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GOLDEN GATE
FORTS BAKER, BARRY, CRONKHITE

NATIONAL RECREATION AREA / CALIFORNIA

HISTORIC RESOURCE STUDY

FORTS BAKER, BARRY, CRONKHITE

OF

GOLDEN GATE NATIONAL RECREATION AREA

CALIFORNIA

by
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TABLE OF CONTENTS

PREFACE v

I. LIME POINT MILITARY RESERVATION 1

A. Acquisition 1

1. Introduction 1

2. A Strong Battery 2

3. Samuel R. Throckmorton Owns Lime Point 5

B. Lime Point and the Engineers, 1866-1890 17

1. Mendell and the Fortifications 17

a. Blasting at Lime Point 17

b. The First Batteries 22

2. Fog Signal Station, 1883 28

3. Road from Sausalito 30

C. The Endicott Batteries 31

II. FORT BAKER 37

A. First Structures, 1897-1910 37

B. Landscaping 45

C. Water 49

D. Inspections, Maintenance, and Improvements 51

E. Baker-Barry Tunnel 54

F. Fort Baker 1920s and '30s 57

G. World War II 61

H. Garrison Life 65

I. Troop Units at Fort Baker 67

J. List of Historic Structures, Fort Baker 70

K. Conclusions and Recommendations 79

III. FORT BARRY 81

A. Establishment 81

B. Post Structures and Post History, 1905-1922 84

C. Departmental Rifle Range 93
D. Fortifications, 1905-1946 97
E. Fort Barry, 1922-1941 100
F. World War II 102
G. Postwar Fort Barry 104
H. List of Historic Structures, Fort Barry 107
I. Conclusions and Recommendations 110

IV. FORT CRONKHITE 113
A. A Brief History 113
B. A Partial List of Units Assigned, 1940s-1950s 120
C. List of Historic Structures, Fort Cronkhite 124
D. Conclusions and Recommendations 127

BIBLIOGRAPHY 129

ILLUSTRATIONS 133

SELECTED HISTORIC DRAWINGS 149

HISTORIC BASE MAP 187

PREFACE

The histories of Forts Baker, Barry, and Cronkhite are the third volume of a Historic Resource Study of Golden Gate National Recreation Area, California. This study has been based on a task directive that was prepared in 1975 but which did not receive a final approval. It has been prepared in accordance with the existing guidelines and standards that concern such a report. The objective has been to complete a document that will prove useful to planning, managing, preserving, and interpreting the historic resources to be found within the three military posts on the north shore of the Golden Gate.

The great bulk of the research on these forts was accomplished at the National Archives, Washington, D.C.; the Federal Archives and Records Center, San Bruno, California; and the General Archives Division, Washington National Records Center, Suitland, Maryland. The Library of Congress, Washington, D.C., was another lode of information. Much assistance in the preparation of this study was given by the superintendent and staff of Golden Gate National Recreation Area. The Presidio Army Museum, Presidio of San Francisco, and the Western Regional Office, National Park Service, San Francisco, gave generously of their resources. Ron Treabess, Project Manager, and Harold LaFleur, Historical Architect, both of the Denver Service Center, contributed mightily to the study. Historian Anna Coxe Toogood, my collaborator in the historical study of Golden Gate National Recreation Area, and Historian Edwin C. Bearss, a specialist on coastal fortifications, both with the Denver Service Center, made countless contributions to the study

over the months. Dr. E. Raymond Lewis, Librarian, House of Representatives, who did the original spadework on these three forts, deserves a special thanks.

To all these people, and to many more, I owe a great debt of thanks.

I. Lime Point Military Reservation

A. Acquisition

1. Introduction

From the City of San Francisco, one's gaze toward the Golden Gate is met with the green and gold Marin Headlands. These headlands are remarkably free from "development" considering their location within a great metropolitan area. That this is so, is due to their being acquired by the United States in 1866 and established as the Lime Point Military Reservation. The name came from the guano-covered rocks and cliff at the point across from Fort Point (on the south shore of the Golden Gate)--the narrowest part of the entrance to San Francisco Bay from the sea. Much later the reservation became two important army posts, Forts Baker and Barry, both concerned with the coastal defenses of San Francisco. In the 1930s additional land north of Fort Barry became Fort Cronkhite, whose huge 16-inch guns contributed greatly to the defense of the magnificient harbor.

All the military reservations in the Bay area set aside by President Millard Fillmore in 1850--the Presidio of San Francisco, Point San Jose (Fort Mason), Alcatraz Island, Angel Island (Fort McDowell), Yerba Buena Island, and Lime Point--found themselves beset with citizens' claims on the land. Of them all, Lime Point caused the greatest difficulty to the Army. Sixteen long years, years beset with political intrigue and accusations of corruption, would pass before the United States acquired title to the 1,900 acres that comprised the reservation.

First Pilot Jose Carnizares, San Carlos, made the first survey of San Francisco Bay in 1775. He gave his ship's name to the point, and so it remained Punta de San Carlos throughout the Spanish and Mexican regimes. The Americans readily changed it to Lime Rocks and Lime Point soon after the

capture of California. Other Spanish names applied to the north shore of the Golden Gate have, however, been retained: Point Bonita (originally Punta de Santiago, 1775; later, Punta Bonete and Punta de Bonetas), at the outer end of the Gate; Point Diablo, between Bonita and Lime Points; and Point Cavallo (Punta de los Caballos), across Horseshoe Bay from Lime Point.

Lime Point itself had an elevation of over 450 feet, with sheer cliffs dropping down to the water. This great height posed a serious problem to the army engineers charged with planning its fortifications before the Civil War--a period when a good fortification consisted of a multi-tiered masonry fort constructed at or near water level. Along the northern shore of the Golden Gate the cliffs give way to valleys at only two places. To the east of Lime Point lies Horseshoe Bay; the large valley at its head eventually became the location of the post of Fort Baker. To the west, half way between Lime Point and Point Diablo, there is a smaller valley that the Army named Gravelly Beach, because of the large amounts of gravel there suitable for use in the construction of fortifications around the bay.

Even an amateur could see at a glance that both the north and the south sides of the Golden Gate, one mile apart between Lime Point and Fort Point, would have to be armed with the artillery of the day if San Francisco Bay were to be defended against an enemy fleet. The Spanish had recognized this as early as 1796. But not until the American period was there a serious effort to fortify Lime Point.[1]

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1. Frank M. Stanger and Alan K. Brown, Who Discovered the Golden Gate? The Explorers' Own Accounts, How they discovered a hidden harbor and at last found its entrance (San Mateo Historical

2. A Strong Battery

In 1849-50, a Joint Commission of Army and Navy Engineer Officers visited the Pacific Coast to examine it relative to future fortifications. Writing from San Francisco, the senior officer of the Board, Maj. (Brevet Col.) John Lind Smith, wrote the Secretaries of War and Navy recommending that the north shore of the entrance be reserved for "public use." Its northern boundary would be "from the southern boundary of [the village of] Sausalito, by a line parallel to the channel entrance, to the Pacific." The final report of the Board, written a few months later, confirmed Lime Point's importance in a defensive system:

> San Francisco Bay is the most important point in the United States on the Pacific. As a naval and military position it must always maintain a controlling influence over other parts of the coast and the interior. . . . Its wealth and the resources incident to it would furnish abundant means for prosecuting war that an intelligent enemy would attempt with all the force at his disposal to get possession of or to destroy or neutralize, if adequate defences for them should not be provided in time.
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> The first consideration in connection with defence would be to prevent the passage of hostile vessels

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Association, 1969), pp. 56-59; Lawrence Kinnaird, "History of the Golden Gate and its Headlands," MS, typescript, 1967, p. 216; Erwin G. Gudde, California Place Names, The Origin and Etymology of Current Geographical Names (Berkeley: University of California Press, 1962), pp. 33 and 55; National Archives, Cartographic Archives Division, Record Group 77, Fortifications File, Drawer 189, Cal. 3-1, "Military Lands, California, Fort Baker." Hereinafter, National Archives is cited as NA, and Record Group, as RG.

