National Park Service
U.S. Department of the Interior

Fort Baker, Barry and Cronkhite Historic District
Marin County, California

Cultural Landscape Report for Fort Baker
Golden Gate National Recreation Area

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IN REPLY REFER TO:
D-18 (GOGA-SUPT)

May 11, 2005

Memorandum

To: File

From: Deputy Superintendent, Golden Gate NRA

Subject: Fort Baker Cultural Landscape Report

Report Certification

I certify that the Fort Baker Cultural Landscape Report has been reviewed against the criteria contained in 43 CFR 7.18(a)(1) and upon the recommendation of Ric Borjes, Chief, Cultural Resources and Museum Management, GGNRA has been classified as "Available" under the criteria established in 43 CFR 7.18(a)(1).

Mai-Liis Bartling

Mai-Liis Bartling

6/30/05

Date

Table of Contents

PART 2: TREATMENT

APPENDICES

List of Figures

Drawings

Figures (Photographs, diagrams and maps)

Introduction

Management Summary

Fort Baker is located on the northern shore of San Francisco Bay and within the boundaries of the Golden Gate National Recreation Area (GOGA). Management related to treatment of resources and future use of Fort Baker was initially outlined in the 1980 General Management Plan (GMP) and associated environmental analysis for the park. The approved concept for the site included a range of uses including development of an educational conference center, hostel, and environmental study area, ferry service and short-term public moorage at the waterfront, construction of a 700-car parking lot in the Capehart area, establishment of an interpretative center in a historic building, and construction of a NPS maintenance facility.

Since approval of the GMP in 1980, the park has completed a number of resource studies, condition assessments, and structural evaluations, and has worked in collaboration with a variety of new park partners to implement program elements from the GMP. In conjunction with these actions, physical and environmental changes at the site over the years have led to the recognition of additional resource values not adequately addressed in the management concepts outlined in the GMP. In order to address the complexity of resource values and user needs, the Fort Baker Plan was prepared as an amendment to the park GMP through the public planning process, a Final Environmental Impact Statement (FEIS) approved the plan the following year in 1999. The purpose of the plan was to identify:

- The program and types of uses that would be accommodated in the historic buildings that would generate adequate revenue for building rehabilitation and preservation;
- Improvements to facilitate public uses, including new construction and removal of buildings, landscape treatments, trails, parking, circulation, and locations and patterns of use;
- Waterfront improvements;
- Opportunities for habitat restoration; and
- An approach to the protection, rehabilitation and maintenance of historic and natural resources.

Several other objectives for the plan were identified in the context of the planning effort such as supporting the NPS mission of protecting cultural and natural resources, using sustainable models in new design and development, retention of the site's special qualities (e.g., serenity, seclusion, inspiration, cultural and natural resources, views), promoting public access, minimizing environmental impacts, and complementing other site programs and sites within Golden Gate National Recreation Area.[1]

While a number of building inventories and condition assessments have been completed for the historic structures at Fort Baker, there has been only one report (2001) that described the historical development of the cultural landscape.[2] This document provided useful information on the history, condition, and characteristics that define the Fort Baker cultural landscape. This Cultural Landscape Report (CLR) builds on information presented in that document, and provides specific treatment recommendations for all contributing characteristics of the cultural landscape.

Purpose of the Cultural Landscape Report

This CLR was undertaken to consolidate existing research and to document and evaluate significant landscape resources. Based on the evaluation of resources, the CLR proposes treatment for rehabilitation of cultural landscape features in the context of approved plans, other resources studies, and park goals for the site. The CLR will provide guidance for site development activities scheduled to occur at Fort Baker during the next five years. These activities include:

1. Development of a Retreat and Conference Center occupying twenty-seven (27) historic buildings and other landscape features, new parking areas, and potential construction of up to 130,000 square feet of new structures around the parade ground and on the slopes overlooking the parade ground (Capehart Area).
2. Development of new institutional and recreational uses at the Horseshoe Cove Waterfront, Marina and U.S. Coast Guard station area, including up to 1,500 square feet of new construction and demolition of up to

5,300 square feet of existing structures, and new parking areas.
3. Expansion of the Bay Area Discovery Museum by up to 25,000 square feet of new structures and new exterior exhibits and new parking areas.
4. Replacement of utility systems throughout the site, expansion of the water reservoir (FB572) and possible addition of co-located cell phone sites at Fort Baker.
5. Improvement of open space, roads and trails, and natural habitats and vegetation restoration on approximately 43 acres of Fort Baker. Vegetation management may include fire management projects.

Scope of Work and Methodology

The scope of work for the cultural landscape report (CLR) was developed by park and regional cultural resource staff in the fall of 2001. The CLR team included a historian, cultural geographer, historical architect, and historical landscape architects with technical assistance from the park staff. Regional staff was responsible for all products associated with the project, and the park staff was responsible for coordination including providing reference materials to the team, site logistics, consultation with other park staff and park partners, and general project oversight.

The primary management objective guiding the CLR is to provide specific guidance for the treatment of landscape resources in the context of development and adaptive use of east Fort Baker as a retreat and conference center. In this regard, several assumptions have been made that affect the scope of this CLR.

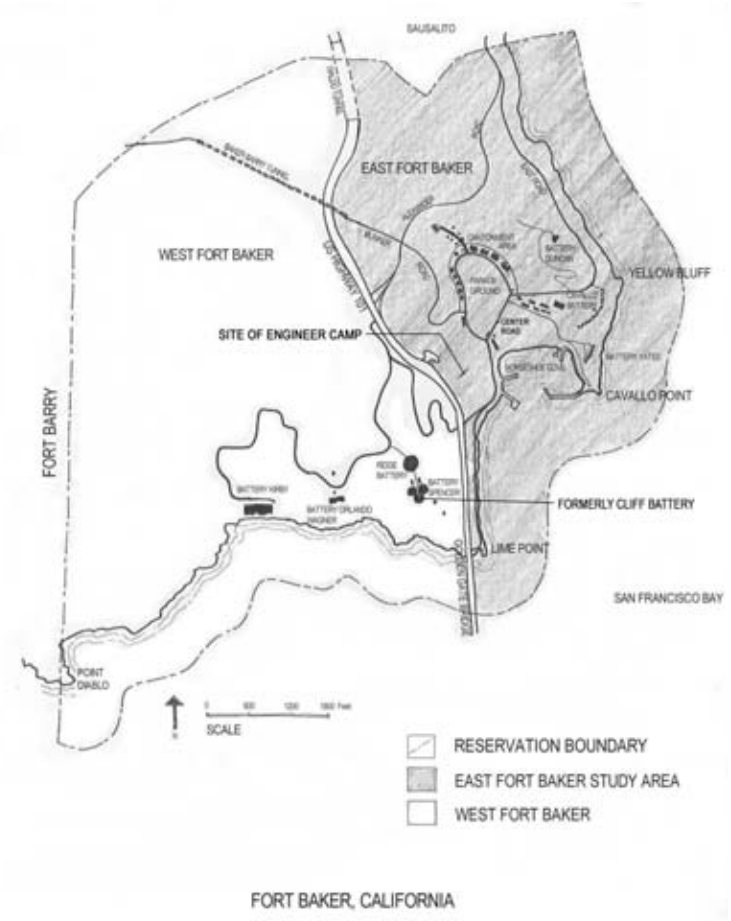
- The cultural landscape boundary for Fort Baker follows the historic boundary line for the historic military reservation. While the entire post is considered the cultural landscape, this CLR focuses only on the resources within east Fort Baker. This decision was made to focus treatment guidelines on the pending actions for adaptive use of the site.
- Although the military history of Fort Baker spans over 150 years, documentation and evaluation of cultural landscape resources focused on one primary period of significance for the site, with three critical eras. The period of significance is 1867 to 1945. The three eras within this period are 1850-1896 (Pre-Endicott), 1897-1916 (Endicott), and 1917-1949 (the War Years).
- Because there is a large volume of research and documentation relating to the history and existing conditions of Fort Baker, no additional historical research was undertaken for this project.
- Detailed and technical information about specific resources is referenced in the CLR, but not repeated.
- The Golden Gate Bridge Historic District including the bridge, Highway 101 right-of-way, Alexander Road right-of-way, and Vista Point are not included in this study.
- The Lime Point Fog signal station was not included in this study.
- The history of the Coast Miwok occupancy of the site, the Spanish colonial era and the Mexican land grant era are noted in the History discussion, but not in the Analysis and Evaluation, owing to the lack of visible landscape features extant from these periods.

Historical materials from Fort Baker and the Presidio Archives and Record Center (PARC) including photographs, maps, historical reports, inventories, and technical manuals were used to compile the site history and chronology for this report. Historic photographs were especially helpful for supplementing the written histories and verifying information on historic base maps used in the analysis and evaluation section. One week of fieldwork was undertaken to verify existing conditions and supplement technical information required to develop treatment guidelines.

The CLR for Fort Baker is divided into two parts. Part 1 includes the Site History, Existing Conditions, and the Analysis and Evaluation of cultural landscape characteristics. Part 2 includes Treatment of the cultural landscape and includes recommendations for vegetation management, rehabilitation of circulation systems, preservation of significant patterns and relationships for the parade ground and structures around Murray Circle, appropriate land use activities, and future development.

Study Boundaries

The boundary for the Fort Baker cultural landscape includes all the lands historically defined by the Fort Baker portion of the Lime Point Military Reservation.[3] The division



FORT BAKER, CALIFORNIA

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between Fort Baker and Barry is a north-south line running from the tip of Point Diablo due north where it intersected a "woven wire fence," and then extended northeast where it met the bay south of Sausalito. The reservation boundary extends 300 yards out beyond low water mark and followed the shoreline until it returned to Point Diablo. Fort Baker was further divided into east Fort Baker and west Fort Baker when the Golden Gate Bridge was constructed, physically bisecting the historic reservation. Although this study looks at the entire Fort Baker Reservation, the primary focus of the report is east Fort Baker, a 335-acre bowl-shaped valley bounded on the west by U.S. Highway 101, on the north by Alexander Avenue, and on the southeast by San Francisco Bay. The boundary also includes more than one mile of relatively pristine rock bay shoreline, and the 10-acre Horseshoe Cove that is protected by breakwaters.

Significance Statement

Forts Baker, Barry and Cronkhite, comprising an area of 2,279 acres in Marin County is a nationally-significant historic district that is listed on the National Register of Historic Places, with its significance deriving from the coastal defense history of the site. Fort Baker is a component of that district and is noteworthy for the integrity of its Endicott era military structures. Fort Baker also includes thirty-two features that contribute to the pending multiple-property Seacoast Fortifications of San Francisco Bay nomination, which appears eligible for listing as a National Historic Landmark. Finally, portions of the Golden Gate Bridge and associated historic motor roads lie within the bounds of Fort Baker. The Golden Gate Bridge has been determined eligible for listing as a National Historic Landmark. Study of the bridge-associated historic motor roads is incomplete, but may include identification of other historic resources when completed.

The importance of the site is summarized in the National Register Nomination Form:

> *This area is unique in that there are standing many of our earliest coastal defense artillery batteries, significance in tracing the development of the American coastal defense system…This land, strategically located in Marin County, commands early observation the Bay entrance. In 1866 Forts Baker and Barry were acquired by purchase to be used for military defense. Fort Cronkhite was acquired in the same manner in 1914, being legally considered a portion of Fort Barry until officially designated as Fort Cronkhite in 1937. The fortifications proposed for construction on this land were to augment those at the Presidio of San Francisco, in order to prevent successful passage of hostile ships through the Golden Gate into the San Francisco Bay.*
>
> *At the time of these purchases, relations between the United States and Spain were deteriorating. The American government believed a stronger coastal defense system was needed to protect U.S. ports from hostile attack. Growing out of the Endicott Board's review of our defenses, a period of battery and defense building began on this land. The first phase of building, called the Endicott period, witnessed the expanded construction of batteries. These emplacements were constructed from the westernmost tip*

of the land east to the Bay, in a system of one battery backing up the next one, which offered complete protection from outside the Gate to inside the Bay. Upon completion of the main phase of battery building, ancillary structures were erected, observation posts and garrison buildings.

By 1905, President Theodore Roosevelt felt a review of all battery building was needed, and in 1906 Secretary of War William Howard Taft submitted his findings. The recommendations suggested in this report consisted mainly of modernizing the fortifications with searchlight equipment and fire control. With improvements in expanded communication techniques, the army was able to coordinate the batteries by relaying data from observation posts situation around the harbor mouth to the various battery fire control centers, each of which housed a primitive mechanical computer, in order to coordinate the direction and range of fire. Other than searchlights and fire control, little change was initiated in the pre-World War I period.

By 1914 those guns mounted in the 1880s and 1890s were no longer considered full-powered. Although dominance over ship was threatened by the advance of the modern navy and naval equipment, land fortifications still held the upper hand since they had greater steadiness and fire control techniques, and most importantly no with limitations. Yet with the advance of the navy, capitalized with the new Queen Elizabeth Class English ships, which could outrange many of our coastal weapons, drastic revision of our fortifications was needed.

During the period between the two World Wars, (1918 – 1941) the fortifications at Forts Baker, Barry and Cronkhite were continually modified to keep abreast of the increased range and fire power of naval ships.

In World War II (1941 – 1945) these fortifications were again modernized with anti-aircraft defense systems and defense against motor torpedo boats. New batteries were built at the time supplied with these modern installations, supplemented with the appropriate ancillary facilities, including searchlights.

From World War II until the present, batteries of ground to air missiles were provided on these three forts to defend the San Francisco Bay area against hostile aircraft. There are two of these NIKE Missile sites, both built in 1955, one still being operational today.

Of all the batteries built for coastal defense, only two have been destroyed. There remain fifteen fortifications in good structural condition, now all disarmed. These batteries span five systems of defense against attack. The equipment ranged from smoothbore muzzle-loading guns to rifled, breakloading guns, including emplacements for 155mm, anti-motor torpedo boat and 90mm. anti-aircraft guns.

The batteries, many built almost a century ago, stand in good structural condition, which testifies to the toughness of their high-quality concrete and steel material. These emplacements are not only monuments to the age of coastal artillery, but they stand firmly in their place on the broader evolution of both San Francisco defense and the growth of our national defense system.

Period of Significance for the Fort Baker Cultural Landscape

The history of military use of Fort Baker is a record of continuing change over time. Fort Baker lies within the Forts Baker, Barry and Cronkhite Historic District with a period of significance beginning in 1866 when land acquisition for the Lime Point Military Reservation (later Forts Baker and Barry) was concluded and continuing through 1945 when military activities associated with World War II were concluded. Individual sites within the larger district have been identified as having a later period of significance; for example, the Nike Missile Site SF-88 was established in 1954 and continued in military use until 1974.

At Fort Baker, the preponderance of the site's natural systems and features, spatial

organization, topography, circulation, cluster arrangements, vegetation, buildings and structures, views and vistas, and small scale features have integrity relating to the period immediately prior to World War II, circa 1939. Structures such as the Regimental Chapel FB519, the Enlisted Men's Barracks FB507, the waterfront industrial buildings and structures, and various site improvements are compatible in their relationship to the overall development patterns established during the Endicott era and retain integrity. Therefore, these structures also contribute to the historic significance of the site.

Endnotes

[1] Excerpted from the Final Environmental Impact Statement-Fort Baker, 1999. 1-2-1-4

[2] Golden Gate National Park Association and Golden Gate National Recreation Area, Fort Baker Cultural Landscape History and Analysis, 2001.

[3] A 1912/13 map of the Lime Point Military Reservation indicates that the area was sub-divided into three reservations: 1) Fort Baker, 2) Fort Barry and 3) the Lighthouse at Point Bonita. The reservation map states that the area of Fort Baker above high tide included 10698.83 acres and 395.6 acres below high tide. Source: "Reservation Map of Forts Baker and Barry Cal. Lime Point Tract". Corrections on the map date it to 1912-1913, PARC.

Site History

Pre-Contact Era: circa 3500 BC - 1775

The potential for indigenous use of the site that became Fort Baker is described in the *Draft* Phase I: Geoarchaeological Investigation of Fort Baker:

> *Indigenous occupation of the Fort Baker area has not been established. Although the first photographs of Fort Baker depict an uninviting setting, with barren hills and minimal shelter isolated by hills from the more bountiful bay shore at Sausalito, this paucity of vegetation may have been the result of intensive over-grazing during the mission years and early American settlement (GGNPA 1999:12). The presence of good springs, which historically supported the early military presence at Fort Baker, satisfies a major requisite for human occupation; the sheltered terrain in the upper valley and the small year-round creeks would have supported a diverse plant community; and the marsh provided a variety of desirable plants and animals for food. The biggest drawback to the location would have been its isolation, cut off from all easy communication with Richardson Bay by very rugged, steep hills. Once navigation in the form of tule balsas was a feature of native technology—certainly by the Late period (beginning ca. A.D. 1000) and probably during the Middle period or earlier (from ca. 500 B.C.)—communication with both the San Francisco Peninsula and Richardson Bay would have been relatively easy. A reference to the location of an early mission-period village could refer to the Horseshoe Cove area (see below), suggesting that the full range of indigenous sites may be present at Fort Baker.*
>
> *The first direct bay shore contact occurred in 1775 in Huimen territory, when the Ayala expedition began probing San Francisco Bay and the coastline to the north in preparation for the founding of California's second mission and presidio. The Spanish explorers remained for a period of more than one month, an event which Milliken (1995:41-51) describes in some detail. During the night of 6 August 1775, the expedition entered San Francisco Bay in the San Carlos, a 193-ton, two-masted brig, and anchored at the bottom of Richardson Bay near the Miwok village of Liuaneglua. The brig remained on the bay, just 1 mile north of today's Fort Baker, until mid-September. During that time native people visited the vessel at its anchorage off Angel Island. Spanish crew members also visited numerous villages around San Francisco Bay during their efforts to chart it, but there is only one brief mention of Marin bay shore native residents. All interactions were reported by the Spanish diarists as friendly (Milliken 1998:23).*
>
> *The Mission San Francisco de Asis (aka Mission Dolores), established in 1776, operated for less than 60 years, but it had devastating and irreversible effects on the Coast Miwok people in less than a third that time. The Huimen of Sausalito were the first group of Marin peninsula native people to go to the mission, beginning in 1783. Huimen villages documented in the mission records include Liuaneglua, the large village on Richardson Bay, and two others: Naique "of the Uimen family to the north of the Presidio across from Angel Island"; and Anamás "of the far shore from the Presidio, the port called Huimenes" (descriptions from the Libro de Bautismos cited in Milliken 1995:244). Liuaneglua is thought to be located in what is downtown Sausalito today. While the locations of the other two places are vaguely described, Naique may refer to a village on the tip of the Tiburon peninsula, while "the port Huimenes"—with its village of Anamás—could in fact be referring to Horseshoe Cove, as it is the shore facing the presidio.*

The Spanish Frontier: 1776-1821

The Spanish colonial history of the area begins in 1775 when the *San Carlos* entered San Francisco Bay, dropped anchor approximately one mile north of Horseshoe Cove, and remained for more than a month. The captain of the ship, Juan Manuel de Ayala, noted that the San Francisco Bay area " had no lack of

good drinking water and plenty of firewood and ballast. . . and docile natives lived there."[4]

In 1776, a Spanish-led overland expedition from Monterey terminated at San Francisco, where Spain established a defensive outpost, the Presidio of San Francisco. In 1776, the Franciscan order of the Catholic Church founded Mission San Francisco de Asis (Mission Dolores) in San Francisco. After 1822, the lands that later became Fort Baker were a portion of the holdings attached to Mission San Rafael Arcangel, the northern-most mission established by the Spaniards. This land was eventually distributed among a number of ranches during the Mexican land grant era.

Rancho Sausalito: 1836-1850

In the early nineteenth century, southern Marin County, including the area now occupied by Forts Baker, Barry and Cronkhite, was part of a 20,000-acre Mexican land grant called Rancho Sausalito, owned by William Antonio Richardson. Richardson assumed ownership of the land in 1836. Although he grazed beef cattle on the property, which he sold for provisions to ships anchored at Sausalito Cove, maritime trade was Richardson's principal occupation. In 1837, General Guadalupe Mariano Vallejo, military commander of northern California, appointed Richardson captain of the port, or harbormaster, of the growing settlement of Yerba Buena (soon to be named San Francisco). In addition to his duties as the official pilot of San Francisco Bay, Richardson operated a private maritime enterprise based in Sausalito Cove. Richardson also prospered by selling water that was collected from springs on his property and barged across the bay for sale in San Francisco. He established a home in Sausalito that was "prettily situated under a hill, with sufficient land for his . . . fields where vegetables were raised." [5]

Rancho Sausalito encompassed most of the lands south of today's Stinson Beach. Less than ten years before Richardson took possession of his rancho, a contemporary visitor described the landscape of the area as "rolling countryside [which] supported some oak, fir, and redwood trees on its summits and in its narrow valleys . . . but all the rest was covered only with a yellowish and hardly living grass."[6]

Another early description of the landscape of southern Marin County and the coastal headlands appears in the journal of Lt. Henry Wise, who was in the Bay Area on a scientific expedition sponsored by the United States government. On a trip through the rancho in 1847, Wise traversed its hills from Sausalito to the ocean. He noted that "there was no timber to be seen, and except the stunted undergrowth netted together in the valleys and ravines, all was one rolling scene of grass, wild oats and flowers." Wise and his party saw "numerous bands of thirty to forty deer . . . and bodies of water swarming with waterfowl."[7] Richardson's son recalled that in his youth, the rancho landscape appeared to be "entirely untouched by man and the wild oats grew shoulder high, in spite of the great herds of wild animals browsing in the fields."[8]

By the mid-1850s, Richardson's bay transport company had grown into a wide-ranging maritime enterprise, and he counted several ocean-going vessels in his fleet.[9] The financial crash of 1855, however, and the wreck of one of his ships carrying uninsured cargo, caused Richardson to sell his land in an attempt to raise capital to rescue his shipping business from bankruptcy. Richardson sold his rancho in 1855 to Samuel R. Throckmorton, a San Francisco financier and land speculator. Throckmorton began negotiations almost immediately to sell the southern portion of the property (about 2,500 acres) to the federal government. A lengthy court battle ensued, and it took eleven years before the government finally acquired title to 1,899 acres that comprised Lime Point Military Reservation.[10]

Establishment of Lime Point Military Reservation: 1850-1896

In order to guard the sole entrance to San Francisco Bay from the Pacific Ocean, President Millard Fillmore set aside land on the north side of the Golden Gate straits in 1850 that would later become Forts Baker, Barry and Cronkhite. Lime Point Military Reservation, as Fort Baker was initially called, extended from the western edge of the town of Sausalito on the east, to Point Bonita on the west. Lime Point was a rocky promontory of the Marin Headlands and defined the northern corner of the entrance to San Francisco Bay. Alternating between rocky cliffs descending more than two hundred feet, and small crescent-shaped coves at the water's edge, the property had been the southernmost

extent of Richardson's Rancho Sausalito. Inland from the rocky precipice, rolling hills, ravines, and small valleys characterized the landforms of the Lime Point Military Reservation.

The expanse of waterfront encompassed within the Lime Point Military Reservation offered few opportunities for shoreline development or building construction since the rock cliffs descended at a nearly ninety degree angle to the bay shore. The site's overall topography, however, offered the Army a number of tactical, defensive capabilities: natural, albeit small, harbors to accommodate ships, and elevated terrain that allowed commanding views and created expansive sight lines across the water in all directions. In addition, its protected valleys provided relatively level spaces where troops could be garrisoned, mustered for maneuvers, or recreate on playing fields.

The original military plan for the site was centered on building a masonry fortification similar to Fort Point and the fort then under construction on Alcatraz Island. During the eleven-year period in which Throckmorton and the United States government negotiated the terms of sale of the southern extent of Rancho Sausalito, these early plans for Lime Point fortifications never materialized. By the time the sale was completed, innovations in military technology had made the original brick masonry fort planned at Lime Point obsolete. The use of modern, more powerful weapons essentially eliminated the need for the concentration of guns that were characteristic of the fortifications of the Fort Point type.

When the Civil War began in 1861, Lime Point remained undeveloped. Fortifications at Alcatraz Island and Fort Point on the southern shore of the Golden Gate however, ensured protection of the straits. Only after the Civil War ended did the government obtain legal title to the 1,899 acres that comprised Lime Point Military Reservation. By the time the government finally purchased the property in 1866, Civil War experience had demonstrated that the masonry coastal fortifications were vulnerable to artillery shells fired by rifled cannons.[11]

Although the Civil War had shown that the latest rifled guns could destroy the prewar masonry forts with ease, a reorganized Board of Engineers for the Pacific Coast retained plans for a masonry fort at Lime Point. The board recommended that a casemented fort and a casemented battery, both containing 109 guns each, should be constructed at Lime Point. The board concluded their proposed fort construction plan by noting that

> *After the works now proposed shall have been built, the positions of Points Bonita and Diablo, as well as the intervening shores on both sides of these two points, will furnish locations for works to defend these waters, that may keep pace with the means of attack, and the interests to be protected for many generations.*[12]

One of the first actions the Army took upon acquiring title to the Lime Point property was to construct a fence separating the military reservation from the rest of Rancho Sausalito. A post and pole fence was constructed circa 1867 and provided a barrier to the cattle that grazed in great numbers on the rancho's rolling hills. In addition to the fence, granite posts were installed at the angles of the boundary line, clearly describing the extent of the military reservation.[13]

In 1867, the board yet again revised its plans for a fortification at Lime Point, and recommended that only preliminary work should be undertaken at the site, including "construction of a wharf, with quarters (220 men) and mess houses for civilian employees, workshops and storehouses, and roads."[14] This group of buildings and structures, including the wharf, quarters, mess, storehouses, and workshops was called Engineer's Camp. Once this infrastructure was completed, construction of the fort at the base of Lime Point could begin.

Construction of Engineer's Camp began in October 1867. The camp was located in a small valley on the west side of Horseshoe Cove (today, in the vicinity of the Golden Gate Bridge). Although this site was less open and accessible than the valleys at the head of Horseshoe Cove or Gravelly Beach, the project engineer, Lieutenant Colonel George G. Mendell of the U.S. Army Corps of Engineers, chose the location in order to leave the larger valley at the head of Horseshoe Cove available for troops and permanent buildings, whenever a post was established. Just offshore from the site of Engineer's Camp, a group of tall rocks, called the Needles, jutted out of the water between Lime Point and Horseshoe Cove. Between the shore and these tall rocks, the engineers constructed a rock breakwater, which provided

SH1 Engineer Wharf on lee side of Needles breakwater, near west end of Horseshoe Cove, looking west. 1868 (National Archives and Record Center, RG #77-F-100-140).

some protection to the cove from the currents of the open bay. Within this protected area, a small wharf was constructed which had a sixty-foot front of crib work covered with plank. **(Photo SH1)** Supplies and materials were barged in from San Francisco and unloaded at the wharf, and a steamer was used to transport personnel.[15]

Upon completion of the wharf, a road was built from its base to Engineer's Camp. The road was benched into the foot of the cliff, and when it was completed it was "passable throughout its entire length by carts." **(Photo SH 2)** This road was the origin of the current road that leads to the end of Lime Point, now known as Moore Road.[16]

SH2 Road from Engineer Wharf to Engineer Camp, looking east. 1860 (National Archives and Record Center, RG #77-F-100-146).

Once Engineer's Camp, the wharf and road were completed, the principal task before Mendell was to create a staging area for construction of the fort which would require a cut 230' deep on the face of a 250'-high cliff. Blasting at Lime Point was carried out in 1868-1869. Over twenty-five tons of gunpowder was used to remove the immense quantity of rock, estimated by Lt. Col. Mendell to amount to over one million cubic yards.[17]

Mendell's report on the blasting operations described the construction site:

> *Lime Point rises from the sea to a height of 250 feet with a very steep slope, not always the same in different places. It is composed almost entirely of rock, there being a thin deposit of soil on the top and here and there on the slope, where a slackening in the declivity gives a resting place to a little accumulation of soil.*
>
> *The hill was, at the beginning of our operations, almost inaccessible. A boat could, of course, land at the point in a sheltered place, but none but an expert climber could scale its slopes, even in the most favorable places.*[18]

Mendell originally planned to continue the road between the Engineer's Camp and Lime Point westward along the shore to Gravelly Beach,

but the topography of steep cliffs descending to the bay would have made a shoreline road an expensive and impractical undertaking. Mendell's initial plan was soon abandoned in favor of an inland route. In 1870, construction commenced on a road from Horseshoe Cove over Lime Point Ridge to Gravelly Beach, known today as Conzelman Road.[19]

Before Mendell resumed blasting to create a building site for the Lime Point fort, the Engineer Department directed the Pacific Board to take up the matter of barbette and mortar batteries at Lime Point in 1871. Instead of building the three-tiered brick fort at the water's edge after the Fort Point model, the Army began building a series of dispersed barbette batteries, which consisted of platforms on which guns were mounted and which were concealed from view by simple earthworks, or mounds. Batteries of this type were built at Point Cavallo (Battery Cavallo), on the ridge above Lime Point (Cliff and Ridge Batteries), and on Gravelly Beach (Gravelly Beach Battery) to the west of Lime Point. The gun platforms at Ridge Battery were stone, but no platforms were constructed at Cliff Battery. Because the battery site on Gravelly Beach was located at the foot of a small valley that sloped toward the bay, a large brick and concrete culvert was constructed to channel valley runoff under the battery and out to sea. Work began on the ridge in 1871 and the works were completed by the fall of 1872.[20]

This period of intensive construction came to a close in 1876, when Congress resolved to cease funding construction of seacoast fortifications.[21] Until the 1890s, only one 15-inch Rodman cannon, mounted on a wooden platform at Gravelly Beach guarded the north shore of the Golden Gate, and two civilian "fort keepers" were the sole guards of the empty batteries and Engineer's Camp buildings. The only construction activity at the military reservation for the next eighteen years was carried out at the base of Lime Point, on a large rock called "Sugar Loaf Rock," where the U.S. Lighthouse Service built a fog signal station in 1883. Sugar Loaf Rock was leveled, and a two-family residence was located behind the single-story fog station; both buildings were built of brick.[22]

Several years after completion of the fog signal station the citizens of the neighboring town of Sausalito approached the Army with a proposal to build a road through the military reservation that would connect the town with the fog signal station. The citizens argued that such a road would be "a great convenience" to the lighthouse service. Mendell resisted the citizens' efforts, anticipating that the road would create an "annoyance and interfere with public operations." He asserted that the Sausalito citizens' main objective in building the road was to develop a "pleasure drive to attract visitors." The residents of Sausalito persisted, however, in their efforts to build the road, and in 1894, the War Department announced it had no objection to a non-military road through the reservation. In July of 1894, Congress approved its construction, though not its funding, which became the responsibility of the town of Sausalito.[23]

The citizens were unable to raise the necessary road construction funds, but by 1901 the need for an improved overland connection to Sausalito had become apparent. The Army conceded that the road was a necessity, and that it would provide an important alternate route to reach the post should high winds or rough seas make landing at the wharf impossible. Construction began in 1901 on an eighteen-foot-wide road, which extended for a total length of 5,800 feet along the east side of the military reservation to its terminus at Yellow Bluff. From Yellow Bluff, the road continued to the fog signal station on the road that had been built during construction of Battery Cavallo in 1871. This road, which stretched from Yellow Bluff on the east to the Engineer's Wharf on the west side of Horseshoe Cove, would have traversed the territory now occupied by the parade ground. Between Battery Cavallo and the east entrance gate, a post and pole fence was built to provide a protective barrier between the road and the cliffs dropping off toward the bay.[24] **(Photo SH3)** East Road, as it is now known, followed the

SH3 East Gate with wood fence system along East Road, looking southwest. 1905 (GGNRA Park Archives and Record Center, 19193.001).

top of the bluff forming the eastern edge of the military reservation. It offered expansive views of the Golden Gate and the greater extent of San Francisco Bay, and marked the beginning of public access to the post.

Endicott Era and Fort Maturity: 1897-1916

Two major technological innovations changed military strategic planning in the late nineteenth century. One was the iron cladding on ships, which decreased vulnerability to bombardment and increased attacking capabilities in war. This was the first step towards building a modern steel navy. The second innovation was the armor-piercing gun, which could effectively disable ironclad ships. In order to keep abreast of this changing technology, the U.S. Congress established a joint Army-Navy Gun Foundry Board in 1883 to investigate the possibilities of manufacturing both armor plate for the Navy and armor-piercing guns for the Army. As a corollary to this interest in new weaponry, Congress established a board in 1885 under Secretary of War William Endicott to plan the modernization and restoration of coastal defenses for the nation's most important harbors. The Endicott Board recommended a new type of coastal fortification, one dug into the earth, armed with the new armor-piercing ordnance (then under development), and shielded by steel armor-plated masonry. These defenses were recommended for twenty-eight harbors and the Canadian border at a total cost of $127 million.[25] In 1888, Congress voted an initial appropriation to begin implementation of the Endicott Board's proposals. Military historians have characterized the Endicott period as the "Golden Age" of coast artillery in the United States.[26]

One of the areas chosen for these new defensive batteries was San Francisco Bay, and in 1890, plans were drawn up to build Endicott batteries, as they came to be known, on the Marin County headlands from Point Cavallo westward to Point Bonita. This program of coastal fortification created a defense system protecting San Francisco Bay that was exceeded in scale only by defensive emplacements at the harbor of New York. Long-range rifled artillery was placed in massive reinforced concrete batteries constructed along the entrances to the Golden Gate; batteries at Forts Mason, Winfield Scott, Baker, Barry, and on Angel Island date from the Endicott period.[27]

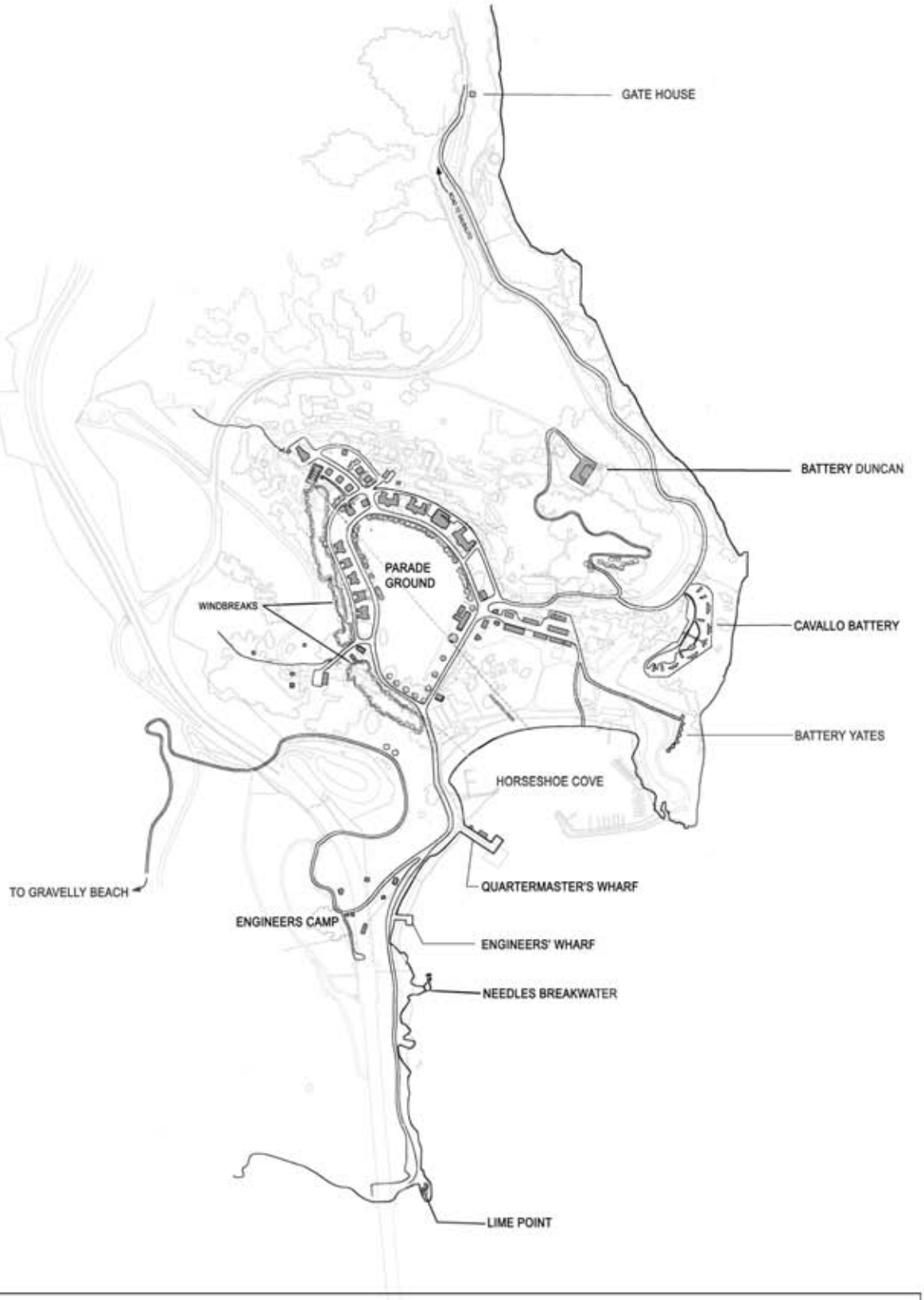
In 1893, construction began on this new series of Endicott-era batteries under the leadership of Colonel Mendell. Civilian laborers renovated the buildings at Engineer's Camp, and the wharf in Horseshoe Cove was repaired. Cliff Battery was demolished on Lime Point Ridge and was replaced with Battery Spencer, which featured three twelve-inch rifles on non-disappearing carriages. Battery Spencer was completed in 1897. In addition to the new reinforced concrete battery and guns, a powerhouse, guardhouse, officers' room and latrine were also built on the site.[28]

Additional Endicott-era batteries constructed at Lime Point Reservation included: Battery Kirby (completed 1900) on Gravelly Beach; Battery Duncan (completed 1900) north of Battery Cavallo on Yellow Bluff; and Battery Orlando Wagner, (completed 1901) on the face of a slope between Lime Point and Gravelly Beach. Battery George Yates (completed 1905) on Cavallo Point, south of Battery Cavallo concluded the armament of the military reservation under the Endicott era modernization program.[29] While each of these batteries reflected the most up-to-date military technology, the size of the guns and the configuration of the batteries differed. For instance, Battery Kirby, which was located near the shoreline, was outfitted with two twelve-inch rifles on disappearing carriages. Battery Orlando Wagner, on the other hand, was built on the side of a bluff, and featured two five inch guns on balanced-pillar mounts.

The new fortifications demanded protection and maintenance, in light of the investments they represented. In 1896, the Adjutant General of the Army wrote:

> *As high power guns are being erected at Lime Point . . . and as additional batteries of guns and mortars will soon be erected there, it is important that there should be a strong garrison on that side of the harbor, as that is really the Gibraltar of the Pacific Coast.*[30]

On May 4, 1897, the Lime Point Military Reservation was formally named Fort Baker. The name honored Colonel Edward Dickinson Baker, a former United States Senator and commanding officer of the 71st Pennsylvania



FORT BAKER CULTURAL LANDSCAPE REPORT

GOLDEN GATE NATIONAL RECREATION AREA

ENDICOTT ERA 1897-1916

SOURCES: Fort Baker General Landscape History and Analysis 2001, GGNPA; Photographic Interpretation

LEGEND

1910 TREE CANOPY

ENDICOTT ERA BUILDINGS

EXISTING CONDITIONS

APPROXIMATE SCALE

150' 600'

MAP DATE: JANUARY 2002

D-2

Infantry Regiment who was killed in the Civil War battle of Balls Bluff, Virginia.[31]

Facilities for the beginning of a permanent garrison at Lime Point arrived in the fall of 1897, in the form of a pair of two-story wooden barracks that were barged from the Presidio to Horseshoe Cove. In addition to the barracks, a guardhouse, and a stable with corral were arranged in a north-south row, north of the swamp at the head of Horseshoe Cove.[32] Brigadier General William Shafter, department commander, urged more substantial development of the site and called for permanent occupation of Fort Baker. In a letter to the Adjutant General, Shafter wrote:

> *It is absolutely necessary for the proper care of these guns that at least one battery remain constantly on this point. It is necessary that daily attention be given to the guns [in Battery Spencer] and frequent attention be given to the four 15" Rodmans [in Ridge Battery]."*[33]

As weapons technology advanced and guns became more accurate and had a greater range, coastal defensive outposts were established further and further away from the bay entrance, eventually including Fort Cronkhite, approximately four miles northwest of the Golden Gate and Fort Funston, approximately six and a half miles to the south. As a consequence to the expansion of Fort Baker, more Endicott batteries were constructed west of Fort Baker, resulting in the establishment of Fort Barry in 1904.[34]

The western portion of Lime Point Military Reservation extended past Point Bonita, to Rodeo Cove on the far southwestern shore of the Marin peninsula. This section of Lime Point Military Reservation was informally known as Point Bonita, after the rocky peninsula that formed the southernmost extent of the Marin Headlands. Point Bonita provided a natural breakwater and sheltered several small coves on its leeward side. The Army constructed a wharf and a single-track tramway at Bonita Cove to carry men and materials up the 250-foot-high cliff to the first two batteries (Mendell and Alexander) constructed along this western outpost of Lime Point in 1902. By July 1903, a detachment of one officer and twenty-three enlisted men from Fort Baker arrived at Point Bonita, signaling the beginning of permanent military occupation and by 1904, the western portion of Lime Point Military Reservation was established as Fort Barry, while eastern Lime Point was formally designated Fort Baker. The true north line running from the tip of Point Diablo established the boundary between Forts Baker and Barry.[35]

Additional Endicott-type batteries were constructed at Point Bonita between 1901 and 1905. The included batteries Edwin Guthrie, Samuel Rathbone, Patrick O'Rourke, Mendell, and Alexander which were situated so as to engage enemy warships outside the Golden Gate. Quarters and support structures, including storehouses and guardhouses were also built. The emplacements represented the latest in military technology, but the post infrastructure continued to reflect mid-nineteenth century systems. As the western end of the military reservation became more developed the communication between the two sides of the forts remained dependent upon Conzelman Road, a low-standard, dangerous road that traversed the headland ridge tops.[36] Not until the eve of the United States' entrance into World War I would this vital link in the reservation's infrastructure be improved.

As noted above, project engineer George Mendell had identified the large, relatively level valley at the head of Horseshoe Cove in the 1860s as the most appropriate location for a permanent post. This site was large enough to accommodate mustering troops, and barracks, storehouses, and other support structures could be clustered together. Furthermore, the existing road (now Center Road) from Battery Cavallo to the Engineer's Wharf, which passed through this area, formed the basis of a circulation system and could readily be tied in to future development.

The new type of coastal fortification systems of the Endicott period affected the type of housing built for the garrison. In the old-style masonry fort, men were housed either in buildings constructed within the confines of the fort or within the walls of the fort itself. With the new type of batteries, which demanded dispersion, the housing area had to be separate. The result was a plan characterized by housing and administrative buildings grouped around a central parade ground.

In 1900, the parade ground and core developed area was laid out in the relatively level ground of the valley at the head of Horseshoe Cove, extending southward toward the boundary

of a marshy area at the water's edge. Murray Circle formed the boundary of the parade ground, which was a kidney-shaped space with a slight slope to the southeast. Barracks, a post exchange and gymnasium, officers' housing, an administrative building and the commanding officer's residence were arranged along Murray Circle. Kober Street extended as a short spur off the northern side of Murray Circle, and the post hospital and non-commissioned officers housing were located here. At its southeastern edge, Murray Circle intersected with the road to Sausalito (later East Road) completed in 1901, which connected with the road constructed in the 1870s between Battery Cavallo and the Engineer's Camp (Center Road and Moore Road). Warehouses, including storehouses, a stable and corral, a guardhouse, coal shed, and bakery were grouped in this area southwest of the parade ground.

Construction of Murray Circle and development of the housing and administrative area centered on the parade ground called for a significant amount of grading in order to create level ground on which to build. A photograph from the period of initial development shows the extent of the cut that was required to construct Murray Circle and to prepare building sites. **(Photo SH4)**

In 1900, invitations to bid were advertised on the first eleven permanent buildings for Fort Baker. The construction bids were too costly to construct brick buildings as original plans had indicated, so the Quartermaster Department re-advertised for wood-frame buildings. The plans used were standard plans in the Colonial Revival Style supplied by the Quartermaster General's Office in Washington, D.C. The buildings included an artillery barracks for 109 enlisted men, Plan 12E; one double set of officers' quarters, Plan 90A; one set of field officers' quarters, Plan 145A; and an administration building, Plan 122A. Construction began in 1901 under E.J. Jones, a local San Francisco contractor.

SH4 Parade ground and Murray Circle. Note extent of cut required for construction of the parade ground and preparation of building site. Looking south. Circa 1905 (GGNRA Park Archives and Record Center, 40039.014).

By 1902, two duplex officers' quarters (FB605 and FB606), one duplex non-commissioned officers' quarters (FB523), and a barracks for one company of artillery (FB602) were completed.[37] In addition to these residential facilities, other buildings completed the same year included a hospital building (FB533), Quartermaster's office and storehouse (FB559), Quartermaster's stable (FB619), a guard house (FB615), a bakery (FB557), a 250-ton capacity coal shed (FB617), and a pump house (FB620). With the exception of the pump house, the other buildings were frame constructions on concrete and stone foundations. The pump house was a particularly substantial building for its size (1,280 square feet). It was constructed of brick with a slate-tiled hipped roof. Architectural details included concrete lintels, double hung windows with two-course segmental arches over the window openings, and three-light transoms over the doors.

In 1901, the Army established the Corps of Artillery, which had organized separate detachments for coast and field artilleries. In November 1901, the 68th Company of Coast Artillery became the garrison at Fort Baker. The War Department announced shortly thereafter that two additional companies would be assigned to the post. In response to this expansion, the Secretary of War authorized the construction of additional buildings.

Improvements were made to the Engineer's Wharf in 1902-1903 so that construction equipment and building materials arriving at the fort via barge could be safely and efficiently unloaded. The Quartermaster Department provided funds to replace the wharf's deteriorating wood pilings with iron. Renovations to the wharf were completed in February 1903.[38]

Between 1903 and 1904, additional housing was constructed in two separate areas on the post. Officers' housing and the post headquarters building were prominently located fronting

SH5 Cannonballs were used as decorative site furnishings at the commanding officer's residence and the administration building, looking north. Circa 1905 (GGNRA Park Archives and Record Center, 1766).

the parade ground; non-commissioned officers' quarters were located behind the post headquarters on the road leading up to the hospital. A residence for the post commander (FB604) was constructed at the head of the parade ground, three sets of duplex officers' quarters (FB607, FB629, and FB631), as well as a post headquarters (FB603) were also built at this time, and all were grouped around Murray Circle. The non-commissioned officers' duplex quarters, (FB527 and FB529) were located less conspicuously along Kober Street.

Although plans for these buildings called for the principal structures to be made of brick, only two residential buildings, an artillery barracks (FB636) and a non-commissioned officers quarters (FB531) were built of brick. The remaining residential buildings constructed during the Endicott period were wood frame buildings on stone foundations. Slate tiles were used on all the roofs, and open porches extended along the barracks façades fronting the parade ground.

The buildings facing the parade ground, including the officers' quarters as well as the barracks and gymnasium were evenly spaced, located approximately fifty feet apart from each other. The main façade of these buildings were oriented inward, toward Murray Circle to form a coherent architectural row. The commanding officer's residence was set apart from the adjoining buildings by side yards that were roughly twice the width of the space between the officers' quarters and barracks. In addition, the forty-foot drop in elevation created by the northwest-southeast slope of the valley created a building hierarchy. The commanding officer's residence was sited in a prominent location at the highest point of Murray Circle, from which a distant view toward Horseshoe Cove, San Francisco Bay, and the city of San Francisco could be obtained. The commanding officer's residence was embellished with special site furnishings. Stacked cannonballs flanked the walkway to the building's front porch, and single cannonballs were aligned along the sidewalk between the residence and the administration building, providing a symbolic connection between the two most important buildings fronting the parade ground. (**Photo SH5**)

In 1902, the Quartermaster Department began planning the post roads and sidewalks, devising a circulation system centered on the parade ground. Murray Circle was laid out to surround the parade ground on the north, east and west sides. The principal residences, including barracks and officers' quarters, were located along the arc formed by Murray Circle. At the top of Murray Circle, a short spur road, Kober Street, led to the site of the post hospital and non-commissioned officer quarters. The

SH6 (upper) Vegetative cover on filled-in marsh contrasts to grassy surface of parade ground, looking north. Circa 1903 (GGNRA Park Archives and Record Center, 18478.001).

SH7 (lower) The parade ground also functioned as a recreation space, and was the site of baseball and football games, looking northwest. Circa 1905-10 (GGNRA Park Archives and Record Center, 1766.11.C).

Quartermaster proposed having military prisoners supply the macadam for the roads from the Army quarries on Angel Island.[39]

As mentioned above, extensive grading had been required to create level areas on which to build the roads and buildings surrounding the parade ground. Between 1902 and 1903, however, the parade ground itself was subject to significant modification. The Quartermaster Department re-directed creeks underground by means of several culverts, spread 25,000 cubic yards of fill—raising the level of the parade ground in some areas as much as 12'—to create level ground, and filled in the marsh at the head of Horseshoe Cove.[40] The post surgeon had recommended the marsh be filled in for health reasons, but Major General Robert Patterson Hughes of the San Francisco Presidio disagreed, claiming that "a steady wind from the west carried any malarial vapors out into the bay and away from the post."[41] While the perceived unhealthful effects of the marsh were disputed, Patterson's Chief Quartermaster noted the practical value of filling the marsh: it would add over seven acres of useful ground at the waterfront. In 1903, work began on filling the marsh, which required 80,000 cubic yards of fill and took four months to complete.[42]

The grading required to create a relatively level space for the parade ground had left the area denuded of all vegetation. During wet weather, the site became a mud field, and in dry weather dust was carried through the air on the winds. In response to complaints from the post commander, the Quartermaster General approved the purchase in 1903 of 1,350 pounds of Australian rye grass seed, enough to cover eighteen acres. A year later, the parade ground was replanted with the same seed, and fifty pounds of blue grass lawn seed was planted around the new quarters constructed that year, which included the commanding officer's quarters (FB604), the officers' quarters (FB607), and the artillery barracks (FB601). A photo from 1908 shows the completely different qualities of the reclaimed marsh and parade ground. A neatly trimmed lawn covers the parade ground and an undetermined mix of grass and forbs covers the filled-in marsh area. (**Photo SH6**) The lawn area of the parade ground was used for formal drills and official ceremonies, but it also was the site of baseball, football and other organized sports, as period photographs attest. (**Photo SH7**) In addition to controlling dust through a planting program, the dust generated by traffic on the main entry road to the post (East Road from the town of Sausalito) was ameliorated by spreading crude oil on the road surface.[43]

In 1903, the post Quartermaster oversaw preparation of a planting program in order to mitigate the discomfort caused by the winds that roared through the Golden Gate and into the site, as well as to create a more finished appearance to the developing landscape. The Quartermaster's plan proposed using 10,000 each of Monterey pine, cypress and eucalyptus trees to form a protective windbreak in a continuous arc along the semicircle of hills behind the post. This shelterbelt also helped to prevent erosion of the treeless hillsides surrounding the post. The Quartermaster General directed that, rather than purchasing trees, they should be obtained from the Presidio, where a tree-thinning program was planned. Since no further documentation regarding the tree-planting program followed, it can be assumed that Fort Baker's trees came from the Presidio.[44] The exact quantity of trees acquired for the planting program is not known, although it is certain that the 30,000 trees

SH8 An early view of the windbreak and parade ground tree plantings, looking southeast. Circa 1909 (San Francisco History Center, San Francisco Public Library, Negative 6453.).

indicated in the Quartermaster's plan were not planted. Handwritten notes on a period map indicate general groupings of cypress and pine trees fully encircling the developed area. These notes do call out a specific number of eucalyptus trees; it identified 1280 eucalyptus trees in the area behind and to the west of Kober Street. This note may indicate that the pine and cypress were acquired without cost from the Presidio, while the eucalyptus trees were purchased.

The tree planting plan also called for pepper and elm trees (one hundred and fifty of each) to ornament the perimeter of the parade ground as well as building lawns. By 1909, an apparent mixture of eucalyptus and pine trees lined the perimeter of the parade ground and the windbreak had been planted with cypress and possibly some pines in orderly rows. (**Photo SH8**)

By 1915, the windbreak of cypress trees on the west side of the cantonment formed a substantial barrier between the central developed area and the treeless hillsides that surrounded the site. (**Photo SH9**)

Additional buildings constructed between 1903 and 1906 included a mule stable, a second Quartermaster storehouse, and a fire apparatus house where two hose carts and fire ladders were stored. A carpenter workshop and a blacksmith shop were built, and an addition was made to the bakery. A storehouse for the artillery engineer's equipment and a guardhouse at the Sausalito gate were also built during this period. By 1905, the parade ground flagstaff had been installed; guide wires stabilized the flagstaff and were secured to the ground under piles of cannonballs. (**Photo SH10, next page**)

SH9 In a little over ten year's time, the windbreak plantings formed a substantial protective and visual barrier between the core developed area and the surrounding hillsides, looking west. 1915 (GGNRA Park Archives and Record Center, 3311.007).

SH10 The post flagstaff was sited near the head of the parade ground with cannonballs as decorative furnishings. Looking north. 1915 (GGNRA Park Archives and Record Center, 3311.008).

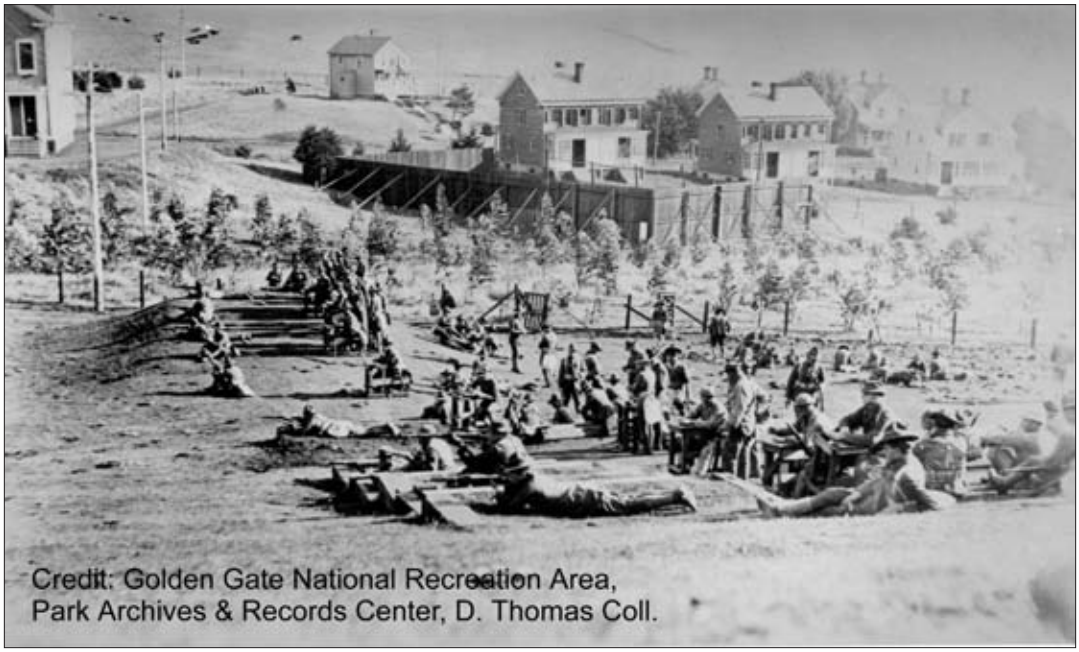
The Sausalito entrance gate, which was modeled after the Central Avenue (today, Presidio Avenue) entrance gate to the Presidio, featured cast iron ornamental finials on brick pillars with cannons set in their centers. The Benicia Arsenal provided the cannons as well as two 10-inch cannonballs to adorn the gate, which was built circa 1903.[45] This substantial structure replaced the wood gate that had been built in conjunction with the road to Sausalito.

Between 1902 and 1905, the post's water supply and delivery system was developed. During the period of initial development at Lime Point, the Engineer's Camp had been supplied with water from small springs located on Lime Point Ridge. With the establishment of the post in 1897, fresh water was supplied via barge, as it had been done at Alcatraz Island for years. The water was then pumped from the wharf to two 30,000-gallon water tanks located on the hill above the wharf.[46] In response to the increased size of the garrison in 1902, the Quartermaster directed a civilian water expert to begin investigating an alternate source of water. Several attempts to locate a reliable source of potable water proved unsuccessful; salt water had seeped into several springs that were tapped in the hills behind the post. In 1905, the Marin County Water and Power Company offered a connection between Sausalito and the post boundary. The Quartermaster General accepted, and immediately authorized the construction of a six-inch main to connect to the county pipeline, as well as a 100,000-gallon-capacity, steel water storage tank.[47]

On May 9, 1907, the third barracks building (636) was completed, with a capacity for 109 men. It was built of brick on a stone foundation with a slate roof, and was sited next to the other brick building on Murray Circle, the post exchange and gymnasium (FB623). In 1908, a transformer substation (FB502), also built of brick, was completed as the buildings at Fort Baker were electrified. A photograph from 1909 shows the parade ground with the addition of the final building, (FB636), along its perimeter. This picture also reveals the extent of white post and rail fencing that had been constructed over the years, beginning in 1850 when fences were built to separate the military reservation from Rancho Sausalito.

