the Presidio will be reduced through life cycle cost effective measures by at least 35 percent by 2010 relative to 1985. In addition, energy conservation standards required by the State of California's Title 24 building standards for energy using systems at Presidio buildings (that do not impact building historical architectural features) will be met or exceeded by 10 percent in 2002 and 25 percent in 2005. However, while the Trust will make best efforts to comply with efficient energy management goals, because energy requirements and conservation potential of the proposed alternatives may be greater than that covered under the GMPA EIS, additional analysis under the PTIP EIS is required.

27. *Minority Populations and Low-Income Populations?* YES. Executive Order 12898 – Environmental Justice in Minority Populations and Low-Income Populations directs federal agencies to assess whether their actions have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. The PTIP EIS will evaluate the potential effect on local minority or low-income populations, based o the most current available data.

28. *Other Significant Environmental Resources?* YES. The PTIP EIS will discuss the incremental impact of the proposed action when added to other past, present and reasonably foreseeable future actions (cumulative impacts), the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resources which would be involved should any of the proposed alternatives be implemented.

7. References

California Division of Mines and Geology

1997 *Guidelines for Evaluating and Mitigating Seismic Hazards in California.* Special Publication 117, 74 pages.

2000 *Seismic Hazards Zones Maps of the City and County of San Francisco.* Open File Report 2000-009. Released November 17, 2000.

Erler & Kalinowski, Inc.

2000 *Presidio-Wide Contingency Plan (Draft).* Dated: October 2000.

National Park Service, U.S. Department of the Interior

1993. *Draft General Management Plan Amendment Environmental Impact Statement.* Dated 1993.

1994a *Final General Management Plan Amendment and Environmental Impact Statement, Presidio of San Francisco, Golden Gate National Recreation Area.*

1994b *Presidio of San Francisco Storm Water Management Plan.* Prepared by Dames & Moore. Dated: May 1994.

1997 *Presidio of San Francisco Natural Resource Inventory and Vegetation Management Options.* Prepared by Jones & Stokes Associates. Dated: November 1997.

1999 *Presidio of San Francisco Vegetation Management Plan and Environmental Assessment.*

2000a *Scoping , Presidio Trust Jurisdiction, Presidio Trust Implementation Plan, Presidio (PR 00-098).* Memorandum from GGNRA Environmental Protection Specialist to NPS Project Review Committee Members. Dated: August 7, 2000.

2000b *Preliminary Comments on the PTIP Screening Form.* Memo dated August 17, 2000, 4 pages.

Presidio Trust

2000a *Presidio Trust Implementation Plan: An Updated Plan for Area B of the Presidio – Conceptual Alternatives Workbook.* Dated November, 2000.

2000b *PTIP: An Update for Area B – Summary of Public Scoping Workshop Presentation, July 12, 2000.* 23 pages.

2000c *PTIP Public Scoping Workshop – July 12, 2000: Summary of Public Scoping Comments.* 13 pages.

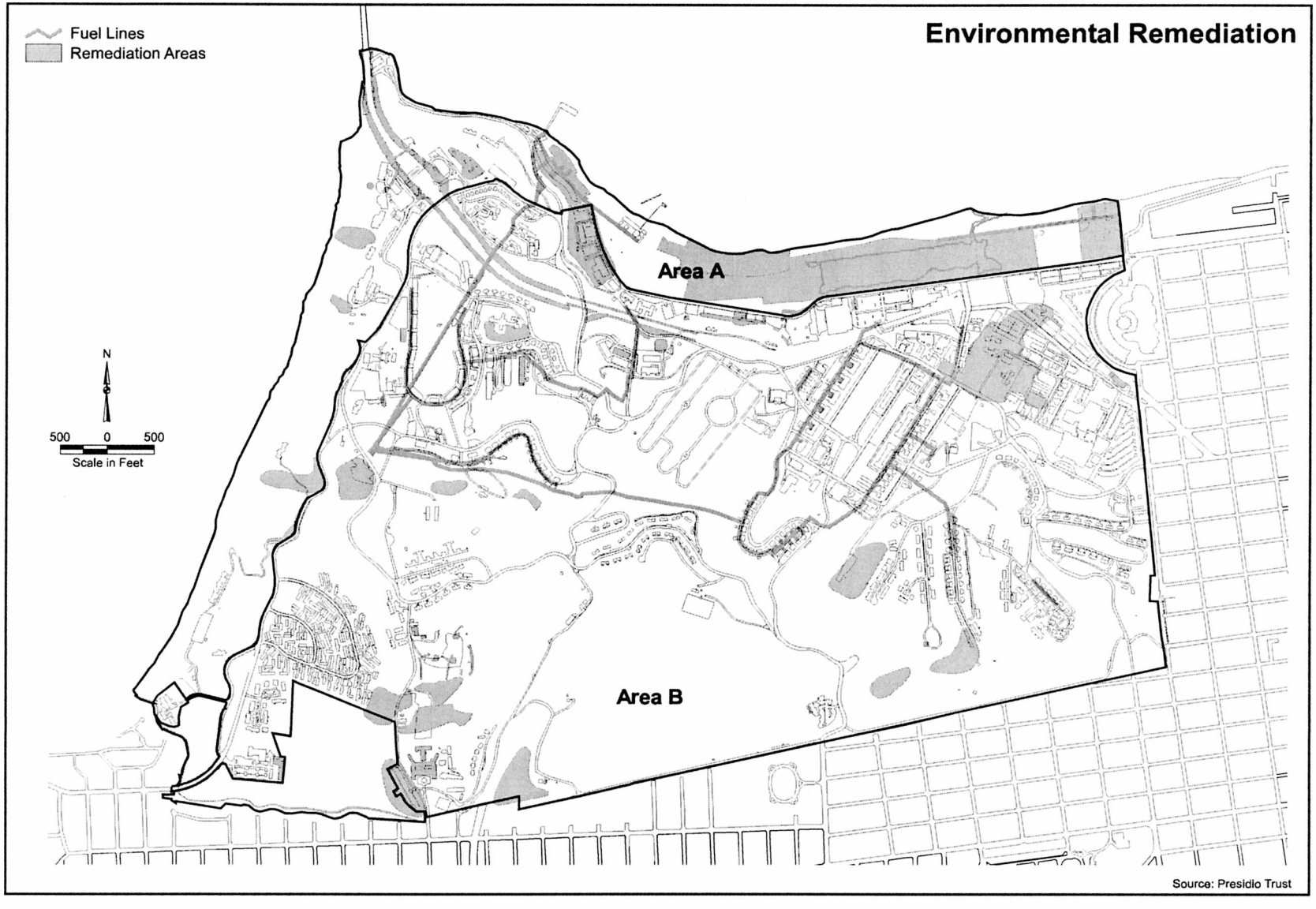
2000d *Financial Concepts Workshop, September 13, 2000.* 4 pages.

2000e *Green Building Guidelines for the Rehabilitation of Historic and Non-Historic Buildings.* Draft Report. Dated October 5, 2000.

2001 *Presidio Trust Implementation Plan.*

Reference: 36 CFR Part 1010.

Dated: January 15, 2001.


Environmental Remediation
Fuel Lines
Remediation Areas
Area A
Area B
N
500 0 500
Scale in Feet
Source: Presidio Trust

2000c *PTIP Public Scoping Workshop – July 12, 2000: Summary of Public Scoping Comments.* 13 pages.

2000d *Financial Concepts Workshop, September 13, 2000.* 4 pages.

2000e *Green Building Guidelines for the Rehabilitation of Historic and Non-Historic Buildings.* Draft Report. Dated October 5, 2000.

2001 *Presidio Trust Implementation Plan.*

Reference: 36 CFR Part 1010.

Dated: January 15, 2001.

APPENDIX B
Presidio Trust Act

THE PRESIDIO TRUST ACT
(as amended through March 10, 2000)

16 U.S.C. § 460bb appendix
(enacted as Title I of H.R. 4236, P.L. 104-333, 110 Stat. 4097, on November 12, 1996)
(amended by P.L. 105-83, 111 Stat. 1607, November 14, 1997)
(amended by P.L. 106-113, 113 Stat. 1501, November 29, 1999)
(amended by P.L. 106-176, 114 Stat. 23, March 10, 2000)

SEC. 101. FINDINGS.

The Congress finds that—

(1) the Presidio, located amidst the incomparable scenic splendor of the Golden Gate, is one of America's great natural historic sites;

(2) the Presidio was the oldest continuously operating military post in the Nation dating from 1776, and was designated a National Historic Landmark in 1962;

(3) preservation of the cultural and historic integrity of the Presidio for public use recognizes its significant role in the history of the United States;

(4) the Presidio, in its entirety, is a part of the Golden Gate National Recreation Area, in accordance with Public Law 92-589;

(5) as part of the Golden Gate National Recreation Area, the Presidio's significant natural, historic, scenic, cultural, and recreational resources must be managed in a manner which is consistent with sound principles of land use planning and management, and which protects the Presidio from development and uses which would destroy the scenic beauty and historic and natural character of the area and cultural and recreational resources;

(6) removal and/or replacement of some structures within the Presidio must be considered as a management option in the administration of the Presidio; and

(7) the Presidio will be managed through an innovative public/private partnership that minimizes cost to the United States Treasury and makes efficient use of private sector resources.

SEC. 102. AUTHORITY AND RESPONSIBILITY OF THE SECRETARY OF THE INTERIOR.

(a) INTERIM AUTHORITY.—The Secretary of the Interior (hereinafter in this title referred to as the "Secretary") is authorized to manage leases in existence on the date of this Act for properties under the administrative jurisdiction of the Secretary and

located at the Presidio. Upon the expiration of any such lease, the Secretary may extend such lease for a period terminating not later than 6 months after the first meeting of the Presidio Trust. The Secretary may not enter into any new leases for property at the Presidio to be transferred to the Presidio Trust under this title, however, the Secretary is authorized to enter into agreements for use and occupancy of the Presidio properties which are assignable to the Trust and are terminable with 30 days notice. Prior to the transfer of administrative jurisdiction over any property to the Presidio Trust, and notwithstanding section 1341 of title 31 of the United States Code, the proceeds from any such lease shall be retained by the Secretary and such proceeds shall be available, without further appropriation, for the preservation, restoration, operation and maintenance, improvement, repair and related expenses incurred with respect to Presidio properties. The Secretary may adjust the rental charge on any such lease for any amounts to be expended by the lessee for preservation, maintenance, restoration, improvement, repair and related expenses with respect to properties and infrastructure within the Presidio.

(b) PUBLIC INFORMATION AND INTERPRETATION.—The Secretary shall be responsible, in cooperation with the Presidio Trust, for providing public interpretive services, visitor orientation and educational programs on all lands within the Presidio.

(c) OTHER.—Those lands and facilities within the Presidio that are not transferred to the administrative jurisdiction of the Presidio Trust shall continue to be managed by the Secretary. The Secretary and the Presidio Trust shall cooperate to ensure adequate public access to all portions of the Presidio. Any infrastructure and building improvement projects that were funded prior to the enactment of this Act shall be completed by the National Park Service.

(d) PARK SERVICE EMPLOYEES.—

(1) Any career employee of the National Park Service, employed at the Presidio at the time of the transfer of lands and facilities to the Presidio Trust, shall not be separated from the Service by reason of such transfer, unless such employee is employed by the Trust, other than on detail. Notwithstanding section 3503 of title 5, United States Code, the Trust shall have sole discretion over whether to hire any such employee or request a detail of such employee.

(2) Any career employee of the National Park Service employed at the Presidio on the date of enactment of this title shall be given priority placement for any available position within the National Park System notwithstanding any priority reemployment lists, directives, rules, regulations or other orders from the Department of the Interior, the Office of Management and Budget, or other Federal agencies.

SEC. 103. ESTABLISHMENT OF THE PRESIDIO TRUST.

(a) ESTABLISHMENT.—There is established a wholly-owned government corporation to be known as the Presidio Trust (hereinafter in this title referred to as the "Trust").

(b) TRANSFER.—

(1) Within 60 days after receipt of a request from the Trust for the transfer of any parcel within the area depicted as Area B on the map entitled "Presidio Trust Number 1", dated December 7, 1995, the Secretary shall transfer such parcel to the administrative jurisdiction of the Trust. Within 1 year after the first meeting of the Board of Directors of the Trust, the Secretary shall transfer to the Trust administrative

jurisdiction over all remaining parcels within Area B. Such map shall be on file and available for public inspection in the offices of the Trust and in the offices of the National Park Service, Department of the Interior. The Trust and the Secretary may jointly make technical and clerical revisions in the boundary depicted on such map. The Secretary shall retain jurisdiction over those portions of the building identified as number 102 as the Secretary deems essential for use as a visitor center. The Building shall be named the "William Penn Mott Visitor Center". Any parcel of land, the jurisdiction over which is transferred pursuant to this subsection, shall remain within the boundary of the Golden Gate National Recreation Area. With the consent of the Secretary, the Trust may at any time transfer to the administrative jurisdiction of the Secretary any other properties within the Presidio which are surplus to the needs of the Trust and which serve essential purposes of the Golden Gate National Recreation Area. The Trust is encouraged to transfer to the administrative jurisdiction of the Secretary open space areas which have high public use potential and are contiguous to other lands administered by the Secretary.

(2) Within 60 days after the first meeting of the Board of Directors of the Trust, the Trust and the Secretary shall determine cooperatively which records, equipment, and other personal property are deemed to be necessary for the immediate administration of the properties to be transferred, and the Secretary shall immediately transfer such personal property to the Trust. Within 1 year after the first meeting of the Board of Directors of the Trust, the Trust and the Secretary shall determine cooperatively what, if any, additional records, equipment, and other personal property used by the Secretary in the administration of the properties to be transferred should be transferred to the Trust.

(3) The Secretary shall transfer, with the transfer of administrative jurisdiction over any property, the unobligated balance of all funds appropriated to the Secretary, all leases, concessions, licenses, permits, and other agreements affecting such property.

(4) At the request of the Trust, the Secretary shall provide funds to the Trust for preparation of the program required under section 104(c) of this title, hiring of initial staff and other activities deemed by the Trust as essential to the establishment of the Trust prior to the transfer of properties to the Trust.

(c) BOARD OF DIRECTORS.—

(1) IN GENERAL.—The powers and management of the Trust shall be vested in a Board of Directors (hereinafter referred to as the "Board") consisting of the following 7 members:

(A) The Secretary of the Interior or the Secretary's designee.

(B) 6 individuals, who are not employees of the Federal Government, appointed by the President, who shall possess extensive knowledge and experience in one or more of the fields of city planning, finance, real estate development, and resource conservation. At least one of these individuals shall be a veteran of the Armed Services. At least 3 of these

individuals shall reside in the San Francisco Bay Area. The President shall make the appointments referred to in this subparagraph within 90 days after the enactment of this Act and shall ensure that the fields of city planning, finance, real estate development, and resource conservation are adequately represented. Upon establishment of the Trust, the Chairman of the Board of Directors of the Trust shall meet with the Chairman of the Energy and Natural Resources Committee of the United States Senate and the Chairman of the Resources Committee of the United States House of Representatives.

(2) TERMS.—Members of the Board appointed under paragraph (1)(B) shall each serve for a term of 4 years, except that of the members first appointed, 3 shall serve for a term of 2 years. Any vacancy in the Board shall be filled in the same manner in which the original appointment was made, and any member appointed to fill a vacancy shall serve for the remainder of the term for which his or her predecessor was appointed. No appointed member may serve more than 8 years in consecutive terms, except that upon the expiration of his or her term, an appointed member may continue to serve until his or her successor has been appointed.

(3) QUORUM.—Four members of the Board shall constitute a quorum for the conduct of business by the Board.

(4) ORGANIZATION AND COMPENSATION.—The Board shall organize itself in such a manner as it deems most appropriate to effectively carry out the authorized activities of the Trust. Board members shall serve without pay, but may be reimbursed for actual and necessary travel and subsistence expenses incurred by them in the performance of the duties of the Trust.

(5) LIABILITY OF DIRECTORS.—Members of the Board of Directors shall not be considered Federal employees by virtue of their membership on the Board, except for purposes of the Federal Tort Claims Act and the Ethics in Government Act, and the provisions of chapter 11 of title 18, United States Code.

(6) MEETINGS.—The Board shall meet at least three times per year in San Francisco and at least two of those meetings shall be open to the public. Upon a majority vote, the Board may close any other meetings to the public. The Board shall establish procedures for providing public information and

opportunities for public comment regarding policy, planning, and design issues. The Board may establish procedures for providing public information and opportunities for public comment regarding policy, planning, and design issues through the Golden Gate National Recreation Area Advisory Commission.

(7) STAFF.—The Trust is authorized to appoint and fix the compensation and duties and terminate the services of an executive director and such other officers and employees as it deems necessary without regard to the provisions of title 5, United States Code, or other laws related to the appointment, compensation or termination of Federal employees.

(8) NECESSARY POWERS.—The Trust shall have all necessary and proper powers for the exercise of the authorities vested in it.

(9) TAXES.—The Trust and all properties administered by the Trust and all interest created under leases, concessions, permits and other agreements associated with the properties shall be exempt from all taxes and special assessments of every kind by the State of California, and its political subdivisions, including the City and County of San Francisco.

(10) GOVERNMENT CORPORATION.—

(A) The Trust shall be treated as a wholly-owned Government corporation subject to chapter 91 of title 31, United States Code (commonly referred to as the Government Corporation Control Act). Financial statements of the Trust shall be audited annually in accordance with section 9105 of title 31 of the United States Code.

(B) At the end of each calendar year, the Trust shall submit to the Committee on Energy and Natural Resources of the United States Senate and the Committee on Resources of the House of Representatives a comprehensive and detailed report of its operations, activities, and accomplishments for the prior fiscal year. The report also shall include a section that describes in general terms the Trust's goals for the current fiscal year.

SEC. 104. DUTIES AND AUTHORITIES OF THE TRUST.

(a) OVERALL REQUIREMENTS OF THE TRUST.—The Trust shall manage the leasing, maintenance, rehabilitation, repair and improvement of property within the

Presidio under its administrative jurisdiction using the authorities provided in this section, which shall be exercised in accordance with the purposes set forth in section 1 of the Act entitled "An Act to establish the Golden Gate National Recreation Area in the State of California, and for other purposes," approved October 27, 1972 (Public Law 92-589; 86 Stat. 1299; 16 U.S.C. 460bb), and in accordance with the general objectives of the General Management Plan (hereinafter referred to as the "management plan") approved for the Presidio.

(b) AUTHORITIES.—The Trust may participate in the development of programs and activities at the properties transferred to the Trust, except that the Trust shall have the authority to negotiate and enter into such agreements, leases, contracts and other arrangements with any person, firm, association, organization, corporation or governmental entity, including, without limitation, entities of Federal, State and local governments as are necessary and appropriate to carry out its authorized activities. The National Park Service or any other Federal agency is authorized to enter into agreements, leases, contracts and other arrangements with the Presidio Trust which are necessary and appropriate to carry out the purposes of this title. Any such agreement may be entered into without regard to section 321 of the Act of June 30, 1932 (40 U.S.C. 303b). The Trust may use alternative means of dispute resolution authorized under subchapter IV of chapter 5 of title 5, United States Code (5 U.S.C. 571 et seq.). The Trust shall establish procedures for lease agreements and other agreements for use and occupancy of Presidio facilities, including a requirement that in entering into such agreements the Trust shall obtain reasonable competition. The Trust may not dispose of or convey fee title to any real property transferred to it under this title. Federal laws and regulations governing procurement by Federal agencies shall not apply to the Trust, with the exception of laws and regulations related to Federal Government contracts governing working conditions and wage rates, including the provisions of sections 276a-276a-6 of title 40, United States Code (Davis-Bacon Act), and any civil rights provisions otherwise applicable thereto. The Trust, in consultation with the Administrator of Federal Procurement Policy, shall establish and promulgate procedures applicable to the Trust's procurement of goods and services including, but not limited to, the award of contracts on the basis of contractor qualifications, price, commercially reasonable buying practices, and reasonable competition. The Trust is authorized to use funds available to the Trust to purchase insurance and for reasonable reception and representation expenses, including membership dues, business cards and business related meal expenditures.

(c) MANAGEMENT PROGRAM.—The Trust shall develop a comprehensive program for management of those lands and facilities within the Presidio which are transferred to the administrative jurisdiction of the Trust. Such program shall be designed to reduce expenditures by the National Park Service and increase revenues to the Federal Government to the maximum extent possible. In carrying out this program, the Trust shall be treated as a successor in interest to the National Park Service with respect to compliance with the National Environmental Policy Act and other environmental compliance statutes. Such program shall consist of—

(1) demolition of structures which in the opinion of the Trust, cannot be cost-effectively rehabilitated, and which are identified in the management plan for demolition,

(2) evaluation for possible demolition or replacement those buildings identified as categories 2 through 5 in the Presidio of San Francisco Historic Landmark District Historic American Buildings Survey Report, dated 1985,

(3) new construction limited to replacement of existing structures of similar size in existing areas of development, and

(4) examination of a full range of reasonable options for carrying out routine administrative and facility management programs.

The Trust shall consult with the Secretary in the preparation of this program.

(d) FINANCIAL AUTHORITIES.—(1) To augment or encourage the use of non-Federal funds to finance capital improvements on Presidio properties transferred to its jurisdiction, the Trust, in addition to its other authorities, shall have the following authorities subject to the Federal Credit Reform Act of 1990 (2 U.S.C. 661 et seq.):

(A) The authority to guarantee any lender against loss of principal or interest on any loan: *Provided,* That --

(i) the terms of the guarantee are approved by the Secretary of the Treasury;

(ii) adequate subsidy budget authority is provided in advance in appropriations Acts; and

(iii) such guarantees are structured so as to minimize potential cost to the Federal Government. No loan guarantee under this title shall cover more than 75 percent of the unpaid balance of the loan. The Trust may collect a fee sufficient to cover its costs in connection with each loan guaranteed under this title. The authority to enter into any such loan guarantee agreement shall expire at the end of 15 years after the date of enactment of this title.

(B) The authority, subject to appropriations, to make loans to the occupants of property managed by the Trust for the preservation, restoration, maintenance, or repair of such property.

(2) The Trust shall have the authority to issue obligations to the Secretary of the Treasury, but only if the Secretary of the Treasury agrees to purchase such obligations to the extent authorized in advance in appropriations Acts. The Secretary of the Treasury is authorized to use as a public debt transaction the proceeds from the sale of any securities issued under chapter 31 of title 31, United States Code, and the purposes

for which securities may be issued under such chapter are extended to include any purchase of such notes or obligations acquired by the Secretary of the Treasury under this subsection. Obligations issued under this subparagraph shall be in such forms and denominations, bearing such maturities, and subject to such terms and conditions, including a review of the creditworthiness of the loan and establishment of a repayment schedule, as may be prescribed by the Secretary of the Treasury, and shall bear interest at a rate determined by the Secretary of the Treasury, taking into consideration current market yields on outstanding marketable obligations of the United States of comparable maturities. No funds appropriated to the Trust may be used for repayment of principal or interest on, or redemption of, obligations issued under this paragraph.

(3) The aggregate amount of obligations issued under paragraph (2) of this subsection which are outstanding at any one time may not exceed $50,000,000.

(e) DONATIONS.—The Trust may solicit and accept donations of funds, property, supplies, or services from individuals, foundations, corporations, and other private or public entities for the purpose of carrying out its duties. The Trust is encouraged to maintain a liaison with the Golden Gate National Park Association.

(f) PUBLIC AGENCY.—The Trust shall be deemed to be a public agency for purposes of entering into joint exercise of powers agreements pursuant to California government code section 6500 and related provisions of that code.

(g) PROCEEDS.—Notwithstanding section 1341 of title 31 of the United States Code, all proceeds and other revenues received by the Trust shall be retained by the Trust. Those proceeds shall be available, without further appropriation, to the Trust for the administration, preservation, restoration, operation and maintenance, improvement, repair and related expenses incurred with respect to Presidio properties under its administrative jurisdiction. The Secretary of the Treasury shall invest, at the direction of the Trust, excess moneys that the Trust determines are not required to meet current withdrawals. Such investment shall be in public debt securities with maturities suitable to the needs of the Trust and bearing interest at rates determined by the Secretary of the Treasury taking into consideration the current average yield on outstanding marketable obligations of the United States of comparable maturity.

(h) SUITS.—The Trust may sue and be sued in its own name to the same extent as the Federal Government. Litigation arising out of the activities of the Trust shall be conducted by the Attorney General; except that the Trust may retain private attorneys to provide advice and counsel. The District Court for the Northern District of California shall have exclusive jurisdiction over any suit filed against the Trust.

(i) MEMORANDUM OF AGREEMENT.—The Trust shall enter into a Memorandum of Agreement with the Secretary, acting through the Chief of the United States Park Police, for the conduct of law enforcement activities and services within those portions of the Presidio transferred to the administrative jurisdiction of the Trust.

(j) BYLAWS, RULES, AND REGULATIONS.—The Trust may adopt, amend, repeal, and enforce bylaws, rules and regulations governing the manner in which

its business may be conducted and the powers vested in it may be exercised, including rules and regulations for the use and management of the property under the Trust's jurisdiction. The Trust is authorized, in consultation with the Secretary, to adopt and to enforce those rules and regulations that are applicable to the Golden Gate National Recreation Area and that may be necessary and appropriate to carry out its duties and responsibilities under this title. The Trust shall give notice of the adoption of such rules and regulations by publication in the Federal Register.

(k) DIRECT NEGOTIATIONS.—For the purpose of compliance with applicable laws and regulations concerning properties transferred to the Trust by the Secretary, the Trust shall negotiate directly with regulatory authorities.

(l) INSURANCE.—The Trust shall require that all leaseholders and contractors procure proper insurance against any loss in connection with properties under lease or contract, or the authorized activities granted in such lease or contract, as is reasonable and customary.

(m) BUILDING CODE COMPLIANCE.—The Trust shall bring all properties under its administrative jurisdiction into compliance with Federal building codes and regulations appropriate to use and occupancy within 10 years after the enactment of this title to the extent practicable.

(n) LEASING.—In managing and leasing the properties transferred to it, the Trust shall consider the extent to which prospective tenants contribute to the implementation of the general objectives of the General Management Plan for the Presidio and to the reduction of cost to the Federal Government. The Trust shall give priority to the following categories of tenants: Tenants that enhance the financial viability of the Presidio and tenants that facilitate the cost-effective preservation of historic buildings through their reuse of such buildings.

(o) REVERSION.—If, at the expiration of fifteen years, the Trust has not accomplished the goals and objectives of the plan required in section 105(b) of this title, then all property under the administrative jurisdiction of the Trust pursuant to section 103(b) of this title shall be transferred to the Administrator of the General Services Administration to be disposed of in accordance with the procedures outlined in the Defense Authorization Act of 1990 (104 Stat. 1890), and any real property so transferred shall be deleted from the boundary of the Golden Gate National Recreation Area. In the event of such transfer, the terms and conditions of all agreements and loans regarding such lands and facilities entered into by the Trust shall be binding on any successor in interest.

(p) EXCLUSIVE RIGHTS TO NAME AND INSIGNIA.—The Trust shall have the sole and exclusive right to use the words 'Presidio Trust' and any seal, emblem, or other insignia adopted by its Board of Directors. Without express written authority of the Trust, no person may use the words 'Presidio Trust', or any combination or variation of those words alone or with other words, as the name under which that person shall do or purport to do business, for the purpose of trade, or by way of advertisement, or in any manner that may falsely suggest any connection with the Trust.

SEC. 105. LIMITATIONS ON FUNDING.

(a) (1) From amounts made available to the Secretary for the operation of areas within the Golden Gate National Recreational Area, not more than

$25,000,000 shall be available to carry out this title in each fiscal year after the enactment of this title until the plan is submitted under subsection (b). Such sums shall remain available until expended.

(2) After the plan required in subsection (b) is submitted, and for each of the 14 fiscal years thereafter, there are authorized to be appropriated to the Trust not more than the amounts specified in such plan. Such sums shall remain available until expended. Of such sums, funds shall be available through the Trust for law enforcement activities and services to be provided by the United States Park Police at the Presidio in accordance with section 104(i) of this title.

(b) Within 1 year after the first meeting of the Board of Directors of the Trust, the Trust shall submit to Congress a plan which includes a schedule of annual decreasing federally appropriated funding that will achieve, at a minimum, self-sufficiency for the Trust within 15 complete fiscal years after such meeting of the Trust. No further funds shall be authorized for the Trust 15 years after the first meeting of the Board of Directors of the Trust.

(c) The Administrator of the General Services Administration shall provide necessary assistance, on a reimbursable basis, including detailees as necessary, to the Trust in the formulation and submission of the annual budget request for the administration, operation, and maintenance of the Presidio.

SEC. 106. GENERAL ACCOUNTING OFFICE STUDY.

(a) Three years after the first meeting of the Board of Directors of the Trust, the General Accounting Office shall conduct an interim study of the activities of the Trust and shall report the results of the study to the Committee on Energy and Natural Resources and the Committee on Appropriations of the United States Senate, and the Committee on Resources and Committee on Appropriations of the House of Representatives. The study shall include, but shall not be limited to, details of how the Trust is meeting its obligations under this title.

(b) In consultation with the Trust, the General Accounting Office shall develop an interim schedule and plan to reduce and replace the Federal appropriations to the extent practicable for interpretive services conducted by the National Park Service, and law enforcement activities and services, fire and public safety programs conducted by the Trust.

(c) Seven years after the first meeting of the Board of Directors of the Trust, the General Accounting Office shall conduct a comprehensive study of the activities of the Trust, including the Trust's progress in meeting its obligations under this title, taking into consideration the results of the study described in subsection (a) and the implementation of plan and schedule required in subsection (b). The General Accounting Office shall report the results of the study, including any adjustments to the plan and schedule, to the Committee on Energy and Natural Resources and the Committee on Appropriations of the United States Senate, and the Committee on Resources and Committee on Appropriations of the House of Representatives.