> through the channel of entrance. This would be difficult as the narrowist part of the entrance is about a mile wide and vessels might pass through with the speed of 10 or 12 knots if favored by strong fair wind, not unusual there, and the flood tide, estimated at 3 knots. The difficulty might be obviated by having, in addition to a strong battery on each shore, at the narrowest part [Fort and Lime Points] . . . a third battery on Alcatrazos Island.

Even before he received this report, President Fillmore, on November 6, 1850, issued an executive order reserving Lime Point "from the southern boundary of Saucilito Bay a line parallel to the channel of entrance to the Pacific."[2]

Two years later, a Board of Army Engineers for the Pacific Coast reached the same conclusions regarding the defense of the Golden Gate as had the Joint Commission. The Board recommended for "Lime Bluff Point" a permanent work having eighty guns at a cost of $600,000. In the spring of 1854, Chief Engineer Joseph Totten forwarded drawings for the Lime Point project to the engineers in San Francisco, saying that they had not yet been approved: "Your Board has therefore a latitude as to the projects

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2. NA, RG 77, Office of the Chief of Engineers, Letters Received, 1838-66, Smith, Mar. 31, 1850, to Secretaries of War and Navy; and "Report relative to an examination of the Coast of the U.S. on the Pacific . . .," San Francisco, Nov. 1, 1850; NA, Cartographic Archives Div., RG 77, Fortifications File, Dr. 189-7, Calif. Hereinafter, Office of the Chief of Engineers is cited as OCE.

to be submitted for that portion of the defences, which it had not for the approved projects for Fort Point and Alcatras Island."[3]

3. Samuel R. Throckmorton Owns Lime Point

In September 1854, Capt. John G. Barnard, the senior engineer on the Pacific Coast, casually informed Totten that the United States land commissioners in California had confirmed that a naturalized Mexican, William A. (Guillermo Antoinio) Richardson, had a valid title to Lime Point, but that he was willing to sell it. Richardson had first petitioned the Mexican government on February 18, 1835, for a grant of the Sausalito Rancho, of which Lime Point was a part. In February 1838, the land was granted to him. Barnard now proposed that the Pacific Board negotiate with Richardson to purchase 640 acres that would include Lime Point, Point Cavallo, and Gravelly Beach.[4]

When Samuel R. Throckmorton, a San Francisco land speculator, learned that the Army was planning fortifications for Lime Point, he succeeded in purchasing the Sausalito Rancho from Richardson and his family. In October 1855 he proposed to

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3. NA, RG 77, OCE, Letters Received, 1838-66, Maj. J.L. Smith, Feb. 8, 1853, to Totten; Letters to Officers of Engrs., No. 21, Totten, Apr. 18, 1854, to Maj. J.G. Barnard, San Francisco.

4. Ibid., Letters Received, 1838-66, Barnard, Sept. 14, 1854, to Totten; Charmaine Burdell Veronda, Marin County, California, Including Its Geography, Geology, Topography and Climatography (Reprint ed., Petaluma, Calif., 1972), pp. 386-87. Richardson was born in England. He went to sea at the age of twelve. In 1822 he arrived in San Francisco Bay on board a whaler. He decided to remain in California and, in 1825, he married Maria Antonia Martinez. In 1835 the Mexican government appointed him Captain of the Port of San Francisco, a position he held until 1844. He died in 1858, leaving his wife and two children.

Barnard's replacement, Col. Rene De Russy, to sell the southern portion of the property (about 2,500 acres) to the federal government for $200,000. Chief Engineer Totten informed De Russy that the Secretary of War had directed that the Pacific Board of Engineers designate a smaller tract of land than Throckmorton's proposal, enough only for the fortifications, and to ask the new owner to furnish abstracts and evidences of title. The land selected was essentially the same 640 acres proposed earlier by Barnard. De Russy thought it might be worth $90,000 at the most.[5]

The U.S. Congress, in March 1857, appropriated $300,000 for the purchase of land at Lime Point and for the construction of the fortifications thereon. The act did not proportion the money between the two. Throckmorton, however, was quite sure that two-thirds of it was to come to him. Writing to a friend back East, he said:

> I will now confide to you that which I have told no one and which I wish you to keep litterally [sic] to yourself. For Eighteen months I have been in negociation [sic] with the government for the sale of a piece of my land lying on the harbors for the purposes of Fortifications. One year ago I closed this bargain and the secretary of war asked for the appropriation from Congress to pay for it but owing to the neglect of my agent in Washington, the amount was left out of the general appropriation bill & I was compelled to wait over another season. This past winter I sent on another

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5. NA, RG77, OCE, Land Papers, De Russy, Nov. 3, 1855, to Totten; Letters to Officers of Engrs., No. 24, Totten, Jan. 24 and Feb. 5, 1856, to De Russy; Kinnaird, "Golden Gate," p. 217; U.S. Congress, Senate Documents, Rep. Com. No. 389, 35th Cong., 2d Sess., 1859, pp. 12-18.

> agent. . . . On the last day of the session my approriation [sic] was passed by both houses and signed by the president. If this had been done last year . . . I would have received the money last October as it is it now passes into the hands of the new secretary of war [John B. Floyd] and it will take this summer to get it completed. The old secretary [Jefferson Davis] was familiar with the details of the whole transaction as Regards title and everything connected with it. . . . I get a fair price for it--not much more [than] it is worth, but the sum will put me in good condition. . . . I would not wish you to name a word of this to anybody for no man knows what harm his words may do in any quarters in matters connected with the government . . . burn this letter. . . .[6]

Senator John B. Weller, California, had introduced the motion that had resulted in the Act of March 3, 1857. He now wrote Secretary Floyd urging him to purchase the entire tract at Throckmorton's price: "I have no pecuniary interest in this matter, but write you now because of my anxiety to have this harbor fortified as soon as possible." Throckmorton also wrote Floyd, indicating that he would not break up the larger tract in order to sell the smaller one to the government, and that he still wanted $200,000 for it ("the amount contemplated in the bill"). At this point the U.S. District Attorney for Northern California, P. Della Torre, suggested to Secretary Floyd that the federal government obtain from the State of California its consent to purchase the land and a cession of its jurisdiction over it. This

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6. Throckmorton, May 5, 1857, to Peter R. (Rosey) Roach, Letters to Peter R. Roach, 1850-68, Bancroft Library, University of California, Berkeley.

would allow a politic means of the federal officials acquiring the property through condemnation.[7]

Chief Engineer Totten promptly informed Capt. Z. B. Tower at San Francisco to "endeavor to procure from the Legislature, at its next session the passage of an amendment to the Act . . . which will permit the U. States to purchase, and acquire jurisdiction over, so much of the land at Lime Point" as might be acquired from Throckmorton through negotiations.[8] Throckmorton was growing impatient. He informed his eastern friend: "It takes fully two months to exchange a single idea, and all officials are so terribly thin skinned and afraid of their shadows."[9]

Throckmorton's persistence began to bear fruit, or so it seemed. In January 1858, the Engineer Department informed U.S. District Attorney Torre that the Secretary of War requested him "to conclude the purchase for the United States of the tract of land on the north side of the entrance to the bay of San Francisco . . . at the lowest price at which it can be obtained, not exceeding . . . two hundred thousand dollars." Torre promptly contacted

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7. U.S. Congress, Senate Documents, Rep. Com. No. 389, 1859, pp. 20-25. Senator Weller said at this time (July 1857) that he too had expected $200,000 to go to the purchase.