In 1909, two non-commissioned officers' duplex residences, FB530 and FB531, were constructed on the southwest side of Kober Street, opposite two other non-commissioned officers' duplexes, FB523 and FB527, which had been built in 1902. In 1909, a tennis court was built in a small bowl between FB531 and the hospital. A photo from circa 1915 shows a wood fence surrounding the court. This photograph also shows the original spacing of the eucalyptus trees along the western boundary of the central developed area. **(Photo SH11)**

A site map dated 1909 shows that the post has been essentially completed, with the principal buildings laid out around the central parade ground. Service buildings, including a carpenter shop, paint shop, blacksmith shop, stables, a coal shed, and a bakery were clustered together along



SH11 The tennis court was built south of the hospital on Kober Street, shown here enclosed by a plank fence with the fort firing range in the foreground. Note spacing of eucalyptus windbreak, looking southeast. Circa 1915 (GGNRA Park Archives and Record Center, 3311.006).

SH12 Concrete walkways and stairs led at regular intervals from the Murray Circle sidewalk to each building, looking west. Circa 1915 (GGNRA Park Archives and Record Center, 1766.0021).

the road leading from Murray Circle to Battery Yates (Satterlee Road). McReynolds Road was laid out parallel to Murray Circle as a service road for the buildings along the perimeter of the parade ground and created rear boundaries to the yards. In addition to the roads encircling the parade ground, Kober Street was built as a short spur road leading from Murray Circle near the administration building to the hospital and the cluster of non-commissioned officers' duplex quarters. The renovated Engineer's Wharf, with its storehouse and waiting room was the sole structure on Horseshoe Cove.

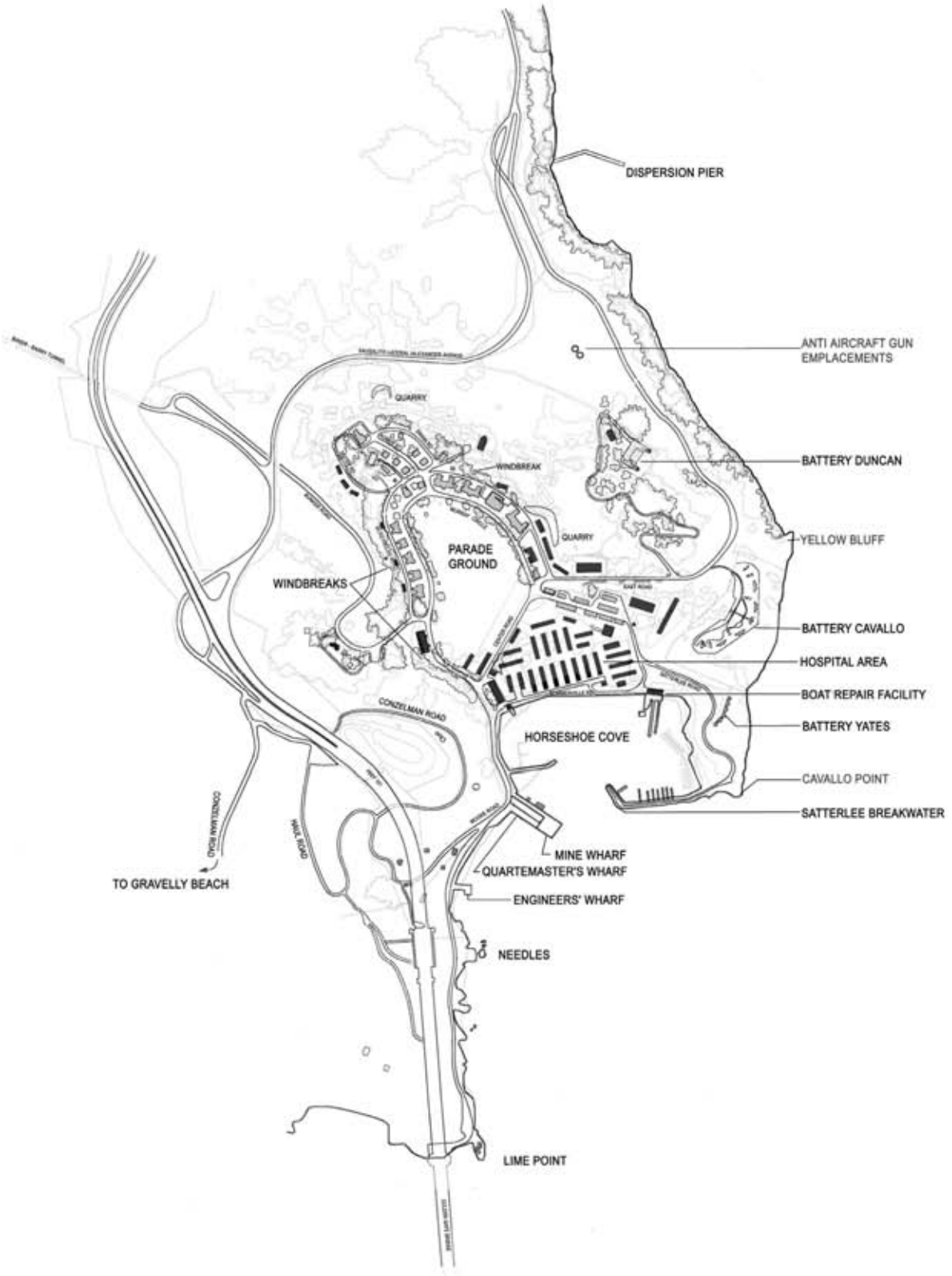
Additional spur roads off Murray Circle included Gibson Drive, which led to the Engineer and Signal Corps storehouse, and which was incorporated into the newly constructed Bunker Road between 1916 and 1918. Another short spur was located between the commanding officer's residence and duplex officers' quarters (FB605). This road terminated in a cul-de-sac at Building 7, which was constructed as temporary non-commissioned officers' housing. Approximately five temporary NCO quarters were constructed in 1903, but were replaced in 1909 by permanent quarters built on Kober Street. The temporary structures were located uphill from the parade ground area, along the east and west sides of Murray Circle.

Plans for the fort's circulation system called for 22,000 square yards of macadam for the roads, while sidewalks were constructed of concrete.[48] Period photographs suggest that the principal road, Murray Circle, was constructed with a macadam surface, and McReynolds Road was unpaved. Concrete walkways and stairs led at regular intervals from the sidewalks to each building entry, emphasizing the formal symmetry of the buildings surrounding the parade ground. (**Photo SH12**)

By 1911, artillery barracks for enlisted men as well as single and duplex officers' quarters housed the four companies of the coast Artillery garrisoned at Fort Baker: the 32nd, 68th, 61st and 148th Companies.[49]

In 1913, a significant alteration of the landscape occurred when the hill that formed the eastern edge of Fort Baker valley was excavated, leaving a deep surface scar on the hillside. More than 75,000 cubic yards of sandstone was removed from the quarry and barged across the bay to construct roads for the 1915 Panama Pacific International Exposition in San Francisco. This was one of two quarries at Fort Baker; the hillside east of the hospital was also quarried for the red chert that was used for occasional road repairs at the base.[50]

Fort Baker's water supply system was augmented in 1913, introducing another visually prominent feature into the site, which, like the sandstone quarry, can still be seen today. A group of three water tanks were constructed on the hillside above the Engineer's Wharf. The largest of the



FORT BAKER CULTURAL LANDSCAPE REPORT

GOLDEN GATE NATIONAL RECREATION AREA

THE WAR YEARS 1917 - 1949

SOURCES: Fort Baker General Landscape History and Analysis 2001, GGNPA; Photographic Interpretation

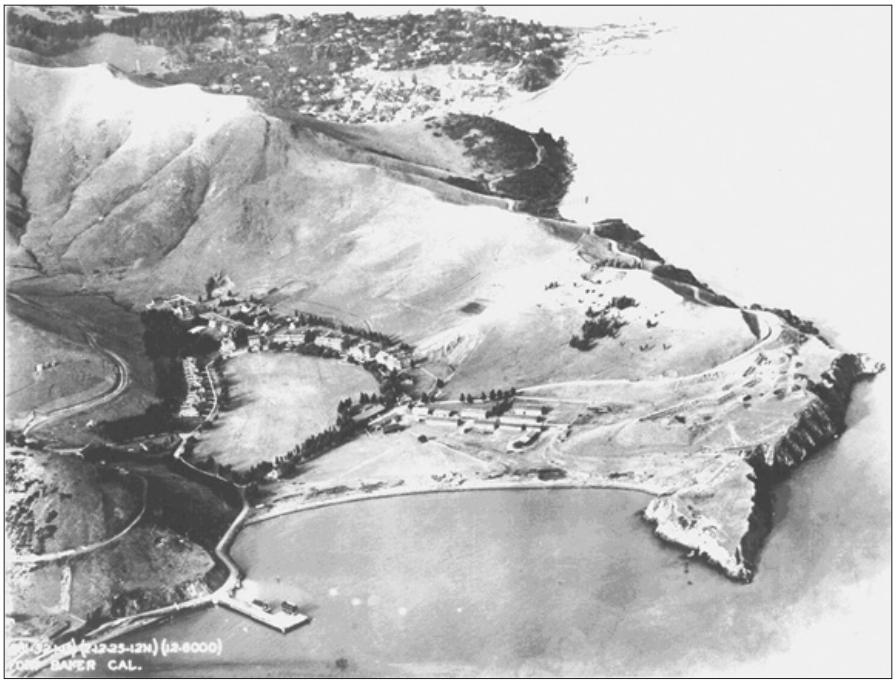
LEGEND

1945 TREE CANOPY
ENDICOTT ERA BUILDINGS
WAR YEARS ADDITIONS
EXISTING CONDITIONS

APPROXIMATE SCALE
150' 600'

MAP DATE: JANUARY 2002

D-3



SH13 (upper) Aerial view of the site at the close of the Endicott period, with the batteries, core cantonment and quartermaster area extensively developed, prior to the intensive development of the Horseshoe Cove waterfront and road system that occurred in later years. Looking east. December 1925 (GGNRA Park Archives and Record Center, 32487).

SH14 (lower) The concrete seawall along Horseshoe Cove was built in two sections. The first section was begun in 1929 and extended toward the west end of the cove; the second section was completed in 1934 and extended toward the east. 1929 (National Archives and Record Center, Fort Baker Construction Completion Reports, 1917-41).

three tanks had a 100,000-gallon-capacity; the other two tanks held 30,000 gallons each.

In 1916, a planned expansion of Fort Barry prompted the Army to undertake construction of a tunnel under the ridge west of Fort Baker and to construct over 8,000 feet of new roadway (Bunker Road) to connect Fort Baker with the head of Rodeo Valley in Fort Barry. This road offered a more direct route between the two forts, and alleviated the need to use the cliff side road above the bay that was previously the only connecting road between the two forts (Conzelman Road and McCullough Road). The tunnel, which cut through serpentine rock for a distance of approximately 2200 feet, was lined with 10" x 10" timbers and was completed in 1918.[51] By the end of teh Endicott period, most of the features that characterize the site were in place. (**Photo SH13**)

The War Years: 1917 – 1949

By the time the United States entered World War I in 1917, most of the guns at Fort Baker's batteries had become of secondary importance in San Francisco Bay's coastal defense system. Two of the fort's batteries, Duncan and Orlando Wagner, were disarmed and their guns were sent to the front. Following deactivation of the coast artillery garrison at Fort Baker in 1928, the post was maintained by a caretaker detachment until 1937, although physical improvements continued to be made.[52]

Site development in the 1920s was concentrated along the waterfront at Horseshoe Cove. In 1920, the first of a series of improvements were made to the Quartermaster wharf. The first work involved the construction of sixteen-foot-square concrete piers, and the installation of a concrete slab under the wharf storehouse. In 1922, an extension to the concrete abutment at the shore end of the wharf was constructed. Between 1922 and 1929, repairs were made to the structure, including replacing green and fender piles, as well as renewing ribbons and chocks.[53] In 1929, a concrete seawall extending for 134 feet was constructed at the western edge of Horseshoe Cove. (**Photo SH14**)The Army also built a rock and concrete bulkhead across the mouth of Horseshoe Cove the same year. The seawall served to protect the road to the Quartermaster wharf, as well as the road across the filled in marsh, now called Sommerville Road. At this time, Sommerville Road was widened and improved.[54] In 1932, the seawall was extended another 134 westward. This marked the beginning of a period of extensive development along Horseshoe Cove, which accelerated in the months leading up to the United States' entry in World War II.

An aerial photograph from 1928 provides a panoramic perspective on the historic core of Fort Baker, and records a fully developed Endicott-era military landscape. (**Photo SH15, next page**) The photograph shows Murray Circle, the parade ground, the Quartermaster stables, corral, the carpenter and blacksmith shops, the bakery, as well as East Road in the foreground and Bunker Road and the Baker-Barry tunnel in the background. By this time,

SH15 Oblique air photo showing the fully developed Endicott-era military landscape. The historic core included the parade ground and Murray Circle; East Road with the quartermaster stables, blacksmith shop, bakery, YMCA auditorium, and other service buildings; and Bunker Road leading to the Baker-Barry tunnel in the background. Looking northwest. November 1928 (GGNRA Park Archives and Record Center, 2051).

SH16 Construction of the Golden Gate bridge and its approach roads created a significant alteration to the site's topography as U.S. Highway 101 cut through the northern section of Fort Baker on a massive earth fill. Looking south. November 1936 (Golden Gate Bridge Archives).

the trees ringing the parade ground and the trees that had been extended along the north side of the cantonment had begun to fill in. The marshy area near the shore that had been filled in 1903 had created a broad, open expanse of relatively level land leading to a sandy beach at Horseshoe Cove. Trees of uniform height and even spacing flanked both sides of Center Road. In addition, the post and rail fencing along the south side of East Road shows the historic appearance of the formal entry road to the fort.

In 1935, a new era of site development was initiated with the arrival of Works Progress Administration (WPA) laborers. In addition to the WPA workers, labor was provided by the Civilian Conservation Corps (CCC), which established a camp in Fort Barry near the western end of the Baker-Barry tunnel. These laborers accomplished a number of infrastructure improvements, including work on the storm water drainage system and the electric and water distribution system. The CCC also carried out maintenance projects at the residences, as well as undertaking new construction. New roofs were added on several buildings, and eight garages were built along McReynolds Road in 1936. Although no records were discovered to provide construction details and dates, photographic documentation suggests that the retaining walls along McReynolds Road as well as the dry masonry riprap at the head of Kober Street and along McReynolds Road were constructed at this time. These features appear on a 1941 map of the parade ground area. In 1935, the slopes behind the quarters and parade ground were graded, flattened and then planted with ice plant, which provides further evidence to suggest that the retaining walls were built in conjunction with the garages.[55]

A special project, identified as "Care and Improvement of Parks and Recreation Facilities, Fort Baker" was undertaken in 1937 to improve the landscape around the base, however, records detailing the projects undertaken as part of this general landscape improvement program were not discovered during research for this report.[56]

Upon its completion in 1937, the Golden Gate Bridge and its network of approach roads significantly altered the Fort Baker landscape. Engineers had located the pier for the bridge's north tower on solid rock at the base of Lime Point, and Moore Road was improved to gain access to the pier construction site, which was located just west of the Lime Point Fog Station. In 1936, the U.S. Coast Guard took over the fog signal station at Lime Point, and added a third story to the brick residence. At this time, the Golden Gate Bridge Authority established a storage facility on the approach to the fog station. Bridge construction resulted in a partial realignment of Conzelman Road adjacent to Highway 101, altering the route that had long connected Horseshoe Cove and Gravelly Beach. Bridge construction also introduced an alternate means of vehicular access, supplementing East Road with the Sausalito Lateral (Alexander Avenue).

The north tower of the bridge, which reached a height of 746 feet above the water line, soared above the ridgeline at Lime Point and was visible from most locations within the post; the entire span could be seen from the

eastern section of the post. In addition to its visual impact, the bridge and its approaches created a considerable modification to the post's circulation system and construction of the system of bridge approach roads required significant topographic manipulation along Fort Baker's west-northwestern boundary. At the head of the valley, a massive earthen dam was built to accommodate both Highway 101 and Alexander Avenue on a steady grade.[57] (**Photo SH16, previous page**)

As the 1930s drew to a close, events in Europe and Japan affected the nation's policy of military preparedness. This resulted in a significant shift in coastal defense strategy and the Army began to update existing plans for the seacoast defenses in the continental United States. The impact of this modernization program was enormous; it increased the Coast Artillery Corps from 4,200 troops in 1939 to 45,000 in 1941, and produced a set of seacoast fortifications at 33 locations, the most extensive and uniform ever undertaken, which proved to be the ultimate generation of conventional seacoast defenses before the ascendancy of aircraft, conventionally- and nuclear-armed, changed defense strategy forever.

The 1937 Project for the Harbor Defenses of San Francisco featured the construction of massive new emplacements for huge 16-inch guns (at Forts Funston and Cronkhite) capable of defending against any known surface ship, and a new mine depot at Fort Baker's Horseshoe Cove to plant and maintain a greatly expanded trio of minefields in a large arc outside the Golden Gate which eventually consisted of 368 electrically-detonated underwater mines. The Army had three large mine-planting vessels (USAMP Ellery W. Niles, Samuel M. Miles, and Horace F. Springer) berthed at Horseshoe Cove and at a "Dispersion Pier" located on the post's eastern shore beneath Yellow Bluff (subsequently demolished when the waste-water treatment plant was built).[58]

The first mine depot structure was built in 1937 and consisted of a concrete "L" shaped mine wharf (FB415) which formed an enclosure around the older wooden Quartermaster wharf at the western end of Horseshoe Cove. Between 1937 and 1941, the entire mine depot was constructed, which eventually consisted of a storehouse (FB407), cable tank building (FB670), power house (FB409), magazines and two loading rooms (FB414).[59] (**Photo SH17**)

By 1940, Battery K of the 6th Coast Artillery and detachments of the Medical and Quartermaster Corps were stationed at Forts Baker and Barry. 6[2] The first antiaircraft detachments, which were part of the 30th Coast Artillery Battalion, were assigned to Forts Baker, Barry and Cronkhite in May 1942. In January 1944, a detachment of the 22nd Cavalry Mechanized Reconnaissance Squadron was sent to Fort Baker in connection with Tactical and Beach Defense. In the fall of 1944, the 17th Coast Artillery Battalion was split between Fort Scott and Fort Baker.[60]

SH17 Mine depot structures clustered near the waterfront included storehouses, cable tank building and powerhouse, looking northeast. Circa 1941 (GGNRA Park Archives and Record Center, 2266-N1,02).

In May of 1941, the War Department approved the construction of a large station hospital to serve the needs of the greatly expanding force of coast defense troops manning the harbor defenses of San Francisco. The Fort Baker hospital facility was authorized in order to relieve pressure on Letterman General Hospital in the Presidio. In a short three months, twenty-five standard, Series 700 "mobilization-type" hospital buildings were erected in the area between the cove and the foot of the parade ground. A new wooden bulkhead was constructed in 1942 to protect the hospital structures and to stabilize the shoreline. In addition, Moore breakwater (FB 632) was constructed at this time which extended from the concrete seawall on the west side of the cove eastward to the boat repair facilities. The Boat Repair Shop (FB 679) and the Satterlee breakwater (FB 630) at Point Cavallo protecting boats in moorage were also constructed during this period. By the end of the

SH18 By 1940, Battery K of the 6th Coast Artillery and detachments of the Medical and Quartermaster Corps were stationed at Fort Baker. The station hospital, constructed between 1941 and 1942, was built on the filled-in marsh above Horseshoe Cove (San Francisco History Center, San Francisco Public Library, Negative 6449).

war, forty-five buildings of similar construction comprised the hospital complex.[61] (**Photo SH18**)

During the war years, a number of the batteries at Fort Baker were updated. At Battery Kirby, which had been abandoned in 1934, the Ordnance Department built two new concrete platforms and mounted two three-inch guns, which they removed from Battery Yates. Battery Yates retained two of its three-inch guns that covered the antisubmarine net stretching across the harbor entrance from Fort Baker to the south shore of the Golden Gate. The guns at Battery Yates were dismounted in 1946. At Gravelly Beach, four 90-millimeter antimotor torpedo boat (AMTB) weapons were installed, and two AMTB weapons were installed at Point Cavallo.[62]

Although Japanese submarines did lurk outside the Golden Gate, no action occurred at the Harbor Defenses of San Francisco, and as the battlefront moved ever-westward, the weapons were gradually deactivated, and the garrisons combed-out for battlefield replacements. When peace came in September 1945, disarming of the harbor defenses was accelerated, the mines were raised, and the antiaircraft guns were put in storage. By 1946, all coast artillery weapons at Fort Baker were deactivated. The rapid-fire guns of Battery Yates were the last. In the wake of the war, the roads at Fort Baker--Conzelman Road, Murray Circle, etc.--were named after coast artillery officers who held out gallantly at Bataan and Corregidor, and lost their lives in the fight against Japan.[63]

Cold War to Present: 1950—2002

In the years following World War II, the Mine Detachment, Seacoast Branch of the Artillery School operated at Fort Baker. In 1948, the Army turned over operation of the underwater mine defense mission to the Navy. When the Mine Detachment Artillery School left in 1949, it was the last coast defense function at Fort Baker.[64]

In the years following the Korean War, tension continued to grow between the Western powers and their former wartime ally, the Soviet Union. Haunted by the memory of the surprise attack at Pearl Harbor and cognizant of the capability of long-range strategic bombers and the destructive power of nuclear weapons, the United States entered a period of continual partial mobilization and military preparedness known as the Cold War.

To defend against a possible Soviet aerial strike, the antiaircraft guns of the Second World War were supplanted by the radar-guided, long-

range antiaircraft missile system known as Nike. Although no Nike missiles were actually emplaced at Fort Baker proper, nearby Forts Barry and Cronkhite had Nike batteries, and the post buildings of Fort Baker became the site of the administrative headquarters of various antiaircraft missile units and of the 6th Regional Army Air Defense Command. The Radio Siren Tower, located immediately south of FB636, is an artifact of the Cold War that reflects the presence of the Nike defense program on the site. Additionally, the Headquarters of the 91st (Reserve) Infantry Division used the post to organize and conduct training and readiness exercises.[65]

In 1959, additional military family housing units were constructed behind the original crescent of buildings off Murray Circle, under the Department of Defense Capehart Housing program, due in part to the scarcity and high cost of housing in the Bay Area; twenty-one Capehart duplexes were built at Fort Baker in 1959. Fort Baker remained the administrative headquarters of the 91st (Reserve) Infantry Division and various antiaircraft missile units under the 6th Regional Army Air Defense Command for much of the Cold War era. (**Photo SH19**)

Post-war population growth during the Cold War years led to increasing pressure on valuable open space, and as the Army began to consider disposal of non-essential military land, proposals were made that would have filled much of the Marin Headlands with a vast housing development. Conservationists, open space advocates, and historic preservationists throughout the Bay Area rallied to oppose such development. Allying themselves with a national movement to create National Parks in urban areas, these local activists helped ensure the creation of the Golden Gate National Recreation Area in 1972, which included the lands of Fort Baker, and all of the former Lime Point Military Reservation within its authorized boundaries.

The National Park Service took over the management of open space throughout most of the Marin Headlands, while the Army continued to occupy and administer the developed area of the post of Fort Baker (which began to be increasingly to be referred to as east Fort Baker).

The General Management Plan for Golden Gate National Recreation Area was approved in 1980, and envisioned increased public activities in the Fort Baker area to provide recreation, outdoor activities, conference and performing arts facilities.[66] In 1985, 258 additional acres of open space at the east end of the Baker Barry Tunnel

SH19 Presidio telephone book cover, 1960, U.S. Army. Image courtesy Golden Gate National Parks Conservancy.

were transferred to Park Service administration by the Army.

In 1990, the U.S. Coast Guard constructed new facilities for its Golden Gate Station at Horseshoe Cove to replace the historic, but exposed, station near Fort Point. The new facility was approved after an environmental review process, and designed in a manner compatible with the historic structures of the post. Around this time, the Bay Area Discovery Museum opened its facility in the buildings of the former commissary, ordnance and Quartermaster warehouse complex. This sensitive rehabilitation of historic structures has brought lively activity to the heart of the post.

In 1995, the Army announced its intent to relinquish jurisdiction of the remaining acreage at Fort Baker to the National Park Service, ending its historic tenure at the post, but beginning a new chapter in the saga of the scenic and historic military base and the dramatic Marin Headlands of which it is a part.

Endnotes

[4] John Phillip Langelier and Daniel Bernard Rosen, Historic Resource Study, El Presidio de San Francisco: A History under Spain and Mexico, 1776-1846, (NPS: 1992), p. 13

[5] William Heath Davis, Seventy-Five Years in California, San Francisco: John Howell:1929, pp: 12-13; Wilkes' recollections as quoted in Lawrence Kinnaird, "History of the Golden Gate and Its Headlands." Typescript written for the National Park Service, 1962, 1967, p. 170, quoted in Anna Coxe Toogood, A Civil History of the Golden Gate National Recreation Area and Point Reyes National Seashore, California, (Denver: National Park Service, 1980), p. 55.

[6] "Du-Haut-Cilly's Account of California in the Years 1827-1828," California Historical Society Quarterly 8, No. 2, (June 1929), p. 136, quoted in Toogood,47.

[7] Lieutenant Henry A. Wise, U.S.N, Los Gringos, or An Inside View of Mexico and California, with Wanderings in Peru, Chili, and Polynesia. (New York: Baker and Scribner, 1849), quoted in Toogood, 56.

[8] James Wilks. "The Days of the Dons," MS, Bancroft Library, University of California, quoted in Toogood, 56.

[9] Toogood, 75-76.

[10] Erwin N. Thompson. Historic Resource Study: Forts Baker, Barry Cronkhite of Golden Gate National Rrecreation Area, (Denver: National Park Service, 1979), pp. 5-17

[11] Stephen Haller. "Contextual History of Fort Baker," MS, Golden Gate National Recreation Area (1998).

[12] Erwin N. Thompson. Historic Resource Study: Sea Coast Fortifications: San Francisco Harbor, Golden Gate National Recreation Area, (Denver: National Park Service, (n.d.??), p. 71

[13] Thompson, Fort Baker, 18

[14] Ibid, 19.

[15] Ibid., 20.

[16] Ibid.

[17] Ibid., 21.

[18] G.G. Mendell, Lt. Col. Of Engineers, U.S. Army Corps of Engineers, Report Upon the Blasting Operations at Lime Point California in 1968 and 1869, Washington: GPO, 1880

[19] Thompson, Fort Baker, 27.

[20] Ibid., 24-25.

[21] Several major trends of the late 1870s and 1880s, including a focus on westward expansion as well as the perceived lack of a serious external threat, contributed to the shift away from expanding coastal defenses. See Emanuel Raymond Lewis, Seacoast Fortifications of the United States, An Introductory History, (Missoula, MT: Pictorial Histories Publishing Company, 1979); Haller, 4.

[22] Thompson, Fort Baker, 27-29.

[23] Ibid., 30.

[24] Ibid., 31.

[25] Thompson, Coastal Fortifications, 131.

[26] Haller, 4.

[27] Thompson, Coastal Fortifications, 134.

[28] Thompson, Fort Baker, 31.

[29] Ibid., 32-33.

[30] AG Samuel Breck to Commanding General, Dept. of California, 30 December 1896, NA RG 92, OQMG General Correspondence, 1890-1914, quoted in Thompson, Fort Baker, 35.

[31] General Orders No. 25, Headquarters of the Army, May 4, 1897. Thompson, Fort Baker, 37.

[32] Shafter, Sept. 15, 1897 to AG; and map prepared between April and December, 1897, quoted in Thompson, Fort Baker, 38.

[33] Thompson, Fort Baker, 37-38.

[34] General Orders No. 194, December 27, 1904. Thompson, Fort Baker, 81.

[35] Thompson, Fort Baker, 81-84.

[36] Ibid., 54.

[37] Ibid., 40.

[38] Ibid.

[39] Ibid, 47.

[40] GGNPA: 25; Thompson, Fort Baker, 47.

[41] Thompson, Fort Baker, 46.

[42] Ibid.
[43] Ibid., 47-48.

[44] Ibid., 48.

[45] Ibid., 49.
[46] Ibid.

[47] Ibid. 50.

[48] Ibid. 47.

[49] Ibid. 53.

[50] GGNPA: 25, (n27, Laizure Report XXII [July 1926] 323: for PPIE)

[51] Thompson, Fort Baker, 54-55; San Francisco Examiner: 29 April 1916.

[52] Haller, 5.

[53] Thompson, Fort Baker, 59.

[54]Ibid.

[55] Ibid., 60.

[56] Ibid.

[57] Ernest Cromwell Mensch. The Golden Gate Bridge: A Technical Description in Ordinary Language. (San Francisco: 1935); Draft National Register Nomination: Golden Gate Bridge, 1997.
[58]Thompson, Fort Baker, 61.

[59]Ibid.

[60] Fran M. Roberts, "History, Fort Baker, California," Directorate of Facilities Engineering, Presidio of San Francisco, n/d. np. Presidio Archives (ADPWEMR-4,bx14)

[61] Thompson, Fort Baker, 62-63.

[62] Ibid., 61.

[63] Haller, 10.

[64] The following information was originally prepared by Stephen Haller, GOGA Historian: "Contextual History of Fort Baker," MS, Golden Gate National Recreation Area, 1998.

[65] Building Information Schedule, Forts Barry and Cronkhite California. Master Planning Office, Directorate of Facilities Engineering, Presidio of San Francisco; 1971.

[66] General Master Plan/Environmental Analysis: Golden Gate National Recreation Area/Point Reyes National Seashore, California. National Park Service, 1980.

Chronology

[Sources: Historic Resource Study, Forts Barry, Baker and Cronkhite, Erwin Thompson 1979; National Register Nomination Form dated March 26, 1973; LCS Data, and other newspaper articles, archival sources, maps and photographs.]

Ca. 3500 BC-1775	Coast Miwok Indian settlements develop throughout Marin County, from the Pacific Ocean to San Francisco Bay.
1775	The Spanish vessel San Carlos, enters San Francisco Bay, drops anchor approximately one mile north of Horseshoe Cove, and remains for more than a month, engaging in exchanges with the Coast Miwok.
1776-1821	An overland expedition from Mexico into California terminates at San Francisco, where Spain establishes an outpost, the Presidio of San Francisco. Establishment of two nearby missions occur thereafter.
1821	Mexican rule in California begins.
1838	William Richardson receives 20,000-acre land grant extending over most of southern Marin County, and names property Rancho Sausalito.
1846	Disaffected American settlers in Alta California kidnapped Mexican General Vallejo in what came to be known as the Bear Flag Rebellion and for a period of approximately one month California existed as an independent republic.
1850	President Millard Fillmore issues executive order reserving Lime Point "from the southern boundary of Saucilito [sic] Bay to a line parallel to the channel of entrance to the Pacific." This same year California was granted statehood.
1866	1,899 acres (a portion of Rancho Sausalito), now comprising Forts Baker and Barry is acquired by the U.S. government for harbor defense.
1867	Lime Point Military Reservation is established.
1867	Fortification plans are revised, recommending construction of a wharf, quarters and mess houses for civilian employees, workshops and storehouses, and roads.
1867	A breakwater from the Needles to the shoreline is constructed.
1867	Engineer's Wharf (FB415) is constructed on the lee side of the breakwater.
1867	Road between wharf and Engineer Camp (Moore Road, FB711) is built.
1867	Quarters for 220 men, mess house, workshops and storehouses are built, which comprise Engineer's Camp.
1868-1869	The face of the cliff at Lime Point is blasted away to create fortification building platform.
1870	Road between Engineer's Camp and Gravelly Beach (Conzelman Road, FB710) is built.
1870	Gravelly Beach Battery (FB701) is constructed.

1870	Post and rail fence separating the military reservation from the rest of Rancho Sausalito is constructed.
1871-1872	Large brick and concrete culvert is constructed to channel run-off below Gravelly Beach battery.
1871-1873	Gravelly Beach Battery is completed: 12 15" Rodman emplacements, constituting the first fortifications undertaken on the north side of the Golden Gate.
1871-1872	Ridge Battery (FB704), designed to house four 15" Rodman smoothbores and five mortar platforms, is built. The Rodmans were not mounted until 1893 and remained in service through the Spanish-American War (1898).
1871	Ridge Battery power house (FB704A) is constructed and used as a generator room for Battery Spencer. It is located at Battery Spencer entry gate.
1872	Portion of East Road from Engineer's Wharf to Battery Cavallo is completed.
1872-1876	Battery Cavallo (FB575), a brick and earthwork structure, is completed.
1875	Battery Cavallo entrance gate (FB 575A) is constructed at southwest side of East Road and battery entrance road intersection.
1883	U.S. Lighthouse Service builds a fog signal station (LP001) on "Sugar Loaf Rock" at the foot of Lime Point.
1888	Center Road (FB715) is constructed as a bypass around the waterfront marsh and as a construction road for Battery Cavallo. Photo (SHSA, #P-81-31-1888) shows that it is dirt-surfaced and tree-lined. (Refer to Fort Baker/Marin Headlands Historic Road Characterization Study for subsequent construction chronology of Center Road.)
1890	Battery Cavallo is improved by addition of new gun bases and retaining walls.
1893	Engineer's wharf--now called Quartermaster wharf (FB416, now removed)--is repaired.
1893	Battery Spencer powerhouse (FB705E) is constructed at battery entrance gate, as is Equipment Building (FB705B), Latrine (FB705C), and Sentry Station (FB705D).
1895	Mine Cable Casemate (FB508) is built as a barrel-vaulted, single room structure below grade, to house heavy mine control cables that extended east to Angel Island.
1895 – 1905	Mine Cable Casemate seawall (FB509) is constructed of poured concrete (2.5' to 3'-thick) and 12' to 18'-high to protect mine cable casemate from tidal erosion.
1896	Ridge Battery is demolished, replaced with Endicott-period Battery Spencer (FB705). Support structures, including a powerhouse, guardhouse, officers' room and latrine are also built at Battery Spencer.
1897	Battery Spencer entry gate (FB705F) is built as two concrete pylons, located thirteen feet apart, at entry road to Battery Spencer from Conzelman Road.
1897	A one-story, three-room concrete administration building (FB705A) is constructed to serve Battery Spencer.
1897	Lime Point Military Reservation is formally renamed Fort Baker.

1897	Battery Spencer is completed.
1897	Battery I, Third U.S. Artillery Regiment, move from Angel Island and set up camp north of the marshy shore on what is the Parade Ground today. This is the first unit to garrison Fort Baker.
1897	A pair of two-story barracks moved via barge from the Presidio are erected at the head of Horseshoe Cove, north of the marsh.
1897	A guardhouse, stable and corral are built in the approximate location of the current intersection of East Road and Murray Circle.
1898	Soldiers manning guns at Fort Baker during the Spanish-American War live in tents on the site of the parade ground.
1900	U.S. Census for Fort Baker indicates that 41 Army soldiers are located at Fort Baker.
1900	Battery Kirby (FB700) is built with two, 12" gun emplacements designed for disappearing carriages.
1900	Battery Duncan (FB573) is built with two 8" guns on disappearing carriages, and a latrine structure (FB573A) is also constructed at Battery Duncan.
1900	Fire Control Station B1 Kirby (FB706) is built above Battery Orlando Wagner and above Kirby Road.
1900	Army Quartermaster prepares a site plan for Fort Baker, locating barracks, gymnasium, officers' housing, commanding officer's residence and an administration building around central parade ground at head of Horseshoe Cove.
1901	Military prisoners from Alcatraz island complete East Road (FB708) to allow Sausalito residents access. East Road was 5,800' long and 18'wide. A wood post and rail fence extended along the cliff areas to protect travelers. (Refer to Fort Baker/Marin Headlands Historic Road Characterization Study for subsequent construction chronology of East Road.)
1901	Army begins construction of permanent buildings at Fort Baker.
1901	Battery Orlando Wagner (FB703) is completed, with two 5" rapid fire guns.
1901	Fire Control Station B1 Wagner (FB707) is built to serve Battery Orlando Wagner.
1902	Murray Circle (FB709) and McReynolds Road (FB712) are constructed.
1902	Artillery Barracks (FB602) is built.
1902	Duplex Officers' Quarters (FB605 and FB606) are built.
1902	Hospital (FB533) is constructed.
1902	Non-commissioned officer quarters (FB522) is built.
1902	Quartermaster and Subsistence Storehouse (FB559) is built.
1902	Guard house (FB615) is built of brick and completed in August.
1902	Bakery (FB557) is constructed.

1902	Coal shed (FB617) (now removed) is completed.
1902	Pumphouse (FB671) is completed.
1902	Quartermaster stable, lumber storehouse, paint house are constructed as a group, located south of current junction of East Road and Murray Circle. (FBT-9A, FBT-13, FB619, now removed)
1903	Parade ground (FB720) is graded and planted with rye grass; trees planted along Murray Circle.
1903	Wagon Shed (FB561) is built.
1903	Artillery Barracks (FB601) is built.
1903	Administration Building (FB603) is built at northern end of Murray Circle.
1903	Commanding officers' residence (FB604) is constructed on site adjacent to administration building.
1903	Officers' quarters Duplex (FB607) is built on western side of Murray Circle.
1903	Storehouse (FB633, now removed) is built at Engineer's Wharf.
1903	Ornamental plantings, informal in character, planted near foundations of FB604, FB605, FB606, FB607, FB629, and FB631.
1903	Temporary non-commissioned officer housing (FB60, FB61, FB64, FB65, now removed) is constructed.
1903	The old Engineer's Wharf (FB416) is modified with plank decking, iron standard piles, spring piles, cluster piles and wooden fender piles.
1903	Marsh at edge of cove is filled in, requiring 80,000 cubic yards of fill.
1903-c.1915	Tree planting program established, with windbreaks of Monterey cypress and possibly some Monterey pine trees. A perimeter planting of eucalyptus trees is established along the north and east sides of the cantonment. Trees are planted for camouflage near battery Duncan and Gravelly beach.
1904	Post Exchange and gymnasium (FB623) is constructed of brick on east side of Murray Circle.
1904	Two duplex officers' quarters (FB629 and FB 631) and three non-commissioned officers' duplex quarters (FB523, FB527, and FB529) are constructed. The officers quarters are located on Murray Circle, and the non-commissioned officers' quarters are built along Kober Street, north of Murray Circle.
1904	Communications cable hut (FB627) is built adjacent to Moore Road and the seawall. Serves to link communications cable with Fort Winfield Scott in the Presidio.
1905	Waiting room with fireplace (FB635) is built at the Engineer's Wharf (now removed).
1905	The western portion of the old Lime Point Military Reservation was designated Fort Barry, a separate coast artillery post, and a series of powerful Endicott batteries are built.

1905	Battery Yates (FB571), with six 3" guns on pedestal mounts is constructed, completing the armament of the eastern portion of Lime Point Military Reservation.
1905	A Rangefinder station (FB575B) is constructed at Battery Cavallo; location is aligned with center of structure and overlooking the bay.
1905	Flagstaff (FB648) is erected on parade ground. Guide wires are secured to the ground under weight of decorative cannonballs, stabilizing the 75-foot-tall iron flagstaff.
1906	Grass fire that started on Fort Baker burned 1,500 acres and threatened town of Sausalito before being brought under control.
1907	Artillery barracks (FB636) is constructed of brick at southeastern side of Murray Circle.
1908	Quartermaster storehouse (FB637), constructed of brick, is completed.
c. 1909	Tennis court (FB537) is built adjacent (to the west) of the hospital. Exact date of construction is unknown, however, court appears on 1910 map.
1909	Brick transformer substation (FB502) is constructed as electricity is introduced throughout Fort Baker.
1909	Two non-commissioned officers' duplexes (FB530 and FB531) are constructed along Kober Street.
1909	Pump house (FB578) is completed at well north of Murray Circle.
1910	Carpenter shop is built (FB405) is built, variously used for original function engineer and signal corps storehouse, recreation room, service club and NCO club.
1910	Additional storage buildings and workshops, including a blacksmith and plumbing shop (FB644), a fire apparatus house (FB643-now removed) and an artillery engineer storehouse (FB645) are constructed along the eastern edge of the valley at the head of Horseshoe Cove.
1910	Pump House (FB671) is converted from pumping ground water to pumping water from the Marin Water District.
1911	U.S. Census records 463 soldiers and their dependents living at Fort Baker.
1913	Iron water storage tanks are erected on site; two have a capacity of 30,000 gallons (FB421 and FB 423), one stores 100,000 gallons (FB422). They are constructed adjacent to each other, in a row on the hillside forming western boundary of valley at the head of Horseshoe Cove.
1913	A third 30,000-gallon water storage tank (FB414) is constructed, as well as a 10,000-gallon-capacity oil storage tank.
1916-1918	Bunker Road (eastern alignment) and Fort Baker-Barry Tunnel (FB105 and FB268) are constructed to improve connections between the two posts, and provide alternate route to steep and winding Conzelman and Julian Roads. (Refer to Fort Baker/Marin Headlands Historic Road Characterization Study for subsequent construction chronology of Bunker Road and the tunnel.)
1917	Battery Duncan guns are dismounted.
1918	Officers' Club and theater (FB622) [now removed] is built by the YMCA.

1918	Quartermaster/Ordnance storehouse (FB666) is built.
1919	Sentry station (FB272) is built near Fort Baker-Barry tunnel.
1919	Water pump station (FB577) is built.
1920	U.S. Census records 176 people living at Fort Baker.
1920	Construction is completed on a concrete extension to the Quartermaster Wharf (FB416) and pilings under the wharf storehouse (now removed).
c.1920	Ammunition magazine (FB408) is built as a one-story stucco structure in the Mission Revival style.
1920	Marine Maintenance Shop (FB633) is built for general boat repair, and is later used for mine operations.
1920	Construction is completed on a concrete approach to Wharf FB415
1921	Mine Wharf (FB415) is built in Horseshoe Cove.
1921	Exchange service station (FB566) is built with a covered portico at for two gas pumps.
1921	Grass fire originating in Fort Baker spreads into south Sausalito before Fort Baker soldiers and Sausalito Fire Department contain its spread.
1922	Construction is completed on a communication cable through the Baker/Barry tunnel.
1925	Hospital ambulance garage (FB556) is built.
1925	Construction is completed on repairs to the Baker/Barry tunnel, using creosoted cedar to construct 244 lineal feet of new segmental arches to replace rotted originals. Concrete curved wall is installed to replace rotted wood sills.
1929	Rock and concrete bulkhead is constructed across the mouth of Horseshoe Cove.
1929	Quartermaster Dept. builds concrete seawall (FB662), varying in height from four-and-one-half to fourteen feet. At this time, the road behind the seawall now called Moore Road is widened and improved.
1929	Roads at Forts Baker, Barry and Cronkhite are resurfaced with bituminous macadam. East Road is resurfaced over 5290 lineal feet, 17 feet wide.
1929	Construction is completed on replacement of most electric light poles at Fort Baker. Overhead electric poles are replaced with new wood versions, including cross arms, guy wires, transformers, etc. Poles are painted white to 5-feet above ground.
1929	Repairs are completed on Baker/Barry tunnel, consisting of replacement of wood structural elements, installation of electric lights, trenching to divert water from tunnel, and installation of 1500 lineal feet of barbed wire fencing to exclude cattle from the area.
1930	U.S. Census records 165 people living at Fort Baker in 29 structures. While far below the capacity of the fort, this population is consistent with the Inter-war caretaker status effective in 1930.
1930-1940	Additional foundation plantings installed around FB601, FB602, FB623, FB636, FB624, FB647, FB644, and FB641.

c. 1930	Perimeter planting of eucalyptus planted to the east of McReynolds Road, behind FB601, FB602, FB623, and FB636.
1930	Construction is completed on repairs to wharf (construction records do not indicate which wharf). Work includes installing new spring piles and fender piles of creosoted wood.
1930	20 electric light poles are replaced at Fort Baker. Work includes installation of cross arms, transformers, street lights, fire alarm boxes, telephone wires. Poles are painted white to 5' above ground.
1931	U.S. Army grants an easement to Golden Gate Bridge Authority for construction of a bridge and associated roadways through Fort Baker.
1932	Construction is completed on an extension of Fort Baker seawall (FB662). Reinforced concrete seawall is extended 134 feet. Rock and sand (for concrete) is obtained from post. Reinforcing steel is scrap metal.
1932	Construction is completed on repairs to wharf (construction records do not indicate which wharf). Select piles are replaced.
1935-1936	Construction of the Sausalito Lateral (Alexander Avenue) (FB576) is undertaken. At least two construction staging areas are associated with this work: one along Drown Road below the Sausalito Lateral and above the post hospital (FB533); the second immediately below East Road near the intersection with the Sausalito Lateral (current site of the Sausalito-Marin City Sanitary District.) (Refer to Fort Baker/Marin Headlands Historic Road Characterization Study for subsequent construction chronology Alexander Avenue.)
1935	The slopes behind the quarters and parade ground are graded, flattened and revegetated.
1935-1937	Baker-Barry Tunnel is widened and upgraded.
1936	A WPA project provides for construction of eight wood frame garage buildings on concrete slabs with overhead doors, with a combined total of 30 car bays. (FB534, FB538, FB541, FB543, FB545, FB556, FB564, and FB687 (now removed.) Stalls in each garage are separated by wire mesh. Work is completed in October.
1936	Work is completed on general repairs to buildings, roads, walkways and sewers at Fort Baker as a WPA project. Porch supports and floorboards are replaced; Conzelman Road is graded, curves widened, and resurfaced. McReynolds Road is resurfaced in red rock.
1937	Bunker Road retaining wall (FB401) is constructed to support fill on short connector road from Bunker Road to Sausalito Lateral near Baker-Barry tunnel. The stone wall with cement mortar is 282 feet long, 2 feet thick, average height of 3 to 4 feet, with terra-cotta pipe drains of various sizes.
1937	Construction is completed on repairs to roads, highways, and drainage at Fort Baker. East Road is widened and straightened, and a short section is realigned to accommodate the Sausalito Lateral (Alexander Avenue). The section of East Road approaching FB615 is realigned and a slide uphill from Battery Cavallo is stabilized. Storm drains are constructed on Kober Street, and curbs and gutters are constructed along McReynolds Road. Road storm drainage is to a 24-inch pipe is completed and the pipe is extended to Horseshoe Cove. Work is also completed on general site landscaping, including planting of slopes with shrubs and flowers. All work performed as a WPA project.

1937	Work is completed on improved roads, highways and streets at Fort Baker. East Road is graded and surfaced with asphaltic concrete, striped with a white centerline, and 268 guideposts are installed. A sidewalk is constructed in front of FB615. McReynolds Road is straightened and graded from FB615 to FB636, and curbs and gutters are also installed as part of this WPA project.
c. 1937-40	McReynolds Road retaining wall (FB521) is built of gray stone, 630' long, average 4' to 5' high, with breaks for trash areas and steps along the northeast side of McReynolds Road. A similar stone retaining wall (FB520) is built alongside Kober Street and stone riprap is laid on sloping road shoulders around the post hospital (FB533) and at the extension of McReynolds Road near the guardhouse (FB615).
c. 1937-40	Trees are planted adjacent to re-aligned East/McReynolds/Satterlee Road intersection.
c. 1937-40	Tennis court retaining wall (FB538) is built of gray stone and surrounds the tennis court on the northwest, northeast and southeast sides. Wall has flush mortar joints. Exact construction date is unknown, however, possible that it is constructed as a WPA project.
1937	Mine wharf (FB415) is built, forming an "L" shaped enclosure around the older wooden Quartermaster wharf.
1937	Small, (8' x 8') one-story wood frame building (FB664) is moved to marine repair area to serve as a flammable storage building. Constructed circa 1918, its original use and location is unknown.
1937	Mine dispersion pier is constructed on the post's eastern shore beneath Yellow Bluff.
1937	Refueling dock, marine railway with a boat hoist and a 37' x 115' wood wharf on wood pilings (FB668) is constructed.
1937-1941	Mine depot is developed, consisting of a storehouse (FB407), cable tank building (FB670), powerhouse (FB409), magazines (FB410 and FB411) and two loading rooms (FB414).
c. 1937-1945	Moore breakwater (FB632) is built, 288 feet long, extending east into Horseshoe Cove from Moore Road. Its exact construction date is unknown, however, it was most likely constructed as part of mine depot development. The U.S. Coast Guard widens this breakwater in the 1990s.
1938	Construction is completed on repairs and improvements to barracks, quarters, and storehouses at Forts Baker and Barry. Improvements to buildings, landscaping, storm water system, curbs and gutters, sidewalks, electricity, domestic water, and furnishings. A building-by-building summary of improvements is produced as part of these WPA projects. Landscaping work includes grading tees and greens for a golf course. Curbs and gutters are constructed on both sides of Murray Circle; sidewalks are repaired.
1938	Construction is completed on additional repairs and improvements to barracks, quarters, storehouses at Forts Baker and Barry. Work includes general rehabilitation of building interiors, building systems, painting, roofs and drains, landscaping, and roads. A slide on East Road is cleared, portions of the road are resurfaced, and curbs and gutters are constructed. A three-course bituminous pavement is applied and curbs and gutters are installed on Center Road, Murray Circle and Kober Street. Grading is completed to constructed Sommerville Road; a one-mile section of Conzelmen Road is graded; a 150-cubic-yard berm is constructed on Bunker Road. The baseball field and golf course are graded, and trees around the cantonment are topped. Oil and water lines are also repaired as part of this WPA project.

1939	Fort Baker hosts an open house for its civilian neighbors, with a fishing derby, an exhibition golf match and a beach picnic at Rodeo Lagoon.
1939	A greenhouse (FB688) (now removed) is constructed near the hospital.
1939	Construction is completed on two new redwood water tanks (FB53A and FB53B (now removed)
1939	Construction is completed on a sewer line to FB522, in conjunction with interior improvements.
1940	Construction is completed on major repairs to stable (FB619) and corral (now removed).
1939	Construction is completed on a 14-bay truck garage (FB695) (now removed).
1941	Anti-Motor Torpedo Boat Gun Plugs (FB702A, 702B, and 702C) are built on bluff overlooking Kirby Cove and are the easternmost emplacement in Fort Baker; at least four other AMTB Gun Plugs are built at this time as part of the seacoast fortification program.
1941	Three NCO family housing units (FB546, FB547, FB549) are constructed as temporary NCO family housing.
1941	Marine Maintenance Shop (FB633) is built for general boat repair and mining operations.
1941	Utility structure (FB404) is built adjacent to the NCO Club (FB405). Exact use unknown, however, may have been built as distribution transformer, listed in the Army inventory.
1941	Detonator magazine (FB410) is built to house detonators for the TNT-powered mines.
1941	Moore Road is paved from Murray Circle to Conzelman Road, average 20'-25' width.
1941	Water reservoir (FB572) with a 400,000-gallon capacity is constructed on top of the ridge near Battery Duncan. The existing reservoir system, consisting of Pump House (FB671) and water tanks (FB421-423) are taken out of service as part of the potable water system, though they may have remained in service through the 1970s as part of the site irrigation water system.
1941	Ridge water tank (FB 728) is constructed as a buried concrete tank on ridge above Battery Spencer to supply water to Battery Spencer.
1941	Construction is completed on a temporary housing and associated infrastructure project at Forts Baker, Barry and Cronkhite. Fort Baker portion of this project provides for construction of the Regimental Chapel (FB519).
1941	Construction is completed on a new station hospital complex using 700-series mobilization plans, located near Horseshoe Cove. Construction consists of hospital buildings, housing, and associated infrastructure. Work includes 24 buildings and covered corridors. (Buildings E201-E220 inclusive, and E-372, all now removed).
1942	Construction is completed on a new 63-man barrack (FB507) and one warehouse (Building number is unknown, now removed).
1942	Shoreline of Horseshoe Cove is stabilized with a wooden bulkhead. The bulkhead is repaired and expanded successively through the 1980s. Original length extended across western quarter of the cove; final length extends along entire length of the cove.

1942	Maintenance building (FB665) and Motor Repair Shop (FB689) are constructed near the Boat Repair Shop.
1942	Construction is completed on two new dolphins at the submarine wharf (FB415).
1942	Construction is completed on a new 6-inch water line within Fort Baker.
1942	Construction is completed on improved electrical transmission lines for Forts Baker, Barry and Cronkhite. The distribution system includes lines on overhead poles and underground cables.
1942	Construction is completed on two new reinforced concrete 400,000-gallon water reservoirs, one at Fort Baker (FB572) and one at Fort Cronkhite, and associated distribution system including connections to 200,00 gallon reservoir at Fort Barry. New 8-inch transit line under East Road connects FB572 to Marin Municipal Water Company; FB572 connects to existing site distribution system using 6-inch line.
1942	Construction is completed on expansion of gas distribution system at Forts Baker, Barry and Cronkhite to serve new heating and cooking needs.
1943	Mobile searchlight storage (FB691) is built to support WWII coast searchlight program.
1943	Battery 129 Radio/Switchboard Room is built (FB770).
1943	Satterlee breakwater (FB630) is built of stone, extending 778 feet to the west from Cavallo Point into Horseshoe Cove. At the same time, the Marine Repair Shop (FB699) is also constructed, initially consisting of seven bays of warehouse space fitted with an overhead rolling crane.
1945	East Road is widened to 26' as far as Battery Cavallo, and to 36' to its junction with Alexander Avenue. Wide pullouts with benches and picnic tables are installed.
1946	Prefabricated metal building (FB665) is constructed at the waterfront in the vicinity of the Boat Repair Shop (FB67) to support marine repair activities at the cove.
1946	The Army Medical Laboratory is relocated to Fort Baker from Fort Ord. The unit includes 78 enlisted men and 24 civilian staff. By this date, all gun emplacements at Fort Baker batteries are deactivated.
1947	The mission of Army personnel at Fort Baker is revised to that of training personnel and testing new developments. An artillery detachment of 7 officers and 178 enlisted men is stationed at the site, while a mine detachment of 9 officers, 9 warrant officers and 200 enlisted men is also stationed at the site.
1948	Fort Baker World War II mobilization hospital is removed from active duty.
1949	The Mine Detachment Artillery School leaves; it was the last coastal defense function at Fort Baker.
1951	Flagstaff is erected at northwest end of parade ground, near the intersection of Murray Circle and Kober Street, replacing earlier flagstaff.
1951-1984	Various improvements are made to the Satterlee Breakwater(FB630) including repairs to water service, electrical, lighting, topography, beacon light, boat basins, etc.
1953	The Army grants an expanded transportation right-of-way to California Department of Transportation (CalTrans) for Vista Point, the first hill encountered by northbound travelers crossing the Golden Gate Bridge. The right-of-way is fenced.

1954	The State of California adds an additional 100' to the Baker-Barry Tunnel (west portal).
1955	The 561st Army Engineer Company Port Construction Unit is relocated to Fort Baker from Camp Edwards in Massachusetts. The unit includes 200 enlisted men and 10 officers.
1956	The U.S. Coast Guard acquires land within Fort Baker Military Reservation, including Tract 02-114, a .27-acre portion of Yellow Bluff, and Tract 02-115, a .15-acre portion of Lime Point, and Tract 02-116, a 2.00-acre portion of Point Diablo.
1956	The World War II-era mobilization hospital becomes the site of the 6th Army Medical Laboratory.
c. 1958	Boat Ramp (FB634) is built as a 24'-wide, 100'-long sloping concrete roadbed connecting Sommerville Road with the beach at Horseshoe Cove. The boat haul railway pier leading to FB633 is removed.
1959	Capehart housing complex is completed: twenty-one duplexes are constructed.
c. 1960	A concrete retaining wall is built from the ramp (FB634) across the front of FB633.
1962	CalTrans constructs a paved parking lot on Vista Point.
1964	CalTrans constructs a small restroom facility on the edge of the Vista Point parking lot.
1967	The federal government transfers portions of the Forts Baker and Barry Military Reservation to the State of California to create the Marin Headlands State Park. Tracts include 02-120 and 02-122, including portions of east Fort Baker and west Fort Baker.
1972	Golden Gate National Recreation Area is established under Public Law 92-589, and the NPS takes over management of most open space throughout the Marin Headlands.
1975	CalTrans expands the Vista Point viewing area on the south side of the parking lot.
1975	The Army transfers portions of west Fort Baker to the National Park Service. Tract 02-119 consists of 1499.56 acres including portions of west Fort Baker, Fort Barry and Fort Cronkhite.
1980	The State of California transfers portions of east and west Fort Baker to the U. S. Government for use as the Golden Gate National Recreation Area. Tract 02-122 consists of lands west from the Sausalito Lateral (Alexander Avenue) past Highway 101, at total of 133.80 acres. Tract 02-120 consists of 338.00 acres in west Fort Baker and Fort Barry along the shoreline of the Golden Gate from approximately Battery Spencer to Black Sands Beach.
1980	FB679 is taken over for use by the Presidio Yacht Club – a military-sponsored sailing club - and the adjacent marina is taken over for use by pleasure craft. The Presidio Yacht Club departs from FB633.
1983	Most buildings that comprise the Mobilization hospital complex at waterfront are demolished.
1985	CalTrans constructs a larger restroom facility in the center of the Vista Point parking lot.
1985	The U. S. Army transfers portions of east Fort Baker to the National Park Service. Tract 02-102 consists of 5.83 acres including western portions of Horseshoe Cove.