APPENDIX C
Programmatic Agreement

PROGRAMMATIC AGREEMENT
AMONG THE PRESIDIO TRUST, NATIONAL PARK SERVICE,
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION,
AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE PRESIDIO TRUST IMPLEMENTATION PLAN
AND
VARIOUS OPERATION AND MAINTENANCE ACTIVITIES
FOR AREA "B" OF THE PRESIDIO OF SAN FRANCISCO,
GOLDEN GATE NATIONAL RECREATION AREA

WHEREAS, the Presidio Trust (the Trust), pursuant to the Presidio Trust Act, Title I of Public Law 104-333 was established as a wholly owned government corporation to manage a portion of the Presidio of San Francisco (Presidio); and

WHEREAS, pursuant to Public Law 104-333, administrative jurisdiction was transferred to the Trust on July 1, 1998 for approximately 80 percent of the Presidio that was depicted as Area B on the map entitled "Presidio Trust Number 1," dated December 7, 1995, as such may be amended from time to time; and

WHEREAS, the remaining area of the Presidio was depicted as Area A on said map and administrative jurisdiction for Area A remains with the National Park Service (NPS); and

WHEREAS, the entire Presidio remains a part of the Golden Gate National Recreation Area (GGNRA), is a designated National Historic Landmark District (NHLD), is listed on the National Register of Historic Places (NR), contains prehistoric archaeological sites, and historic archaeological resources, buildings, structures, objects, historic zones, and cultural landscapes representing 218 years of military history; and

WHEREAS, the Trust, in order to meet its Congressionally mandated requirement of preserving the Presidio as a sustainable National Park within the GGNRA by the year 2013, carries out a variety of undertakings, including but not limited to maintenance, rehabilitation, repair, moving, interim and long-term leasing, construction and deconstruction of buildings, structures, and roads, and work regarding grounds and associated landscaping within Area "B" of the Presidio; and

WHEREAS, the Trust has determined that these undertakings may have an effect upon properties included in or eligible for the NR, including properties that contribute to the NHLD and has notified the Secretary of the Interior in accordance with 36 CFR 800.10(c); and

WHEREAS, the Trust has consulted with the Advisory Council on Historic Preservation (ACHP), and the California State Historic Preservation Officer (SHPO) and NPS; and

WHEREAS, pursuant to 36 CFR 800.14 (b)(2), which implements Section 106 of the National Historic Preservation Act (NHPA), the entities listed above have been invited to sign this Programmatic Agreement (PA); and

WHEREAS, the Trust has made a good faith effort to locate Indian tribes that attach religious and cultural significance to properties under the administrative jurisdiction of the Trust or with which the Trust could consult under the Native American Graves Protection and Repatriation Act (NAGPRA); and

WHEREAS, the Trust has consulted with the public and interested Indian tribes regarding the stipulations in this PA; and

WHEREAS, the Presidio Trust Implementation Plan (PTIP) is a comprehensive programmatic plan developed by the Trust to guide the management of Area B; and

WHEREAS, the undertakings contemplated under the PTIP will be within the scope of this PA;

NOW, THEREFORE, the Trust, NPS, SHPO, and ACHP agree that the Trust will undertake its activities in accordance with the following stipulations to satisfy its responsibilities under Section 106 and Section 110(f) of the NHPA.

STIPULATIONS

The Trust shall ensure that the following measures are carried out:

I. APPLICABILITY

This PA applies to all undertakings proposed within Area B under the direct or indirect jurisdiction of the Trust including undertakings proposed by the Trust's permittees, and tenants. However, deconstruction, new construction, and the execution of leases associated with such new construction at the 60 acre Letterman Complex shall be governed by "The Programmatic Agreement Among the Presidio Trust, the Advisory Council on Historic Preservation, the National Park Service and the California State Historic Preservation Officer Regarding Deconstruction, New Construction, and the Execution of Associated Leases at The Letterman Complex, Presidio of San Francisco, California." This PA does not apply to undertakings of NPS within Area A or the Department of Veterans Affairs at the National Cemetery all located within the boundaries of the Presidio. Before the Trust's final approval of any project, or any construction activities, or any irrevocable commitment by the Trust for construction, repairs, maintenance, rehabilitation, moving or deconstruction covered by this PA, all provisions required hereunder must be completed. For purposes of this PA, historic properties are those properties either included in the 1985 Historic American Buildings Survey (HABS) report or designated as contributing to the NHLD by the May 1993 NHLD update and any other properties identified pursuant to Stipulation VII. below.

II. POLICY

The Trust shall manage and preserve the integrity of that portion of the NHLD in Area B through planning, research and specific undertakings consistent with good historic preservation management and stewardship, the goals of the NHPA and related regulations, standards, and guidelines. These efforts are, and will remain, in keeping with the applicable provisions of the NHPA and the Presidio Trust Act.

III. PROFESSIONAL STANDARDS

A. The Trust's Federal Preservation Officer (FPO) shall be responsible for coordination of the preservation program and implementation of the terms of this PA. The agency official designated as the Trust's FPO shall meet the requirements for that position as defined in "The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act."

B. All work pursuant to this PA regarding historic buildings and structures will be reviewed by, or under the supervision of, a person having five years or more experience in historic preservation and meeting the professional qualifications for Historian, Architectural Historian or Historic Architect included in "The Secretary of the Interior's Historic Preservation Professional Qualification Standards."

C. All work pursuant to this PA regarding archaeological resources will be carried out by or under the supervision of a Registered Professional Archaeologist having five years or more experience in prehistoric and historic archaeology and meeting the professional qualifications for Archaeologist included in "Archaeology and Historic Preservation, Secretary of the Interior's Standards and Guidelines."

D. All analyses to determine if an undertaking falls under Appendix A and therefore requires no further review will be carried out by persons who meet the standards set forth above in this Stipulation III. All such persons are deemed for purposes of this PA as "qualified personnel" under the standards and guidelines cited above.

IV. PERSONNEL TRAINING

A. The Trust shall continue to provide appropriate training to individuals involved in the maintenance, repair, and rehabilitation of historic buildings, structures, and housing units, and for all personnel responsible for making decisions regarding maintenance, repair, and rehabilitation. The Trust shall utilize specialized crafts training programs in practical application of "The Secretary of the Interior's Standards for the Treatment of Historic Properties." In addition, the Trust will provide training in conservation technology as applied to historic structures and archaeological sites.

B. The Trust shall develop and implement an in-house training program to advise Trust personnel of this PA and procedures, techniques, and related matters regarding the preservation of the historic properties located within Area B. The scope of training and the schedule for its implementation will be submitted as part of the annual report to NPS, SHPO and ACHP in accordance with Stipulation XXI. below.

V. OTHER AGREEMENTS

This agreement shall apply to undertakings proposed for Area B as stated in Stipulation I. However, it is explicitly recognized that other agreements may come to exist which have a bearing on properties and actions within Area B that may supersede this PA.

VI. AREA OF POTENTIAL EFFECTS

When a proposed undertaking is limited to the maintenance, repair or rehabilitation of a listed, eligible or contributing building, the area of potential effects (APE) is the individual building. For all other proposed undertakings, the Trust shall consult with SHPO to determine the APE.

VII. IDENTIFICATION OF HISTORIC PROPERTIES

A. Numerous surveys and evaluations have been conducted to identify NR-eligible and NHLD contributing properties for the entire Presidio landmark district, regardless of administrative jurisdiction, including the 1993 NHLD update. As projects are reviewed under this PA, additional evaluations may be necessary due to the passage of time. As necessary to implement this PA, the Trust will determine if there are additional properties in Area B not previously listed or determined eligible for listing on the NR or as contributors to the NHLD. Evaluation of historic buildings or structures which may become 50 years old or may have achieved exceptional significance while this PA is in effect shall be conducted within the framework of the "Statewide Historic Buildings and Structures Inventory, Department of Defense Installations, State of California, Volumes 1-3" and the "National Register of Historic Places Registration Forms for the Presidio of San Francisco National Historic Landmark District" (1993).

B. If a property in Area B that was not previously listed or determined eligible for listing on the NR is determined by the Trust to be eligible, the Trust shall treat that property as eligible for Section 106 purposes. Such determination requires no SHPO review. Any such determinations will be documented in accordance with Stipulation XXI. below.

C. If the Trust determines that a property is ineligible for the NR, and the Trust and NPS agree that the property is ineligible, it is ineligible. If the Trust and NPS disagree about a property the Trust has determined ineligible, the Trust will request an opinion from the SHPO which shall be rendered within 15 days of receiving the Trust's request. If the Trust does not agree with the SHPO's opinion, the Trust shall submit the matter to the Keeper of the Register in accordance with 36 CFR Part 63.

D. The Trust shall evaluate or cause to be evaluated the significance of and apply NR criteria to archaeological properties that have not previously been evaluated for the NR or determined eligible for listing according to 36 CFR Section 800.4(c).

VIII. ASSESSMENT OF EFFECTS

A. Review Process. The Trust shall determine the effect of any undertaking subject to this PA other than those undertakings covered by Stipulation X. A., B. or C. by means of the following process.

1. The responsible Trust office shall submit the proposed undertaking to the FPO for review.

2. The FPO shall review the undertaking to ensure that identification and evaluation of historic properties in the APE has been completed according to Stipulation VII. and that adequate information has been compiled to identify and evaluate the effects of the proposed undertaking on historic properties.

3. The FPO shall consult as necessary other staff qualified under Stipulation III.

4. The FPO shall insure that recovery of archaeological data is based on an Archeological Research Design prepared by personnel qualified under Stipulation III. C.

5. The FPO shall apply the criteria of 36 CFR 800.5 to the proposed undertaking.

B. No Historic Properties Affected or No Adverse Effect. If the above process results in the FPO's concluding that no historic properties are affected by the proposed undertaking or that the proposal will have no adverse effect on historic properties, the FPO will document that finding in the undertaking's administrative record and insure that the conclusion is included within the Annual Report required by Stipulation XXI. (the Report). In such case, the proposal may be undertaken without further review by the ACHP, SHPO, or NPS. It is specifically agreed that the repetitive low impact activities listed in Appendix A do not have an adverse effect, and therefore may be undertaken with no further review or documentation.

C. Adverse Effect.

1. Agreement with NPS regarding resolution. If the FPO finds a proposed undertaking will result in an adverse effect, the Trust may consult with the NPS to determine if the adverse effect may be avoided. Where the Trust and NPS agree on how to avoid such effect, they shall document their agreement and such agreement shall be included in the Report. Implementation of the documented agreement shall be deemed to be resolution of the adverse effect.

2. No agreement with NPS regarding resolution. If the FPO finds the proposed undertaking will result in an adverse effect and consults with NPS but fails to reach agreement, or if the FPO chooses not to consult with NPS, the FPO shall consult with ACHP and SHPO to resolve the adverse effect in accordance with 36 CFR 800.6.

D. Modification of a Reviewed Project. If after completion of an undertaking's review pursuant to this stipulation or during the implementation of any previously reviewed project pursuant to this stipulation, the Trust finds it necessary to modify the project scope or construction documents, the FPO or a designated qualified person under Stipulation III. shall review the proposed modification under the process contained in Stipulation VIII. A. above.

IX. SALVAGE AND SUSTAINABILITY

If an historic property will be deconstructed, the Trust's qualified personnel will conduct a documented inspection to identify architectural elements and objects that may be reused in rehabilitating similar historic structures, or that may be preserved in a museum archival collection.

X. PRESIDIO TRUST IMPLEMENTATION PLAN

The Presidio Trust Implementation Plan (PTIP) is a programmatic document that presents a range of preferred land uses, PTIP Planning Principles (Principles) and Planning District Guidelines (PDG) for designated planning districts within Area B of the Presidio. The Principles and PDG conform to "The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings" (1995) (Standards). Intended as a policy framework to guide the Trust's future activities, the PTIP does not specify treatments for individual buildings, or identify specific areas for new construction. Instead, the PTIP envisions further project-specific and/or district-level planning prior to building demolition or new construction with the potential to adversely affect historic resources. Undertakings proceeding under the PTIP other than those discussed below in Paragraphs A., B., or C. will be subject to Section 106 consultation pursuant to Stipulation VIII. For the undertakings proceeding under the PTIP and discussed below, Section 106 compliance shall be achieved as follows:

A. The Trust FPO shall seek public input and shall consult with NPS, SHPO and ACHP regarding the development of future planning documents, including possible district-level plans (e.g. Fort Scott), issue-oriented plans (e.g. Recreation and Open Space), and site-specific design guidelines or other plans in accordance with Stipulation XI. below.

B. The Trust FPO shall consult with the NPS, SHPO, and ACHP pursuant to 36 CFR 800.5 regarding any proposed demolition of an historic property within Area B, other than that proposed as part of a plan for which the consultation process has occurred pursuant to Stipulation XI., below.

C. The Trust FPO shall consult with the NPS, SHPO, and ACHP pursuant to 36 CFR 800.5 regarding any proposed new construction that may have an adverse effect on historic properties, except where such new construction is proposed as part of a plan for which consultation has occurred pursuant to Stipulation XI., below.

XI. REVIEW OF FUTURE PLANNING DOCUMENTS

A. The Trust will submit to NPS, SHPO, and ACHP for review and comment, a consultation package for future planning documents, including but not limited to district-level plans (e.g., Ft. Scott), issue oriented plans (e.g., Recreation and Open Space) and site specific guidelines or other implementation plans. These draft planning documents and a request for consultation will be submitted early in the planning process (e.g., during public scoping) and will be supplemented at a later date by written comments on the design guidelines or draft plans received from the public, and the Trust's record of commentary from the public planning session(s). The Trust shall ensure that future planning documents conform to the Standards, the Principles, and any applicable PDG to the maximum extent feasible.

B. Within 21 days of receipt of public comments by the consulting parties, a consultation meeting will be held, in person or by telephone, with NPS, SHPO, ACHP, and the Trust to discuss the planning documents and to seek a consensus among the parties that the planning documents conform to the Standards, Principles and any applicable PDG to the maximum extent feasible. If no consensus is reached at the conclusion of the consultation meeting, the Trust will proceed in accordance with Paragraph E. of this stipulation.

C. The Trust will distribute to the NPS, SHPO, and ACHP for comment a Final Draft Document (FDD) reflecting the consensus reached pursuant to Paragraph B. of this stipulation and incorporating such comments received from the public pursuant to Paragraph A. above that the Trust deems appropriate. The parties will have 30 calendar days following the date of receipt to provide comments to the Trust regarding changes, if any, to cause the FDD to reflect the consensus reached pursuant to Paragraph B. of this stipulation.

D. If the Trust modifies the FDD in accordance with NPS, SHPO, and ACHP comments received, the Trust

may finalize the FDD and will immediately provide each of the other parties with a copy of the FDD. The FDD will not be subject to further review.

E. Should the Trust decide not to modify the FDD in accordance with any NPS, SHPO, or ACHP comments regarding conformity to the maximum extent feasible with the Standards, Principles, and any applicable PDG, or if a consensus on the FDD is not reached pursuant to Paragraph B. of this stipulation, the Trust will promptly notify the other consulting parties in writing of the Trust's decision or of the lack of consensus, include documentation that explains the basis for the Trust's decision or summarizes the reasons for the lack of consensus, and immediately initiate consultation with NPS, SHPO, and ACHP to address unresolved issues. The time frame for this consultation shall not exceed 30 calendar days from the date of the Trust's written notification. If the issues pertaining to the Trust's decision are partially or fully resolved or a consensus is reached within this time frame, then the FDD shall be modified, if necessary, by the Trust in accordance with the resolution or consensus. Thereupon, the Trust may proceed in accordance with Paragraphs C. or D., as applicable, of this stipulation. If the issues pertaining to the Trust's decision are not fully resolved or a consensus is not reached within this time frame, the Trust will forward all documentation relevant to the dispute to the ACHP for response within 30 calendar days in accordance with Stipulation XIX. below, governing the resolution of objections.

F. Failure of NPS, SHPO, or ACHP to comment in writing within the time frames established by this stipulation on any document submitted for review pursuant to this stipulation will be deemed a waiver of the opportunity to comment, and the Trust may proceed without considering the comment(s) that might otherwise have been made.

XII. REVIEW OF NEW CONSTRUCTION FOLLOWING FUTURE PLANNING

A. Where new construction is proposed under planning documents developed pursuant to Stipulation XI. above, the Trust will ensure that all design and construction documents conform to the contents of applicable planning documents, and that identified measures to address adverse effects are included in the design and construction documents and committed to as part of the project implementation.

B. The Trust's determination that design and construction documents conform to the planning documents reviewed by the signatories in accordance with Stipulation XI. above shall be documented in the project's administrative record and in the report developed in accordance with Stipulation XXI. Where changes to the project are required to ensure conformity these changes shall also be documented in writing.

XIII. ARCHAEOLOGY

A. The treatment of archaeological properties shall be handled in accordance with the terms of an Archaeological Management Assessment and Monitoring Program (AMA/MP) that is prepared for individual undertakings or groups of related undertakings. This will ensure that all planned undertakings will be reviewed by a qualified archaeologist prior to final design and/or approval. In addition to the AMA/MP, an archaeological research design will be prepared for any archaeological investigations that include testing for NR-eligibility, and test excavations or data recovery from prehistoric or historic sites that are known to be NR-eligible or are listed as contributors to the NHLD. The Trust's management of archaeological properties will be reviewed annually in accordance with Stipulation XXI.

B. Ground Disturbing Activities

Ground disturbing maintenance activities and construction projects will be closely observed in the vicinity of sensitive archaeological areas to discover, document, protect, and manage the archaeological record of the Presidio. During the planning process for such projects, an AMA/MP shall be prepared to determine whether archival research, subsurface coring or trenching, and/or test excavations are required prior to ground disturbance. Archaeological monitoring is appropriate in areas of predicted archaeological sensitivity or for sampling purposes in areas that are not considered sensitive when the natural ground surface is obscured by paving or fill, or in other instances where a pedestrian survey or archaeological testing cannot reasonably be accomplished. Any required archaeological monitoring shall be implemented

in accordance with an AMA/MP, prepared by qualified personnel. If historic properties are discovered during implementation of an undertaking, a detailed report shall be prepared. Large-scale ground disturbing activities shall be monitored in accordance with an AMA/MP. Should circumstances arise where the Trust cannot address archaeological concerns in a manner consistent with the AMA/MP, the Trust shall notify the SHPO.

C. Archaeological Grid and Database

The Trust anticipates that previously unidentified subsurface historic properties may be encountered within the NHLD boundary due to the placement of fill over some of the historic marsh areas, historic landfill depositions, and other modifications to the land over 218 years of military occupation. The Trust will maintain an archaeological grid map and database of archaeological information for the Presidio, in cooperation with NPS. The map will also identify those areas where additional research and inventory are required during future project planning phases.

D. Excavation Permits

The Trust will continue its policy of requiring all excavation permits to undergo archaeological review by qualified personnel, as defined in Stipulation III., prior to initiation of the requested activity. The excavation clearance process is included as Appendix B to this PA.

E. Archaeological Management Plan for El Presidio

The Trust will prepare an Archaeological Management Plan (AMP) for the Spanish Colonial site known as "El Presidio de San Francisco." The AMP will contain an inventory and evaluation of archival, architectural and archaeological features associated with this site, identify the likely presence of other significant features in the area, describe strategies for maintaining the site, contain standard operating procedures, establish programs to increase public awareness of this archaeological resource, recover data of archaeological significance, and provide for curation of archaeological collections and associated records. The AMP will be subject to peer review by NPS, SHPO, and if deemed necessary by the Trust, other qualified personnel. The draft AMP will be completed not later than 24 months after execution of this PA.

F. All records associated with excavations and excavated materials not subject to NAGPRA that are deemed important for preservation will be accessioned, catalogued, and managed in accordance with 36 CFR Part 79, "Curation of Federally-Owned and Administered Collections."

XIV. DISCOVERIES

A. If it appears that an undertaking will affect a previously unidentified property that may be eligible for inclusion in the National Register, or may contribute to the NHLD, or affect a known historic property in an unanticipated manner, the Trust will stop any potentially harmful activities in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the property until it concludes consultation with the SHPO.

B. If the newly discovered property has not previously been included in or determined eligible for the NR and provisions for its treatment are not contained in an approved research design or AMA/MP, the Trust may assume that the property is eligible for purposes of this PA. The Trust will notify NPS and SHPO at the earliest possible time and consult to develop actions that will take the effects of the undertaking into account. The Trust will notify the SHPO of any time constraints, and the Trust and the SHPO will mutually agree upon timeframes for this consultation but not to exceed 30 days. If treatment of the discovery is not included in an approved research design or AMA/MP, the Trust will develop written recommendations reflecting its consultation with NPS and SHPO and as necessary, will present a plan and schedule to implement these recommendations.

XV. REHABILITATION AND INVESTMENT TAX CREDIT PROJECTS

A. For purposes of this PA, Section 106 consultation and review of rehabilitation plans for compliance with "The Secretary of Interior's Standards for the Rehabilitation of Historic Properties for Rehabilitation and Investment Tax Credit Projects" shall be accomplished within the Part I and Part II Certification Process as delineated in 36 CFR Part 67.

B. When NPS receives Part II Certification Applications it will notify the Trust Historical Archaeologist and will consult with the Trust's qualified personnel regarding provisions for archaeological compliance and for conducting historic plant inventories.

C. If a Trust tenant submits a Part II Certification Application without conditions from NPS, it shall be deemed to conform to the Standards referenced in Stipulation XV. A. above. The undertaking will require no further review. If the Part II Certification Application is approved with conditions, the Trust shall ensure that the project documents are modified to comply with the conditions, but will not subject the application to any further review. Neither the Trust nor the tenant shall make any irrevocable commitment regarding project design until Part II Certification has been completed by NPS.

D. If a Trust tenant is denied Part II Certification or is unable to meet conditions for such certification, the provisions of Stipulation VIII. shall apply.

E. Failure of NPS to comment in writing within the time frames established by 36 CFR Part 67 on any document submitted for review pursuant to this stipulation shall be deemed approval of the document.

XVI. PERMITS, LEASES AND OTHER AGREEMENTS

Undertakings may also be permits, leases, or other agreements issued by the Trust and shall be subject to the same review as other Trust undertakings. Trust shall provide for identification and treatment of historic properties in a manner that meets guidelines and standards set forth in stipulations of this PA including archaeological clearances for any ground-disturbing activity, and advance project review and approval on the same basis as required for Trust-proposed undertakings.

XVII. EMERGENCY ACTIONS

A. In the event that an emergency occurs at the Presidio that affects historic properties, the Trust may take actions without consultation to stabilize any involved historic properties and prevent further damage within 30 days from the termination of the emergency or longer with approval of the signatories. Where possible, such emergency measures will be undertaken in a manner that does not foreclose future preservation or restoration, with on-site monitoring by qualified personnel, and advance telephonic notification of NPS and SHPO.

B. Emergency response work will be conducted in a manner to avoid or minimize effects on historic properties. Should historic properties be discovered during emergency repair or response activity, work in the immediate area of the property will cease if the Trust determines that a work stoppage at the site will not impede emergency response activities. The Trust will advise NPS and SHPO by telephone of the emergency, the steps being taken to address the emergency, the discovered property and its apparent significance, and a description of the emergency work and potential effects on the discovered property.

C. Within 30 days following this notification, the Trust will provide the SHPO with a written report documenting the actions taken to minimize effects, the work's present status, the planned treatment of the property, and the condition of any other properties encountered as post-review discoveries. This action will be noted in the report developed in accordance with Stipulation XXI. below.

XVIII. NATURAL DISASTERS

A. In the event of a natural disaster, the Trust shall undertake emergency actions consistent with the principles underlying this PA to stabilize historic properties and prevent further damage without SHPO consultation. Where possible, such emergency measures will be undertaken in a manner that does not foreclose future preservation or restoration. The Trust will immediately notify NPS and within 5 days of when telephone communications are re-established consult with SHPO on all emergency measures taken that impacted on or will impact on historic properties. Permanent repairs to historic properties beyond the scope of emergency repairs are not authorized by this stipulation.

B. This stipulation does not apply to undertakings that will be implemented more than 30 days after the disaster terminates. Such undertakings shall be reviewed in accordance with 36 Part 800 unless they are covered by other stipulations in this PA.

XIX. RESOLVING OBJECTIONS

A. Should any signatory to this PA object to any action carried out or proposed with respect to an undertaking or implementation of this PA, that signatory shall notify the Trust in writing of its objection and request consultation with the Trust to resolve the objection. If after initiating such consultation the Trust determines that the objection cannot be resolved within 15 days through such consultation, the Trust shall forward all documentation relevant to the objection to the ACHP including the Trust's proposed response to the objection. Within 15 calendar days after receipt of all pertinent documentation the ACHP shall exercise one of the following options:

1. Advise the Trust that the ACHP concurs in the Trust's proposed response to the objection, whereupon the Trust will respond to the objection accordingly;

2. Provide the Trust with recommendations, which the Trust shall take into account in reaching a final decision regarding its response to the objection; or

3. Notify the Trust that the objection will be referred to the ACHP for formal comment in accordance with Section 800.7(c) of the NHPA.

B. Should the ACHP not exercise one of the above options within 30 calendar days after receipt of the pertinent documentation from the Trust, the Trust may assume the ACHP's concurrence in its proposed response to the objection.

C. The Trust shall take into account any ACHP recommendation or comment provided in accordance with this stipulation with reference only to the subject of the objection; the Trust's responsibility to carry out all actions under this PA that are not the subject of objection shall remain unchanged. The Trust shall notify the other signatories of its decision within 15 days.

D. At any time during implementation of any stipulation in this PA, should an objection to any such stipulation or its manner of implementation be raised by a member of the public, the Trust shall notify the signatories to this PA and consult with the objecting party, the ACHP and the SHPO to resolve the objection within 21 calendar days. If the Trust is unable to resolve an objection, the Trust may refer the objection to the ACHP in accordance with Stipulation XIX. A. above.

XX. AMENDMENTS AND TERMINATION

A. If any signatory believes that this PA should be amended, that signatory shall immediately so notify and consult with the other signatories for no more than 21 days to consider amendments to this PA. The signatories may agree to a longer consultation period. This PA may be amended only upon the written concurrence of all signatories. Amendments shall be executed in accordance with 36 CFR Part 800.6(c).

B. This PA may be terminated unilaterally by the Trust. It may be terminated by agreement of any two signatories if the two signatories determine that the terms of this PA are not being met. The signatory proposing termination shall notify all parties to this PA explaining the reasons for the termination. Prior to termination, the signatories shall consult for no more than 21 days to consider alternatives that would avoid termination. The signatories may agree to a longer consultation period. Should such consultation fail, the signatories supporting termination may terminate this PA by so notifying all parties to this PA in writing.

C. If this PA is terminated the Trust shall proceed in accordance with 36 CFR Part 800 Subpart B with regard to individual undertakings covered by this PA.

XXI. REVIEW OF AGREEMENT

A. On or before January 30th of each year so long as this PA is in effect, the Trust shall prepare and provide to the signatories and all parties invited to concur with this PA an Annual Report (Report) describing how the Trust is carrying out its responsibilities under this PA. The Trust shall ensure that the Report is made available to the public and that potentially interested persons and members of the public are invited to provide comments to the ACHP and SHPO as well as to the Trust. At the request of the ACHP or SHPO, the Trust shall supplement this process through meeting(s) to address comments and/or questions. The Report shall include, at a minimum:

1. A list of all undertakings reviewed under the terms of this PA excluding those actions listed in Appendix A, a summary of Tax Credit projects as described in Stipulation XV. above, and a description of those undertakings determined to have an adverse effect but which are resolved by consensus in accordance with Stipulation VIII. C. 1. above.

2. Efforts to identify and/or evaluate potential historic properties, monitoring efforts, archaeological management assessments or research designs, and treatment of historic properties.

3. Reports of any training given pursuant to Stipulation IV. above, identification of current Trust points of contact, and notification of any historic preservation personnel changes.

4. Any recommendations to amend this PA or improve communications among the parties.

5. The activities listed in Appendix A shall be reviewed as part of the Report at which time the signatories may modify the list by adding new activities or removing other activities without requiring amendment of the PA. Should the SHPO or ACHP object in writing to the Trust regarding the Report, the objection will be resolved pursuant to Stipulation XIX.

B. The SHPO and ACHP may monitor activities carried out pursuant to this PA, and the ACHP will review such activities if it deems necessary or is so requested. The Trust shall cooperate with the SHPO and the ACHP in carrying out their monitoring and review responsibilities.

XXII. EFFECT OF THE PASSAGE OF TIME. In any case where a party fails to comment or act within a time frame that is specified or is otherwise agreed upon by the parties, the Trust may thereafter immediately proceed in the matter at issue without further regard to comments or actions by that party.

XXIII. EXECUTION AND IMPLEMENTATION of this Programmatic Agreement evidences that the Trust has satisfied its Section 106 and Section 110(f) responsibilities for all undertakings covered by this PA, including, but not limited to: PTIP, maintenance, rehabilitation, repair, moving, construction and deconstruction of buildings, structures and roads, and work regarding grounds and associated landscaping within the area of responsibility of the Trust. Execution and implementation of this PA also evidences that the Trust has afforded the ACHP a reasonable opportunity to comment on the undertakings and their effects on historic properties and that the Trust has taken into account the effects of the undertakings on historic properties.

SIGNATORIES:

THE PRESIDIO TRUST

BY: _____
TITLE: _____

ADVISORY COUNCIL ON HISTORIC PRESERVATION

BY: _____
TITLE: _____

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

BY: _____
TITLE: _____

THE NATIONAL PARK SERVICE
GOLDEN GATE NATIONAL RECREATION AREA

BY: _____
TITLE: _____

APPENDIX A - REPETITIVE OR LOW IMPACT ACTIVITIES

The following classes of undertakings are considered exempt from further review or consultation under the terms of this PA. Trust staff are not required to notify or consult with qualified Trust historic preservation personnel about these classes of undertakings unless the project proponent has reason to believe that a specific exempt undertaking may affect historic properties.

1. Maintenance of contributing buildings which includes:

Housekeeping, routine maintenance, building monitoring, and other such actions (such as repair/replacement of light switches, and rewiring existing fixtures in existing conduit, replacement of window putty) that do not damage historic fabric.

2. Maintenance operations for non-contributing buildings in an historic district, except excavations and borings in archaeologically sensitive areas;

3. Painting of non-historic structures (exterior) to match existing color;

4. Roofing maintenance or replacement on non-historic structures.

5. Regrading of terrain adjacent to a building to achieve positive water runoff in areas not designated as archaeologically sensitive or having vegetation which contributes to the cultural landscape.

6. Routine grounds maintenance such as grass cutting and treatment, maintenance of shrubs, and tree trimming provided these activities are consistent with the Vegetation Management Plan and preservation of the cultural landscape.

7. Maintenance of existing roads or existing parking areas, including repaving and grading, within previously disturbed areas.

8. Rehabilitation, maintenance, or replacement of above-ground utility lines or transmission lines, unless such activities have potential for ground disturbance.

9. Health and safety activities such as non-destructive testing for radon gas, asbestos, lead-based paint, lead pipes, and hazardous materials and wastes.

10. Conducting non-ground disturbing elements of the applicable Integrated Pest Management program for control of pests such as termites, insects, and rodents.

11. Maintenance of existing facilities that does not involve new or additional ground disturbance (e.g. maintenance or replacement of guard rails, barriers, traffic control devices, light fixtures, non-historic curbs and sidewalks).

12. Maintenance (that does not change the configuration or appearance of the existing facilities) of existing electronic communication sites involving no ground disturbance.