8. The act referred to for amendment was one that the State of California had recently enacted "for the purchases by the United States of land for fortifications etc. and for arbitration to assess its value, when an agreement could not be made." The amendment was necessary because the act had limited the quantity of land in any one case to fifty acres. See NA, RG77, OCE, Letters to Officers of Engrs., No. 27, Totten, July 29, 1857, to Tower.

9. Throckmorton, Sept. 19, 1857, to Roach, Bancroft Library, Berkeley.

Throckmorton and reached an agreement to purchase the larger tract for the full sum asked for, pointing out that the purchase could not be perfected nor the money paid until the question of the title had been approved by the Attorney General of the United States. In March 1858, the Secretary of War forwarded to the Attorney General, Jeremiah S. Black, such papers pertaining to Throckmorton's title as had been received from San Francisco. The Attorney General lost no time in listing a considerable number of apparent defects in the title that Throckmorton proposed to convey--defects that later proved to be non-existent.[10]

At this point, the entire matter of Lime Point came up in debate in the U.S. Senate. The political feud that brought this about has been admirably discussed by Dr. Lawrence Kinnaird, from whose work the following is recounted. The two U.S. senators from California were, in 1858, William M. Gwin and David C. Broderick, Weller having become governor of California. Gwin and Broderick were both Democrats, but they also had been bitter rivals for control of the state legislature before going to Washington. They had patched up their differences--each needing the support of the other; but once in the U.S. Senate they renewed their political quarrel. Broderick now grasped the oportunity to attack Gwin by bringing up Senator Weller's 1857 motion to appropriate $300,000 for Lime Point--Weller was one of Gwin's staunchest supporters. Broderick charged that the whole scheme was an attempt to swindle the government. California newspapers picked up the story with glee.

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10. U.S. Congress, Senate Documents, Rep. Com. No. 389, 1859, pp. 32-43. The Attorney General found the title to be "good and valid" in July 1860.

On May 17, 1858, Secretary Floyd wrote to U.S. Attorney Torre, directing him to stop all proceedings in relation to the purchase of Lime Point. Torre did so. A much discomfited Throckmorton wrote Floyd denying that either Weller or Gwin had acted from "improper and interested motives." He said that he had not been in contact with either man until after the appropriation had been made: "I will further add, that I had no personal acquaintance with those gentlemen until quite lately, and even that will scarcely exceed a mere introduction." Writing to a friend, he was more explicit:

> I have been sadly disappointed. I thought that after three years of labor and ceaseless trial, I had entirely retrieved my fortune [lost in the crash of 1855]. My sale was made. The money lay ready for me and was to have been sent to me by the very steamer that brot me the news that Broderick had attacked the . . . purchase. [This was not so; the U.S. Attorney General had not yet approved the title.] You have no idea of the importance of the sale to me. It was fairly made. It was without the smallest taint of any kind and the land is worth all the money that I sold it for. The attack was made solely for political purposes.[11]

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11. Kinnaird, "Golden Gate," pp. 219-21; NA, RG77, OCE, Land Papers, Torre, June 19, 1858, to Floyd; U.S. Congress, Senate Documents, Rep. Com. No. 389, 1859, pp. 43-47; Throckmorton, Oct. 4, 1858, to Roach, Letters to Peter R. Roach, Bancroft Library, Berkeley. Four years later, Throckmorton, referring back to this period, made an astounding allusion, but to whom remains unknown: "The political harpies came and demanded one third of the purchase money; I was indignant. I had had no connection with them I did not know them I did not even know their names. I could not believe that high officials would aid in or tolerate the open robbery of a citizen. But it was true as they told me 'everybody has to stand it' those were their words." See Throckmorton, June 6, 1862, to Roach in the Letters to Peter R. Roach, Bancroft Library, Berkeley.

The dispute between Broderick and Gwin continued on in the Senate for several more months. Meanwhile, the Engineer Department pursued the earlier idea of securing California's authorization for condemnation of land in the event that owners refused to sell. The Army even went so far as to prepare a draft of an act based on earlier experiences in Massachusetts and New York. Capt. J. F. Gilmer, in San Francisco, formally requested Governor Weller to obtain passage of the act and, in March 1859, the California State Legislature passed the bill and the governor approved it in April.[12]

In 1859 an international crisis arose between Great Britain and the United States over the ownership of San Juan Island in Washington Territory. The President dispatched the aged but respected commander in chief of the army, Maj. Gen. Winfield Scott, to the Pacific Coast to reduce tensions and tempers. Chief Engineer Totten was to meet Scott in San Francisco where the two of them were to look into the Lime Point matter and, apparently (because of the British war ships at San Juan Island?), conclude the purchase. Throckmorton delightly wrote: "My sale is now made, and on the arrival of the government agent here the money will be paid."

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12. NA, RG77, OCE, Letters to Officers of Engrs., No. 29, Capt. H.G. Wright, Dec. 3, 1858, to Col. S. Thayer, Actg. Chief Engr.; and No. 30, De Russy, Apr. 18, 1859, to Gilmer; Land Papers, Gilmer, Mar. 15, 1859, to De Russy; Letters Received 1838-66, Gilmer, Apr. 19, 1859, to De Russy; Federal Archives and Records Center, San Bruno, RG77, OCE, San Francisco District, Letters Sent, July 1858-February 1861, Gilmer Mar. 5, 1859, to Governor J.G. Weller, California. Hereinafter, Federal Archives and Records Center is cited as FARC, and San Francisco District, as SF Dist.

Once again, Throckmorton was disappointed. Totten missed meeting Scott in San Francisco. Not being authorized to act alone, Totten "could do nothing . . . towards the actual purchase of Lime Point." After visiting the property, he wrote: "I remain of the opinion I have entertained from the first, namely that the erection of fortifications on that point is necessary to a good defence of the entrance into San Francisco Bay; and that, therefore, the ground should belong to the United States; at the same time, I cannot advise the procurement of the land by purchase at the large price demanded by Mr. Throckmorton."[13]

By mid-summer 1860, the War Department had decided to proceed on acquiring Lime Point under condemnation procedures. At this same time the engineers at San Francisco put the final touches to a plan that called for an immense, three-tiered masonry fort having 258 guns and twenty-four magazines. Because of sickness and other delays, Captain Gilmer did not apply to the District Court of the Seventh Judicial District, Marin County, for the necessary "Order of Notice" for condemnation until November 1860. The judge gave the order on November 12, and Gilmer promptly had it published in the San Francisco Herald. Parties having objections to the proposed purchase had until March 15, 1861 to file such. Throckmorton let it be known immediately that he would object and that he was asking for a writ of prohibition on several grounds: "One is, that the State law is unconstitutional; another is, admitting the law to be constitutional, the U. States have not made out a case . . . that can come under such a law,

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13. Throckmorton, Oct. 19, 1859, and Jan. 6, 1860, to Roach, Letters to Peter R. Roach, Bancroft Library, Berkeley; NA, RG77, OCE, Letters Received, 1838-66, Totten, San Francisco, Jan. 23, 1860, to De Russy. At that same time Throckmorton's son died; but he remained determined to win his cause.

and [that?] the District Court has no jurisdiction." Since Throckmorton claimed that the United States had already purchased the land, Gilmer pointed out to the Engineer Department that it would be important "to have legal evidence of the fact that the President refused to approve the steps that had been taken to purchase the land . . . and that consequently the purchase was not made."[14]

Throckmorton won the first round. On March 15, 1861, District Judge E. W. McKinstry dismissed Captain Gilmer's application for a jury to assess the value of the Lime Point land. Gilmer notified Totten that he would appeal the judgement to the California Supreme Court.[15]

The Civil War came and Captain Gilmer prepared to resign from the United States Army in order to join the Confederacy. Before he left San Francisco, however, he had the duty of informing Totten that the California Supreme Court had reversed the decision of the District Court and that a jury had assessed the value of the land at Lime Point at $125,000. He added: "Mr. Throckmorton . . . is now suing out an Injuction, forbidding further proceedings, on the ground that the purchase

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14. NA, RG77, OCE, Letters to Officers of Engrs., No. 31, Capt. H.G. Wright, July 25, and 31, and Aug. 8, 1860, to Gilmer; De Russy, Sept. 25 and Nov. 16, 1860, to Gilmer; Land Papers, Box 9, Wright, July 31, 1860, to Gilmer; and Gilmer, Nov. 20, 1860, to De Russy; Letters Received, 1838-66, Gilmer, Aug 31 and Sept. 10, 1860, to De Russy; Daily Alta California, San Francisco, Nov. 14, 1860.