1986	The U. S. Army transfers portions of east Fort Baker to the National Park Service. Tract 2-197 consists of 257.7 acres including the Quartermaster warehouse area, East Road and adjacent lands, Battery Duncan hill, and areas from the Sausalito Lateral west to Highway 101.
1988	The U. S. Coast Guard constructs Station Golden Gate (FB655) and floating docks. The building and adjacent lands and docks on the west side of Horseshoe Cove are included in a USCG right-of-way.
1989	The Loma Prieta Earthquake closes Baker Barry tunnel. It was reconstructed later that year.
1988-1990	The Bay Area Discovery Museum (BADM) improves and occupies FB557, FB559, FB561, FB637, FB666, FB644, FB645, FB566, FB567, portions of Satterlee Road and lands around these buildings. Additionally, new building FB562 is constructed.
1995	A severe winter storm damages and destroys numerous historic trees around the fort.
1998	The National Park Service undertakes development of a comprehensive plan for east Fort Baker leading to the Fort Baker Plan and related Environmental Impact Statement.
1999	Building foundation repair project results in removal of some historictrees and most foundation plantings from around historic structures in the cantonment.
2000	Portions of marine railway (FB668) removed by Army in order to construct deck on rear of FB679.
2000	The Record of Decision on the Fort Baker Plan is signed.
2002	The Lone Sailor Memorial is completed at Vista Point.
2002	The Army transfers its last landholdings in east Fort Baker to the National Park Service. Tract 02-196 consists of 71.28 acres including the Fort Baker core cantonment and eastern portions of Horseshoe Cove.

Existing Conditions

Physical Setting[67]

The Fort Baker Military Reservation is situated on the east shore of the Marin Headlands in San Francisco Bay. This area is part of the Coast Range geologic province of California, and consists of northwest-trending folds and faults, steep hills, and areas of exposed bedrock. Fort Baker is located on the more shallow portions of these hills, rising from the shoreline to the highest point on the west at about 800 feet, sloping down to about 200 feet on the east. The native vegetation surrounding east Fort Baker has been heavily impacted by various land uses including cattle ranching, quarrying, landfill, road construction and slope stabilization. The vegetation is a mixture of native and non-native species that are well adapted to such coastal influences as summer fog, maritime temperatures, salt spray and strong winds.

The Fort Baker developed area includes 335 acres situated in a bowl-shaped valley to the east of US Highway 101. It is bordered on the north by Slacker Ridge and on the south and east by San Francisco Bay. On the south side of the site is Horseshoe Cove, a shallow bay, covering about 16 surface acres. This cove, and the associated beachfront extending around the shoreline between Point Cavallo on the east and Lime Point on the west is considered part of the core area of Fort Baker.

Access and Circulation

General Access

Access to Fort Baker from US Highway 101 is accomplished via Alexander Avenue (Sausalito Lateral), which connects Highway 101 with the town of Sausalito. Direct vehicular access to Fort Baker from Alexander Avenue is by either of two roads: East Road or Danes Drive, which connects Alexander Avenue with Bunker Road. Bunker Road, a winding two-lane road, provides access to Fort Baker for vehicles arriving from either the Baker-Barry Tunnel or US Highway 101. East Road, also a two-lane road, is used by motorists as well as bicyclists for access into Fort Baker.

Conzelman Road extends west from the southbound entrance to Highway 101. A segment of the original Conzelman Road, sometimes referred to as Vista Point Road, connects Vista Point to the Fort Baker cantonment following a narrow route benched into the hillside and ending at the waterfront near the former site of the Engineer's Camp. From the westbound segment of Conzelman Road, Kirby Beach Road is a restricted, winding, one-lane dirt road leading to Kirby Cove. Conzelman Road also provides access to Bridge and Bluff roads on the west side of the bridge approach.

McCullough Road connects the west Capehart Housing/Bunker Road with Conzelman Road and provides connections with three dirt roads: Dubois, Julian, and Slacker, now used as hiking trails and fire roads. Lamoraux Drive and a portion of Smiley Street, both paved streets within the west Capehart housing area, are within the historic boundary for Fort Baker.

Internal Circulation

Roads are relatively limited within the core area of Fort Baker, reflecting a hierarchy of use by the military during the historic period. Secondary roads include two-lane and one-lane roads. Four of these roads are two-lanes wide and include Murray Circle (one-way), and McReynolds Road, both of which provide the primary circulation for the buildings ringing the parade ground. Other two-way roads include Kober Street, Merrill Street and Breitung Road.

The one-lane, one-way roads include Seitler Road and Swain Road. One-lane, two-way roads include Sommerville Road, Satterlee Road, Umia Street and Moore Road. Moore Road, portions of which are currently closed to public access, extends from Murray Circle along the western edge of Lime Point to a spot immediately below the Golden Gate Bridge.

Partially paved and gravel roads are not open to public vehicle access and are often used by pedestrians. These roads include Battery Yates Road, Satterlee Road (partially paved), Battery Cavallo Road, Drown Road (access to the reservoir and Battery Duncan) and Gibson Drive.

Parking Areas

Both paved and unpaved parking areas are clustered around the parade ground, along major roads, and on the waterfront, and accommodate both NPS and visitor use of the site. Parking areas along the outside edge of Murray Circle and along McReynolds Road provide the majority of parking for the buildings along the parade grounds. Three separate parking lots on either side of Center Road (the southern end of the parade ground) provide parking for the both the parade ground and Discovery Museum visitors.

Unpaved parking pullouts along Conzelman and East Road are currently used primarily as scenic pullouts providing outstanding viewing opportunities of the east bay and San Francisco.

Trails

Approaching Fort Baker from the south, the surviving early 20th century segment of Conzelman Road has been designated the San Francisco Bay Trail, a route which crosses the Golden Gate Bridge and extends down to Conzelman Road, wraps under the Bridge, continues along Moore Road to Center Street, and follows East Road toward Sausalito. Other trails extend through west Fort Baker and include the American Discovery Trail, the Bay Area Ridge Trail and the California Coastal Trail which follows Conzelman Road on the west side of Highway 101 and connects with the historic traces of Slacker Road and Julian Road. The Kirby Beach Trail runs from Battery Spencer to Kirby Beach along a historic access road down to the beach. A new loop trail is proposed that would connect Drown Road at Battery Duncan with the chapel. Each of these trail segments use portions of the historic road system to make up their routes.

Land Use

NPS and the U.S. Army have completed the land transfer of all Fort Baker tracts. Accordingly, its historic land use as a military post has been completely phased out. Current uses include NPS administrative and maintenance facilities, public recreation, the Bay Area Discovery Museum, and a U. S. Coast Guard Station. A retreat and conference center is currently being planned for development on the site under a lease agreement with the NPS.

NPS Administration and Maintenance

Currently, the National Park Service administrative offices for Fort Baker are located in FB602 (the former Artillery Barracks). NPS maintenance staff currently occupy FB513, FB407, and FB691 (the garage at the far left of FB691 is shared with the U. S. Coast Guard and California Department of Fish and Game). The maintenance staff provides labor for the physical upkeep of the fort.

Public Recreation

Open space, passive recreation, and sightseeing opportunities in Fort Baker occur on the parade ground, around the waterfront area, and at pullouts along East Road. Recreational uses include jogging, bicycling, hiking, dog walking, camping (by reservation) and sightseeing. The parade ground provides opportunities for baseball and other field sports. A seasonal overnight campground with restrooms, picnic tables, tent pads, water sources, and a parking area sits immediately behind the battery at Kirby Cove.

Travis Sailing Center

The Travis Sailing Center currently occupies four buildings on Satterlee Road in the southeast portion of the waterfront. The club uses the buildings, the marina, Refueling Dock, and Marine Railway.

Bay Area Discovery Museum

The Bay Area Discovery Museum is a children's museum which occupies nine buildings in the southeastern portion of Fort Baker. FB631 on Murray Circle is temporarily used for museum administration.

U. S. Coast Guard Station

The U. S. Coast Guard Station currently utilizes FB655 and portions of FB691 at the southwest corner of the historic core area at the intersection of Murray Circle and Moore Road.

Vegetation

Throughout the military reservation is a mixture of native and non-native species reflecting over one hundred years of various land uses. This mixture of species is dynamic in nature: the once open character of the nineteenth century

pasturelands has disappeared into coastal scrub, and originally-contained tree plantations of non-native eucalyptus, cypress and pines have vastly extended their boundaries in the century since planting began. Today, listed plant habitats include annual grasslands, native perennial grassland including remnants around batteries Yates and Cavallo, coastal scrub, ornamental/ functional plantings, estuarine, native oak woodlands, redwoods, and non-native stands of Monterey cypress, eucalyptus, and a variety of pine species.

What is left today of the ornamental vegetation planted during the period of significance includes groves of cypress and eucalyptus, remnant foundation plantings around the historic buildings, and the large open expanses of grass in the parade ground and around the buildings along Murray Circle.

Additional ornamental plantings (pine and redwood trees) were installed after the period of significance around the Capehart housing and also on the hillsides surrounding the cantonment. In addition, exotic species like pine, cypress, eucalyptus, acacia, and numerous other species are spreading outside of the cantonment into the surrounding hills. This mixture of native and non-native species makes it difficult for the NPS to manage the site's vegetation since both natural and cultural values are compromised by the rapid encroachment of non-native species throughout the military reservation.

Archeological Resources

Recent archaeological investigations and studies at Fort Baker have recorded nearly 300 features associated with the history of the Fort Baker Military Reservation, of which fifty-eight are associated with east Fort Baker. Cultural landscape features were aggregated into feature systems such as water systems, abandoned roads, utility features, tree stumps, various types of walls, quarries, navigational features, building foundations, garbage dumps, and other miscellaneous features.

No indigenous archeological sites have yet been identified.

Small-Scale Features

Few historic small-scale features remain at Fort Baker. Several of these features—such as fire hydrants and manhole covers—were documented as part of the *Phase One Archeological Investigations Survey For the Fort Baker Archeological Survey* conducted at Fort Baker in 2001. However, other small-scale site features— such as metal pipe handrails and wire fence—were not documented during this study, and while these features appear to date to the historic period (The War Years), additional research is needed to assess their historical significance. Small-scale historic site features that do remain at Fort Baker are important remnants of the military use of the area and generally contribute to the character of the cultural landscape.

Non-historic small-scale features include electrical poles, light standards, most fire hydrants, garbage cans, the parade ground baseball backstop and bleachers, various chain link fences, guardrails, picnic tables, benches, mailboxes, signs, banners, parade ground monument, and other miscellaneous site furnishings.

Building and Structures

Over a hundred historic buildings and structures are located at Fort Baker and represent a continuum of US Army use extending from the mid-nineteenth century until the present.

Most of the buildings at Fort Baker have recently been transferred to NPS management. The NPS, in turn, will be transitioning their use from military purposes to those in support of the site program as outlined in the Fort Baker Plan/ FEIS. Accordingly, the majority of buildings are presently empty but are being maintained until such time as they can be repaired and rehabilitated for compatible public use. Prior to their transfer to the NPS, the primary uses of the buildings were a combination of residential, utilitarian, and other buildings supporting administrative, recreational and religious needs of the fort. Non-historic buildings include both the east and west Capehart housing and the U.S. Coast Guard Station.

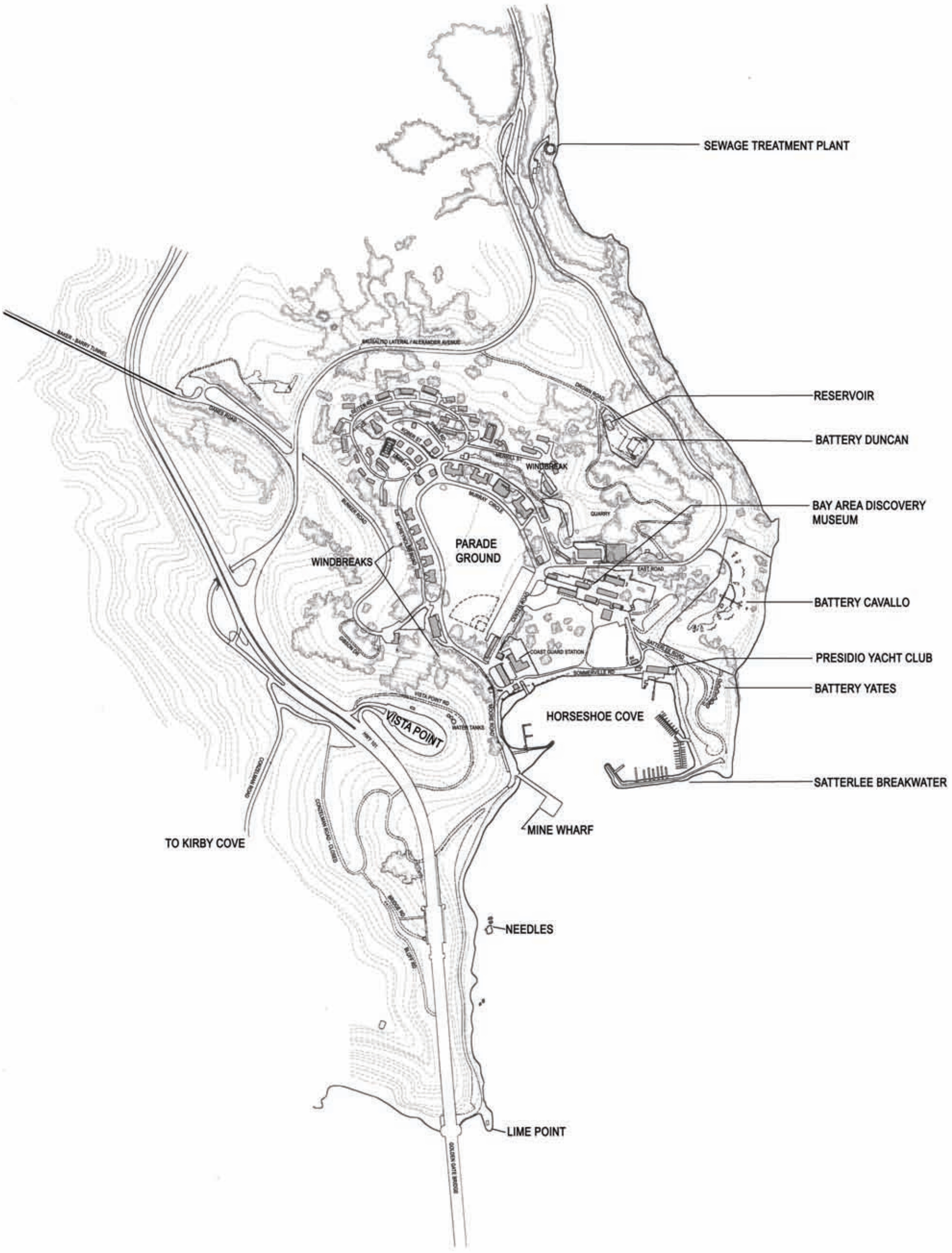
Structures remaining in the waterfront area were originally designed and constructed in support of marine-associated military activities. Along the waterfront, the Moore and Satterlee breakwaters provide protection from rough seas for the boats and buildings at Horseshoe Cove. The wharves, although no longer in use for the

loading and unloading of military equipment, are still used by a military sailing club, local fishermen, boating enthusiasts, and the U.S. Coast Guard. Seawalls used at Horseshoe Cove include poured concrete casement seawalls and the wood timber bulkhead.

Buildings and structures dating from the Cold War era also exist at Fort Baker, including the radio siren tower, a torpedo head installed at the waterfront near FB627, and the Capehart housing development. Because these features were introduced to the site following the period of significance, they are non-contributing; however, subsequent analysis may identify a historic context and significance within the overall military development of the military reservation during the Cold War.

Endnotes

[67] Portions of this section are excerpted and paraphrased from the Fort Baker Plan: Final Environmental Impact Statement, Vol.I, 1999, chapter 3-1, Affected Environment.



FORT BAKER CULTURAL LANDSCAPE REPORT

GOLDEN GATE NATIONAL RECREATION AREA

EXISTING CONDITIONS 2003

SOURCES: Fort Baker General Landscape History and Analysis, 2001, GGNPA; Towill Survey, 1997; Field Observations, 2001

LEGEND

TREE CANOPY

UNPAVED ROAD

PAVED ROAD

N

APPROXIMATE SCALE

150' 600'

MAP DATE: JANUARY 2002

Analysis and Evaluation

INTRODUCTION

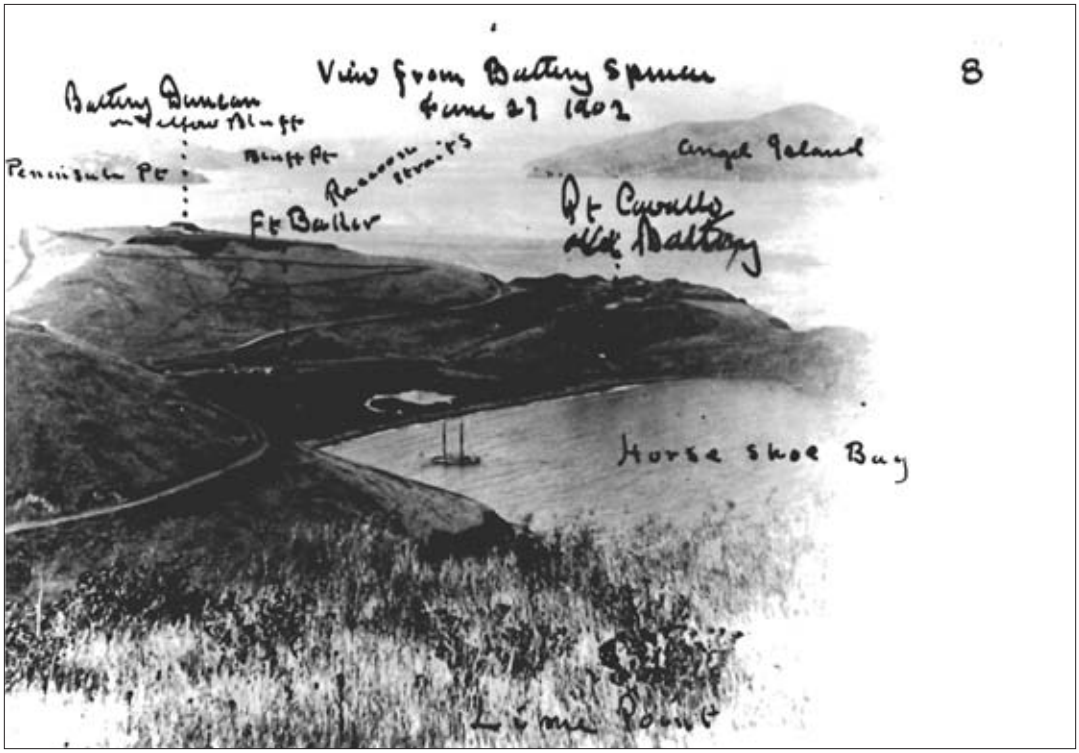
The analysis and evaluation of cultural landscape resources at Fort Baker is based on historical research and documentation of the existing conditions. For each of the nine landscape characteristics documented in this report, the analysis describes and evaluates landscape changes through the entire period of significance, highlighting changes during the three primary eras of development: the Endicott era, Post-Endicott era, and the War years to the present. The purpose of the evaluation is to identify the landscape characteristics and features that contribute to the significance of the site, and retain integrity. Because Fort Baker is already listed on the National Register of Historic Places, findings from the evaluation will be used to supplement the existing documentation.

Findings from the analysis and evaluation are synthesized at the end of this section. Six Cultural Landscape Character Areas in east Fort Baker are defined, illustrating the concentration of landscape resources in relationship to each other and to the fort as a whole. These character areas provide the framework for development of management zones and treatment recommendations, discussed in Part II of this report.

NATURAL SYSTEMS AND FEATURES

Natural systems have historically influenced the selection of specific sites for development by the military and, when Fort Baker was acquired in 1850, it was thought of as an ideal site offering the Army a number of tactical and defensive capabilities. Certainly the most important natural system influencing development of the site was landform. Historically, the natural landforms present at Fort Baker—a small harbor to accommodate ships, elevated terrain that provided commanding views and extensive sight lines for siting batteries, and a small sheltered valley that provided an area for construction of a cantonment - defined the framework for development of the post. **(Photo NS1)**

The steep hills of the Marin Headlands on either side of Horseshoe Cove were ideal tactical locations for the siting of batteries providing direct views of the Golden Gate Strait (Battery Orlando Wagner, Battery Kirby, and Battery Spencer) or San Francisco Bay (Battery Duncan, Battery Cavallo, and Battery Yates). Natural landforms permitted the batteries to be sited further back from the shoreline while maintaining direct views of San Francisco Bay and accommodating the range limitations of the



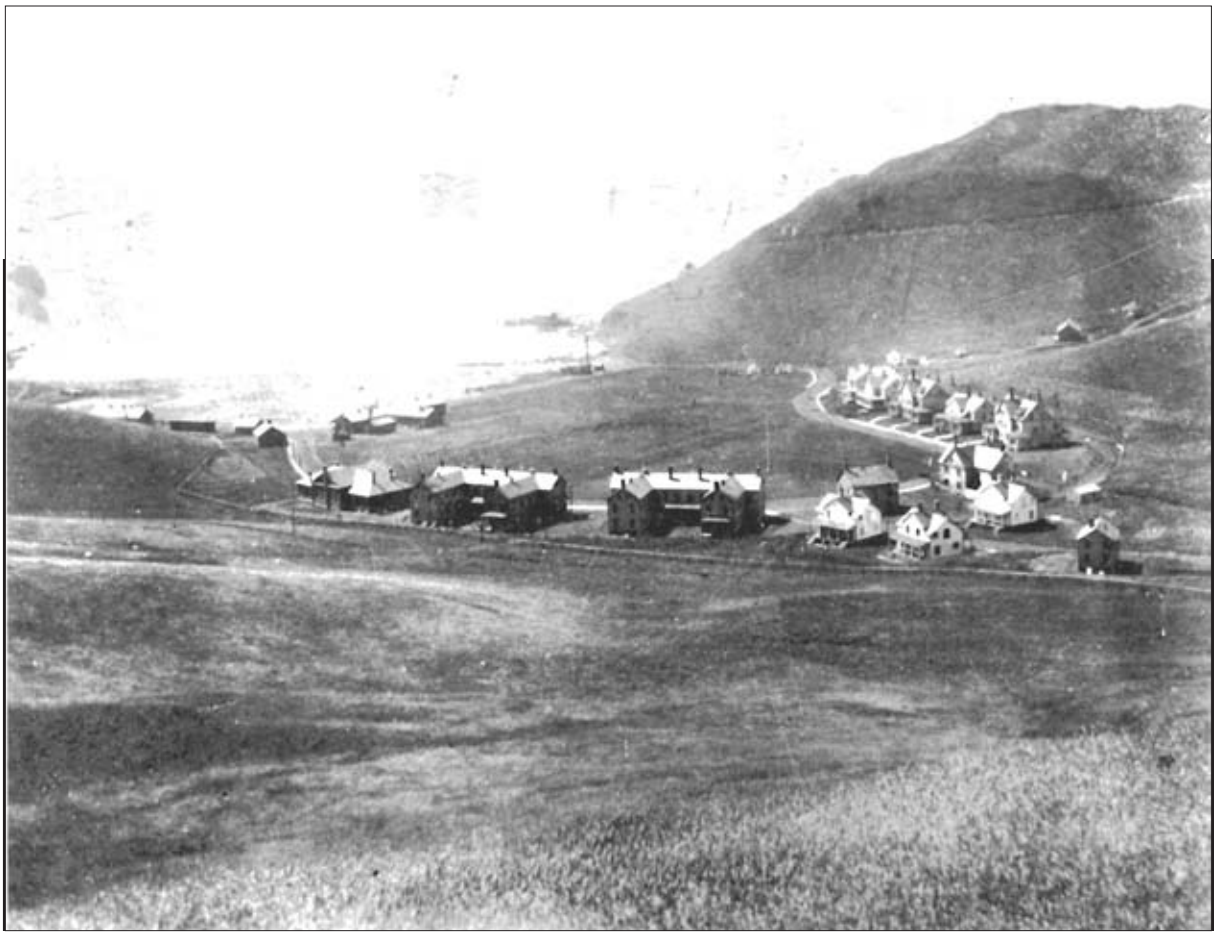
NS1 Historic photograph showing character of Fort Baker's surrounding landscape during the Endicott period circa 1902 (GGNRA Park Archives and Record Center, 1766-N4,07).

NS2 Water was pumped to storage tanks located on the hills above the cantonment. The hills provided a head to build water pressure to supply Fort Baker. Circa 1915 (GGNRA Park Archives and Record Center, 3311.007).

artillery. The natural grasslands and coastal scrub helped camouflage and blend these features into the landscape.

Horseshoe Cove, a natural bay, played a vital role throughout the early establishment and later development of Fort Baker. Serving as a primary transportation link prior to the construction of any roads, it was also the locale for the delivery of food, water, and supplies for the fort. During early development of the post, fluctuating tides and harsh wave action within the cove made shipping somewhat treacherous and in 1867 a breakwater was constructed between the Needles and the shore. Additional breakwaters were built on Horseshoe Cove during the post-Endicott period, and the natural shoreline was significantly modified for military uses through World War II.

Historically, water supply to the fort was an ongoing concern. During the period of initial development at Lime Point, the Engineer's Camp was supplied with water from small springs located on Lime Point Ridge. As the camp developed, this supply became insufficient and in 1897, the Army began to barge water to Horseshoe Cove. From the landing, the water was pumped to storage tanks located on the hills above the cantonment. The gradient between the tanks and the garrison provided enough water pressure to supply Fort Baker. **(Photo NS2)** Still, as the garrison grew, supplies again became inadequate. Fort Baker is sited in a northwest-trending valley that drains southeastward toward San Francisco Bay. Because the bedrock onsite is relatively impermeable, nearly all of the water that falls in the hills surrounding the cantonment drained through the site and into the bay along



NS3 The valley north of Horseshoe Cove was a relatively flat and natural setting for buildings, a microclimate buffering the cantonment from inclement weather. Circa 1904-6 (Sausalito Historical Society, Chambers Family Photo Collection, Negative 9846.3).

the waterfront at Horseshoe Cove, leaving the Army without a water reserve. In 1902, the Quartermaster began investigating alternative sources of water for Fort Baker. Several attempts to locate a reliable source of potable water onsite proved unsuccessful and in 1905, an agreement was reached between the Army and Marin County Water and Power to provide a connection between Sausalito and the post boundary.

The natural marsh north of Horseshoe Cove was filled in by the Army in 1903, both as a result of the growing use of this area as a dispersion point for supplies and because of military concerns over health issues (real or imagined). Subsequently, natural stream flows into the marsh were routed through buried culverts to outfalls at several locations along the shoreline.

The bowl-shaped valley located just north of Horseshoe Cove was a natural setting for siting buildings and administrative functions associated with Fort Baker. This sheltered valley buffered the cantonment from the harsh winds and fog, often prevalent on the ocean side of the headlands. The buildings were constructed around the edge of the slopes that created the valley, leaving the flat center area for the parade ground **(Photo NS3, previous page)**. Behind these buildings and along the base of the slopes of the hills, trees were planted throughout the historic period both in stands and in single rows. These trees functioned as windbreaks and perimeter plantings and provided a boundary definition to the cantonment in contrast to the open hills that surrounded it. These plantings were contemporaneous with forest plantings at the various entries into the Presidio, which were meant to distinguish the post from the natural surroundings and provide a more formal context for the military encampment.

The most significant change to the natural systems and features occurred with the construction of the Golden Gate Bridge and the associated access routes built to support it. The road cuts and fills and subsequent stabilization efforts significantly altered the historic character of several natural systems within the fort including slopes, aspect, hydrology, and vegetation.[68] **(Photo NS4)**.

Summary

Large-scale natural landforms—including the hills and bluff, protected valley, and Horseshoe Cove—were the dominant natural system influencing the early establishment and subsequent development of Fort Baker by the military. Natural landforms affected the siting of structures, the design and layout of the cantonment, and use of the waterfront. Although natural systems were modified by the military during the development of Fort Baker, these modifications occurred during the period of significance and reflect the designed adaptation and use of the landscape by the military. In this regard, natural systems, specifically large-scale landforms, contribute to the historic character of

NS4 Construction of the Golden Gate Bridge in the early 1930s physically impacted Fort Baker's natural systems and features. July 1936 (Golden Gate Bridge Archives).

the cultural landscape.

Endnotes

[68]Because the bridge and its associated features are important contributing elements of any future Golden Gate Bridge Historical District nomination, they would need to be assessed within that historic context, however, their physical impact on the natural systems at Fort Baker was extensive.

SPATIAL ORGANIZATION

Spatial organization at Fort Baker was historically shaped by two primary factors: the strategic needs of the military related to the construction of coastal fortifications in the mid-nineteenth century and the geomorphology of the Marin Headlands. Prior to acquisition by the Army, the Marin Headlands were pastoral in character with few roads and little development. Grazing cattle kept the vegetation low and the landscape generally open along the bluffs and in the valley north of Horseshoe Cove. Historic photographs show a small cluster of at least two structures with a fenced area sited adjacent to the marsh at Horseshoe Cove; however, no other development is known to have been associated with the site. By 1866, when the federal government purchased 1,899 acres of the headlands in order to establish the Lime Point Military Reservation, the landscape was characterized by rolling hills, ravines, small valleys, and pasturelands bounded by sheer cliffs and rocky beaches at the water's edge. These features, combined with the relatively flat and protected valley north of Horseshoe Cove, offered the most strategic location for the military to protect the Golden Gate and provided the physical setting for the development of a military cantonment.

Historically, spatial organization at Fort Baker focused on the shoreline and the area around Horseshoe Cove. In 1867 the first breakwater in the bay was constructed between the Needles and the shore, creating a protected harbor and allowing the transport of men and materials from San Francisco. The same year, construction of a large wharf containing two buildings, a waiting room, and a pump house was constructed on the lee side of the breakwater. North of the wharf, a complex of temporary structures including quarters for over 200 men, a mess hall, workshop, and storehouses were completed. This area, known as Engineer's Camp, became the early focus for staging and housing workers during construction of the batteries. Following the establishment of Engineer's Camp, development turned to the construction of the shoreline defenses and the infrastructure required to support these structures.

Initial plans by the Army called for a single, massive masonry fortification to be erected near the water's edge at Lime Point. Advancing military technology soon rendered this plan obsolete, and over the next several years multiple individual batteries were built along the shore and on the bluffs of the coastal hills, reflecting a significant shift in the organization of harbor defense undertakings in the United States. Gravelly Beach Battery, Cliff Battery, Ridge Battery, and Battery Cavallo as well as several associated support facilities were all completed between 1870 and 1876. Roads were sited and graded along the flat lands adjacent to the shore to transport workers, materials, and construction equipment from the wharf and staging areas at Engineer's Camp to each of the batteries, leaving large tracts of the military reservation open and undeveloped. By 1897 when the Army began to construct the cantonment at Fort Baker, the spatial organization of the site was tied directly to the waterfront and bluffs surrounding the bay. In many ways, this general pattern would remain a key element of spatial organization at Fort Baker through World War II.

The most significant change to spatial organization influencing the landscape character of Fort Baker occurred during the Endicott era. While early development had been limited to shoreline battery construction and affiliated access roads, the small valley north of Horseshoe Cove remained undeveloped. Initially used to house troops in tents, this open area soon became the focus for more permanent housing and structures supporting the administrative functions of the fort. By 1900 a plan for development of the larger cantonment was in place which would eventually define the use and organization of the site.

Typical of other design standards for military cantonments of the period, the principal buildings and roadways of the post were laid out around an open parade ground. At Fort Baker, the relatively flat valley adjacent to Horseshoe Cove provided the necessary open space to establish a parade ground. Murray Circle formed the boundary of the parade ground and created a horseshoe-shaped space with a slight downhill slope to the southeast. Eleven buildings including barracks, a post exchange and gymnasium, officers' housing, the post headquarters building, and the commanding officer's residence were evenly spaced facing the parade ground. Buildings were sited based on military hierarchy of rank and post function, with the commanding officer's residence at the highest point on the center of the arc, officers' quarters on the west side, and barracks buildings on the east side. It is possible that favorable

climactic conditions dictated the placement of the officers' quarters on the west side of the parade ground since the hillside behind protects these residences from the stiff winds and blowing fog coming in through the Golden Gate. In addition, the officers' quarters enjoy direct exposure to the morning sun, while the enlisted men's barracks on the east side of the parade ground would receive less direct sun due to the late afternoon fog.

Non-commissioned officers were housed in buildings directly north of the parade ground on Kober Street. Service-related structures were located on spur roads north and south of the parade ground. Trees planted approximately forty feet on center along the northern arc of the parade ground added to the formal symmetry of the core area. The addition of windbreaks planted in 1903 along McReynolds Road defined the western edge of this core development.

At the southeastern edge of the parade ground, completed in 1901, Murray Circle intersected the road to Sausalito [East Road]. With the construction of a gatehouse near the junction, access to the post was controlled at this point. Expanding the working character of the wharf and waterfront, this area southeast of the parade ground became the locus for a variety of service-related activities and included a storehouse, stable and corral, a guardhouse, coal shed, and a bakery.

Although work on the batteries resumed during the Endicott era, the emphasis was on modernized military techniques that involved improvements to existing structures rather than replacement or relocation. In this regard, spatial organization as it related to the batteries and their associated support structures remained focused along the shoreline east, south, and west of the cantonment.

By the end of the Endicott era, the spatial organization defining use and function at Fort Baker was essentially complete. Design of the fort was characterized by coastal fortifications and associated support structures sited along the headlands and shoreline, a working wharf and adjacent service buildings, and the formal and structured core residential and administrative areas laid out around the formal parade.

Although changes to the post were made between 1916 and 1945, most of those changes occurred within the structural and spatial framework of the site established during the Endicott era. One notable exception to this was the changes made to the waterfront around Horseshoe Cove. In 1903, the marsh north of Horseshoe Cove had been filled in, yet left free from development. Beginning in 1929 and continuing through World War II, several major structures were built around Horseshoe Cove, supporting the working character of the waterfront which centered on harbor defense and expanding the range of service-related functions that occurred there. Between 1920 and 1943, a seawall and two breakwaters were constructed around the cove along with repair shops, boat ramps, and a refueling dock. The original wooden wharf on the west side of the cove was expanded and reconfigured. Mine depot structures including a storehouse, cable tank building, powerhouse, and two loading rooms were also built.

In May of 1941, the War Department approved the construction of a large station hospital at Fort Baker. In three months, twenty-five standard hospital buildings were erected in the area between Horseshoe Cove and the south end of the parade ground. By the end of the war, forty-five buildings of similar construction comprised the station hospital complex in this location. While the waterfront area remained industrial in character through this period, the type and density of new facilities constructed at this time reinforced the use of this area as a working waterfront.

The other great change to the physical layout of Fort Baker was the completion of the Golden Gate Bridge in 1937. In addition to impacting the visual character of the site, the bridge and its approaches created an operational division between the fort - thereafter known as East Fort Baker and West Fort Baker.

By 1946 all coastal artillery weapons at Fort Baker were deactivated; the mines were raised and antiaircraft guns put in storage. In 1959, the Army's last major modification to the site involved the construction of twenty-one Capehart-style housing duplexes in support of the Nike missile defense program. Sited behind the crescent of buildings located on the upper end of Murray Circle, these residences were built for military families. The spatial layout of this development is characteristic of site planning standards used throughout the United States during this period, which the Army incorporated in their own site design

standards and used on many of their posts. In 1983, the hospital complex south of the parade ground was dismantled, significantly altering the historic spatial organization of the area north of Horseshoe Cove and south of Center Street. A new U.S. Coast Guard Station was added northwest of Horseshoe Cove in 1988.

Summary

Three areas historically influenced and defined the spatial organization of Fort Baker —the batteries and shoreline fortifications, the waterfront and development around Horseshoe cove, and the parade ground and associated structural hierarchy of military design. While individual features and elements within these areas were modified over the years, all three retained functional and spatial integrity throughout the period of significance.

For each area, the aspects that contribute to the character of spatial organization are as follows:

Batteries and Shoreline Fortification

• Individual complexes (battery and support structures, including access roads) that form a system of fortifications and a structural perimeter along the shoreline to the east, south and west, of the cantonment.

Waterfront

• Work-related military structural development around Horseshoe Cove including breakwater, seawalls, wharves, ramps, and ship repair structures defining the industrial character of the waterfront.

• The use and development of the area adjacent (north) of Horseshoe Cove for service-related functions and support facilities.

Parade Ground and Murray Circle

• The shape, orientation, and open nature of the parade ground, defined by Murray Circle, the cluster of historic structures ringing the parade ground, McReynolds Road forming the outside edge of the space, and the windbreaks and eucalyptus perimeter plantings forming the boundary between the cantonment and the open space beyond.

T1 The silhouette of Cavallo Battery against the San Francisco Bay illustrates the extensive use of earth works in early battery construction. Circa 1914 (GGNRA Park Archives and Record Center, 1766).

TOPOGRAPHY

Topographic modification to the landscape at Fort Baker began in 1868, two years after the federal government purchased the land comprising the Lime Point Military Reservation. The military initially focused on constructing a large fortification (similar to Fort Point), which led to the largest peacetime blasting operation to date as twenty-five tons of gunpowder were used to shave off the face of the cliff at Lime Point. Blasting was done to create a level building platform at the base of the cliff. Work on the fortification was never completed, due in large part to changes in military technology after the Civil War, making the structure obsolete before it was ever constructed.

In lieu of a single structure, dispersed smaller earthworks were built along the bluffs overlooking the bay. Construction of the batteries during this period was characterized by brick and stone masonry combined with enhanced earthworks. Gravelly Beach Battery, Ridge Battery, Cliff Battery, and Battery Cavallo were each open, earthen barbette batteries. A combination of excavation and mounding of earth was used in their construction, which modified the natural topography. Although harsh cuts and mounds were discouraged as potentially giving away the location of the guns, some of these early efforts, such as Battery Cavallo, were considered a complete exercise in earth shaping. When Battery Cavallo was complete, the landscape had been re-sculpted with a degree of symmetry and regularity that made it immediately distinguishable from it surroundings. **(Photo T1)**

Early roads between Engineer's Camp and the batteries also required extensive cuts as road grades were significant between the waterfront and the batteries built on the bluffs along the shoreline. In such instances, the military typically avoided the use of fill slopes in road construction. Construction of Conzelman Road from Lime Point to Gravelly Beach was initiated in September of 1870. Originally laid-out to follow the rocky shoreline around the point, this route was abandoned in favor of an inland one that traversed the ridge west of Horseshoe Cove (Conzelman Road). The resulting alignment was a circuitous road cut into steep hillsides, which negotiated severe grade changes with switchbacks. **(Photo T2)**

T2 Conzelman Road was aligned to negotiate steep grades between Horseshoe Cove and Gravelly Beach. Circa 1904-06 (San Francisco History Collection, San Francisco Public Library, Negative 6453.)

Topographic modifications were undertaken during the Endicott era to create the parade ground, to align Murray Circle and Kober Road, and to create level building areas around the parade ground and the adjacent developed area. Although the area north of Horseshoe Cove was open and relatively flat, it did not provide the precise grade required for a military parade ground, and in 1902, plans were made to

T3 The buildings located on Murray Circle were constructed on a bench surrounding the Parade Ground. Circa 1905 (GGNRA Park Archives and Record Center, 18478.002)

add 25,000 cubic yards of fill to level the area. Work on the parade ground included rerouting several creeks into culverts and filling a ravine that ran through the parade ground. When the grading project was completed, the flattened parade ground sloped northwest to southeast towards Horseshoe Cove with a 40-foot drop in elevation. Photographs document the cuts and fills required adjacent to the parade ground for the construction of flat building pads for both roads and structures surrounding the parade ground and the rest of the developed area. **(Photo T3)**

The final major modification to the natural topography during this period occurred in 1903, when 80,000 cubic yards of fill was used (possibly dredged from Horseshoe Cove) to fill in the marsh directly north of the cove, adding seven buildable acres to post.

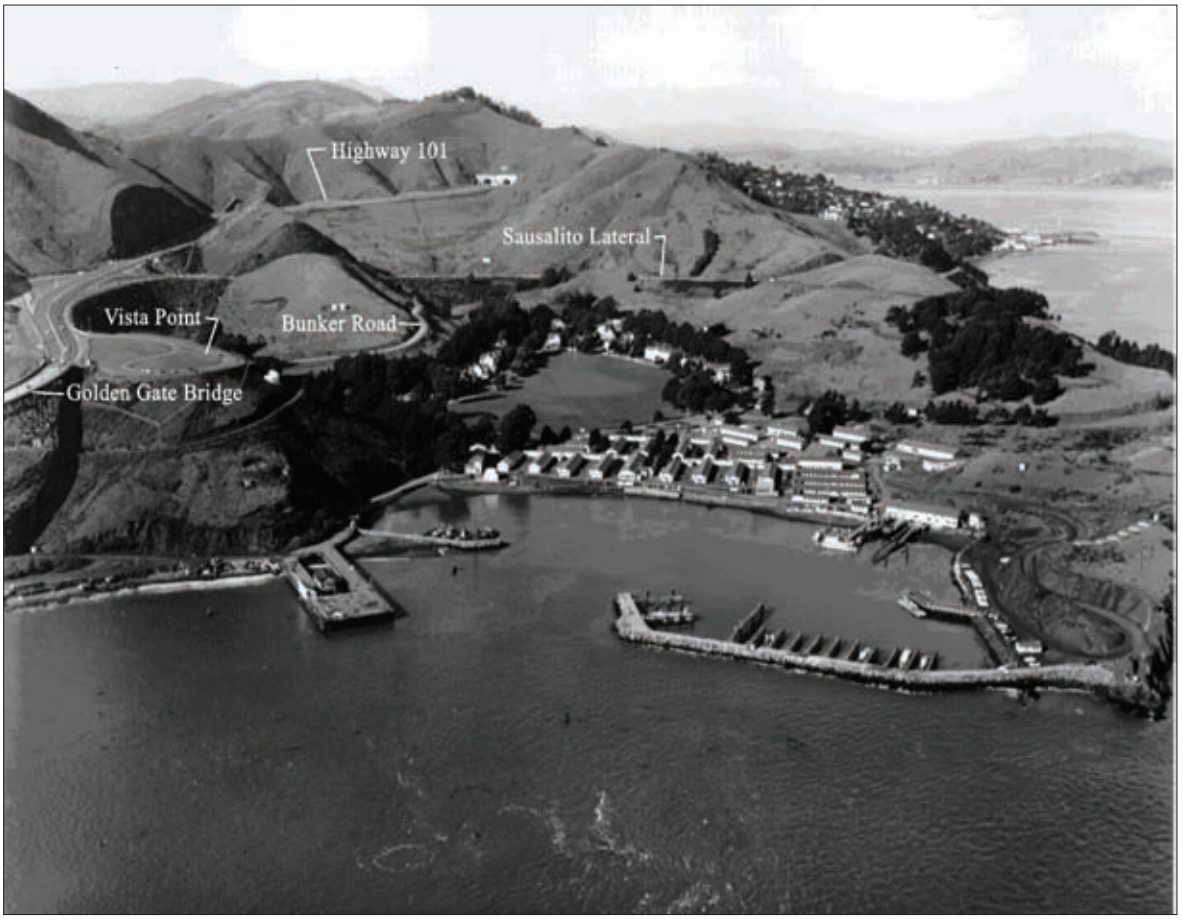
The construction of each of the main access roads to the cantonment required the creation of significant cuts and fills. Conzelman Road (1870), East Road (1901), and Bunker Road (1916) all have extensive topographic features such as retaining walls, cut slopes, and fill areas.

In 1913, a significant alteration of the landscape occurred when the hill that formed the eastern edge of Fort Baker was excavated. More than 75,000 cubic yards of sandstone were removed and barged to San Francisco for use in the 1915 Panama Pacific International Exposition. The hillside east of the hospital on Kober Street was also quarried for the red chert that was used for occasional road repairs. **(Photo T4)**

Certainly the largest manipulation of the natural topography at Fort Baker occurred with the construction of the Golden Gate Bridge in 1937. A massive earthen dam was built at the head of the valley to accommodate Highway 101 on a steady grade as it approached the Waldo Tunnel. Alexander Avenue was also constructed using large quantities of fill. Also known as the Sausalito Lateral, Alexander Avenue transected the northern portion of Fort Baker before connecting with East Road just south of Sausalito. The creation of Alexander Avenue necessitated the construction of the tunnel and walls for Bunker Road, which now passed under the road leading into the cantonment. **(Photo T5, next page)**

The development of the waterfront represents a period of continuous change and manipulation. Beginning with the filling of the marsh in 1903,

T4 The sandstone quarry located southeast of the Parade Ground had significant visual impact on the landscape. Circa 1915-20 (GGNRA Park Archives and Record Center, 3311.003).



T5 The construction of the Golden Gate Bridge involved the largest topographic manipulation at Fort Baker and created a distinction between East and West Fort Baker. Circa 1955-60 (GGNRA Park Archives and Record Center, 2266-N1,02).

a series of projects transformed this area during the period of significance.

Following World War II few major topographic changes were made at the post. One significant change occurred when CalTrans created Vista Point on the top of the ridge forming the western edge of (East) Fort Baker north of the Golden Gate Bridge in the 1950s. The other topographic modification at the site occurred with the addition of Capehart housing in 1959. Grading was done throughout the area for building sites and associated roadways including the extension of Seitler Road and Merrill Street at the north end of the cantonment.

Summary

Throughout the historic period, topographic modification of the cultural landscape resulted in several elements that contribute to the historic character of the cultural landscape. These include:

• The earthworks and manipulated landforms around all five of the batteries, including the graded access roads and associated building sites.

• Cuts, fills, drainage features and retaining structures associated with East Road (including the relocation of the southern segment), Bunker Road, Moore Road, and Conzelman Road, and Mc Reynolds Road

• The grading (cuts and fills) specifically associated with development of the cantonment through the period of significance including the parade ground (fill), Murray Circle, the building sites along officers' row, and the barracks area.

• The fill that created the bulkhead and waterfront.

• Cuts and fills associated with the construction of buildings FB511, FB513, FB507, and FB507 (now removed).

While other topographic modifications occurred for more discrete developments during the historic period, they do not to individually affect the significance or physical character of the cultural landscape.

C1 Pre-Endicott 1916

CIRCULATION

Circulation was an essential landscape component of Fort Baker, shaped by the military between 1868 and the end of WWII. The earliest circulation systems at Fort Baker were functional in nature and designed to transport men and materials to various construction sites. Equipment, provisions, building supplies, and workers arrived via barge and steamer from San Francisco to a wharf located in Horseshoe Cove, which functioned as a supply hub and distribution point. From the waterfront, roads were established linking the wharf and the adjacent cluster of residences, storehouses and workshops - known as Engineer's Camp, to the discrete battery sites located along the shoreline. The earliest military road at the site was Moore Road. Built in 1868, Moore Road provided access to Lime Point for fort construction, and access to the Fog Signal Station. It remained an informal, unpaved road along the waterfront until 1902, when the bluff was cut back to widen the road. At this time the road was extended north, to connect with Center Road, improving access between the developing cantonment and the wharf. Just two years later, Conzelman Road was constructed (off Moore Road) to provide access for construction of the Gravelly Beach Battery.

Within three years, the road was extended one mile west towards Point Bonita, and provided communication access between Fort Baker and Fort Barry. By the end of the Endicott era, portions of Conzelman were oiled while turnarounds at the batteries were paved. Also constructed in 1872, Center Road was designed to provide access between Moore Road and Battery Cavallo. The alignment wrapped around the north side of the swamp area and helped define the south edge of the cantonment. Center Road, between Moore Road and East Road was paved in oiled macadam by 1909, and was paved in asphaltic concrete in 1943. In 1925, the section of Center Road leading to the wharf was paved with macadam; in 1940 this stretch of Center Road was paved with asphaltic concrete.

Four other early roads provided limited access to batteries within the fort: Drown Road, Kirby Beach Road, Battery Yates Road (Satterlee Road) and Cavallo Road. **(Photo C2)** These roads were informal in character surfaced with earth or gravel. Between 1890 and 1910, this simple network of roads was the core circulation system at Fort Baker and remains in place today.

In 1900, the Quartermaster Department began planning the post roads and sidewalks, devising a circulation system that centered on the parade

C2 The Engineers' Camp with the primary components of the early circulation - the wharf and roads constructed of gravel or dirt. 1868 (GGNRA Park Archives and Record Center, 4053).

C3 Late Endicott 1941

ground, and strengthening the connection between Fort Baker and outlying areas. Three primary new roads were developed to improve access to Fort Baker from the east and west. Earliest among these was East Road. The completion of this road to Sausalito in 1903 marked an important change in the development at Fort Baker as it provided the first overland access point into Fort Baker. Civilian hikers had informally visited the restricted area for some time, but the construction of this road into Fort Baker was the first accommodation made by the military to the citizens of Sausalito for non-military access and use of the fort. The eighteen-foot wide road was laid out along a gently curving alignment that skirted the eastern bluffs, taking advantage of the views along the bay and entered the site at the southeast corner of Murray Circle. A gate and guardhouse erected on the Sausalito end of East Road controlled access into the Fort. The road was oiled and entrance gates marked the boundary to the military post. In 1905, a painted white fence was erected along the entire length of road for safety reasons. During the war years this road was the primary eastern entrance to Fort Baker and was improved with gutters, guard rails, catch basins, and bituminous surface.

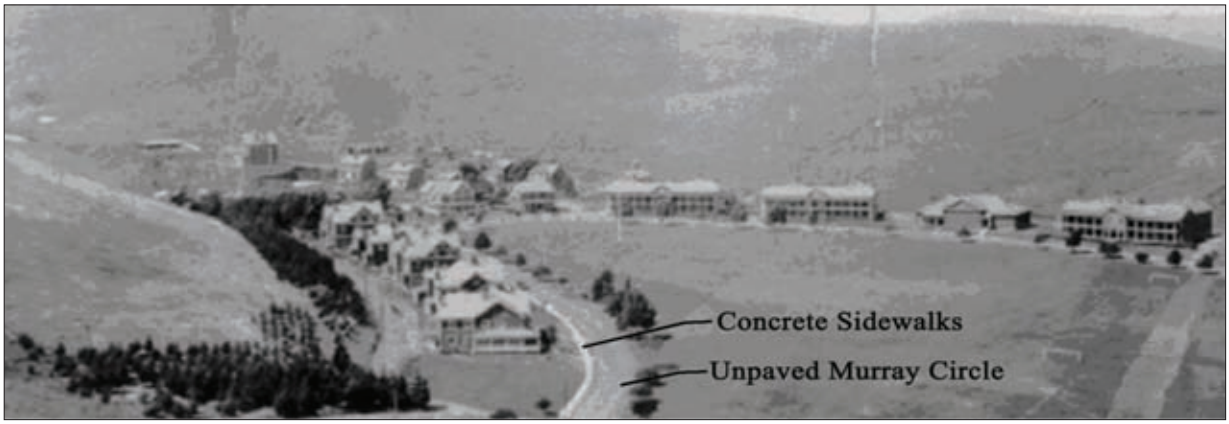
During the Endicott era, the connection between Fort Barry and Fort Baker was improved with construction of the Baker-Barry Tunnel between 1916 and 1918 The wood-lined tunnel measured 16' X 16'. The road through the tunnel was paved with a macadam surface, and had cobblestone gutters. Bunker Road led from the tunnel down to the cantonment and provided an improved connection between Fort Baker and Fort Barry.

Within the post, the Quartermaster plans for formalizing and improving circulation were also implemented during the Endicott era. Roads completed during this period include Murray Circle, McReynolds Road, Kober Street, Swain Road, and Umia Street.

Primary among these new roads, the horseshoe-shaped alignment of Murray Circle became a key organizational element of the cantonment around which a secondary circulation hierarchy developed. The alignment of Murray Circle followed the base of the hills that encircled the open, relatively flat parade ground in the center of the small valley. The sweeping arc of Murray Circle was distinct among roads at Fort Baker. Both alignment and width (26 feet) made the design a clear departure from the more utilitarian character of the early roads. The half-mile loop was constructed with six-inch concrete curbs on both sides and a concrete sidewalk on the exterior side of the loop. Like other roads at this time, Murray Circle appears to have been constructed of gravel. **(Photo C4)**

The Quartermaster plan for internal circulation also included McReynolds Road, a twelve-foot-wide service road that was laid out parallel to Murray Circle behind the buildings, providing access to garages. This road was designed to include a public sidewalk on the western side. A twenty-foot-wide spur road at the north end of the arc, Kober Street, led to the post hospital and non-commissioned officers' residences. Kober Street, the primary road leading to these homes and hospital, had concrete curbs and sidewalks on either side of the street. Service roads for the buildings on Kober Road include Umia Street and Swain Road. Umia Street also provided access to the tennis court.

All of the buildings along Murray Circle and Kober Street had wide entry walks and stairs that led directly to the primary entrances of the buildings from the public sidewalks. The width of entry walks ranged from six to ten feet depending upon the function of the building.



C4 Murray Circle circumnavigated the flat Parade Ground and formed the primary organizational element of the cantonment. Circa 1915 (Golden Gate National Recreation Area Collection)

C5 Construction of the Golden Gate Bridge and its approaches dramatically altered the Fort Baker landscape as well as the circulation system. Construction of the Sausalito Lateral is shown in the foreground. July 1936 (California Historical Society FN-32516)

Narrower, residential-scale walkways curved around the perimeters of the structures. Other than these paved walkways, there is little photographic evidence of pedestrian routes in the cantonment except for an informal footpath along the edge of the parade ground and another trail along the western edge of the windbreak behind the officers' quarters on the west side of the core area.

By the end of the Endicott era, the primary circulation system within the cantonment area was established. Supplies continued to arrive via the wharf and transportation between the local forts tended to happen over water, although the functional center of the site moved from the Engineers' Camp to the administrative buildings along Murray Circle.

C6 War Years 1942-1945

Few major alterations within the cantonment were made between 1916 and 1945. The internal circulation system was updated and expanded in some areas to facilitate an increased military presence. Road alignments were generally maintained, although intermittently widened and paved with macadam.

In 1937, construction of the Golden Gate Bridge, Highway 101, and the network of approach roads significantly modified the circulation system. Bridge construction resulted in a partial re-alignment of Conzelman Road adjacent to Highway 101, altering this battery road that had long connected Horseshoe Cove and Gravelly Beach. Bridge construction also introduced an alternate means of civilian vehicular access, supplementing East Road with the Sausalito Lateral (Alexander Avenue) connection to Bunker Road. For the first time, there was also a direct land connection with San Francisco including access to other nearby Army installations like the Presidio and Fort Mason. Bridge construction effectively split the Fort Baker Military Reservation in two as the alignment of Highway 101 cut through the headland landform known as Wolfback Ridge, creating what would become known as East and West Fort Baker. **(Photo C5)**

East Road was realigned and straightened as it entered the cantonment. Both East and Bunker Roads had contiguous concrete drainage swales along their uphill slopes, a typical characteristic of military road design. It is unknown when the guardrail along Bunker Road was built, and the guardrail post and metal on the road appears to date from the NPS era at Fort Baker.

Seitler Road was built around 1941 to provide access from Murray Circle and Kober Street to three new guesthouses (FB546, FB547, and FB549). The fill area immediately adjacent to Horseshoe Cove was developed as a military hospital complex (including covered walkways and vehicle access), a mine depot and a boat repair station. Construction

C7 Existing Conditions 2003

focused on boat moorings for large vessels and affiliated breakwaters in Horseshoe Cove. The Quartermaster wharf was modified and expanded for use as a mine depot structure. Many of these additions reflect a renewed effort to protect the bay from enemy incursions.

Few additions to the circulation were made after World War II and were associated primarily with the construction of the Capehart housing units at the cantonment and at its western boundary with Fort Barry. At the cantonment, Merrill Street was constructed and Seitler Road was lengthened to provide access to the upper housing area and chapel. The curvilinear roads and cul-de-sacs that were constructed to access the residences and their affiliated driveways comprise the largest change to the circulation system at Fort Baker. Other modifications include three parking areas on Center Road, which today primarily serve the Bay Area Discovery Museum.

Summary

With the exception of the Capehart additions, the road system throughout the cantonment retains integrity as a contributing landscape characteristic of the historic district.