This appendix may be revised with the written agreement of the ACHP, the SHPO and the Trust without a revision being made to the underlying PA. Any such change will be documented in the Report described in Stipulation XXI. above.

1 APPENDIX B – EXCAVATION CLEARANCE APPLICATION
2

ACRONYMS

ACHP	Advisory Council on Historic Preservation
AMA/MP	Archaeological Management Assessment/Monitoring Plan
AMP	Archaeological Management Plan
APE	Area of Potential Effect
FD	Final Document
FDD	Final Draft Document
FPO	Federal Preservation Officer
HABS	Historic American Buildings Survey
GGNRA	Golden Gate National Recreation Area
NAGPRA	Native American Graves Protection and Repatriation Act
NHLD	National Historic Landmark District
NHPA	National Historic Preservation Act
NPS	National Park Service
NR	National Register of Historic Places
PA	Programmatic Agreement
PDG	Planning District Guidelines (for PTIP)
Presidio	Presidio of San Francisco
Principles	PTIP Planning Principles
PTIP	Presidio Trust Implementation Plan
Report	Annual Report as defined in Stipulation XXI.
SHPO	State Historic Preservation Officer (California)
Standards	"Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings," 1995 (Standards)
Trust	Presidio Trust



EXCAVATION CLEARANCE APPLICATION

Notice: No excavation or ground breaking of any kind is Permitted anywhere at the Presidio until the applicant has completed this form and received an excavation clearance. Projects that are not considered routine maintenance, or that are generally broad in scope must go through NEPA Project Review process, of which this clearance is only one part. To find out if Project Review is required, call (415) 561-5336

DATE: _____

RECEIVED BY: _____

CONTRACT/WORK/SERVICE #: _____

SECTION ONE: APPLICANT INFORMATION

APPLICANT NAME _____ CONTRACTOR LICENSE # _____

COMPANY NAME _____ LIABILITY INSURANCE POLICY _____

ADDRESS _____

_____

WORKERS COMP INFORMATION _____

CONTACT _____

PHONE NUMBER _____ CELLULAR _____

FAX NUMBER _____ E-MAIL ADDRESS _____

SECTION TWO: SCOPE OF WORK

WORK TO BE PERFORMED _____

_____

_____

_____

_____

LOCATION OF EXCAVATION _____

***(A detailed sketch, showing excavation plan and profile views, must accompany this application)*

MAXIMUM EXCAVATION DEPTH _____

START DATE_____ COMPLETION DATE _____

NOTICE TO APPLICANT

This Excavation Clearance request will provide you with a map or maps identifying all Presidio Trust operated utility lines. USA Dig monitored utilities will be located in the field. No maps will be provided. Due to the archeological and ecological sensitivity of the Presidio, this form will be reviewed by the resource specialists as well, and additional instructions may apply.

A detailed sketch, showing excavation plan and profile views, must accompany this application.

Please allow ten working days for this Excavation Clearance application to be processed.

APPENDIX D
Socioeconomic/Housing Supply

APPENDIX D

Socioeconomic/Housing Supply

Socioeconomic/Housing Supply Appendix Table 1: GMPA 2000 Employment Generation

Land Use	Employment Density (sf/employee) (a)	GMPA 2000 Total Employment (b)
Office	350	5,050
Retail	500	310
Industrial/Warehouse	3,500	142
Infrastructure	4,000	16
Lodging	840	431
Conference	840	340
Cultural/Educational	1,200	314
Military	0	0
Recreational	850	130
Total		**6,734**
Existing Employment (2000) (c)		2,020
New GMPA 2000 Employment		4,714

Sources: The Presidio Trust; Sedway Group; Bay Area Economics, 2001.

Notes:

(a) Employee Densities from Sedway Group's, 2001.
(b) Based on square footages in Housing Appendix Table 2: Employment Generating Land Uses
(c) Numbers do not sum due to rounding.
(d) Based on current leasing information from Presidio Trust

APPENDIX D

Socioeconomic/Housing Supply

Socioeconomic/Housing Supply Appendix Table 2: Employment Generating Land Uses

Square Footage by Land Use (a)

Land Use	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Office	1,767,573	1,939,176	2,439,052	1,980,337	2,046,176	2,413,101
Retail	155,011	178,691	188,383	264,282	203,691	257,362
Industrial/Warehouse	496,039	103,799	130,795	81,936	133,799	465,031
Infrastructure	62,323	53,921	50,392	53,921	53,921	58,263
Lodging	362,040	150,420	174,521	174,521	341,635	0
Conference	285,692	104,355	138,355	118,170	109,355	24,115
Cultural/Educational	377,369	930,443	690,622	844,032	955,443	139,032
Military	69,949	53,965	52,636	52,636	53,965	69,949
Recreational	110,871	146,562	115,782	209,185	171,562	103,147
Residential	1,323,087	1,938,670	1,314,904	1,907,577	1,892,338	2,431,873
Total Square Footage	**5,009,954**	**5,600,002**	**5,295,442**	**5,686,597**	**5,961,885**	**5,961,873**

Sources: The Presidio Trust; Bay Area Economics, 2001.

Notes:

(a) At buildout. Includes Letterman complex square footage.

Socioeconomic/Housing Supply Appendix Table 3: Employment Generation Analysis

Land Use	Employment Density (sf/employee) (a)	Number of Employees				
		Draft Plan (b)	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Office	350	5,541	6,969	5,658	5,846	6895
Retail	500	357	377	529	407	515
Industrial/Warehouse	3,500	30	37	23	38	133
Infrastructure	4,000	13	13	13	13	15
Lodging	840	179	208	208	407	0
Conference	840	124	185	141	130	29
Cultural/Educational	1,200	775	576	703	796	116
Military	0	0	0	0	0	0
Recreational	850	172	136	246	202	121
Parking Structure	10,000	0	0	0	0	0
Residential	0	0	0	0	0	0
Total Employment (2020)		**7,192**	**8,480**	**7,521**	**7,840**	**7,823**
Existing Employment (2000) (c)		2,020	2,020	2,020	2,020	2,020
New Employment (2020-2000) (Total Employment Less Existing Employment)		5,172	6,460	5,501	5,820	5,803
New GMPA 2000 Employment (d)		4,714	4,714	4,714	4,714	4,714
New Project Employment (e) (New Employment Less New GMPA 2000 Employment)		**459**	**1,746**	**788**	**1,107**	**1,089**

Sources: The Presidio Trust; Sedway Group; Bay Area Economics, 2001.

Notes:

(a) Employee Densities from Sedway Group, 2001.
(b) Employment equals Square Footage by Land Use (From Housing Appendix Table 2: Employment Generating Land Uses) divided by Employment Density.
(c) Existing Employment data are based on current Presidio leasing information, and do not use Employee Densities as a multiplication factor. Sedway Group, 2001.
(d) From Housing Appendix Table 1: GMPA 2000 Employment Generation. Represents the change between 2000 employment and total GMPA alternative employment in 2020.
(e) Numbers may not sum due to rounding.

APPENDIX D

Socioeconomic/Housing Supply

Socioeconomic/Housing Supply Appendix Table 4: Presidio Single-Family and Multifamily Housing Supply

Alternative	Proposed Units (a)	GMPA 2000 Units (b)	Net New Supply (c)
GMPA 2000 (Baseline)	502	502	0
Draft Plan	1,240	502	738
Resource Consolidation	869	502	367
Sustainable Community	1,188	502	686
Cultural Destination	1,431	502	929
Minimum Management	1,116	502	614

Sources: The Presidio Trust; Bay Area Economics, 2001.

(a) Proposed Units represents the number of units under each alternative as proposed by the PTIP. This includes single- and multifamily units.
(b) GMPA 2000 Units represent the number of units proposed in 2020 under the GMPA 2000 alternative.
(c) Net New Supply is the difference between Proposed Units and GMPA 2000 Units.

Socioeconomic/Housing Supply Appendix Table 5: Distribution of Housing Impact

	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Additional Household Demand in the HIA	(445)	750	(182)	(221)	(83)

Superdistricts in HIA	% of All Commuters to Richmond Super-district (a)	Draft Plan Number	Draft Plan % of New HH in Super-district (b)	Resource Consolidation Number	Resource Consolidation % of New HH in Super-district (b)	Sustainable Community Number	Sustainable Community % of New HH in Super-district (b)	Cultural Destination Number	Cultural Destination % of New HH in Super-district (b)	Minimum Management Number	Minimum Management % of New HH in Super-district (b)
Downtown SF	5.4%	(24)	-0.4%	40	0.8%	(10)	-0.2	(12)	-0.2%	4	0.1%
Richmond District	31.7%	(141)	-5.4%	238	9.1%	(58)	-2.2	(70)	-2.7%	26	1.0%
Mission District	15.4%	(68)	-1.0%	115	1.6%	(26)	-0.4	(34)	-0.5%	13	0.2%
Sunset District	7.9%	(35)	-4.0%	59	6.7%	(14)	-1.6	(17)	-2.0%	7	0.7%
Daly City/San Bruno	8.1%	(36)	-0.4%	61	0.7%	(15)	-0.2	(18)	-0.2%	7	0.1%
San Mateo/Burlingame	2.2%	(10)	-0.1%	16	0.2%	(4)	0.0	(5)	-0.1%	2	0.0%
Hayward/San Leandro	1.5%	(6)	-0.1%	11	0.1%	(3)	0.0	(3)	0.0%	-	0.0%
Oakland/Alameda	4.4%	(20)	-0.3%	33	0.5%	(8)	-0.1	(10)	-0.2%	4	0.1%
Berkeley/Albany	1.4%	(6)	-0.2%	11	0.3%	(3)	-0.1	(3)	-0.1%	-	0.0%
Richmond/El Cerrito	2.3%	(10)	-0.1%	18	0.2%	(4)	0.0	(5)	-0.1%	2	0.0%
Concord/Martinez	1.6%	(7)	-0.1%	12	0.1%	(3)	0.0	(3)	0.0%	-	0.0%
Vallejo/Benicia	1.2%	(5)	-0.1%	9	0.1%	(2)	0.0	(3)	0.0%	-	0.0%
Fairfield/Vacaville	1.2%	(5)	-0.0%	9	0.0%	(2)	0.0	(3)	0.0%	-	0.0%
Novato	0.7%	(3)	-0.1%	5	0.1%	(1)	0.0	(1)	0.0%	-	0.0%
San Rafael	2.3%	(100	-0.2%	17	0.3%	(4)	-0.1	(5)	-0.1%	2	0.0%
Mill Valley/Sausalito	3.2%	(14)	-0.5%	24	0.8%	(6)	-0.2	(7)	-0.2%	3	0.1%
Total (c)	**90.3%**	**(401)**		**677**		**(164)**		**(200)**		**75**	
Remaining Households Residing Outside the HIA	**9.7%**	**(43)**		**73**		**(18)**		**(21)**		**8**	

APPENDIX D

Socioeconomic/Housing Supply

Socioeconomic/Housing Supply Appendix Table 5: Distribution of Housing Impact

Sources: The Presidio Trust; Metropolitan Transportation Commission, Commuter Forecasts for the San Francisco Bay Area, 1990-2020; Metropolitan Transportation Commission, Superdistrict and County Summaries of ABAG Projections, 2000; Bay Area Economics, 2001.

Notes:

(a) From Affected Environment Table 16: Definition of Housing Impact Area.
(b) Between 2000 and 2020.
(c) Numbers may not sum due to rounding.

Socioeconomic/Housing Supply Appendix Table 6: Presidio Single-Family and Multifamily Housing Supply - Comparison with 2000

Alternative	Proposed Units (a)	2000 Existing Units (b)	Net New Supply (c)
GMPA 2000	502	1,116	(614)
Draft Plan	1,240	1,116	124
Resource Consolidation	869	1,116	(247)
Sustainable Community	1,188	1,116	72
Cultural Destination	1,431	1,116	315
Minimum Management	1,116	1,116	0

Sources: The Presidio Trust; Bay Area Economics, 2001

Notes:

(a) Proposed units represents the number of units in 2020 under each alternative as proposed by the PTIP.
(b) Presidio Trust, 2001.
(c) Net New Supply is the difference between Proposed Units and 2000 Existing Units.

APPENDIX D

Socioeconomic/Housing Supply

Socioeconomic/Housing Supply Appendix Table 7: Presidio Housing Impact - Comparison with 2000

Alternative	New Employment (a)	New Household Demand (b)	Net New Supply (c)	Additional Household Demand in HIA (d)
GMPA 2000	4,714	3,016	(614)	3,630
Draft Plan	5,172	3,309	124	3,185
Resource Consolidation	6,460	4,133	(247)	4,380
Sustainable Community	5,501	3,520	72	3,448
Cultural Destination	5,820	3,724	315	3,409
Minimum Management	5,803	3,713	0	3,713

Sources: The Presidio Trust; Metropolitan Transportation Commission, Superdistrict and County Summaries of ABAG Projections, 2000; Bay Area Economics, 2001.

Notes:

(a) From Housing Appendix Table 3: Employment Generation Analysis.
(b) New Household Demand equals New Employment divided by Employed Residents per Household for the Bay Area in 2020: 1.563
(c) From Housing Appendix Table 6: Presidio Single-Family and Multifamily Housing Supply - Comparison to 2000.
(d) Additional Household Demand in HIA equals New Household Demand minus Net New Supply.

HIA = Housing Impact Area, as defined by Affected Environment Table 16: Definition of Housing Impact Area.

Socioeconomic/Housing Supply Appendix Table 8: Presidio Single Room Occupancy/Dorm Room Housing Supply - Comparison with 2000

Alternative	Proposed Units (a)	2000 Existing Units (b)	Net New Supply (c)
GMPA 2000	262	538	(276)
Draft Plan	410	538	(128)
Resource Consolidation	40	538	(498)
Sustainable Community	238	538	(300)
Cultural Destination	272	538	(266)
Minimum Management	538	538	0

Sources: The Presidio Trust; Bay Area Economics, 2001.

Notes:

(a) Proposed units represents the number of units under each alternative as proposed by the PTIP.
(b) Presidio Trust, 2001.
(c) Net New Supply is the difference between Proposed Units and 2000 Existing Units.

APPENDIX D

Socioeconomic/Housing Supply

Socioeconomic/Housing Supply Appendix Table 9: Total Housing Demand Analysis

Alternative	Total Employment (a)	Total Housing Demand (b)
GMPA 2000	6,734	4,308
Draft Plan	7,192	4,601
Resource Consolidation	8,480	5,425
Sustainable Community	7,521	4,812
Cultural Destination	7,840	5,016
Minimum Management	7,823	5,005

Sources: ABAG Projections 2000; The Presidio Trust; Bay Area Economics, 2001.

Notes:

(a) From Housing Appendix Table 3: Employment Generation Analysis.
(b) Total Household Demand equals Total Employment divided by Employed Residents per Household for the Bay Area in 2020 (1.563).

Socioeconomic/Housing Supply Appendix Table 10: Distribution of Housing Impact - Comparison with 2000

Additional Household Demand in the HIA (a)		Draft Plan 3,185		Resource Consolidation 4,380		Sustainable Community 3,448		Cultural Destination 3,409		Minimum Management 3,713	
	% of All Commuters to Richmond Super-	Draft Plan		Resource Consolidation		Sustainable Community		Cultural Destination		Minimum Management	
Superdistricts in HIA	district (b)	Number	% of New HH in Super-district (c)	Number	% of New HH in Super-district (c)	Number	% of New HH in Super-district (c)	Number	% of New HH in Super-district (c)	Number	% of New HH in Super-district (c)
Downtown SF	5.4%	172	3.2%	236	4.4%	186	3.5%	184	3.4%	200	3.7%
Richmond District	31.7%	1,009	38.6%	1,388	53.0%	1,093	41.7%	1,080	41.3%	1,177	44.9%
Mission District	15.4%	490	6.9%	674	9.5%	530	7.5%	524	7.4%	571	8.1%
Sunset District	7.9%	251	28.4%	345	39.1%	271	30.6%	268	30.4%	292	33.1%
Daly City/San Bruno	8.1%	258	3.1%	355	4.3%	279	3.4%	276	3.4%	301	3.7%
San Mateo/Burlingame	2.2%	69	0.8%	95	1.1%	75	0.8%	74	0.8%	81	0.9%
Hayward/San Leandro	1.5%	46	0.4%	64	0.6%	50	0.4%	49	0.4%	54	0.5%
Oakland/Alameda	4.4%	140	2.3%	193	3.1%	152	2.5%	150	2.4%	163	2.7%
Berkeley/Albany	1.4%	46	1.2%	63	1.7%	50	1.3%	49	1.3%	53	1.4%
Richmond/El Cerrito	2.3%	75	0.8%	103	1.0%	81	0.8%	80	0.8%	87	0.9%
Concord/Martinez	1.6%	50	0.4%	69	0.5%	54	0.4%	54	0.4%	58	0.4%
Vallejo/Benicia	1.2%	38	0.4%	52	0.6%	41	0.4%	40	0.4%	44	0.5%
Fairfield/Vacaville	1.2%	39	0.1%	53	0.1%	42	0.1%	41	0.1%	45	0.1%
Novato	0.7%	21	0.5%	29	0.7%	23	0.6%	23	0.6%	25	0.6%
San Rafael	2.3%	73	1.4%	100	2.0%	79	1.6%	78	1.5%	85	1.7%
Mill Valley/Sausalito	3.2%	101	3.5%	138	4.8%	109	3.8%	108	3.7%	117	4.1%
Total	**90.3%**	**2,876**		**3,955**		**3,113**		**3,078**		**3,352**	
Remaining Households Residing Outside the HIA	**9.7%**			**425**		**324**		**334**		**360**	

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Socioeconomic/Housing Supply

Sources: The Presidio Trust; Metropolitan Transportation Commission, Commuter Forecasts for the San Francisco Bay Area, 1990-2020; Metropolitan Transportation Commission, Superdistrict and County Summaries of ABAG Projections, 2000; Bay Area Economics, 2001.

Notes:

(a) From Housing Appendix Table 7: Presidio Housing Impact - Comparison with 2000.
(b) From Affected Environment Table 16: Definition of Housing Impact Area.
(c) Between 2000 and 2020.
(d) Numbers may not sum due to rounding.

APPENDIX E
Schools

APPENDIX E

Schools

Schools Appendix Table 1: PTIP Public School Enrollment Estimates Data Sources (a, b, c, d)

San Francisco Population Age 5-17

Age	1994	1995	1996	1997	1998	1999	2000
5	7,070	7,480	7,750	7,600	7,210	6,890	6,710
6	6,630	6,800	7,240	7,420	7,240	6,910	6,630
7	6,280	6,490	6,710	7,050	7,190	7,040	6,760
8	5,930	5,940	6,180	6,300	6,590	6,780	6,640
9	6,490	6,500	6,560	6,750	6,830	7,150	7,340
10	6,580	6,730	6,790	6,750	6,900	7,000	7,300
11	6,880	6,740	6,950	6,910	6,820	7,050	7,130
12	6,840	6,840	6,760	6,870	6,770	6,730	6,940
13	6,810	6,990	7,040	6,860	6,920	6,900	6,870
14	6,640	6,750	6,990	6,940	6,710	6,840	6,840
15	6,560	6,920	7,100	7,240	7,130	6,840	6,990
16	6,520	6,770	7,200	7,270	7,340	7,340	7,060
17	6,820	6,810	7,130	7,620	7,860	7,740	7,750
Total 5-17	**86,050**	**87,760**	**90,400**	**91,580**	**91,510**	**91,210**	**90,960**
Total Population	**729,140**	**730,660**	**735,310**	**740,620**	**745,780**	**745,510**	**744,570**
Total All Ages	**729,140**	**730,660**	**735,310**	**740,620**	**745,780**	**745,510**	**744,570**
% 5 - 10	5.3%	5.5%	5.6%	5.7%	5.6%	5.6%	5.6%
% 11 - 13	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%
% 14 - 17	3.6%	3.7%	3.9%	3.9%	3.9%	3.9%	3.8%

San Francisco Unified School District Enrollment (e)

Grade	1994	1995	1996	1997	1998	1999	2000
K-12	62,579	62,293	62,830	62,149	61,950	62,101	62,041

Percent of San Francisco Children Age 5-17 Enrolled in SFUSD (f)

Grade	1994	1995	1996	1997	1998	1999	2000
K-12	72.7%	71.0%	69.5%	67.9%	67.7%	68.1%	68.2%

Source: Bay Area Economics, 2001.

Notes:

(a) 1994-2000 Average San Francisco Population Age 5-10: 5.6%
(b) 1994-2000 Average San Francisco Population Age 11-13: 2.8%
(c) 1994-2000 Average San Francisco Population Age 14-17: 3.8%
(d) Source: Woods & Poole Economics, Inc.
(e) Source: California Department of Education, Education Demographics Unit.
(f) Average SFUSD Enrollment 1994-2000 For SF Population Age 5-17: 69.3%

APPENDIX E

Schools

Schools Appendix Table 2: Presidio Neighborhood Public School Enrollment

School	Location	Capacity 1999-2000	Enrollment 1999-2000	Excess and (Over) Capacity
Alamo Elementary School	250 23rd Avenue	678	692	(14)
Argonne Alternative Elementary School	680 18th Avenue	400	400	0
Cabrillo Elementary School	735 24th Avenue	401	316	85
Golden Gate Elementary School	1601 Turk Street	400	320	80
John Swett Alternative Elementary School	727 Golden Gate Avenue	372	334	38
Lafayette Elementary School	4545 Anza Street	531	492	39
Sherman Elementary School	1651 Union Street	500	455	45
Subtotal		**3,282**	**3,009**	**273**
Residents	3500 Fillmore Street	1,000	896	104
Presidio Middle School	450 30th Avenue	1,200	1,138	62
Roosevelt Middle School	460 Arguello Boulevard	870	815	55
Subtotal		**3,070**	**2,849**	**221**
Galileo High School	1150 Francisco Street	1,900	1,843	57
George Washington High School	600 32nd Avenue	2,200	2,392	(192)
Subtotal		**4,100**	**4,235**	**(135)**
Total		**10,452**	**10,093**	**359**

Sources: San Francisco Unified School District; S.F.U.S.D School Profiles 1999-2000; Bay Area Economics, 2001.

APPENDIX F
Transportation

Transportation Appendix Table 1: Weekday AM Peak Hour Person Trips by Mode by Planning District

	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Main Post, Crissy Field, Cavalry Stables						
Auto Person Trips	1,889	2,092	2,294	2,587	2,385	2,856
Inbound	1,403	1,625	1,779	1,909	1,825	1,988
Outbound	486	467	516	678	560	868
Transit Person Trips	479	697	765	824	795	543
Inbound	361	544	598	620	612	392
Outbound	118	153	168	205	183	150
Bike/Ped/Other Person Trips	438	592	639	713	695	525
Inbound	319	452	487	520	523	368
Outbound	120	139	152	192	173	158
Total Person Trips	**2,807**	**3,380**	**3,699**	**4,123**	**3,875**	**3,924**
Inbound	2,083	2,621	2,863	3,049	2,959	2,748
Outbound	724	759	836	1,074	916	1,176
Total Vehicle Trips	**1,593**	**1,707**	**1,912**	**2,089**	**1,959**	**2,394**
Inbound	1,215	1,350	1,513	1,578	1,530	1,726
Outbound	378	357	399	510	429	669
Letterman						
Auto Person Trips	1,878	2,067	2,547	2,088	2,188	2,109
Inbound	1,542	1,564	2,030	1,594	1,586	1,727
Outbound	336	503	516	494	601	382
Transit Person Trips	523	744	929	746	791	498
Inbound	434	576	755	584	585	414
Outbound	88	168	174	162	206	84
Bike/Ped/Other Person Trips	433	640	760	632	685	424
Inbound	351	481	602	479	489	346
Outbound	82	159	158	153	195	78
Total Person Trips	**2,834**	**3,451**	**4,235**	**3,466**	**3,663**	**3,032**
Inbound	2,327	2,620	3,387	2,657	2,660	2,487
Outbound	507	831	848	809	1,003	544
Total Vehicle Trips	**1,744**	**1,836**	**2,315**	**1,856**	**1,934**	**1,958**

APPENDIX F

Transportation

Transportation Appendix Table 1: Weekday AM Peak Hour Person Trips by Mode by Planning District

	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Inbound	1,458	1,432	1,890	1,460	1,450	1,634
Outbound	286	404	425	396	484	324
Fort Scott						
Auto Person Trips	358	533	566	538	591	457
Inbound	235	315	367	373	364	259
Outbound	122	218	199	166	227	198
Transit Person Trips	64	109	115	108	122	65
Inbound	40	62	72	73	73	36
Outbound	24	47	43	35	49	29
Bike/Ped/Other Person Trips	80	117	122	113	132	73
Inbound	49	64	74	76	77	40
Outbound	31	52	48	37	55	34
Total Person Trips	**502**	**759**	**802**	**759**	**846**	**596**
Inbound	325	441	512	521	515	335
Outbound	177	318	290	238	331	261
Total Vehicle Trips	**305**	**433**	**461**	**404**	**475**	**398**
Inbound	205	259	303	278	295	236
Outbound	100	174	158	126	180	163
East Hills						
Auto Person Trips	174	194	185	232	193	231
Inbound	86	53	51	61	52	64
Outbound	88	141	133	171	140	167
Transit Person Trips	41	59	57	70	59	40
Inbound	20	16	15	18	16	11
Outbound	21	43	41	52	43	29
Bike/Ped/Other Person Trips	48	65	63	77	65	46
Inbound	23	17	17	19	17	12
Outbound	25	48	47	57	48	33
Total Person Trips	**263**	**318**	**305**	**378**	**316**	**317**
Inbound	129	86	84	98	85	87

Transportation Appendix Table 1: Weekday AM Peak Hour Person Trips by Mode by Planning District

	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Outbound	134	233	221	280	231	230
Total Vehicle Trips	**135**	**159**	**151**	**190**	**158**	**190**
Inbound	65	44	43	50	44	54
Outbound	70	115	109	139	114	136
South Hills						
Auto Person Trips	328	510	86	413	431	1,045
Inbound	213	307	65	199	297	614
Outbound	115	203	21	214	134	432
Transit Person Trips	70	133	19	103	121	161
Inbound	47	82	15	50	83	98
Outbound	23	51	4	54	38	63
Bike/Ped/Other Person Trips	85	140	20	111	128	177
Inbound	56	85	15	52	87	105
Outbound	30	56	4	59	41	72
Total Person Trips	**484**	**783**	**124**	**627**	**680**	**1,384**
Inbound	315	474	95	301	467	816
Outbound	168	309	29	327	213	567
Total Vehicle Trips	**262**	**382**	**68**	**343**	**317**	**933**
Inbound	172	225	53	170	216	575
Outbound	90	157	15	173	101	358

APPENDIX F

Transportation

Transportation Appendix Table 2: Weekday PM Peak Hour Person Trips by Mode and by Planning District

	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Main Post, Crissy Field, Cavalry Stables						
Auto Person Trips	2,099	2,660	3,468	4,108	3,688	3,955
Inbound	814	1,124	1,421	1,767	1,550	1,589
Outbound	1,285	1,537	2,047	2,342	2,138	2,365
Transit Person Trips	522	862	1,121	1,276	1,199	715
Inbound	199	358	451	538	496	275
Outbound	323	504	671	738	702	440
Bike/Ped/Other Person Trips	503	737	953	1,121	1,067	721
Inbound	203	311	393	484	453	289
Outbound	300	426	560	637	614	432
Total Person Trips	**3,124**	**4,260**	**5,542**	**6,506**	**5,954**	**5,391**
Inbound	1,216	1,793	2,265	2,789	2,499	2,153
Outbound	1,908	2,467	3,278	3,717	3,454	3,238
Total Vehicle Trips	**1,664**	**2,002**	**2,661**	**3,087**	**2,801**	**3,139**
Inbound	606	800	1,024	1,263	1,113	1,192
Outbound	1,059	1,202	1,637	1,824	1,688	1,947
Letterman						
Auto Person Trips	1,521	1,888	2,747	2,427	2,603	2,099
Inbound	398	648	836	826	974	560
Outbound	1,124	1,240	1,911	1,601	1,629	1,539
Transit Person Trips	415	658	969	834	913	481
Inbound	104	215	278	268	331	120
Outbound	312	443	691	566	582	361
Bike/Ped/Other Person Trips	360	589	826	741	824	424
Inbound	99	205	256	256	316	115
Outbound	260	384	570	485	508	309
Total Person Trips	**2,296**	**3,135**	**4,542**	**4,002**	**4,340**	**3,004**
Inbound	600	1,068	1,370	1,350	1,620	795
Outbound	1,696	2,067	3,172	2,652	2,719	2,209

Transportation Appendix Table 2: Weekday PM Peak Hour Person Trips by Mode and by Planning District

	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Total Vehicle Trips	**1,368**	**1,594**	**2,381**	**2,047**	**2,189**	**1,885**
Inbound	331	507	667	645	766	464
Outbound	1,037	1,088	1,715	1,402	1,423	1,420
Fort Scott						
Auto Person Trips	423	687	863	1,064	1,008	559
Inbound	173	344	403	525	506	258
Outbound	251	343	459	539	502	301
Transit Person Trips	79	141	175	211	209	81
Inbound	35	72	84	105	107	38
Outbound	44	69	91	106	102	43
Bike/Ped/Other Person Trips	101	151	187	220	227	92
Inbound	46	78	92	110	118	44
Outbound	54	72	95	109	109	48
Total Person Trips	**604**	**979**	**1,225**	**1,494**	**1,444**	**732**
Inbound	255	494	580	740	731	340
Outbound	349	484	645	754	713	392
Total Vehicle Trips	**355**	**531**	**668**	**762**	**768**	**474**
Inbound	139	260	303	372	378	209
Outbound	216	272	365	391	391	265
East Hills						
Auto Person Trips	247	226	268	370	307	308
Inbound	140	150	177	249	205	203
Outbound	107	76	91	121	102	105
Transit Person Trips	58	69	82	112	93	54
Inbound	33	46	55	75	63	36
Outbound	25	23	28	36	31	18
Bike/Ped/Other Person Trips	69	76	92	123	104	61
Inbound	40	51	62	83	70	41
Outbound	29	25	31	40	34	21
Total Person Trips	**374**	**370**	**442**	**604**	**504**	**423**

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Transportation

Transportation Appendix Table 2: Weekday PM Peak Hour Person Trips by Mode and by Planning District