15. NA, RG77, OCE, Land Papers, Gilmer, May 10, 1861, to Totten; Seventh District Court, Marin County, California, "Proceedings to Condemn a Site for a Fort for the United States under a State Law."

[already] was made by the United States and that they are acting in bad faith by refusing to pay the $200,000."[16]

The new acting senior engineer in San Francisco, Lt. George Elliot, notified the Engineer Department that Throckmorton had appealed to the State Supreme Court for a new trial on the grounds that "certain testimony ruled over by the District Judge may be admitted." In October 1861, Elliot regretfully informed Totten that the court's decision in this appeal was against the United States.[17]

A new development in the matter of Lime Point ownership now occupied everyone's attention. A certain Barton Ricketson made a claim against the estate of William Richardson for $45,000, foreclosing a mortgage that had originated before Throckmorton acquired the property. The Daily Alta California carried an advertisement in its November 3, 1862 edition that the Sheriff of Marin County would sell the Sausalito Rancho at auction that month. Presumably, it was Throckmorton who succeeded in getting an injunction against that particular sale. At any rate the auction was not held on schedule. But this claim by Ricketson, and others, brought a temporary halt to the Army's efforts to acquire the land. Meanwhile, the Civil War dragged on, and the north shore of the Golden Gate remained undefended. The army commanders worried about Southern sympathizers in California, Confederate raiders in the Pacific, and the superior naval force that the British maintained at Vancouver Island. The permanent

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16. Ibid., Gilmer, June 26 and July 13, 1861, to Totten; Daily Alta California, June 23 and July 14, 1861.

17. NA, RG77, OCE, Land Papers, Elliot, Aug. 21 and Oct. 16, 1861, to Totten; Daily Alta California, Oct. 18, 1861.

works at Fort Point and on Alcatraz Island were buttressed by temporary batteries at Point San Jose and Angel Island. But not a single gun covered the waters from Lime Point.[18]

Ricketson's attorneys finally cleared the way to selling Sausalito Rancho on June 5, 1863. The purchaser was Edward F. Stone. General Totten notified De Russy in February 1864 that he was to negotiate with the new owner: "Mr. Billings, of the late firm of Halleck, Peachy & Billings [San Francisco], informs this office that he has been told that the law proceedings in California relative to the property at Lime Point have been terminated in such a way, that the property is now in the hands of persons who are willing to sell it to the United States at a fair price, and can probably give a good title. You will therefore, without delay take the necessary steps to make a conditional bargain for the land, and to have the title properly investigated."[19]

De Russy obeyed his orders and offered Stone $125,000 for the Lime Point property, which had by then been accurately surveyed and had been found to contain 1,898 66/100 acres. That was in March 1864. In December 1864, a still-unbeaten Throckmorton had his day in the District Court,

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18. NA, RG77, OCE, Land Papers, Elliot, Nov. 4, 1862, telegram, to Totten; De Russy, Nov. 20, 1861, to Totten. DeRussy had by then returned to San Francisco as senior engineer. Much of the emergency fortification work was paid for from the $300,000 originally appropriated for Lime Point.

19. Ibid., Frederick Billings, Jan. 21, 1864, to Totten; Throckmorton, June 10, 1865, to Chief of Engrs. Richard Delafield; Letters to Officers of Engrs., No. 26, Totten, Feb. 24, 1864, to De Russy.

Fifteenth Judicial District, the City and County of San Francisco. The judge, Samuel H. Dwinelle, delcared the sheriff's sale of the Sausalito Rancho "fraudulent and void." The deed that Edward Stone had acquired was "null and void." Throckmorton was to recover his costs from Stone and the sheriff. Once again the undisputed owner, Throckmorton wrote Secretary of War Edwin M. Stanton in June 1865, urging the completion of the purchase of Lime Point on his original terms, $200,000.[20]

Chief of Engineers Richard Delafield was in no hurry now to acquire Lime Point. The Civil War was over. The existing fortifications at Fort Point and Alcatraz Island were being improved and modernized. And the lessons learned during the late war had cast serious doubts about a future use of masonry forts--the kind proposed for Lime Point. Delefield also pointed out to Secretary Stanton that Lime Point had decreased in potential commercial value because the railroad reached San Francisco from the south, not from the north. Further, land was increasing in value, not in Marin County, but in the Oakland area.

Throckmorton, too, realized that would never get his price. He had gone greatly into debt over the years in order to retain the property; his monthly interest payments alone amounted to about $1,000. On September 30, 1865, he notified the Secretary of War that he was willing to accept the sum of $125,000.[21]

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20. Ibid., Land Papers, "In the District Court of the Fifteenth Judicial of the State of California . . .," Samuel R. Throckmorton, Et als, Plaintiffs, Edward F. Stone, et als, Defendants, Dec. 12, 1864, and Mar. 7, 1865; Throckmorton, June 7, 1865, to Stanton.

21. Ibid., Delafield, July 31, 1865, to Stanton; Throckmorton, Sept. 30, 1865, to Stanton; Letters Received, 1838-66, Elliot, May 30, 1866, to Delafield.

The War Department immediately notified De Russy in San Francisco to ask the U.S. District Attorney to prepare a deed and to gather data on the title. One last doubt was cast in February 1866 when U.S. Senator-elect C. C. Cole wrote Stanton that he had learned that Richardson's original claim to the Sausalito Rancho was fraudulent. He was in error. U.S. District Attorney Delos Lake confirmed the next month that the title was complete in Throckmorton. The purchase of Lime Point by the United States was made July 24, 1866. Referring to the long struggle to sell his land, Throckmorton wrote: "I feel that a man ought to be done fighting for money after he is past forty five."[22]

B. Lime Point and the Engineers, 1866-1890

(A separate volume of the historic resource study for Golden Gate National Recreation Area gives the history of the coastal fortifications in the Bay Area. That history will not be repeated herein. However, a brief recapitulation of these fortifications is presented in this study in that most of them are historic structures. As such, they should be accounted for inasmuch as this study will include lists of historic structures and a revised nomination form for the National Register of Historic Places for the historic district of Forts Baker, Barry, and Cronkhite will be prepared.)