Paved roads within the cantonment that retain integrity and contribute to the historic district include Murray Circle, McReynolds Road, Kober Street, portions of Seitler Road serving the WWII duplexes, Umia Street, Swain Road, Center Road, East Road, Bunker Road, Moore Road, Drown Road, Satterlee Road, Breitung Road and Sommerville Road.[69] Contributing roads outside the cantonment include portions of Conzelman Road, McCullough Road and the Baker-Barry Tunnel. The integrity of portions of Conzelman and Moore Roads have been diminished by modifications and closures related to the Golden Gate Bridge retrofit project. Contributing gravel roads to batteries include Drown Road, Battery Yates Road, Battery Cavallo Road, and Kirby Beach Road. Both the pedestrian sidewalks around the cantonment and the pathways around the historic buildings are intact and range from good to poor condition. The pedestrian footpath on the west side of the Monterey cypress windbreak also remains and contributes to the cultural landscape.

Other historic roads that were impacted by the construction of the Golden Gate Bridge are evaluated in a separate document.

Non-contributing roads include the Capehart additions including Merrill Street, portions of Seitler Road, Smiley Street and Amoraux Drive.

Endnotes

[69] The existing alignment of Sommerville Road is generally in its historic location along the edge of the seawall. However, the road that dates from the period of significance is below grade, and therefore cannot be evaluated as contributing structure. It may be considered as an archeological resource. This has yet to be determined.

CLUSTER ARRANGEMENT

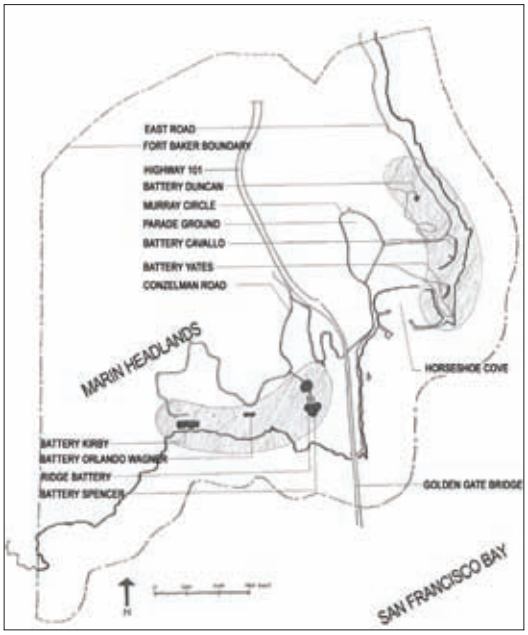
Historically, six developed areas within Fort Baker displayed a pattern and arrangement of structures, roads, overall use, and topography that defined specific stylistic traditions in military site planning and landscape design principles during the period of significance. While these six areas historically had a physical and functional relationship to each other as part of the overall operation of Fort Baker, only three remain today. These three structural clusters are:

1. The Batteries; both as an aggregate of coastal fortifications and as discrete complexes
2. The Parade Ground and structures around Murray Circle
3. The Quartermaster warehouse area on the south side of the parade ground

The three developed clusters that no longer remain are the Engineer's Camp, the Gibson Drive NCO Housing, and the Mobilization Hospital formerly located at Horseshoe Cove. Descriptions of the remaining developed areas follows.

The Batteries

The construction of artillery batteries around the shoreline created the tactical cluster of coastal fortifications that functioned in relation to each other and other fortifications on San Francisco Bay. This structural system was systematic in design and had an obvious tactical military purpose. Batteries were typically sited in a long line—such as Battery Duncan, Battery Cavallo, and Battery Yates, or on a defended point, such as Ridge Battery high on the north side of the Golden Gate. In addition to the overall arrangement of batteries around the shoreline, each battery was further defined by access, orientation, spatial design, the use of materials, and the range of the artillery emplaced in the battery. Additional structures or "outworks" were sited far enough away from the batteries to prevent dangerous situations, but close enough to provide support and services. The cluster arrangement defined by individual battery developments and the aggregate relationship among all six battery structures (and two remnant structures) remain important components of the cultural landscape.**(Map CA1)**



CA1 The battery clusters at East and West Fort Baker

The Parade Ground and Murray Circle

The small sheltered valley north of Horseshoe Cove provided the required open space and relatively level area to establish a parade ground for the rapidly expanding post. Somewhat unconventional in shape relative to other military posts, the parade ground was curvilinear in form and conformed more to the natural shape of the valley than to a contrived rectangular form common at other military posts. Murray Circle and the buildings that completed the cluster were also placed in relation to the parade ground, following the curvilinear pattern.

The cluster of residential buildings at Fort Baker was based on traditional military site design, reflecting a hierarchy of rank in the siting and style of buildings. All buildings sited around Murray Circle directly faced the parade ground with front entrances connected by steps and a sidewalk to Murray Circle. Hierarchy of rank was also reflected in the siting of officer quarters and barracks buildings for enlisted men. Quarters for the officers were sited near the base of a hill, which was relatively protected from wind, while the enlisted men's barracks were located on the east side of Murray Circle, more prone to wind and inclement weather. In addition, both east and west sides of Murray Circle were lower in elevation leaving the commanding officer's residence at the highest point on the north end of the parade ground—reinforcing the hierarchy of command in the arrangement of structures within the cluster. The commanding officer's residence was further distinguished by the additional open space around the building,

CA2 Historic photograph (October 1946, top) and contemporary photograph (March 1990, below) showing quartermaster warehouse south of East Road at Fort Baker (GGNRA Park Archives and Record Center, 4056 & Pacific Aerial Surveys AV-3766-0213-10).

open views to the south, and ornamental plant materials that were used around the yard.

The Quartermaster Warehouse Area Cluster

Historically, a complex of less than ten major structures, the buildings located between the Parade Ground and Horseshoe Cove comprised the core cluster of service buildings for Fort Baker. By end of the Endicott era there were three large storehouse buildings, a bakery, a large stable and associated corrals, a wagon shed, blacksmith shop, and a carpenter shop. Much larger than the storage provided at Engineer's Camp, this area became the supply hub for the entire post. Orientation was toward the road and waterfront, with large receiving porches and ramps. Today, several of these historic structures have been rehabilitated for use by the Bay Area Discovery Museum, and while the use has changed, the cluster arrangement remains and contributes to the character of the cultural landscape. **(Photo CA2)**

World War II Mobilization Hospital

This cluster of buildings was distinguished by its orthogonal arrangement that reflected the three boundaries of the waterfront area.

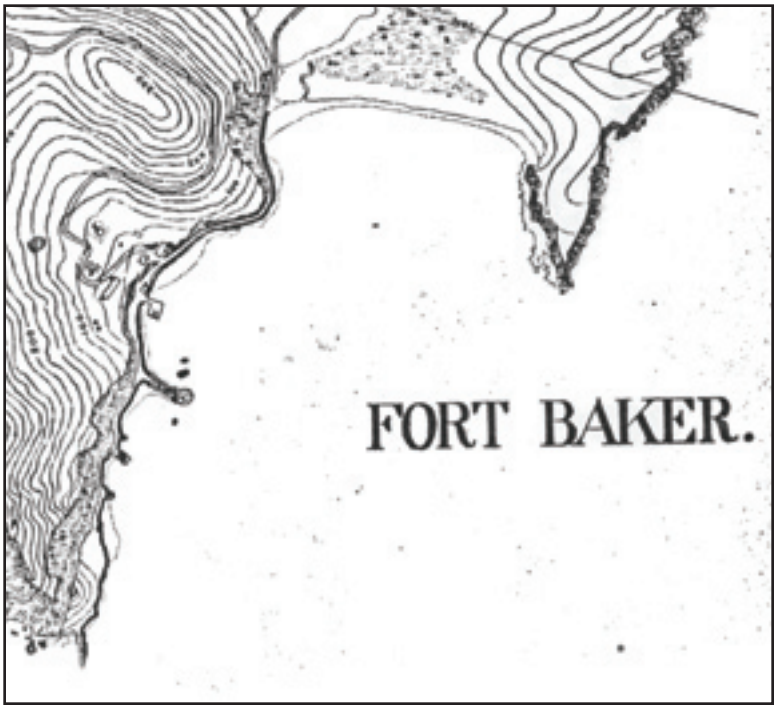
Engineer's Camp

This cluster of structures existed at the intersection of Moore Road and Conzelman Road from the earliest military development of the site in the 1860s to the 1930s. These structures were removed as part of the bridge construction. (Map CA3)

Gibson Drive Non-commissioned Officers' Housing

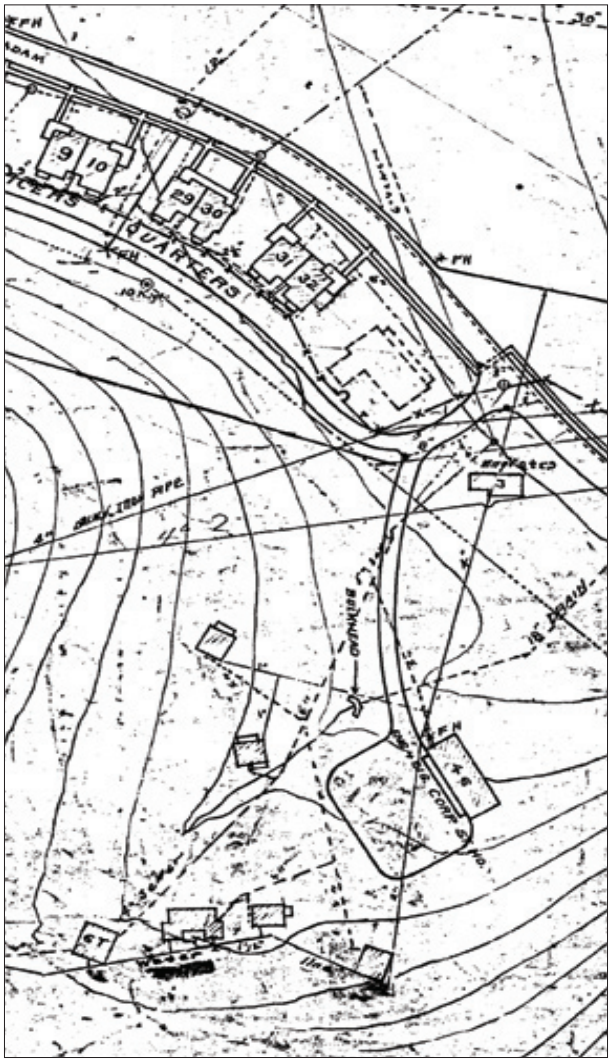
This cluster of structures was constructed very early in the site's history (circa 1900) and were removed in the 1930s concurrent with the bridge construction project. This cluster is noteworthy for its vernacular architectural style, which was at variance from the dominant Colonial Revival style of other residential buildings. (Map CA4, following page)

CA3 Historic map (1898) showing the Engineer's Camp at the waterfront. (PARC Collection of Maps, "Fort Baker, California").



Summary

Fort Baker retains integrity of cluster arrangement as evidenced in the siting and relationship among historic batteries along the shoreline, the Parade Ground, and quarters around Murray Circle, and the cluster of service-related buildings between the parade ground and waterfront. These clusters have distinct design, orientation, spatial organization, and relationship to adjacent areas and are important components defining the historic character of the cultural landscape.



CA4 Historic map (1909) showing the arrangement of houses along Gibson Drive. (PARC Collection of Maps, "Fort Baker, California")

VEGETATION

The use of vegetation at Fort Baker through the period of significance is both an expression of the landscape character and military design reflected in the development of functional and ornamental plantings. Ornamental plantings can be grouped into three general categories: foundation plantings around major buildings (primarily residential buildings), landscaping the parade ground, and general efforts to embellish the grounds of the cantonment. Examples of functional plantings include the establishment of windbreaks and perimeter tree plantings surrounding the cantonment, as well as modification and enhancement of vegetation around the batteries for camouflage.

The analysis and evaluation of the vegetation at Fort Baker is based on an aggregation of features. These features are organized into geographical areas based on design intent and functional use of vegetation employed throughout the period of significance. These areas include:

- The Batteries
- The Cantonment, including the parade ground, windbreaks, and perimeter plantings of eucalyptus trees
- The Quartermaster Warehouse area
- Open Space

The Batteries

Modification of existing vegetation and the introduction non-native vegetation at Fort Baker was ongoing throughout the Army occupation of the site, beginning in 1870 with the construction of the coastal fortifications. While the development of these structures was strategic and based on standard military designs, the landscape was considered an integral component of the design. Writing a review of coastal defenses in 1888, Henry L. Abbot, a prominent military strategist wrote:

> *… in the future we must sacrifice neat crests and beautiful slopes, so far as the service of the guns and protection against washing by storms will permit; trees and bushes must be planted on the parapets and behind the batteries to prevent a clear definition of the guns, the latter themselves must be colored to harmonize with their surroundings in summer and winter; in a word, dispersion and concealment, as contrasted with concentration and armor, is the latest [word]…*

Historic photographs of the site show that the Endicott era batteries were concealed using earthworks that blended well with the existing shrub and grass vegetation. **(Photo VG1)** In some instances the roof of the structure was planted over with additional low-growing shrubs and grasses, literally blending into the character of the adjacent landscape. Since it appears that none of the batteries at east Fort Baker had been planted at this time, it may be reasonable to assume that the plantings at Gravelly Beach had not yet occurred either.[70]

As technology related to artillery and coastal defense changed in the post-Endicott period, concealment of the batteries from the air assumed strategic importance. Photographs from this period indicate that the Army planted eucalyptus trees around the north, south and western sides of Battery Duncan, which had been disarmed by this time. The trees were placed in an informal, somewhat random pattern, leaving viewsheds towards the bay open to the east and southeast. During this period, the sight lines for the battery appear to have been maintained.[71] By the end of the historic period in 1945, aerial photographs of Battery Duncan indicate that the eucalyptus trees had largely concealed the disarmed battery.

Although it is unknown exactly when the batteries on the western side of the fort were planted with trees, the age of the existing trees at Battery Kirby and Gravelly Beach suggest they were also planted within the period of significance (1867-1945). An Army map indicates that Battery Kirby was planted with Monterey cypress on the steep hillside to the west and east

VG1 Low-lying shrubs and grasses characterized vegetation around the earthworks comprising Battery Cavallo Circa 1914 (GGNRA Park Archives and Record Center, 1766).

VG2 Photos show the expansion of vegetation around Battery Duncan. Photo on left October 28, 1946 (historic period); photo on right March 15, 1990 (GGNRA Park Archives and Record Center, 4056 & Pacific Aerial Surveys AV-3766-0213-10).

of the battery, and planted to the north and west with stands of Monterey pine and eucalyptus.[72]

After World War II, vegetation around Battery Duncan was no longer maintained. Over the years, the original stand of eucalyptus trees have grown and expanded outside the extent of the original planting and threaten the structural integrity of the battery (including seedlings growing on the roof of the structure). **(Photo VG2)**

Battery Kirby is also surrounded with historic plantings of eucalyptus trees, Monterey pine, and Monterey Cypress, which are spreading beyond their original boundaries.

Batteries Yates, Battery Cavallo, Battery Orlando Wagner and Battery Spencer have a generally open character and are primarily covered with native and non-native grasses and shrubs. The area outside Battery Cavallo also supports a cover of lupine (Lupinus albifrons), that provides habitat for the (endangered) Mission Blue butterfly. Although the some vegetation has become overgrown, collectively, these batteries still reflect the historic qualities found in earlier photographs dating from the Endicott period. The earthworks appear as rolling hills planted with grasses and low-lying shrubs, and are the dominant landscape type in this zone.

Summary

The grove of eucalyptus trees planted at Battery Duncan between 1911 and 1945 remain, however, the trees have spread into open space areas beyond the original boundary for the planting, obscuring historic viewsheds. In this regard, the grove of eucalyptus is considered contributing to the character of the cultural landscape, but is in poor condition.

Vegetation at Battery Cavallo has changed from low grasses and shrubs, to primarily large shrubs and small trees obscuring portions of the battery earthworks. Although the vegetation historically associated with the battery was primarily native, the character of the mature vegetation is significantly different, and has altered the appearance of the batteries from the appearance during the period of significance. Batteries Yates, Spencer, and Orlando Wagner are located within grassland/coastal scrub communities that have also matured over time, although the difference is not as striking as that of Battery Cavallo. Overall, because of these changes, the existing vegetation does not contribute to the historic character of the cultural landscape at these batteries.

Battery Kirby was surrounded by plantings of Monterey cypress, blue-gum eucalyptus, and Monterey pines. These plantings have matured, are in fair condition, and create a large forested area near Gravelly Beach, Battery Kirby, and along the adjacent coastline. These trees have spread outside the original boundaries into

VG3 (upper) Formal landscaping efforts along Kober Street. Wooden fence in foreground was typical of early site furnishings. Circa 1905 (Sausalito Historical Society).

VG4 (lower) Buildings on the west side of Murray Circle such as the Commanding Officer's Residence (Building FB604) were extensively planted. Circa 1938 (GGNRA Park Archives and Record Center, 32426).

adjacent open space areas. Like Battery Duncan, the vegetation remaining at the battery is considered contributing to the character of the cultural landscape, but because it has spread beyond the historic planting is considered in poor condition.

The Cantonment

Foundation Plantings

During the Endicott era and shortly after completion of the barracks buildings and officers' quarters around Murray Circle and along Kober Street, the Army began establishing foundation plantings around individual buildings and ornamental plantings to mark entranceways and formal walks.[73] Period photographs show that the overall form and character of foundation plantings around barracks and other community buildings were neat and trim and rarely exceeded the height of the first floor. Most materials were planted very close to building foundations, and reflected a limited plant palette.

Period photographs also illustrate that the officers' duplex residences located on the west side of Murray Circle had foundation plantings in the front and some side facades. Compared to the foundation plantings around the barracks buildings, residential plantings utilized a variety of materials, probably reflecting the residents' tastes. This material varied in size and form, often accenting building entries and providing privacy screens in front of the homes.

In many ways, the use of foundation plantings by the military at Fort Baker was consistent with larger, contemporary national trends in residential design. In general, foundation plantings were used to "connect" homes with their surrounding grounds, to soften building foundations, to provide color and diversity in the landscape, to screen unwanted views, provide privacy, and generally improve the aesthetic qualities of the structure.[74] **(Photo VG3)**

All of the officers' quarters around Murray Circle were surrounded by lawn which functioned as a unifying element, physically and visually linking all of the buildings around the parade ground.

After these plantings were established and extending through the subsequent historic period, between 1916 and 1945, plantings around the officers' quarters on the west side of Murray Circle were supplemented. **(Photo VG4)**

During this period, examples of specimen trees that flanked walkways and entrances to the residences on the west side of Murray Circle included: Japanese redwoods (Cryptomeria), Araucaria, pittosporum, camphor, Canary Island date palms, black acacia, and cordyline. Beefwood (Casuarina) trees were located on the side of the post exchange and gymnasium, Monterey pine and eucalyptus around the barracks, and palms (Phoenix canariensis) were located near the hospital and around a few of the officers' quarters. **(Photo VG5, next page)**

In 1959, new plantings were introduced when the Capehart housing development was constructed north of Murray Circle. Over the years, some of

these new plant materials made their way into the gardens surrounding the historic buildings in the core area of the cantonment.

In 1995, hurricane-force winds toppled many of the large trees in the cantonment and resulted in the removal of many historic trees as a safety hazard. A few years later, in 1999, most of the existing foundation plantings were removed by the National Park Service in conjunction with repair of several historic buildings, leaving a mix of remnant historic material and non-historic plantings in poor to fair condition.

Summary

The foundation plantings and ornamental materials that remain around Murray Circle date to the post-Endicott era and include trees around buildings FB631, FB606, FB605, FB604, FB603, FB601, FB602, FB636 and FB615 (see Appendices for list of remaining plants). Although many of the foundation plantings have been removed, open lawns still extend throughout the front yards and between the buildings and contribute to the character of the cultural landscape.

Parade Ground

In 1903, the parade ground was leveled and graded with fill varying in depth from 4-feet to 12-feet to create an even and uniform surface for seeding. The entire surface sloped south toward Horseshoe Cove. The shape of the parade ground conformed to the bowl of the valley, resulting in an elliptical shape. Immediately after grading the parade ground was devoid of vegetation and in response to complaints about seasonal mud and dust, plans were made to establish rye grass over the level area and plant trees around the perimeter. Planting the parade ground in this manner was a traditional treatment in military bases, allowing troops space for drill and review.

The grass was seeded in 1903. There is no documentation that indicates this lawn was irrigated.

In addition to the establishment of grass, a number of trees were planted around the perimeter of the parade ground between 1903 and 1909. Based on analyses of historical photographs, period maps, and documentation of existing conditions, two tree species were used; blue gum eucalyptus (Eucalyptus globulus) and black acacia (Acacia melanoxylon). Trees were planted in stages and in a staggered pattern, alternating between eucalyptus and acacia. An estimated forty-nine trees were planted during the Endicott era. Individual trees were spaced approximately thirty to forty feet on center.

A 1909 photo shows a similar planting pattern using smaller trees on the south end of the parade ground. A short row of trees extended along Moore Road from its intersection with the parade ground towards the bay. **(Photo VG6)**

VG5 A view of plantings in front of buildings along the east side of Murray Circle which included a mix of specimen trees and foundation plantings. Circa 1923 (GGNRA Park Archives and Record Center, 40096).

VG6 Early photograph showing the trees around parade ground and planting of Monterey cypress windbreak in foreground and right. Circa 1909 (San Francisco History Center, San Francisco Public Library, Negative 6453).

VG7 Mix of trees planted on either side of Center Road including the southern portion of the parade ground. Note eucalyptus trees planted in quartermaster warehouse area on right side of photograph. Date: December 12, 1925 (GGNRA Park Archives and Record Center, 32487).

A gap in the spacing of trees occurred at the north end of the parade ground in front of the commanding officer's residence, providing an unobstructed view of the parade ground, flagstaff, and more distant views of the bay, Fort Point, the Presidio, and the city of San Francisco.

By 1925, a mix of tree species had been planted on both sides of Center Road including the southern edge of the parade ground. Most of these trees were eucalyptus, but pine and cypress trees were also planted. Although it is not certain why the trees were planted along Center Road, they became an effective screen between the industrial/ quartermaster warehouse areas south of Center and East Roads and the residential and administrative district around the Parade Ground. Whether intentional or not, these trees along Center Road and the ends of Bunker and East Roads created a formalized sense of entry for visitors arriving at Murray Circle.

The trees on Murray Circle around the southeast side of the parade ground and in front of FB615 were removed in the early 1930s and subsequently replanted with eucalyptus. Most of the trees along Center Road were cut down in 1941 in conjunction with construction of the station hospital complex. Only a few of these trees on the southwest side of Center Road (adjacent to what is today the U.S. Coast Guard Station) remain of the plantings along Center Road.[75] **(Photo VG7)** By 1945, approximately thirty-nine trees remained around the parade ground.

Today, a mixture of mowed grasses and weeds characterizes the open, ten-acre area at the center of the parade ground. Because the lawn has no irrigation system, it has gone through various dry and wet seasons. This has a resulted in the development of a mix of annual and perennial grass and weed species. Along the outside edge of the parade ground are a number of tree stumps indicating former locations and planting patterns from the historic period.[76] Many of these trees were removed after the 1995 storm that severely damaged these plantings. At the southwest and southeastern corners are several blue gums and one acacia that date to the historic period. Behind FB691, at the southwestern end of the parade ground, are two blue gum seedlings and a single black acacia that do not date to the historic period. A young Douglas fir tree (Pseudotsuga menziesii) was planted near the top of the parade ground in the 1970s and is non-contributing to the historic character of the parade ground.

Summary

Although the historic rye grass lawn has changed in terms of species, the open grassy character of the parade ground remains from the historic period, and contributes to the character of the cultural landscape.[77] However, only about one-fifth of the trees historically located around the parade ground remain today. These are clustered on the southwest and southeastern ends of the parade.

Windbreaks

In 1903, the Quartermaster prepared a planting program in order to mitigate the discomfort caused by the winds that roared through the Golden Gate and into the site, as well as to create a more finished appearance to the developing landscape. As part of the program, the Quartermaster proposed that

> *The semicircle of hills behind the post was to be planted with a windbreak consisting of 10,000 Monterey pines, 10,000 Monterey cypress and 10,000 eucalyptus. The trees came from the Presidio, during a thinning out of the forest there.*[78]

Handwritten notes on a site map from the Endicott era call out a specific number of eucalyptus trees; identifying 1280 eucalyptus trees in the area behind and to the west of Kober Street. The notes also suggest that the pine and cypress may have been acquired without cost from the Presidio, while the eucalyptus might

VG8 (upper) Windbreak planted on the west side of the parade ground behind officer quarters. Date: May 1915 (GGNRA Park Archives and Record Center).

VG9 (lower) Clusters of Monterey cypress and blue gum eucalyptus planted around the buildings on the upper end of the cantonment, north of McReynolds Road. Circa 1928 (GGNRA Park Archives and Record Center, 2051).

have been purchased. The total number of trees and exact quantities of each species used is still unknown, and based on photographic evidence, thirty thousand trees had not yet been planted by the end of the Endicott period.[79]

As a result of the Quartermaster's efforts, a single major stand of Monterey cypress (Cupressus macrocarpa) was planted along the western side of the cantonment before the end of the Endicott period. Photographic evidence shows that a stand of Monterey cypress trees was planted, creating a major windbreak on the western side of the cantonment. The stand was located behind the residences and west of McReynolds Road, beginning about where Bunker Road enters the post and extending northward toward FB549 and south along Moore Road towards Horseshoe Cove. This stand was planted in a grid pattern that varied in width depending upon topography and location within the cantonment **(Photo VG 8)**. The stand may have served to stabilize the slope above where significant grading had occurred for the construction of the parade ground and associated roads.

Scattered groups of cypress and blue gum eucalyptus (Eucalyptus globulus) were planted around the buildings on the upper end of the cantonment north of McReynolds Road, and near the lower switchback on Bunker Road where temporary structures had been built. These stands were more informal and did not appear to follow a set grid pattern. The trees at the upper end of McReynolds formed a substantial protective and visual barrier between these buildings and the parade ground. **(Photo VG9)**

By the end of this period, a photograph shows that the eucalyptus perimeter planting along the east side of McReynolds Road had yet to be planted nor had any other significant stands of blue gum eucalyptus been planted in the cantonment.

Between 1911 and 1945, additional stands of blue gum eucalyptus were planted around the cantonment including a single row of blue gum eucalyptus beginning at FB636 extending north toward the chapel (FB519). A row of eucalyptus was also planted along the southern segment of East Road near its junction with Murray Circle. Small groves were planted in the vicinity of the intersection of Bunker and McReynolds Roads extending up as far as Gibson Loop. These perimeter plantings of eucalyptus added to the Monterey cypress windbreak that now formed a continuous arc of trees from the intersection of Moore and Center Roads to the south end of FB623. By the end of this period in 1945, these trees had not yet visibly expanded beyond their original boundaries. An Army map depicting vegetation also provides detailed evidence of the extent of these forest stands shortly after the period of significance.[80]

After World War II, the trees planted around the cantonment and the batteries continued to mature. Numerous aerial photographs provide good documentation of the extent that these trees have spread outside of their original configurations, naturalizing in what had historically been open areas. **(Photo VG10, next page)**

VG10 Aerial photograph from 1946 illustrates mature vegetation surrounding the cantonment. A comparison of 1946 photo (upper) and 1990 photo (lower) illustrates the expansion of vegetation in east Fort Baker (Pacific Aerial Surveys AV 9-6-2 GS-CP & AV-3766-0213-10).

During the late 1950, and early 1960s, additional stands of trees were planted along the slopes behind the cantonment and included a variety of non-historic species. Many of these plantings have been identified as the result of efforts between the Army and local community groups, including the Boy Scouts. The largest of these is a planting of Canary Island pines north of Gibson Loop, between Bunker Road and U.S. Highway 101. A row of yet another pine specie, identified by the park as Torrey pine (Pinus torreyana), is planted north of Alexander Road. Informal plantings of redwood (Sequoia sempervirens) were planted near Gibson Loop below the Vista Point turnout. None of these stands date from the period of significance and do not contribute to the cultural landscape.

Summary

The cypress windbreaks and eucalyptus perimeter plantings that encircle the parade ground range in condition from fair to poor, but as a whole, are still relatively intact and are key contributing features of the historic landscape. The Monterey cypress trees, planted in even-age stands primarily along the west side of the cantonment, have reached maturity. In addition to the age of the planting, certain sections display evidence of damage, including an area of blow-down near the intersection of Center Road and Murray Circle.

The perimeter planting of blue gum eucalyptus stands behind McReynolds Road were impacted by the 1995 storm building but as a whole, remain relatively intact. Those trees whose roots or branches were severely impacting historic buildings or structures were removed in 1999 as part of building repair and stabilization efforts.

Open Space

From the early nineteenth century through initial development of the site by the military beginning in 1867, vegetation throughout the Marin Headlands was significantly affected by decades of cattle ranching and grazing livestock.

Establishment of Lime Point Military Reservation was based on the open nature of the landscape providing relatively unobstructed views to the sole entrance of San Francisco Bay. While no specific document provides definitive evidence of the native vegetation prior to grazing, it is likely that most of the non-native grass and forb species present today were introduced as a result of cattle operations. By the time the Army assumed control of the land, the landscape was pastoral in character with relatively few large shrubs or trees.

The earliest military era photographs of the site indicate that the open areas were probably a mixture of grass and low, woody coastal scrub species. The non-native stands of trees planted during the Endicott period were not yet mature enough to have spread into adjacent open space areas. Some native oaks are visible in photos along the bay shore. The Army continued the practice of cattle grazing on the military reservation through the 1930s, thus maintaining the open character of the cantonment setting. With the gradual elimination of grazing on these lands, the native communities have begun to mature and re-establish themselves.

The earliest known mapping of the native vegetation is taken from a 1950s-era Army vegetation map that distinguishes between the open grass areas and scrub areas. Although this map post-dates the period of significance, it does help establish the extent of forestation that has taken place since the mid-twentieth century. This map provides evidence of the extent of native vegetation around the reservation by the end of the period of significance. The open space areas were mapped using four native plant associated categories: 1) coast live oak, 2) arroyo willow, 3) brush (a mixture of California sagebrush, chaparral broom, lizard tail, and greasewood, with poison oak and native blackberry on north facing slopes), and 4) native perennial, grasses and herbs. The map shows that by the end of the period of significance, the pastures and scrub that had earlier been kept low by grazing livestock were rapidly transitioning into a community dominated by the larger chaparral and coastal scrub species.

A major change in the character and configuration of the open space occurred with the construction of the Golden Gate Bridge. Although the bridge and support roads are not analyzed and evaluated in this report, the impact of these massive cut-and-fill slopes and their subsequent revegetation significantly impacted the sense of open space around the cantonment. The revegetation efforts associated with bridge construction may account for the extensive on-site presence of ornamental non-native species like pampas grass, broom (Cytisus

monospessulanus and C. scoparius) and Pride-of-Madeira (Echium fastuosum). **(Photo VG11)**

After World War II, the scrub and chaparral communities continued to mature and expand, often replacing areas that had previously been annual or perennial grasslands. In addition, seedlings of non-native trees in the historic forest stands begin to expand into the open space areas around Fort Baker. Additional forest plantings occurred around the cantonment resulting in additional loss of open areas. Oak woodland continues to mature and develop below East Road along the bay shore.

Summary

Over the past forty years, open space areas have been encroached upon by a variety of tree and shrub species. Historic stands of eucalyptus, Monterey cypress, Monterey pine, and black acacia have seeded outside of their original boundaries into adjacent open space areas, and have blocked open views from East Road and Bunker Road. Compounding this problem, non-native and non-historic plantings of pines, redwood, and other non-natives have also significantly altered the open character of the coastal hills, particularly in areas between Highway 101 and Battery Road, and off Alexander Avenue. In addition, as the grasslands and coastal scrub communities mature without human intervention, cattle or fire to control their growth patterns, thickets of vegetation have replaced the once-open grasslands and low scrub vegetation that were characteristic of the rolling hills.

Construction of Highway 101 and Alexander Avenue resulted in the creation of extensive cut and fill slopes. These have since revegetated with a mixture of native and non-native species including invasive exotics like broom and Pride-of-Madeira. Their invasive tendencies have resulted in spreading into adjacent open space areas, thereby contributing to the loss of grasslands and low coastal scrub.

The grasslands and low scrub communities that should characterize the hills and open space around the camp at the turn of the twentieth century are one of the more threatened vegetation types in the military reservation, and, as whole, are in poor condition.

Quartermaster Warehouse Area

During the pre-Endicott and Endicott periods, a number of buildings associated with Fort Baker's support facilities were built south of East Road. Today, the buildings that survive from the period of significance include FB557 (Bakery), FB559 (Quartermaster Office & Subsistence Storehouse), FB561 (Wagon Shed), FB637 (Commissary Storehouse; Quartermaster Storehouse), FB666 (Ordnance Storehouse; Quartermaster Storehouse), FB644 (Blacksmith & Plumbing Shop), and FB645 (Carpenter &

VG11 Construction of Highway 101 and Alexander Avenue resulted in the creation of extensive cut and fill slopes. The resulting revegetation efforts may have introduced invasive plant species to the open areas of Fort Baker. Date: November 9, 1936 (Golden Gate Bridge Archives).

Paint Shop; Artillery Engineer Storehouse). Photos show that by 1909 no vegetation had yet been planted around these structures and that the area was open and industrial in nature.

By 1928, blue gum eucalyptus trees were planted in this area. Individual trees marked the intersection of East Road and Murray Circle and a row of eucalyptus was planted along the south side of East Road from the intersection extending west past the Quartermaster Storehouse (FB559). Another row of trees was planted extending from the East Road down the road embankment, creating a boundary between the Quartermaster Storehouse and the corral west of the building.

The first planting of eucalyptus along the south side of East Road was subsequently removed, the road realigned, and an even longer row of eucalyptus was re-established by the end of 1945 (see Circulation).

Sometime before 1945, foundation plantings and lawns had been established around the buildings. The designs appear to have consisted of low plantings and lawns as evidenced in the 1938 Quartermaster Report photographs. In general, the buildings in this area were set apart in one of two ways: either by a service road or by open lawn. The buildings were typically surrounded by foundation plantings that included a variety of ornamental shrubs and low plants up to three feet in height. (Photo VG12)

The Quartermaster Warehouse Area buildings are currently used by the Bay Area Discovery Museum. Some trees within and around the complex date to the historic period. Hedges exist around some of the structures, and are consistent with the historic appearance of the area.

VG12 Foundation plantings around many buildings in the quartermaster warehouse area consisted of low plantings and lawns. Building FB561 is a typical example. Circa 1938 (GGNRA Park Archives and Record Center, 32426).

Summary

The open character of this area is historically predicated on its function as a service area that was grid-like in character and had limited ornamental vegetation. The majority of foundation plantings and lawns are no longer extant. Exceptions include a grove of historic blue gum eucalyptus located between the Quartermasters Storehouse and East Road, and individual pine and cypress trees planted adjacent to the buildings. The open nature of the Quartermaster Warehouse Area is being impacted by the encroachment of non-historic seedlings from cypress and eucalyptus trees.

Endnotes

[70] No specific information or period photographs exist to document that the batteries on the western side of the fort were planted with trees during the Endicott period.

[71] Although the guns at Battery Duncan were inactivated c. 1917, the view to the bay was open and appears to have been maintained such that by 1945, the southeast façade of the battery was still open.

[72] Corps of Engineers, U.S. Army, San Francisco District, General Existing Tree Cover Map, Drawing Number E432, sheet 25 of 27, Dec. 1952.

[73] Although no specific documentation has been located to indicate if ornamental plantings at Fort Baker were undertaken by the Army or by individual occupants, it is assumed that the selection of plant materials and design concepts employed were similar to other military instillations of the period. In this regard, the procurement of materials, the design and specifications were based on period standards from the Quartermaster department.

[74] Leonard H. Johnson, Foundation Planting, New York: A.T. De La Mare Company, Inc., 1927. pg.xi

[75] Although drawn after the historic period, the 1952 Army vegetation map identifies the rows of trees planted along the parade ground as a mix of black acacia and blue gum eucalyptus. Confirming information revealed through analysis of historic photographs, this map provides important substantiating written

documentation of the tree species planted during the Endicott period.

[76] See Phase One Investigations for the Fort Baker Archeological Survey, Golden Gate National Recreation Area, Marin County, California. 2002. Anthropological Studies Center, Sonoma State University, Rohnert Park, CA

[77] Since the parade ground has had several water regimes and varies seasonally, the variety of grasses and forbs that make up the grass areas probably varied through time. For this reason, the character of the parade ground as an open grassy space is more significant than any single turf grass specie to establishing its historic character.

[78] Fort Baker Cultural Landscape History and Analysis, 2001, GGNPA and Golden Gate National Recreation Area, pg. 26: referencing E. Thompson HRS.

[79] Other inconsistencies with the early documentation exist: handwritten notes on a period map suggest that groupings of cypress and pine trees fully encircled the cantonment yet there is no physical or photographic evidence for this. “Plat showing location of trees at Fort Baker, San Francisco Harbor. Drawn by George B. Hawes Jr. 2nd Lt., Artillery Corps, USA”, Fort Baker Map Collection, PARC.

[80]Corps of Engineers, U.S. Army, San Francisco District, General Existing Tree Cover Map, Drawing Number E432, sheet 25 of 27, Dec. 1952.

BUILDINGS AND STRUCTURES

More than one hundred historic structures are located at Fort Baker, reflecting a continuum of military occupation dating from the mid-nineteenth century to the latter half of the twentieth century. For a comprehensive list of contributing buildings and structures, refer to Appendix A. This building inventory identifies construction dates, provides physical descriptions including building materials and dimensions, and charts major modifications of each structure up to the present.[81] Additionally, a number of structures at Fort Baker contribute to the pending Seacoast Fortifications National Historic Landmark nomination. For a list of these structures, refer to Appendix B.

Buildings

Historic buildings at Fort Baker include residential units (single-family and duplex residences as well as barracks buildings) and utilitarian buildings such as a hospital, post exchange and gymnasium, chapel, administration building, guardhouse, warehouses, repair shops, transformer substations, and garages.

As a group, historic buildings at Fort Baker display architectural styles based on standardized plans developed by the Army and are good examples of military architecture widely used throughout the country in the early twentieth century. Buildings at Fort Baker reflect four primary stylistic influences. Buildings constructed during the Endicott era exhibit characteristics of a simplified Colonial Revival style with clean, uncomplicated lines, and minimal use of applied decoration. Most of the buildings erected during this period were constructed either of brick or were wood-frame with horizontal wood siding and gabled, slate-tiled roofs. A limited number of structures built during this time can be characterized as vernacular bungalows. Buildings that reflected this style include several single-family residences and the East Road gate house, all of which have been removed. A few buildings reflect the Mission Revival style, which was instituted in the Presidio and throughout West Coast military installations in the late 1920s and 1930s. Representatives of this style include FB502 and FB409. Mission Revival-styled buildings featured stucco walls painted white and red composition roof shingles. As the Mission Revival style was applied to buildings at Fort Baker, the dark-colored buildings were repainted white and red composition shingles replaced the original slate roofs. During WW II mobilization, a fourth style was used at Fort Baker. These buildings took the form of understated residential and industrial structures to house troops (FB507) and carry out specialized tasks related to harbor defenses (FB407 and FB670).[82]

Residential Buildings

The residential buildings surrounding the parade ground were built between 1902 and 1909 and are clustered around Murray Circle, which loops around the parade ground. These buildings historically provided housing for enlisted men (in the barracks) and commissioned officers (in single-family and duplex residences), and collectively define a primary structural core of the cultural landscape. Barracks were constructed on the east side of Murray Circle, and officers' housing was built along the west side. The commanding officer's residence was built at the head of Murray Circle, next to the post administration building.

With the exception of the post exchange and gymnasium building (FB623) and an artillery barracks (FB636), the buildings on Murray Circle are wood-frame with horizontal siding and gable roofs. Although Quartermaster plans for these buildings had called for brick construction, only one barracks building (FB636) and the post gymnasium and exchange building were constructed of brick. In addition to its brick construction, FB636 is somewhat larger in scale (145' x 77', while FB601 and FB602 are both 54' x 122'). FB636 also features arched brick openings and lacks the palladian motifs in the gable ends of the wood-frame barracks.

In 1906, all of the buildings that had relied upon kerosene for heating were wired for electricity and by 1908 electricity was introduced to the post. Except for the removal of the barracks' front porches and the changes in roofing material and paint color, most of the exterior and interior building modifications to these historic buildings have been minor. Collectively, these buildings form the structural core of the cultural landscape.

Utilitarian Buildings

Buildings constructed to serve a variety of utilitarian functions, although usually modest in

scale, were also designed in a similar Colonial Revival or Mission Revival style. These support buildings often featured architectural details that visually connected them to the more prominent, substantial buildings facing the parade ground on Murray Circle. For example, FB502, a transformer substation, was constructed of brick with a hipped roof and was distinguished by concrete lintels, and segmented arch and transom windows. A pump house (FB671) is similarly constructed as a sturdy brick building with a hipped roof.

The Post Hospital (FB533), Chapel (FB519), Administration building (FB603) and Post Exchange and Gymnasium (FB623) constitute another category of building types that also were designed in the Colonial Revival style. The Post Exchange and Gymnasium building occupies a prominent site on the east side of Murray Circle and with the administration building, located adjacent to the commanding officer's residence, fill out the building cluster defining the parade ground. The hospital building at the end of Kober Street and the chapel on Merrill Street, anchor the structures located uphill and northeast of the core developed area around Murray Circle.

The hospital is a wood-frame building, as are the chapel and the administration building. Gabled dormer windows and corbelled masonry chimneys add interest to the hospital's roofline, and the front porch features Doric columns and a simple balustrade. The post exchange and gymnasium building, which was expanded with an addition in 1915, features a gable roof on its main section, and hipped roofs on its wings. Quoins and dentils add surface interest to the brick building. The chapel is a simple gable-roofed structure with a steeple, and lacks ornamental details while the administration building features details such as palladian windows in the gable ends, and corbelled chimneys which contribute to the building's architectural character.

A series of eight garages were built in 1936 along the west side of McReynolds Road to serve the residences on Murray Circle. The wood- frame buildings with shed roofs were built into the side of the hill. Adjacent to the garages, concrete wing walls and walkways were constructed creating space for trash receptacles.

In 1941, construction began on a large station hospital complex, consisting of twenty-five buildings, in response to detachments of the Medical and Quartermaster Corps being stationed at Forts Baker and Barry. The hospital buildings were standard Army barracks buildings, known as Series 700 "mobilization-type" structures and were closely clustered together in orderly rows. Hospital ward buildings, storehouses, nurses' quarters and the mess hall and recreation center were all barracks-type wood-frame buildings with composition roofs and were set on concrete piers. By the end of the war, forty-five buildings of similar construction comprised the station hospital complex. The hospital was inactivated after World War II and by 1989, when the Bay Area Discovery Museum moved in to occupy several service buildings located to the north and east of the hospital complex, most of the hospital buildings had been removed. The Bay Area Discovery Museum moved into the former Quartermaster and subsistence warehouse (FB559), the carpenter/paint shop (FB645), blacksmith shop (FB644), a wagon shed (FB561) and the exchange service station (FB566).

Structures

In addition to the residential and utilitarian buildings at Fort Baker, there are a number of significant structures that contribute to the cultural landscape. Structures can be grouped into four categories: coastal fortifications including associated outbuildings and support structures; maritime structures around Horseshoe Cove—the wharf, seawall, and breakwaters; various structures comprising the historic water system; and structures related to circulation.

Coastal Fortifications[83]

The coastal fortifications constructed at Fort Baker represent three stages of evolving military technologies related to the design and development of coastal fortifications from the 1870s to the 1940s.[84]

Batteries constructed prior to 1890 represent Civil War and Post-Civil War era technology. At Fort Baker, batteries from this era include Gravelly Beach Battery, Ridge Battery, and Battery Cavallo. The range of the armament determined the siting of these batteries. In the 1870s, when the first three batteries were constructed at Fort Baker, artillery range was short, and batteries were located close to the shore sited in a line or as a defensible point, as

both Ridge and Cavallo Batteries were sited, with Ridge Battery sited very high above the point.

Civil War and Post Civil War Era Batteries

Gravelly Beach Battery

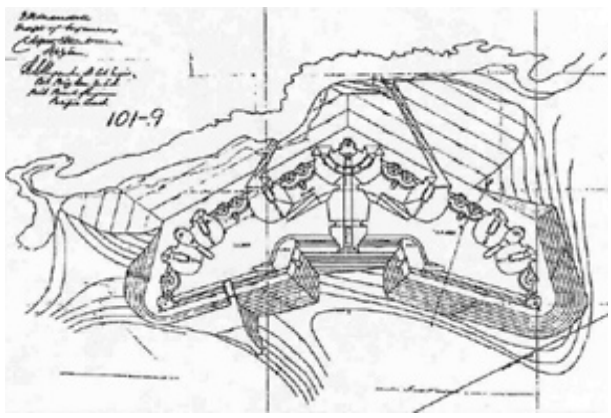
Construction began in 1870, single gun emplaced, 1873, with removal ca. 1898.

Ridge Battery

Construction began in 1870, Gun emplaced, 1893, with removal in 1901.

Battery Cavallo

Battery Cavallo, built in 1872, is considered a superior example of a post-Civil War brick battery and earthwork ("star fort"). It is located on the coastal bluffs north of Point Cavallo and oriented east/southeast to defend entrances to San Francisco Bay, and anchorages leeward of the Point. Battery Cavallo consists of two parts: the battery itself, which is a triangular-shaped enclosed earthwork fortification containing positions for fifteen guns; and an outwork containing emplacements for an additional pair of cannons. Guns emplaced in 1900, with removal in 1905. **(Photo BS1 and Diagram BS2)**



BS1 (above) Historic photograph showing Cavallo Battery earthworks. Circa 1914 (GGNRA Park Archives and Record Center, 1766).

BS2 (right) Cavallo Battery, Fort Baker, constructed 1872-1876. Plan of proposed works (Golden Gate National Recreation Area collection).

Endicott era batteries—batteries Duncan, Yates, Spencer, Orlando Wagner, and Kirby—are generally characterized by poured concrete construction with steel reinforcements, a relative massive scale and armor-piercing ordnance, and feature multiple levels with separate gun pits and magazines.[85] In addition to the battery structure, several Endicott era batteries also had a complex of associated support structures or "outworks" such as magazines, powerhouses, fire control stations, sentry stations, and latrines.

The location for the Endicott era batteries often duplicated—or displaced—the locations chosen for earlier batteries, such as Battery Spencer, which was built on the site of Cliff Battery, and Battery Yates, which was built on the outworks for Battery Cavallo. In general, distance from the shore was less of a concern as the range of the newer guns increased significantly. Batteries Duncan and Yates along with other batteries at Fort Mason and McDowell, were also integral in creating an internal defense corridor overlooking the mine fields.

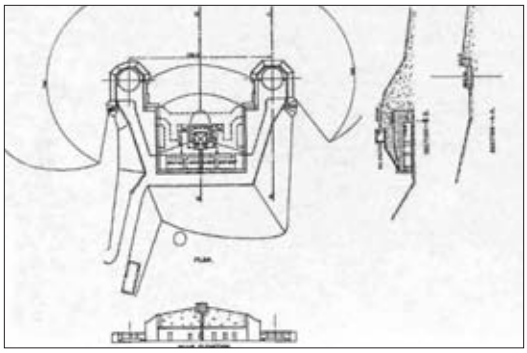
Endicott Era Batteries

Battery Duncan

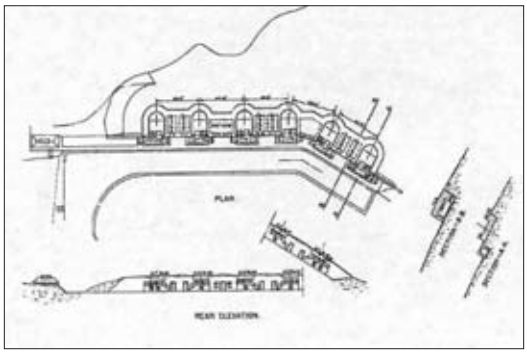
Construction of Battery Duncan began in 1898, and was completed the following year. The guns were emplaced in 1900. Located on the top of Yellow Bluff, the emplacements face the navigable channel of the bay in the direction of Alcatraz Island. The battery consisted of two eight-inch rifles mounted on non-disappearing barbette carriages; the guns were located 217 feet above the bay. Support structures historically included a fire control station and latrine. The guns were dismounted circa 1917. **(Diagram BS3)**

Battery Yates

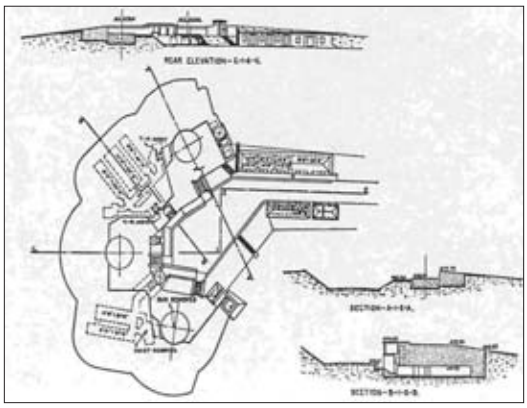
Battery Yates, completed in 1903, was constructed on the promontory at the tip of Point Cavallo, seventy-six feet above the shoreline, and was the last of the Endicott era batteries constructed at Fort Baker. It consisted of six three-inch rapid-fire guns in barbette on pedestal mounts. The battery was located to supply rapid fire over the inner bay and only one of its guns was capable of firing in the direction of the Golden Gate. Support structures at Battery Yates included a fire control system, and in 1911, an electrical generator was added that supplied power to both Battery Yates and Battery Duncan. The guns were removed circa 1942.



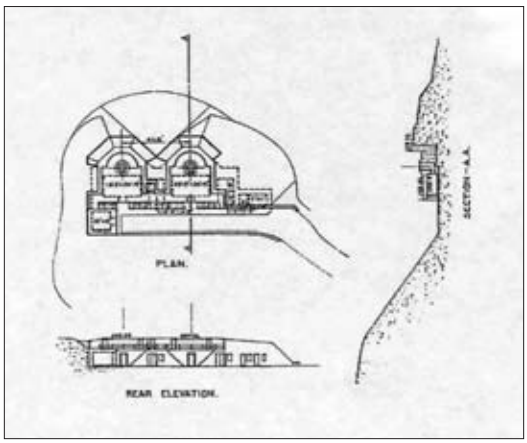
BS3 Diagram of Battery Duncan circa 1919 from "Report of Completed Works--Seacoast Fortifications."



BS4 Diagram of Battery George Yates circa 1919 from "Report of Completed Work--Seacoast Fortifications."



BS5 Diagram of Battery Spencer circa 1919 from "Report of Completed Works--Seacoast Fortifications."



BS6 Diagram of Battery Orlando Wagner circa 1919 from "Report of Completed Works--Seacoast Fortifications."

(Diagram BS4)

Battery Spencer

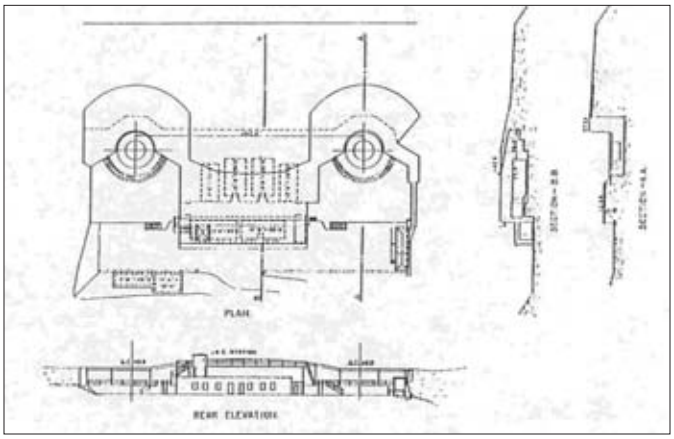
Construction on Battery Spencer began in 1893, with completion and guns emplaced in 1897. The battery is located at the highest elevation of all the batteries at Fort Baker, sited at 475 feet above the water on a promontory overlooking Lime Point. It consisted of three twelve-inch rifles on non-disappearing mounts in a triangular configuration. In 1910, it was outfitted with electrical light and power, replacing the earlier oil engine plant that had been constructed nearby. Battery Spencer was constructed to defend against entrance to the Golden Gate and two of its guns covered the coastline and water area between Point Lobos and Point Bonita. The siting of this battery was a disadvantage in that it was located above the fog line, which obscured views and interfered with drill and artillery practice. The third gun, which was oriented to take aim on the inner bay, was removed in 1918 and shipped to Fort Miley. The final guns were removed in 1943. **(Diagram BS5)**

Battery Orlando Wagner

Battery Orlando Wagner was completed in 1901, and is located 300 feet above the bay on the face of the slope between Lime Point and Gravelly Beach. It was sited in conjunction with Batteries Spencer and Kirby as a defensive line protecting the inland waters of the Golden Gate. It consisted of two five-inch guns mounted on balanced pillar mounts. Guns were removed in 1917. **(Diagram BS6)**

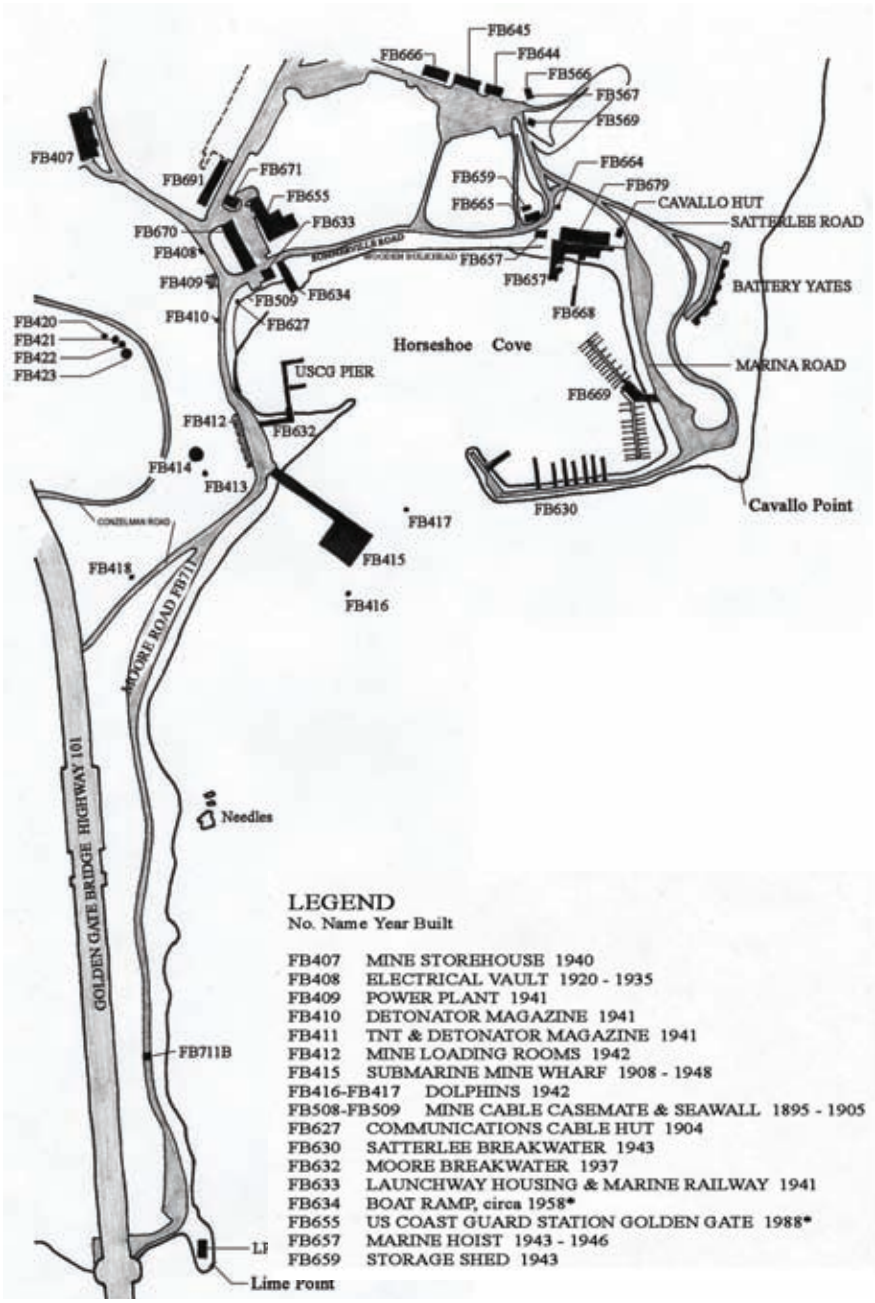
Battery Kirby

Battery Kirby was built on the former site of Gravelly Beach Battery; it is located near the beach, thirty-seven feet above the water line and was completed in 1900. It was designed to defend San Francisco Bay from attack at mid- and short-range, and its field of fire was limited to the water between Point Lobos and the inner harbor lying just outside the Golden Gate. It consisted of two twelve-inch breech loading rifles mounted on disappearing carriages. Its power source was a gasoline-driven generator for supplying power and light, which was installed in 1911. Its original source of water was spring water stored in a wooden tank. A large brick and concrete culvert that had been constructed as part of Gravelly Beach Battery continued to protect the battery from run-off and served to



BS7 Diagram of Battery Kirby circa 1919 from "Report of Completed Works--Seacoast Fortifications."