	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Inbound	213	247	293	407	337	280
Outbound	161	124	149	197	167	144
Total Vehicle Trips	**184**	**183**	**217**	**300**	**248**	**251**
Inbound	105	121	143	201	165	165
Outbound	79	62	74	99	83	86
South Hills						
Auto Person Trips	427	800	136	628	920	1,142
Inbound	203	421	56	352	465	526
Outbound	223	379	80	276	455	616
Transit Person Trips	94	213	27	155	261	173
Inbound	45	111	10	87	133	77
Outbound	49	101	17	68	128	96
Bike/Ped/Other Person Trips	116	223	28	167	276	193
Inbound	56	118	11	95	142	88
Outbound	60	105	18	72	135	105
Total Person Trips	**636**	**1,235**	**192**	**950**	**1,457**	**1,508**
Inbound	304	650	77	534	740	690
Outbound	333	585	115	416	718	817
Total Vehicle Trips	**326**	**577**	**102**	**502**	**648**	**994**
Inbound	152	303	39	277	326	435
Outbound	174	273	62	225	323	560

Transportation Appendix Table 3: Year 2020 Estimated Parking Demand and Proposed Supply by Planning District

	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Main Post						
Supply	1,782	2,050	2,418	2,290	2,314	2,270
Demand	2,216	1,952	2,303	2,181	2,204	2,292
Surplus/(Deficit)	(434)	98	115	109	110	(22)
Crissy Field, Cavalry Stables						
Supply	1,250	1,079	964	1,201	1,271	1,800
Demand	437	1,027	918	1,144	1,210	1,271
Surplus/(Deficit)	813	52	46	57	61	529
Letterman						
Supply	2,300	3,242	4,047	3,199	3,485	2,443
Demand	3,072	3,087	3,854	3,047	3,319	3,357
Surplus/(Deficit)	(772)	155	193	152	166	(914)
Fort Scott						
Supply	982	963	1,006	838	982	963
Demand	741	834	958	798	935	700
Surplus/(Deficit)	241	129	48	40	47	263
PHSH						
Supply	300	575	50	575	488	986
Demand	325	447	0	372	465	912
Surplus/(Deficit)	(25)	128	50	203	23	74
South Hills						
Supply	849	980	650	980	650	1,623
Demand	252	277	123	275	145	607
Surplus/(Deficit)	597	703	527	705	505	1,016
East Housing						
Supply	314	740	700	800	740	1,095
Demand	270	341	303	398	338	279
Surplus/(Deficit)	44	399	397	402	402	816
Total						

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Transportation

Transportation Appendix Table 3: Year 2020 Estimated Parking Demand and Proposed Supply by Planning District

	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
Supply	7,777	9,629	9,835	9,883	9,930	11,180
Demand	7,313	7,965	8,459	8,215	8,616	9,418
Surplus/(Deficit)	464	1,664	1,376	1,668	1,314	1,762

Transportation Appendix Table 4: 2020 Muni AM Peak Hour Presidio Ridership

Muni Line	Direction		GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
1	Inbound	to Howard/Main	3	6	0	6	4	8
	Outbound	to Geary/33rd	12	21	4	13	20	25
1AX	Inbound	to Davis/Pine	3	6	0	6	4	8
	Outbound	to Geary/33rd	0	0	0	0	0	0
1BX	Inbound	to Davis/Pine	3	6	0	6	4	8
	Outbound	to Park Presidio/California	0	0	0	0	0	0
3	Inbound	to Sutter/Sansome	1	2	2	2	2	1
	Outbound	to Presidio/California	1	1	1	1	1	0
28	Inbound	to Ft. Mason	123	176	185	183	184	133
	Outbound	to Daly City BART	36	59	53	63	66	46
29	Inbound	to Letterman	149	213	223	222	223	161
	Outbound	to Fitzgerald/Keith (near Candlestick)	44	73	64	78	80	57
30	Inbound	to 4th/Townsend	18	29	27	32	32	22
	Outbound	to Broderick/Beach	56	79	86	84	83	58
30X	Inbound	to Howard/Embarcadero	12	20	18	22	22	15
	Outbound	to Beach/Scott	0	0	0	0	0	0
33	Inbound	to Arguello/Maple	27	36	41	39	38	26
	Outbound	to Potrero/25th	8	14	13	16	15	10
41	Inbound	to Main/Howard	10	17	16	19	18	13
	Outbound	to Lyon/Greenwich	29	40	43	42	41	29
43	Inbound	to Chestnut/Fillmore	173	242	270	259	253	176
	Outbound	to Munich/Geneva	51	82	79	92	93	61
45	Inbound	to 4th/Townsend	18	30	28	33	33	23
	Outbound	to Lyon/Greenwich	52	73	80	78	76	54
82X	Inbound	to Anza/Lincoln	145	202	227	218	212	147
	Outbound	to 4th/Townsend	0	0	0	0	0	0
Total			**972**	**1,424**	**1,458**	**1,513**	**1,505**	**1,082**

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Transportation

Transportation Appendix Table 5: 2020 Muni PM Peak Hour Presidio Ridership

Muni Line	Direction		GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
1	Inbound	to Howard/Main	12	25	4	17	30	24
	Outbound	to Geary/33rd	5	14	1	11	16	9
1AX	Inbound	to Davis/Pine	0	0	0	0	0	0
	Outbound	to Geary/33rd	5	14	1	11	16	9
1BX	Inbound	to Davis/Pine	0	0	0	0	0	0
	Outbound	to Park Presidio/California	5	14	1	11	16	9
3	Inbound	to Sutter/Sansome	1	1	1	2	1	1
	Outbound	to Presidio/California	1	2	2	3	2	1
28	Inbound	to Ft. Mason	55	107	112	144	148	72
	Outbound	to Daly City BART	100	153	183	201	201	129
29	Inbound	to Letterman	67	130	133	174	179	88
	Outbound	to Fitzgerald/Keith (near Candlestick)	122	187	223	245	245	157
30	Inbound	to 4th/Townsend	45	68	85	91	89	57
	Outbound	to Broderick/Beach	27	50	56	70	70	34
30X	Inbound	to Howard/Embarcadero	0	0	0	0	0	0
	Outbound	to Beach/Scott	18	34	37	47	48	24
33	Inbound	to Arguello/Maple	12	21	25	31	29	15
	Outbound	to Potrero/25th	22	31	41	43	41	26
41	Inbound	to Main/Howard	23	35	43	47	45	29
	Outbound	to Lyon/Greenwich	15	28	30	39	38	19
43	Inbound	to Chestnut/Fillmore	76	141	163	200	197	98
	Outbound	to Munich/Geneva	138	205	267	281	270	173
45	Inbound	to 4th/Townsend	42	63	79	85	82	53
	Outbound	to Lyon/Greenwich	27	51	57	72	71	35
82X	Inbound	to Anza/Lincoln	0	0	0	0	0	0
	Outbound	to 4th/Townsend	116	171	224	236	226	144
Total			**935**	**1,543**	**1,770**	**2,059**	**2,062**	**1,208**

Transportation Appendix Table 6: 2020 Golden Gate Transit Bus Peak Hour Presidio Ridership

Time Period and Direction	GMPA 2000	Draft Plan	Resource Consolidation	Sustainable Community	Cultural Destination	Minimum Management
AM Peak Hour						
Northbound	20	33	29	36	37	27
Southbound	80	114	122	120	119	85
Total	**100**	**147**	**151**	**155**	**156**	**112**
PM Peak Hour						
Northbound	64	98	120	130	129	83
Southbound	31	61	62	80	84	41
Total	**95**	**159**	**182**	**210**	**212**	**124**

APPENDIX F

Transportation

Transportation Appendix Table 7: Visits to the Presidio

PTIP Alternative	Area A	Area B Workplace Trips	Area B Recreational Trips	Total
Number of Weekday Visitors to the Presidio (a)				
Existing Conditions	4,600	2,700	6,800	14,100
GMPA 2000	6,900	4,600	8,400	19,900
Draft Plan	6,900	4,900	15,400	27,200
Resource Consolidation	6,900	5,900	13,700	26,500
Sustainable Community	6,900	5,100	17,600	29,600
National and International Cultural Destination	6,900	5,200	16,200	28,300
Minimum Management	6,900	6,700	10,800	24,400
Number of Weekend day Visitors to the Presidio (a)				
Existing Conditions	8,300	1,300	10,200	19,800
GMPA 2000	12,400	1,300	14,600	28,300
Draft Plan	12,400	1,800	35,200	49,400
Resource Consolidation	12,400	1,700	28,500	42,600
Sustainable Community	12,400	1,800	36,500	50,700
National and International Cultural Destination	12,400	1,900	35,600	49,900
Minimum Management	12,400	2,500	16,000	30,900
Number of Average Day Visitors to the Presidio (b)				
Existing Conditions	5,600	2,300	7,800	15,700
GMPA 2000	8,400	3,700	10,200	22,300
Draft Plan	8,400	4,000	21,100	33,500
Resource Consolidation	8,400	4,700	17,900	31,000
Sustainable Community	8,400	4,200	23,000	35,600
National and International Cultural Destination	8,400	4,300	21,700	34,400
Minimum Management	8,400	5,500	12,300	26,200

Notes:

(a) Defined as non-residents and non-employees; assumes each visitor makes three one-way trips (based on Presidio Transportation Planning and Analysis Technical Report, July 1994, p.IV-61)

(b) Defined as the weighted average of weekday and weekend visitors

APPENDIX G
Wastewater

APPENDIX G

Water Demand

Water Demand Appendix Table 1: Water Demand Calculations

Land Use Type	Total gsf	Water Demand Factor (a) (gal per sq ft per day)	Daily Water Use (gpd)
GMPA 2000			
Industrial/warehouse	469,039	0.01	4,690
Office	1,767,573	0.09	159,082
Retail	155,011	0.05	7,751
Lodging	362,040	1.08	391,003
Conference	285,692	0.29	82,851
Recreational	110,871	0.08	8,870
Cultural/Educational	377,369	0.19	71,700
Infrastructure	62,323	0.09	5,609
Military	69,949	0.09	6,295
Residential (b)	na	na	na
Total			**737,851**
Draft Plan			
Industrial/warehouse	103,799	0.01	1,038
Office	2,046,176	0.09	184,156
Retail	178,691	0.05	8,935
Lodging	150,420	1.08	162,454
Conference	104,355	0.29	30,263
Recreational	146,562	0.08	11,725
Cultural/Educational	930,443	0.19	176,784
Infrastructure	53,921	0.09	4,853
Military	53,965	0.09	4,857
Residential (b)	na	na	276,287
Total			**861,350**
Resource Consolidation			
Industrial/warehouse	130,795	0.01	1,308
Office	2,439,052	0.09	219,515
Retail	188,383	0.05	9,419
Lodging	174,521	1.08	188,483
Conference	138,355	0.29	40,123

APPENDIX G

Water Demand

Water Demand Appendix Table 1: Water Demand Calculations

Land Use Type	Total gsf	Water Demand Factor (a) (gal per sq ft per day)	Daily Water Use (gpd)
Recreational	115,782	0.08	9,263
Cultural/Educational	690,622	0.19	131,218
Infrastructure	50,392	0.09	4,535
Military	52,636	0.09	4,737
Residential (b)	na	na	161,406
Total			**770,007**
Sustainable Community			
Industrial/warehouse	81,936	0.01	819
Office	1,980,337	0.09	178,230
Retail	264,282	0.05	13,214
Lodging	174,521	1.08	188,483
Conference	118,170	0.29	34,269
Recreational	209,185	0.08	16,735
Cultural/Educational	844,032	0.19	160,366
Infrastructure	53,921	0.09	4,853
Military	52,636	0.09	4,737
Residential (b)	na	na	230,708
Total			**832,413**
Cultural Destination			
Industrial/warehouse	133,799	0.01	1,338
Office	2,046,176	0.09	184,156
Retail	203,691	0.05	10,185
Lodging	341,635	1.08	368,966
Conference	109,355	0.29	31,713
Recreational	171,562	0.08	13,725
Cultural/Educational	955,443	0.19	181,534
Infrastructure	53,921	0.09	4,853
Military	53,965	0.09	4,857
Parking Structure	0	0.00	0
Residential (b)	na	na	259,812
Total			**1,061,138**

Water Demand Appendix Table 1: Water Demand Calculations

Land Use Type	Total gsf	Water Demand Factor (a) (gal per sq ft per day)	Daily Water Use (gpd)
Minimum Management			
Industrial/warehouse	465,031	0.01	4,650
Office	2,413,101	0.09	217,179
Retail	257,362	0.05	12,868
Lodging	0	1.08	0
Conference	24,115	0.29	6,993
Recreational	103,147	0.08	8,252
Cultural/Educational	139,032	0.19	26,416
Infrastructure	58,263	0.09	5,244
Military	69,949	0.09	6,295
Residential (b)	na	na	227,430
Total			**515,328**

Notes:

(a) Water demand factors are from the Draft Comprehensive Water Management Study, The Presidio Water Balance, URS, April 2001.

(b) Daily water use for residential uses is calculated by number of occupants multiplied by 63 gallons per person per day.

APPENDIX H
Solid Waste

APPENDIX H

Solid Waste Appendix Table 1: SF Bay Area Solid Waste Landfill Tonnage by Site

Site Name	County	1999 Tonnage
Durham Road Sanitary Landfill	Alameda	313,375
Altamont Sanitary Landfill	Alameda	1,465,261
Viasco Road Sanitary Landfill	Alameda	498,875
West County Landfill	Contra Costa	281,493
Acme Landfill	Contra Costa	29,079
Keller Canyon Landfill	Contra Costa	404,966
Redwood Sanitary Landfill	Marin	377,977
West Marin Sanitary Landfill	Marin	
American Canyon Sanitary Landfill	Napa	3,000
Upper Valley Disposal Service Landfill	Napa	38,578
Ox Mountain Sanitary Landfill	San Mateo	836,371
Hillside Solid Waste Disposal Site	San Mateo	78,861
Pacheco Pass Sanitary Landfill	Santa Clara	83,451
City of Palo Alto Refuse Disposal Site	Santa Clara	33,514
Newby Island Sanitary Landfill	Santa Clara	730,501
Zanker Road Sanitary Landfill	Santa Clara	36,868
Kirby Canyon Sanitary Landfill	Santa Clara	387,038
Guadalupe Disposal Site	Santa Clara	290,224
B&J Landfill	Solano	134,239
Potrero Hills Landfill	Solano	364,931
Central Landfill	Sonoma	463,030
Total	**20**	**6,851,632**

Source: California Integrated Waste Management Board; Bay Area Economics, 2001.

APPENDIX I
Energy

APPENDIX I

Energy

Energy Appendix Table 1: Electrical Use Projections – GMPA 2000

Land Use (a)	Area (sf) (b)	Energy Factor (kWh/sf/yr) (c)	Demand Factor (watts/sf) (d)	Total Electricity Use (kWh/yr) (e)	Max Demand (kW) (f)
Office	1,141,770	12.84	6.20	16,289,249	1,966
Computer-Intensive use (g)	670,563	25.68	12.40	19,133,404	2,310
Retail	155,011	13.84	4.80	2,383,725	207
Industrial/Warehouse	496,039	6.04	2.10	3,328,973	289
Infrastructure	62,323	6.04	2.10	418,257	36
Lodging	362,040	10.87	4.30	4,372,639	432
Conference	285,692	12.70	4.30	4,031,432	341
Cultural/Educational	377,369	6.82	6.20	2,859,618	650
Military	69,949	6.04	6.30	469,436	122
Recreational	110,871	12.00	6.20	1,478,280	191
Residential	1,323,087	3.54	5.00	5,204,142	1,838
Totals	**5,054,714**			**59,969,155**	**8,382**

Source: Henwood Energy; Presidio Trust; Bay Area Economics, 2001.

Notes:

(a) At buildout.

(b) The total area will vary from the PTIP total areas by 44,760 gross sf due to the fact that Building 102 is included in the electrical load projections, even though it is technically located in Area "A" of the Presidio. For purposes of projecting electric loads, this building was assumed to be "office" occupancy.

(c) From Henwood Energy 12/2000 based on PG&E load study data.

(d) From Henwood Energy 12/2000 based on R.S. Means electrical estimating data.

(e) Utilizing a system loss factor of: 10% per Henwood Energy 2000.

(f) Utilizing a coincidence factor of: 25% per Henwood Energy 2000.

(g) Based on estimate that 37% of new office space will be devoted to computer intensive tenants.

APPENDIX I

Energy

Energy Appendix Table 2: Electrical Use Projections – Draft Plan Alternative

Land Use (a)	Area (sf) (b)	Energy Factor (kWh/sf/yr) (c)	Demand Factor (watts/sf) (d)	Total Electricity Use (kWh/yr) (e)	Max Demand (kW) (f)
Office	1,249,880	12.84	6.20	17,831,617	2,153
Computer-intensive use (g)	734,056	25.68	12.40	20,945,074	2,528
Retail	178,691	13.84	4.80	2,747,870	238
Industrial/Warehouse	103,799	6.04	2.10	696,607	61
Infrastructure	53,921	6.04	2.10	361,870	91
Lodging	150,420	10.87	4.30	1,816,739	180
Conference	104,355	12.70	4.30	1,472,565	125
Cultural/Educational	930,443	6.82	6.20	7,050,690	1,602
Military	53,965	6.04	6.30	362,165	94
Recreational	146,562	12.00	6.20	1,954,160	252
Residential	1,938,670	3.54	5.00	7,625,435	2,693
Totals	**5,644,762**			**62,864,792**	**10,017**

Source: Henwood Energy; Presidio Trust; Bay Area Economics, 2001.

Notes:

(a) At buildout.
(b) The total area will vary from the PTIP total areas by 44,760 gross sf due to the fact that Building 102 is included in the electrical load projections, even though it is technically located in Area "A" of the Presidio. For purposes of projecting electric loads, this building was assumed to be "office" occupancy.
(c) From Henwood Energy 12/2000 based on PG&E load study data.
(d) From Henwood Energy 12/2000 based on R.S. Means electrical estimating data.
(e) Utilizing a system loss factor of: 10% per Henwood Energy 2000.
(f) Utilizing a coincidence factor of: 25% per Henwood Energy 2000.
(g) Based on estimate that 37% of new office space will be devoted to computer intensive tenants.

Energy Appendix Table 3: Electrical Use Projections - Resource Consolidation Alternative

Land Use (a)	Area (sf) (b)	Energy Factor (kWh/sf/yr) (c)	Demand Factor (watts/sf) (d)	Total Electricity Use (kWh/yr) (e)	Max Demand (kW) (f)
Office	1,564,802	12.84	6.20	22,324,502	2,695
Computer-intensive use (g)	919,010	25.68	12.40	26,222,431	3,165
Retail	188,383	13.84	4.80	2,896,912	251
Industrial/Warehouse	130,795	6.04	2.10	877,780	76
Infrastructure	50,392	6.04	2.10	338,186	29
Lodging	174,521	10.87	4.30	2,107,826	208
Conference	138,355	12.70	4.30	1,952,343	165
Cultural/Educational	690,622	6.82	6.20	5,233,380	1,189
Military	52,636	6.04	6.30	353,246	92
Recreational	115,782	12.00	6.20	1,543,760	199
Residential	1,314,904	3.54	5.00	5,171,956	1,826
Totals	**5,340,202**			**69,022,322**	**9,895**

Source: Henwood Energy; Presidio Trust; Bay Area Economics, 2001.

Notes:

(a) At buildout.
(b) The total area will vary from the PTIP total areas by 44,760 gross sf due to the fact that Building 102 is included in the electrical load projections, even though it is technically located in Area "A" of the Presidio. For purposes of projecting electric loads, this building was assumed to be "office" occupancy.
(c) From Henwood Energy 12/2000 based on PG&E load study data.
(d) From Henwood Energy 12/2000 based on R.S. Means electrical estimating data.
(e) Utilizing a system loss factor of: 10% per Henwood Energy 2000.
(f) Utilizing a coincidence factor of: 25% per Henwood Energy 2000.
(g) Based on estimate that 37% of new office space will be devoted to computer intensive tenants.

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Energy Appendix Table 4: Electrical Use Projections - Sustainable Community Alternative

Land Use (a)	Area (sf) (b)	Energy Factor (kWh/sf/yr) (c)	Demand Factor (watts/sf) (d)	Total Electricity Use (kWh/yr) (e)	Max Demand (kW) (f)
Office	1,275,811	12.84	6.20	18,201,572	2,197
Computer-intensive use (g)	749,286	25.68	12.40	21,379,624	2,581
Retail	264,282	13.84	4.80	4,064,070	352
Industrial/Warehouse	81,936	6.04	2.10	549,882	48
Infrastructure	53,921	6.04	2.10	361,870	31
Lodging	174,521	10.87	4.30	2,107,826	208
Conference	118,170	12.70	4.30	1,667,510	141
Cultural/Educational	844,032	6.82	6.20	6,395,887	1,454
Military	52,636	6.04	6.30	353,246	92
Recreational	209,185	12.00	6.20	2,789,133	360
Residential	1,907,577	3.54	5.00	7,503,136	2,649
Totals	**5,731,357**			**65,373,**756	**10,**113

Source: Henwood Energy; Presidio Trust; Bay Area Economics, 2001.

Notes:

(a) At buildout.
(b) The total area will vary from the PTIP total areas by 44,760 gross sf due to the fact that Building 102 is included in the electrical load projections, even though it is technically located in Area "A" of the Presidio. For purposes of projecting electric loads, this building was assumed to be "office" occupancy.
(c) From Henwood Energy 12/2000 based on PG&E load study data.
(d) From Henwood Energy 12/2000 based on R.S. Means electrical estimating data.
(e) Utilizing a system loss factor of: 10% per Henwood Energy 2000.
(f) Utilizing a coincidence factor of: 25% per Henwood Energy 2000.
(g) Based on estimate that 37% of new office space will be devoted to computer intensive tenants.

Energy Appendix Table 5: Electrical Use Projections - Cultural Destination Alternative

Land Use (a)	Area (sf) (b)	Energy Factor (kWh/sf/yr) (c)	Demand Factor (watts/sf) (d)	Total Electricity Use (kWh/yr) (e)	Max Demand (kW) (f)
Office	1,317,290	12.84	6.20	18,793,333	2,581
Computer-Intensive use (g)	773,646	25.68	12.40	22,074,708	3,032
Retail	203,691	13.84	4.80	3,132,315	217
Industrial/Warehouse	133,799	6.04	2.10	897,940	48
Infrastructure	53,921	6.04	6.10	361,870	31
Lodging	341,635	10.87	4.30	4,126,192	514
Conference	109,355	12.70	4.30	1,543,121	476
Cultural/Educational	955,443	6.82	6.20	7,240,135	1,728
Military	53,965	6.04	6.30	362,165	93
Recreational	171,562	12.00	6.20	2,287,493	221
Residential	1,892,338	3.54	5.00	7,443,196	1,819
Totals	**6,001,180**			**68,262,460**	**10,516**

Source: Henwood Energy; Presidio Trust; Bay Area Economics, 2001.

Notes:

(a) At buildout.
(b) The total area will vary from the PTIP total areas by 44,760 gross sf due to the fact that Building 102 is included in the electrical load projections, even though it is technically located in Area "A" of the Presidio. For purposes of projecting electric loads, this building was assumed to be "office" occupancy.
(c) From Henwood Energy 12/2000 based on PG&E load study data.
(d) From Henwood Energy 12/2000 based on R.S. Means electrical estimating data.
(e) Utilizing a system loss factor of: 10% per Henwood Energy 2000.
(f) Utilizing a coincidence factor of: 25% per Henwood Energy 2000.
(g) Based on estimate that 37% of new office space will be devoted to computer intensive tenants.

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Energy Appendix Table 6: Electrical Use Projections - Minimum Management Alternative

Land Use (a)	Area (sf) (b)	Energy Factor (kWh/sf/yr) (c)	Demand Factor (watts/sf) (d)	Total Electricity Use (kWh/yr) (e)	Max Demand (kW) (f)
Office	1,548,452	12.84	6.20	22,091,255	2,667
Computer-intensive use (g)	909,409	25.68	12.40	25,948,458	3,132
Retail	257,362	13.84	4.80	3,957,656	343
Industrial/Warehouse	465,031	6.04	2.10	3,120,875	271
Infrastructure	58,263	6.04	2.10	391,009	34
Lodging	0	10.87	4.30	0	0
Conference	24,115	12.70	4.30	340,289	29
Cultural/Educational	139,032	6.82	6.20	1,053,554	239
Military	69,949	6.04	6.30	469,436	122
Recreational	103,147	12.00	6.20	1,375,293	178
Residential	2,431,873	3.54	5.00	9,565,367	3,378
Totals	**6,006,633**			**68,313,192**	**10,393**

Source: Henwood Energy; Presidio Trust; Bay Area Economics, 2001.

Notes:

(a) At buildout.
(b) The total area will vary from the PTIP total areas by 44,760 gross sf due to the fact that Building 102 is included in the electrical load projections, even though it is technically located in Area "A" of the Presidio. For purposes of projecting electric loads, this building was assumed to be "office" occupancy.
(c) From Henwood Energy 12/2000 based on PG&E load study data.
(d) From Henwood Energy 12/2000 based on R.S. Means electrical estimating data.
(e) Utilizing a system loss factor of: 10% per Henwood Energy 2000.
(f) Utilizing a coincidence factor of: 25% per Henwood Energy 2000.
(g) Based on estimate that 37% of new office space will be devoted to computer intensive tenants.

APPENDIX J
Financial Analysis

APPENDIX J
FINANCIAL ANALYSIS TECHNICAL MEMORANDUM

The Presidio Trust has been directed by the U.S. Congress to preserve and enhance the resources of the Presidio and to ensure that the park achieves both short and long-term financial self-sufficiency. The directive requires the Trust to generate enough revenues by 2013 in order to cover day-to-day operating expenses (short-term financial self-sufficiency) and projected long-term capital improvements and replacement reserves (long-term financial sustainability) without continuing annual federal appropriations. In order to understand the financial performance of the land-use planning alternatives being studied in this Environmental Impact Statement (EIS), the Presidio Trust hired Sedway Group to develop a computer-based financial model to evaluate both the short- and long-term financial self-sufficiency of the different EIS planning alternatives.

This technical memorandum briefly discusses the financial model, its methodology, the key financial concepts and assumptions of the model, the key variables, and the results of the financial analysis of the various EIS planning alternatives. Several attachments are appended to this memorandum that provide more detail on the assumptions and summary results.

PURPOSE OF THE FINANCIAL MODEL

The model developed by Sedway Group compares the financial performance of various proposed land-use schemes at the Presidio. The financial model is designed as an illustrative "planning" tool to test the comparative economic implications of different conceptual planning models for the Presidio. It was not designed to be a budgetary or accounting tool, and therefore, its results should not be interpreted as what *will* occur at the Presidio. Instead, its results should be interpreted as what *could* occur at the Presidio, given a certain set of planning, market, phasing, financing, and operational assumptions.

Overview

The financial model is designed (1) to confirm the short-term financial self-sufficiency of each planning alternative; (2) to determine the time period needed for each planning alternative to reach long-term financial sustainability, an aspect of self-sufficiency, and; (3) to compare the relative financial performance of each alternative against the others.

- *Confirm Financial Self-sufficiency.* By congressional mandate, the Presidio Trust has been charged with preserving and enhancing the Presidio's resources for the long-term as well as ensuring the park is operationally self-sufficient by 2013. This requires that, by 2013, annual revenues generated by Trust operations meet or exceed the annual operating expenses without need of further continuing annual federal appropriations. Under the Trust Act, annual appropriations from the U.S. government are scheduled to terminate in 2012. The financial model confirms the short-term self-sufficiency of each planning alternative by comparing annual revenues to annual operating expenses in FY 2013. Following changes to the GMPA 2000 Alternative based on scoping period comments, all six of the EIS alternatives reach financial self-sufficiency by FY 2013.

- *Determine Time Needed to Reach Financial Sustainability.* In addition to ensuring that the Presidio Trust cover its operating expenses without continuing annual appropriations, an additional aspect of self-sufficiency is long-term financial sustainability. The Presidio Trust must ensure that the Presidio generates sufficient revenues to meet its long-term capital needs. For example, the Trust must

generate enough cash to complete necessary capital improvements to buildings, infrastructure systems (e.g., utilities, water, and telecommunications), and open spaces. It also must, by setting aside money in a replacement reserve account, make sure that funds are available in perpetuity to upgrade worn-out buildings and park infrastructure, such as roads, grounds, natural areas, and utilities. The financial model evaluates the financial performance of each land-use scenario over a 20-year period by estimating how long it would take the Presidio Trust to complete all of its capital improvements and fully fund a replacement reserve account. All six of the EIS alternatives have been shown to be financially sustainable over the long term, depending upon the nature of the land-use and development programs. Some alternatives reach this state earlier or later than others do (Financial sustainability ranges from between 2015 and approximately 2065).

- *Compare Financial Performance of Alternatives.* The financial model is specifically designed to compare the financial performance of different EIS planning alternatives being considered and evaluated as part of the Presidio Trust Implementation Plan (PTIP) process. In order to provide a consistent and valid comparison, the financial methodology used to evaluate each alternative is the same, and most of the major assumptions that underlie the model are consistent across all alternatives. This technical memorandum discusses assumptions that vary among the alternatives, the methodology and major assumptions that underlie the financial model, and the financial performance of each EIS planning alternative.

Key Financial Concepts

To understand the discussion in this technical memorandum, it is important first to understand the key financial concepts that underlie the Presidio Trust's financial model. These key financial concepts are briefly defined below:

- *Capital Costs (also called Capital Improvements).* Initial monies spent to rehabilitate, upgrade, or newly construct the built and natural environments, including residential and non-residential buildings, interior improvements, roads, utility systems, water and sewer systems, electrical and telecommunications systems, forests, and open spaces, among other items. Capital costs do not include operating expenses. It is important to note that the financial model does not include any environmental remediation costs. These costs are being paid by the U.S. Army under pre-existing agreements governing environmental cleanup of the Presidio.

- *Capital Replacement Reserves (also called Capital Replacement Set-Asides).* Monies set aside into a reserve account to assure that funds are available in the future to repair and replace any and all capital improvements in Area B, such as components of buildings or entire buildings, and park infrastructure including roads, grounds, natural areas, utilities, etc. Capital reserves are funded only after capital projects are completed, generally between the years of 2013 and approximately 2035.

- *Financing Costs.* The Trust has the authority under the Trust Act to borrow $50 million from the U.S. Treasury. The costs associated with repayment of this loan (both principal and interest) are referred to as financing costs. For a full description of the terms of the U.S. Treasury loan, see the Presidio Trust Implementation Plan (PTIP) Financial Model Assumptions and Documentation Binder, available for review at the Presidio Trust's offices.

- *Operating Expenses.* Operating expenses include park-wide expenses incurred to manage the park on a day-to-day basis (e.g., facilities, maintenance, operations, legal, planning, public safety, finance, and insurance). In the Presidio Trust financial model, operating expenses include program expenses (defined below) and financing costs.

- *Program Expenses*. On-going annual operating expenses associated with delivering public programs, such as interpretive programs, museums and institutes, exhibitions, events, arts and cultural programs, and community stewardship and resource education programs. Program expenses (or costs) do not reflect subsidies for, or opportunity costs associated with, program-enhancing, mission-related tenants.