1. Mendell and the Fortifications

a) Blasting at Lime Point

The first army correspondence concerning the newly-acquired military reservation concerned the need to fence the

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22. Ibid., Letters to Officers of Engrs., No. 38, Delafield, Oct. 2, 1865, to De Russy; Land Papers, Cole, Feb. 17, 1866, to Stanton; Lake, Mar. 30, 1866, to Stanton; Elliot, Aug. 22, 1866, to Delafield; Letters Received, Elliot, Mar. 30 and Apr. 2, 1866, to Delafield; Throckmorton, n.d., to Roach, Letters to Peter R. Roach, Bancroft Library, Berkeley.

boundary between it and the rest of the Sausalito Rancho. A large number of cattle grazed on the ranch, and the engineers desired to keep them off the military land. The engineers estimated that a substantial post and rail fence of rough lumber would cost $3,600. Throckmorton wanted the fence too, saying that the Chief of Engineers had promised to build it immediately. The Engineer Department could find no record of any promise to Throckmorton. A first, the Department approved of the fence only if Throckmorton would pay for half of it. Later, in 1867, the Chief of Engineers approved the expenditure of the $3,600, leaving it up to the local engineer to decide whether or not Throckmorton should bear part of the cost. The final resolution of this matter remains unknown; but the rail fence was built. At the same time, Humphreys approved of the construction of a temporary shelter at Gravelly Beach. This shelter was to be occupied by a civilian or a soldier who was to guard the beach inasmuch as unauthorized persons were hauling away the gravel by the boatload.[23]

Maj. George Mendell, recently returned to the Pacific Coast from Civil War assignments in the East, wrote the Chief of Engineers in January 1867, asking that he be given charge of the fortification construction at Lime Point along with the work on Alcatraz Island: "This is my first and almost my only wish." If the Department approved, he hoped "to remain here for some years, & I would like the assurance of permanence which the charge of

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23. NA, RG77, OCE, Letters Received, 1838-66, Elliot, Aug. 1, 1866, to Delafield; Correspondence Relating to Fortifications, Letters Received, 1866-67 (3d Div.), Elliot, Apr. 17, 1867, to Chief of Engrs. A.A. Humphreys; Correspondence Relating to Fortifications, Letters Sent, 1866-70 (3d Div.), Humphreys, May 15 and July 9, 1867, to Maj. George Mendell. Granite posts were installed at the angles of the boundary line.

Lime Point would give and which Alcatraz alone would not. Added to this I have the natural ambition to begin a work of importance." Humphreys readily agreed. Thus began Mendell's long career supervising the construction of San Francisco's postwar coastal fortifications, a career lasting down to the 1890s when he oversaw the building of the first Endicott batteries.[24]

In 1867 the reconstituted Board of Engineers for the Pacific Coast prepared a new set of plans for the fortifications. Although the Civil War had shown that the latest rifled guns could destroy the prewar masonry forts with ease, the Board retained this form of design in its plans. The completed work, consisting of a three-tiered fort and a two-tiered battery, would have a total of 109 guns. It would be located at near water level on the end of Lime Point. This location would require the removal of over one million cubic yards of rock from the cliff.

Well aware that there were many questions yet to be answered concerning the effect of large projectiles on masonry scarp walls, the Board recommended that only preliminary work be commenced for the present. This would include the construction of a wharf, quarters (220 men) and mess houses for civilian employees, workshops and storehouses, and roads. Mendell received instructions in August 1867 to begin this preliminary work.[25]

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24. Ibid., Letters Received, 1866-67, Mendell, Jan. 16, 1867, to Humphreys; Letters Sent, 1866-70, Humphreys, Apr. 25, 1867, to Mendell.

25. Ibid., Letters Sent, 1866-70, Humphreys, Apr. 8, 1867, to Stanton; Letters Received, 1866-67, Lt. Col. B.S. Alexander, San Francisco, May 29, 1867, to Humphreys; Mendell, Annual Report, Lime Point, for FY 1879.

The civilian employees began work in October. The engineer camp was located in a small valley on the west side of Horseshoe Bay (directly under the Golden Gate Bridge today). Mendell had chosen this site so as to leave the larger valley at the head of Horseshoe Bay available for troops, whenever a post was established. Although all these buildings were considered to be temporary in nature, most of them lasted for many years. Evidence still remains of some of them. A short distance out in the bay stood several tall rocks, called the Needles. The engineers built a rock breakwater from the shore to the largest of these. On the lee side they constructed a small wharf having a sixty-foot front of crib work covered with plank. From then until today a wharf has stood at this same site. An eighty-foot steamer was purchased to carry personnel, while supplies and materials were barged in from San Francisco. The site for the fortifications could at first be reached only by "a weary climb over the hills and in this way was accessible only to a sure footed person." An early undertaking was the hewing out of a road from the wharf, along the base of the cliff, to the fort area. When the senior engineer inspected the site in the spring of 1868, he wrote: "This road is now essentially finished, being passable throughout its entire length for carts." This of course, was the origin of today's dirt road out to the end of Lime Point.[26]

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26. Ibid., Letters Received, 1867-70, Mendell, Annual Report of Operations for FY 1868; Alexander, Apr. 8, 1868, to Humphreys; Letters Received, 1871-86, Mendell, Annual Report of Operations for FY 1879; FARC, San Bruno, RG 77, OCE, SF Dist., Journal of Operations, Lime Point, 1867-76. In addition to the steamer Katy, Mendell had the services of a sloop, General Wright, and a schooner, Alcatraz. The quartermaster steamer at that time was the General McPherson.

The major undertaking at Lime Point in 1868-69 was the large-scale blasting that was necessary to reduce the high cliff so as to create a platform of solid rock for the fortifications. The cliff at that point was 250 feet high and it had to be cut back to a depth of 230 feet. After experimenting with nitroglycerin, Mendell decided to use gunpowder. The blast from gunpowder, said Mendell, confined itself to the direction of least resistance, while the blast from nitroglycerin extended impartially in all directions. Thus, by packing large amounts of gunpowder in a chamber deep within the cliff, its blast would tend to throw the rock away from the cliff, which was the effect Mendell wanted. The blasting at Lime Point was the largest noncombat undertaking of its kind yet carried out by army engineers. Mendell was proud of his work, and his report was published by the Government Printing Office.

The first two blasts occurred in May 1868. The first consisted of 7,500 pounds of powder, the second, 2,650 pounds. The effect, said Mendell was to move 50,000 cubic yards of rock. The largest blast occurred in October. No less than twelve tons of powder were exploded. The third, and final, operation took place in April 1869. In contrast to the first two, which used good nitrate of soda powder, this last operation made use of saltpeter powder that the Ordnance Department had condemned. Three separate charges, 3,000, 6,000, and 7,500 pounds were used with success.[27]

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27. Ibid., Letters Received, 1867-70, Mendell, June 1, 1868, to Humphreys; Report of Operations, Lime Point, for October 1868, and for April 1869. Mendell did use nitroglycerin to complete the tunnels into the cliff.

Workmen continued to excavate broken rock from the site until the end of June 1869. At that time all work was suspended. This cessation was caused not by any failure of the blasting efforts, although Mendell estimated that it would take several years and $300,000 to complete the excavation, but by the growing realization that masonry scarps were obsolete. The project was not canceled at this time--there was still a hope of employing iron plates on the front of masonry walls--but it never would be resumed.

b) The First Batteries

Before Mendell's last effort at blasting, the Engineer Department directed the Pacific Board to take up the matter of barbette and mortar batteries at Lime Point. The sites selected for these works originally included Cavallo Point, the ridge on top of Lime Point Bluff, Gravelly Beach, Point Diablo, and Point Bonita. The first two had already been well surveyed, but additional knowledge was needed on the other three. In April 1870, young Lt. Thomas H. Handbury turned in a report of his survey of these three areas. Concerning Gravelly Beach, Handbury said that it contained about twenty-five acres available for defensive and building purposes. He noted that the valley was still nameless: "It is suggested that it be called 'Gravelly Beach Valley' on account of the large quantity of concrete gravel that is obtained from the beach in its front." In his opinion, "a battery which would afford emplacements for say six of our largest guns, could be constructed here at very little expense."

Concerning Point Diablo, he wrote: "This is a bold rocky point, situated about 1 1/4 miles to the westward of Lime Point. It puts out from the mainland about eight hundred (800) feet, and commands a splendid view of the entire entrance to San Francisco Harbor." However, the available area was too small

for a battery unless it were cut down to an elevation of 100 or 120 feet. In that case, "something similar to a monitor turret [could] be placed there."