BS8 Map of extant and removed buildings and structures located at the waterfront.



LEGEND
No. Name Year Built

FB407 MINE STOREHOUSE 1940
FB408 ELECTRICAL VAULT 1920 - 1935
FB409 POWER PLANT 1941
FB410 DETONATOR MAGAZINE 1941
FB411 TNT & DETONATOR MAGAZINE 1941
FB412 MINE LOADING ROOMS 1942
FB415 SUBMARINE MINE WHARF 1908 - 1948
FB416-FB417 DOLPHINS 1942
FB508-FB509 MINE CABLE CASEMATE & SEAWALL 1895 - 1905
FB627 COMMUNICATIONS CABLE HUT 1904
FB630 SATTERLEE BREAKWATER 1943
FB632 MOORE BREAKWATER 1937
FB633 LAUNCHWAY HOUSING & MARINE RAILWAY 1941
FB634 BOAT RAMP, circa 1958*
FB655 US COAST GUARD STATION GOLDEN GATE 1988*
FB657 MARINE HOIST 1943 - 1946
FB659 STORAGE SHED 1943
FB662 MOORE ROAD SEAWALL 1929 - 1932
FB664 FLAMMABLE STORAGE BUILDING 1918
FB665 MARINE REPAIR SHOP 1946
FB668 REFUELING DOCK & MARINE RAILWAY 1937 - 1945
FB669 BOAT SLIPS circa 1969*
FB670 MINE CABLE TANK BUILDING 1941
FB671 PUMP HOUSE *
FB691 MOBILE SEARCHLIGHT STORAGE 1943
FB699 WELDING SHED 1944
FB711 MOORE ROAD 1868 - 1933
FB711A MOORE ROAD STAGING PIER 1933
FB711B MOORE ROAD TRESTLE 1933
FBnone CAVALLO HUT 1984*
FBnone SOMMERVILLE ROAD 1928
FBnone CENTER ROAD 1872
FBnone MARINA ROAD 1950 - 1960*
FBnone SOMERVILLE ROAD WOODEN BULKHEAD 1958 - 1961*
LP001 LIME POINT FOG SIGNAL STATION 1883

* Non-contributing Structures

channel water under the structure to the bay. The battery was placed in an "abandoned" status by the Army in 1934, and the carriages were removed in 1943. **(Diagram BS7)**

These batteries, with their more powerful, longer-range guns, were located so that the entire expanse of the entry to San Francisco Bay was protected from potential enemy attack. By 1905, Fort Baker had one of the best collections of modern coastal defense of the time.

World War II modifications to the batteries included installation of new concrete gun platforms and anti-motor torpedo boat (AMTB) weapons, such as the four 90-millimeter guns that were installed at Gravelly Beach and at Point Cavallo.

Waterfront Area

Historic structures located at Horseshoe Cove—the seawall, breakwaters, bulkheads and wharf—were built to protect the cove shoreline from erosion as well as to create safe, navigable access to the site from the bay. In 1929, construction commenced on the seawall, and by 1932 it reached its current length. The seawall stabilized the shoreline along Horseshoe Cove.

Breakwaters were constructed to buffer the tidal flow and the currents coming from San Francisco Bay. The first breakwater was built in 1867, and extended from the Needles to the shoreline. Between 1937 and 1945, Moore Breakwater was constructed, and in 1943 Satterlee Breakwater was built. These stone structures provided extra stabilization of the cove shoreline, protecting it from the open waters of the bay. They also served to protect the newly developed hospital complex built near the shoreline. In 1942, a new wooden bulkhead was built along part of the shoreline of Horseshoe Cove to protect the hospital structures and stabilize the shoreline.

In addition to the seawall and breakwaters, historic structures at Horseshoe Cove include the Engineer's Wharf, which was originally built in 1867 and improved several times over the ensuing years. In 1893, extensive repairs were made to the wharf. It was substantially rehabilitated in 1903 in order to accommodate supplies and materials arriving via barge during the Endicott era. Additional repairs were made to the wharf in 1927, and in 1937 an L-shaped enclosure was constructed around it. In 1929, a concrete bulkhead was constructed along the western shoreline of Horseshoe Cove to protect the road to the Quartermaster wharf and in 1932, an additional 134 feet of seawall was constructed eastward along the Cove. A refueling dock with a boat hoist and wood wharf on wood pilings (FB668) was constructed in 1937. **(Diagram BS8)**

Water System

Historic structures associated with Fort Baker's water system include reinforced concrete reservoirs, steel water tanks, and pump houses. In the nineteenth century when water was barged to the site, several pump houses were constructed to house the pipes and mechanical systems that delivered the water to storage tanks. In 1913, a series of iron water tanks were built on the hill rising to the west of the parade ground, which collectively impounded 50,000 gallons of potable water. A 400,000-gallon reinforced concrete reservoir (FB572) was constructed on top of the ridge near Battery Duncan in 1941, substantially expanding the fort's water storage capacity. These historic structures associated with the fort's water system are generally intact, however, only the large reservoir remains in service.

Circulation

Roads constructed at Fort Baker during the historic period include East Road, Center Road, Sommerville Road, Moore Road, Satterlee Road, Battery Yates Road, Battery Duncan Road, Murray Circle, Bunker Road, McReynolds Road, Seitler Road, and Conzelman Road. (For a more complete description of Fort Baker's circulation system, refer to the Circulation section of this document.)

The Fort Baker-Barry tunnel was built toward the end of World War I and significantly improved access between Forts Baker and Barry, obviating the need to traverse Conzelman Road on its precipitous climbs and descents over the headlands. Originally constructed in conjunction with Bunker Road between 1916 and 1918, the tunnel cut through serpentine rock for a distance of approximately 2200 feet and was lined with 10-foot by 10-foot timbers. It was improved between 1935 and 1937, when it was lined with board-finish concrete with adjoining abutments. In 1954, it was extended one hundred feet east.

Other Structures

Additional historic structures include retaining walls along Bunker Road, Kober Street, and McReynolds Road and dry masonry riprap at the head of Kober Street. The Bunker Road retaining wall was constructed to support fill on a short connector road from Bunker Road to the Sausalito Lateral near the Baker-Barry tunnel. The cement-mortared stone wall extends for 282 feet, has an average height of between three and four feet, and features terra-cotta pipe drains of various sizes. The retaining wall on McReynolds Road extends for six hundred and thirty feet along the northeast side of McReynolds Road, has an average height of between four and five feet, and is constructed of gray stone with mostly flush joints. Along its length, wall breaks were constructed for trash areas and concrete steps. The wall curves where McReynolds Road intersects with Seitler Road. The exact construction date of these structures is unknown; however, they were mostly built in the 1930s as WPA projects.

An asphalt-surfaced tennis court was built circa 1909 to the south of the post hospital. Originally surrounded by a wood-plank fence, it is currently enclosed by masonry retaining walls and a modern chain link fence. In the 1930s, a "J" shaped gray stone retaining wall with flush mortar joints and reaching an average height of three to four feet was built to shore up the slope on the north side of the court. The tennis court exists today, although it is in poor condition and is not currently usable.

Summary

The historic batteries ringing the shoreline and the core cluster of buildings defining the historic cantonment around the parade ground are among the most significant structures defining the cultural landscape of Fort Baker. These two groups of structures reflect both stylistic trends and technological advances in military design and strategic defense facilities between 1867 and 1945. Of these key structures, the batteries

and associated mining buildings are considered nationally significant in terms of military history, technology, construction, design, and siting. The buildings around Murrary Circle, as a collection, are remarkably intact and are also highly significant in the context of the cultural landscape.

The structures in Horseshoe Cove such as the seawall, the wharf, and breakwaters define the historic role of this area for navigation and as a supply depot, as well as the general working character of the waterfront.

Endnotes

[81] Principle Sources: "Fort Baker Physical History Reports, Introduction," Kristin Baron, GOGA Architectural Historian; List of Classified Structures Data, 2001; Quartermaster Reports, Presidio Archives, GOGA.

[82] See Kristin Baron, "Fort Baker Physical History Reports," NPS.

[83] Also see "Seacoast Fortifications," Freeman, Haller, Hansen, Martini, and Weitze, GOGA, 1999.

[84] Circulation features are addressed in the Circulation Section of the document.

[85] For a more complete description of the tactical values and structural characteristics of each of the Endicott period batteries at east Fort Baker, refer to Fort Baker Record Book in the Fort Baker collection at the Presidio Archives and Record Center, Golden Gate National Recreation Area.

VIEWS AND VISTAS

Prior to the military purchase of the land comprising the Lime Point Military Reservation, the site offered uninterrupted views to San Francisco Bay. The abundance of grass and the lack of large woody vegetation provided excellent vantage points from the hills of the bay and Golden Gate. The only limitation to the views was the site topography, which included rolling hills, ravines and small valleys. Three designed components of Fort Baker were sited specifically either to take advantage of existing views or incorporate views as an element of design. These three components are the batteries, two entry roads, and the parade ground panorama.

Batteries

The first batteries were sited to maximize strategic views to the bay and assure the triangulation of sight lines created with nearby forts. In this regard, vantage points were as valuable as the designated artillery range for siting batteries along the shoreline. (See **Photo BS1**) In the post-Endicott era, trees were planted to provide camouflage from the air, while preserving sight lines. Over the years, some of these trees have begun to re-seed beyond the original plantings. Today, the spread of non-native trees throughout site continues to adversely effect historic views from the batteries, particularly around Batteries Duncan and Kirby.

Parade Ground Panorama, Commanding Officer's View, Center Road

During the Endicott era, a site plan was developed for Fort Baker that responded to the topography of the site and proximity to San Francisco Bay by placing its most significant structures in a horseshoe alignment opening to the bay. **(Photo VW1)**The resulting design created a panorama that is the most enduring image of Fort Baker. The panorama is anchored by a raised bench on which the buildings are placed, backset by windbreaks, with finished front lawns, varied foundation plantings and specimen tree plantings.

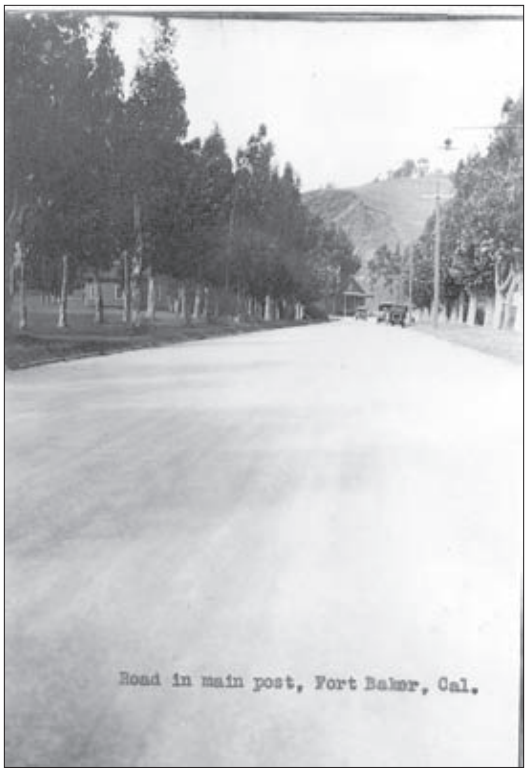
Also during the Endicott era, trees were planted in a single continuous line along the edge of the parade ground, following Murray Circle, except at the top of the parade, in front of the commanding officer's residence. During the Endicott era, this location afforded an open view to Horseshoe Cove, San Francisco Bay, and the city of San Francisco. This intentional gap in planting was designed and maintained through the historic periods. (**Photo VW2**)

With construction of the mobilization hospital complex in 1941, the historic vista from the top of the parade ground to the bay was obscured by structures and later by overgrowth of vegetation. Potential for restoration of the vista exists as part of the waterfront rehabilitation envisioned in the Fort Baker Plan.

During the Endicott period, and shortly thereafter, trees were planted along Center Road. These trees shielded the views of the industrial waterfront area from the commanding officer's residence, while providing an urbanized route that contrasted with the rural motor roads leading to the developed cantonment. (**Photo VW3, next page**) Removal of this allee occurred with construction of the mobilization hospital complex in 1941. Potential for restoration of the vista exists as part of the parade ground restoration envisioned in the Fort Baker Plan.

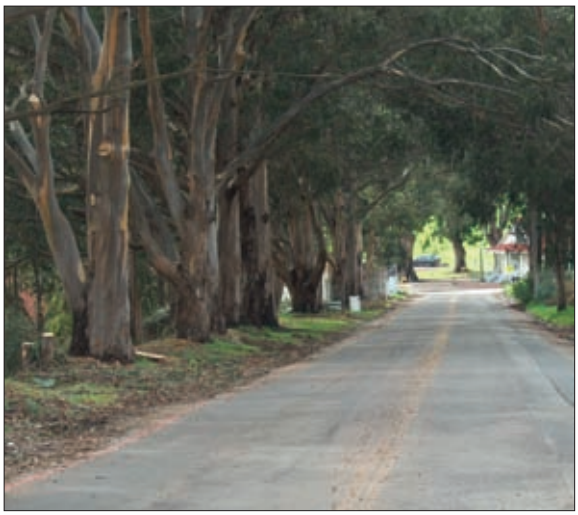
VW1 (right) View of Parade Ground ensemble opening to San Francisco Bay. Circa 1906 (GGNRA Park Archives and Record Center, 17206).

VW2 (below) The area in front of the commanding officer's residence was purposefully excluded from the ring of trees planted around the Parade Ground. November 1928 (GGNRA Park Archives and Record Center, 2051).



VW3 (right) Historic View Along Center Road. September 1929, (National Archives and Record Center, Fort Baker Construction Completion Reports 1917-41).

VW4 (below) Historic View Along East Road. Circa 1910, (Sausalito Public



VW5 Modern view along East Road approach to cantonment, with intact complement of historic trees and pruning underway. February 2005 (National Park Service).

VW6 (far right) Modern view along Bunker Road approach to cantonment, with intact complement of historic trees. February 2005 (National Park Service).

Roads

Historically, visitors arriving to the site using East Road from Sausalito were also afforded a sweeping view of San Francisco Bay.[86] (**Photo VW4**) Pullouts along the road provided motorists with the opportunity to enjoy the expansive views. Since the historic period, oak woodlands along East Road have begun to obscure some of the open views. Eucalyptuses from Battery Duncan have also begun to expand into this area, further impacting the open views.

The south edge of East Road as it approaches the cantonment was planted with eucalyptus trees during the period of significance, creating a visual transition between the rustic road and the developed cantonment, while framing views of the Golden Gate. When the road was realigned in 1941, the earlier trees were replanted, restoring the historic view corridor along the entry road. (**Photo VW5**)

Unobstructed views of the cantonment also historically existed along Bunker Road. As the trees planted for windbreaks and perimeter plantings matured, the open character of the fort changed into a more enclosed setting and eliminated the view of backs of buildings along McReynolds Road. Visitors entering the fort from Bunker Road are afforded the first view of the cantonment across the parade ground at the junction of Murray Circle and Bunker Road. (**Photo VW6**) Post-period forest plantings by the local community and Boy Scout troops above Bunker Road are also restricting views from the road into the adjacent hills.

VW7 Historic View of Golden Gate and Bridge. April 1937, (Golden Gate Bridge Archive)

Golden Gate and Golden Gate Bridge

Views of the Golden Gate were altered as a result of the construction of the Golden Gate Bridge in 1937. At 746-feet above waterline, the bridge was visible from almost everywhere within Fort Baker and dominated views from within the fort. **(Photo VW7)** Conversely, a view of the fort was created from the vista point on the Marin side of the bridge, constructed in the 1950s. Within the period of significance, the view of the Golden Gate and the bridge from Fort Baker is considered a contributing characteristic of the cultural landscape.

View from Horseshoe Cove

During the site's period of significance, visitors arrived by water to the Quartermaster Wharf at Horseshoe Cove. This view on approach took in the industrial waterfront structure, inland to the southern alignment of structures comprising the quartermaster area. **(Photo VW8, next page)**

This area was historically open and planar and used for a variety of military and recreational purposes. Expansion of plantings around the mobilization hospital has obscured this view. However, opportunities exist to recapture the view as part of the waterfront rehabilitation envisioned in the Fort Baker Plan.

Summary

Over the years, expansion of large scale vegetation and lack of active vegetation management of non-native species constitutes the greatest threat to the open character and

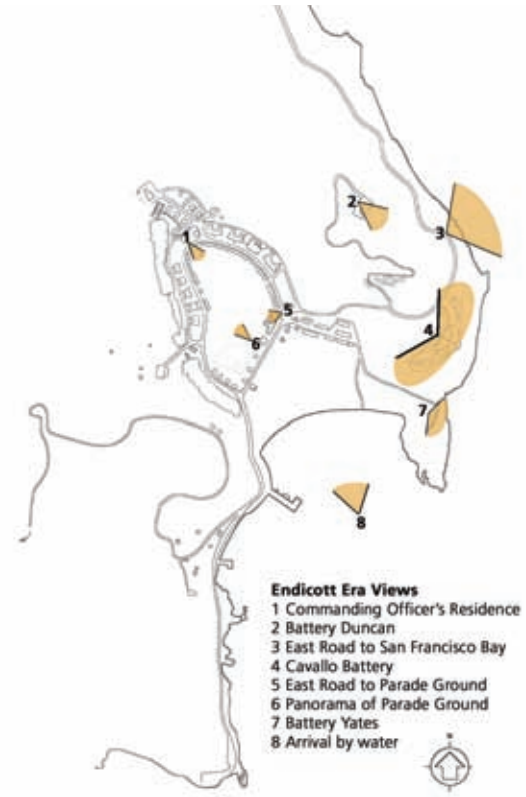
significant historic views associated with Fort Baker. Exotic plant expansion has impacted views from the historic batteries and from along historic roads entering the fort. Loss of historic trees within the parade ground has changed the character of the cantonment including the historic view from the commanding officer's residence. Although many of the historic views throughout the fort are being encroached upon by non-native vegetation, views and vistas are still an important landscape characteristic of Fort Baker and contribute to the significance of the historic district.

Endnotes

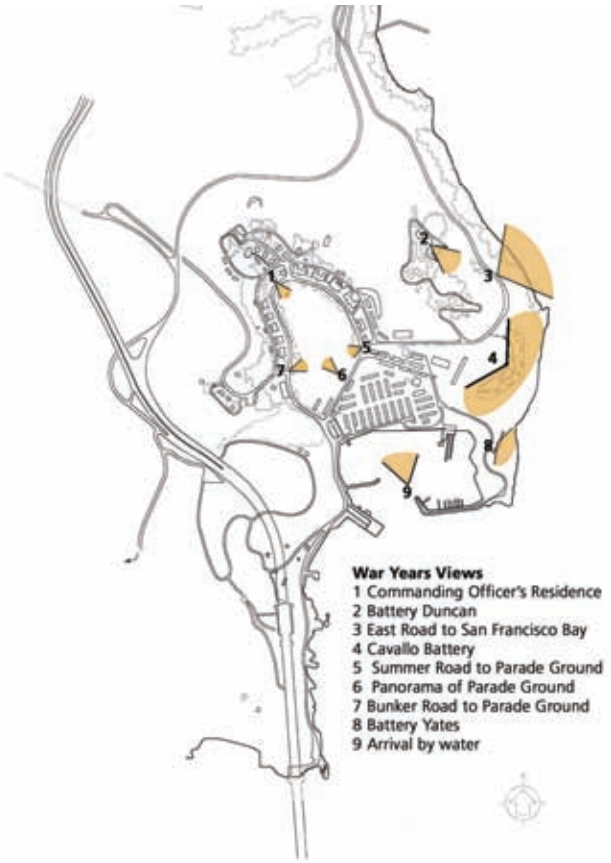
[86] For a variety of reasons, what may have originally been coastal oak woodland along the shore before military acquisition had been significantly reduced in area during the Endicott Era.

VW 8 Historic View of Waterfront Approach. February 1925, (GGNRA Park Archives and Record Center, 32847).

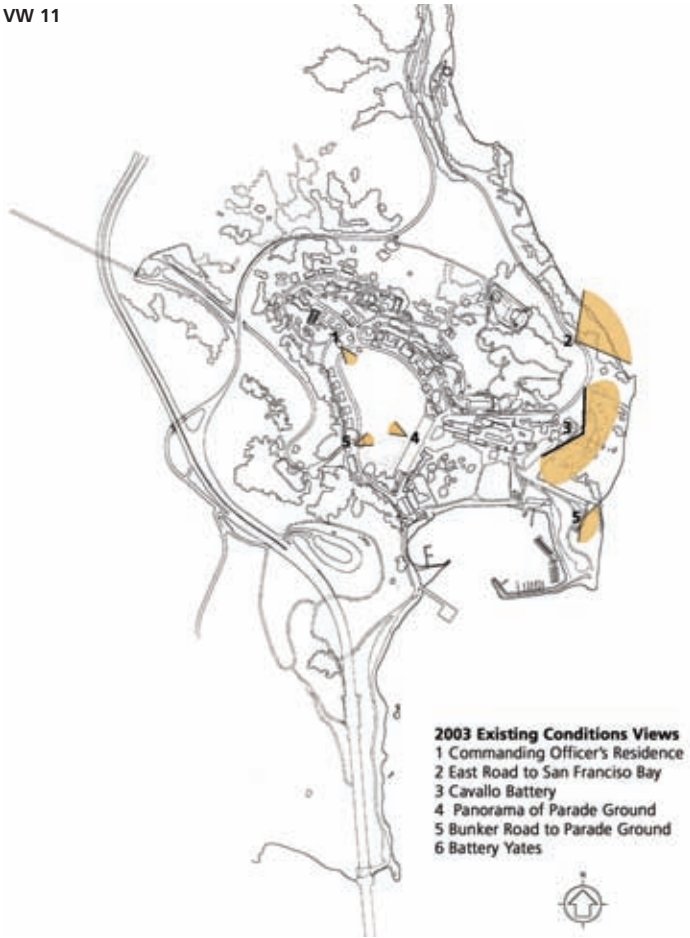
VW 9



VW 10



VW 11

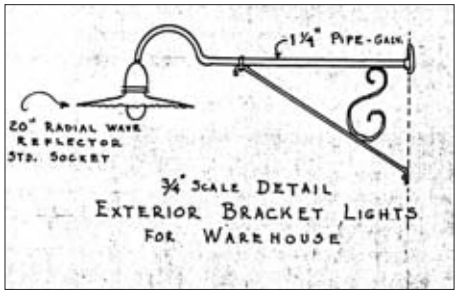


SMALL SCALE FEATURES

Small scale features are ubiquitous throughout the site. As a single form, features range broadly from manhole covers to light poles. As a group, they reflect both the iconography and the utilitarian design aesthetic associated with the U.S. Army. The collection of small scale features represents a significant aspect of the character of the Fort Baker landscape.

Features were installed, removed, and replaced incrementally over more than a century of military occupation. Changing needs, changing technology, and changing aesthetics resulted in the replacement of fences, utility poles, and entrance gates with modern versions. Throughout the years, the military design standard has resulted in polished but functional features. Many of these surviving features contribute to the cultural landscape of Fort Baker.

Lampposts
Streetlights



Building mounted streetlight
February 19, 1941

Streetlight (gas), Circa 1902
Location: FB623
Removed

Streetlight (electric), Circa 1915
Location: Fort Baker
Removed

Streetlight (electric)
September 1929
Location: Center Road
Removed

Lamppost, Circa 1938
Location: FB615
Removed

Lamppost, Circa 1955
Location: FB636
Extant, Non-contributing

Lamppost, 2001
Location: FB615
Extant, Non-contributing

Lamppost, 1990
Location: Quartermaster Area
Extant, Non-contributing

Fences

Fence, Circa 1900
Location: East Road Entrance
Removed

Fence, Circa 1900
Location: Kober Street (FB527, FB523, and FB522
Removed

Fence, Circa 1907
Location: Murray Circle, looking south
Removed

Fence, Circa 1914
Location: Near Battery Cavallo and Battery Yates
Removed

Fence, Circa 1915
Location: Tennis Court (FB537)
Removed

Fence, Circa 1915
Location: FB533, looking east
Removed

Fence, Circa 1925
Location: East Road Entrance
Removed

Fence, Circa 1933
Location: Historical Site of Engineer's Camp
Removed

Fence, Circa 1937
Location: Waterfront, looking south
Removed

Fence, Circa 1938
Location: Alexander Road behind FB533
Extant

Fence, Circa 1939
Location: Highway 101 and Alexander Road
Removed

Fence, 2001
Location: Satterlee Road (FB557 and FB637) looking east
Extant

Fence, 2001
Location: Tennis Court (FB537)
Extant

Infrastructure Visible in the Landscape

Utility Pole, Circa 1907
Location: East side of Murray Circle, looking south
Removed

Utility Pole, Circa 1915
Location: East side of Murray Circle, (FB601) looking east
Extant

Utility Pole, Circa 1915
Location: West side of Murray Circle, looking south
Extant

Railings

Railing, 2001
Location: FB679, looking east
Extant

Railing, 2001
Location: Service area
Extant

Entrance Gates

Entrance Gate, Circa 1900
Location: East Road Entrance
Removed

Entrance Gate, Circa 1925
Location: East Road Entrance (Marin History Museum)

Removed

Curbs, Walkways and Gutter

Street Curb, 1938
Location: FB561
Extant

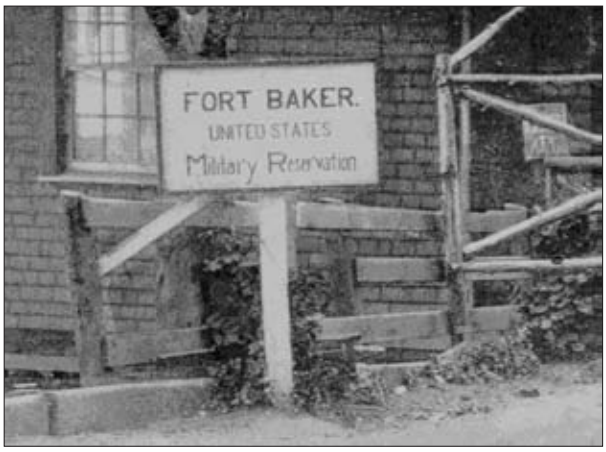
Sidewalk Curb, Circa 1938
Location: FB603
Extant

Walkway, 2001
Location: FB631
Extant

Walkway, 2001
Location: FB607
Extant

Road Gutter, Circa 1925
Location: FB631
Extant

Signs



Sign, Circa 1900
Location: East Road Entrance
Removed

Sign, 2001
Location: FB615
Extant

Stairs and Retaining Walls

Stairs, Circa 1915
Location: FB636
Removed

Stairs, Circa 1938
Location: FB631
Extant

Stairs 3 and Stone Retaining Wall, Circa1938
Location: FB523
Extant

Stairs 4 and Stone Retaining Wall, Circa 1938
Location: FB527
Extant

Concrete Retaining Wall , Circa 1938
Location: FB533
Extant

Military Artifacts as Landscape Features

Cannonballs, Circa 1915
Location: FB523
Removed

Cannonballs, Circa 1938
Location: FB604
Removed

Cannonballs, Circa 1925
Location: East Road Entrance
Removed

Military Artifacts cont'd

Missle shell casings, circa 1923
Location: FB601, FB602, and FB623
Removed

Monument, 2004
Location: Southeast Parade Ground
Existing

Missle shell casings, 2004
Location: Adjacent to FB627
Existing

Flagpole and Treatments

Flagpole, Circa 1915
Location: Parade Ground, looking northwest
Flagpole: Extant
Compass Rose treatment: Removed

Flagpole, Circa 1939
Location: Parade Ground, looking northwest
Flagpole: Extant
Guywires: Removed

Other

Bench, 2001
Location: Satterlee Road
Extant, non-historic, incompatible

Basketball Hoop, 2001
Location: FB538
Extant, non-historic, incompatible

Cultural Landscape Areas

Introduction

Cultural landscape character areas at Fort Baker are defined by the physical qualities of the landscape (such as the shoreline, bluffs and slopes, the valley, or vegetation cover) and by the type and concentration of historic resources (such as historic structures and roads). In this regard, character areas provide a synthesis of existing conditions and contributing cultural landscape characteristics that remain at Fort Baker and provide a framework for defining management zones and treatment guidelines for the cultural landscape. In addition, while each area has a distinct landscape character, it is the pattern and relationship among these areas that enhances an understanding of the overall significance of the cultural landscape. Overall, Fort Baker is considered a designed historic landscape. Based on the synthesis of historic resources and existing conditions, six character areas have been identified and are described below.[87]

Batteries

There are three batteries in east Fort Baker – Battery Duncan, Battery Yates and Battery Cavallo. All are located on the eastern ridge above Cavallo Point. The remaining batteries are in west Fort Baker and include Battery Kirby, Battery Orlando Wagner, Battery Spencer, and two remnant complexes: Gravelly Beach Battery and Ridge Battery. As a cultural landscape character area, the batteries are considered designed landscapes at two scales. One scale is the structural complex itself including all earthworks, building components, access roads, and outworks. The other scale is defined by the relationship and proximity between and among individual battery units. In this case, the character of the cultural landscape is designed but appears "naturalistic" to the degree that both native and non-native vegetation was used (camouflage) and topography was modified (earthworks). The landscape character surrounding the individual batteries is generally open (except at Battery Duncan and Kirby). The batteries at Fort Baker both individually and as a system of coastal fortifications are key structures influencing the overall military design of the cultural landscape and retain a high level of historical significance and physical integrity.

The Cantonment

The cantonment is the spatial, functional and structural core of Fort Baker. It includes the formal parade ground, Murray Circle, and twelve historic structures clustered around the parade ground. McReynolds Road and the forest/cypress windbreak form the west boundary of the character area. Seitler Road forms the north boundary with seven historic structures including the hospital, hospital steward's quarters, five NCO quarters, and chapel. Center Road forms the south boundary. The overall landscape is formal in design and residential in character with curvilinear streets, standardized setbacks, with a separation between the more public front facades of the residences and the more utilitarian quartermaster warehouse areas behind. This core area of the post has the largest number of cultural landscape resources and a high level of cultural landscape integrity.

The Waterfront

The waterfront area includes a number of historic structures and cultural landscape resources surrounding Horseshoe Cove between Cavallo Point and Lime Point. Historically the character of this area was somewhat industrial with all of the supplies and materials for the post arriving via ship to the wharf at Engineer's Camp. In the early twentieth century, this small cluster of work-related buildings gave way to improved access and the construction of the cantonment, and another cluster of service buildings were constructed north of the bay. The marsh was filled by 1903, and although this portion of the waterfront was not developed until 1941 when the station hospital was built, the new use was compatible with the functional nature of this area. Today there are a number of historic structures reflecting the working character of the waterfront through the entire period of significance. These structures include Moore and Satterlee breakwaters, the mine wharf, the seawall, the marine railway, Moore Road, mine deport structures and loading rooms along the west side of the bay, and the boat and ship repair shops at the east end of Sommerville Road. While most of the contributing resources are associated with the post-Endicott era, the character of the cultural landscape as a working

waterfront reflects continuation of the earlier use, especially with regard to access (water and roadways), spatial organization (orientation and function), and land use (ship/boat supply, maintenance, repair).

Quartermaster Warehouse Area

The quartermaster Warehouse Area includes a variety of structures that historically comprised the supply and warehouse area of the cantonment. Today this area is used by the Bay Area Discovery Museum (BADM). Of the original ten buildings clustered in this area during the period of significance, seven remain including the historic bakery, blacksmith shop, carpenter shop, wagon shed, and three storehouse buildings. Constructed between 1902 and 1918 these buildings were utilitarian in character, and oriented on a tight grid between East Road and the waterfront. Landscaping was limited and developed only towards the end of the period of significance. Roads were informal (unpaved) in character. The Bay Area Discovery Museum currently uses these structures for offices and programs.[88]

Open Area

This character area covers the largest amount of landscape within the boundaries of east and west Fort Baker. In general, it includes all the lands that were historically undeveloped or only slightly modified for access roads and adjacent facilities (such as water reservoirs, dump sites, and munitions storage) during the period of significance. It also includes the landscape surrounding the individual batteries and fortifications. In east Fort Baker, during the period of significance the character of this area was open with low growing vegetation and sweeping views. Today large portions of the slope surrounding the cantonment are forested as a result of vegetation that has seeded or spread since the period of significance. In addition, areas of east and west Fort Baker have been designated as habitat zones for the Mission Blue butterfly. Although the undeveloped areas surrounding the cantonment appear “natural”, the dominant vegetation and character of the landscape is a result of use and modification over several hundred years. In west Fort Baker, the historically open character of the landscape is still evident.

Access Roads

Four historic roads make up the primary arrival sequence for Fort Baker: Conzelman Road, East Road, Bunker Road, and Center Road. All of these roads have been modified over the years but generally retain a rural character from the historic period.

Conzelman Road, constructed in 1870/71, was the original road between Forts Baker and Barry, and one of the earliest roads built at the site. Today the a portion of the road runs from Highway 101 to McCullough Road, and down the hill to the waterfront. The upper portion of the road is 25-feet in width, and the lower portion is a one-way section, 12-feet in width. There are 29 historic features remaining along the road.

East Road, constructed in 1902 was built to provide access to the post from Sausalito. The road was designed as a touring road and is scenic in character, generally following the edge of the east bluff from Alexander Avenue to the intersection with Center Road. The road is 26-feet wide with scenic pullouts and 16 historic features including drainage structures, rock walls, manhole covers, and curbing. Also associated with this road is the native coastal oak woodland.

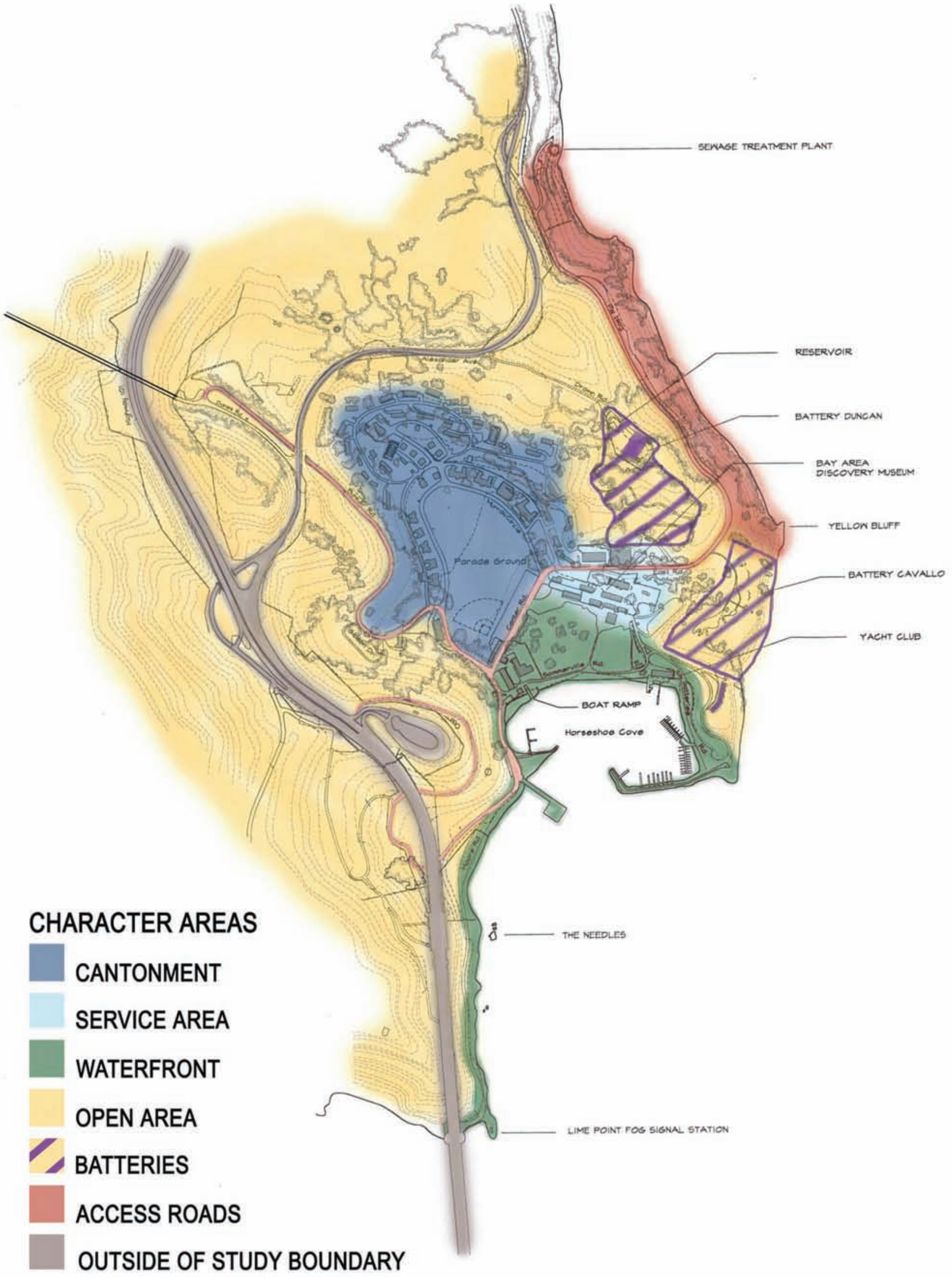
Center Road, built in 1872, historically functioned as bypass around the swamp at the south end of the Parade Ground and as a construction road for Battery Cavallo. It has a functional character early in development of the cantonment and later more formalized character after the trees were planted along the edges, creating an allee. Today the road is 28-feet wide, with 7 historic features. It was tree-lined during the primary period of significance.

Bunker Road was built in 1916, and was historically rural in character, following the topography down into the intersection with Murray Circle. Several sections of the road have been re-paved over the past few years. Today the road is 22-feet wide with 40 historic features including stone retaining walls and numerous drainage structures.

Endnotes

[87] The Golden Gate Bridge, Highway 101 right-of-way, Alexander Road right-of-way, and Vista Point are not included in the description of character areas because they are outside the study boundaries.

[88] Historic buildings used by BADM include the Quartermaster and Subsistence Warehouse (FB599), the Carpenter and Paint Shop (FB645), Blacksmith Shop (FB644), wagon shed (FB561) and the Exchange Service Station (FB566).



CULTURAL LANDSCAPE REPORT: FORT BAKER

GOLDEN GATE NATIONAL RECREATION AREA

CULTURAL LANDSCAPE CHARACTER AREAS

SOURCES: Fort Baker General Landscape History and Analysis 2001, GGNPA; Towill Survey, 1997; Field Observations, 2001

APPROXIMATE SCALE
150' 600'
MAP DATE: JANUARY 2002

Treatment

Treatment Approach

Fort Baker is a nationally significant historic site listed on the National Register of Historic Places as part of the *Forts Baker, Barry, and Cronkhite Historic District* (1973). It has a historic designed landscape comprised of a wide range of contributing resources and possesses a high level of physical integrity.

Three treatments are described for Fort Baker: ***rehabilitation***, ***restoration***, and ***preservation***. All treatments are based on *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* (1996).

Each treatment is derived from guidance contained in the Fort Baker Plan Final Environmental Impact Statement (FEIS) (1999). The primary management goal, based on the plan, is ***rehabilitation***, focusing on contemporary use of the cultural landscape and historic structures. As described in the FEIS, the cantonment and the waterfront areas are examples of two areas where new uses are planned and rehabilitation treatment is applied. This treatment approach applies broadly across the site. ***Restoration*** is the second management goal. This treatment is applied specifically to the parade ground. Restoration of the parade ground – a key character-defining feature of the site – will provide balance between contemporary change in the landscape and retention of integrity of the historic scene. The third management goal is ***preservation***, an approach that is applied to the batteries where interpretation of the historic scene and structures is identified in the FEIS. These three treatments are considered interrelated and are not mutually exclusive.

The treatment recommendations within this CLR build from guidance provided in other documents, including:

- NPS Management Policies, 2001
- Guiding Principals of Sustainable Design, 1993
- Memorandum of Agreement (MOA) between the National Park Service and the California State Historic Preservation Office Regarding the Fort Baker Plan, 2000
- USFWS Biological Opinion on the Fort Baker Plan, 1999
- NPS Park Road Standards, 1984
- Parkwide Site Furnishings Standards, GGNRA, 2003
- Presidio Tenant Sign Policy, Presidio Project Office, GGNRA, 1997

The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes (excerpts)

Rehabilitation: The act or process of making possible a compatible use for a property through repair, alterations, and additions whille preserving those portions or features which convey its historical, cultural, or architectural values.

In Rehabilitation, a cultural landscape's character defining features and materials are protected and maintained as they are in the treatment Preservation; however, a determination is made prior to work that a greater amount of existing historic fabric has become damaged or deteriorated over time and, as a result, more repair and replacement will be required. The Standards for Rehabilitation and Guidelines for Rehabilitation allow the replacement of extensively deteriorated, damaged, or missing features using either traditional or substitute materials. For example, Rehabilitation may include replacing a crushed bluestone carriage drive with a rolled aggregate finish or replacing shaded-out understory shrubs with more shade tolerant species. Of the four treatments, only Rehabilitation includes an opportunity to make possible an efficient contemporary use through alterations and additions; for example, replacing tillage with permanent grasslands to support a new system of livestock grazing...

Restoration: The act or process of accurately depicting the form, features or character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.

Preservation: The act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic features rather than extensive replacement and new construction.

Treatment of archeological resources is not detailed in this Cultural Landscape Report. Specific treatments for these resources have been addressed in other park management documents.

Following extensive historic analysis, circa 1939 has been designated as the historic period during which the preponderance of contributing features of the landscape were in place and the military's management practices for the landscape had become well established. This date represents the most coherent and enduring military design for a landscape that changed several times over an eighty-year period. No attempt is made to "freeze" the Fort Baker landscape to a single year; rather the goal is to retain character-defining features that contribute to the integrity of the site. Treatment recommendations focus on the general attributes and appearance of the landscape. For example, in specifying plant materials for the cantonment, the shape, size, massing, texture, and form of historic material may be emphasized rather than exact genus or species.

The Fort Baker Plan FEIS identifies alterations to the cultural landscape that need to be made for programmatic, environmental, life/safety, and other purposes. The NPS and its partners should pursue strategies that minimize impacts to the character-defining features of the landscape. Some of the proposed actions as called for in the Fort Baker Plan FEIS, such as revised parking, will have an unavoidable impact on the landscape. In gauging overall historic character and site integrity, it will be important to compare the intactness of character-defining features and landscape characteristics at the outset of the undertaking with the degree of change during the proposed rehabilitation.

Recommendations and Guidelines

Treatment recommendations and design guidelines are often required in rehabilitation projects to counter-balance loss of character-defining features or general landscape character caused by proposed alterations. Rehabilitation of Fort Baker will inherently affect many of its historic features; however, the treatment recommendations contained within this Cultural Landscape Report provide guidance to minimize overall impacts to both the individual features and the historic district's character as a whole, while allowing for contemporary uses. Deficiencies that threaten life and safety or that are causing further deterioration must be corrected. The value of all other improvements should be weighed against the value of the landscape's integrity.

Three levels of guidance are provided through this Cultural Landscape Report. They are structured to present a hierarchy of treatment for the historic district. Recommendations range from a general preservation framework to specific design guidelines for new construction. These treatment strategies include:

- *Fort Baker Historic District Treatment Recommendations,* which address treatment of elements common to the entire landscape, and
- *Character Area Treatment Recommendations,* which contain specific guidance for the cantonment, the batteries, access roads, the waterfront, the quartermaster warehouse area (BADM), and open space, and
- *Design Guidelines*, which address potential new construction within the historic district.

Fort Baker Historic District Treatment Recommendations and Design Guidelines

LAND USE

1. Preserve and maintain historic land use patterns, where feasible. Some of these patterns include:

   - The arrival sequence to the cantonment along Bunker Road and East Road
   - The shape, orientation, and open nature of the parade ground, defined by Murray Circle and Center Road, the cluster of historic structures ringing the parade ground, McReynolds Road forming the outside edge of the space, and the windbreaks and eucalyptus perimeter plantings forming the backdrop and boundary between the cantonment and the open space beyond.
   - Work-related industrial development around Horseshoe Cove including breakwater, seawalls, wharves, ramps, and ship repair structures which define the industrial character of the waterfront.
   - The use and development of the area north of Horseshoe Cove, for service-related functions and support facilities.
   - Individual batteries and support structures, including access roads, which form a system of fortifications and a structural perimeter along the shoreline to the east, south, and west of the cantonment.

2. Where feasible, service areas (support offices, shops, and storage) should be located within the historic industrial zone, which includes the quartermaster warehouse area and waterfront extending around Horseshoe Cove.

3. Where buildings may be removed as designated under the MOA, Appendix B "List of Buildings Proposed for Demolition or Other Adverse Effect", consider the potential for retention and continued use of these structures, including potential to screen new development, parking areas, utilities, and infrastructure associated with the rehabilitation use of the site.

Design Guidelines

Land Use

1. Focus new uses and activities in locations that are compatible with historic land use patterns.

2. If a new facility is required, consideration should be given to siting it in a manner that is visually unobtrusive and compatible with the historic use, with preference given to the use of an existing developed area that is accessible by existing roads.

BUILDINGS AND STRUCTURES

Preserve, maintain and incorporate in rehabilitation designs the historic buildings and structures identified for retention in the List of Classified Structures (LCS) or the Cultural Landscapes Automated Information Management System (CLAIMS) as part of a cyclic preservation program.

Design Guidelines

Buildings and Structures

1. Minimize modification of existing grades throughout the site and addition of new retaining walls and structures to accommodate new building sites. If new retaining walls are required, they should be compatible with the character of existing historic versions within that character area. For example, in the core cantonment, consider use of masonry for new retaining walls to match the historic material (avoid faux/replica stone). For Capehart area, use of poured-in-place concrete for retaining walls is encouraged at the edge of the developed area for instances where retaining walls are necessary. In the waterfront area, new retaining walls should be poured-in-place concrete.

2. Avoid addition of new fences within the historic district, with the exception of those required for protection of natural resources, designated habitat areas, or for human safety. If required, the design of new fences in the cantonment, along access roads, and in the service area should be compatible with the character of historic fence types (See Character Area Treatment Recommendations). The design or type of fences used around the batteries and in open areas should minimize the amount of fencing required to achieve the objective.

3. Where feasible, consideration should be given to reestablishing the horizontal 2-rail boundary fence that delineated the perimeter of the historic cantonment, if a perimeter fence is identified as the preferred alternative for maintaining a secure boundary at sensitive habitat areas.

4. Avoid introduction of incompatible new structures—such as outdoor exercise equipment, outdoor pools, putting greens, gazebos, arbors, sculpture, fountains, etc., to the historic setting at Fort Baker.

5. Modification of historic structures with additions such as new wings, decks, and other features, must follow the guidelines in The Secretary of the Interior's Standards for Treatment of Historic Properties. The preferred location for non-contributing modern features is on less significant facades and away from historically sensitive view corridors. Significant facades at Fort Baker buildings are indicated in individual Historic Building Reports. Historically sensitive view corridors are indicated in the Part I Analysis and Evaluation.

6. Where feasible, locate new structures on sites where buildings have been removed or were planned during the site's period of significance, in order to minimize additional grading or changes to existing topography, and to reinforce the historic site development pattern.

CIRCULATION AND PARKING

The following recommendations build on the decisions reached within the Fort Baker Plan FEIS with respect to scale and location of circulation and parking.

1. Preserve and maintain the character of historic roads to Fort Baker, including the use, alignment, width, paving, drainage features, and shoulder treatments of historic roads. Where modification is required to achieve new safety or functional requirements, design should be compatible with the historic character of the road.

2. Preserve and maintain the understated character of less formal historic roads in service related areas of the district (e.g., the waterfront). Some of these characteristics include:

   - Minimal use of asphalt
   - Compacted dirt and/or gravel surfaces
   - Utilitarian drainage designs
   - Non-urban character, consistent with surrounding area, reinforced by design of sidewalks, curbs, and shoulders
   - Varying widths within a given road segment

3. Preserve and maintain road names, including installation of missing road signs at Fort Baker. Road names were designated in honor and memory of deceased members of the United States Army, many of whom served at Fort Baker prior to World War II.

4. Avoid modification of historic roads for vehicular parking within the historic district (e.g., widening the roadbed). Consider re-use of abandoned building pads (e.g., along Seitler Road and Merrill Street) as new parking locations.

5. Consistent with historic circulation patterns, maintain a separation between roadways and parking areas.

Design Guidelines

Circulation and Parking

1. Minimize the scale of new parking areas. Where feasible, separate large parking lots into two or more smaller lots.

2. Where feasible, avoid creating a primary vehicular route through a parking area.

3. Where feasible, avoid construction of new roads within the historic district. However, if new roads are required to facilitate new requirements such as maintenance operations or emergency access to new use areas, they should be designed in a manner that is compatible with the character of historic roads that contribute to the character of that historic zone. In general, new roads should be located and aligned in a visually unobtrusive and historically compatible manner, using minimal amounts of cut and fill, narrow width and historically appropriate materials and drainage features.

4. Design of new or realigned roads, such as along realigned Breitung Road at the waterfront zone, sidewalks, curbs, and road shoulders should reinforce the overall character of the surrounding zone, which ranges from the urbanized setting of the core cantonment to the rustic setting of the waterfront area.

VEGETATION

1. Preserve and maintain historic vegetation throughout the cantonment as part of a cyclic maintenance preservation plan. (Historic vegetation that existed as part of a 1999 existing conditions assessment for the cantonment can be found in the Appendix C – Existing Vegetation List.)

2. Remove non-historic trees within the cantonment as directed in Appendix D - Landscape Rehabilitation Guidelines.

3. Preserve and maintain the historic windbreaks, tree plantations, windrows, hedges/screens and foundation plantings as significant historic landscape features associated with the setting for historic buildings and events that occurred at Fort Baker.

4. Manage landscaped areas around individual historic structures to reflect the extent of development and materials used by the army through the late 1930s. (See individual building treatment recommendations in Appendix D - Landscape Rehabilitation Guidelines.)

5. Remove and replace historic trees that are structurally unsound consistent with the PWR Hazard Tree Guidelines (WR-093). Before historic trees are removed, it will be necessary to:

   • Evaluate individual trees for biological and structural health. Remove and replant only historic trees that are structurally unsound and that cannot be stabilized through pruning and active management.

   • Remove trees only in conjunction with an NPS-approved replanting plan except in cases of imminent hazard conditions. In such instances, replanting should occur at the earliest feasible time.

   • In all cases, prior to removal and in coordination with park GIS coordinator, identify genus and species, location, and context to any historic tree planting plan using GPS equipment and GIS mapping. If feasible, the age of the tree should be determined and documented at the time of removal.

6. Selection of restoration species at the Parade Ground, or replacement species for the historic forests, tree stands or windbreaks will need to be thoroughly evaluated for compatibility of character and appearance as well as suitability with historically planted species at the site. Selection of replacement vegetation should meet the following criteria:

   • Addition of new plant materials should follow The Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for Treatment of Cultural Landscapes and meet guidelines established in the Fort Baker Plant Selection Lists (separate document). Closely match the intended form and character of historic vegetation.
   • Avoid invasive characteristics
   • Meet sustainability goals
   • Select for improved pest and wind resistance
   • Reduce maintenance demands

7. Undertake adequate planning for reforestation efforts at historic tree plantations and windbreaks. Planning should establish the desired form, character, and management demands of the restored/rehabilitated stand. Planning effort should enlist the professional skills of NPS cultural and natural resource staff, as well as the professional skills of arboriculture, horticulture and forestry. See discussion in Appendix E – Arborist Report.

   • For all tree plantations, maintain the species make-up of the forest stand (often, a monoculture) as a primary character feature.
   • For all tree plantations, maintain the footprint and continuous canopy of the forest stand as a primary character feature.
   • For the Monterey cypress windbreak, maintain the orthogonal rhythm of the tree plantings as an important character feature of the forest stand.

8. In all cases when selecting vegetation for replanting, recognize and make practical accommodation of the impact that wildlife in the area, such as deer, gophers, rabbits, raccoons, and gulls, will have on the plant materials.

9. Minimize modification of the historic landscape with introduction of non-historic planting areas. Where new planting areas are introduced, designs should follow The Secretary of the Interior's Guidelines for the Treatment of Cultural Landscapes. The preferred location for non-contributing modern vegetative features is away from historically sensitive viewsheds. Historically sensitive view corridors are discussed in the Part I Analysis and Evaluation "Views and Vistas".

10. Where feasible, restore of the character-defining interface between the large-scale tree plantings at the perimeter of the cantonment and the open space areas.

Fort Baker Plant Selection Lists

Plant selection lists have been developed to help ensure protection of both cultural and natural resources of the site.

The following document contains Plant Lists for the Fort Baker Military Reservation in the Marin Headlands of Golden Gate National Recreation Area. The purpose of these Plant Lists is to promote responsible landscape planting to protect both historic and natural resources. The need for the plant selection lists arises because the Fort Baker Military Reservation consists of both historic ornamental designed landscapes and native plant communities - each with their own vegetation management needs. The purpose of the lists is to protect the values inherent in both landscape types. These plant lists should always be used in conjunction with general rehabilitation criteria established in The Secretary of Interior's Standards For The Treatment Of Historic Properties With Guidelines For the Treatment of Cultural Landscapes as well as the site-specific guidance in the Fort Baker Cultural Landscape Report.

These plant lists are intended for use by NPS park staff, the GGNPC and park partners when selecting plants for historic rehabilitation projects, routine maintenance or landscaping. The plant lists should be used in conjunction with any construction, treatment or planning projects involving the historic landscape within the Fort Baker Military Reservation.

Plant List 1: Plants for Use in Designed Landscapes
Plant List 2: Conditional-Use Plants in Designed Landscapes

Plant Lists 1 and 2 are working lists that were derived primarily from research done at the Presidio of San Francisco. Because of the similarity in coastal conditions and historic development of the military installations in the Marin Headlands under command at the Presidio, these lists are also being used for Fort Baker. These two lists have been augmented with historic plant material based on research specific to Fort Baker.

Plant List 3: Prohibited-Use Plants in Designed Landscapes

Plant List 3 contains those species that are prohibited from use at Fort Baker based on either demonstrated, or reliably anticipated, invasive characteristics of these plants.

Plant List 4: Native Plants Approved for Consideration on Designated Landscape Projects Within the Developed Area at Fort Baker

Plant List 4 is a summary of native plants found in the east Fort Baker watershed, annotated to identify those plant materials that are eligible for production in the GGNPA plant nursery, for use on designed landscapes at Fort Baker.

Plant Lists are intended to provide plant selection guidance only. A plant - though it may appear on an approved list - may not be appropriate for a specific location; therefore, the plant may not be approved for use. Individual landscape rehabilitation projects will require specific species selections according to the historic character, maintenance and sustainable management of that particular site or building landscape.

SMALL SCALE FEATURES

Preserve and maintain small scale historic features throughout the site. Where replacement of these features is required for safety or to accommodate upgrades, the design and siting of replacements should be compatible with the character of the historic version. Examples of small scale historic features that should be retained include:

- Manhole covers
- Drainage system features
- Foundation pads
- Concrete bag anti-aircraft gun emplacements
- Road traces
- Utility access/abandoned staircases
- Remnant sidewalks
- Military-era signs
- Utility vaults
- Seawalls
- Dolphins (freestanding anchorage for vessels)
- Spiderweb Entanglements

Design Guidelines
Small Scale Features

1. New site furnishings should comply with the NPS Parkwide Site Furnishings Standards, or reflect the understated character of furnishings described in that standard.

2. Contemporary small scale elements and site furnishings should be designed and placed in a manner that is compatible with the historic site. The appropriateness and placement of new features should be evaluated in the context of the entire site so that the cumulative effect of additions to the cultural landscape can be assessed.

3. Design and placement of road and wayfinding signs outside the cantonment area should be based on approved NPS sign standards.

4. Design and placement of, wayfinding, tenant identification and other temporary and permanent signs within the cantonment should be consistent with the Presidio Tenant Sign Policy or the NPS successor policy.

UTILITES

Fort Baker has always had utilities visible within the landscape. During the course of infrastructure upgrades at the site, the cumulative effect of all changes should approximate, but not exceed, the historic presence of these features in the landscape.

1. Preserve and maintain historic infrastructure features and retain them in service to the extent feasible. Avoid removal of historic structures that contribute to the integrity of the site as identified in the List of Classified Structures (LCS) or the Cultural Landscapes Automated Information Management System (CLAIMS).

2. Where feasible, re-use components such as valve covers or manhole covers with distinctive period characteristics. While not all such components need be retained, select examples may be protected in place as a record of the site's development over time.

3. Where feasible, minimize the visual impact of new above ground utility features to reduce the cumulative effect of these non-historic additions to the historic scene.