- *Revenues*. The total income produced or generated by a given source. At the Presidio, these revenue sources include non-residential and residential buildings (building leases and ground leases), government appropriations, Treasury borrowing, utilities and telecommunications income, parking fees, permit and salvage operations, special events, and other miscellaneous park-wide revenues.

METHODOLOGY OF THE FINANCIAL MODEL

In order to simulate the financial performance of the EIS land-use alternatives for Area B, assumptions (e.g., planning, market, phasing, financing, and operational) had to be provided as inputs to the financial model. The reasonableness of these assumptions (or inputs) affects the soundness of the results (or outputs) of the financial model. Throughout this process, the Presidio Trust and Sedway Group have strived to provide model inputs that are based upon objective information, actual operating experience, and best professional judgment (i.e., based in conservatism). All numbers are in 2001 dollars.

For more information about the inputs into and assumptions of the financial model, please refer to the exhibits to this memorandum and the PTIP Financial Model Assumptions and Documentation Binder located in the Presidio Trust offices. The general methodology used to "test" the financial performance of the six EIS conceptual planning alternatives is presented below:

1. *Model Inputs from the Presidio Trust*. The Presidio Trust provided all of the model's assumptions – except the market-based assumptions – to Sedway Group. Sedway Group did not independently research the validity of these inputs. Some of the key inputs Sedway Group received from the Presidio Trust include: the hypothetical land use program for each alternative (residential units and non-residential square footages); existing lease revenues; recreational use rent revenues; residential revenues; expected revenue from the Letterman Digital Arts (LDA) ground lease; Presidio-specific revenues (e.g., Treasury borrowing, federal appropriations, utility revenues, special events revenues, and permits and salvage); park-wide operating expenses; financing costs; program expenses; rehabilitation and demolition costs; Service District Charges (SDC); all capital costs, including infrastructure improvements; and the timing of the Wherry Housing demolition. The land use program and the residential program for each alternative are included as Attachments A and B.

2. *Model Inputs from Sedway Group*. Sedway Group focused on researching the market-based assumptions that were input into the financial model. Some of the key inputs from Sedway Group include: market rental rates for various land uses (e.g., Class B office, industrial/warehouse, retail, and cultural/educational); vacancy rates, and; verification of ground rents.

3. *Calculations and Logic*. The financial model uses the inputs described above and applies a series of calculations. All park-wide operating expenses (including financing costs and program expenses) are added together and subtracted from total revenues. All cash available each year after covering operating expenses is used to fund the necessary capital improvements until all building and infrastructure improvements have been made. As buildings are rehabilitated and constructed, and the infrastructure of the Presidio is improved, the Trust then receives additional revenues from the new

residential and non-residential uses. After all capital improvements are completed, the cash generated by the Presidio is used to replenish and sustain the capital replacement set-aside (reserve) fund. No capital replacement reserves are set-aside until all capital projects are completed. This assumption is reasonable because completing capital improvements is necessary to protect the park's resources, and because the Presidio's buildings and infrastructure will have been recently improved (Thus, they will be in less need of immediate capital investment.).

KEY ASSUMPTIONS OF THE FINANCIAL MODEL

This technical memorandum is not intended to explain every assumption that was incorporated into the Presidio Trust's financial model (See the PTIP Financial Model Assumptions and Documentation Binder for a full list and detailed description of all assumptions in the financial model). Instead, it is intended to explain the methodology behind the model and the key assumptions that are common to the six EIS planning alternatives. A list of major assumptions has been included as Attachment C. Some of the key common assumptions are as follows:

Prioritizing the Completion of the Capital Improvements Program

After all operating expenses are paid, the remaining cash available each year is used to pay for scheduled building and infrastructure (including open space) capital improvements. Therefore, a consistent methodology for funding these capital improvements was developed and applied to all of the planning alternatives. Because of the Presidio Trust's need to generate revenues to meet financial self-sufficiency and sustainability requirements, projects with the highest revenue-generating potential are funded first. This assumption is made in order to ensure that each EIS planning alternative is given the maximum opportunity to succeed.

The methodology also assumes that park-wide infrastructure improvements are completed early to enhance the revenue-generating potential of all uses at the Presidio. It is important to note that the actual selection and phasing of projects during implementation will depend on a variety of factors, including market conditions and Trust priorities. The methodology used to compare EIS alternatives does not necessarily reflect a plan for future implementation.

Therefore, based on these assumptions, a prioritization (or ranking) of capital improvements was developed to determine which projects receive funding first. These are listed below, in order of priority:

1. Rehabilitation of residential buildings (both conversions and demolitions)
2. Rehabilitation of currently leased buildings (if needed)
3. Park-wide infrastructure improvements (i.e., roads, wet and dry utility systems, landscaping and hardscaping, communication networks, open spaces, and natural areas)
4. Demolition of non-residential buildings
5. Rehabilitation of buildings for non-residential uses, in the following order:
    a. Office space
    b. Retail space
    c. Lodging and conference space
    d. Industrial and warehouse space
    e. Cultural, educational and office space scheduled for use by mission-related, program-enhancing tenants
    f. Recreational space
    g. Non-revenue-generating space (i.e., facilities and administration buildings used by the Presidio Trust and the National Park Service (NPS))

Generally, when cash is available to fund capital improvements, the model allocates those monies to complete outstanding projects in the highest-priority category. Once these projects are completed, any available cash is allocated to the second-highest priority projects, and so on, until all the capital improvements have been completed.

Trust as Developer vs. Third-Party Developers

The financial model assumes that the Presidio Trust pays for all costs associated with any demolition, rehabilitation and conversion of existing residential and non-residential space at the Presidio, but does not pay for any new construction. It is assumed that third-party entities (e.g., developers, operators, or private investors) pay for all costs associated with new construction of residential and non-residential space. This assumption is a reasonable middle-ground between assuming Trust financing of all capital development and assuming total reliance on third-party financiers. All of this new and rehabilitated space is phased in over time. Except for varying the timing assumption for Wherry Housing demolition, timing assumptions about demolition, rehabilitation, and new construction are common to all planning alternatives. These assumptions were made for the purposes of financial modeling, and should be interpreted only as a means to facilitate the comparison of EIS planning alternatives.

Two alternative financing scenarios were also examined: 1) the Trust performs and finances *all* of the rehabilitation, conversion and new construction of residential and non-residential buildings at the Presidio, and 2) third parties perform and finance *all* the rehabilitation, conversion and new construction of residential and non-residential buildings at the Presidio (with the exception of Trust and NPS facilities and existing residential neighborhoods not planned for conversion). This analysis illustrates the inherent financial tradeoffs associated with choosing either of these two extremes.

If the Trust were to rely on third-party developers to perform the rehabilitation of the majority of residential and non-residential space, the Trust would significantly reduce its capital costs but it would also reduce its revenues. Revenues would be lower because the Trust would not be assuming any of the risk associated with developing the building, and therefore would not be able to reap the revenues associated with assuming that risk (i.e., it would only be charging rent on the land, which is inherently less risky than the building and is a smaller component of the total investment). The significant reduction in revenues associated with ground rents potentially jeopardizes the short-term financial self-sufficiency and long-term sustainability of certain alternatives, particularly those with an emphasis on new residential construction.

Conversely, in the scenario where the Trust acts as the developer, the Trust would increase its long-term revenues but it would also substantially increase its capital costs. Long-term revenues would be higher because the Trust would be charging rent on Trust-owned buildings rather than land (i.e., $30 per square foot for Class B office space rather than $6 per square foot under a ground-lease scenario). In addition, the substantial increase in capital costs would extend the time required to complete the capital improvements program and fully fund the capital replacement reserves.

Capital Replacement Set-Asides (Reserves)

The Presidio Trust's financial plan includes set-aside funds (referred to as capital replacement reserves or reserve set-asides) to pay for on-going capital costs, replacement of buildings and infrastructure at the end of their useful lives, and unexpected extraordinary costs, such as those associated with a catastrophe or natural disaster. For purposes of financial modeling, the reserve set-aside is calculated based on the amount of rehabilitated building square footage and the estimated infrastructure reserve requirements. Using this formula, the model calculates the required reserve set-aside every year and accumulates this

annual amount in a fund over time. Once all capital improvements have been made, the fund starts receiving cash and eventually becomes a healthy surplus. This assumption is reasonable because substantial replacement reserves are unlikely to be needed during the capital-improvement phase since upgrades will have recently been completed on buildings and infrastructure. In the future, the Trust will be performing an on-going evaluation to determine the appropriate level of annual capital replacement reserves.

Capital Costs

The financial model incorporates the one-time capital costs required to rehabilitate, upgrade or newly construct the built and natural environments, including residential and non-residential buildings, interior improvements, roads, utility systems, water and sewer systems, electrical and telecommunications systems, forests, and open spaces, among other items[1]. Capital costs do not include operating expenses. Infrastructure improvement costs range from approximately $103 million to $128 million depending upon the capital program proposed in the EIS alternative. This includes a forest and native plant restoration component of about $11.5 million common to all alternatives. The total infrastructure capital cost also includes those costs associated with additional open space and landscaping improvements, which range from $6 million to $30 million in the six alternatives, depending upon the extent of new open space areas (See the PTIP Financial Model Assumptions and Documentation Binder for a detailed description of these costs.).

Capital costs associated with residential building rehabilitation were based on Trust project experience with specific types of structures (e.g., concrete, masonry, wood-frame, and steel). Per-square-foot rehabilitation costs range from $100 to $144. Unit rehabilitation costs for historic buildings converted to lodging ($225 per square foot) and conference ($150 per square foot) uses were based on Sedway Group's project experience with similar conversions at historic military bases. Capital costs associated with rehabilitation of existing residential units range from $33 million to $57 million and are based on Trust project experience. Capital costs associated with conversion of existing residential buildings range from $0 to $107 million across alternatives (See the PTIP Financial Model Assumptions and Documentation Binder for a detailed description of these costs.).

Operating Expenses

Operating expenses are assumed to be the same across all alternatives, despite differences in total building square footages for each alternative. The operating expense assumptions are derived from the Trust's adopted FY 2001 budget and reflect operating costs based upon three years of the Trust's actual operational experience. Earlier operating cost estimates in the 1994 GMPA and the 1998 Financial Management Program (FMP) differ because these earlier costs were estimated without the benefit of direct operational experience.

The constant operating expense assumption was made because a reduction in building square footage does not necessarily mean a commensurate reduction in operating expenses at the Presidio. Even though a building is demolished and the Presidio Trust no longer incurs the operating expenses associated with maintaining that building, it still would need to maintain the open space that is created once the building has been removed (e.g., maintenance and other land support costs). In addition, operating expenses are held constant because a large portion of operating expenses at the Presidio are fixed, particularly costs associated with infrastructure systems. Overall, incorporating variable operating expenses into the

[1] The financial model does not include any environmental remediation costs, which are being paid by the U.S. Army under governing environmental cleanup agreements for the Presidio.

financial model would not be material to the financial results, and would make it more difficult for public reviewers to compare one alternative to another.

Operating expenses include on-going personnel and non-personnel costs associated with facilities and infrastructure maintenance, open space and landscaped areas maintenance, planning, real estate leasing and management, legal, and administrative services. In the financial model, these costs are assumed to be at their highest (at approximately $51 million per year) between 2002 and 2006, when the Trust is in its early years and management needs – to get projects started and completed – are greatest.

As the bulk of projects are completed, operating expenses associated with facilities, legal, planning, real estate and operations divisions are projected to decrease by 10 percent in 2007, 2013 and 2020. Expenses associated with public safety, special events and finance and insurance are assumed to remain constant. In 2020, annual operating expenses are estimated to stabilize at approximately $38 million. In summary, variability in operating expenses is captured in the model by reducing operating expenses commensurate with overall leasing and construction activity.

KEY VARIABLES

A number of key variables drive the financial performance of the six EIS planning alternatives. These economic drivers include the land-use program (and associated capital costs), annual program expenses, the timing of Wherry Housing demolition, and residential unit conversions. It is, in part, on the basis of these financial variables that the Trust will evaluate the performance and relative costs and benefits of the different planning alternatives. These variables are among the decision criteria to be considered when selecting the Plan Alternative. These criteria are each briefly discussed below:

- *The Land Use Program.* At the heart of each of the six EIS planning alternatives is the conceptual land use program (see the body of the EIS document for a detailed description of the land use program for each planning alternative). Each alternative has a different mix of land uses. Obviously, some uses generate more revenue than other uses do, and those alternatives that have greater amounts of square footage devoted to high-revenue-generating uses tend to perform better financially. In general, high-revenue-generating uses include residential space (varies by residential neighborhood and ranges from $10 to $24 per square foot per year), office space (ranges from $20 to $30 per square foot per year), retail space ($18 per square foot per year), and lodging space (ranging from $0 to $26.75 per square foot per year). Similarly, lower-revenue generating uses include conference space ($0 per square foot per year), industrial/warehouse space ($12 per square foot per year), cultural/educational space ($9 per square foot per year), and recreational space ($5 per square foot per year). Residential rents for current unit configurations were provided to Sedway Group by the Presidio Trust, based on current actual leases. Non-residential rents were based on Sedway Group's market research of comparable buildings and actual Presidio Trust leases. To be conservative, rental rates for office space are based on a seven-year trend of Class B and Class C office space in San Francisco. In the GMPA 2000 alternative, a percentage of the non-residential space is assumed to be provided to mission-based (non-profit) office tenants at a subsidized rate ($9 per sf).

  In addition, each of the planning alternatives, depending on its emphasis, incurs a unique mix of capital costs. To ensure a valid comparison, each alternative operates under a set of common, per-unit capital cost assumptions. However, the variation in each alternative's land use program generates a unique mix of costs for each alternative. As was explained earlier in this technical memorandum, capital improvements are funded according to an assumed prioritization. Therefore, the level and type of capital costs associated with implementing each alternative affects its financial performance. For example, an alternative with high capital costs will take longer to implement than

an alternative with low capital costs. In addition, per unit rehabilitation costs vary by land use (e.g., the conversion of non-residential buildings into lodging uses is the most expensive rehabilitation effort). Therefore, the mix of land uses affects both the revenue-generating potential and total capital costs of each alternative, and, hence, has the potential to affect both short-term financial self-sufficiency and long-term financial sustainability.

- *Annual Program Expenses.* Similarly, each of the planning alternatives, depending on its emphasis, includes a different assumption about the desired level of annual program expenses. Depending on the alternative, these annual program expenses vary from $2 million to $10 million, as follows: $2 million in the GMPA 2000 and Minimum Management alternatives; $8 million in the Resource Consolidation and Sustainable Community alternatives; and $10 million in the Cultural Destination and Draft Plan alternatives. In the financial model, the level of programming affects both financial self-sufficiency and financial sustainability. Program expenses affect financial self-sufficiency because they are part of total operating expenses, and, hence, influence the amount of money that is left over after total operating expenses are subtracted from total revenues in FY 2013. Program expenses also affect financial sustainability because they influence the cash flow available to fund capital improvements and capital replacement reserves over the long-term.

- *The Timing of Wherry Housing Demolition.* Wherry Housing is a significant revenue source for the Presidio, generating about $11.5 million a year. As Wherry Housing is removed, the Trust would lose this revenue source and incur a significant capital cost to demolish Wherry Housing. (The Trust estimates that it will cost about $22.8 million to demolish the entire residential complex.). Therefore, leaving Wherry Housing in service for leasing as long as possible has a significant positive effect on the financial performance of the planning alternatives. The longer the Presidio Trust can collect revenues from Wherry Housing, the longer it can use these revenues to fund the capital improvement program.

  Public scoping comments indicated strong support for delaying the demolition of Wherry Housing so that its revenues could be used to fund other operating expenses and capital improvements. In response to these comments, the Trust modified its assumptions about the timing of Wherry Housing demolition. For financial modeling purposes, in all but one alternative, a portion of Wherry Housing is retained for the full 20-year period of the model. Wherry Housing is demolished one-third by 2013 and the remaining two-thirds by 2020. In the GMPA 2000 Alternative, Wherry Housing is retained for use throughout the planning horizon and is demolished entirely by 2013. A previous financial analysis of the GMPA 2000 Alternative demonstrated that demolishing Wherry Housing early (i.e., during the first four years of the analysis period) resulted in the alternative being financially infeasible in FY 2013. The current timing assumption in the GMPA 2000 alternative is consistent with the GMPA, which called for Wherry Housing to be removed at the end of the 1994 GMPA planning period.

- *Residential Unit Conversions.* Several residential buildings at the Presidio contain housing units that are not well-suited to meet the bulk of Presidio-based or regional residential demand. For example, the Presidio has a relatively large proportion of both very small, dorm-style residential barracks and very large, five- and six-bedroom houses. The Presidio currently does not have a large number of one- and two-bedroom units, which are generating the highest demand in today's market. To address this disparity, certain planning alternatives (i.e., the Draft Plan Alternative, the Resource Consolidation Alternative, and the Sustainable Community Alternative) contemplate converting some of these hard-to-market properties into more marketable units. The cost to convert these units is relatively high ($200 per square foot), and the converted units are not expected to generate substantially higher revenues than the units do in their original configuration. Thus, while the converted units may meet the projected housing demand of Presidio-based residents, there is a

minimal economic benefit to performing the conversion, based on the assumptions used in the financial model.

FINANCIAL PERFORMANCE OF ALTERNATIVES

The following discussion outlines the financial performance of each of the alternatives. As indicated in the methodology section of this technical memorandum, the financial performance of each of the EIS alternatives is a direct result of the land-use program unique to that alternative, as well as the common and alternative-specific assumptions. Summary operating results for FY 2013 are shown in Attachment D (2013 Snapshot). A Project Summary sheet, which provides information on the timing of the completion of the capital projects and completion of the implementation phase, is included as Attachment E. Detailed financial summary sheets for each alternative are also provided as Attachments F through K. The following presents the key points relative to the financial performance of each EIS alternative.

GMPA 2000 Alternative

As indicated in the EIS and the 2013 Snapshot (Attachment D), the GMPA 2000 Alternative is financially self-sufficient and financially sustainable. The model estimates that capital projects are completed in approximately 2035, and that the Presidio's implementation phase is completed in approximately 2065.

Programs. The relatively low level of program-related costs ($2 million per year) has a major effect on the financial performance of the GMPA 2000 Alternative relative to other program-intensive alternatives (e.g., Draft Plan, Resource Consolidation and Sustainable Community). Spending less on programs means that more money is available over the long-term to pay for capital improvements and reserves, and this shortens the time needed to complete the capital program and achieve long-term financial sustainability.

Residential Space. In this alternative, the rehabilitation of existing residential dorm and apartment units is not as extensive as it is in other EIS planning alternatives. In the GMPA 2000 Alternative, residential rehabilitation is completed by 2004. The relatively lower cost of this residential rehabilitation means that funds are left over during the early years of the planning period to complete non-residential rehabilitation projects as well.

Additionally, in this alternative, the Trust receives building rents for all residential space, rather than ground rent from a third-party builder of residential units (see Financial Model Assumptions and Documentation Binder for a complete breakdown of rents by use). These assumptions result in fairly high residential revenues during the first five to ten years of the planning period, at which point several non-historic housing neighborhoods are scheduled for demolition. Wherry Housing is fully demolished in 2012, resulting in a loss of approximately $11.5 million annually thereafter.

Non-residential Space. Non-residential revenues grow slowly through the first several years, picking up pace as lodging revenues begin to accumulate. By 2013, the first year in which the Trust receives no federal appropriations, the Trust has $4.1 million to spend on capital projects. By 2020 approximately $6.4 million is available (over and above operating expenses) to fund capital projects.

- Lodging. Lodging uses are an important component of the revenues generated in the GMPA 2000 Alternative, accounting for almost 20 percent of all annual non-residential revenues (after the reuse plan has been fully implemented). However, rehabilitating Presidio buildings for lodging and conference space is relatively expensive, and, as a result, it absorbs more of the cash available for

capital improvements. This in turn lengthens the amount of time required to complete the capital program.

- Office. More than half of the available office space at the Presidio (i.e., all office space that is not encumbered by existing long-term leases) is dedicated to program-related, mission-enhancing tenants. This space is leased at rental rates assumed for cultural/educational tenants at the Presidio ($9 per square foot per year). In addition, in conformance with the objectives of the 1994 GMPA, warehouse space is also assumed to be rented to mission-related tenants at $9 per square foot per year. It is also assumed that new buildings (constructed by third parties) would be restricted in leasing to mission-related tenants, which reduces the value of the land underneath the building effectively to zero. As a result, no ground lease revenues are collected by the Presidio Trust for building uses under this constraint (office and warehouse). Renting space to program-related, mission-enhancing tenants reduces the total gross potential revenue that could be generated from Presidio office space.

Sensitivity Analysis. Sensitivity analyses[2] indicate that the GMPA 2000 Alternative cannot bear significant downturns in market rents and still remain viable. A decrease in non-residential revenues of 10 percent and a decrease in residential revenues of five percent results in marginal self-sufficiency (revenues exceed expenses in 2013 by only $1.1 million). The capital program would be completed between approximately 2045 and 2050 and the implementation phase would be completed in approximately 2100.

The alternative is not self-sufficient given a 20 percent decrease in non-residential revenues and a 10 percent decrease in residential revenues.

Draft Plan Alternative

The Draft Plan Alternative is financially self-sufficient in 2013 and financially sustainable in the long-term. The $546 million capital program, largest among all the EIS alternatives, is completed between approximately 2025 and 2030. The capital program for the this alternative is the highest due to (1) its emphasis on conversion of barracks and other residential space to appropriately-sized and styled residential units, and (2) rehabilitation of existing historic non-residential structures for cultural and educational uses. The implementation phase ends between approximately 2035 and 2040.

Programs. In 2006, annual program expenses increase from $2 million to $10 million. This absorbs a considerable portion of the excess cash that would be available for rehabilitation of non-residential space.

Residential Space. Rehabilitation of existing residential space is extensive (totaling $41 million) in this alternative during the early years of the planning period. This extensive renovation limits the availability of cash to fund non-residential rehabilitation. However, as the residential rehabilitation is completed in 2004, the alternative generates significant residential revenues due to the large amount of existing residential space. These revenues are used to complete non-residential capital projects that in turn generate additional revenues for other projects.

In this alternative, the substantial component of residential conversions to smaller units begins in approximately 2007. In some cases, these residential projects generate new revenues and in others the

[2] Two sensitivity analyses were conducted for each EIS alternative. In the first, non-residential per-square-foot rents were reduced by 10 percent and residential per-square-foot rents were reduced by five percent. In the second sensitivity, non-residential per-square-foot rents were reduced by 20 percent and residential per-square-foot rents were reduced by 10 percent. All other assumptions were consistent with the base case financial analysis of each alternative.

incremental difference is marginal. The $107 million required for conversion of residential units is phased from 2007 through 2020 and absorbs the majority of revenue available for funding building rehabilitation projects.

In 2013, after the loss of congressional appropriations and the demolition of one-third of Wherry Housing, roughly $15 million is available to fund capital projects. Over the last several years of the model the majority of excess revenues fund residential conversions and the demolition Wherry Housing. By 2020, approximately $12.5 million is available to fund capital projects, of which $120 million remains to be completed.

Sensitivity Analysis. A sensitivity analysis indicates that the alternative can bear a decline in market rents and remain self-sufficient. The alternative is still self-sufficient in 2013 with a 10 percent decrease in non-residential rents and a five percent decrease in residential rents. The capital program is completed between approximately 2030 to 2035 and the implementation phase is completed between approximately 2050 and 2055.

However, with a 20 percent decrease in non-residential rents and a 10 percent decrease in residential rents, the alternative is only marginally self-sufficient and not sustainable. Under this sensitivity, total annual revenues would exceed total annual expenses by $4 million in 2013, leaving minimal cash to complete capital projects. The model estimates that the capital program is completed between approximately 2055 and 2060, with completion of the implementation phase after 2100.

Resource Consolidation Alternative

The Resource Consolidation Alternative is financially self-sufficient and sustainable. The $449 million capital program, among the smallest of all the EIS alternatives, is estimated to be completed between 2025 and 2030. The implementation phase ends between approximately 2035 and 2040.

Programs. Annual program expenses are scheduled to increase to $8 million in 2006, limiting the availability of excess cash to fund capital projects.

Capital Improvements. A substantial amount of demolition and park-wide infrastructure improvements (both of which are the highest among all the EIS alternatives) absorbs a relatively large proportion of early-year cash flow. This is money that would otherwise be used to fund building rehabilitation, that in turn could generate additional revenues. This cost is offset by a lower amount of total square footage (which requires relatively fewer capital dollars) and a relatively higher percentage (nearly 40 percent) of new square footage. New construction projects can be phased in as appropriate, rather than held until sufficient excess cash is available to fund the improvements. However, because this new construction is on a ground lease, it generates lower revenues for the Trust.

The amount of funds available to complete capital projects over the last 10 years of the model is limited in this alternative due to three reasons: (1) the continuing high cost of park-wide infrastructure improvements through 2020, (2) the end of federal appropriations in 2012, and (3) the loss of a portion of Wherry Housing residential revenues. By 2013, approximately $11.7 million in excess cash is available to fund capital projects. This amount increases only slightly to $12.1 million in 2020 as a result of the loss of revenues associated with Wherry Housing.

These revenue reductions are offset however by the relatively large amount of new residential units and new non-residential space, both of which do not require Trust financing. This new space also can be phased in as appropriate, according to the policy goals of the Trust for this alternative.

Sensitivity Analysis. Sensitivity analyses indicate that the Resource Consolidation Alternative is not likely to remain viable if market rents decline significantly. A 10 percent decrease in non-residential revenues and a five percent decrease in residential revenues results in a financially self-sufficient but marginally sustainable alternative. The capital program would be completed between approximately 2045 and 2050 and the implementation phase would end between approximately 2090 to 2095.

This alternative becomes only marginally self-sufficient and financially unsustainable if non-residential rents are reduced by 20 percent and residential rents are reduced by 10 percent. Total revenues would exceed total expenses by $1.2 million in 2013. However, by 2020 (after the loss of Wherry Housing revenues), expenses would exceed revenues and the capital program would not be completed.

Sustainable Community Alternative

The Sustainable Community Alternative is financially self-sufficient in FY 2013 and financially sustainable in the long-term. The capital program, totaling $484 million, is completed in 2020, and the implementation phase ends between approximately 2025 and 2030.

Programs. Beginning in 2006, dollars allocated to program expenses increases from $2 million to $8 million per year, limiting the dollars available to fund capital projects.

Residential Space. This alternative emphasizes the reuse of existing housing units. This policy results in a substantial initial capital investment in residential rehabilitation (about $44 million between 2001 and 2004). Accordingly, fewer capital dollars are directed to non-residential rehabilitation during these early years. However, once these housing units are rehabilitated, significant revenues are generated by this residential space, which can used to fund non-residential capital projects.

Between roughly 2008 and 2010, nearly $40 million is directed to convert existing housing units into smaller residential units. Once completed, as mentioned, this residential space generates revenues to fund the rehabilitation of non-residential uses throughout the park. Park revenues are again decreased slightly in 2012, when one-third of Wherry Housing is demolished.

Non-residential Space. Owing to strong residential revenues during the early years of the planning period, the majority of non-residential space has been rehabilitated by 2013. In addition, by 2013, non-residential revenues are already at about 85 percent of their stable-state level.

Capital Improvements. Although one-third of the revenues associated with Wherry Housing is lost by 2013, about $17 million in cash is still available at this time to fund capital projects. This high level of excess cash in 2013 allows the capital program to be completed by 2020.

Sensitivity Analysis. Sensitivity analyses indicate that the Sustainable Community Alternative could bear declines in market rents and still remain viable. A 10 percent decrease in non-residential revenues and a five percent decrease in residential revenues results in a self-sufficient and sustainable alternative. The capital program would be completed between approximately 2025 and 2030 and the implementation phase would end between approximately 2040 and 2045.

The alternative would be self-sufficient and marginally sustainable given a 20 percent decrease in non-residential revenues and a 10 percent decrease in residential revenues. Under this scenario, the capital program is completed between approximately 2035 and 2040 and the implementation phase would end between approximately 2065 and 2070.

Cultural Destination Alternative

The Cultural Destination Alternative is financially self-sufficient in 2013 and financially sustainable over the long-term. The model estimates that the capital improvements program of approximately $521 million is completed between approximately 2025 and 2030. The implementation phase ends in approximately 2040.

Programs. In 2006, program expenses increase from $2 million to $10 million per year, reflecting this alternative's emphasis on cultural and community programs. This emphasis on programs, however, limits the dollars available for capital improvements and slows the pace of revitalization of the park (Between 2006 and 2020, about $120 million more is spent on programs in the Cultural Destination Alternative than the GMPA 2000 and Minimum Management alternatives.). These annual program dollars are monies that would otherwise fund rehabilitation and conversion of existing residential and non-residential buildings. Therefore, the time required to complete the capital program is extended considerably.

Residential Space. Residential rehabilitation is moderate in this alternative, and this allows excess cash flow to fund capital projects during the early years of the implementation phase. Several additional conversions of existing residential square footage (including barracks) to residential units is scheduled to occur over the last 10 years of the financial model. This however also limits the monies available for non-residential rehabilitation.

New residential construction is phased in as appropriate, due to the demolition of existing housing neighborhoods such as Wherry Housing. Because new residential construction is financed by third-party developers, park revitalization can occur more rapidly and does not have to wait for the Trust to generate sufficient funds. Instead, new construction can be phased in according to the policy goals established by the Trust. However, the ground lease revenues associated with new residential space are approximately one-fifth of those associated with Trust-owned and operated buildings.

Capital Improvements. By 2013, the first year the Trust is assumed to receive no congressional appropriations, and two years after the loss of one-third of Wherry Housing revenues, the alternative generates approximately $12.6 million dollars. This money is immediately available to fund capital projects. After the demolition of the remainder of Wherry Housing in 2020, the alternative generates approximately $11.1 million (over and above operating expenses) to fund capital projects.

Sensitivity Analysis. Sensitivity analyses indicate that the Cultural Destination Alternative is not likely to remain viable given substantial declines in market rents. A 10 percent decrease in non-residential revenues and a five percent decrease in residential revenues results in a self-sufficient and marginally sustainable alternative. The capital program is completed between approximately 2045 and 2050 and the implementation phase would end between about 2070 and 2075.

The alternative would not be self-sufficient given a 20 percent decrease in non-residential revenues and a 10 percent decrease in residential revenues (In this scenario, expenses would exceed revenues by roughly $3 million in 2013).