His most interesting observations concerned Point Bonita. Not only did light keepers live there, a few ranchers occupied the area--presumably north of the reservation boundary: "Among the old native residents and shippers of that vicinity [Point Bonita] . . . is known by the name 'North Point.' It is a long narrow ridge putting far out from the main-land and terminating in an 'L'-shaped mass of rocks." Observing that the area offered many eligible sites for batteries, Handbury continued: "The North-west portion of the ground is a very good location for quarters, barracks and store houses. It is sheltered from the winds and entirely out of view of an enemy. In this vicinity, or in a little valley just north of it, ground may be found which will answer very well for drill purposes. There are two or three never-failing springs of excellent water. . . ." He found the water of Rodeo Lagoon to be brackish; and he noted that an enemy could land on Rodeo Beach in calm weather. However, "a short range gun or two, placed upon either of the adjacent slopes would be sufficient." Continuing his description, he wrote:

> "The means of communication with Point Boneta are very limited. There is a road leading from there to Rodea Valley, but there it ends, or rather degenerates into a trail which leads to Sausilito. The few persons who live in this valley and cultivate the ground communicate . . . by means of this trail. There is no road, nor semblance of a road, leading over the hills . . . excepting a very imperfect and poorly located one leading to Tennessee Valley.

> In early fall, when the surplus produce is ready to be disposed of, it is hauled to a landing or platform made on the edge of the bluff to the south-east of the Light-keeper's dwelling [Bonita Cove]. From here it is lowered into a sloop by means of a rude derrick, and conveyed to the city.
>
> At this landing, or perhaps further along the bluff to the Eastward, suitable arrangements could be made for disembarking large guns. . . . They could also be landed on the beach [Rodeo Cove] at the lower end of the Lagoon. . . .[28]

Work on the batteries commenced in September 1870. Mendell's first task was to construct a road to Gravelly Beach. His immediate plan was to extend the road around the base of Lime Point; but the precipitous slopes and the refractory character of the rock caused him to change the route to cross over the ridge from Horseshoe Bay to Gravelly Beach. (This road may still be traveled.) At Gravelly Beach the work commenced with the building of a large brick and concrete culvert that would carry the valley runoff under the battery and on to the sea. This handsome piece of work remains.

The battery itself consisted of twelve emplacements arranged in pairs and designed for 15-inch Rodman smoothbores. The pairs were separated from one another by large earthen traverses, under each of which was a brick and concrete

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28. Ibid., Letters Sent, 1866-70, Humphreys, Mar. 25, 1869, to Alexander; Letters Received (A File), 1867-70, Board of Engineers for Fortifications, New York, Apr. 3, 1869, Report on the Defenses of Lime Point; Alexander, transmitting Handbury's report, Apr. 6, 1870, to Humphreys.

magazine. The parapets were formed of thick earthen embankments. The breast height walls were temporary affairs made of timber. The wooden gun platforms were completed by the spring of 1873. Only one 15-inch Rodman was mounted here at that time. It would be the only gun mounted at Lime Point for the next twenty years. This work was informally named Gravelly Beach Battery.

Construction of Battery Kirby at this same site in the 1890s resulted in the destruction of most of Gravelly Beach Battery. However there remain today the drainage culvert and at either end of Kirby one of the original traverses and its magazine. The surviving elements of Gravelly Beach Battery and Battery Kirby are today regarded as one structure, FB-700.[29]

The engineers originally considered the work on top of Lime Point Ridge to be one battery. But as Mendell began working on it he came to regard it as two batteries: Cliff, at the end of the ridge and which had five emplacements for 15-inch Rodmans and one mortar bed; and Ridge, located on the ridge itself to the north of Cliff and having four Rodman emplacements and five mortar platforms. Each work had two earthen traverses with brick and concrete magazines underneath. The gun platforms at Ridge Battery were stone, but no platforms were constructed at Cliff Battery. Work began on the ridge in March 1871 and the works were completed by the fall of 1872. No guns were mounted at this time; not until 1893 were four 15-inch Rodmans transferred from Fort Point and mounted in Ridge Battery, where they remained throughout the Spanish-American War. Cliff Battery was destroyed

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29. FARC, San Bruno, RG77, OCE, SF Dist., Journal of Operations, Lime Point, 1867-1876. This journal gives a month-by-month, detailed account of the construction of this and the other batteries built during this period.

during the construction of Battery Spencer in the 1890s. However, Ridge Battery, less the mortar emplacements, remains standing in good condition except that the earthen traverses have been partly cut away in recent times. It is identified as FB-704.

Mendell's third battery at Lime Point was constructed on Cavallo Point. Like Gravelly Beach, this large battery stood near water level and consequently had large earthen parapets for protection. The main work consisted of fifteen emplacements for 15-inch Rodmans. An outwork, located on the tip of the point and somtimes referred to as a separate battery, contained two 15-inch gun emplacements. Due to differences of opinion between the Pacific Board of Engineers and the New York Board, Cavallo Battery was the last of the three to be undertaken. Not until June 1872 did laborers begin constructing a road from the wharf to the battery site. In August work on the battery itself began. With the sodding of the battery in February 1876, it was considered completed. Like Ridge Battery no armament was placed in this work during the 1870s. Cavallo Battery would see several different uses in future years, including guarding a mining casemate within its parapets. During the Spanish-American War three 8-inch converted rifles (Rodman) on iron carriages were mounted on concrete platforms in emplacements nos. 10, 11, and 13. The outwork was later destroyed; but the main battery exists and it is the best surviving example of the post-Civil War works in San Francisco. It is identified as structure no. FB-575.

The two proposed works at Point Diablo and Point Bonita were not constructed. However, a start was made in 1874 on constructing a road to Point Bonita. By June 1875 over one mile of this road had been built westward from its junction with the Gravelly Beach road.

All work on fortifications at Lime Point and elsewhere came to a halt in 1876, when the Congress refused to pass any appropriations for further construction. The one 15-inch Rodman mounted on a wooden platform at Gravelly Beach was the sole gun guarding the north shore of the Golden Gate until the 1890s.[30]

During the late 1870s and 1880s, two civilian "fort keepers" maintained a watch over the empty batteries and the engineer buildings. Mendell continued to make inspection visits. The biggest maintenance problem was controlling gophers: "A little rodent called the Gopher is the worst enemy we have. He burrows in the parapets and destroys their shape and compactness." Poisoning them made no difference because "recruits from outlying country come in." Another problem was the teredo, a ship worm that ate the pilings of the wharf.[31]

A reporter from the Saucelito Herald visited Lime Point in 1872 and described it from a civilian's point of view. He first went out to the lighthouse at Point Bonita, then worked his way back eastward toward Lime Point:

> After a hard ride over the hills we first came to the "gravelly beach batteries," which, of the Lime Point fortifications, are the furthest advanced toward completion; in fact, little remains to be done here, except place the guns in position. There

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30. FARC, San Bruno, RG 77, OCE, SF Dist., Journal of Operations, Lime Point, 1867-76; NA, RG77, OCE, Mendell, Annual Reports of Operations, Lime Point, FY 1870-76.

31. NA, RG77, OCE, Letters Received, 1871-86, Mendell, annual Report, Lime Point, FY 1878.

was no one here to give us any information, but judging from the magazines, seven in number a like number of guns will be mounted. This battery is situated on the beach, which, at this point, makes into a little cove. . . . From this point there is a good road, winding up by the fortifications on the hill, and down again, to the headquarters on the beach below. Here we again stopped, took a hasty glance at the work-shops, the quarters of the officers and men.[32]

2. Fog Signal Station, 1883

In 1882, Congress appropriated $20,000 for the establishment of a steam-operated fog signal at Lime Point. The Treasury Department approached the Army concerning the use of Mendell's spring and reservoir at the engineer camp as a source of water for operating the signal. Mendell had no objection to this use since he had no construction operations underway at the time. He urged, however, that the Lighthouse Board eventually develop its own supply of water. The site selected for the signal was a large rock (or tiny island) at the foot of Lime Point, a rock that the engineers had unofficially called Sugar Loaf. This rock which was fifty-four feet high, would be blasted to make a flat shelf for the buildings.