Design Guidelines
Utilities

1. Where feasible, new above ground utility structures including electrical switchgear, electrical transformers, backflow preventers, and gas meters should be placed in visually unobtrusive locations. For example, these new utility structures can be located adjacent to historic structures or in proximity to historic vegetation. Consideration should be given to placement of transformers in subsurface vaults, when visually compatible and unobtrusive locations for these structures cannot be achieved. Introduction of new fencing, large concrete pads, vegetative screens, and modification of historic grades to mitigate the placement of these utility features is the least preferred option for placement of new utility structures, as this approach will cause the greatest disruption to the historic scene.

2. When studying expansion of historic subsurface vaults, evaluate the feasibility of retaining the existing vault and using side-by-side expansion in lieu of removal and replacement.

3. Preserve and maintain the condition of historic trees during subsurface infrastructure improvements. When selecting an alignment for subsurface utility lines, consideration should be given to the potential impact on tree plantings that contribute to the historic scene. The preferred alignment will avoid the root zones of trees so that removal of the tree or impairment of its biological and structural health does not occur. Utility alignments should also be selected to minimize future conflicts between subsurface utilities and trees (e.g., where trees will be restored at the parade ground, keep utilities away. Where other vegetation is impacted by the work, the scope of the project should include repair to suit historic conditions).

4. For infrastructure that has existed historically at the site, such as fire hydrants, manhole covers and vaults, new versions should be compatible in appearance with historic versions. For example, the CLOW 76 Fire Hydrant is visually compatible with the historic fire hydrants that exist at Fort Baker.

5. Where street lighting is upgraded, select a light fixture design that reflects the design established at the site in the late 1930s with respect to street post placement, scale, and general design characteristics of the fixture. Where required, modify the historic design to fit NPS criteria for management of light "spillover" as well as for functionality. For other site lighting that may be introduced for safety and upgrades, minimize the visibility of new fixtures using a shielded fixture design, resulting in an understated lighting design.

Other Guidance: Fire Management and Sustainability

CONSIDERATIONS FOR FIRE MANAGEMENT

Development of a Golden Gate National Recreation Area Fire Management Plan should address preservation of historic vegetation and structures at historic districts such as Fort Baker. The Fire Management Plan should also acknowledge:

- The history of wildland fires at site.
- The presence of human ignition sources at roads and concentrated visitor use areas.
- The presence of fuel loading at the site, especially due to recent expansion of tree stands beyond their historic boundaries.

A Fire Management Plan and implementation recommendations should include provisions that protect, where practical, historic vegetation as well as buildings, structures, and earthworks, including:

- Manage condition of historic trees that are immediately adjacent to historic buildings.
- Manage open grasslands and coastal scrub plant communities that surround the developed cantonment and contribute to the historic character of the site.
- Manage historic military batteries consistent with historic character, including protection of structures, archeological sites and historic earthworks from exposure to fire. Evaluate the potential of fire management practices in maintaining a coastal scrub vegetative character in historically open areas of the site. Evaluate the opportunity to disturb the forest succession process in an operationally feasible way so that these areas may remain in an open condition consistent with the appearance during the military era.
- Manage San Francisco Bay frontage oak woodland consistent with its historic character, including protection of structures and archeological sites from exposure to fire.
- Manage replanting of historic tree stands to minimize the creation of ladder fuels.

CONSISTENCY WITH NPS SUSTAINABILITY GUIDELINES

The following recommendations are consistent with the Guiding Principles of Sustainable Design, (1993).

1. Minimize the expenditure of energy resources required (e.g., use drought-resistant, low spreading grass species which will minimize the need for frequent mowing).

2. Minimize the use of plant species that require frequent and/or extensive use of irrigation on a long term basis. Drought tolerant plant material is desirable as long as it does not change the character of the vegetation at the site.

3. Minimize labor-intensive practices (e.g., planting of species that require frequent pruning).

4. When selecting plant material, consider the longevity of the material to minimize frequent replacement.

5. Minimize the need for chemical amendments to the soil (fertilizers, lime, etc.) through the selection of plant species that are tolerant of the existing site/soil conditions.

6. Minimize the use of pesticides and herbicides, consistent with the NPS Integrated Pest Management (IPM) guidelines.

7. Where non-contributing specimen plantings are removed during the rehabilitation work, consideration should be given to salvage and re-use of the plant material elsewhere, either inside or outside the park.

Character Area Treatment Recommendations and Design Guidelines

Although the Fort Baker Historic District Treatment Recommendations apply to the district as a whole, treatment guidelines have also been developed for the six cultural landscape character areas to address preservation treatment at a more detailed scale. Each set of recommendations for the character areas (cantonment, batteries, access roads, quartermaster warehouse area, waterfront, and open areas) is based on the historical significance and physical integrity of the resources within those areas. These recommendations are grouped by landscape characteristics and include Spatial Organization and Land Use, Buildings and Structures, Vegetation, Circulation, Small scale Features, and Views and Vistas.

CANTONMENT

The cantonment is the spatial, functional and structural core of Fort Baker. The overall landscape is formal in design and residential in character, with curvilinear streets, standardized setbacks, and a separation between the more public front facades of the residences and the more utilitarian service areas behind. The cantonment consists of five interrelated sub-areas:

- The Parade Ground, including the grass field, trees and flag pole,
- Murray Circle, including the twelve historic structures clustered around the parade ground, the road and sidewalks, steps, foundation plantings, landscaped yards, and streetlights,
- McReynolds Road, providing limited vehicular access and utility areas including, garages, parking areas, utility infrastructure (transformers, garbage containers) structural rock walls, and steps,
- The Windbreak forming the western boundary of the cantonment, and
- Kober Street and Seitler Road forming the northern boundary of the cantonment, with seven historic structures including the hospital, hospital steward's quarters, five NCO quarters, and chapel.

Treatment recommendations for the Capehart housing area on the north side of the cantonment are also included in this section. Although the buildings and landscape features post-date the period of significance, treatment recommendations and design guidelines are required to assure the redevelopment of this area is visually and materially compatible with the overall character of the historic district.

TREATMENT RECOMMENDATIONS

Spatial Organization and Land Use

1. Preserve and maintain the historic design and spatial organization of the cantonment, including the cluster of structures and setbacks between structures around Murray Circle, the open parade ground, the windbreak/tree plantation extent and edges, and the sequence of formal/public spaces in front of the residences and the more utilitarian private spaces behind the residences.

2. Restore the parade ground, which is a key character-defining feature of the cultural landscape. Components of a restoration design should include:

- Restoration of missing perimeter tree plantings, using the historic planting locations and alternating rhythm of tree genus. Restore the formal planting of the parade ground trees and the allee of trees along Center Street as part of the parade ground rehabilitation (see Parade Ground Planting Plan). Replanting should replicate the variety of species that existed historically. (Determination of historic tree locations is important and should be done based on careful documentation of historic conditions through the use of historic photos, consistent with the restoration standard that applies to treatment of this missing feature.)

- Where replanting of historic parade ground trees is undertaken, use trees that have a mature height of between 30- and 40- feet. The repeated history of tree crowning during the period of significance indicates that the intended planting design requires a tree height in this range. New tree plantings should introduce this height where evidence of historic period tree topping exists. Incrementally remove earlier plantings such as eucalyptus globulus, that have achieved a height closer to 120 feet, as feasible.

Design Guidelines
Cantonment: Buildings

1. Design new buildings within the historic district to be compatible in scale, texture and continuity with the character of historic structures throughout the district.

2. Where new buildings are proposed on Murray Circle, they should be sited to maintain the established front yard setback, which is understood to be 25-30 feet from the curb at Murray Circle to the front façade of the building. In addition, the following apply:

   • New buildings should maintain a side yard spacing between buildings which is compatible with the established setback pattern.
   • New buildings should maintain a front yard, two side yards and one rear yard.
   •The scale of new structures should approximate the scale of adjacent historic structures.

3. Where feasible, use existing disturbed areas for siting new buildings in the Capehart area.

•Maintain grass cover throughout the parade ground, consistent with the management decision to restore this feature. The parade ground turf was historically seasonal in nature. Restoration of the parade ground should use drought resistant species that can go dormant (golden) during dry periods. The turf on the parade ground should continue to function as it did historically to control dust in the area. Avoid selective irrigation of the parade ground, which would create smaller green areas within its larger context: this approach would be inconsistent with the history of management of the parade ground as a whole. Turf selection should fully consider all maintenance and sustainability issues including the use of pesticides, fertilizers, and drought resistance consistent while ensuring the overall coverage necessary to adequately address the dust control objectives of the original planting.

•Where feasible, remove non-historic recreational structures from the parade ground. Informal recreational activities are consistent with the historic use of the parade ground. Future use of these areas for recreational purposes is historically appropriate but should occur generally across the parade ground and not be fixed in a single location defined by structures.

•Where feasible, consideration should be given to restoration of the Army appurtenances that signalled the command center of the post, including the historic flagpole treatment with guy wires and cannonball anchors, as well as the cannonball sidewalk edging and cannonballs stacked in pyramid-shaped piles that marked the corners on the route. These elements historically connected and identified the flagpole (FB648), Commanding Officer Quarters (FB604)and Commanding Officer's Administrative Quarters (FB603) as the center of military command at the fort.

•Retain the commemorative Army monument (FB810) in an appropriate location and setting on the parade ground. If feasible, retain the modern Army commemorative monument in a similar setting.

• Where missing features of the parade ground setting are restored - such as streetlights - select restoration units that fit the form and character of the missing historic versions.

• Where new features are added to the parade ground setting to meet modern functional requirements, ensure that these features are understated and visually compatible with the historic character of the parade ground circa 1937.

Buildings

Preserve, rehabilitate, and maintain all historic structures following The Secretary of the Interior's Standards for Treatment of Historic Properties, the treatments established in the Fort Baker Plan and additional guidance provided in the Fort Baker Historic Building Reports (Golden Gate National Recreation Area, 2002).

Structures

1. Preserve and maintain historic structures that contribute to the integrity of the historic district.

2. Stabilize the historic tennis court. Stabilization treatment should include removal of vegetation within the court, retention of court dimensions, stabilization of retaining walls and fencing, and resurfacing with a compatible material. Consideration should be given to restoration of the tennis court sufficient to allow for recreational use.

3. Preserve and repair in place dry masonry riprap on sloped road edges in the vicinity of Kober Street (FB533) and along McReynolds Road (FB510). Where the riprap has been disturbed due to site construction activities, remove, salvage and reset in original location after construction.

4. Preserve and maintain the stone curbs defining the edge of the parking areas in the vicinity of Hospital Building FB533.

5. Remove non-historic concrete retaining walls on Murray Circle in front of FB636, in front of FB519 (Chapel), along Kober Street, and in the vicinity of the children's playground. Where feasible, re-grade these areas to reestablish the contours that existed during the period of significance.

Circulation and Parking

1. Preserve and if required replace in-kind the concrete sidewalk around the outside of Murray Circle and distinguish it from other pedestrian routes as the most prominent pedestrian route at the site.

2. Preserve and if required replace in-kind the concrete walks providing access and defining planting beds surrounding residential buildings. Replacement with new curbs or walks should be avoided except as required for accessibility or other code/safety reasons. Where replacement is required for safety or functional requirements, new versions should be compatible with historic examples in scale, texture and detailing. Match the visual characteristics of the concrete used for these structures using

   a compatible with matrix, aggregate and texture.

3. Preserve and if required replace in-kind deteriorated historic concrete driveways, stairs at retaining walls, and building entry stairs as needed for access. Where replacement is required for safety or functional requirements, new versions should be compatible with historic examples in scale, texture and detailing. Match the visual characteristics of the concrete used for these structures using a compatible with matrix, aggregate and texture.

4. Preserve and maintain the path behind the Monterey cypress windbreak at the western side of site. In considering the future of stairs from McReynolds Road to electrical service vaults, evaluate the feasibility of repair and extension of the existing stairs to connect with the historic trail behind the Monterey cypress windbreak.

5. Re-use existing parking areas wherever possible, including off-street parking areas behind and between historic buildings, along wider roads and within garages.

6. The FEIS allows for expansion of an existing parking lot west of FB407. The new design should protect the historic windbreak and retain its individual trees sufficient to ensure functional, structural and visual integrity of this significant feature.
   - Consideration should be given to incorporating unpaved parking within these stands (as demonstrated by the Presidio Golf Course Parking Lot) if this will protect root zones of historic trees and contribute to retention of integrity of the windbreak.
   - Avoid extending the parking lot south beyond the historic cement "V" drainage ditch, located southwest of FB405.

Vegetation

1. Foundation plantings and turf areas around the buildings should be irrigated to maintain a green appearance in the most efficient water conserving manner. Seasonal dormancy of trees and shrubs is historically out of character for ornamental plantings in the cantonment.

2. Drought tolerant plants are encouraged as part of the full complement of foundation plantings, particularly where they can replicate the diversity of color, form, texture, and flowering characteristics of historically used moisture-dependent species.

3. Renewal of the Monterey cypress windbreak should continue use of Monterey cypress as a monoculture, but may consider introduction of canker-resistant, wind-resistant and/or less invasive strains of the cypress. Manage individual trees to ensure biological and structural health while retaining the historic extent and canopy of the windbreak.

   - Management should incrementally establish an uneven age stand through replanting over a period of years.

   - Where feasible, establish a fuel break between historic tree plantings and non-historic overgrowth or intentional plantings, in order to better protect the designed landscape from damage by wildland fire.

4. Retain and re-establish the north windbreak of eucalyptus trees and Monterey pine along McReynolds Road and behind Kober Street to its historic mass and footprint. Manage individual trees to ensure biological and structural health. During replanting, selection of exact historic tree locations is less important than retention of the historic extent and canopy of the windbreak. Remove incompatible, non-historic understory growth including myoporum, acacia, broom and others.

Design Guidelines
Cantonment: Vegetation

Where feasible, within the Capehart outer developed area (north of Merrill Street and outside of Seitler Road) housing area, non-native/non-historic plant material should be removed and replaced with grassland and coastal scrub or visually similar species that are developed specifically for use around the buildings. Designs should be visually compatible with the open grassland/coastal scrub character of the area, yet should not attempt to replicate the random character of the coastal scrub. Use of tree or large shrub species adjacent to these open space areas is not appropriate. If used, native plants in this area should be selected with specific design purposes in mind and should not attempt ecological restoration of these disturbed areas.

Design Guidelines
Cantonment: Views and Vistas

The FEIS allows construction of up to 52,000 square feet of additional building area in the Capehart Area. (FEIS, table 4-10). Manage the visual effect of added structures in this area through compliance with Fort Baker Compatibility Criteria contained within the MOA for the Fort Baker Plan, which provides guidance for new buildings to relate in scale, texture and continuity with the historic district.

5. New plantings within the Seitler Road loop, where select non-historic buildings are proposed for removal, should be compatible with the historic appearance, open in character with few large shrubs, and the windbreak providing the dominant vegetative character.

6. Preserve and maintain the Monterey cypress windrow on the east side of the Regimental Chapel (FB519) to the degree that this feature retains biological and structural health. Where replanting is required, replant the entire windrow as a unit. This planting was originally intended to express the scale and density of an evergreen hedge. Therefore, in selecting replacement planting material, consideration should be given to replanting with a genus and species that can be maintained at the scale of a hedge.

7. Remove the non-historic Douglas fir tree located adjacent to the monument at the north end the parade ground.

Views and Vistas

1. Preserve and maintain the view across the parade ground of the Endicott era panorama of buildings and setting, including graded approach to buildings, formal plantings in front of buildings and windbreak backdrop to buildings.

2. Preserve and maintain the opening in parade ground tree plantings in front of Commanding Officer's Quarters (FB604).

Small Scale Features

1. The FEIS calls for the relocation of the circa 1970 Army monument at the north end of the parade ground. Evaluate relocation options in consultation with the military and in conjunction with development of the Coastal Defense history interpretive plan for the site. Consideration should be given to consolidating the location of this modern monument with restoration of the Endicott era treatment of the Parade Ground flagpole and approach to the Commanding Officer's residence and Headquarters (structures FB603, FB604 and FB648). The northern

end of the Parade Ground has served historically as a focal point for the ceremonial life of the site, making it a potentially suitable permanent location for military icons.

2. Where feasible, the following non-historic small scale features may be removed: clothes lines, mailboxes, and remnants of children's playground behind FB527.

Utilities

1. Preserve and maintain structural components of the existing electrical system, including transformer pad next to FB502, subsurface vaults, vaults set in embankments, stairs and steel pipe railings accessing select vaults, and buildings FB408, FB409 and FB502. These structures not only serve as part of the electrical system, but contribute to the cultural landscape of Fort Baker.

BATTERIES

There are three batteries in east Fort Baker –Battery Duncan, Battery Yates and Battery Cavallo. The remaining batteries are in west Fort Baker and include Battery Spencer, Battery Kirby, Battery Orlando Wagner, and two remnant complexes: Gravelly Beach Battery and Ridge Battery. The structural complex of the batteries includes all earthworks, building components, access roads and outworks. The landscape character surrounding the individual batteries is generally open (except at batteries Duncan and Kirby). The batteries at Fort Baker, both individually and as a system of coastal fortifications, are key structures influencing the overall military design of the cultural landscape, and have a high level of historical significance and physical integrity. Management focuses on preservation of contributing resources, restoration of a more historic vegetation cover, and enhancement of the habitat for the Mission Blue butterfly around Battery Cavallo.

TREATMENT RECOMMENDATIONS

Design Guideline
Batteries: Structures

Avoid siting new structures in proximity to the historic batteries. If new structures are required for functional or life safety requirements, they should be sited in a manner that does not impair the integrity of the historic scene or the spatial patterns associated with individual battery complexes.

Design Guideline
Batteries: Circulation

Trails should utilize abandoned historic road and trail alignments.

Spatial Organization and Land Use

Preserve and maintain the structural complexes and cluster arrangement of the batteries at Fort Baker, and retain the historic spatial relationship among the battery complexes.

Structures

1. Preserve and maintain the historic structures, including all outworks, earthworks, and features associated with the batteries, following preservation maintenance guidance referenced in the Seacoast Fortifications Preservation Manual and The Guide to Sustainable Earthworks Management.

2. Where feasible, relocate the fence at Battery Duncan and Battery Cavallo away from the battery slopes and toward the toe of the earthworks.

3. Stabilize World War II-era anti-aircraft gun emplacements until plans are developed addressing long-term treatment of these significant structures.

Earthworks

1. Manage earthworks with full consideration for the potential effects of vegetation management, interpretation, visitor use, security, maintenance, and monitoring on the historic resource.

2. Biannually monitor for tree saplings (diameter 12-inches or less) on the earthworks and remove. Where feasible, remove existing large trees from the earthworks because of the potential for damage to the historic structures (trees are defined as diameter greater than 12-inches).

3. Maintain sufficient vegetative or duff coverage so that soil erosion of the earthworks is prevented.

Circulation

1. Preserve and maintain historic roads leading to battery complexes.

2. Preserve the structural integrity of the earthworks by avoiding construction of new trails on the earthworks.

Vegetation

1. Preserve and maintain the historic character of the vegetation at batteries, which was predominately perennial grasses and low coastal scrub of relatively uniform height

on the earthworks. Where overgrowth of larger vegetation has occurred, the historic vegetation should be restored, where feasible. Removal of larger shrubs (e.g., broom, toyon, etc.) and trees (e.g., oaks and all non-natives) will help restore historic vistas and reestablish historic visual linkages.

2. Maintenance on the interior sides of batteries should sustain a mix of primarily perennial grasses and forbs. Less intensive management of perennial grasses and low coastal scrub species is needed for the exterior sides of the earthworks.

3. Projects that impact vegetation management at the batteries should be closely coordinated with natural, cultural, and fire management resource specialists to ensure appropriate management strategies for habitat and fuel loading adjacent to the historic forests and the open space areas.
4. Restoration of the historic character at the batteries should be coordinated with and enhance natural resource objectives to protect the Threatened and Endangered Species, including Mission Blue butterfly and Monarch butterfly habitat, while ensuring that the historic character of the battery areas is retained.

5. Any trees--either historic or non-historic--that threaten the structural integrity of the batteries should be assessed for removal and not be replaced.

6. The fence lines protecting the batteries should not become “de facto” zones for vegetation management. The vegetation around batteries should be managed to ensure the visual continuity of the perennial grasses and low coastal scrub that historically surrounded these batteries and extended throughout the area.

7. Where fences have become locations where large scale vegetation is established, cyclic maintenance should be undertaken to clear fencing of overgrowth vegetation.

8. Historic photos indicate that Battery Duncan was planted with a mixture of eucalyptus species that were added at various times during the period of significance. Retain sufficient tree plantings in the vicinity of Battery Duncan to accomplish the military purpose of

screening the battery. All trees that are not essential for screening the battery can be considered for removal from within and around the historically forested areas at Battery Duncan.

9. Where feasible, remove modern intrusions from the batteries. For example, remove the large "Cable Crossing" sign on Battery Cavallo.

Small Scale Features

1. Preserve historic archeological features associated with the batteries, including concrete foundations, outworks, concrete bag bunkers, spiderweb entanglements, railings, and remnant circulation features.

ACCESS ROADS

Bunker Road and East Road are the primary circulation structures, historically designed to provide controlled access to Fort Baker. As described in the Historic Road Characterization Study for Forts Baker, Barry and Cronkhite, these roads were rural in nature and aligned to control the arrival sequence and speed at which vehicles approached the site. East Road was also designed as both an access route and a "touring" road along the shoreline, with open views to the bay along the route. The oak woodland on the east side of the road is considered part of this character area. Bunker Road also allowed views to the waterfront and cantonment as it approached the site. Conzelman Road and Center Road, the earliest access routes through the site, continue to route people through the site. Although the character of these roads has been modified over the years (e.g., the rerouting of portions of Conzelman Road), these roads are considered part of the historic access routes associated with the site.

TREATMENT RECOMMENDATIONS

Spatial Organization and Land Use

1. Preserve and maintain the historic use, design, materials, and spatial organization of the entry roads including the alignment and arrival sequence, speed, width, vegetated shoulders, windrow, tree *allee*, guardrails, concrete and masonry drainage structures, and associated historic features.

2. Minimize modification of historic entry roads to accommodate intensified contemporary use. Where modifications are required for modern functional purposes, the character defining features of the road should be preserved, including scale, form, character and materials historically used.

3. Wood guardrails existed historically along the outboard side of East and Bunker roads during its period of significance. Currently, modern steel "W" rail is used. Retention of "W" rail along the outboard side of the road is consistent with the historic presence of a railing and has a visual effect consistent with the military history of the site.

4. Preserve and maintain the footprint of the overlooks on East Road, which represent the original historic curvilinear road alignment circa 1900.

5. Preserve, maintain and improve existing views at overlooks through cyclic vegetation management.

6. Treat the scenic overlooks as a non-urban site, in character with their historic appearance (e.g., gravel and compacted earth). The road surfacing should be visually different from the pullouts so that the two surfaces are clearly discernable from the travelled way.

7. Consideration should be given to reestablishing some form of entry marker or gate near the federal property line on East Road that is evocative of its historic gate-and-guardhouse antecedents that marked the boundary of the military reserve.

Structures

1. Preserve, repair, reconstruct, and maintain, as needed, historic structural and civil engineering features associated with historic roads, such as road alignments and cross sections, masonry and concrete drainage features, retaining walls, guardrails, underpasses, pullouts, etc. Each road has a defined road cross section that provides scale and character to the road experience and reflects its unique development history.

2. Where feasible, Center Road should have a tight "urbanized" character, especially at intersections with Bunker Road and Murray Circle, Murray Circle and Center Road, and Center Road and East Road. Historically, the urbanized character derived from vegetation and structures that closely line the edge of the street. A number of structures existed historically along this road, especially at intersections. Surviving structures include FB670, FB671 and FB691. Planning and compliance processes have been completed for removal of FB691. However, if during implementation of the Fort Baker Plan an appropriate re-use proposal for FB691 is found, then retention of this structure would be consistent with cultural landscape integrity. If removed, an appropriate alternative would be extension of the allee of trees past the former building site.

3. Where feasible, modern head-in parking along Bunker Road and Center Road should be removed and the road edge restored to its historic appearance.

Vegetation

1. Preserve and maintain the setting for historic roads by eliminating the non-historic invasive plants from along primary road corridors outside the cantonment zone (such as acacia, echium, valerian, eupatorium, eucalyptus, Monterey cypress, redwood, fennel, broom, etc). Removal of these species will significantly enhance views along the road corridor.

2. Preserve and maintain the historic Monterey cypress and eucalyptus tree plantings at the Bunker Road approach into the cantonment.

3. Maintain the oak woodland below East Road. Where feasible, selectively manage vegetation (broom, eucalyptus, oaks, toyon, etc.) on a tree-by-tree basis from around designated scenic overlooks to restore, enhance and maintain historic views of San Francisco Bay and the East Bay hills.

4. Maintain the historic windrow of eucalyptus trees along the south side of East Road (above the quartermaster warehouse area) at the approach to Murray Circle. Remove all non-historic trees, particularly those blocking the view to the waterfront area or contributing to fuel loading in the area.

Views and Vistas

1. Restore the view created through the *allee* of trees along Center Street as part of the overall treatment of the Parade Ground to reestablish the historic character of the area to circa 1939. (See Parade Ground Planting Plan.)

2. Preserve, maintain and restore the historically open views along East Road by removal of non-native vegetation, and where feasible, the ***selective*** removal or thinning of native vegetation.

3. Restore the view of the quartermaster warehouse area and waterfront area from the southern segment of East Road, which is currently obscured by overgrowth of vegetation below the historic trees planted along the road edge.

Design Guideline
Quartermaster Warehouse Area: Buildings and Structures

Where fencing is required within the quartermaster warehouse area, it should be designed (in size, color, and type of material) to reflect the horizontal paddock rail fencing that historically existed in this area.

Design Guideline
Quartermaster Warehouse Area: Vegetation

Introduction of new plantings within the quartermaster warehouse area at non-historic buildings and sites should be minimal and compatible in character with plantings historically associated with the service-oriented structures in this area.

Design Guideline
Quartermaster Warehouse Area: Small Scale Features

Design and placement of new exterior museum exhibits at the Bay Area Discovery Museum assigned area should be undertaken in consultation with the cultural resources staff, Golden Gate National Recreation Area, to assure the scale, material, color, mass, and location is visually and materially compatible with the historic character of the cultural landscape.

QUARTERMASTER WAREHOUSE AREA (BADM)

The quartermaster warehouse area includes a variety of structures that historically comprised the supply and warehouse area of the cantonment. Today, the Bay Area Discovery Museum (BADM) uses this area. Of the original ten buildings clustered in this area during the period of significance, seven remain, including the historic bakery, blacksmith shop, carpenter shop, wagon shed, and three storehouse buildings. Constructed between 1902 and 1918, these buildings were utilitarian in character, and oriented on a tight grid between East Road and the waterfront. Landscaping was limited and developed only towards the end of the period of significance. Roads were informal (unpaved) in character. The Bay Area Discovery Museum currently uses five of the structures for offices and programs. Rehabilitation for contemporary use is the primary treatment applied to this area.

TREATMENT RECOMMENDATIONS

Spatial Organization and Land Use

Preserve and maintain the historic design and spatial organization of the quartermaster warehouse area including the rectilinear grid and orientation to Satterlee Road.

Circulation and Parking

1. Preserve and maintain Satterlee Road – both its paved and unpaved segments – and incorporate the road into any modification to existing site circulation (pedestrian or vehicular).

2. Consideration should be given to re-use of abandoned historic motor roads as pedestrian circulation.

Vegetation

1. Preserve and maintain foundation plantings around historic buildings. Remove non-historic trees, shrubs, and other vegetation inconsistent with the historic character of the area.

2. Avoid introduction of new site furnishings or structures that displace historic vegetation.

Design Guidelines

Waterfront: Spatial Organization and Land Use

Rehabilitation of the waterfront area including the overall layout and design of new spaces and facilities should be compatible with the historic character of this area (circa 1939). General design guidelines for rehabilitation of the waterfront include:

- Retain the open, planar topography of the waterfront.
- Retain the industrial and functional character of this area. Hard edges are preferred to curvilinear shapes and soft edges created by berms, hills, swales, tree plantations, and other interruptions of ground plane.
- Emphasize low vegetation and limit the use of shrubs for defining edges and screening service-related features.
- Site new structures and facilities in relation to the waterfront and in an orthogonal pattern using Center Road, the quartermaster warehouse area, and Horseshoe Cove as the patterned form.
- The layout and orientation of the new "recreated" beach at the waterfront should be linear in character to reflect historic engineered development of the area. Where feasible, design the boundary for the new "recreated" beach use stone and riprap breakwaters in relation to Horseshoe Cove.
- If required, site new structures on the building pad of removed building FB570.

WATERFRONT

The waterfront zone includes a number of historic structures and cultural landscape resources surrounding Horseshoe Cove between Cavallo Point and Lime Point. The character of this area was historically industrial, with all of the supplies and materials for the post arriving via ship to the wharf at Engineer's Camp. In the early twentieth century, this small cluster of work-related buildings gave way to improved access and the construction of the cantonment, and another cluster of service buildings was constructed north of the cove. The marsh was filled by 1903, and although this portion of the waterfront was not developed until 1941 when the WW II Mobilization Hospital was built, the new use was compatible with the functional nature of this area. Today there are thirty contributing structures in this area, as well as the U.S. Coast Guard Station and FB671 all of which reflects the working character of the waterfront through the entire period of significance. These include structures such as Moore and Satterlee breakwaters, the mine wharf, the seawall, the marine railway, Moore Road, mine depot structures and loading rooms along the west side of the bay, and the boat and ship repair shops at the east end of Somerville Road. (See CLR Part I for full listing and associated map.)

Management of the waterfront focuses on redevelopment for recreational use, within the general framework of preservation, of the contributing resources and character of the cultural landscape as a working waterfront

TREATMENT RECOMMENDATIONS

Buildings and Structures

1. Preserve and rehabilitate the contributing historic buildings and structures at the waterfront, including FB679 (Boat Repair Shop), FB668 (Fueling Dock and Marine Railway), the roads, the breakwaters, the seawall, and the docks. These structures contribute to the historic character of Fort Baker and Horseshoe Cove and visually anchor this portion of the site to the overall design and significance of the cultural landscape.

2. Preserve and maintain the historic industrial character of the piers, docks and waterfront edge.
3. Consideration should be given to the re-use potential of historic small scale buildings FB644 and FB665, which contribute to the historic character of the waterfront. Re-use would enhance both the preservation and sustainability goals of the project.

4. Consideration should be given to relocating the historic boat shop, consisting of FB633 (Marine Maintenance Shop), should efforts to establish a rehabilitation use for the building not be successful in its current location. An appropriate new location would retain the relationship to the water's edge that characterizes the original location.

Design Guidelines

Waterfront: Circulation and Parking

1. Preserve and maintain the historic industrial waterfront character of Moore Road.

2. Where feasible, pedestrian circulation delineation and individual parking stalls should be informal in design, consistent with the rustic and industrial waterfront character.

3. New Breitung Road, which will be constructed as part of the Fort Baker Plan, should be designed as a gravel road consistent with the historic scene, for that segment that extends east of the new south parking area to Cavallo Point.

4. Consideration should be given to reestablishment (realignment and repaving) and integration of Somerville Road in the rehabilitation of circulation systems at the waterfront. Not only would this retain efficient circulation at the site, but also the historic name would be retained in active use.

Design Guidelines
Waterfront: Vegetation

U. S. Coast Guard Station Golden Gate should use a minimalist approach to landscape modification patterned on the historic treatment recommendations established for the quartermaster warehouse area (BADM).

Vegetation

1. Preserve and maintain the open minimally vegetated character of Lime Point.

2. Remove non-historic vegetation throughout the former mobilization hospital area.

3. Reestablish the historically open character of the waterfront circa 1939 using low plants or turf species. Fully consider management objectives for active use of vegetated area in carrying out selection of new plant material. Turf may be drought-tolerant types and allowed to go dormant (golden) during the summer, if consistent with other management objectives.

Design Guidelines
Waterfront: Small Scale Features

1. Site furnishings, such as barbeques, bike racks, or shade structures, should be industrial and utilitarian in design to ensure compatibility with reference to the historic industrial/ utilitarian use of the site.

2. Avoid use of Endicott-era period replica site furnishings, such as reproduction street lights that may be restored at the parade ground and core cantonment area.

Small Scale Features

Preserve and maintain the FB627 eight-inch shell casing and other similar artifacts of the military era.

OPEN AREAS

The Open Areas cover the largest amount of landscape within the boundaries of Fort Baker. In general, they include all the lands that were historically undeveloped or only slightly modified for access roads and adjacent facilities (such as water reservoirs, dump sites, and munitions storage) during the period of significance. They also include the landscape surrounding the individual batteries and fortifications. In east Fort Baker, the character of this area during the period of significance was open, with low growing vegetation and sweeping views. Today, large portions of the slope surrounding the cantonment are forested as a result of vegetation that has seeded or spread since the period of significance. In addition, areas of east and west Fort Baker have been designated as habitat for the Mission Blue butterfly. Although the undeveloped areas surrounding the cantonment appear "natural," the dominant vegetation and character of the landscape is a result of use and modification over several hundred years. During the historic period, the open character was maintained by cattle grazing and natural fire regimen through World War II.In west Fort Baker, the historically open character of the landscape is still evident.

Design Guideline
Open Areas: Structures

If trails are needed in this area, they should be aligned along historic road traces where feasible. New trails and circulation routes should be located in a way that minimizes potential impact to cultural resources.

TREATMENT RECOMMENDATIONS

<u>Spatial Organization and Land Use</u>

1. Preserve and maintain the open vegetative character that existed during the period of historic military occupancy and for which the historic district is being managed.

2. Where feasible, develop a management program that targets restoration of the open vegetative cover of the area for those areas that exhibit overgrowth of trees in the modern period.

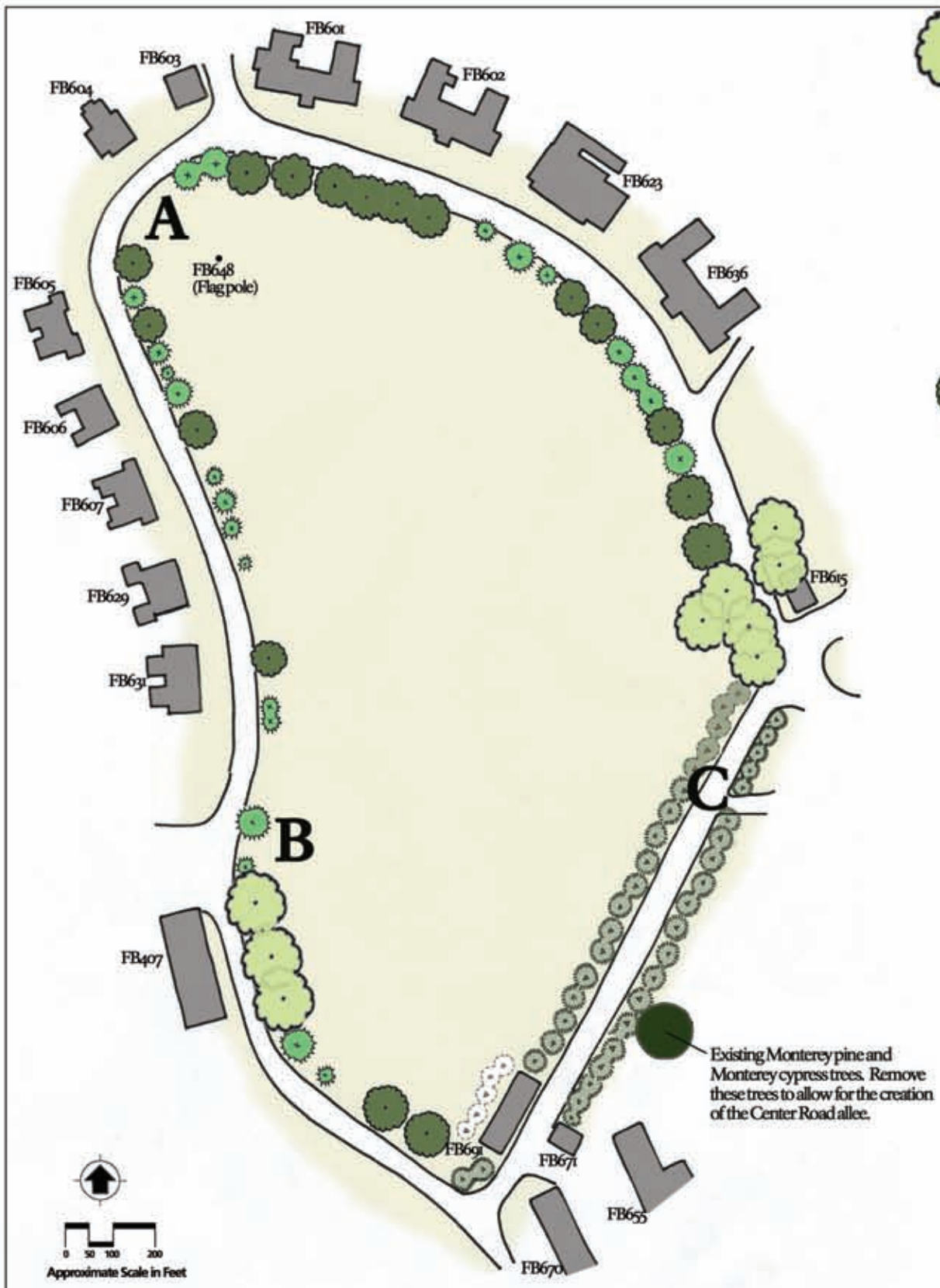
<u>Vegetation</u>

1. In consultation with park natural resources and fire management staff, manage the lands around the developed cantonment east of Highway 101 and south of Alexander Avenue to ensure restoration of the open character of the hills surrounding the cantonment in the early development period from 1866 to 1939. Incrementally work to establish a predominant plant community consisting of perennial grasses and low coastal scrub plants. Although the natural systems are constantly in dynamic flux, the overall appearance of the hillside surrounding the cantonment should still ensure an open appearance consistent with a mix of perennial grasses and low scrub species. Shoreline areas below East Road are the primary areas where native trees existed during the period of significance and should be retained as oak woodland.

2. Restore open areas where non-historic stands of eucalyptus, cypress, acacia or pine trees are to be removed. Restoration of the grasslands/scrub in these areas might involve the removal of native trees and large shrubs where they have established themselves as understory in the non-native forest stands.

3. Groves of trees planted within the historic period, but after 1939, should be considered for removal and the sites restored with appropriate native grassland/scrub community species. These areas include the various pine and redwood groves adjacent to Bunker Road and Alexander Avenue.

4. Manage the encroachment of large woody vegetation in the vicinity of historic archeological sites, including foundation ruins, road traces, and Army dumpsites, such that these resources are preserved.



A

Retain gap in tree planting. Throughout the period of significance, the Commanding Officer's residence, FB604, retained a direct view to Horseshoe Cove and San Francisco Bay. alternately, the Commanding Officer's residence was the most visible building on the parade ground from the waterfront (Photo National Archives and Record Center, September 1929).

B

Character of Parade Ground planting. Blue gum eucalyptus (Eucalyptus globulus) and black acacia (Acacia melanoxylon) trees lined Murray Circle. These two species were planted in an alternating rhythm that varied the height and spread of tree canopies, in contrast to the uniform Monterey cypress windbreak planting visible in the foreground (Photo Golden Gate National Recreation Area collection, circa 1915).

C

A uniform planting of eucalyptus created a formal allee on Center Road (Photo Golden Gate National Recreation Area Collection, 1928).

Existing Historic Eucalyptus Trees

Where feasible, preserve and maintain existing historic eucalyptus trees. These trees should be evaluated regularly by a professional arborist, and a maintenance regimen should be established that includes pruning for hazard reduction and biological and structural health. Fully consider the potential effects of changes in parade ground management on the historic trees. For example, the trees are currently stable in a regime of no irrigation, in which they maintain themselves but do not exhibit pronounced growth. Introduction of an irrigation regimen is likely to stimulate increased growth for these trees, which may in turn increase the management needs of the trees.

Replacements for Missing EucalyptusTrees

Eucalyptus trees were removed incrementally by the Army, including some that were removed during the 1995 windstorm. Using GPS technology, record the stumps of removed trees that remain on the parade ground. Use this information and historic photographs to establish the period planting plan, consistent with the Restoration standard of *The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. Identify and reproduce the alternating rhythm of tree species that existed in the 1939 planting. Avoid replanting with the original eucalyptus species, which grows to a height of 120-feet in the Fort Baker environment. This height is well in excess of the preferred height of 35-feet, which the Army-era history of tree topping intended to maintain. Select a replacement tree species that reproduces the form and character of the globulus, but with a height that fits the intended 30 to 40-foot maximum.

Replacements for Missing Acacia Trees

These trees were removed by the Army following a severe 1995 windstorm, that exposed the hazard potential of these trees in a wind-prone setting. Using GPS technology, record the stumps of removed trees that remain on the parade ground. Use this information and historic photographs to establish the period planting plan, consistent with the Restoration standard of *The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. Identify and reproduce the alternating rhythm of tree species that existed in the 1939 planting. Avoid replanting with the original acacia species, which has been unmaintainable over time due to poor fit with the Fort Baker environment. Select a replacement tree genus and species that reproduces the form and character of the acacia, but has improved characteristics in terms of maintainability.

Center Road Allee of Eucalyptus Trees

Restore the missing allee of eucalyptus trees along Center Road using a single species tree planting. Based on data recovered from the lone remaining tree stump of the historic planting, allee will be approximately 60-feet wide. Select a replacement tree species that reproduces the form and character of the eucalyptus illustrated in period photographs, and with a height that fits the intended 30 to 40-foot maximum. Develop details of the planting plan based on historic records, consistent with the Restoration standard of *The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*.

Trees were historically sited behind buildings fronting Center Road. (some buildings are now removed) Consideration should be given to re-planting these trees as part of the allee.

Planting Plan Illustration

The planting plan as illustrated above is conceptual and intended to provide a visual reference for written recommendations. Development of a final planting plan will require field survey to record original tree locations, consultation with historic records to identify tree species for each location, as well as horticultural and arboriculture consultation to establish new tree selection and planting standards for visual effect and long-term tree health. Therefore, the final planting plan may vary from this diagram based on accommodation of new data.

Bibliography

Books

Brian Chin, Artillery at the Golden Gate: The Harbor Defenses of San Francisco in World War II; Pictorial Histories Publishing Company: Missoula, Montana, 1994.

Harold and Ann Lawrence Gilliam, Marin Headlands: Portals of Time, GGNPA, 1993.

John Haskell Kemble, San Francisco Bay: A Pictorial Maritime History, New York: Bonanza Books, 1947.

Emanuel Raymond Lewis, Seacoast Fortifications of the U.S.: An Introductory History. Missoula: Pictorial Histories Publishing Co., 1979.

Ralph Shanks. Guardians of the Golden Gate: Lighthouses and Lifeboat Stations of San Francisco Bay. Petaluma: Costano Press, 1990.

Jack Tracy. Sausalito: Moments in Time. Sausalito: Windgate Press, 1983.

Articles

Mark Berhow, "America's Last Seacoast Defenses: The World War II-Era Construction Programs," Coast Defense Study Group Journal, 8:3 (August 1994); p.32

Reports

Anderson Geotechnical Group. "Memorandum on Geotechnical Conditions at Fort Baker," 2000.

Baron, Kristin and Barbara Judy. Fort Baker Historic Building Reports, Volumes I and II. Golden Gate National Recreation Area: National Park Service, July 2002.

Harlan Tait Associates. Feasibility Geotechnical Investigation: East Fort Baker, April 1998.

Laizure Report, (what is this document? It is cited in the "General Landscape History" on page 25, n. 27)

National Register of Historic Places/Nomination Forms for Forts Baker, Barry and Cronkhite, Western Regional Office, National Park Service, 1973.

National Park Service, Golden Gate National Recreation Area. Final Environmental Impact Statement – Fort Baker, 1999.

Quartermaster General Office Form #117, (1926-1941); Park Archives and Record Center, Golden Gate National Recreation Area, San Francisco.

_____. Guide to Sustainable Earthworks Management, NPS in Association with the Georgia Trust for Historic Preservation, 90% Draft, 1998.

_____. Fort Baker Plan, October 1998.

_____. Presidio Tenant Sign Policy, Presidio Project Office, September 1997.
_____. Record of Decision, Final Environmental Impact Statement–Ft.Baker, 2000.
_____. Seacoast Fortifications Preservation Manual, Golden Gate National Recreation Area, July 1999.

Nelson/Nygaard Consulting Services. Transportation and Management Plan for the Marin Headlands and Fort Baker—Existing Conditions. 2000.

Presidio Trust. DRAFT Site Furnishings Guidelines for the Presidio of San Francisco, 2000.

Thompson, Erwin N. Historic Resource Study: Forts Baker, Barry and Cronkhite of Golden Gate National Recreation Area. Denver Service Center: National Park Service, 1979.

_____. Historic Resource Study: Seacoast Fortifications of San Francisco Harbor, Denver Service Center: National Park

Service 1979.

Toogood, Anna Coxe. Historic Resource Study: A Civil History of Golden Gate and Point Reyes, National Park Service. 1980.

Towill Engineering. Aerial topographic survey of Fort Baker, 1996.

Maps, Photographs and Plans

Fort Baker Historic Map and Drawing Collection, Park Archives and Record Center, Golden Gate National Recreation Area, San Francisco.

Fort Baker Historic Photograph Collection: Park Archives and Record Center, Golden Gate National Recreation Area, San Francisco.

Newspaper Articles

San Francisco Chronicle, 31 October 1920

San Francisco Examiner, 21 October 1920

Oral History

Fred Nau, Oral History

Appendix A
List of Contributing Structures

	LCS ID	Preferred Structure Name	Structure Number
1.	010119	Fort Baker Baker-Barry Tunnel	FB0268
2.	010120	Fort Baker Sentry Station	FB0272
3.	058059	Fort Baker Bunker Road Retaining Wall and Riprap	FB0401
4.	058101	Fort Baker Utility Structure	FB0404
5.	058201	Fort Baker NCO Mess	FB0405
6.	055354	Fort Baker Mine Storehouse	FB0407
7.	058067	Fort Baker Ammunition Magazine	FB0408
8.	055355	Fort Baker Mine Depot Powerhouse	FB0409
9.	058068	Fort Baker Mines Detonator Magazine	FB0410
10.	055356	Fort Baker Mine Depot TNT Storage Magazine	FB0411
11.	055357	Fort Baker Mine Loading Rooms	FB0412
12.	370217	Fort Baker Oil Pump House	FB0413
13.	058054	Fort Baker Heating Fuel Storage Tank	FB0414
14.	055358	Fort Baker Mine Loading Wharf	FB0415
15.	370203	Fort Baker Mine Loading Wharf Dolphin - South	FB0416
16.	370207	Fort Baker Mine Loading Wharf Dolphin - North	FB0417
17.	370221	Fort Baker Water Pump House	FB0418
18.	058051	Fort Baker Water Tank	FB0421
19.	058052	Fort Baker Water Tank	FB0422
20.	058053	Fort Baker Water Tank	FB0423
21.	370228	Fort Baker Fire Control Station B111/20 Lime Point	FB0427
22.	055359	Fort Baker Fire Control Station F1 Baker	FB0433
23.	055360	Fort Baker Fire Control Station B1S1 Spencer	FB0434
24.	058215	Fort Baker Transformer Sub-station	FB0502
25.	392314	Fort Baker Enlisted Men's Quarters	FB0507
26.	058127	Fort Baker Mine Cable Casemate	FB0508
27.	058128	Fort Baker Cable Casemate Seawall	FB0509
28.	392325	Fort Baker Post Library	FB0511
29.	392335	Fort Baker Maintenance Shop	FB0513
30.	058214	Fort Baker Post Chapel	FB0519
31.	058120	Fort Baker Kober Street Retaining Walls	FB0520
32.	058119	Fort Baker McReynolds Road Retaining Wall	FB0521
33.	058217	Fort Baker Hospital Steward's Quarters (Single)	FB0522
34.	058220	Fort Baker NCO Quarters (Duplex)	FB0523
35.	058046	Fort Baker Electrical Transformer Building	FB0526
36.	058221	Fort Baker NCO Quarters (Duplex)	FB0527
37.	058222	Fort Baker NCO Quarters (Duplex)	FB0529

38.	058218	Fort Baker NCO Quarters (Duplex)	FB0530
39.	058219	Fort Baker NCO Quarters (Duplex)	FB0531
40.	058208	Fort Baker Post Hospital	FB0533
41.	397329	Fort Baker Garage at FB523-7	FB0534
42.	058216	Fort Baker Tennis Court	FB0537
43.	058121	Fort Baker Tennis Court Retaining Wall	FB0537A
44.	217434	Fort Baker Garage, Umia Street	FB0538
45.	217431	Fort Baker Garage at FB0604	FB0541
46.	058225	Fort Baker Garage at FB0607	FB0543
47.	058226	Fort Baker Garage at FB0631	FB0545
48.	058071	Fort Baker NCO Family Housing	FB0546
49.	058072	Fort Baker NCO Family Housing	FB0547
50.	058073	Fort Baker NCO Family Housing	FB0549
51.	058122	Fort Baker Post Hospital Ambulance Garage	FB0556
52.	056278	Fort Baker Bakery	FB0557
53.	056289	Fort Baker Quartermaster & Subsistence Storehouse	FB0559
54.	056282	Fort Baker Wagon Shed	FB0561
55.	058224	Fort Baker Garage at FB0605	FB0564
56.	058200	Fort Baker Exchange Service Station	FB0566
57.	055361	Fort Baker Battery George Yates	FB0571
58.	058084	Fort Baker Water Reservoir	FB0572
59.	055362	Fort Baker Battery Duncan	FB0573
60.	058085	Fort Baker Battery Duncan Latrine & Appurtenances	FB0573A
61.	370236	Fort Baker Anti-Aircraft Gun Emplacement Duncan	FB0573B
62.	055363	Fort Baker Cavallo Battery	FB0575
63.	058047	Fort Baker Cavallo Battery Entrance Gate	FB0575A
64.	058048	Fort Baker Rangefinder Station @ Cavallo Battery	FB0575B
65.	370246	Fort Baker Anti Aircraft Gun Emplacement Cavallo	FB0575C
66.	058058	Fort Baker Sausalito Lateral Overpass at Bunker Rd	FB0576A
67.	370231	Fort Baker Sausalito Lateral Overpass at East Road	FB0576B
68.	058056	Fort Baker Water Pump Station	FB0577
69.	058057	Fort Baker Water Pump Station	FB0578
70.	058209	Fort Baker Artillery Barracks	FB0601
71.	058210	Fort Baker Artillery Barracks	FB0602
72.	058211	Fort Baker Administration Building	FB0603
73.	058202	Fort Baker Commanding Officer's Quarters	FB0604
74.	058203	Fort Baker Officers Quarters Duplex	FB0605
75.	058204	Fort Baker Officers Quarters Duplex	FB0606
76.	058205	Fort Baker Officers Quarters Duplex	FB0607
77.	056283	Fort Baker Guard House	FB0615
78.	058212	Fort Baker Post Exchange & Gymnasium	FB0623

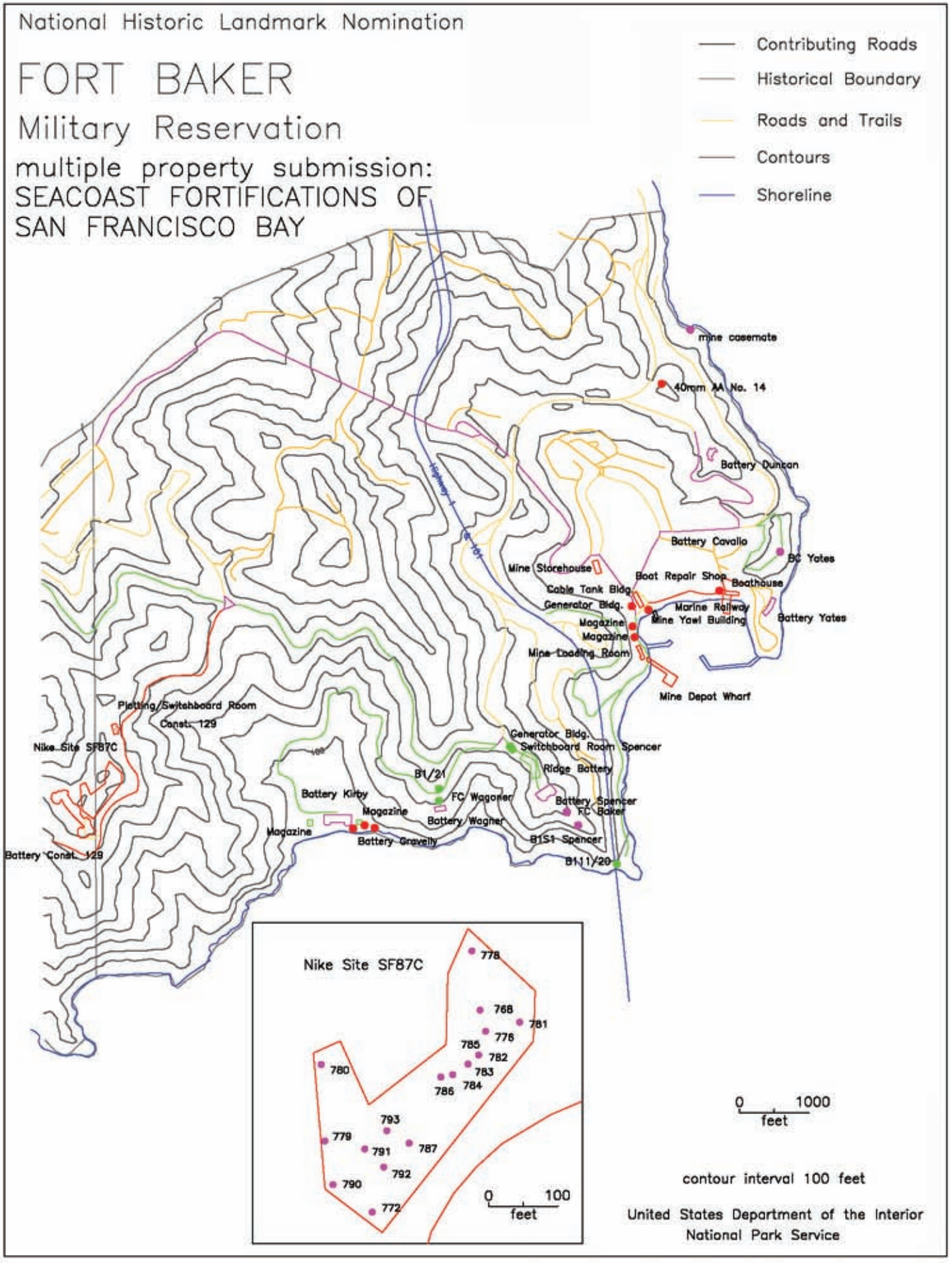
79.	058069	Fort Baker Communications Cable Hut	FB0627
80.	058206	Fort Baker Officers Quarters Duplex	FB0629
81.	058079	Fort Baker Satterlee Breakwater	FB0630
82.	058207	Fort Baker Officers Quarters Duplex	FB0631
83.	058080	Fort Baker Moore Breakwater	FB0632
84.	056296	Fort Baker Marine Maintenance Shop	FB0633
85.	058213	Fort Baker Artillery Barracks	FB0636
86.	056291	Fort Baker Commissary Storehouse	FB0637
87.	056279	Fort Baker Blacksmith Shop	FB0644
88.	056280	Fort Baker Carpenter/Paint Shop	FB0645
89.	058049	Fort Baker Flagstaff	FB0648
90.	370209	Fort Baker Marine Hoist and Dock	FB0657
91.	058081	Fort Baker Seawall	FB0662
92.	058077	Fort Baker Flammable Storage Building	FB0664
93.	217443	Fort Baker Marine Repair Shop	FB0665
94.	056281	Fort Baker Ordnance Storehouse	FB0666
95.	058078	Fort Baker Refueling Dock and Marine Railway	FB0668
96.	055364	Fort Baker Mine Cable Tank Building	FB0670
97.	056295	Fort Baker Pump House	FB0671
98.	058074	Fort Baker Boat Repair Shop	FB0679
99.	056294	Fort Baker Mobile Searchlight Storage	FB0691
100.	058075	Fort Baker Ship Repair Shop	FB0699
101.	055365	Fort Baker Battery Kirby	FB0700
102.	055366	Fort Baker Gravelly Beach Battery	FB0701
103.	058040	Fort Baker AMTB Gun Plug, Kirby Cove	FB702A
104.	058041	Fort Baker AMTB Gun Plug, Kirby Cove	FB702B
105.	058042	Fort Baker AMTB Gun Plug, Kirby Cove	FB702C
106.	055367	Fort Baker Battery Orlando Wagner	FB0703
107.	055368	Fort Baker Ridge Battery	FB0704
108.	058066	Fort Baker Ridge Battery Powerhouse	FB0704A
109.	055369	Fort Baker Battery Spencer	FB0705
110.	058060	Fort Baker Battery Spencer Administration Building	FB0705A
111.	058061	Fort Baker Battery Spencer Equipment Bldg.	FB0705B
112.	058062	Fort Baker Battery Spencer Latrine	FB0705C
113.	058063	Fort Baker Battery Spencer Sentry Station	FB0705D
114.	058064	Fort Baker Battery Spencer Powerhouse	FB0705E
115.	058065	Fort Baker Battery Spencer Entry Gate	FB0705F
116.	055370	Fort Baker Fire Control Station B1 Kirby	FB0706
117.	055371	Fort Baker Fire Control Station B1 Wagner	FB0707
118.	370242	Fort Baker East Road Masonry Drainage Features	FB0708A
119.	370214	Fort Baker Moore Road Breakwater at the Needles	FB0711C

120.	058055	Fort Baker Ridge Water Tank	FB0728
121.	010121	Fort Baker Battery 129 Radio/Switchboard Rooms	FB0770
122.	370244	Fort Baker Parade Ground Commemorative Monument	FB0810
123.	370249	Fort Baker 40MM AA AW No. 14 - Upper	FB0820A
124.	370251	Fort Baker 40MM AA AW No. 14 - Lower	FB0820B
125.	370254	Fort Baker AA St. No. 108	FB0830
126.	370212	Fort Baker Utility Vaults	FB0840
127.	370240	Fort Baker Concrete Drainage Features	FB0850
128.	370297	Fort Baker Fences	FB0860
129.	370410	Fort Baker Trails	FB0870
130.	392351	Fort Baker Parade Ground	FB0880
131.	058050	Fort Baker Bunker Road (Fort Baker to tunnel)	FBR105
132.	058045	Fort Baker McCullough Road	FBR107
133.	056293	Fort Baker McReynolds Road	FBR012
134.	056290	Fort Baker East Road	FBR708
135.	056292	Fort Baker Murray Circle	FBR709
136.	058044	Fort Baker Mountain Road (Conzelman Road 1870 route)	FBR710
137.	056285	Fort Baker Moore Road	FBR711
138.	369463	Fort Baker Sausalito Lateral (Alexander Avenue)	FBR715
139.	369480	Fort Baker Battery Cavallo Road	FBR716
140.	369492	Fort Baker Center Road	FBR717
141.	369511	Fort Baker Drown Road	FBR718
142.	369523	Fort Baker Dubois Road	FBR719
143.	058007	Fort Baker Julian Road	FBT032
144.	369535	Fort Baker Kober Street	FBR720
145.	369547	Fort Baker Swain Road	FBR721
146.	369560	Fort Baker Satterlee Road	FBR722
147.	369575	Fort Baker Somerville Road	FBR723
148.	369584	Fort Baker Roth Road	FBR724
149.	392965	Fort Baker Seitler Road	FBR725

Appendix A
Map of Contributing Structures

Appendix B
Seacoast Fortifications National Historic Landmark (pending)
Contributing Structures - Fort Baker

Mine Casemate
40mm AA No.14
Battery Duncan
BC Yates
Battery Cavallo
Battery Yates
Marine Railway
Boathouse
Boat Repair Shop
Mine Yawl Building
Mine Storehouse
Cable Tank Building
Generator Building
Magazine
Magazine
Mine Loading
Room
Mine Depot Wharf
Generator Building
SRidge Battery
Ridge Battery
Ridge Battery
Battery Spencer
FC Baker
B1S1 Spencer
BIII/20
BI/21
Battery Wagner
Battery Gravelly
Magazine
Battery Kirby
Magazine
Nike Site SF 87C


National Historic Landmark Nomination
FORT BAKER
Military Reservation
multiple property submission:
SEACOAST FORTIFICATIONS OF
SAN FRANCISCO BAY
Contributing Roads
Historical Boundary
Roads and Trails
Contours
Shoreline
mine casemate
40mm AA No. 14
Battery Duncan
Battery Cavallo
BC Yates
Mine Storehouse
Boat Repair Shop
Boathouse
Cable Tank Bldg.
Generator Bldg.
Marine Railway
Mine Yawl Building
Battery Yates
Magazine
Magazine
Mine Loading Room
Mine Depot Wharf
Plotting/Switchboard Room
Const. 129
Nike Site SF87C
Generator Bldg.
Switchboard Room Spencer
Ridge Battery
B1/21
Battery Kirby
FC Wagoner
Magazine
Battery Wagner
Battery Spencer
FC Baker
Magazine
Battery Gravelly
B1S1 Spencer
Battery Const. 129
B111/20
Nike Site SF87C
778
768
781
776
785
782
780
783
784
786
793
779
791
787
792
790
772
0 100 feet
0 1000 feet
contour interval 100 feet
United States Department of the Interior
National Park Service

Appendix C
Existing Vegetation Identified in the 1999 GGNPA Survey of Fort Baker Buildings
(Note: list field-checked and updated by CLR team and GGNPA staff in 2002)
Data provided by John Skibbe/GGNPA.