Minimum Management

The Minimum Management alternative is both financially self-sufficient and financially sustainable. Despite having the highest amount of square footage, the alternative has the lowest amount of capital improvements, totaling $445 million. This is because the alternative calls for minimal demolition, natural infrastructure improvements, residential unit conversions and rehabilitation of buildings for more

expensive uses, such as lodging. The capital program is completed in 2013, and the implementation phase ends in 2015.

Programs. Annual program expenses remain stable throughout the planning period at $2 million, allowing available cash to fund the rehabilitation of non-residential space.

Residential Space. Substantial residential revenues are available during the early years of the planning period to fund capital projects. This is because all existing housing units are retained in this alternative. Because neither Wherry Housing, nor any other housing, is demolished, the alternative does not suffer a reduction in residential revenues, as does each of the other alternatives.

Non-residential Space. Due to the high amount of office space in this alternative (nearly 40 percent of the total square footage), non-residential revenues are substantial.

Capital Improvements. Due to the combined effect of low capital costs, minimal annual program expenses, and the availability of significant revenues in early years, the capital program is completed early relative to the other EIS planning alternatives.

Sensitivity Analysis. Sensitivity analyses indicate that the Minimum Management Alternative can bear significant declines in market rents and still remain viable. A 10 percent decrease in non-residential revenues and a five percent decrease in residential revenues results in a self-sufficient and sustainable alternative. The capital program is completed in 2014 and the implementation phase would end in 2017.

The alternative would also be both financially self-sufficient and financially sustainable given a 20 percent decrease in non-residential revenues and a 10 percent decrease in residential revenues. Under this scenario, the capital program is completed in 2017 and the implementation phase would end in 2019.

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ASSUMPTIONS AND GENERAL LIMITING CONDITIONS

Sedway Group has made extensive efforts to confirm the accuracy and timeliness of the information contained in the financial model and this technical memorandum. Such information was compiled from a variety of sources, including interviews with Presidio Trust officials, review of Presidio Trust documents, and other third parties considered to be reliable. Although Sedway Group believes all information in the financial model and this technical memorandum is correct, it does not warrant the accuracy of such information and assumes no responsibility for inaccuracies in the information provided by third parties. We have no responsibility to update this report for events and circumstances occurring after the date of this report. Further, no guarantee is made as to the possible effect on development of present or future federal, state or local legislation, including any regarding environmental or ecological matters.

The accompanying projections and analyses are based on estimates and assumptions developed in connection with the financial model and this technical memorandum. In turn, these assumptions, and their relation to the projections, were developed using currently available economic data and other relevant information. It is the nature of forecasting, however, that some assumptions may not materialize, and unanticipated events and circumstances may occur. Therefore, actual results achieved during the projection period will likely vary from the projections, and some of the variations may be material to the conclusions of the analysis.

Contractual obligations do not include access to or ownership transfer of any electronic data processing files, programs or models completed directly for or as by-products of this research effort, unless explicitly so agreed as part of the contract.

This report may not be used for any purpose other than that for which it is prepared, that is for publication in the EIS. In the future, neither all nor any part of the contents of the financial model and this technical memorandum shall be disseminated to the public through publication advertising media, public relations, news media, sales media, or any other public means of communication without prior written consent and approval of Sedway Group.

The financial model was designed as an illustrative "planning" tool to test the comparative economic implications of different conceptual planning models for the Presidio. It was not designed to be a budgetary or accounting tool, and therefore, its results should not be interpreted as what *will* occur at the Presidio. Instead, its results should be interpreted as what *could* occur at the Presidio, given a certain set of planning, market, phasing, financing, and operational assumptions. It is important to note that the Presidio Trust has not determined the timing of rehabilitation, demolition, and new construction at the Presidio and, therefore, any timing assumptions included in the financial model should be interpreted only as a means to facilitate the comparison of EIS planning alternatives.

ATTACHMENTS

Attachment A:	Land Use Program	(Source: The Presidio Trust)
Attachment B:	Residential Program	(Source: The Presidio Trust)
Attachment C:	List of Assumptions	(Source: Bay Area Economics)
Attachment D:	2013 Snapshot	(Source: Sedway Group)
Attachment E:	Project Summary	(Source: Sedway Group)
Attachment F:	GMPA 2000 Detailed Summary	(Source: Sedway Group)
Attachment G:	Draft Plan Detailed Summary	(Source: Sedway Group)
Attachment H:	Resource Consolidation Detailed Summary	(Source: Sedway Group)
Attachment I:	Sustainable Community Detailed Summary	(Source: Sedway Group)
Attachment J:	Cultural Destination Detailed Summary	(Source: Sedway Group)
Attachment K:	Minimum Management Detailed Summary	(Source: Sedway Group)

Planning Area	SQUARE FOOTAGE TOTALS BY USE AND PLANNING AREA																							
	ALT A - GMPA 2000 (NO ACTION)				DRAFT PLAN (new)				ALTERNATIVE B				ALTERNATIVE C				ALTERNATIVE D (old Draft Plan)				MINIMUM MANAGEMENT (old EC)			
	Total Proposed Sq Ft	Existing (to be Rehabbed)	New Construction	Total Demolition	Total Proposed Sq Ft	Existing (to be Rehabbed)	New Construction	Total Demolition	Total Proposed Sq Ft	Existing (to be Rehabbed)	New Construction	Demolition	Total Proposed Sq Ft	Existing (to be Rehabbed)	New Construction	Total Demolition	Total Proposed Sq Ft	Existing (to be Rehabbed)	New Construction	Total Demolition	Total Proposed Sq Ft	Existing (to be Rehabbed)	New Construction	Total Demolition
MAIN POST/CRISSY/STABLES																								
Industrial/Warehouse	140,320	140,320	0		-11,430	-11,430	0		-11,430	-11,430	0		-11,430	-11,430	0		-11,430	-11,430	0		229,100	229,100	0	
Office	459,833	359,833	100,000		570,036	557,036	13,000		699,988	521,988	178,000		622,549	516,049	106,500		677,036	557,036	120,000		661,494	661,494	0	
Retail	105,011	105,011	0		57,109	57,109	0		78,181	53,181	25,000		130,000	95,500	34,500		82,109	57,109	25,000		207,362	207,362	0	
Lodging	47,902	47,902	0		101,830	26,830	75,000		92,830	26,830	66,000		92,830	26,830	66,000		259,944	79,944	180,000		0	0	0	
Conference	134,383	134,383	0		79,115	24,115	55,000		24,115	24,115	0		48,605	48,605	0		84,115	24,115	60,000		24,115	24,115	0	
Recreational	33,867	33,867	0		86,157	86,157	0		55,377	55,377	0		170,899	160,899	10,000		111,157	86,157	25,000		33,867	33,867	0	
Cultural/Educational	223,155	223,155	0		569,513	519,513	50,000		510,991	367,991	143,000		529,371	341,371	188,000		569,513	519,513	50,000		108,534	108,534	0	
Residential	224,765	224,765	0		246,703	196,703	50,000		255,238	180,238	75,000		267,023	267,023	0		202,124	127,124	75,000		273,933	273,933	0	
Infrastructure	20,523	20,523	0		17,298	17,298	0		17,298	17,298	0		17,298	17,298	0		17,298	17,298	0		21,029	21,029	0	
Military	3,658	3,658	0		3,658	3,658	0		3,018	3,018	0		3,018	3,018	0		3,658	3,658	0		3,658	3,658	0	
Parking Structure	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Trust/NPS Operations	191,755	191,755	0		191,755	191,755	0		191,755	191,755	0		191,755	191,755	0		191,755	191,755	0		191,755	191,755	0	
SUBTOTAL	**1,585,172**	**1,485,172**	**100,000**	**269,675**	**1,911,741**	**1,668,741**	**243,000**	**86,183**	**1,917,361**	**1,430,361**	**487,000**	**321,486**	**2,061,918**	**1,656,918**	**405,000**	**97,529**	**2,187,279**	**1,652,279**	**535,000**	**102,563**	**1,751,847**	**1,751,847**	**0**	**0**
LETTERMAN																								
Industrial/Warehouse	148,518	148,518	0		10,000	10,000	0		10,000	10,000	0		10,000	10,000	0		10,000	10,000	0		59,017	59,017	0	
Office	1,055,503	1,055,503	0		1,091,779	1,091,779	0		1,468,159	1,156,159	312,000		1,079,079	1,079,079	0		1,091,779	1,091,779	0		1,152,524	1,152,524	0	
Retail	50,000	50,000	0		118,672	118,672	0		107,292	54,292	53,000		131,372	131,372	0		118,672	118,672	0		50,000	50,000	0	
Lodging	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Conference	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Recreational	25,754	25,754	0		25,754	25,754	0		25,754	25,754	0		0	0	0		25,754	25,754	0		25,754	25,754	0	
Cultural/Educational	0	0	0		41,090	41,090	0		41,090	41,090	0		41,090	41,090	0		41,090	41,090	0		0	0	0	
Residential	77,680	77,680	0		177,680	77,680	100,000		100,000	0	100,000		77,680	77,680	0		410,000	0	410,000		77,680	77,680	0	
Infrastructure	7,918	7,918	0		398	398	0		398	398	0		398	398	0		398	398	0		398	398	0	
Military	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Parking Structure	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Trust/NPS Operations	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
SUBTOTAL	**1,365,373**	**1,365,373**	**0**	**0**	**1,465,373**	**1,365,373**	**100,000**	**0**	**1,752,693**	**1,287,693**	**465,000**	**77,680**	**1,339,619**	**1,339,619**	**0**	**25,754**	**1,697,693**	**1,287,693**	**410,000**	**77,680**	**1,365,373**	**1,365,373**	**0**	**0**
FORT SCOTT																								
Industrial/Warehouse	171,544	131,544	40,000		63,978	53,978	10,000		102,837	102,837	0		53,978	53,978	0		93,978	53,978	40,000		130,582	130,582	0	
Office	28,222	28,222	0		65,739	65,739	0		70,378	70,378	0		24,138	24,138	0		65,739	65,739	0		77,610	77,610	0	
Retail	0	0	0		2,910	2,910	0		2,910	2,910	0		2,910	2,910	0		2,910	2,910	0		0	0	0	
Lodging	229,409	229,409	0		48,590	48,590	0		81,691	81,691	0		81,691	81,691	0		81,691	81,691	0		0	0	0	
Conference	66,580	56,580	10,000		15,240	5,240	10,000		114,240	114,240	0		69,565	69,565	0		15,240	5,240	10,000		0	0	0	
Recreational	25,230	25,230	0		19,990	19,990	0		19,990	19,990	0		19,990	19,990	0		19,990	19,990	0		25,230	25,230	0	
Cultural/Educational	3,540	3,540	0		99,490	99,490	0		94,250	94,250	0		209,280	209,280	0		99,490	99,490	0		3,540	3,540	0	
Residential	280,598	280,598	0		540,906	390,906	150,000		341,613	197,613	144,000		270,717	270,717	0		507,805	357,805	150,000		520,588	520,588	0	
Infrastructure	404	404	0		0	0	0		0	0	0		0	0	0		0	0	0		2,518	2,518	0	
Military	26,952	26,952	0		22,831	22,831	0		22,142	22,142	0		22,142	22,142	0		22,831	22,831	0		26,952	26,952	0	
Parking Structure	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Trust/NPS Operations	22,040	22,040	0		22,040	22,040	0		22,040	22,040	0		22,040	22,040	0		22,040	22,040	0		22,040	22,040	0	
SUBTOTAL	**854,519**	**804,519**	**50,000**	**4,541**	**898,714**	**728,714**	**170,000**	**80,346**	**872,091**	**728,091**	**144,000**	**80,969**	**776,451**	**776,451**	**0**	**32,609**	**928,714**	**728,714**	**200,000**	**80,346**	**809,868**	**809,868**	**0**	**0**
EAST HOUSING																								
Industrial/Warehouse	1,327	1,327	0		0	0	0		0	0	0		0	0	0		0	0	0		1,327	1,327	0	
Office	12,270	12,270	0		10,040	10,040	0		10,040	10,040	0		10,040	10,040	0		10,040	10,040	0		12,270	12,270	0	
Retail	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Lodging	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Conference	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Recreational	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Cultural/Educational	61,876	61,876	0		6,410	6,410	0		6,410	6,410	0		6,410	6,410	0		6,410	6,410	0		4,180	4,180	0	
Residential	476,956	476,956	0		600,652	534,652	66,000		614,564	470,864	144,000		716,624	524,624	192,000		602,558	506,558	96,000		631,427	631,427	0	
Infrastructure	1,169	1,169	0		2,496	2,496	0		2,496	2,496	0		2,496	2,496	0		2,496	2,496	0		600	600	0	
Military	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Parking Structure	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Trust/NPS Operations	68	68	0		68	68	0		68	68	0		68	68	0		68	68	0		68	68	0	
SUBTOTAL	**553,666**	**553,666**	**0**	**96,206**	**619,666**	**553,666**	**66,000**	**96,206**	**633,878**	**489,878**	**144,000**	**159,994**	**735,638**	**543,638**	**192,000**	**106,234**	**621,572**	**525,572**	**96,000**	**124,300**	**649,872**	**649,872**	**0**	**0**
SOUTHWEST																								
Industrial/Warehouse	15,306	15,306	0		22,227	22,227	0		10,364	10,364	0		10,364	10,364	0		22,227	22,227	0		25,981	25,981	0	
Office	9,583	9,583	0		-580	-580	0		-11,675	-11,675	0		42,369	42,369	0		-580	-580	0		307,041	307,041	0	
Retail	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Lodging	84,729	84,729	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Conference	84,729	84,729	0		10,000	0	10,000		0	0	0		0	0	0		10,000	0	10,000		0	0	0	
Recreational	26,020	26,020	0		14,661	14,661	0		14,661	14,661	0		18,296	18,296	0		14,661	14,661	0		18,296	18,296	0	
Cultural/Educational	54,157	34,157	20,000		182,299	102,299	80,000		3,240	3,240	0		23,240	3,240	20,000		207,299	127,299	80,000		11,863	11,863	0	
Residential	263,088	263,088	0		372,729	332,729	40,000		3,189	3,189	0		575,533	575,533	0		169,851	129,851	40,000		928,245	928,245	0	
Infrastructure	19,901	19,901	0		21,321	21,321	0		17,792	17,792	0		21,321	21,321	0		21,321	21,321	0		21,310	21,310	0	
Military	39,339	39,339	0		27,476	27,476	0		27,476	27,476	0		27,476	27,476	0		27,476	27,476	0		39,339	39,339	0	
Parking Structure	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Trust/NPS Operations	54,372	54,372	0		54,372	54,372	0		54,372	54,372	0		54,372	54,372	0		54,372	54,372	0		54,372	54,372	0	
SUBTOTAL	**651,224**	**631,224**	**20,000**	**751,497**	**704,505**	**574,505**	**130,000**	**800,216**	**119,419**	**119,419**	**0**	**1,263,302**	**772,971**	**752,971**	**20,000**	**629,750**	**526,627**	**396,627**	**130,000**	**984,094**	**1,382,721**	**1,382,721**	**0**	**0**
TOTAL ALL PLANNING AREAS																								
Industrial/Warehouse	477,015	437,015	40,000		84,775	74,775	10,000		111,771	111,771	0		62,912	62,912	0		114,775	74,775	40,000		446,007	446,007	0	
Office	1,565,411	1,465,411	100,000		1,737,014	1,724,014	13,000		2,236,890	1,746,890	490,000		1,778,175	1,671,675	106,500		1,844,014	1,724,014	120,000		2,210,939	2,210,939	0	
Retail	155,011	155,011	0		178,691	178,691	0		188,383	110,383	78,000		264,282	229,782	34,500		203,691	178,691	25,000		257,362	257,362	0	
Lodging	362,040	362,040	0		150,420	75,420	75,000		174,521	108,521	66,000		174,521	108,521	66,000		341,635	161,635	180,000		0	0	0	
Conference	285,692	275,692	10,000		104,355	29,355	75,000		138,355	138,355	0		118,170	118,170	0		109,355	29,355	80,000		24,115	24,115	0	
Recreational	110,871	110,871	0		146,562	146,562	0		115,782	115,782	0		209,185	199,185	10,000		171,562	146,562	25,000		103,147	103,147	0	
Cultural/Educational	342,728	322,728	20,000		895,802	763,802	130,000		655,981	512,981	143,000		809,391	601,391	208,000		920,802	790,802	130,000		104,391	104,391	0	
Residential	1,323,087	1,323,087	0		1,938,670	1,532,670	406,000		1,314,904	851,904	463,000		1,907,577	1,715,577	192,000		1,892,338	1,121,338	771,000		2,431,873	2,431,873	0	
Infrastructure	49,915	49,915	0		41,513	41,513	0		37,984	37,984	0		41,513	41,513	0		41,513	41,513	0		45,855	45,855	0	
Military	69,949	69,949	0		53,965	53,965	0		52,636	52,636	0		52,636	52,636	0		53,965	53,965	0		69,949	69,949	0	
Parking Structure	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	
Trust/NPS Operations	268,235	268,235	0		268,235	268,235	0		268,235	268,235	0		268,235	268,235	0		268,235	268,235	0		268,235	268,235	0	
SUBTOTAL	**5,009,954**	**4,839,954**	**170,000**	**1,121,919**	**5,600,802**	**4,891,802**	**709,000**	**1,070,871**	**5,295,442**	**4,055,442**	**1,240,000**	**1,906,431**	**5,686,597**	**5,069,597**	**617,000**	**892,276**	**5,961,885**	**4,590,885**	**1,371,000**	**1,370,988**	**5,961,873**	**5,961,873**	**0**	**0**

ATTACHMENT B
RESIDENTIAL PROGRAM

HOUSING UNIT SUMMARY

Planning Districts	Main Post/ Crissy	Letter-man	Fort Scott	East Housing	Southwest	Total
GMPA 2000						
Existing	139	158	360	313	684	1,654
Removed/Converted	25	0	208	106	548	887
Rehabbed	114	158	153	205	137	767
Subdivided/Created	0	0	0	0	0	0
New Construction	0	0	0	0	0	0
Total Units in 2020	**114**	**158**	**153**	**205**	**137**	**767**
Draft Plan						
Existing	139	158	360	313	684	1,654
Removed/Converted	56	0	126	144	618	944
Rehabbed	83	158	237	169	63	710
Subdivided/Created	21	0	62	176	275	534
New Construction	50	100	150	66	40	406
Total Units in 2020	**154**	**258**	**449**	**411**	**378**	**1,654**
Resource Consolidation						
Existing	139	158	360	313	684	1,654
Removed/Converted	89	158	250	126	684	1,307
Rehabbed	50	0	110	187	0	347
Subdivided/Created	0	0	0	16	0	16
New Construction	90	121	180	155	0	546
Total Units in 2020	**140**	**121**	**290**	**358**	**0**	909
Sustainable Community						
Existing	139	158	360	313	684	1,654
Removed/Converted	24	0	238	76	595	933
Rehabbed	115	158	122	237	89	721
Subdivided/Created	0	0	60	16	397	473
New Construction	0	0	0	232	0	232
Total Units in 2020	**115**	**158**	**182**	**485**	**486**	**1,426**
National and International Cultural Destination						
Existing	139	158	360	313	684	1,654
Removed/Converted	100	58	170	144	621	1,093
Rehabbed	39	100	190	169	63	561
Subdivided/Created	0	0	40	124	87	251
New Construction	90	449	188	116	48	891
Total Units in 2020	**129**	**549**	**418**	**409**	**198**	**1,703**
Minimum Management						
Existing	139	158	360	313	684	1,654
Removed/Converted	0	0	0	0	0	0
Rehabbed	0	0	0	0	0	0
Subdivided/Created	0	0	0	0	0	0
New Construction	0	0	0	0	0	0
Total Units in 2020	**139**	**158**	**360**	**313**	**684**	**1,654**

Note:

The hypothetical housing summaries in this table are financial modeling assumptions only, and have been developed solely for financial modeling purposes. These data sets represent possible reasonable scenarios for achieving each land use alternative, but are not necessarily the best or the only scenario available in each case. The data should not be interpreted or relied upon as controlling future planning or implementation decisions or actions of the Trust.

ATTACHMENT C: LIST OF ASSUMPTIONS

PTIP FINANCIAL ASSUMPTIONS

July 2001

The following are the major assumptions underlying the financial model being used by the Trust to "test" the financial results of each PTIP alternative. More detailed materials explaining these assumptions are available in the PTIP Financial Model Assumptions and Documentation binder, July 2001 that can be viewed at the Presidio Trust Library.

GENERAL

1. **Five Planning Areas**. The model refers to five planning areas:

    - Main Post/Stables/Crissy Field
    - Letterman
    - East Housing
    - Fort Scott
    - Southwest

    The Southwest contains the Public Health Services Hospital, the Presidio Forest, Presidio Hill and Lobos Creek in the vicinity of Building 1750 (Trust maintenance building).

2. **Aggregate Square Feet**. The model aggregates built or proposed square footage by potentially **similar** building use. Aside from existing leases, the model does not assume specific rents or occupancies for specific buildings.

3. **Standards of Measurement.** The model uses gross total square feet of buildings as originally measured **by** the U.S. Department of the Army and as subsequently updated by the National Park Service and Presidio Trust.

4. **Principle of Conservatism.** The model employs the principle of conservatism in formulating its financial model of the alternatives– this is, the Trust makes reasonable and prudent financial assumptions that reflect its fiduciary responsibilities as set forth in the Trust legislation.

5. **Principle of Consistency.** The model employs the principle of consistency by treating like revenues and expenses in the same manner across alternatives so that the financial performance of alternatives is comparable.

6. **Financial Self-sufficiency**. Financial self-sufficiency must be achieved by the fiscal year 2013 when federal appropriations end pursuant to the Trust Act (Public Law 104-333 as amended). An aspect of self-sufficiency includes achieving long-term financial sustainability by generating sufficient revenues not only to support Area B operations, but also to fund adequately capital needs, capital replacement, and programs without federal appropriations, beginning in fiscal year 2013.

7. **All Figures in 2001 Dollars**. The financial analysis is in 2001 dollars to facilitate evaluation and comparison.

REVENUES

8. **Non-residential Building Revenues**. The model assumes that Presidio tenants or ground lessees pay **market** rate rents as follows:

   Best Office Space titled "Class B Office": $30.00 per sf annually, plus SDC (refer to item #14 for SDC definition) and utility charges. This rent level is based upon historical Class B rental rates in San Francisco.

   Other Office Space titled "Class C Office": $20.00 per sq. ft. annual rents, plus SCD and utility charges. The model allocates 25 percent of total existing office space to this lower quality Class C Office.

   Industrial/Warehouse: $12.00 per sq. ft. annual rents, plus SDC and utilities. This rent level is based upon current and historical industrial rental rates in San Francisco.

   Retail: Retail uses are defined as those services required to support residents, businesses and visitors at the Presidio. Rents for this use are estimated to be $18.00 per sq. ft. annual rents, plus SDC and utilities. There is no percentage rent assumed. This rent level is based upon current and historical retail rental rates in San Francisco.

   Cultural/Educational: $9.00 per sq. ft. annual rents, plus SDC and utilities. This rent level is based upon current rental rates in San Francisco for similar uses.

   Recreational: $5.00 per sq. ft. annual rents, plus SDC and utilities. This rent level is based upon current rental rates in San Francisco for similar uses.

   Rehabbed Lodging and Conference facilities: Rent for the lodging component is assumed to consist of $26.75 per sq. ft. annually, plus SDC payments. Payment for the conference facility component is assumed to be SDC charges only. These payment levels are based upon the anticipated economics of the project, when completed.

   Revenue from Ground Leases

   For new construction projects, the model assumes that the Trust will receive revenues from ground leases to third-parties (see assumption #22) as follows: $3.60 per square foot for residential, $6.00 for Class B office, $4.00 for Class C office, $2.40 for industrial/warehouse, $3.60 for retail, $1.80 for cultural/educational, $3.00 for Lodging facilities, and $1.00 for recreation. In the case of new conference center facilities and lodging uses at Fort Scott, the model assumes only utilities and SDC charges.

9. **Vacancy Rates**. The model assumes a 5 percent vacancy rate for both non-residential and residential buildings. These vacancy rates are typically used in most rental markets including the San Francisco market for estimating the financial performance of office and residential properties.

10. **Existing NPS Leases and Interim Leasing Program**. Existing non-residential National Park Service (NPS) leases and existing Trust leases in place or announced as of October 1, 2000 are included with applicable terms and conditions. When leases end, space is released at then applicable market rate rents or demolished, if required, under the alternative.

11. **Letterman Digital Arts (LDA).** LDA is assumed to pay the Trust $5 million annually in ground rent as well as SDC.

12. **Non-revenue Generating Uses.** 268,000 sf of non-residential buildings are primarily designated for Trust and NPS uses that are associated with Presidio operations, including infrastructure and utility structures.

13. **Residential Building Revenues**. Residential rents are assumed based upon current rents actually received or budgeted by the Trust for fiscal year 2001. The residential revenue figures shown are net of SDC and utility charges that are included in rent but separately indicated in the model. For new residential construction, the model assumes that funding and completion will be by third parties and that the Trust will receive ground lease revenues (see assumptions #8 and #22).

14. **Service District Charge (SDC)**. The model assumes the continuation of the Trust's existing SDC program. Through the SDC, tenants reimburse the Trust for the Trust's cost of providing public safety services, Presidio-wide support services, insurance, and common area maintenance. This charge most closely resembles real estate taxes and common area charges paid by tenants in San Francisco. The current applicable annual SDC rate is $3.38 per sf.

15. **Appropriations Revenue**. Federal appropriations set at $23.4 million in fiscal year 2001, $23.1 million in 2002, and declines every year thereafter as mandated by the Trust legislation. There are no federal appropriations assumed after 2012.

16. **Treasury Borrowing Revenue**. The model assumes that the Trust reaches its Treasury borrowing authority limitation of $50 million (as set in the Trust legislation) by the end of 2002.

17. **Utility and Telecommunication Revenues.** The model assumes annual net utility and telecommunication revenue factors as follows: utilities at $0.83 per sf for non-residential buildings and $1,260 per house or apartment for residential buildings; stabilized telecom revenues at $1.01 per sq. ft. for non-residential buildings and $951 per house or apartment for residential buildings.

18. **Parking Revenues**. Parking revenues are assumed to be offset by parking and transportation demand management program expenses in recognition of the Trust's objective to reduce its overall traffic impacts to the greatest extent possible.

19. **Permit and Salvage Revenue.** These revenues represent reimbursements to the Trust for plan check and permit issuance costs as well as proceeds from salvage operations.

20. **Special Events Revenues.** Special events revenues are based upon budgeted revenues for fiscal year 2001 and grown as residential and non-residential occupancies increase.

21. **Other Parkwide Revenues/Miscellaneous Revenues.** This includes one-time revenue sources budgeted for fiscal year 2001.

EXPENSES

22. **Capital Project Funding**. The PTIP Financial Model assumes that all rehabilitation is funded and completed by the Trust and that all new construction will be funded and completed by outside third

parties. By undertaking rehabilitation projects, the Trust is able to benefit from economies of scale and lower capital costs while the assumption of new construction by third parties reduces the overall capital requirements to the Trust and the time needed to complete the PTIP capital program.

23. **Non-residential Building Rehabilitation Capital Costs**. Per sf non-residential building rehabilitation costs are based on project experience: concrete buildings at $136 per sq. ft.; masonry buildings at $131 per sq. ft.; wood frame (non-warehouse) at $144 per sq. ft.; wood frame (warehouse) at $100 per sq. ft.; and, steel at $125 per sq. ft. An additional 10 percent was added to the resulting weighted average per sq. ft. rehabilitation cost to account for contracted engineering and architectural costs.

24. **Residential Building Rehabilitation Capital Costs**. Capital costs associated with rehabilitation of existing residential units ranges from $33 to $57 million depending on the alternative. A rehab cost of $50 per sq. ft. was applied to buildings containing dorm/SRO units in the appropriate alternatives.

25. **Non-building Capital Items**. These are Presidio parkwide improvements including utility systems, telecommunications systems, roads and sidewalks, grounds, Presidio Forest and native habitat restoration. Capital costs for these items vary by PTIP alternative from $102.9 to $128.4 million.

26. **Program Capital Costs**. The model assumes the Trust will invest $10 million in capital costs for program facilities.

27. **Non-residential Demolition Costs.** Costs of non-residential buildings vary by construction type: $7.25 per sf for concrete buildings, $5.25 for wood frame buildings, and $3.75 for steel frame buildings. These costs include remediation expenses; they are based upon the Trust's actual contract bid experience and estimates from third-party sources.

28. **Demolition of Wherry Housing.** Demolition costs are estimated at $22.78 million based upon a third-party analysis and adjustment for inflation. This cost estimate includes the cost of restoring the area to a natural condition.

29. **Residential Housing Demolition (except Wherry Housing).** Costs for residential building demolition vary by construction type: $7.25 per sq. ft. for concrete buildings, $5.25 for wood frame buildings, and $3.75 for steel frame buildings. These costs include remediation expenses; they are based upon the Trust's actual experience and estimates from third-party sources.

30. **Parkwide Expenses**: Certain Trust operating costs such as facilities, legal, planning, operations, and real estate peak in 2001 and later decline in 2007, 2013, and 2020 when the Trust's overall leasing and construction activity declines.

31. **Releasing Reserves**. Releasing reserves cover the costs of marketing, brokerage commissions, cleaning, and minor upgrades (e.g. paint and carpeting) that are often required when the tenancy in a space changes. Annual releasing reserves are estimated at approximately 1 percent of revenue. Releasing reserves are not charged to new construction projects undertaken by third-parties.

32. **Special Events Expenses.** Based upon estimates provided by the Trust Operations Department.

33. **Public Safety Expenses**. Cost indicated is based upon existing agreement with the U.S. Park Police and NPS for law enforcement, fire prevention and suppression, and emergency medical response services. No long-term change in the level of service provided is assumed.

34. **Finance and Insurance Expenses.** Includes Trust actual and estimated costs of obtaining federal loan guarantees as well as property and general commercial liability insurance.

35. **Programs Expense**. This item includes the Trust's costs of providing public programming at the Presidio, including visitor experience and education programs. Program expenses range from $2 million to $10 million depending on alternative.

36. **Parking Expense**. Parking revenues are assumed to offset parking expenses (see Parking Revenues above).

37. **Reserves**. The PTIP Financial Model calculates reserves for rehabilitated buildings and parkwide infrastructure. The reserves requirement is based upon an update of estimates relied upon in the Trust Financial Management Plan (FMP) prepared by the Trust pursuant to section 105 (b) of the Trust Act. The Trust has updated the FMP reserves estimates as follows:

    - Consolidated non-residential reserves for shell and core replacement, tenant improvements, and updates of tenant improvements.
    - Re-estimated the replacement cost of reserves components, including residential, non-residential and infrastructure items.
    - Updated the useful life estimates for each component.
    - Calculated reserves using a sinking fund concept using a discount rate reflecting real rates of return.