The fog signal station was constructed in 1883. It had twin twelve-inch steam whistles. A two-family residence was located behind the single-story station, both buildings being brick. In 1900, an acetylene light was placed on the wall of the station. The Army constructed a search light shelter on the rock in 1910, its light playing a role in the seacoast defenses. When the U.S.

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32. Veronda, Marin County, p. 395.

Coast Guard took over the operation of the station, in 1939, it added a third story to the residence. The station was electrified in 1932; then, in 1961, the station was automated and has been unmanned since that time. Two unusual events occurred here in recent times: In 1959 the station was held up by bandits. A year later, a freighter, India Bear, crashed into the lighthouse.

A newspaper account of the station in 1890 noted that all the structures at the station were whitewashed; even the rocks had received "a liberal coating." The reporter continued his description: "Here the sight-seer can slack [sic] his thirst at a flume of cool water and view the machinery by which the whistles are blown at regular intervals during the times of fog. Steam is kept up in the boilers all the time and an engineer is in constant attendance and readiness for the possible emergency of a sudden and stealthy creeping in of the fog, which may suddenly fill the whole bay region. . . . The engine room of the station extends to the very edge of the rocky point and the view from its windows commands an uninterrupted sweep of the bay and entrance to the harbor." Both the fog signal and the light are still in operation, and the original station still stands. Also yet to be seen are the concrete foundation for the searchlight shelter and, at the base of Lime Point, a half-buried artillery fire control station. The searchlight shelter and the residences have been demolished. The area is administered by the U.S. Coast Guard, while the Golden Gate Bridge Authority maintains a storage area on the approach to the fog station. Both are fenced off and they are not open to visitors. (However, Sunday fishermen have found ways to gain access to the area.)[33]

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33. NA, RG77, OCE, Letters Received, 1871-86, W. Ludlow, Office of the Lighthouse Board, Treasury Dept., Dec. 19, 1882; Mendell, Feb. 27, 1883, to Chief of Engrs.; San Francisco Morning Call,

3. Road from Sausalito

In 1886 the citizens of Sausalito proposed to Colonel Mendell the construction of a road at their own expense from the town, through the east side of the military reservation, to the fog signal station. Their main argument was that such a road would be a great convenience to the Lighthouse Service. Mendell was not convinced: "It will be understood that the promoters have in mind other points than the convenience of the Light House Service. It is safe to assume the object to be a pleasure drive to attract visitors. . . ." Another engineer observed: "The reservation is quite a resort on Sundays and holidays for parties visiting Sausalito for recreation, and no objection has been made to its use by well disposed people, but no hunting or shooting is allowed."

Mendell convinced the Chief of Engineers that such a road would "be a never ending source of conflict, annoyance, and interference with public operations." If a road were to be built, it should be constructed by the government. The citizens were undaunted. Several times over the next few years they persuaded their congressman to introduce a bill in the House that called for the army's ceding the northeast corner of the reservation to Sausalito. The land involved amounted to forty acres and included a strip from the north boundary, along the bay, south to Yellow Bluff. (The engineers had already built a road from Battery Cavallo at Yellow Bluff to their wharf on the west side of Horseshoe Bay). The Engineer Department fought off all these attempts, until 1894. That year the War Department announced that it had no objections to a citizens' road. Congress approved a bill for the road on July 2, 1894.

June 22, 1890; Ralph C. Shanks, Jr. and Janetta Thompson Shanks, Lighthouses of San Francisco Bay (San Anselmo: Costano Books, 1976), pp. 69-75.

The citizens of Suasalito failed to raise the necessary funds to construct the road. As the years passed and Fort Baker became a reality, the Army gradually changed its mind about the need for a means of communications with Sausalito. In 1901 the commanding general of the Department of California, Maj. Gen. S. B. M. Young, said that a good road between the town and the garrison was a necessity, owing to those times when the tide and the wind made landing at the Fort Baker wharf impracticable. The Secretary of War authorized the expenditure of a few hundred dollars for the project. Alcatraz Island made available 200 military prisoners for the work. The new road had a total length of 5,800 feet and a width of eighteen feet. A post and rail fence protected part of it from the steep cliffs of the bay.[34]

C. The Endicott Batteries

In 1890 the Board of Engineers for Fortifications in New York prepared a "General Project for Defense" for San Francisco Harbor. This massive modernization program, which grew out of the then recent Endicott Board's recommendations for the seacoast defense of the United States, called for a number of new works on the Lime Point Military Reservation. At Point Bonita there were to be three batteries containing three 12-inch guns on lifts, four 10-inch guns on disappearing carriages, and sixteen 12-inch rifled mortars. Point Diablo was to be armed with two massive 16-inch guns mounted in a turret. Another turret, also containing two 16-inch guns, was to be constructed at the base of Lime Point, where Mendell had done his blasting in the 1860s. On top of Lime Point Ridge the old batteries would be replaced by a new one

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34. NA, RG77, OCE, Land Papers, Mendell, May 21, 1866, and Apr. 14, 1890, to Chief of Engrs.; Lt. Col. W.H.H. Benyaurd, Mar. 8, 1892, and Sept. 3, 1895, to Chief of Engrs.; RG 92, Office of the Quartermaster General (hereinafter cited as OQMG) General Correspondence, 1890-1914, Lt. J. McKinley, Dept. of Calif., Aug. 19, 1901, to AG.

containing five 12-inch guns on nondisappearing carriages. A battery containing four 12-inch guns on lifts would be constructed at Gravelly Beach. Point Cavallo was to be armed with five 10-inch guns on disappearing carriages. Between it and Sausalito would be two batteries containing two 8-inch guns on disappearing carriages and three 8-inch guns on nondisappearing carriages respectively.

These plans for thirty guns and sixteen mortars would not be fulfilled, but during the next fifteen years a considerable number of batteries would be constructed on this reservation:

Eastern Lime Point (Fort Baker)

Battery Spencer. (FB-705) Three 12-inch rifles, model 1888, on nondisappearing carriages. Constructed on the site of Cliff Battery on Lime Point Ridge. The battery was turned over to the Artillery on Sepember 24, 1897. Its cost of construction to that date amounted to $110,353. A number of supplementary structures, including a powerhouse, guardhouse, officer's room, and latrine were also constructed at the site.

Battery Kirby. (FB-700) Two 12-inch rifles, model 1895, on disappearing carriages. Constructed on the site of Gravelly Beach Battery. The battery was turned over to the Artillery on August 5, 1900. Its cost to that date was $70,334.

Battery Duncan. (FB-573) Two 8-inch rifles, model 1888, on nondisappearing carriages. Constructed on top of a hill at Yellow Bluff, north of old Cavello Battery. It was turned over to the Artillery on May 5, 1900. The cost of construction to that date was $57,535.

Battery Orlando Wagner. (FB-703) Two 5-inch guns, model 1897, mounted on balanced-pillar mounts. Constructed on the face

of a slope between Lime Point and Gravelly Beach. The battery was turned over to the Artillery on August 21, 1901. Its cost to that date amounted to $25,000.

Battery George Yates. (FB-571) Six 3-inch guns, model 1902, on pedestal mounts. Constructed on Cavallo Point, south of old Cavallo Battery. It was turned over to the Artillery on June 6, 1905. The construction costs to that date were $41,407.

Western Lime Point (Fort Barry)

Battery Mendell. (FA-1364) Two 12-inch guns, model 1895, mounted on disappearing carriages. Constructed about halfway between Point Bonita and Bird Island, near the edge of the cliff facing seaward. The battery was turned over to the Artillery on June 8, 1905. Its cost to that date amounted to $128,016.