Bldg #	BUILDING/ Botanical Name	Common Name	# of Plants	Location at Building	Exists in 2002?	Historic?	Comments
FB405	NCO MESS						
	Acacia melanoxylon	Black Acacia	11+	10-Left side of bldg. 1- Near front left corner	No Yes	No ?	
	Cupressus macrocarpa	Monterey Cypress	3	Behind bldg.	Yes	Yes	Part of larger planting
	Other				Yes	?	Smaller plants around structure include bearded iris, calla lilies, jade plants and aloe (Not inventoried in GGNPA survey)
FB407	MINE STOREHOUSE						
	Acacia melanoxylon	Black Acacia	3	2- In back to the right 1- left side	Yes Yes	No No	Tree on left side tree is a sprout from an older tree that was blown down.
	Chamaecyparis sp.	False Cypress	1		Yes	No	Not inventoried in GGNPA survey
	Cotoneaster sp.	Cotoneaster	2	1- Left corner 1- Front and center	Yes Yes	No No	
	Cupressus macrocarpa	Monterey Cypress	2	Back, right corner	Yes	Yes	
	Juniperus sp. (Goldthread?)	Juniper	2	Front, on either side of left concrete slab	No		
	Laurus nobilis	Bay Laurel	2	Front and center	No	Yes	
FB507	ENLISTED MENS BARRACKS						Building landscape not inventoried in GGNPA survey
	Crassula argentea	Jade Plant	2	1- Right front corner 1-Left rear corner	Yes Yes	?	
	Eupatorium	Thoroughowort	2	1-Left side 1-rear	Yes Yes	?	Highly invasive plant
	Fuchsia sp.	Fuchsia	1	Left side of building	Yes	?	
	Ligustrum sp.	Privet		Hedge either side of right entry 1-left front corner	Yes Yes	Yes Yes	
FB519	CHAPEL (1942)						
	Agapanthus orientalis	Lily of the Nile	Bed	Left side	Yes	?	Mixed with other perennial species
	Cupressus marcrocarpa	Monterey Cypress	9	1- Back right corner 8- right side in row	No Yes	Yes Yes	
	Euonymus fortunuei	Eunonymus	~2	Front left side of chapel	Yes	No	Not identifed in GGNPA survey
	Juniperus sp.	Juniper	2 clumps	Front, either side of walk extending along side of building	Yes	?	
	Myoporum laetum	Lollipop Tree	1	Rear, left side	Yes	No	Stump sprout: Identified as Pittosporum undulatum on GGNPA survey
	Platycladus sp. (?)		2	On either side of chapel entry	No		Need confirmation of species: Shrub form
	Unidentified	Hedge	12” o.c.	Left side			Species unidentified
FB523	NON-COMMISIONED OFFICER’S QUARTERS						
	Acacia melanoxylon	Black Acacia	multiple	Front to the left of the driveway	Yes	No	
	Euryops pectinatus	Euryops	clump	Front, to the right of the left stairway	No	No	
	Prunus laurocerasus	English Laurel	1	Right side towards rear	No	No	Wind damage to tree noted.
	Other				Yes	?	Calla lilies, rose and spearmint in front of building

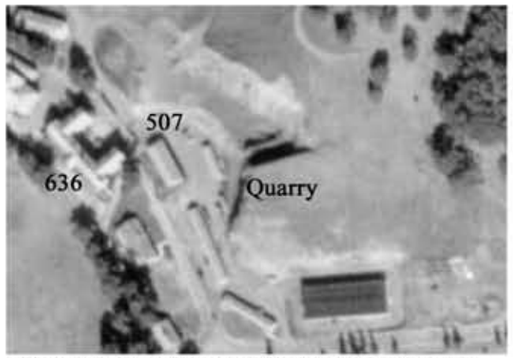
FB527	NON-COMMISIONED OFFICER'S QUARTERS						
	Acacia melanoxylon	Black Acacia	13+	6- Front, left of left entry 6- Front right corner and right side 1: right rear	No No No	?	Several groupings of trees
	Chamaecyparis pisifera	False Cypress	1	Front left side	Yes	Yes	Identified as a Calocedrus decurrens on GGNPA plans
	Ligustrum sp.	Privet	5	Left side towards front	No	?	Large clump next to stairs into basement
	Taxus baccata 'Stricta'	Irish Yew	1	Front entry	No	?	
FB529	NON-COMMISIONED OFFICER'S QUARTERS						
	Acacia melanoxylon	Black Acacia	2+	1-Left side towards front 1+ -Saplings in rear on left side of left entry.	Yes	Yes	
	Cupressus macrocarpa	Monterey Cypress	1	Front, right side of left entry	No	?	
	Other						Calla lilies and a rose
FB530	NON-COMMISIONED OFFICER'S QUARTERS						
	Cupressus macrocarpa	Monterey Cypress	1	Front/Left side		?	
	Persea americana	Avocado	Clump of 2	Back side by left stair	No?	?	Cut down. Listed as "unidentified" in GGNPA survey
FB531	NON-COMMISIONED OFFICER'S QUARTERS						
	Calocedrus decurrens	Incense Cedar	1	Front, right of left entry staircase	No	Yes	
	Cordyline australis	Cordyline	1	Front, left of left entry staircase	No	?	Sprouts from original plant.
	Crassula argentea	Jade Plant	1	Front, left of left entry staircase	No	?	
FB533	POST HOSPITAL						
	Contoneaster lacteus	Cotoneaster	3	1- Front and center 2- Front right side	No Yes	? ?	
	Hydrangea sp.	Hydrangea	2	Front, center left	Yes	?	
	Ligustrum sp.	Ligustrum	Row: 2' oc	Front right		?	
	Nandina domestica	Heavenly Bamboo	1	Front, center left	Yes	No	Planted with Hydrangea
	Phoenix canariensis	Canary Island Date Palm	2	Either side of front entry	Yes	Yes	
	Platycladus orientalis	Arborvitae	2	Front, center right	No	?	(Thuja orientalis) Identified as being sickly
	Taxus baccata "Stricta"	Irish Yew	2	Left side	No	?	
	Other				Yes	?	Large rose shrub in back of structure
FB601	ARTILLERY BARRACKS						
	Cordyline australis	Cordyline	2	1-Right side towards back 1- Entry porch right corner	Yes Stump sprout	?	
	Eriobtrya japonica	Loquat	1	Right side towards back	Yes	No	
	Eucalyptus globulus	Blue Gum Eucalyptus	3	Left side of building	Yes	No	Not inventoried in GGNPA survey

	Fuchsia sp.	Fuchsia	1	Left side towards back	Yes	?	
	Griselinia littoralis	Griselinia	5	Front and right rear	Yes	Yes	Located on either side of entry walk in and both front corners
	Hydrangea sp.	Hydrangea	2	Front	Yes	?	Either side of front porch entry
	Pinus radiata	Monterey Pine	1	Front towards street on right	Yes	Yes	
	Prunus laurocerasus	English Laurel	1	Left side in middle	Yes	No	Not inventoried in GGNPA survey
	Syzygium paniculatum	Brush Cherry	1	Right side towards back	Yes	No	
FB602	ARTILLERY BARRACKS						
	Casuarina sp	She Oak	1	Left side	Yes	Yes	Identified as a pine in GGNPA survey
	Chamaecyparis sp.	False cypress	1	Back left by road	Yes	?	Not inventoried in GGNPA survey
	Cordyline australis	Cordyline	3	Left side towards back	Yes	Yes	Planted in group
	Eucalyptus globulus	Blue Gum	1	Front left	Yes	Yes	Large specimen
	Juniperus sp.	Juniper	1 clump	Front, left of entry	Yes	?	
	Picea sp.	Blue Spruce	1	Front left of entry	No	?	
	Myoporum laetum	Lollipop Tree	1	Left side	Yes	No	Tentatively identified as Pittosporum in GGNPA survey.
	Other				Yes	?	Smaller plants around building include Montbretia, geraniums and four-oclocks. (Not inventoried in GGNPA survey)
FB603	ADMINISTRATION BUILDING						
	Acacia melanoxylon	Black Acacia	11	6- left side 5- In back of building	No 4	No Yes	
	Cordyline australis	Cordyline	1	Back	Yes	Yes	
	Juniperus chinensis “torulosa”	Hollywood Juniper	2	Front left and back left corners of the bldg.	No	No	
	Juniperus sp.	Juniper	Row	Foundation plantings in front and left side of bldg.	No	No	Calla lillies noted as being mixed in
	Pyracantha sp.	Firethorn	2		Yes	No	Not inventoried in GGNPA survey
FB604	COMMANDING OFFICER’S QUARTERS						
	Abelia grandiflora	Glossy Abelia	2	Front left corner	No	?	Pruned as part of shrub mass 6’ tall
	Acacia melanoxylon	Black Acacia	4	Right side towards back	Yes	?	
	Cordyline australis	Cordylin	4	3-Left side towards back 1- Right side	Yes No	Yes	GGNPA tentative identification as Dracaena and basal trunk palm
	Hydrangea sp.	Hydrangea		Right side	No	?	Part of perennial planting bed
	Ilex aquifolium	English Holly	1	Left side towards back	Yes	Yes	
	Juniperus chinensis “torulosa”	Hollywood Juniper		Front right corner	No	?	
	Ligustrum ludicum	Glossy Privet	1	Front left corner	No	?	Pruned as part of shrub mass 6’ tall
	Ligustrum sp.	Privet	12+ for hedge	Right side in back	Yes	Yes	Unidentified in GGNPA survey. Single row edging path pruned 3’ high
	Pittosporum tobira	Tobira	1	Right side	No	?	
	Pittosporum undulatum	Victorian Box	2	Right side towards back	Yes	Yes	
	Quercus agrifolia	California Live Oak	1	Left side rear	Yes	No	Tentative identification in GGNPA survey as holly oak.
	Xylosma congestum	Xylosma	1	Front left corner	No	?	Pruned as part of shrub mass 6’ tall
		Perennials			Yes	?	Notes include geraniums and callas in the back and mint and calla lilies in the front. (Not inventoried in GGNPA survey)
FB605	DOUBLE CAPTAIN’S QUARTERS						

	Cordyline australis	Cordyline	2	Front, left of right entry	Yes	?	Identified as Burrow palms in GGNPA survey.
	Cotoneaster sp.	Cotoneaster	1	Right side towards front		?	
	Cryptomeria japonica	Japanese Redwood	1	Front, left of left entry	Yes	Yes	Identified as Sequoia on GGNPA survey
	Hydrangea sp.	Hydrangea	1	Right side towards middle	No	?	
	Nandina domestica	Heavenly Bamboo	1	Right side towards middle	No	?	
	Pittosporum sp.	Pittosporum	1	Right side towards front	No	?	
	Rhododendron sp.	Rhododendron	1	Right side at front corner	No	?	
	Rosa sp.	Rose	1	Right side in middle	Yes	No	Not inventoried in GGNPA survey
FB606	DOUBLE LIEUTENANT'S QUARTERS						
	Acacia melanoxylon	Black Acacia	4	3- Left side front corner 1- Left side in middle	No No	? ?	
	Bougainvillea sp.	Bougainvillea	1	Left side towards rear	No	?	
	Cotoneaster sp.	Cotoneaster	4	2- Left side in middle 1- Left rear 1- Right side towards front	No No	? ?	
	Cryptomeria japonica	Japanese Redwood	1	Front on left side of right entry walk	Yes	Yes	Identified as Sequoia on GGNPA survey
	Fuchsia sp.	Fuchsia	1	Right side of building	?	?	
	Hedera canariensis	English Ivy	Multiple	?	Yes	?	Not inventoried in GGNPA survey
	Hedera helix	Algerian Ivy	Multiple	?	Yes	?	Not inventoried in GGNPA survey
	Hydrangea sp.	Hydrangea	1	In front of building	Yes	?	Not inventoried in GGNPA survey
	Metrosideros excelsus	New Zealand Christmas Tree	1	Right side in middle	?	?	Question mark by ID: check
	Quercus sp.	Live Oak	1	Right side toward rear	?	?	Needs ID
	Phoenix canariensis			Front on right side of right entry walk	Yes	Yes	
		Unidentified tree	1	Right rear		?	Magnolia?
	Other						Impatiens and bearded iris (Not inventoried in GGNPA survey)
607	DOUBLE CAPTAIN'S QUARTERS						
	Calocedrus decurrens	Incense Cedar	2	1- Front left corner 1- Left side towards middle	No No	Yes Yes	
	Choisya ternata	Mexican Orange	Row	Left side	No	?	To 6' high
	Cordyline australis	Cordyline	1	Front left bldg.	Yes	No	
	Cryptomeria japonica	Japanese Redwood	1	Left side in back	Yes	Yes	Identified as Sequoia on GGNPA survey
	Euryops pectinatus	Euryops	1	Left side in back	No	No	
	Pittosporum undulatum	Pittosporum	2	Right side	No	?	
	Prunus laurocerasus	English Laurel	2	Front, center	No	?	
	Other				Yes	?	Smaller plants include impatiens, calla lilies, montbretia, amaryllis, nasturtium, sword fern and columbine(Not inventoried in survey)
FB615	GUARD HOUSE						
	Eucalyptus globulus	Blue Gum Eucalyptus	3	1- Right side 2- Back from building	? Yes	? Yes	The two in back are 5' wide. The one to the right of the building is 1' wide
	Hedera canariensis	Algerian Ivy	multiple	?	Yes	?	Not inventoried in GGNPA survey

	Heteromeles arbutifolia	Toyon	1	Back	No	?	
FB623	POST EXCHANGE AND GYMNASIUM						
	Eucalyptus globulus	Blue Gum	2	Right side			Both saplings adjacent to back of structure
	Other				Yes	?	Smaller plants include amaryllis, geraniums and montbretia (Not inventoried in GGNPA inventory)
FB629	DOUBLE LIEUTENANT'S QUARTERS						Building landscape not inventoried in GGNPA survey
	Cinnamomum camphora	Camphor Tree	1	Front in lawn	Yes	Yes	
	Hydrangea sp.	Hydrangea	1	Front left corner	Yes	?	
	Other				Yes	?	Smaller plants include spider plant, impatiens, montbretia, bear's breach, bearded iris and geraniums (Not inventoried in GGNPA survey)
FB631	DOUBLE CAPTAIN'S QUARTERS						
	Acacia melanoxylon	Black Acacia	3	Front and center	No	?	The plan identifies and unspecified number of acacia and "bay" saplings along the left and back sides of the structure.
	Cotoneaster	Cotoneaster	2	1-Front 1-Left rear	No Yes	? Yes	Left rear plant not identified in GGNPA survey
	Cryptomeria japonica	Japanese Redwood	1	Front left side	Yes	Yes	Identified as Sequoia on GGNPA survey
	Pinus sp.		1	Front. Left of right entry	No	Yes	Identified as "2 needle" pine
	Platycladus sp.	Arborvitae	1	Front on left side	Yes	Yes	Not inventoried on GGNPA survey
	Rosa sp.	Rose	1	Front	Yes	?	Not inventoried in GGNPA survey
	Other	Hedge	Row 90' long	Rear left side along McReynolds	No	?	Species not identified in GGNPA survey
	Other				Yes	?	Smaller plants include Vinca minor, montbretia, nasturtium,calla lillies and agapanthus (Not inventoried in GGNPA survey)
FB636	ARTILLERY BARRACKS						
	Araucaria heterophyla	Norfolk Island Pine	1	Right side	Yes	Yes	
	Casuarina sp.	Beefwood/She-oak	13	10- trees in front right 3- trees in left rear	Yes Yes	Yes Yes	Spacing in front would suggest that they were planted as a hedge.
	Pinus radiata	Monterey Pine	2	1- Front left side 1- Front towards center right	Yes	Yes	
	Prunus laurocerasus	English Laurel	2	Front, either side of entry walk	Yes	?	"Recently chopped"
	Syzigium paniculatum	Australian Brush Cherry	3	Front	Yes	No	Not inventoried in GGNPA survey
	Other				Yes	?	Smaller plants include calla lillies and amaryllis. (Not inventoried in GGNPA survey)
FB671	PUMP HOUSE						
	Cupressus macrocarpa	Monterey Cypress	1	Next to concrete bulkhead		?	
FB679	BOAT REPAIR SHOP						
	None identified						

FB507: Enlisted Men's Barrack
Mobilization Plan Number: 700-1257E
Constructed: 1942
Contemporary Use: Offices



Building FB507 is almost entirely surrounded by the quarry. (NPS photo, 1946 Aerial Photo)

Building FB507, looking north. The foundation plantings are assumed to be historic. (NPS, 2001)

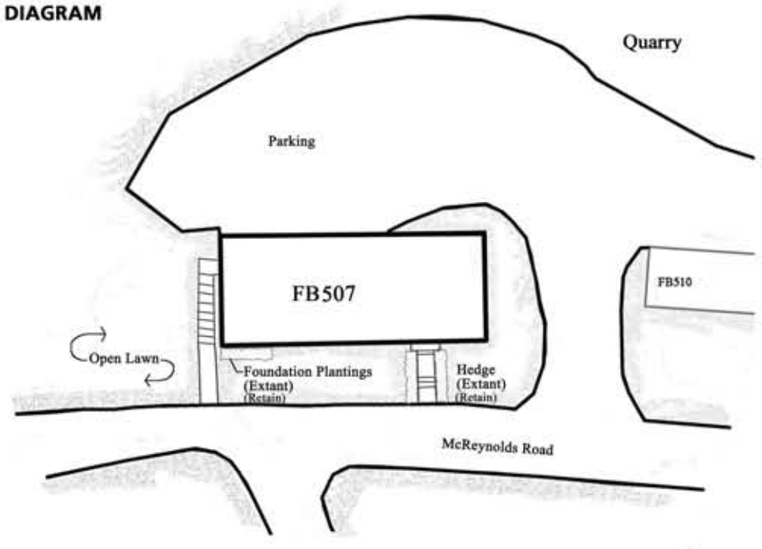
Historic Landscape Character (circa 1945)

Setting
Building FB507 is set on grade and fronts McReynolds Road. The structure's main public entrance faces west toward the parade ground.

Planting Design
Although no historic documentation of the landscaping around building FB507 has been located, the existing planting reflects historic planting designs circa 1945. Eucalyptus trees, associated with the east windbreak, are located on the building's north side. A single-specie hedge flanks the south side entrance of the building, while a multi-specie foundation planting is located on the building's front façade and south side. Lawn is planted in the front and south sides.

Pedestrian Circulation
Two, wide, scored concrete sidewalks lead from McReynolds Road to the building entrances. The south entrance accessed the first floor main entrance while the north entrance accessed wooden steps leading to the second story. A parking area wraps around the building's south side to its rear.

CONCEPTUAL DIAGRAM



General Recommendations

Setting
Retain historic site grades and benches.
Retain historic setbacks and open character of grounds surrounding the building.
Retain public access/character of the front of the buildings.
Retain the private/utilitarian character of the rear areas.

Planting Design
Retain foundation plantings on front and south sides of the building.
Retain the single-specie hedge flanking the south side entrance of the building
Retain open lawn on front and south sides of building.

Plant Selection
See Fort Baker Plant Lists. Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Pedestrian Circulation
Retain existing pedestrian circulation.

Universal Access
Building FB507 is not considered for universal access at this time.

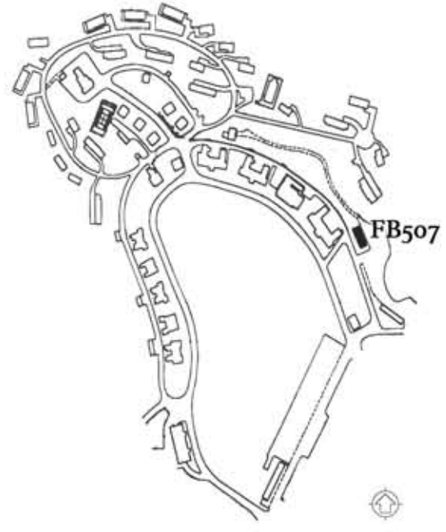
Sustainability
Utilize The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

Specific Recommendations

Retain foundation plantings on front and south sides of the building.
Retain the single-specie hedge flanking the south side entrance of the building.
Retain open lawn on front and south sides of building. When replacing turf, plant low water-use, drought-resistant grass species.

New plantings and irrigation systems (if used) shall maintain a two-foot buffer from the foundation of the building, to ensure the protection and maintenance of the foundation.



FORT BAKER BUILDING FB507

Landscape Rehabilitation Guidelines

FB519: Post Chapel
Mobilization Series Plan Number: 700-1800
Constructed: 1941
Contemporary Use: Chapel

A mix of flowering and evergreen foundation plantings are visible in front of and around the building. (NPS photo, 1956)

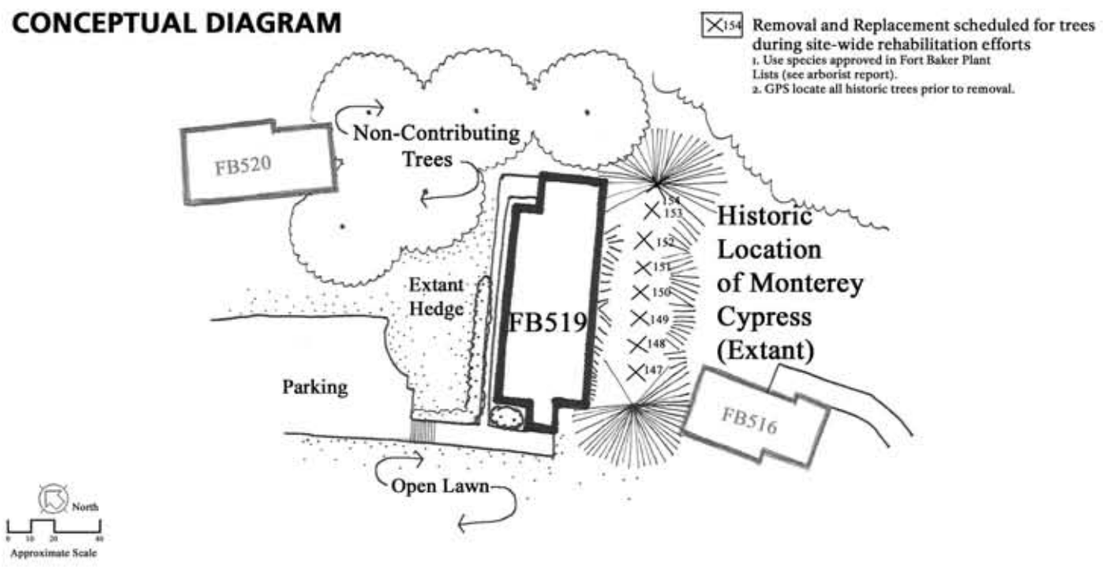
Historic Landscape Character (circa 1945)

Setting
The building is sited on a bench on the east side of the cantonment above the residences on the parade ground. The structure has an extensive setback from the corner of Seiter Road and Merrill Street. The structure's main public entrance faces west towards the parade ground.

Planting Design
A Monterey cypress hedge, a unique feature to this building, was planted in a formal row on the south side of the building. This single-specie hedge is located along the north side of the building with a multi-specie foundation planting flanking the front entrance of the structure. Lawn surrounded the structure.

Pedestrian Circulation
A single, wide, masonry staircase, perpendicular to the façade, leads from a parking area on the north side of the building and intersected a masonry paved entrance area. A secondary sidewalk was located on the north side of the building.

CONCEPTUAL DIAGRAM



Building FB519, view looking west. Removal of historic vegetation has altered the landscape character. (NPS, 2001)

General Recommendations

Setting
Retain historic site grades and benches.
Retain historic setbacks and open character of grounds surrounding the building. Retain the public character of the building.

Planting Design
Recreate Monterey cypress hedge east of the building.
Retain foundation plantings around all sides of the building.
Retain open lawn surrounding building.

Plant Selection
See Fort Baker Plant Lists. Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Pedestrian Circulation
Retain existing pedestrian circulation.

Universal Access
Integrate universal access route with new trail to open area north of FB519.

Sustainability
Utilize The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

Specific Recommendations

Retain open lawn surrounding the building. When replacing turf, plant low water-use, drought-resistant grass species.

Reestablish the character of the foundation plantings as indicated in the diagram. Foundation plantings should include a mix of low shrubs and herbaceous plants. Plantings should not exceed the bottom of the first-floor windows in height.

When feasible, replace modern concrete block retaining wall with stone version resembling the original.

The cypress hedge on the east side of the chapel should be managed as an even-aged feature and replaced as a unit.

Consideration should be given to using a replacement specie of similar form and character but avoiding the size and maintenance issues of the Monterey cypress (e.g., consider use of Cupressus as a smaller tree of similar character).

FORT BAKER BUILDING FB519

Landscape Rehabilitation Guidelines

FB533: Post Hospital
Quartermaster Plan Number: Not assigned
Constructed: 1902
Contemporary Use: Office

Ground cover, shrubs and flowering herbaceous material was used in the foundation planting surrounding the hospital. (NPS photo, 1938 Quartermaster Report)

Historic Landscape Character (circa 1938)

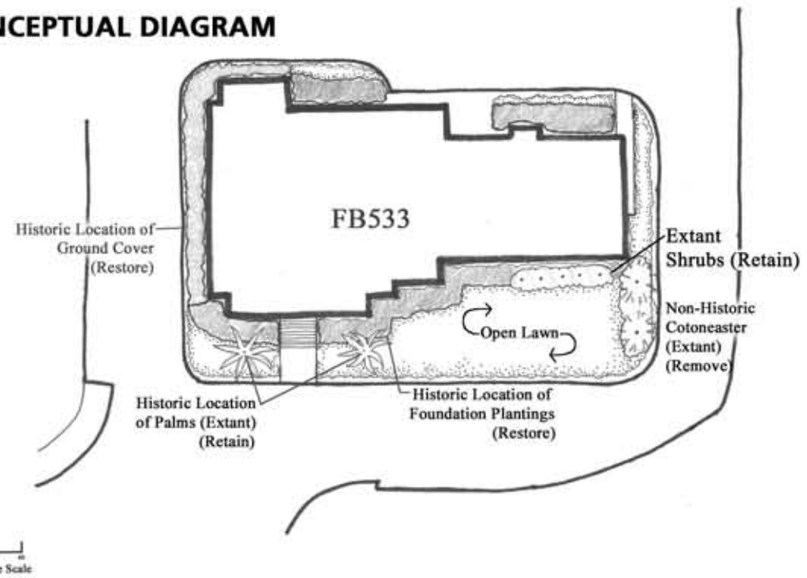
Setting
Building FB533 is set on grade and faces east on Kober Street. The side and rear areas are open but more utilitarian in character. The building is set on a vegetated island that is surrounded by hardscape which is used as parking and service area.

Planting Design
Two palm trees flank the main public entrance, while a multi-specie foundation planting was located on the building's front façade and south side. A low growing ground cover (character of ivy) was planted in the front and south sides.

Pedestrian Circulation
A single scored concrete sidewalk lead from Kober Street to the building entrance. A driveway wrapped around the entire building and was used for pedestrian circulation.

Parking
A parking lot was located on the west side of the building. Building FB566, an ambulance garage, was located behind the hospital.

CONCEPTUAL DIAGRAM



Building FB533, view looking west. Some of the historic vegetation has been removed which hasaltered the landscape character. (NPS, 2001)

General Recommendations

Setting
Retain historic site grades and benches.
Retain historic setbacks and open character of grounds surrounding the building.
Retain public access/character of the front of the buildings.
Retain the private/utilitarian character of the rear areas.

Planting Design
Retain the two palm trees in front of the building.
Retain foundation plantings on front and south sides of the building.
Retain open low-growing ground cover on front and south sides of building.

Plant Selection
See Fort Baker Plant Lists. Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Pedestrian Circulation
Retain existing pedestrian circulation.

Universal Access
Building FB533 is not considered for universal access at this time.

Sustainability
Utilize The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

Specific Recommendations

Retain/prune/remove existing trees per Arborist's report (see appendix). Replace historic trees with plant materials of similar character when the health or the structural integrity of the tree creates a hazardous condition. Remove trees that do not date to the period of significance.

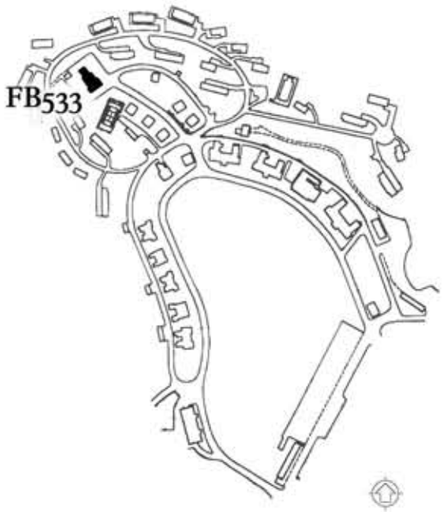
Retain the palm trees flanking the entrance.

Retain open low-growing ground cover in the front and south sides of the building.

Reestablish the character of the foundation plantings as indicated in the diagram. Foundation plantings should include a mix of low shrubs and herbaceous plants. Plantings should not exceed the bottom of the first-floor windows in height.

New plantings and irrigation systems (if used) shall maintain a two-foot buffer from the foundation of the building, to ensure the protection and maintenance of the foundation.

Retain historic concrete borders to plant beds.



FORT BAKER BUILDING FB533

Landscape Rehabilitation Guidelines

FB601: Artillery Barracks
Quartermaster Plan Number: 121-E
Constructed: 1903
Current Use: Office space

Foundation plantings are visible along the front porch and on the south side of the building. Columnar shrubs marked the building entrance. (NPS photo, 1941)

Building FB601, looking west. The foundation plants have all been removed.

Historic Landscape Character (circa 1938)

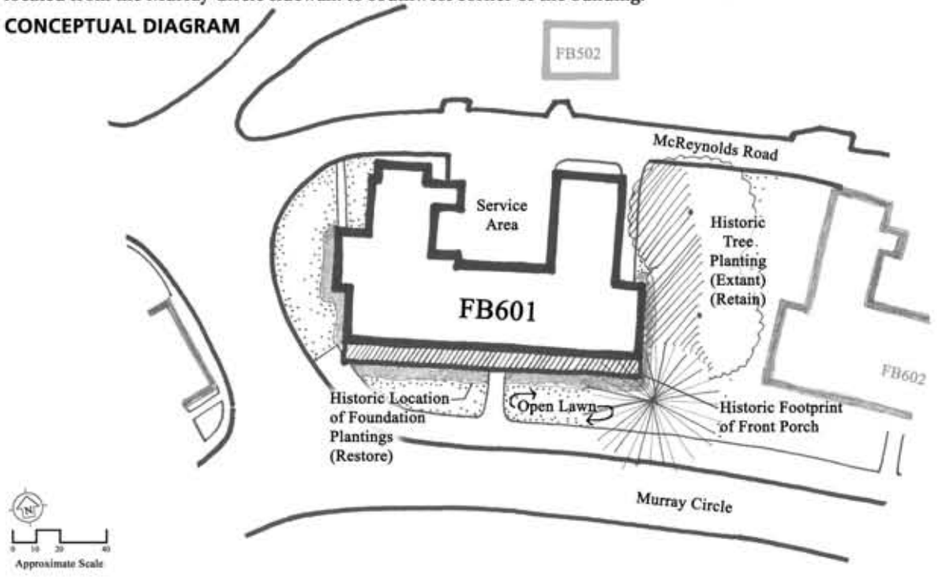
Setting
Building FB601 is built on a terraced bench facing the parade ground. Public entry is from Murray Circle; the side and rear yards are open but more utilitarian in character. McReynolds Road provides access to the rear of the barracks, functioning as a service area for the building.

Planting Design
Monterey pine and blue gum eucalyptus trees were planted on the south side of the building, which created a physical and visual division in the landscape between buildings FB601 and FB602. The front and south foundations were lined by an evergreen shrub/hedge at the footprint of the open 2-story porch. Gaps in the planting occurred at basement windows and at the entrance stairway. Although no photographic documentation has been located for the building's north side, it is assumed that this planting pattern would have been replicated on the building's north side.Two columnar-shaped shrubs/trees (approximately 6' high) marked the building's entrance. The building was surrounded by lawn.

Service Area
Historic photographs from the late 1930s and early 1940s show that the area between the building wings was paved and functioned as a utility area which would have provided vehicular/service access to the back of the building.

Pedestrian Circulation
A broad concrete entry walk with steps connected both building entrances with the sidewalk loop along Murray Circle. Two narrower concrete walkways provide access from the rear entries at both wings to McReynolds Road. A second walkway was located from the Murray Circle sidewalk to southwest corner of the building.

CONCEPTUAL DIAGRAM



General Recommendations

Setting
Retain historic site grades and benches. Retain historic setbacks and open character of grounds surrounding the buildings. Retain public access/character of the front of the buildings. Retain the private/utilitarian character of the rear areas.

Planting Design
Retain existing lawn areas surrounding the building. Re-establish original planting bed widths. Re-establish foundation plantings along the front and sides of the buildings consistent with the character and dimensions of the historic designs.

Plant Selection
See Fort Baker Plant Lists. Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Service Area
Retain existing hardscape and associated utilitarian functions in back of building.

Pedestrian Circulation
Retain existing pedestrian circulation.

Universal Access
Provide an accessible route to the front entry including accessible parking, paved walkways, and ramp to entry level that best utilizes existing gradient, in order to minimize ramp length. Integrate ramp with restored porch, if feasible. Avoid use of shrubs or other screening devices at ramp that would add bulk to this new feature. Avoid alteration of topography in ramp design. Ramp construction should minimize impact to the historic fabric and character of the building and landscape.

Sustainability
Utilize *The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

Specific Recommendations

Retain/prune/remove existing trees per Arborist's report (see appendix). Replace historic trees with plant materials of similar character when the health or the structural integrity of the tree creates a hazardous condition.

Retain Monterey pine and blue gum eucalyptus trees on the south side of building FB601.

Retain open lawn surrounding the building. When replacing turf, plant low water-use, drought-resistant grass species.

Reestablish the two columnar shrubs (six to eight feet in height) marking the building entrance.

Reestablish the character of the foundation plantings as indicated in the diagram. Foundation plantings should include a low evergreen shrub. Plantings should not exceed the bottom of the first-floor windows in height.

New plantings and irrigation systems (if used) shall maintain a two-foot buffer from the foundation of the building, to ensure the protection and maintenance of the foundation.

FORT BAKER BUILDING FB601

Landscape Rehabilitation Guidelines

FB602: Officers' Quarters Duplex
(Artillery Barracks)
Quartermaster Plan Number: 121-E
Constructed: 1902
Contemporary Use: Offices

Building FB602, circa 1938. Columnar shribs which flank the entry steps are the only visible foundation plantings . (NPS photo, 1938 Quartermaster Report)

Historic Landscape Character (circa 1938)

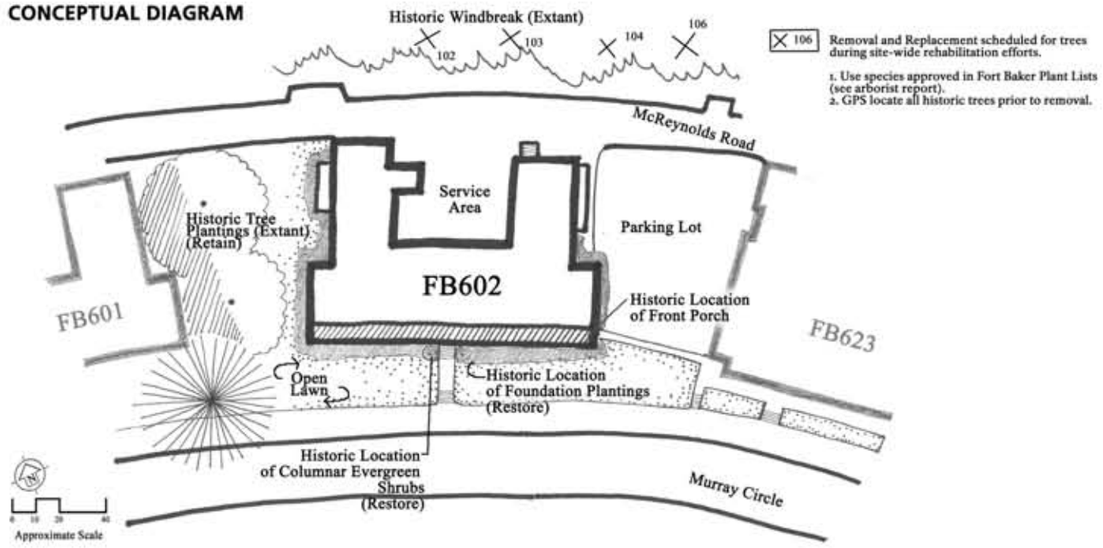
Setting
Building FB602 is built on a terraced bench facing the parade ground. Public entry is from Murray Circle; the side and rear yards are open but more utilitarian in character. McReynolds Road provides access to the rear of the barracks, which functioned as a service area for the building.

Planting Design
Monterey pine and blue-gum eucalyptus trees were planted on the north side of the building, which created a physical and visual division in the landscape between buildings FB601 and FB602. The front and north foundations were lined by a planting bed at the footprint of the open 2-story porch, which contained low herbaceous plantings. Although no photographic documentation has been located for the building's south side, it is assumed that this planting pattern would have been replicated on the building's south side. Two columnar-shaped conifers shrubs/trees (approximately 6' high) marked the building's entrance. The front and side yards were mown grass.

Service Area
Historic photographs from the late 1930s and early 1940s show that the area between the building wings was paved and functioned as a utility area and provided vehicular/service access to the back of the building.

Pedestrian Circulation
A broad concrete entry walk with steps connected the building entrance to the sidewalk loop along Murray Circle. Two narrower concrete walkways provided access from the rear entries at both wings to McReynolds Road.

CONCEPTUAL DIAGRAM



Building FB602, looking east. The front porch was removed in 1959. A sporadic foundation planting exists today. (NPS, 2001)

General Recommendations

Setting
Retain historic site grades and benches. Retain historic setbacks and open character of grounds surrounding the buildings. Retain public access/character of the front of the buildings. Retain the private/utilitarian character of the rear areas.

Planting Design
Retain existing lawn areas surrounding the building. Re-establish original planting bed widths. Re-establish foundation plantings along the front and sides of the buildings consistent with the character and dimensions of the historic designs.

Plant Selection
See Fort Baker Plant Lists. Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Service Area
Retain existing hardscape and associated utilitarian functions in rear of building.

Pedestrian Circulation
Retain existing pedestrian circulation.

Universal Access
Provide an accessible route to the front entry including accessible parking, paved walkways, and ramp to entry level that best utilizes existing gradient, in order to minimize ramp length. Integrate ramp with restored porch, if feasible. Avoid use of shrubs or other screening devices at ramp that would add bulk to this new feature. Avoid alteration of topography in ramp design. Ramp construction should minimize impact to the historic fabric and character of the building and landscape.

Sustainability
Utilize The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

Specific Recommendations

Retain/prune/remove existing trees per Arborist's report (see appendix). Replace historic trees with plant materials of similar character when the health or the structural integrity of the tree creates a hazardous condition.

Retain Monterey pine and blue gum eucalyptus trees on the north side of building FB602.

Retain open lawn surrounding the building. When replacing turf, plant low water-use, drought-resistant grass species.

Reestablish the two columnar shrubs (six to eight feet in height) marking the building entrance.

Reestablish the character of the foundation plantings as indicated in the diagram. Foundation plantings should include a mix of low shrubs and herbaceous plants. Plantings should not exceed the bottom of the first-floor windows in height.

New plantings and irrigation systems (if used) shall maintain a two-foot buffer from the foundation of the building, to ensure the protection and maintenance of the foundation.

Retain parking lot pavement between FB602 and FB623.

FORT BAKER BUILDING FB602

Landscape Rehabilitation Guidelines

FB603: Administration Building
Quartermaster Plan Number: 122-A
Constructed: 1903
Contemporary Use: Residence

Five evergreen shrubs were located at regular intervals along the front facade of Building FB603. (NPS photo, 1938 Quartermaster Report)

Historic Landscape Character (circa 1938)

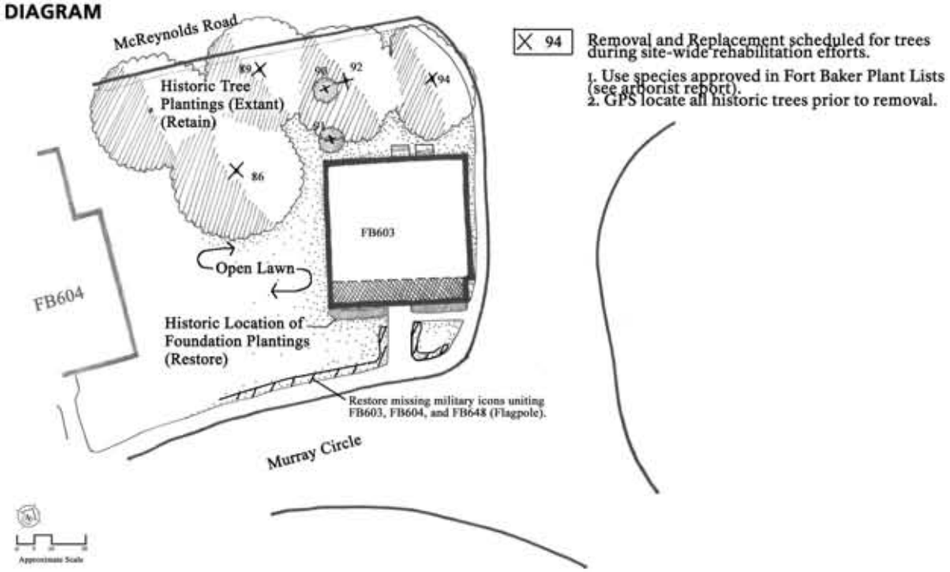
Setting
Public entry is from Murray Circle; the side and rear yards are open but more utilitarian in character. McReynolds Road provides access to the back of the quarters, functioning as a service area for the building.

Planting Design
The landscaping in front of the building appears to have been a row of single-specie conifers (five in total) equally spaced along the front facade. No photographic evidence of foundation plantings along the other sides of the building was found. Cordyline and blue gum eucalyptus trees were planted in the back yard. The building is surrounded by lawn.

Service Area
No service area was associated with building FB603.

Pedestrian Circulation
A concrete entry path is located perpendicular to the front of the building and connects with the sidewalk loop along Murray Circle. A narrower concrete walkway wraps around the building and connects to the sidewalk along McReynolds Road.

CONCEPTUAL DIAGRAM



Building FB603, looking north. The existing foundation plants are of a different character, yet in the approximate location of the historic plantings. (NPS, 2001)

General Recommendations

Setting:
Retain historic site grades and benches. Retain historic setbacks and open character of grounds surrounding the buildings. Retain public access/character of the front of the buildings. Retain the private/utilitarian character of the rear areas.

Planting Design
Retain existing lawn areas surrounding the building. Re-establish original planting bed widths. Re-establish foundation plantings along the front and sides of the buildings consistent with the character and dimensions of the historic designs.

Plant Selection
See Fort Baker Plant Lists. Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Pedestrian Circulation
Retain existing pedestrian circulation.

Universal Access
Provide an accessible route to the front entry including accessible parking, paved walkways, and ramp to entry level that best utilizes existing gradient, in order to minimize ramp length. Integrate ramp with restored porch, if feasible. Avoid use of shrubs or other screening devices at ramp that would add bulk to this new feature. Avoid alteration of topography in ramp design. Ramp construction should minimize impact to the historic fabric and character of the building and landscape.

Sustainability
Utilize The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

Specific Recommendations

Retain/prune/remove existing trees per Arborist's report (see appendix). Replace historic trees with plant materials of similar character when the health or the structural integrity of the tree creates a hazardous condition.

Retain blue gum eucalyptus trees in back yard and follow recommendations in the Arborist's Report for care (see appendix).

Replace cordyline australis in back yard.

Retain open lawn surrounding the building. When replacing turf, plant low water-use, drought-resistant grass species.

Replace historic character of the foundation plantings in front of the building only. The width of the bed should approximate the historic configuration (not to exceed five feet in width). Planting should be a single specie conifer. Plantings should not exceed the bottom of the first-floor windows in height.

New plantings and irrigation systems (if used) shall maintain a two-foot buffer from the foundation of the building, to ensure the protection and maintenance of the foundation.

FORT BAKER BUILDING FB603

Landscape Rehabilitation Guidelines

FB604: Commanding Officers'Quarters
Quartermaster Plan Number: 145-A
Constructed: 1903
Contemporary Use: Office

The foundation plantings around the commanding officer's residence contained a mix of flowering herbaceous and evergreen shrubs.(NPS photo, 1938 Quartermaster Report)

Historic Landscape Character (circa 1938)

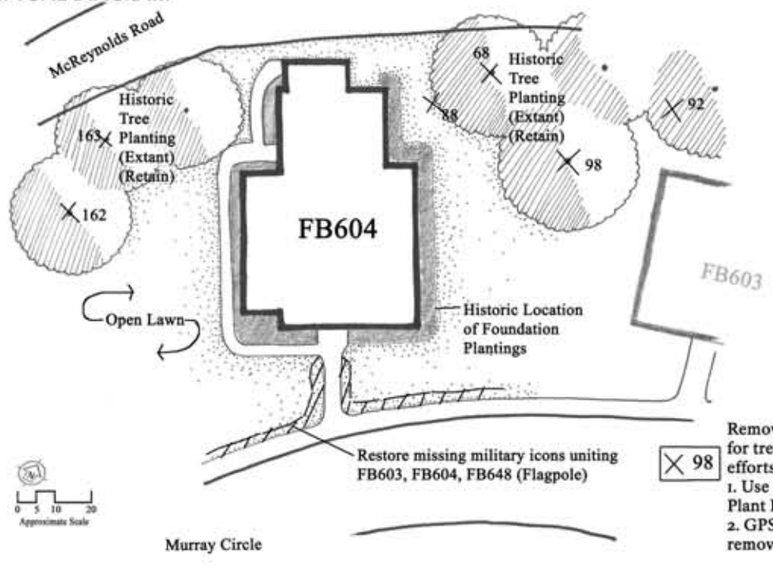
Setting
Building FB604 is sited at the highest natural grade around Murray Circle. Public entry is from Murray Circle; the side and rear yards open but more utilitarian in character. McReynolds Road provides access to the back of the quarters, functioning as a service area for the building.

Planting Design
The landscaping in the front of and on the west side of the building appears to have been a multi-specie mixture of woody and herbaceous ornamental plantings, which masked the foundation of the building. Two columnar conifers flanked the entry stairs. Although no photographic documentation has been located for the building's east side, it is assumed that this planting pattern would have been replicated on the east side. Eucalyptus trees, planted as street trees along McReynolds Road, were located in the back yard. The building was surrounded by lawn.

Service Area
There was no service area affiliated with building FB604.

Pedestrian Circulation
A concrete entry path is located perpendicular to the front of the building and connects with the sidewalk loop along Murray Circle. A narrower concrete walkway curves around the building and connects to the sidewalk along McReynolds Road.

CONCEPTUAL DIAGRAM



Building FB604, looking north. The foundation plants have all been removed.

General Recommendations

Setting
Retain historic site grades and benches. Retain historic setbacks and open character of grounds surrounding the buildings. Retain public access/character of the front of the buildings. Retain the private/utilitarian character of the rear areas.

Planting Design
Retain existing lawn areas surrounding the building. Re-establish original planting bed widths. Re-establish foundation plantings along the front and sides of the buildings consistent with the character and dimensions of the historic designs.

Plant Selection
See Fort Baker Plant Lists. Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Pedestrian Circulation
Retain existing pedestrian circulation.

Universal Access
Provide an accessible route to the front entry including accessible parking, paved walkways, and ramp to entry level that best utilizes existing gradient, in order to minimize ramp length. Integrate ramp with existing historic porch. Avoid use of shrubs or other screening devices at ramp that would add bulk to this new feature. Avoid alteration of topography in ramp design. Ramp construction should minimize impact to the historic fabric and character of the building and landscape.

Sustainability
Utilize *The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

Specific Recommendations

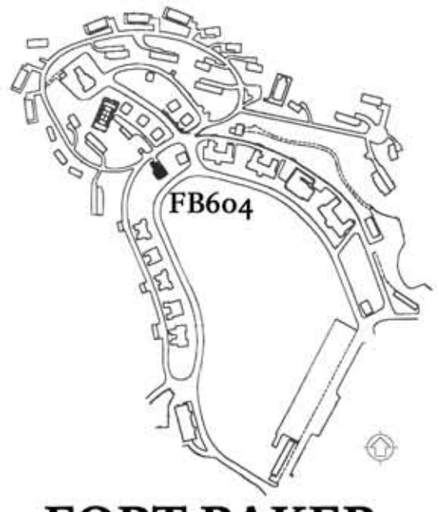
Retain/prune/remove existing trees per Arborist's report (see appendix). Replace historic trees with plant materials of similar character when the health or the structural integrity of the tree creates a hazardouls condition.

Retain blue gum eucalyptus trees in back yard and follow recommendations in the Arborist's Report for care (see appendix).

Retain open lawn surrounding the building. When replacing turf, plant low water-use, drought-resistant grass species.

Replace historic character of the foundation plantings in front of the building only. The width of the bed should approximate the historic configuration (not to exceed five feet in width). Planting should be a multi-specie mix of herbaceous and woody ornamentals that grow to approximately three feet in height.

New plantings and irrigation systems (if used) shall maintain a two-foot buffer from the foundation of the building, to ensure the protection and maintenance of the foundation.



FORT BAKER BUILDING FB604

Landscape Rehabilitation Guidelines

FB605: Officers' Quarters Duplex
(Double Captain's Quarters)
Quartermaster Plan Number: 90-A
Constructed: 1902
Contemporary Use: Residence

Building FB605, circa 1938. Flowering foundation plantings are visible in front of and around the building. (NPS photo, 1938 Quartermaster Report)

Building FB605, view looking west. Removal of historic vegetation has altered the landscape character. (NPS, 2001)

Historic Landscape Character (circa 1938)

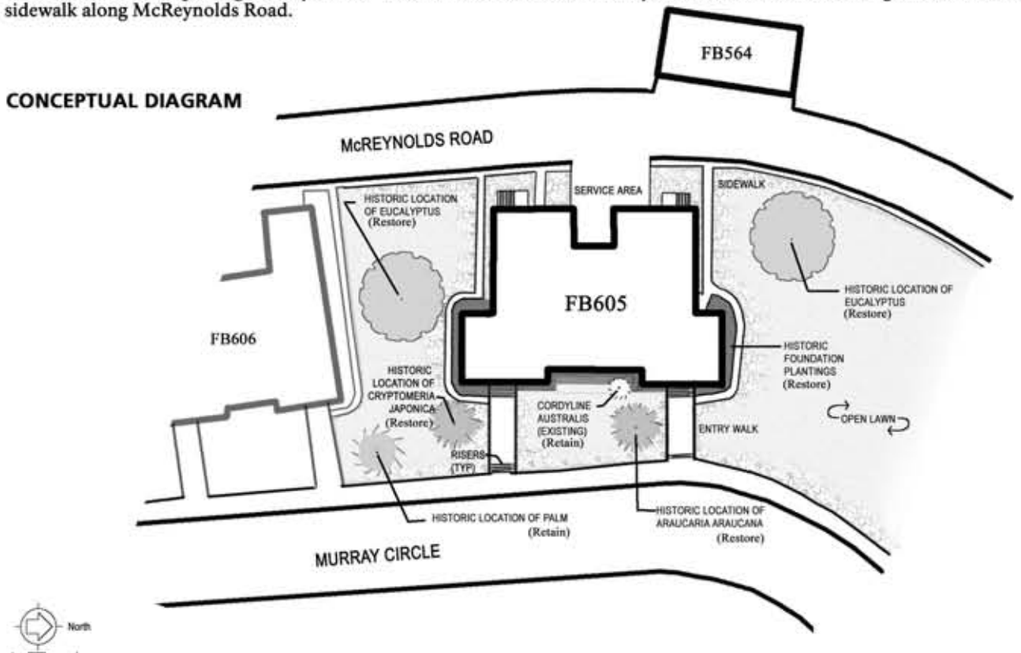
SETTING: Building FB605 is built on a terraced bench facing the parade ground. Public entry is from Murray Circle; the side and rear yards are open but more utilitarian in character. McReynolds Road provides access to the rear of the quarters, which functions as a service area for the building.

PLANTING DESIGN: The landscaping in front of the building appears to have been a multi-specie ornamental planting located to reveal basement windows, approximately three feet in height which masked the foundation of the building. A single large shrub was planted in the foundation bed in the approximate location of the extant Cordyline. Two evergreen trees were planted in the front yard - a Japanese redwood (Cryptomeria japonica) to the south and a monkey puzzle tree (Araucaria araucana) to the north. Palm and blue gum eucalyptus trees were planted on the south side of the building, which created a physical and visual division between Buildings FB605 and FB606. A blue gum eucalyptus was also located on the north side of the building. Open lawn surrounded the building. The existing Cordyline is not visible in historic photographs.