Reserves are not charged to new construction projects undertaken by third parties.

38. **Funded Infrastructure and Reserves**. The model assumes that no reserves are funded until the entire Trust capital program is completed.

39. **Financing Expenses**. Financing expenses related to U.S. Department of Treasury loans to the Trust for capital projects. Treasury loans are calculated at interest-only for the first 15 years of each loan and then convert to a full repayment schedule over the next 15 years. The Trust's current interest rate of 6.12 percent is applied to all borrowings assumed in the model.

40. **Residential Affordability Subsidy**. The residential affordability subsidy represents costs associated with the On-Call Duty Officer's Program and Preferred Rental Program. The cost of this item varies by alternative in accordance with the number of apartments and homes available for these programs.

TIMING OF ACTIVITIES

41. **Priority of Capital Program Funding**. Capital costs prioritized to give highest funding priority to residential rehabilitation programs and then to apply available capital funds to parkwide capital projects and non-residential building rehabilitation.

LIMITING CONDITIONS

42. **Preliminary Nature of Financial Estimates**. The financial models have been prepared to compare different planning alternatives. Financial models are inherently illustrative and no models, including

these, should be taken as precise predictions of what will happen in the future or as a firm plan for how projects or plans would be implemented in the future.

43. **Environmental Remediation**. PTIP financial analysis excludes revenue and expenses related to environmental remediation, as a result of the separate $100 million agreement between the U.S. Department of the Army and the Trust. Due to the technical nature of the program and its large absolute budgeted amount, it has been excluded from the PTIP financial model to facilitate comparisons among alternatives.

44. **Area A of the Presidio**. The financial analysis does not include buildings and lands included in Area A of the Presidio managed directly by the NPS.

45. **2013 Snapshot Year**. The model provides results for year 2013 in order to facilitate comparisons of each alternative's consistency with the Trust legislation requirement for achieving short-term financial self-sufficiency by 2013.

46. **20 Year Model Horizon.** The model provides results for a 20-year time period. Dates given for items **related** to long-term financial sustainability are estimated based on extrapolations.

FY 2013 SNAPSHOT FINANCIAL SUMMARY

PRESIDIO ALTERNATIVES

Data in Millions Constant FY 2001 dollars	PTIP Alternative Alternative A GMPA 2000	Draft Plan	Alternative B Resource Consolidation	Alternative C Sustainable Community	Alternative D Cultural Destination	Minimum Management
Total Square Feet (millions)	5.0	5.6	5.3	5.7	6.0	6.0
Cash Flow Summary						
Total Annual Revenues	$53.4	$73.6	$68.1	$73.7	$71.0	$95.9
Less: Operating Expenses	($44.3)	($45.4)	($45.4)	($45.4)	($45.4)	($46.3)
Less: Programs	($2.0)	($10.0)	($8.0)	($8.0)	($10.0)	($2.0)
Less: Financing	($3.0)	($3.0)	($3.0)	($3.0)	($3.0)	($3.0)
Total Annual Operating Expenses	($49.3)	($58.4)	($56.4)	($56.4)	($58.4)	($51.3)
(1)	$4.1	$15.2	$11.7	$17.3	$12.6	$44.6
Financially Self-Sufficient?	**YES**	**YES**	**YES**	**YES**	**YES**	**YES**
Funds Available for Capital Projects	$4.1	$15.2	$11.7	$17.3	$12.6	$44.6
Less: Capital Costs	($7.2)	($11.7)	($6.2)	($16.5)	($12.4)	($44.3)
Less: Capital Replacement Set-Asides (2)	$0.0	$0.0	$0.0	$0.0	$0.0	($26.8)
2013 Net Cash Flow (3)	($3.1)	$3.5	$5.5	$0.8	$0.2	($26.5)
Capital Projects						
Total Capital Projects	$485	$546	$449	$484	$521	$445
Funded Capital Projects (as of 2013)	$279	$328	$299	$333	$304	$445
Unfunded Projects (as of 2013)	$206	$218	$150	$151	$217	$0

Notes:

(1) Financial self-sufficiency, as required by congressional mandate, is defined for the purposes of this analysis as FY 2013 total annual revenues in excess of FY 2013 total annual operating expenses.

(2) Capital replacement set-asides begin after the implementation phase has ended.

(3) Annual negative cash flow in any given year is covered by excess cash flow available from prior years.

These models have been prepared to compare different planning alternatives. They represent an illustration of what the financial results of the planning alternatives could look like based upon specific market, timing, financing,and operational assumptions. The results should not be relied upon or interpreted as a budgetary or accounting report or as controlling future implementation plans, decisions, or actions of the Presidio Trust.

PROJECT FINANCIAL SUMMARY

PRESIDIO ALTERNATIVES

Data in Years or Millions Constant FY 2001 dollars	Alternative A GMPA 2000	PTIP Alternative Draft Plan	Alternative B Resource Consolidation	Alternative C Sustainable Community	Alternative D Cultural Destination	Minimum Management
Total Square Feet (millions)	5.0	5.6	5.3	5.7	6.0	6.0
Capital Projects						
Total Capital Costs	$485	$546	$449	$484	$521	$445
Funded Projects as of 2013	$279	$328	$299	$333	$304	$445
Unfunded Projects as of 2013	$206	$218	$150	$151	$217	$0
Year Capital Program Completed (1)	approx. 2035	approx. 2025 to 2030	approx. 2025	2020	approx. 2025 to 2030	2013
Year Implementation Phase is Completed (1) (2)	approx. 2065	approx. 2035 to 2040	approx. 2045	approx. 2025 to 2030	approx. 2040	2015
Programs						
Annual Program Expenditures	($2.0)	($10.0)	($8.0)	($8.0)	($10.0)	($2.0)

Notes:

(1) Completion years that fall beyond the 20-year timeframe of the financial model are approximations.

(2) The implementation phase is terminated after the completion of all capital projects and the funding of all capital replacement reserves.

These models have been prepared to compare different planning alternatives. They represent an illustration of what the financial results of the planning alternatives could look like based upon specific market, timing, financing,and operational assumptions. The results should not be relied upon or interpreted as a budgetary or accounting report or as controlling future implementation plans, decisions, or actions of the Presidio Trust.

ALTERNATIVE A - GMPA 2000

Scenario: Base Case
Constant, 2001 dollars

DRAFT WORKING OUTPUT - Alternative A - GMPA 2000

REVENUES	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TOTAL
NON-RESIDENTIAL BUILDING REVENUES																					
Non-Residential Building Revenues	8,071,785	11,033,206	14,148,846	13,966,596	9,032,441	10,558,537	10,910,423	13,289,852	13,289,852	15,098,531	14,714,398	14,671,595	14,807,514	14,807,514	14,810,014	14,837,514	14,837,514	14,837,514	14,837,514	14,677,514	267,238,670
Non-Residential Service District Charge Revenue	2,578,138	4,911,471	6,463,692	6,541,002	5,842,106	6,261,371	6,536,226	7,089,621	7,376,005	7,772,323	7,586,298	7,860,388	8,145,833	8,145,833	8,145,833	8,145,833	8,145,833	8,145,833	8,145,833	8,145,833	141,985,305
RESIDENTIAL BUILDING REVENUES																					
Net Residential Building Revenues	20,041,810	19,292,551	22,791,764	26,298,739	28,052,227	27,477,772	26,903,317	26,903,317	26,903,317	26,049,548	21,415,371	17,014,934	17,014,934	17,014,934	17,014,934	17,014,934	17,014,934	17,014,934	17,014,934	17,014,934	425,264,139
Residential Service District Charge Revenues	0	4,527,437	5,354,450	6,181,463	6,594,970	6,487,999	6,381,028	6,381,028	6,381,028	6,228,139	5,256,367	4,272,582	4,272,582	4,272,582	4,272,582	4,272,582	4,272,582	4,272,582	4,272,582	4,272,582	98,227,148
Residential Utility Revenues	0	1,015,967	1,201,551	1,387,135	1,479,926	1,449,993	1,420,059	1,420,059	1,420,059	1,381,589	1,193,006	918,675	918,675	918,675	918,675	918,675	918,675	918,675	918,675	918,675	21,637,418
NON-BUILDING/PARKWIDE REVENUES																					
Appropriations	23,400,000	23,125,000	22,500,000	21,875,000	21,250,000	20,625,000	20,000,000	19,375,000	18,750,000	18,125,000	17,500,000	16,875,000	0	0	0	0	0	0	0	0	243,400,000
Treasury Borrowing	22,500,000	17,500,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40,000,000
Utilities & Telecom	3,070,800	2,987,894	4,098,845	4,283,327	4,073,397	4,203,677	4,255,700	5,107,282	5,268,963	5,462,650	5,119,881	4,963,435	5,119,022	5,119,022	5,119,022	5,119,022	5,119,022	5,119,022	5,119,022	5,119,022	93,848,022
Parking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Permit and Salvage	1,251,750	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	7,704,359
Special Events	752,650	772,595	793,069	814,085	835,659	857,804	880,535	903,870	927,822	952,409	977,648	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	18,500,149
Other Parkwide (1)	1,459,727	1,556,711	1,481,155	1,505,679	1,535,792	1,566,508	1,597,838	1,629,795	1,662,391	1,695,639	1,729,551	1,764,142	1,799,425	1,835,414	1,872,122	1,909,564	1,947,756	1,986,711	2,026,445	2,026,445	34,588,810
Letterman Demo	8,000,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,000,000
Other Misc.	4,779,720	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,779,720
Other 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES	95,906,380	87,062,443	79,172,982	83,192,638	79,036,128	79,828,271	79,224,736	82,439,433	82,319,047	83,105,439	75,832,132	69,683,918	53,421,151	53,457,140	53,496,348	53,561,290	53,599,482	53,638,437	53,678,171	53,518,171	1,405,173,740
EXPENSES																					
CAPITAL COSTS																					
Non-residential Building Capital Costs	9,977,501	10,664,497	8,976,421	9,559,417	12,170,678	14,394,471	15,797,176	17,894,927	18,909,677	9,108,185	9,959,726	1,744,128	0	0	0	0	0	0	0	0	139,156,804
Residential Building Capital Costs (2)	8,202,548	8,308,728	8,308,728	8,308,728	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33,128,732
Non-building Capital Items	10,431,000	5,230,342	5,230,342	5,230,342	5,230,342	5,230,342	5,230,342	5,230,342	5,230,342	5,230,342	5,230,342	5,230,342	5,230,342	5,230,342	5,230,342	5,230,342	1,087,342	226,265	2,224,546	6,448,840	98,873,128
Program Capital Costs		0	0	0	0	0	3,333,333	3,333,333	3,333,333	0	0	0	0	0	0	0	0	0	0	0	10,000,000
DEMOLITION COSTS																					
Non-Residential Demolition Costs	8,000,000	0	312,491	312,491	1,795,004	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,419,986
Baker Housing Demolition (3)	0	0	0	0	0	0	0	0	0	0	0	11,000,000	1,946,534	1,946,534	1,946,534	1,946,534	1,946,534	1,946,534	0	0	22,679,205
Residential Demo (except Baker)	0	0	0	0	0	0	0	0	0	0	454,146	0	0	0	0	0	0	0	0	0	454,146
PARKWIDE EXPENSES																					
Facilities	21,497,223	21,500,000	21,500,000	21,500,000	21,500,000	21,500,000	19,350,000	19,350,000	19,350,000	19,350,000	19,350,000	19,350,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	15,050,000	380,547,223
Legal	2,569,474	2,600,000	2,600,000	2,600,000	2,600,000	2,600,000	2,340,000	2,340,000	2,340,000	2,340,000	2,340,000	2,340,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	1,820,000	45,989,474
Planning	6,731,146	6,700,000	6,700,000	6,700,000	6,700,000	6,700,000	6,030,000	6,030,000	6,030,000	6,030,000	6,030,000	6,030,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	4,690,000	118,621,146
Real Estate	3,602,386	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,240,000	3,240,000	3,240,000	3,240,000	3,240,000	3,240,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,520,000	63,722,386
Operations	9,843,447	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	8,370,000	8,370,000	8,370,000	8,370,000	8,370,000	8,370,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	6,510,000	165,153,447
Releasing Reserves	0	358,692	434,966	478,339	451,596	459,743	456,148	479,943	479,943	487,578	425,791	368,778	370,137	370,137	370,162	370,437	370,437	370,437	370,437	368,837	7,842,538
Special Events	998,136	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	10,498,136
Public Safety	5,950,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	119,950,000
Finance and Insurance	635,250	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	12,035,250
Programs	1,806,347	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	39,806,347
Parking (4)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESERVES/SET-ASIDES																					
Scheduled Infrastructure and Building Reserves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Funded Infrastructure and Reserve Deficit		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER EXPENSES																					
Financing	1,100,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	5,265,385	5,255,201	5,244,440	5,233,070	5,221,057	5,208,363	72,320,515
Residential Affordability Subsidy	0	3,752,820	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,337,920	2,514,120	1,802,131	1,802,131	1,802,131	1,802,131	1,802,131	1,802,131	1,802,131	1,802,131	1,802,131	49,920,278
Misc.	4,055,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,055,000
TOTAL EXPENSES	95,399,458	84,176,079	82,566,268	83,192,638	78,950,939	79,387,876	79,750,319	81,871,866	82,886,615	69,655,026	70,075,126	71,636,379	56,470,144	56,470,144	58,674,554	58,664,645	54,510,884	53,638,437	53,678,171	53,518,171	1,405,173,740
NET CASH FLOW	506,922	2,886,364	-3,393,286	0	85,189	440,394	-525,583	567,568	-567,568	13,450,414	5,757,006	-1,952,461	-3,048,993	-3,013,004	-5,178,206	-5,103,355	-911,401	0	0	0	0
CUMULATIVE CASH FLOW	506,922	3,393,286	0	0	85,189	525,583	0	567,568	0	13,450,414	19,207,420	17,254,959	14,205,966	11,192,962	6,014,756	911,401	0	0	0	0	
ACCRUED RESERVE DEFICIT (5)	0	(128,649)	(7,463,255)	(11,840,118)	(16,064,787)	(20,197,240)	(25,410,717)	(29,800,254)	(35,579,352)	(27,591,060)	(26,972,200)	(33,955,751)	(42,286,046)	(50,688,195)	(61,363,391)	(72,071,578)	(78,610,232)	(84,242,151)	(89,919,937)	(95,730,691)	

NOTES
(1) Includes revenues from operations such as golf course, ballfields, etc.
(2) Includes capital costs associated with rehab and conversions.
(3) Demolition cost includes restoration of landscaping, trees, and vegetation.
(4) Assumed Trust will break even on parking costs and expenses; net of transit programs.
(5) This is net of free cash in the years prior to the completion of the capital program.

Note: Environmental remediation costs are assumed to be funded by the Army rather than the Trust.

These models have been prepared to compare different planning alternatives. They represent an illustration of what the financial results of the planning alternatives could look like based upon specific market, timing, financing, and operational assumptions. The results should not be relied upon or interpreted as a budgetary or accounting report or as controlling future implementation plans, decisions, or actions of the Presidio Trust.

DRAFT PLAN

Scenario: Base Case
Constant, 2001 dollars

DRAFT WORKING OUTPUT - Draft Plan

REVENUES		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TOTAL
NON-RESIDENTIAL BUILDING REVENUES																						
Non-Residential Building Revenues		8,071,785	11,033,206	16,482,996	16,161,461	11,486,943	15,168,954	16,210,187	18,738,969	18,905,884	20,836,404	20,662,430	21,208,880	21,661,945	22,405,919	22,521,485	22,548,985	22,548,985	22,548,985	22,548,985	22,388,985	374,142,369
Non-Residential Service District Charge Revenue		2,578,138	4,911,471	6,764,241	6,758,958	6,135,148	6,976,196	7,082,051	7,599,825	7,632,063	8,027,276	7,889,641	7,936,624	7,994,961	8,236,754	8,308,102	8,308,102	8,308,102	8,308,102	8,308,102	8,308,102	146,371,959
RESIDENTIAL BUILDING REVENUES																						
Net Residential Building Revenues		20,041,810	19,349,312	23,195,889	27,050,228	28,977,397	28,977,397	28,374,493	28,074,784	28,074,784	28,070,919	27,185,280	25,592,754	26,133,259	25,527,492	24,129,303	25,281,792	23,777,132	23,777,132	22,314,252	19,304,877	503,210,285
Residential Service District Charge Revenues		0	4,597,430	5,517,689	6,437,949	6,898,079	6,898,079	6,757,098	6,652,457	6,652,457	6,654,639	7,013,537	6,862,943	6,949,681	6,810,580	6,834,526	7,320,367	7,093,248	7,093,248	6,830,229	6,302,747	126,176,981
Residential Utility Revenues		0	1,114,821	1,337,972	1,561,124	1,672,700	1,672,700	1,645,506	1,646,358	1,646,358	1,652,156	1,869,620	1,908,286	1,954,750	1,926,013	1,984,621	2,194,094	2,199,514	2,199,514	2,133,197	1,998,821	34,318,125
NON-BUILDING/PARKWIDE REVENUES																						
Appropriations		23,400,000	23,125,000	22,500,000	21,875,000	21,250,000	20,625,000	20,000,000	19,375,000	18,750,000	18,125,000	17,500,000	16,875,000	0	0	0	0	0	0	0	0	243,400,000
Treasury Borrowing		22,500,000	17,500,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40,000,000
Utilities & Telecom		3,070,800	3,063,131	4,351,341	4,524,672	4,369,505	4,727,899	4,693,977	5,571,377	5,589,577	5,817,071	5,804,018	5,736,414	5,802,553	5,913,107	5,995,314	6,150,136	6,154,142	6,154,142	6,105,127	6,005,809	105,600,110
Parking		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Permit and Salvage		1,251,750	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	7,704,359
Special Events		752,650	772,595	793,069	814,085	835,659	857,804	880,535	903,870	927,822	952,409	977,648	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	18,500,149
Other Parkwide (1)		1,459,727	1,556,711	1,481,155	1,505,679	1,535,792	1,566,508	1,597,838	1,629,795	1,662,391	1,695,639	1,729,551	1,764,142	1,799,425	1,835,414	1,872,122	1,909,564	1,947,756	1,986,711	2,026,445	2,026,445	34,588,810
Letterman Demo		8,000,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,000,000
Other Misc.		4,779,720	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,779,720
Other 4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES		95,906,380	87,363,288	82,763,964	87,028,767	83,500,834	87,810,148	87,581,296	90,532,044	90,180,947	92,171,125	90,971,335	89,228,210	73,639,740	73,998,445	72,988,638	75,056,207	73,372,044	73,410,999	71,609,504	67,678,952	1,646,792,867
EXPENSES																						
CAPITAL COSTS																						
Non-residential Building Capital Costs		9,977,501	10,894,176	6,691,245	11,424,452	16,295,005	15,712,400	13,414,345	10,135,648	9,046,454	2,218,860	3,240,576	6,505,091	6,394,133	1,633,170	0	0	0	0	0	0	123,583,055
Residential Building Capital Costs (2)		8,202,548	10,967,468	10,967,468	10,967,468	0	0	2,100,000	7,647,500	7,647,500	21,454,300	17,915,500	6,186,800	0	8,664,000	14,471,600	0	10,552,000	10,552,000	0	0	148,296,152
Non-building Capital Items		10,431,000	5,270,425	5,270,425	5,270,425	5,270,425	5,270,425	5,270,425	5,270,425	5,270,425	5,270,425	5,270,425	5,270,425	5,270,425	5,270,425	4,279,649	6,261,201	5,270,425	5,270,425	5,270,425	5,270,425	110,569,074
Program Capital Costs			0	0	0	0	0	3,333,333	3,333,333	3,333,333	0	0	0	0	0	0	0	0	0	0	0	10,000,000
DEMOLITION COSTS																						
Non-Residential Demolition Costs		8,000,000	0	190,264	190,264	1,138,563	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,519,092
Baker Housing Demolition (3)		0	0	0	0	0	0	0	0	0	0	0	7,598,875	0	0	0	0	0	0	0	15,197,750	22,796,624
Residential Demo (except Baker)		0	0	0	0	0	0	0	401,594	0	0	457,128	47,954	0	0	222,873	0	82,625	0	0	0	1,212,173
PARKWIDE EXPENSES																						
Facilities		21,497,223	21,500,000	21,500,000	21,500,000	21,500,000	21,500,000	19,350,000	19,350,000	19,350,000	19,350,000	19,350,000	19,350,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	15,050,000	380,547,223
Legal		2,569,474	2,600,000	2,600,000	2,600,000	2,600,000	2,600,000	2,340,000	2,340,000	2,340,000	2,340,000	2,340,000	2,340,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	1,820,000	45,989,474
Planning		6,731,146	6,700,000	6,700,000	6,700,000	6,700,000	6,700,000	6,030,000	6,030,000	6,030,000	6,030,000	6,030,000	6,030,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	4,690,000	118,621,146
Real Estate		3,602,386	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,240,000	3,240,000	3,240,000	3,240,000	3,240,000	3,240,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,520,000	63,722,386
Operations		9,843,447	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	8,370,000	8,370,000	8,370,000	8,370,000	8,370,000	8,370,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	6,510,000	165,153,447
Releasing Reserves		0	360,948	465,345	512,108	490,351	527,171	529,873	551,126	552,795	572,141	567,309	555,729	566,996	566,700	554,699	573,452	556,189	556,189	538,267	499,954	10,097,342
Special Events		998,136	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	10,498,136
Public Safety		5,950,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	119,950,000
Finance and Insurance		635,250	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	12,035,250
Programs		1,806,347	2,000,000	2,000,000	2,000,000	2,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	159,806,347
Parking (4)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESERVES/SET-ASIDES																						
Scheduled Infrastructure and Building Reserves		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Funded Infrastructure and Reserve Deficit			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER EXPENSES																						
Financing		1,100,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	5,265,385	5,255,201	5,244,440	5,233,070	5,221,057	5,208,363	72,320,515
Residential Affordability Subsidy		0	3,752,820	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,337,920	3,233,520	2,753,920	2,753,920	2,753,920	2,753,920	2,753,920	2,753,920	2,753,920	2,274,320	1,794,720	57,766,980
Misc.		4,055,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,055,000
TOTAL EXPENSES		95,399,458	87,106,837	82,888,068	87,668,036	82,497,665	88,813,316	87,581,296	90,272,946	88,783,827	92,344,646	90,175,458	88,409,792	70,106,474	74,009,215	79,608,127	66,903,773	76,519,598	76,425,604	65,364,069	75,661,212	1,646,539,415
NET CASH FLOW		506,922	256,451	-124,104	-639,269	1,003,169	-1,003,169	0	259,098	1,397,120	-173,521	795,877	818,418	3,533,266	-10,769	-6,619,488	8,152,434	-3,147,553	-3,014,604	6,245,436	-7,982,260	253,452
CUMULATIVE CASH FLOW		506,922	763,373	639,269	0	1,003,169	0	0	259,098	1,656,218	1,482,697	2,278,574	3,096,992	6,630,258	6,619,488	0	8,152,434	5,004,881	1,990,276	8,235,712	253,452	
ACCRUED RESERVE DEFICIT (5)		0	(2,782,215)	(7,039,354)	(12,246,169)	(15,767,648)	(21,593,875)	(26,519,881)	(31,491,769)	(35,447,994)	(41,169,979)	(45,975,424)	(50,772,881)	(53,020,589)	(58,974,255)	(71,578,431)	(69,622,069)	(78,934,231)	(88,221,366)	(88,240,444)	(102,357,908)	

NOTES
(1) Includes revenues from operations such as golf course, ballfields, etc.
(2) Includes capital costs associated with rehab and conversions.
(3) Demolition cost includes restoration of landscaping, trees, and vegetation.
(4) Assumed Trust will break even on parking costs and expenses; net of transit programs.
(5) This is net of free cash in the years prior to the completion of the capital program.

Note: Environmental remediation costs are assumed to be funded by the Army rather than the Trust.

These models have been prepared to compare different planning alternatives. They represent an illustration of what the financial results of the planning alternatives could look like based upon specific market, timing, financing, and operational assumptions. The results should not be relied upon or interpreted as a budgetary or accounting report or as controlling future implementation plans, decisions, or actions of the Presidio Trust.

ALTERNATIVE B - RESOURCE CONSOLIDATION

Scenario: Base Case
Constant, 2001 dollars

DRAFT WORKING OUTPUT - B - Resource Consolidation

REVENUES		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TOTAL
NON-RESIDENTIAL BUILDING REVENUES																						
Non-Residential Building Revenues		8,071,785	11,033,206	16,482,996	16,231,184	11,434,197	14,728,955	17,135,438	17,897,153	19,920,920	21,934,053	23,775,395	25,210,102	26,208,119	26,658,119	26,789,319	26,945,519	26,945,519	27,950,757	28,764,520	28,604,520	422,721,775
Non-Residential Service Distrct Charge Revenue		2,578,138	4,911,471	6,764,241	6,772,740	5,974,774	6,279,006	6,846,231	7,220,390	7,828,458	8,682,474	9,064,985	9,597,964	9,973,989	10,227,489	10,469,159	10,710,829	10,710,829	11,108,222	11,429,920	11,429,920	168,581,231
RESIDENTIAL BUILDING REVENUES																						
Net Residential Building Revenues		20,041,810	18,890,234	22,409,427	25,936,382	27,699,860	27,559,810	27,419,761	27,186,988	26,425,267	22,926,221	19,210,850	16,284,187	16,217,326	16,191,757	16,191,757	16,191,757	16,191,757	16,191,757	13,227,597	10,263,437	402,657,943
Residential Service District Charge Revenues		0	4,391,177	5,215,136	6,039,096	6,451,076	6,400,213	6,349,351	6,301,387	6,130,611	5,396,368	4,983,835	4,826,343	4,988,583	5,110,263	5,110,263	5,110,263	5,110,263	5,110,263	4,447,580	3,784,897	101,256,969
Residential Utility Revenues		0	954,393	1,133,475	1,312,558	1,402,099	1,367,375	1,332,652	1,326,067	1,294,337	1,133,892	1,122,359	1,162,166	1,235,268	1,265,517	1,265,517	1,265,517	1,265,517	1,265,517	1,080,725	895,934	23,080,883
NON-BUILDING/PARKWIDE REVENUES																						
Appropriations		23,400,000	23,125,000	22,500,000	21,875,000	21,250,000	20,625,000	20,000,000	19,375,000	18,750,000	18,125,000	17,500,000	16,875,000	0	0	0	0	0	0	0	0	243,400,000
Treasury Borrowing		22,500,000	17,500,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40,000,000
Utilities & Telecom		3,070,800	2,941,030	4,194,175	4,339,586	4,079,615	4,148,316	4,337,495	5,107,985	5,426,592	5,783,774	5,886,711	6,090,496	6,349,484	6,510,016	6,641,742	6,773,469	6,773,469	6,990,074	7,028,841	6,892,261	109,365,932
Parking		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Permit and Salvage		1,251,750	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	7,704,359
Special Events		752,650	772,595	793,069	814,085	835,659	857,804	880,535	903,870	927,822	952,409	977,648	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	18,500,149
Other Parkwide	(1)	1,459,727	1,556,711	1,481,155	1,505,679	1,535,792	1,566,508	1,597,838	1,629,795	1,662,391	1,695,639	1,729,551	1,764,142	1,799,425	1,835,414	1,872,122	1,909,564	1,947,756	1,986,711	2,026,445	2,026,445	34,588,810
Letterman Demolition		8,000,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,000,000
Other Misc.		4,779,720	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,779,720
Other 4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES		95,906,380	86,415,428	81,313,285	85,165,921	81,002,682	83,872,598	86,238,913	87,288,246	88,706,010	86,969,441	84,590,946	83,153,567	68,115,361	69,141,742	69,683,046	70,250,085	70,288,277	71,946,467	69,348,796	65,240,582	1,584,637,772
EXPENSES																						
CAPITAL COSTS																						
Non-residential Building Capital Costs		9,977,501	11,209,638	5,680,703	5,767,839	16,326,222	9,743,944	16,558,360	16,245,675	18,087,552	18,276,950	11,733,795	3,213,393	0	925,680	11,899,034	10,973,354	10,281,148	2,975,830	2,283,624	0	182,160,241
Residential Building Capital Costs	(2)	8,202,548	8,967,670	8,967,670	8,967,670	0	0	0	0	0	0	3,045,200	0	0	0	0	0	0	0	0	0	38,150,757
Non-building Capital Items		10,431,000	6,208,230	6,208,230	6,208,230	6,208,230	6,208,230	6,208,230	6,208,230	6,208,230	6,208,230	6,208,230	6,208,230	6,208,230	6,208,230	6,208,230	6,208,230	6,208,230	6,208,230	6,208,230	3,950,857	126,129,991
Program Capital Costs			0	0	0	0	0	3,333,333	3,333,333	3,333,333	0	0	0	0	0	0	0	0	0	0	0	10,000,000
DEMOLITION COSTS																						
Non-Residential Demolition Costs		8,000,000	0	419,598	419,598	3,130,681	0	0	0	0	0	333,500	0	0	0	0	0	0	0	0	0	12,303,378
Baker Housing Demolition	(3)	0	0	0	0	0	0	0	0	0	0	0	7,598,875	0	0	0	0	0	0	0	15,197,750	22,796,624
Residential Demo (except Baker)		0	0	0	86,441	333,645	0	229,680	0	216,594	401,594	1,527,204	619,679	0	0	0	0	0	0	0	0	3,414,836
PARKWIDE EXPENSES																						
Facilities		21,497,223	21,500,000	21,500,000	21,500,000	21,500,000	21,500,000	19,350,000	19,350,000	19,350,000	19,350,000	19,350,000	19,350,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	15,050,000	380,547,223
Legal		2,569,474	2,600,000	2,600,000	2,600,000	2,600,000	2,600,000	2,340,000	2,340,000	2,340,000	2,340,000	2,340,000	2,340,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	1,820,000	45,989,474
Planning		6,731,146	6,700,000	6,700,000	6,700,000	6,700,000	6,700,000	6,030,000	6,030,000	6,030,000	6,030,000	6,030,000	6,030,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	4,690,000	118,621,146
Real Estate		3,602,386	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,240,000	3,240,000	3,240,000	3,240,000	3,240,000	3,240,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,520,000	63,722,386
Operations		9,843,447	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	8,370,000	8,370,000	8,370,000	8,370,000	8,370,000	8,370,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	6,510,000	165,153,447
Releasing Reserves		0	352,690	452,410	495,192	469,872	500,564	522,372	527,116	537,711	513,905	490,924	474,828	486,493	492,257	493,569	495,131	495,131	505,183	475,204	435,488	9,216,040
Special Events		998,136	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	10,498,136
Public Safety		5,950,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	119,950,000
Finance and Insurance		635,250	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	12,035,250
Programs		1,806,347	2,000,000	2,000,000	2,000,000	2,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	129,806,347
Parking	(4)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESERVES/SET-ASIDES																						
Scheduled Infrastructure and Building Reserves		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Funded Infrastructure and Reserve Deficit			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER EXPENSES																						
Financing		1,100,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	5,265,385	5,255,201	5,244,440	5,233,070	5,221,057	5,208,363	72,320,515
Residential Affordability Subsidy		0	3,752,820	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,337,920	3,233,520	2,753,920	2,753,920	2,753,920	2,753,920	2,753,920	2,753,920	2,753,920	2,274,320	1,794,720	57,766,980
Misc.		4,055,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,055,000
TOTAL EXPENSES		95,399,458	86,352,047	81,031,931	81,248,290	85,771,970	81,756,058	87,785,295	87,247,674	89,316,740	86,229,598	84,063,373	78,359,924	62,569,643	63,501,086	76,680,137	75,745,835	75,042,868	67,736,232	66,522,435	72,277,177	1,584,637,772
NET CASH FLOW		506,922	63,381	281,355	3,917,631	-4,769,289	2,116,541	-1,546,382	40,572	-610,730	739,842	527,573	4,793,643	5,545,719	5,640,656	-6,997,091	-5,495,750	-4,754,591	4,210,234	2,826,361	-7,036,595	0
CUMULATIVE CASH FLOW		506,922	570,303	851,658	4,769,289	0	2,116,541	570,159	610,730	0	739,842	1,267,416	6,061,059	11,606,777	17,247,433	10,250,342	4,754,591	0	4,210,234	7,036,595	0	
ACCRUED RESERVE DEFICIT	(5)	0	(2,873,366)	(6,590,212)	(7,079,080)	(16,134,574)	(18,531,714)	(24,800,450)	(29,610,018)	(35,286,188)	(39,583,021)	(44,121,364)	(44,455,556)	(44,206,135)	(43,971,259)	(56,483,612)	(67,642,235)	(78,169,181)	(80,034,012)	(83,311,389)	(96,378,227)	

NOTES
(1) Includes revenues from operations such as golf course, ballfields, etc.
(2) Includes capital costs associated with rehab and conversions.
(3) Demolition cost includes restoration of landscaping, trees, and vegetation.
(4) Assumed Trust will break even on parking costs and expenses; net of transit programs.
(5) This is net of free cash in the years prior to the completion of the capital program.