SERVICE AREA: Historic photographs show that the area between the building wings was paved and functioned as a utility area which provided vehicular/service access to the back of the building. Building FB564, a garage located on McReynolds Road, was also associated with the service area of the quarters.

PEDESTRIAN CIRCULATION: Two concrete entry paths were located perpendicular to the front of the building and connected with the sidewalk loop along Murray Circle. Two narrower concrete walkways curved around the building and connected to the sidewalk along McReynolds Road.

CONCEPTUAL DIAGRAM



General Recommendations

Setting
Retain historic site grades and benches. Retain historic setbacks and open character of grounds surrounding the buildings.
Retain public access/character of the front of the buildings.
Retain the private/utilitarian character of the rear areas.

Plant Selection
See Fort Baker Plant Lists Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Planting Design
Retain existing lawn areas surrounding the building. Re-establish original planting bed widths. Re-establish foundation plantings along the front and sides of the buildings consistent with the character and dimensions of the historic designs.

Service Area
Retain existing hardscape and associated utilitarian functions in the back of the building.

Pedestrian Circulation
Retain existing pedestrian circulation.

Universal Access
Provide an accessible route to the front entry including accessible parking, paved walkways, and ramp to entry level that best utilizes existing gradient in order to minimize ramp length. Integrate ramp with existing historic porch. Avoid use of shrubs or other screening devices at ramp that would add bulk to this new feature. Avoid alteration of topography in ramp design. Ramp construction should minimize impact to the historic fabric and character of the building and landscape.

Sustainability
Utilize The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

Specific Recommendations

Retain turf along sides and rear of building. Utilize low-water use, drought-resistant grass species when replacing turf.

Re-establish the missing historic trees as indicated in the diagram. Select replacement species in consultation with park Natural Resources staff.

Re-establish historic character of the foundation plantings in front of the building only. The width of the bed should approximate the historic configuration (not to exceed five feet in width). Planting should be multi-specie mix of herbaceous and woody ornamentals that grow to approximately three feet in height.

Establish new plantings and irrigation systems (if used) at a minimum of two-feet from the foundation of the building to ensure protection and maintenance of building foundation.

FORT BAKER BUILDING 605

Landscape Rehabilitation Guidelines

FB606: Officers' Quarters Duplex
(Double Lieutenant's Quarters)
Quartermaster Plan Number: 120-A
Constructed: 1902

A mix of flowering and evergreen foundation plantings are visible in front of and around the building. (NPS photo, 1938 Quartermaster Report)

Building FB606, view looking west. Removal of historic vegetation has altered the landscape character. (NPS, 2001)

Historic Landscape Character (circa 1938)

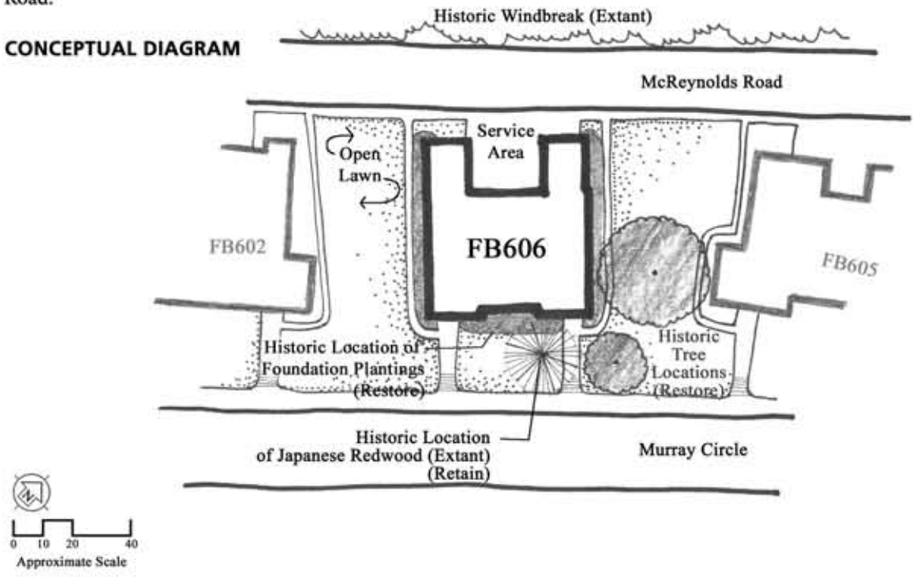
Setting
Building FB606 is built on a terraced bench facing the parade ground. Public entry is from Murray Circle; the side and rear yards are open but more utilitarian in character. McReynolds Road provides access to the back of the quarters, functioning as a service area for the building.

Planting Design
The landscaping in the front of the building appears to have been a multi-specie ornamental planting, approximately three feet in height which masked the foundation of the building. No photographic evidence of foundation plantings along the other sides of the building was found. A single Japanese redwood (Cryptomeria japonica) was planted in the front yard. Palm and blue-gum eucalyptus trees were planted on the north side of the building, which created a division in landscape between FB606 and FB605. The building was surrounded by lawn.

Service Area
Historic photographs show that the area between the building wings was paved and functioned as a utility area which would have provided vehicular/service access to the back of the building. A garage (FB564) located on McReynolds Road, is also associated with the service area of the quarters.

Pedestrian Circulation
Two concrete entry paths are located perpendicular to the front of the building and connected with the sidewalk loop along Murray Circle. Two narrower concrete walkways wrap around the building and connect to the sidewalk along McReynolds Road.

CONCEPTUAL DIAGRAM



General Recommendations

Setting
Retain historic site grades and benches. Retain historic setbacks and open character of grounds surrounding the buildings. Retain public access/character of the front of the buildings. Retain the private/utilitarian character of the rear areas.

Plant Selection
See Fort Baker Plant Lists. Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Planting Design
Retain existing lawn areas surrounding the building. Re-establish original planting bed widths. Re-establish foundation plantings along the front and sides of the buildings consistent with the character and dimensions of the historic designs.

Service Area
Retain existing hardscape and associated utilitarian functions in the back of the building.

Pedestrian Circulation
Retain existing pedestrian circulation.

Universal Access
Provide an accessible route to the front entry including accessible parking, paved walkways, and ramp to entry level that best utilizes existing gradient in order to minimize ramp length. Integrate ramp with existing historic porch. Avoid use of shrubs or other screening devices at ramp that would add bulk to this new feature. Avoid alteration of topography in ramp design. Ramp construction should minimize impact to the historic fabric and character of the building and landscape.

Sustainability
Utilize The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

Specific Recommendations

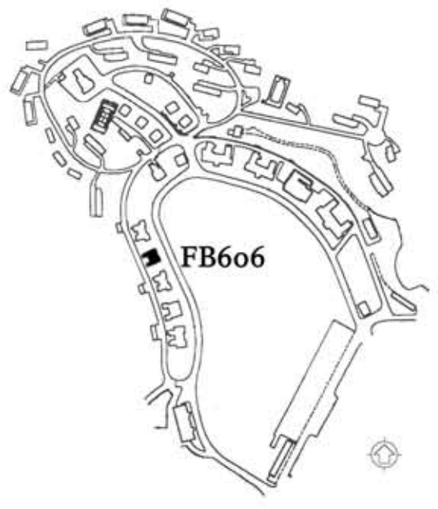
Retain/prune/remove existing trees per Arborist's report (see appendix). Replace historic trees with plant materials of similar character when the health or the structural integrity of the tree creates a hazardous condition.

Retain Japanese redwood.

Retain open lawn surrounding the building. When replacing turf, plant low water-use, drought-resistant grass species.

Reestablish the character of the foundation plantings as indicated in the diagram. Foundation plantings should include a mix of low shrubs and herbaceous plants. Plantings should not exceed the bottom of the first-floor windows in height.

New plantings and irrigation systems (if used) shall maintain a two-foot buffer from the foundation of the building, to ensure the protection and maintenance of the foundation.



FORT BAKER BUILDING FB606

Landscape Rehabilitation Guidelines

FB607: Officers' Quarters Duplex
(Double Captain's Quarters)
Quartermaster Plan Number: 90-A
Constructed: 1903
Contemporary Use: Residence

A mix of flowering and evergreen foundation plantings were planted between basement windows along the front facade. (NPS photo, 1938 Quartermaster Report)

Historic Landscape Character (circa 1938)

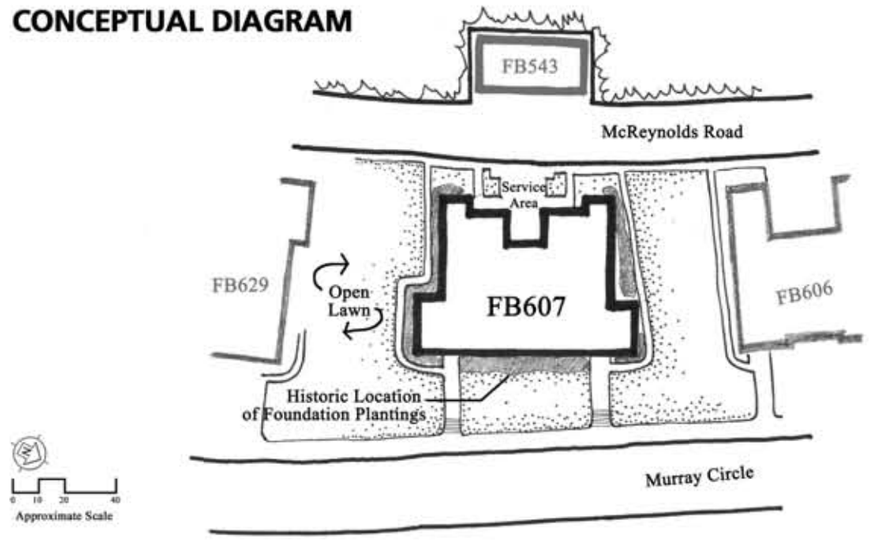
Setting
Building FB607 is built on a terraced bench facing the parade ground. Public entry is from Murray Circle; the side and rear yards are open but more utilitarian in character. McReynolds Road provides access to the back of the residence, functioning as a service area for the building.

Planting Design
The landscaping in front of the building appears to have been a multi-specie ornamental planting of varied height, which was spaced to reveal basement windows in a planting bed at the footprint of the foundation. The building was surrounded by lawn.

Service Area
Historic photographs from the late 1930s and early 1940s show that the area between the building wings was paved and functioned as a utility area which would have provided vehicular/service access to the back of the building. In addition, the garage on McReynolds Road (building 543) was associated with the residence's service area.

Pedestrian Circulation
Two broad scored concrete paths were located perpendicular to the front of the building and connected with the sidewalk loop along Murray Circle. Two narrower scored concrete walkways with curbs curved around the building and connected to the sidewalk along McReynolds Road.

CONCEPTUAL DIAGRAM



Building FB607, view looking west. Removal of historic vegetation has altered the landscape character. (NPS, 2001)

General Recommendations

Setting
Retain historic site grades and benches. Retain historic setbacks and open character of grounds surrounding the buildings.
Retain public access/character of the front of the buildings.
Retain the private/utilitarian character of the rear areas.

Plant Selection
See Fort Baker Plant Lists. Plant selection will need to be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Planting Design
Retain existing lawn areas surrounding the building. Re-establish original planting bed widths. Re-establish foundation plantings along the front and sides of the buildings consistent with the character and dimensions of the historic designs.

Service Area
Retain existing hardscape and associated utilitarian functions in the back of the building.

Pedestrian Circulation
Retain existing pedestrian circulation.

Universal Access
Provide an accessible route to the front entry including accessible parking, paved walkways, and ramp to entry level that best utilizes existing gradient, in order to minimize ramp length. Integrate ramp with existing historic porch, if feasible. Avoid use of shrubs or other screening devices at ramp that would add bulk to this new feature. Avoid alteration of topography in ramp design. Ramp construction should minimize impact to the historic fabric and character of the building and landscape.

Sustainability
Utilize The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

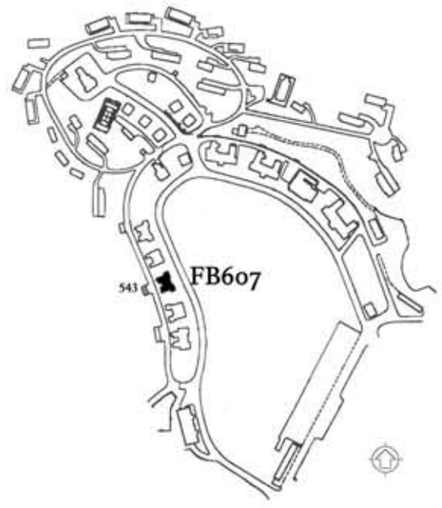
Specific Recommendations

Retain open character around FB607. Trees were not associated with this building during the period of significance.

Replace historic character of the foundation plantings as indicated in the diagram. The width of the bed should approximate the historic configuration (not to exceed five feet in width). Planting should be multi-specie, herbaceous and woody, ornamentals that grow to approximately three feet in height, not to obscure basement windows.

Retain open lawn surrounding the building. When replacing turf, plant low water-use, drought-resistant grass species.

New plantings and irrigation systems (if used) shall maintain a two-foot buffer from the foundation of the building, to ensure the protection and maintenance of the foundation.



FORT BAKER BUILDING FB607

Landscape Rehabilitation Guidelines

FB615: Guardhouse
Quartermaster Plan Number: 30-1
Constructed: 1902
Contemporary Use: Vacant

Foundation plantings were primarily located on the west side of FB615, facing the parade ground. (NPS photo, 1938 Quartermaster Report)

Building FB615, view looking north. The historic vegetation has been removed. (NPS, 2001)

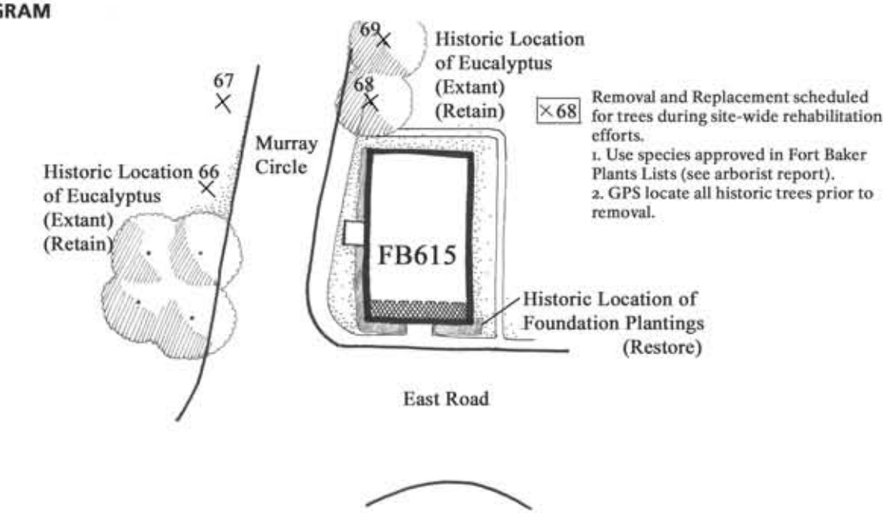
Historic Landscape Character (circa 1938)

Setting
Building FB615 was unlike other buildings on Murray Circle because of its utilitarian use as a guardhouse. The building is sited with minimal setbacks at the intersection of Murray Circle and East Road with its primary entrance facing East Road.

Planting Design
Eucalyptus trees were planted on the north side of the building.
Multi-specie foundation plantings were compact, randomly spaced, and informal in character on the south and west sides of the structure. It is assumed that foundation plantings were also located on the structure's north and east sides as well. Lawn in the sides and rear of the building created open character.

Pedestrian Circulation
The wooden staircase at building FB615 intersects a scored concrete public sidewalk on East Road. A secondary sidewalk is located on the east and north sides of the building.

CONCEPTUAL DIAGRAM



General Recommendations

Setting
Retain historic site grades and benches. Retain historic setbacks and open character of grounds surrounding the buildings.
Retain public access/character of the front of the buildings.
Retain the private/utilitarian character of the rear areas.

Planting Design
Retain eucalyptus trees on north side of building. Retain existing lawn areas surrounding the building. Re-establish original planting bed widths.
Re-establish foundation plantings along the front and sides of the buildings consistent with the character and dimensions of the historic designs.

Plant Selection
See Fort Baker Plant Lists. Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Pedestrian Circulation
Retain existing pedestrian circulation.

Universal Access
Building FB615 is not considered for universal access at this time.

Sustainability
Utilize *The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

Specific Recommendations

Retain/prune/remove existing trees per Arborist's report (see appendix). Replace historic trees with plant materials of similar character when the health or the structural integrity of the tree creates a hazardous condition.

Retain the Eucalyptus globulus stand located on the north side of the building.

Retain open lawn surrounding the building. When replacing turf, plant low water-use, drought-resistant grass species.

Reestablish the character of the foundation plantings as indicated in the diagram. Foundation plantings should include a mix of low shrubs and herbaceous plants. Plantings should not exceed the bottom of the first-floor windows in height.

New plantings and irrigation systems (if used) shall maintain a two-foot buffer from the foundation of the building, to ensure the protection and maintenance of the foundation.

FORT BAKER BUILDING FB615

Landscape Rehabilitation Guidelines

FB623: Post Exchange and Gymnasium
Constructed: 1904
Quartermaster Plan Number: 155
Contemporary use: Gymnasium, Museum and

Columnar shrubs marked the building entrances. (NPS photo, 1938 Quartermaster Report)

Historic Landscape Character (circa 1938)

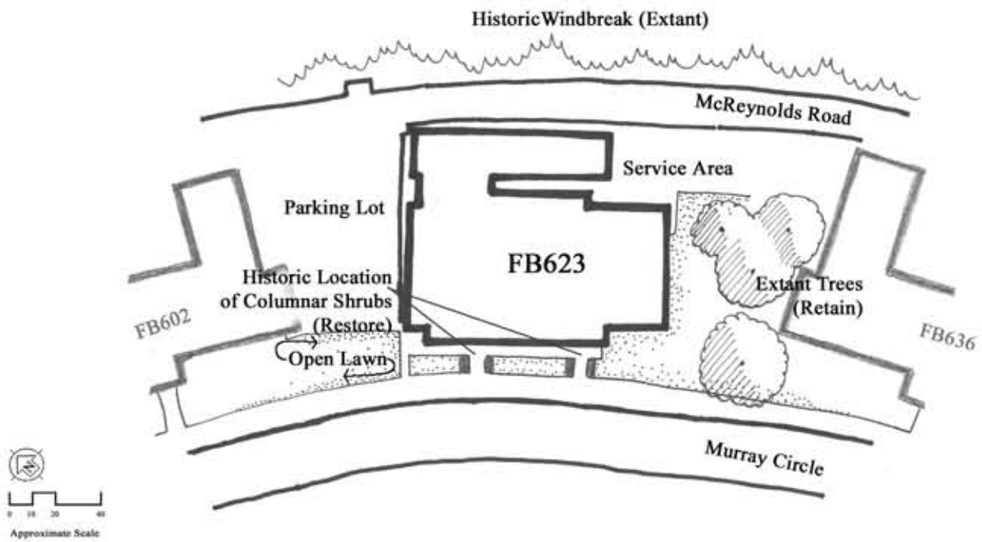
Setting
Building FB623 is sited on a bench somewhat elevated from Murray Circle. It is anomalous among all the buildings on the Parade Ground for its relatively shallow setback from the Murray Circle sidewalk. The front of the building serves as a public facade and is formal in character. The sides of the building are semi-public with varied sized yards as well as a parking lot also associated with Building FB602. The rear of the building is utilitarian in character and functions as a service area.

Planting Design
Trees planted between building FB623 and FB636 create a physical and visual barrier. There are foundation plantings. North entrance was flanked with two columnar shrubs, formal in character. South entrance flanked with two columnar shrubs, formal in character. Lawn in front and sides of building created open character.

Service Area
Historic photographs from the late 1930s and early 1940s show that the paved area in the back of the building served as a utility area with additional parking in the adjacent parking lot, and parallel parking on Murray Circle.

Pedestrian Circulation
Two main entrances of scored concrete aligned perpendicular to the building facade with risers on either end, which intersected the Murray Street sidewalk.

CONCEPTUAL DIAGRAM



Building FB623, looking east. All plant material has been removed. (NPS, 2001)

General Recommendations

Setting
Retain historic site grades and benches. Retain historic setbacks and open character of grounds surrounding the buildings. Retain public access/character of the front of the buildings. Retain the private/utilitarian character of the rear areas.

Plant Selection
See Fort Baker Plant Lists. Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Planting Design
Retain existing lawn areas surrounding the building. Re-establish original planting bed widths. Re-establish foundation plantings along the front and sides of the buildings consistent with the character and dimensions of the historic designs.

Service Area
Retain existing hardscape and associated utilitarian functions in rear of building.

Pedestrian Circulation
Retain existing pedestrian circulation.

Universal Access
Provide an accessible route to the front entry including accessible parking, paved walkways, and ramp to entry level that best utilizes existing gradient, in order to minimize ramp length. Integrate ramp with existing historic porches. Avoid use of shrubs or other screening devices at ramp that would add bulk to this new feature. Avoid alteration of topography in ramp design. Ramp construction should minimize impact to the historic fabric and character of the building and landscape.

Sustainability
Utilize The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

Specific Recommendations

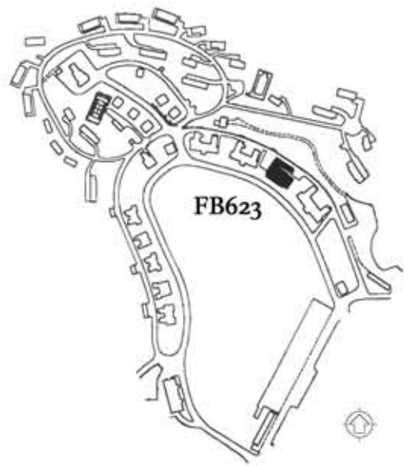
Retain/prune/remove existing trees per Arborist's report (see appendix). Replace historic trees between FB623 and FB 636 with plant materials of similar character when the health or the structural integrity of the tree creates a hazardous condition.

Retain open lawn surrounding the building. When replacing turf, plant low water-use, drought-resistant grass species.

Reestablish the character of the foundation plantings as indicated in the diagram. Foundation plantings should include a mix of low shrubs and herbaceous plants. Plantings should not exceed the bottom of the first-floor windows in height.

Replace flowering broad leaf shrubs (character and form of hydrangea) at the entrance to the building, flanking walk.

New plantings and irrigation systems (if used) shall maintain a two-foot buffer from the foundation of the building, to ensure the protection and maintenance of the foundation.



FORT BAKER BUILDING FB623

Landscape Rehabilitation Guidelines

FB629: Officers' Quarters Duplex
(Double Lieutenant's Quarters)
Quartermaster Plan Number: 120 - E
Constructed: 1904
Current Use: Residence

A mix of flowering and evergreen foundation plantings are visible in the foundation planting along the front facade. (NPS photo, 1938 Quartermaster Report)

Building FB629, view looking west. Removal of historic vegetation has altered the landscape character. (NPS, 2001)

Historic Landscape Character (circa 1938)

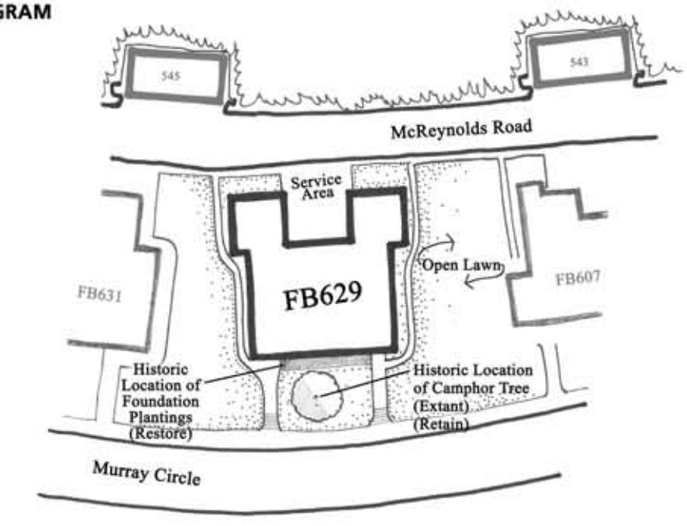
Setting
Building FB629 is built on a terraced bench facing the parade ground. Public entry is from Murray Circle; the side and rear yards were open but more utilitarian in character. McReynolds Road provided access to the rear of the quarters, functioning as a service area for the building.

Planting Design
The landscaping in the front of the building appears to have been a single-specie ornamental planting, approximately three feet in height which masked the foundation of the building. No photographic evidence of foundation plantings along the other sides of the building was found. Two trees were located at building FB629; one on the north side of the building and the existing camphor (Cinnamomum camphora) in the front yard. The building is surrounded by lawn.

Service Area
Historic photographs from the late 1930s and early 1940s show that the area between the building wings was paved and functioned as a utility area which would have provided vehicular/service access to the back of the building. A garage (building FB545) located on McReynolds Road, is also associated with the service area of the quarters.

Pedestrian Circulation
Two concrete entry paths were located perpendicular to the front of the building and connected with the sidewalk loop along Murray Circle. Two narrower concrete walkways wrapped around the building and connect to the sidewalk along McReynolds Road.

CONCEPTUAL DIAGRAM



General Recommendations

Setting
Retain historic site grades and benches.
Retain historic setbacks and open character of grounds surrounding the buildings.
Retain public access/character of the front of the buildings.
Retain the private/utilitarian character of the rear areas.

Planting Design
Retain existing lawn areas surrounding the building.
Re-establish original planting bed widths.
Re-establish foundation plantings along the front and sides of the buildings consistent with the character and dimensions of the historic designs.

Plant Selection
See Fort Baker Plant Lists. Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Service Area
Retain existing hardscape and associated utilitarian functions in the back of building.

Pedestrian Circulation
Retain existing pedestrian circulation; repairs shall match original alignment, scale, materials and detailing.

Universal Access
Building FB629 has not been identified as requiring universal access at this time.

Sustainability
Utilize The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

Specific Recommendations

Retain/prune/remove existing trees per Arborist's report (see appendix). Replace historic trees with plant materials of similar character when the health or the structural integrity of the tree creates a hazardous condition.

Retain camphor tree in front yard.

Retain turf along sides and back of building. Utilize low water-use, drought-resistant grass species when replacing turf.

Reestablish the character of the foundation plantings as indicated in the diagram. Foundation plantings should include a mix of low shrubs and herbaceous plants. Plantings should not exceed the bottom of the first-floor windows in height.

New plantings and irrigation systems (if used) shall maintain a two-foot buffer from the foundation of the building, to ensure the protection and maintenance of the foundation.

FORT BAKER BUILDING FB629

Landscape Rehabilitation Guidelines

FB631: Officers' Quarters Duplex
(Double Captain's Quarters)
Quartermaster Plan Number: 142-Rev
Constructed: 1904
Contemporary Use: Office

A mix of flowering and evergreen foundation plantings are visible in front of and around the building. (NPS photo, 1938 Quartermaster Report)

Historic Landscape Character (circa 1938)

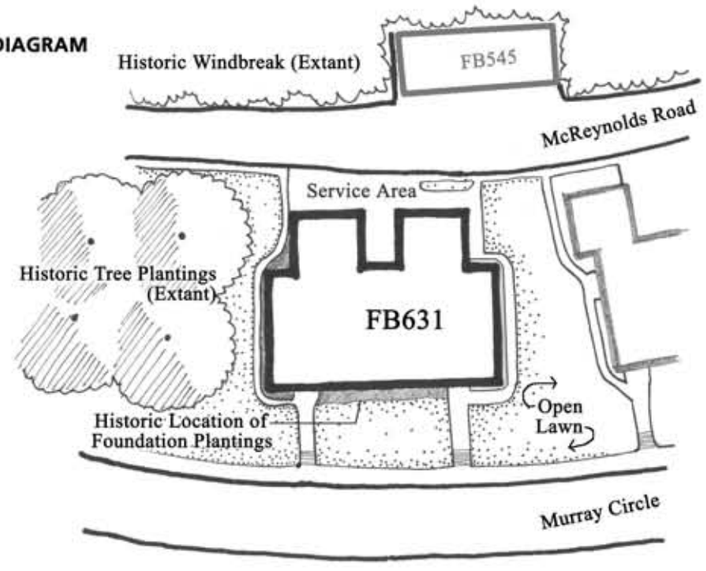
Setting
Building 631 is built on a terraced bench facing the parade ground. Public entry is from Murray Circle; the side and rear yards are open but more utilitarian in character. McReynolds Road provides access to the rear of the quarters, which functions as a service area for the building.

Planting Design
The landscaping in front of the building appears to have been a multi-specie ornamental planting, approximately three feet in height which masked the foundation of the building. No photographic evidence of foundation plantings along the sides of the building was found. The building was surrounded by lawn.

Service Area
Historic photographs from the late 1930s and early 1940s show that the area between the building wings was paved and functioned as a utility area which would have provided vehicular/service access to the back of the building. A garage (building 545) located on McReynolds Road, was also associated with the service area for the quarters.

Pedestrian Circulation
Two broad entry walks of scored concrete are located perpendicular to the front of the building and connects with the sidewalk loop along Murray Circle. Two narrower concrete walkways with curbs wrap around the building and connects to the sidewalk along McReynolds Road.

CONCEPTUAL DIAGRAM



Building FB631, view looking west. Removal of historic vegetation has altered the landscape character. (NPS, 2001)

General Recommendations

Setting
Retain historic site grades and benches. Retain historic setbacks and open character of grounds surrounding the buildings. Retain public access/character of the front of the buildings. Retain the private/utilitarian character of the rear areas.

Planting Design
Retain existing lawn areas surrounding the building. Re-establish original planting bed widths. Re-establish foundation plantings along the front and sides of the buildings consistent with the character and dimensions of the historic designs.

Plant Selection
See Fort Baker Plant Lists. Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Service Area
Retain existing hardscape and associated utilitarian functions in rear of the building.

Pedestrian Circulation
Retain existing pedestrian circulation.

Universal Access
Provide an accessible route to the front entry including accessible parking, paved walkways, and ramp to entry level that best utilizes existing gradient, in order to minimize ramp length. Integrate ramp with existing historic porch. Avoid use of shrubs or other screening devices at ramp that would add bulk to this new feature. Avoid alteration of topography in ramp design. Ramp construction should minimize impact to the historic fabric and character of the building and landscape.

Sustainability
Utilize *The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

Specific Recommendations

Retain turf along sides and back of building. Utilize low water-use, drought-resistant grass species when replacing turf.

Retain/prune/remove existing trees per Arborist's report (see appendix). Replace historic trees with plant materials of similar character when the health or the structural integrity of the tree creates a hazardous condition.

Retain open lawn surrounding the building. When replacing turf, plant low water-use, drought-resistant grass species.

Reestablish the character of the foundation plantings as indicated in the diagram. Foundation plantings should include a mix of low shrubs and herbaceous plants. Plantings should not exceed the bottom of the first-floor windows in height.

New plantings and irrigation systems (if used) shall maintain a two-foot buffer from the foundation of the building, to ensure the protection and maintenance of the foundation.

FORT BAKER BUILDING FB631

Landscape Rehabilitation Guidelines

FB636: Artillery Barracks
Quartermaster Plan Number: 146
Constructed: 1907
Current Use: Office space

A distinctive hedge extended south from the end of the front porch of Building FB636 to the road. (NPS photo, 1938 Quartermaster Report)

Historic Landscape Character (circa 1938)

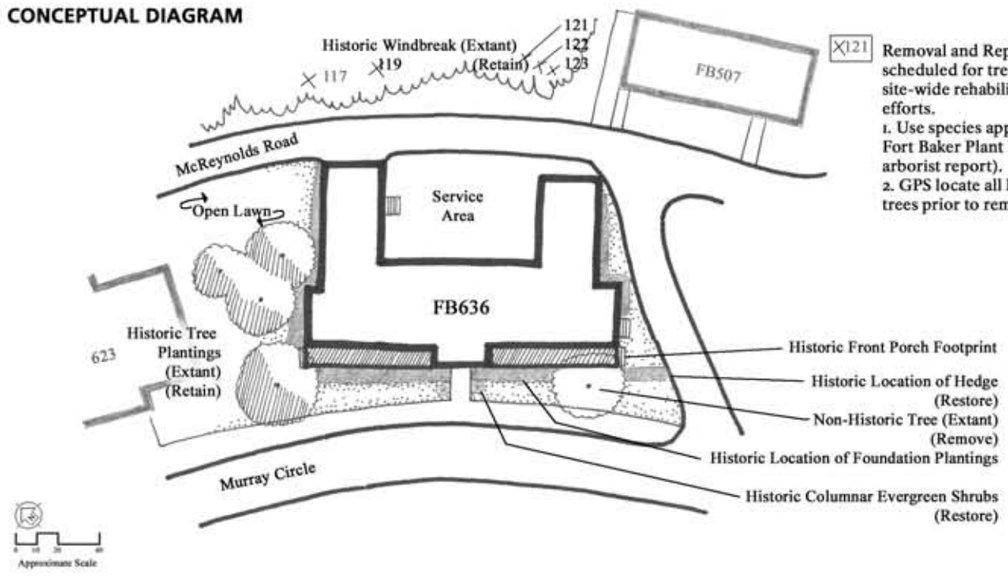
Setting
Building FB636 is built on a terraced bench facing the parade ground. Public entry is from Murray Circle; the side and rear yards are open but more utilitarian in character. McReynolds Road provides access to the rear of the barracks, which functions as a service area for the building.

Planting Design
A blue gum eucalyptus was planted on the south side of the building. The front foundation was lined by a planting bed at the footprint of the open 2-story porch, which contained randomly spaced ornamental plants. Although no photographic documentation has been located for the building's north and south sides, it is assumed that this planting pattern would have been replicated there. Two flowering shrubs, assumed to be hydrangea, marked the front entrance. An evergreen shrub, approximately three feet high, extended from the southwest corner of building FB636 to the southern edge of the yard (as defined by the roadway). The front and side yards are lawn.

Service Area
Historic photographs from the late 1930s and early 1940s show that the area between the building wings was paved and functioned as a utility area and provided vehicular/service access to the back of the building.

Pedestrian Circulation
A broad concrete entry walk with steps connected the building entrance to the sidewalk loop along Murray Circle. Two narrower concrete walkways provided access from the rear entries at both wings to McReynolds Road.

CONCEPTUAL DIAGRAM




Building FB636, looking east. (NPS, 2001)

General Recommendations

Setting
Retain historic site grades and benches.
Retain historic setbacks and open character of grounds surrounding the buildings.
Retain public access/character of the front of the buildings.
Retain the private/utilitarian character of the rear areas.

Planting Design
Retain existing lawn areas surrounding the building.
Re-establish original planting bed widths.
Re-establish foundation plantings along the front and sides of the buildings consistent with the character and dimensions of the historic designs.

Plant Selection
See Fort Baker Plant Lists. Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Service Area
Retain existing hardscape and associated utilitarian functions in rear of building.

Pedestrian Circulation
Retain existing pedestrian circulation.

Universal Access
Provide an accessible route to the front entry including accessible parking, paved walkways, and ramp to entry level that best utilizes existing gradient, in order to minimize ramp length. Integrate ramp with restored porch, if feasible. Avoid use of shrubs or other screening devices at ramp that would add bulk to this new feature. Avoid alteration of topography in ramp design. Ramp construction should minimize impact to the historic fabric and character of the building and landscape.

Sustainability
Utilize The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

Specific Recommendations

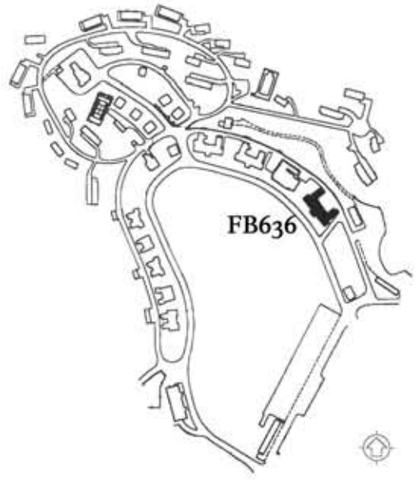
Retain/prune/remove existing trees per Arborist's report (see appendix). Replace historic trees with plant materials of similar character when the health or the structural integrity of the tree creates a hazardous condition. Remove trees that do not date to the period of significance.

Consider removal of the tree located on the southwest side of building FB636.
Retain open lawn surrounding the building. When replacing turf, plant low water-use, drought-resistant grass species.

Reestablish the two flowering shrubs (approximately three feet in height) marking the building entrance.

Reestablish single species evergreen hedge as indicated in diagram. Hedge is not to exceed three feet in height.

New plantings and irrigation systems (if used) shall maintain a two-foot buffer from the foundation of the building, to ensure the protection and maintenance of the foundation.



FORT BAKER BUILDING FB636

Landscape Rehabilitation Guidelines

Kober Street Housing:

FB522: Hospital Steward's Quarters.
(NCO Quarters Single)
Quartermaster Plan Number: 87 (1902)

FB523: Non-commissioned Officer's Quarters.
Quartermaster Plan Number: 82-E (1904)

FB527: Non-Commissioned Officers' Quarters.
Quartermaster Plan Number: 82-E (1904)

FB529: Non-commissioned Officers' Quarters.
Quartermaster Plan Number: 82-E (1904)

FB530: Non-commissioned Officers' Quarters.
Quartermaster Plan Number: 82-K (1909)

FB531: Non-commissioned Officers' Quarters.
Quartermaster Plan Number: 82- K (1909)

Note: FB523, FB527, FB529, FB530, FB531 are listed on LCS as NCO Quarters Duplex. Contemporary Use: Residences

Historic view of FB523. (NPS photo, 1938 Quartermaster Report)

Contemporary view of FB523. (NPS, 2001)

Historic view of FB530.(NPS photo, 1938 Quartermaster Report)

Contemporary view of FB530.(NPS, 2001)

Historic Landscape Character (circa 1938)

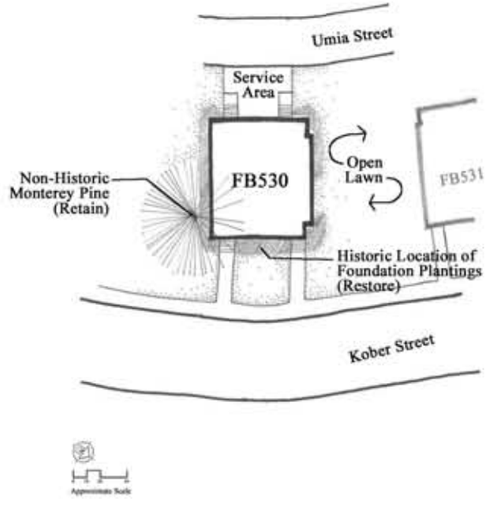
Setting
All these residences front Kober Street and were sited on terraced benches or built at-grade. While public entry for this group of buildings was from Kober Street, the rear of these buildings were accessed from either Swain Road or Umia Street. The side and the rear yards were more utilitarian/private in character.

Planting Design
Landscaping around these buildings was residential in character and reflected individual styles of occupants. A mixture of tree species (including blue gum eucalyptus, Monterey Cypress, False Cypress) were planted between residences or in front of structures; and a variety of low ornamental plants and shrubs were planted below windows and around the building foundations. The residences were surrounded by lawn around the front and sides of the buildings. No historic evidence of foundation plantings were found for building FB523, however this building should receive a foundation planting similar to adjacent buildings (See specific recommendations). Removal of historic vegetation has altered the landscape character at building 530.

Parking
Each structure was provided designated parking in the form of either a driveway or garage. Swain Road and Umia Street provided rear access to the buildings and garages. Parallel parking was available for all buildings along Kober Street.

Pedestrian Circulation
Public sidewalks fronted both sides of Kober Street. Entry walks to the residences (with exception to building FB522) were perpendicular to the building facade and provided separate entry ways. On the west side, each duplex unit had two concrete entry walks providing separate entries. On the east side concrete sidewalks had a series of risers and cheek walls which split into separate entry walks to each unit.

CONCEPTUAL DIAGRAMS



General Recommendations

Setting:
Retain historic site grades and benches. Retain historic setbacks and open character of grounds surrounding the buildings.
Retain public access/character of the front of the buildings.
Retain the private/utilitarian character of the rear areas.

Planting Design
Retain existing lawn areas surrounding the building. Re-establish original planting bed widths. Re-establish foundation plantings along the front and sides of the buildings consistent with the character and dimensions of the historic designs.

Plant Selection
See Fort Baker Plant Lists. Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Parking
Retain existing parking (driveways and garages). Where parking surfaces are in poor condition, replace in kind matching the alignment, scale, materials and detailing of the original installation.

Pedestrian Circulation
Retain existing pedestrian circulation. Where existing pedestrian circulation is in poor condition, it should be replaced in-kind, reflecting the original alignment and historic material used.

Universal Access
Building has not been considered for universal access at this time.

Sustainability
Utilize *The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

Specific Recommendations

Retain/prune/remove existing trees per Arborist's report (see appendix). Replace historic trees with plant materials of similar character when the health or the structural integrity of the tree creates a hazardous condition. Remove trees that do not date to the period of significance.

Retain open lawn surrounding the building. When replacing turf, plant low water-use, drought-resistant grass species.

Reestablish the character of the foundation plantings as indicated in the diagram. Foundation plantings should include a mix of low shrubs and herbaceous plants. Plantings should not exceed the bottom of the first-floor windows in height.

New plantings and irrigation systems (if used) shall maintain a two-foot buffer from the foundation of the building, to ensure the protection and maintenance of the foundation.

FORT BAKER BUILDINGS FB522, FB523, FB527, FB529, FB530, FB531

Landscape Rehabilitation Guidelines

FB546, FB547, and FB549: NCO Family Housing
(Enlisted Family Quarters)
Mobilization Plan Number: Not Assigned
Constructed: 1941
Contemporary Use: Guest house Annex

Historic Landscape Character (circa 1945)

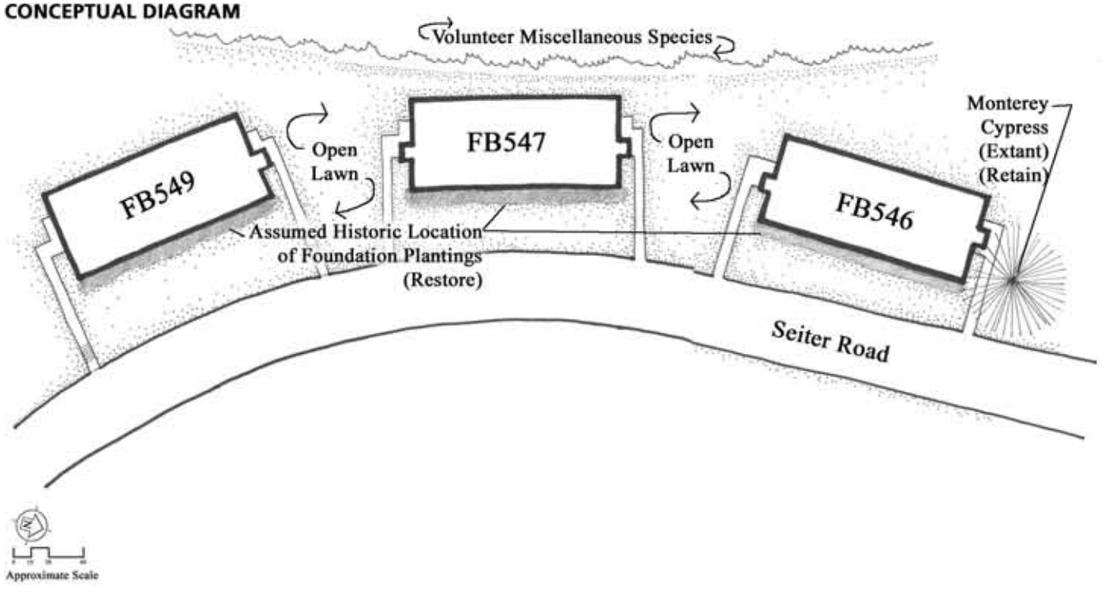
Setting
Buildings FB546, FB547, and FB549 are sited on a terraced bench above Seiter Road. Public entry is from Seiter Road; the side and rear yards are open, but more utilitarian in character.

Planting Design
Limited historic photographs exist that depict the landscape at these buildings. It is likely that foundation plantings were located in a bed along the front facades. A lawn surrounded the buildings.

Parking
No parking facilities were designed for the buildings, although parallel on street parking was available on Seiter Road.

Pedestrian Circulation
Two narrow scored concrete entry walks (per building) were aligned perpendicular to the building façade, intersecting Seiter Road, providing access to the separate entries.

CONCEPTUAL DIAGRAM



Contemporary photograph of the Enlisted Family Quarters. (NPS 2002)

General Recommendations

Setting
Retain historic site grades and benches.
Retain historic setbacks and open character of grounds surrounding the buildings.
Retain public access/character of the front and sides of the buildings.
Retain the private/utilitarian character of the side areas.

Planting Design
Retain existing lawn areas surrounding the building.
Re-establish foundation plantings along the front of the buildings consistent with the character and dimensions of the historic designs.

Plant Selection
See Fort Baker Plant Lists. Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Pedestrian Circulation
Retain existing pedestrian circulation. If existing pedestrian circulation is in poor condition, it should be replaced in-kind, reflecting the original alignment, scale and historic material used.

Universal Access
Universal access is not considered for buildings FB546, FB547, and FB549 at this time.

Sustainability
Utilize The Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

Specific Recommendations

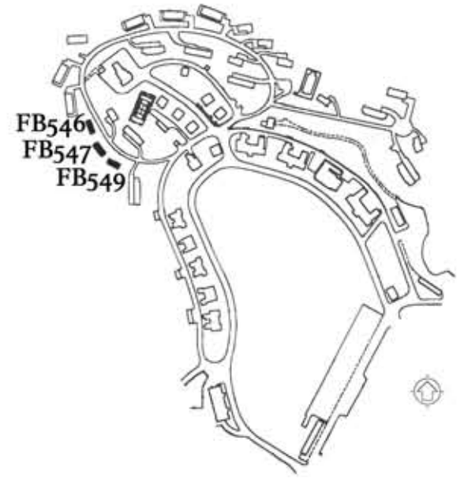
Retain/prune/remove existing trees per Arborist's report (see appendix). Replace historic trees with plant materials of similar character when the health or the structural integrity of the tree creates a hazardous condition.

Retain Monterey cypress on north side of building FB546.

Retain open lawn surrounding the building. When replacing turf, plant low water-use, drought-resistant grass species.

Replace historic character of the foundation plantings in front of the building. The width of the bed should approximate the historic configuration (not to exceed five feet in width). Planting should be multi-specie herbaceous ornamentals that grow to approximately three feet in height.

New plantings and irrigation systems (if used) shall maintain a two-foot buffer from the foundation of the building, to ensure the protection and maintenance of the foundation.



FORT BAKER BUILDINGS FB546, FB547, FB549

Landscape Rehabilitation Guidelines

SERVICE AREA

FB566: Exchange Service Station (1920)
Quartermaster Plan Number: N/A

FB557: Bakery (1902)
Quartermaster Plan Number: 49-B

FB559: Quartermaster Office & Subsistence Storehouse (1902)
Quartermaster Plan Number: 91-A

FB561: Wagon Shed (1903)
Quartermaster Plan Number: 60-B

FB637: Commissary Storehouse (1908)
Quartermaster Plan Number: N/A

FB644: Blacksmith Shop (1910)
Quartermaster Plan Number: N/A

FB645: Carpenter/Paint Shop (1910)
Quartermaster Plan Number: N/A

FB666: Ordnance Storehouse (1918)
Quartermaster Plan Number: 137-A
Current Use: Bay Area Discovery Museum (BADM)

1937 aerial photograph depicts the service area free from tree cover. (1937, GGNRA Collection)

Contemporary view of the service area depicts an increase in tree cover. (1997, Towil Survey)

Historic Landscape Character (circa 1938)

Setting
Buildings in the service area were laid out in a linear pattern, end to end, with main entrances facing Satterlee Road. Individual buildings were sited at grade with shallow setbacks. Most often the buildings were surrounded by vegetated islands, which included a stable, blacksmith shop, carpenter/paint shop, bakery, and storehouses.

Planting Design
Foundation plantings commonly extended from the buildings to the roads and were from three to five feet deep. Typical plantings included compact evergreen shrubs that did not extend above the bottom edge of the windows. Columnar shrubs were used to mark building entrances. Grass was used to fill spaces that exceeded five feet in width from road bed to building foundation.

Circulation
The circulation system of the Service Area was primarily vehicular. Pedestrian circulation was accommodated on the roadways, which encircled the buildings and had six-inch curbs. Walkways were limited to building entrances.

Parking
Parallel parking was located along Satterlee and Breitung Roads as well as between buildings and in an informal parking lot located south of Breitung Road.

Landscaping in the service area was characterized by multi specie, compact foundation plantings which extended from the buildings to the roads.

Building FB559 (NPS photo, 1938 Quartermaster report)

Building FB561 (NPS photo, 1938 Quartermaster report)

Building FB637 (NPS photo, 1938 Quartermaster report)

Building FB666 (NPS photo, 1938 Quartermaster report)

Building FB644 (NPS photo, 1938 Quartermaster report)

General Recommendations

Setting
Retain historic site grades and setbacks.
Retain the utilitarian character of the building complex.

Planting Design
Re-establish historic foundation planting beds, consistent with historic character and dimensions (two to four feet in width).

Plant Selection
See Fort Baker Plant Lists. Plant selection shall be approved by both NPS natural and cultural resources staff to ensure plant material is compatible with both the natural and historic surroundings.

Parking
Retain existing parking where feasible and appropriate.

Circulation
Retain existing walkways at building entrances. Retain the open character of Satterlee Road to reflect historic use as a vehicular throughway.

Universal Access

Although some buildings within this area already have made accommodations for universal access, no additional buildings have been identified as requiring universal access at this time.

Sustainability
Utilize The Secretary of Interior's Standards for the Treatment of Historic Properties: Guidelines for the Treatment of Cultural Landscapes to guide all landscape rehabilitation efforts. Where feasible and appropriate, retain original materials in the historic landscape.

Identify and implement appropriate conservation practices, where feasible, including water conservation, drought tolerant plantings, minimized maintenance requirements, and use of reclaimed water for irrigation where feasible. Utilize integrated pest management control methods that minimize the use of pesticides and herbicides.

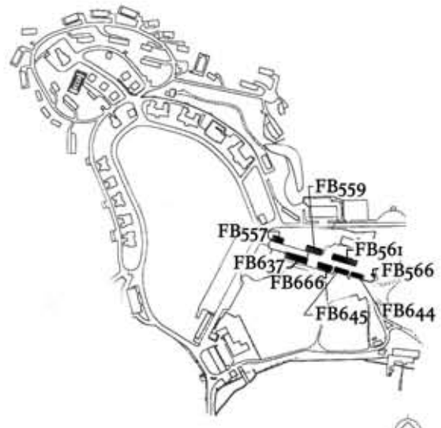
Specific Recommendations

Retain/prune/remove existing trees per Arborist's report (see appendix). Replace historic trees with plant materials of similar character when the health or the structural integrity of the tree creates a hazardous condition. Remove trees that do not date to the period of significance, particularly blue gum eucalyptus, black acacia and Monterey cypress, which are spreading into the complex.

Retain Satterlee Road's clear and open character.

Replace the character of the foundation plantings as identified in the historic photos from the Quartermaster's Report. Foundation plantings should be woody evergreen shrubs planted as single-specie hedges or multi-specie plantings. Plantings should not exceed the bottom of the first-floor windows in height.

New plantings and irrigation systems (if used) shall maintain a two-foot buffer from the foundation of the building, to ensure the protection and maintenance of building foundations.



QUARTERMASTER WAREHOUSE AREA

Landscape Rehabilitation Guidelines

Appendix E
Arborist Report: Management of Tree Stands at East Fort Baker

The Tree Stands of management concern at east Fort Baker are the West Windbreak, situated between Bunker Road and McReynolds Road, the Tree Plantation that circumscribes the eastern edge of the Cantonment east of McReynolds Road from Building 502 to Building 505 and the Screening Plantation that surrounds Battery Duncan.

Each of these stands were planted almost ninety years ago for different purposes. The management for each stand is a function of the stand's original purpose and Historical Preservation Criteria based on the accepted Period of Significance for Fort Baker.

The Western Windbreak consists of almost exclusively of Monterey cypress (Cupressus macrocarpa) trees that are approximately 90 years old. They exhibit good vigor and , for the most part are in good health. Some trees on the western edge have been windthrown, but the interior and leeward edge of the stand are healthy. Some dead trees are scattered in throughout the stand. The leeward edge along McReynolds needs some remedial pruning due to fact that the east side of the trees along the latter road have become one-sided.

Though the trees are in relatively good health in this stand, a well planned reforestation of this important group of trees should be undertaken soon as the life-span of these trees is relatively short. Monterey cypress live from 125 to 150 years. It is a species intolerant of shading. Small 1/3 acre to ½ acre block removals should begin on the leeward southern edge of this stand so that the new Monterey cypress trees planted in this locations receive sufficient sunlight to grow. The openings should begin on the leeward edge of the stand to prevent windthrow potential increases due to altered stand effects. Stumps of trees removed should be ground. New cypress planted should be of sizes no larger than 1 gallon tree pots. Irrigation must be installed within reasonable access to planting sites before tree planting is undertaken. Tree planting should be undertaken in the Fall or early Winter in order to take advantage of winter rains for establishment. New plantings will be on 15 foot centers. Irrigation should be applied for three to four summers in order to permit adequate root establishment. Weeding must be accomplished around tree driplines to reduce water competition with the newly planted trees. Five to seven years after planting, when the crowns of the established trees begin to overlap, a thinning should be undertaken. Those tree with poor vigor or structural defects will be removed in order to increase the vigor of the remaining trees. This management approach will create an uneven aged system where many age classes of trees will be present in the restored windbreak. It will prevent the simultaneous decline of the stand in that the aging of the components of the stand will take place over a much longer time frame. If one 1/3 to ½ acre tree replacement site is accomplished per year, the entire area could be reforested in 15 years. Removals should be carefully planned so that access to future reforestation sites is adequate and will not entail damaged to recently planted sites.

The perimeter planting tree plantation that is east of the eastern side of McReynolds consists of tree species are almost exclusively blue gum eucalyptus (Eucalyptus globulus) and Monterey pine (Pinus radiata). Almost all of the larger eucalyptus have been topped. Their structure is poor due to the multiple tops that have sprouted due to the topping. Many of the larger eucalyptus on the northern end of the group have canopies weighted toward McReynolds Road and the rear of buildings 601, 602 and 623. The expense of the tree maintenance required to mitigate these structural problems may be sufficiently high that removal and replanting of the trees will be a more efficient use of funds. Stumps of all eucalyptus removals should be ground to a depth at least six inches below grade to prevent resprouting. Pine stumps should be ground to grade for aesthetic purposes. The removals should be followed by a replanting with smaller eucalyptus such as Eucalyptus polyanthemos or Eucalyptus globulus 'compacta'. Irrigation systems should be installed before the new trees are planted. On the southern side of this perimeter tree plantation the group of seven Monterey pines (Pinus radiata) should also be removed due to their poor vigor. The trees should be replaced with pitch canker resistant Monterey pine or possibly with offspring of the Torrey pine (Pinus torreyana) that are growing along East Road that leads into Sausalito. Torrey pine is usually structurally superior to Monterey pine, however, it may not meet historical character criteria. The reforestation of this tree plantation can occur at one time as there are no limitations due to downwind effects of removal, i.e. altered stand effect or sunlight constraints. If fiscal constraints exist, this can also be a phased project.

The management for the Screening Planting that surrounds Battery Duncan is the implementation of a tree removal strategy that allows for the careful removal of all Eucalyptus that were not

part of the historic fabric of the site. Only those trees present during the period of significance will be preserved in this area. The site is mostly composed Blue gum eucalyptus (Eucalyptus globulus), with some Red-Ironbark eucalyptus (Eucalyptus sideroxylon) and a small number of Monterey cypress (Cupressus macrocarpa). There is also one Manna Gum (Eucalytpus viminalis) present. Removal of non-historic trees should be done with the careful application of a tree harvesting system that most minimally impacts the residual historic trees. In some cases this may necessitate the need for a crane to harvest trees that are downslope from trees that are to be saved. Eucalyptus stumps should be ground at least six inches below grade to prevent resprouting. All debris and chips should be hauled off site if there are plans to reintroduce Lupinus albifrons to the area for Mission Blue butterfly habitat.

Some crown thinning of the residual historic trees should be undertaken after the tree removal is accomplished. This pruning would be for both hazard reduction of the old canopies that have had no maintenance for many years, and also to reduce the increased wind-throw potential that will result from the removal of the windward (western) side of the Battery Duncan site. Crown thinning and crown cleaning of the historic tree will result in decreasing the trees' canopy density and, therefore, their propensity to be windthrown.

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U.S. Department of the Interior

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