Note: Environmental remediation costs are assumed to be funded by the Army rather than the Trust

These models have been prepared to compare different planning alternatives. They represent an illustration of what the financial results of the planning alternatives could look like based upon specific market, timing, financing, and operational assumptions. The results should not be relied upon or interpreted as a budgetary or accounting report or as controlling future implementation plans, decisions, or actions of the Presidio Trust.

ALTERNATIVE C - SUSTAINABLE COMMUNITY

Scenario: Base Case
Constant, 2001 dollars

DRAFT WORKING OUTPUT - C - Sustainable Community

REVENUES	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TOTAL
NON-RESIDENTIAL BUILDING REVENUES																					
Non-Residential Building Revenues	8,071,785	11,033,206	16,482,996	16,161,461	11,130,693	15,213,356	16,254,589	18,947,028	20,588,416	20,652,795	21,060,770	21,607,220	22,866,959	23,752,706	24,736,392	25,082,315	25,932,788	26,879,026	27,094,242	26,934,242	400,482,985
Non-Residential Service District Charge Reven	2,578,138	4,911,471	6,764,241	6,758,958	5,980,640	6,441,049	6,546,904	7,314,209	7,755,479	7,795,919	7,840,109	8,051,376	8,378,275	8,728,430	9,393,797	9,848,269	10,214,327	10,663,015	11,084,616	11,319,746	158,368,968
RESIDENTIAL BUILDING REVENUES																					
Net Residential Building Revenues	20,041,810	18,939,197	22,727,614	26,523,793	28,421,883	28,421,883	28,421,883	27,816,116	25,152,832	25,348,822	27,527,014	24,391,265	24,185,497	24,185,497	24,118,636	24,118,636	24,051,774	24,051,774	21,087,614	18,123,454	487,656,995
Residential Service District Charge Revenues	0	4,442,259	5,337,100	6,231,941	6,679,362	6,679,362	6,679,362	6,540,261	5,902,590	5,948,885	6,706,553	6,571,710	7,161,248	7,161,248	7,323,488	7,323,488	7,485,728	7,485,728	6,823,045	6,160,362	124,643,720
Residential Utility Revenues	0	984,258	1,182,526	1,380,793	1,479,926	1,479,926	1,479,926	1,451,190	1,348,974	1,388,928	1,709,881	1,716,981	1,945,423	1,945,423	2,018,525	2,018,525	2,091,626	2,091,626	1,906,835	1,722,044	31,343,336
NON-BUILDING/PARKWIDE REVENUES																					
Appropriations	23,400,000	23,125,000	22,500,000	21,875,000	21,250,000	20,625,000	20,000,000	19,375,000	18,750,000	18,125,000	17,500,000	16,875,000	0	0	0	0	0	0	0	0	243,400,000
Treasury Borrowing	22,500,000	17,500,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40,000,000
Utilities & Telecom	3,070,800	2,963,760	4,231,873	4,385,484	4,142,817	4,315,257	4,307,292	5,258,294	5,427,897	5,481,679	5,654,759	5,657,567	6,004,592	6,195,450	6,612,149	6,859,867	7,113,422	7,357,987	7,451,208	7,442,790	109,934,944
Parking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Permit and Salvage	1,251,750	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	7,704,359
Special Events	752,650	772,595	793,069	814,085	835,659	857,804	880,535	903,870	927,822	952,409	977,648	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	18,500,149
Other Parkwide (1)	1,459,727	1,556,711	1,481,155	1,505,679	1,535,792	1,566,508	1,597,838	1,629,795	1,662,391	1,695,639	1,729,551	1,764,142	1,799,425	1,835,414	1,872,122	1,909,564	1,947,756	1,986,711	2,026,445	2,026,445	34,588,810
Letterman Demolition	8,000,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,000,000
Other Misc.	4,779,720	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,779,720
Other 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES	95,906,380	86,568,069	81,840,184	85,976,806	81,796,383	85,939,756	86,507,941	89,575,374	87,856,012	87,729,687	91,045,897	87,978,428	73,684,586	75,147,335	77,418,275	78,503,830	80,180,588	81,859,034	78,817,172	75,072,249	1,669,403,986
EXPENSES																					
CAPITAL COSTS																					
Non-residential Building Capital Costs	9,977,501	10,894,176	5,249,465	9,394,771	16,580,839	14,961,802	16,556,242	7,380,030	3,962,925	6,663,750	23,025,101	17,883,278	11,368,406	12,479,306	15,648,485	14,692,591	14,380,061	17,616,917	13,795,819	5,369,140	247,880,605
Residential Building Capital Costs (2)	8,202,548	11,203,366	11,203,366	11,203,366	0	0	0	3,045,200	23,053,400	12,125,800	0	0	0	0	0	0	0	0	0	0	80,037,045
Non-building Capital Items	10,431,000	5,009,640	5,303,736	5,156,688	5,156,688	5,156,688	5,156,688	5,156,688	5,156,688	5,156,688	5,156,688	5,156,688	5,156,688	5,156,688	5,156,688	5,156,688	5,156,688	5,156,688	5,156,688	5,156,688	108,408,075
Program Capital Costs	0	0	0	0	0	0	3,333,333	3,333,333	3,333,333	0	0	0	0	0	0	0	0	0	0	0	10,000,000
DEMOLITION COSTS																					
Non-Residential Demolition Costs	8,000,000	0	322,995	322,995	371,103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,017,093
Baker Housing Demolition (3)	0	0	0	0	0	0	0	0	0	0	0	7,598,875	0	0	0	0	0	0	0	15,197,750	22,796,624
Residential Demo (except Baker)	0	0	0	0	0	0	0	147,494	0	410,235	0	0	0	0	0	0	0	0	0	0	557,729
PARKWIDE EXPENSES																					
Facilities	21,497,223	21,500,000	21,500,000	21,500,000	21,500,000	21,500,000	19,350,000	19,350,000	19,350,000	19,350,000	19,350,000	19,350,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	15,050,000	380,547,223
Legal	2,569,474	2,600,000	2,600,000	2,600,000	2,600,000	2,600,000	2,340,000	2,340,000	2,340,000	2,340,000	2,340,000	2,340,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	1,820,000	45,989,474
Planning	6,731,146	6,700,000	6,700,000	6,700,000	6,700,000	6,700,000	6,030,000	6,030,000	6,030,000	6,030,000	6,030,000	6,030,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	4,690,000	118,621,146
Real Estate	3,602,386	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,240,000	3,240,000	3,240,000	3,240,000	3,240,000	3,240,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,520,000	63,722,386
Operations	9,843,447	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	8,370,000	8,370,000	8,370,000	8,370,000	8,370,000	8,370,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	6,510,000	165,153,447
Releasing Reserves	0	353,989	457,302	502,980	477,119	517,945	528,358	547,546	529,928	533,394	570,042	542,872	561,591	570,449	581,970	585,430	595,619	605,082	569,117	529,401	10,160,134
Special Events	998,136	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	10,498,136
Public Safety	5,950,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	119,950,000
Finance and Insurance	635,250	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	12,035,250
Programs	1,806,347	2,000,000	2,000,000	2,000,000	2,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000	129,806,347
Parking (4)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESERVES/SET-ASIDES																					
Scheduled Infrastructure and Building Reserve	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Funded Infrastructure and Reserve Deficit		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER EXPENSES																					
Financing	1,100,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	5,265,385	5,255,201	5,244,440	5,233,070	5,221,057	5,208,363	72,320,515
Residential Affordability Subsidy	0	3,752,820	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,337,920	3,233,520	3,233,520	2,753,920	2,753,920	2,753,920	2,753,920	2,753,920	2,753,920	2,753,920	2,274,320	1,794,720	57,558,180
Misc.	4,055,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,055,000
TOTAL EXPENSES	95,399,458	87,074,991	81,840,184	85,884,119	81,889,069	85,939,756	86,507,941	80,543,611	96,865,195	85,614,387	89,476,351	91,426,633	72,961,605	74,081,363	79,466,449	78,503,830	78,190,728	81,425,676	77,077,002	78,946,062	1,669,114,409
NET CASH FLOW	506,922	-506,922	0	92,687	-92,687	0	0	9,031,763	-9,009,182	2,115,300	1,569,545	-3,448,205	722,981	1,065,972	-2,048,174	0	1,989,860	433,358	1,740,171	-3,873,812	289,577
CUMULATIVE CASH FLOW	506,922	0	0	92,687	0	0	0	9,031,763	22,580	2,137,880	3,707,425	259,221	982,201	2,048,174	0	0	1,989,860	2,423,218	4,163,389	289,577	
ACCRUED RESERVE DEFICIT (5)	0	(3,491,002)	(7,563,197)	(11,967,893)	(16,457,371)	(21,167,155)	(26,030,133)	(22,144,486)	(36,306,251)	(39,487,894)	(43,434,969)	(52,375,388)	(57,410,779)	(62,381,137)	(70,744,139)	(77,201,794)	(81,938,844)	(88,562,864)	(93,966,327)	(105,106,778)	

NOTES
(1) Includes revenues from operations such as golf course, ballfields, etc.
(2) Includes capital costs associated with rehab and conversions.
(3) Demolition cost includes restoration of landscaping, trees, and vegetation.
(4) Assumed Trust will break even on parking costs and expenses; net of transit programs.
(5) This is net of free cash in the years prior to the completion of the capital program.

Note: Environmental remediation costs are assumed to be funded by the Army rather than the Trust

These models have been prepared to compare different planning alternatives. They represent an illustration of what the financial results of the planning alternatives could look like based upon specific market, timing, financing, and operational assumptions. The results should not be relied upon or interpreted as a budgetary or accounting report or as controlling future implementation plans, decisions, or actions of the Presidio Trust.

ALTERNATIVE D - CULTURAL DESTINATION

Scenario: Base Case
Constant, 2001 dollars

DRAFT WORKING OUTPUT - Alternative D - Cultural Destination

REVENUES		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TOTAL
NON-RESIDENTIAL BUILDING REVENUES																						
Non-Residential Building Revenues		8,071,785	11,033,206	16,482,996	16,161,461	10,308,809	15,662,153	17,063,386	18,534,729	20,716,604	21,670,163	23,495,639	24,042,089	25,635,699	25,635,699	25,638,199	25,665,699	25,665,699	25,665,699	25,665,699	25,595,699	408,411,111
Non-Residential Service District Charge Revenue		2,578,138	4,911,471	6,764,241	6,758,958	5,878,511	6,439,407	6,748,062	7,694,978	8,368,443	8,636,709	8,894,287	8,941,269	9,735,266	9,735,266	9,735,266	9,735,266	9,735,266	9,735,266	9,735,266	9,904,266	160,665,600
RESIDENTIAL BUILDING REVENUES																						
Net Residential Building Revenues		20,041,810	19,354,315	24,652,374	27,305,285	27,305,285	27,305,285	26,776,337	26,247,389	23,851,745	21,456,101	21,580,331	19,227,730	19,119,005	18,843,824	18,016,852	18,301,030	18,800,250	19,690,562	16,726,402	13,762,242	428,364,155
Residential Service District Charge Revenues		0	4,514,585	5,758,248	6,380,080	6,380,080	6,380,080	6,257,269	6,134,458	5,629,997	5,125,536	5,437,399	5,220,876	5,474,376	5,922,226	6,258,016	6,370,498	6,478,219	6,618,669	5,955,986	5,293,303	111,589,904
Residential Utility Revenues		0	1,045,511	1,333,525	1,477,532	1,477,532	1,477,532	1,452,387	1,427,243	1,321,876	1,216,509	1,346,705	1,367,796	1,486,270	1,778,676	1,989,410	2,006,160	2,035,148	2,106,877	1,922,085	1,737,294	30,006,067
NON-BUILDING/PARKWIDE REVENUES																						
Appropriations		23,400,000	23,125,000	22,500,000	21,875,000	21,250,000	20,625,000	20,000,000	19,375,000	18,750,000	18,125,000	17,500,000	16,875,000	0	0	0	0	0	0	0	0	243,400,000
Treasury Borrowing		22,500,000	17,500,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40,000,000
Utilities & Telecom		3,070,800	3,010,379	4,347,923	4,460,151	4,089,785	4,312,593	4,383,002	5,454,631	5,752,871	5,822,210	5,962,990	5,884,535	6,404,881	6,620,999	6,776,753	6,789,133	6,810,559	6,863,573	6,726,993	6,682,530	110,227,292
Parking		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Permit and Salvage		1,251,750	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	7,704,359
Special Events		752,650	772,595	793,069	814,085	835,659	857,804	880,535	903,870	927,822	952,409	977,648	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	18,500,149
Other Parkwide	(1)	1,459,727	1,556,711	1,481,155	1,505,679	1,535,792	1,566,508	1,597,838	1,629,795	1,662,391	1,695,639	1,729,551	1,764,142	1,799,425	1,835,414	1,872,122	1,909,564	1,947,756	1,986,711	2,026,445	2,026,445	34,588,810
Letterman Demo		8,000,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,000,000
Other Misc.		4,779,720	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,779,720
Other 4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES		95,906,380	87,163,384	84,453,142	87,077,843	79,401,064	84,965,972	85,498,427	87,741,705	87,321,361	85,039,888	87,264,162	84,666,604	70,998,089	71,715,272	71,629,785	72,120,516	72,816,064	74,010,523	70,102,042	66,344,945	1,606,237,168
EXPENSES																						
CAPITAL COSTS																						
Non-residential Building Capital Costs		9,977,501	10,894,176	1,222,255	12,040,969	20,984,828	9,796,905	14,442,634	13,860,487	13,675,870	8,570,825	11,384,205	9,126,738	223,850	0	0	0	0	0	0	0	136,201,243
Residential Building Capital Costs	(2)	8,202,548	14,516,909	14,516,909	0	0	0	0	0	1,590,400	6,840,400	5,250,000	0	6,381,667	6,381,667	9,426,867	6,186,800	8,887,600	0	0	0	88,181,765
Non-building Capital Items		10,431,000	2,285,925	8,739,682	6,421,107	5,815,572	5,815,572	5,815,572	5,815,572	5,815,572	5,815,572	5,815,572	5,815,572	5,815,572	5,815,572	2,763,332	5,293,208	3,293,418	11,912,328	5,815,572	1,729,005	116,840,294
Program Capital Costs		0	0	0	0	0	0	3,333,333	3,333,333	3,333,333	0	0	0	0	0	0	0	0	0	0	0	10,000,000
DEMOLITION COSTS																						
Non-Residential Demolition Costs		8,000,000	0	188,705	209,004	1,116,705	0	0	0	0	0	333,500	0	0	0	0	0	0	0	0	0	9,847,914
Baker Housing Demolition	(3)	0	0	0	0	0	0	0	0	0	0	0	7,598,875	0	0	0	0	0	0	0	15,197,750	22,796,624
Residential Demo (except Baker)		0	0	0	0	316,121	0	0	401,594	0	1,029,914	619,679	0	0	0	147,494	47,954	46,893	0	0	0	2,609,647
PARKWIDE EXPENSES																						
Facilities		21,497,223	21,500,000	21,500,000	21,500,000	21,500,000	21,500,000	19,350,000	19,350,000	19,350,000	19,350,000	19,350,000	19,350,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	15,050,000	380,547,223
Legal		2,569,474	2,600,000	2,600,000	2,600,000	2,600,000	2,600,000	2,340,000	2,340,000	2,340,000	2,340,000	2,340,000	2,340,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	1,820,000	45,989,474
Planning		6,731,146	6,700,000	6,700,000	6,700,000	6,700,000	6,700,000	6,030,000	6,030,000	6,030,000	6,030,000	6,030,000	6,030,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	4,690,000	118,621,146
Real Estate		3,602,386	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,240,000	3,240,000	3,240,000	3,240,000	3,240,000	3,240,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,520,000	63,722,386
Operations		9,843,447	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	8,370,000	8,370,000	8,370,000	8,370,000	8,370,000	8,370,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	6,510,000	165,153,447
Releasing Reserves		0	359,476	482,271	513,244	454,717	508,250	515,494	523,438	515,202	494,683	518,601	498,585	517,154	521,804	519,025	523,434	529,793	540,818	502,702	463,885	9,502,576
Special Events		998,136	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	10,498,136
Public Safety		5,950,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	119,950,000
Finance and Insurance		635,250	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	12,035,250
Programs		1,806,347	2,000,000	2,000,000	2,000,000	2,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	159,806,347
Parking	(4)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESERVES/SET-ASIDES																						
Scheduled Infrastructure and Building Reserves		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Funded Infrastructure and Reserve Deficit			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER EXPENSES																						
Financing		1,100,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	5,265,385	5,255,201	5,244,440	5,233,070	5,221,057	5,208,363	72,320,515
Residential Affordability Subsidy		0	3,752,820	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,337,920	3,233,520	3,233,520	2,753,920	2,753,920	2,753,920	2,753,920	2,753,920	2,753,920	2,753,920	2,274,320	1,794,720	57,558,180
Misc.		4,055,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,055,000
TOTAL EXPENSES		95,399,458	87,670,306	84,453,142	78,487,644	87,991,263	83,424,047	87,040,353	86,867,744	87,759,297	85,475,913	86,646,076	85,284,690	70,813,161	70,593,963	72,936,022	72,120,516	72,816,064	72,500,136	65,873,650	72,083,723	1,606,237,168
NET CASH FLOW		506,922	-506,922	0	8,590,199	-8,590,199	1,541,925	-1,541,925	873,961	-437,936	-436,025	618,086	-618,086	184,928	1,121,309	-1,306,237	0	0	1,510,386	4,228,392	-5,738,778	0
CUMULATIVE CASH FLOW		506,922	0	0	8,590,199	0	1,541,925	0	873,961	436,025	0	618,086	0	184,928	1,306,237	0	0	0	1,510,386	5,738,778	0	
ACCRUED RESERVE DEFICIT	(5)	0	(3,432,514)	(7,623,958)	(3,565,183)	(16,384,533)	(19,448,722)	(25,707,179)	(29,729,066)	(35,156,521)	(40,593,051)	(45,234,873)	(51,074,531)	(56,412,460)	(60,922,893)	(67,862,813)	(73,635,868)	(79,509,148)	(84,145,356)	(85,935,209)	(97,487,373)	

NOTES
(1) Includes revenues from operations such as golf course, ballfields, etc.
(2) Includes capital costs associated with rehab and conversions.
(3) Demolition cost includes restoration of landscaping, trees, and vegetation.
(4) Assumed Trust will break even on parking costs and expenses; net of transit programs.
(5) This is net of free cash in the years prior to the completion of the capital program.

Note: Environmental remediation costs are assumed to be funded by the Army rather than the Trust

These models have been prepared to compare different planning alternatives. They represent an illustration of what the financial results of the planning alternatives could look like based upon specific market, timing, financing, and operational assumptions. The results should not be relied upon or interpreted as a budgetary or accounting report or as controlling future implementation plans, decisions, or actions of the Presidio Trust.

MINIMUM MANAGEMENT

Scenario: Base Case
Constant, 2001 dollars

DRAFT WORKING OUTPUT - Minimum Management

		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TOTAL
REVENUES																						
NON-RESIDENTIAL BUILDING REVENUES																						
Non-Residential Building Revenues		8,071,785	11,033,206	16,195,914	15,695,359	9,642,195	14,885,932	15,870,714	18,889,797	22,415,500	26,049,672	28,337,127	31,567,144	35,639,218	37,427,736	37,430,236	37,457,736	37,457,736	37,457,736	37,457,736	37,297,736	516,280,217
Non-Residential Service District Charge Revenue		2,578,138	4,911,471	6,650,752	6,574,698	5,614,984	6,213,527	6,297,065	6,685,808	7,254,059	7,898,013	8,253,824	8,868,948	9,844,177	10,360,860	10,360,860	10,360,860	10,360,860	10,360,860	10,360,860	10,360,860	160,171,484
RESIDENTIAL BUILDING REVENUES																						
Net Residential Building Revenues		20,041,810	19,435,196	23,710,873	27,994,313	30,136,033	30,136,033	30,136,033	30,136,033	30,136,033	30,136,033	30,646,642	30,646,642	30,646,642	30,646,642	30,646,642	30,646,642	30,646,642	30,646,642	30,646,642	30,646,642	578,464,807
Residential Service District Charge Revenues		0	4,926,691	6,017,782	7,108,872	7,654,417	7,654,417	7,654,417	7,654,417	7,654,417	7,654,417	7,802,123	7,802,123	7,802,123	7,802,123	7,802,123	7,802,123	7,802,123	7,802,123	7,802,123	7,802,123	142,001,079
Residential Utility Revenues		0	1,197,611	1,462,841	1,728,070	1,860,684	1,860,684	1,860,684	1,860,684	1,860,684	1,860,684	1,980,419	1,980,419	1,980,419	1,980,419	1,980,419	1,980,419	1,980,419	1,980,419	1,980,419	1,980,419	35,356,821
NON-BUILDING/PARKWIDE REVENUES																						
Appropriations		23,400,000	23,125,000	22,500,000	21,875,000	21,250,000	20,625,000	20,000,000	19,375,000	18,750,000	18,125,000	17,500,000	16,875,000	0	0	0	0	0	0	0	0	243,400,000
Treasury Borrowing		22,500,000	17,500,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40,000,000
Utilities & Telecom		3,070,800	3,126,142	4,391,555	4,563,027	4,254,405	4,498,465	4,482,085	5,222,098	5,542,910	5,906,322	6,090,604	6,297,907	6,829,472	7,111,099	7,111,099	7,111,099	7,111,099	7,111,099	7,111,099	7,111,099	114,053,488
Parking		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Permit and Salvage		1,251,750	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	339,611	7,704,359
Special Events		752,650	772,595	793,069	814,085	835,659	857,804	880,535	903,870	927,822	952,409	977,648	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	1,003,556	18,500,149
Other Parkwide	(1)	1,459,727	1,556,711	1,481,155	1,505,679	1,535,792	1,566,508	1,597,838	1,629,795	1,662,391	1,695,639	1,729,551	1,764,142	1,799,425	1,835,414	1,872,122	1,909,564	1,947,756	1,986,711	2,026,445	2,026,445	34,588,810
Letterman Demo		8,000,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,000,000
Other Misc		4,779,720	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,779,720
Other 4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES		95,906,380	87,924,235	83,543,551	88,198,715	83,123,780	88,637,981	89,118,983	92,697,114	96,543,428	100,617,800	103,657,550	107,145,493	95,884,642	98,507,460	98,546,668	98,611,610	98,649,802	98,688,757	98,728,491	98,568,491	1,903,300,934
EXPENSES																						
CAPITAL COSTS																						
Non-residential Building Capital Costs		9,977,501	8,985,600	220,800	6,953,313	19,809,524	23,920,153	25,320,045	28,981,619	32,092,882	40,948,759	37,196,314	26,031,542	5,369,140	0	0	0	0	0	0	0	265,807,190
Residential Building Capital Costs	(2)	8,202,548	16,156,546	16,156,546	16,156,546	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56,672,187
Non-building Capital Items		10,431,000	3,309,264	6,429,010	4,869,137	4,869,137	4,869,137	4,869,137	4,869,137	4,869,137	4,869,137	4,869,137	4,869,137	38,953,095	0	0	0	0	0	0	0	102,944,599
Program Capital Costs		0	0	0	0	0	0	3,333,333	3,333,333	3,333,333	0	0	0	0	0	0	0	0	0	0	0	10,000,000
DEMOLITION COSTS																						
Non-Residential Demolition Costs		8,000,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,000,000
Baker Housing Demolition	(3)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Demo (except Baker)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARKWIDE EXPENSES																						
Facilities		21,497,223	21,500,000	21,500,000	21,500,000	21,500,000	21,500,000	19,350,000	19,350,000	19,350,000	19,350,000	19,350,000	19,350,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	17,200,000	15,050,000	380,547,223
Legal		2,569,474	2,600,000	2,600,000	2,600,000	2,600,000	2,600,000	2,340,000	2,340,000	2,340,000	2,340,000	2,340,000	2,340,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	2,080,000	1,820,000	45,989,474
Planning		6,731,146	6,700,000	6,700,000	6,700,000	6,700,000	6,700,000	6,030,000	6,030,000	6,030,000	6,030,000	6,030,000	6,030,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	5,360,000	4,690,000	118,621,146
Real Estate		3,602,386	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000	3,240,000	3,240,000	3,240,000	3,240,000	3,240,000	3,240,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,880,000	2,520,000	63,722,386
Operations		9,843,447	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	8,370,000	8,370,000	8,370,000	8,370,000	8,370,000	8,370,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	7,440,000	6,510,000	165,153,447
Releasing Reserves		0	365,927	473,874	525,266	492,933	545,371	555,218	585,409	620,666	657,008	687,663	719,963	760,684	778,569	778,594	778,869	778,869	778,869	778,869	777,269	12,439,893
Special Events		998,136	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	10,498,136
Public Safety		5,950,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	119,950,000
Finance and Insurance		635,250	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	12,035,250
Programs		1,806,347	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	39,806,347
Parking	(4)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESERVES/SET-ASIDES																						
Scheduled Infrastructure and Building Reserves		0	0	0	0	0	0	0	0	0	0	0	0	8,347,757	8,771,470	8,937,338	8,937,338	8,937,338	8,937,338	8,937,338	8,937,338	70,743,255
Funded Infrastructure and Reserve Deficit			0	0	0	0	0	0	0	0	0	0	0	18,459,185	38,394,101	1,094,197	0	0	0	0	0	57,947,483
OTHER EXPENSES																						
Financing		1,100,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	3,061,000	5,265,385	5,255,201	5,244,440	5,233,070	5,221,057	5,208,363	72,320,515
Residential Affordability Subsidy		0	3,752,820	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	3,442,320	65,714,580
Misc.		4,055,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,055,000
TOTAL EXPENSES		95,399,458	88,431,157	82,583,550	87,807,582	84,474,914	88,637,981	89,011,054	92,702,818	95,849,338	101,408,223	97,686,434	86,553,962	122,453,181	98,507,460	63,577,834	62,473,728	62,462,967	62,451,597	62,439,584	58,055,290	1,682,968,112
NET CASH FLOW		506,922	-506,922	960,001	391,133	-1,351,134	0	107,929	-5,704	694,090	-790,423	5,971,116	20,591,531	-26,568,538	0	34,968,835	36,137,883	36,186,836	36,237,160	36,288,907	40,513,201	220,332,822
CUMULATIVE CASH FLOW		506,922	0	960,001	1,351,134	0	0	107,929	102,225	796,315	5,891	5,977,007	26,568,538	0	0	34,968,835	71,106,717	107,293,553	143,530,713	179,819,620	220,332,822	
ACCRUED RESERVE DEFICIT	(5)	0	(3,644,140)	(6,955,172)	(11,295,494)	(17,230,771)	(22,191,628)	(27,186,289)	(32,575,774)	(37,637,241)	(44,583,923)	(45,091,868)	(31,378,945)	(39,488,298)	(1,094,197)	0	0	0	0	0	0	

NOTES
(1) Includes revenues from operations such as golf course, ballfields, etc.
(2) Includes capital costs associated with rehab and conversions.
(3) Demolition cost includes restoration of landscaping, trees, and vegetation.
(4) Assumed Trust will break even on parking costs and expenses, net of transit programs.
(5) This is net of free cash in the years prior to the completion of the capital program.

Note: Environmental remediation costs are assumed to be funded by the Army rather than the Trust

These models have been prepared to compare different planning alternatives. They represent an illustration of what the financial results of the planning alternatives could look like based upon specific market, timing, financing, and operational assumptions. The results should not be relied upon or interpreted as a budgetary or accounting report or as controlling future implementation plans, decisions, or actions of the Presidio Trust.



The Presidio Trust is a federal government corporation and executive agency created in 1996 to preserve and enhance the Presidio, a national park site, in cooperation with the National Park Service. The Presidio Trust manages the interior 80 percent of park lands (Area B), while the National Park Service maintains jurisdiction over coastal areas (Area A). The Presidio Trust's mission is to preserve the park's natural landscape and environment, protect and enhance the Presidio's historic resources, and, with the National Park Service and other partners, welcome visitors with educational, cultural and recreational activities. As mandated by federal law, by 2013 the Presidio Trust must support its operations without federal appropriations. In order to raise funds to care for the park, the Presidio Trust is transforming the homes and non-residential buildings of this former military post into a new kind of community where people live and work. Six presidential appointees and the Secretary of the Interior's designee serve on the Presidio Trust's Board of Directors.



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