Battery Alexander. (FA-1356) Eight 12-inch mortars, model 1890, mounted on carriages, model 1896. It was located to the northeast and rear of Battery Mendell. The battery was turned over to the Artillery on June 8, 1905. Its contruction costs to that date came to $100,382.

Battery Edwin Guthrie. (FA-1354) Four 6-inch guns, model 1900, mounted on nondisappearing carriages. The battery was constructed to the northwest of an parallel to Battery Alexander. It too was turned over to the Artillery on June 8, 1905. Its construction costs to that date amounted to $69,194. Later the battery was divided in two. Two emplacements retained the name Guthrie; the other two were designated Battery Hamilton A. Smith.

Battery Patrick O'Rorke. (FA-1351) Four 3-inch guns, model 1903, on pedestal mounts. It was located to the northwest of and parallel to Batteries Alexander and Guthrie. The battery was

turned over to the Artillery on June 8, 1905, before its guns were received. Its construction costs to that date were $24,463.

Battery Samuel Rathbone. (FA-911) Four 6-inch guns, model 1900, mounted on nondisappearing carriages. This battery was located toward the eastern end of Bonita Cove, its guns facing generally to the south in the direction of Point Lobos. As with the other Endicott batteries in this area, it was turned over to the Artillery on June 8, 1905. Its construction costs amounted to $92,511. Later the battery was divided in two, two of the emplacements retaining the name Rathbone and the other two being called James F. McIndoe.[35]

Colonel Mendell, now the senior engineer at San Francisco, oversaw all construction of the new works on both sides of the Golden Gate. Lt. Col. William H. H. Benyaurd had direct charge of the construction on the Lime Point Reservation. He renovated the old engineer buildings at Horseshoe Bay for the civilian labor force employed at that area. A similar group of temporary structures was erected at Point Bonita for the employees there. The wharf in Horseshoe Bay was now in an advanced state of decay, but it was repaired and again pressed into service. Work on the new construction began in February 1893, with the demolition of old Cliff Battery on Lime Point Ridge, preparatory to the construction of Battery Spencer.[36]

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35. FARC, San Bruno, RG77, OCE, SF Dist., Letterbook, Jan. 1-May 18, 1907, Maj. C.H. McKinstry, "Report of Completed Batteries, Etc., Defenses of San Francisco, Cal.," Dec. 31, 1906; NA, Cartographic Archives Div., RG77, Fortifications File, map, Board of Engineers, Sheet B, San Francisco Harbor, "General Project for Defense."

36. NA, RG77, OCE, Gen. Correspondence, 1893-94, Mendell, Apr. 13, 1893, to Chief of Engrs.; Benyuard, Annual Report, Lime Point, FY 1893.

The new fortifications north of the Golden Gate demanded protection and maintenance. The time was coming close when a new post would have to be established there. In 1896, the Adjutant General of the Army wrote: "As high power guns are being erected at Lime Point . . . and as additional batteries of modern 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." The post would soon be established and it would be named Fort Baker.[37]

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37. NA, RG92, OQMG, Gen. Correspondence, 1890-1914, Asst. AG Samuel Breck, Dec. 30, 1896, to commanding general, Dept. of California.

II. Fort Baker

A. First Structures 1897-1910

The Lime Point Military Reservation was formally named Fort Baker in General Orders No. 25, Headquarters of the Army, May 4, 1897. The name honored Col. Edward Dickinson Baker who as the commanding officer of the 71st Pennsylvania Infantry Regiment had been killed in the Civil War battle of Balls Bluff, Virginia. A native of England, Baker had settled first in Illinois from where he was elected to the U.S. House of Representatives. Later, he moved to California, then to Oregon. In 1860 he was elected to the U.S. Senate. In May 1861 he was offered the rank of brigadier general, which he declined. At the time of his death he had not accepted a recent appointment as major general of volunteers.[1]

Two months after the post was designated, Brig. Gen. William ("Pecos Bill") Shafter, then the department commander, ordered Battery I, Third Artillery to move from Angel Island to the new fort where they lived in tents during the summer. It was first intended that this duty was to be temporary in nature but, by September, Shafter was urging the Adjudant General to make the transfer permanent: "It is absolutely necessary for the proper care of these guns that at least 1 battery remain constantly on this

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1. NA, RG77, OCE, Gen. Correspondence, 1893-1923, Maj. C. Davis, Sept. 2, 1897, to Chief of Engrs.; RG92, OQMG, Gen. Correspondence, 1890-1914, GO No. 25, Headquarters of the Army, AGO, May 4, 1897; Francis B. Heitman, Historical Register and Dictionary of the United States Army, 2 vols. (Washington: Government Printing Office, 1903), 1:183. At first there was some doubt as to how much of the Lime Point Reservation was included in Fort Baker. The Chief of Engineers concluded that the Secretary of War intended to include the entire reservation. However, the western portion was distinguished by the unofficial name of Point Bonita, even on its early post returns.

point. It is necessary that daily attention be given the guns [in Battery Spencer] and frequent attention be given to the 4 15" Rodmans [in Ridge Battery]." Thus did Fort Baker become a permanently occupied post.

That fall two two-story wooden barracks that were excess to the Presidio's needs were barged to Horseshoe Bay. At the time there was a large swamp at the head of the bay (where a temporary hospital stood during World War II). The two barracks, augumented by a guardhouse and a corral and stable, stood in a north-south row located to the north of the swamp. This site would later be occupied by the southern portion of the parade ground. The specifications for moving the barracks referred to the general area as "Old Ranch Valley." Nothing is known of an earlier ranch in this location. However, a map prepared in 1897 showed an unlabeled structure on the west side of the valley that was partly surrounded by fencing. Whatever this building's function, it failed to appear on subsequent maps.[2]

Company L, 3d Artillery, replaced Company I in February 1898. For reasons not made clear the new troops moved out of the frame barracks and set up a tent camp nearby. They were still in this camp when a grass fire burned part of their tentage that summer. Even before then the department quartermaster had developed plans for permanent buildings at the post. While these plans were being processed "through the proper channels," the Spanish-American War came and went. The war had very little effect on Fort Baker, the only noticeable change was the mounting

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2. NA, RG92, OQMG, Gen. Correspondence, 1890-1914, Shafter, Sept. 15, 1897, to AG; and map prepared between April and December, 1897.

of three 8-inch converted rifles in old Cavallo Battery as well as the continuing construction of the new fortifications.[3]

Invitations to bid on eleven proposed permanent buildings were issued late in 1900. The plans called for the principal structures being made of brick. But all the bids came in much too high. In the end, the Quartermaster Department readvertised for frame buildings. The contracts were awarded in June 1901, as follows:

> E. N. Jones, all construction. J. Doherty, all plumbing except a double set of officers' quarters.
> Samuel Ickelheimer, plumbing for that set of quarters.
> Robert Dalziel, heating in post hospital. Joshua Hendy Co., all electrical wiring.

The toal amount of the awards came to $118,435. The articles of agreement signed with Jones listed the eleven structures, saying that the roof slate would be "Brilliant Black Roofing Slate," manufactured by the Eureka Slate Company:

	Structures	Standard Quartermaster Plan
1.	Double set of officers' quarters	No. 120A
2.	" " " " "	No. 90A
3.	Barracks for one company	No. 121E
4.	Double set of noncommissioned officers' quarters	No. 83E
5.	Post hospital	---

3. Ibid., Chief QM J.M. Moore, Dept. of California., Jan. 19, 1898, to QMG; Microcopy 617, Roll 65, Post Returns, Fort Baker, July 1897-Dec. 1898.

6.	Hospital steward's quarters	No. 87
7.	Guardhouse	No. 30 (I or J)
8.	Bakehouse	No. 49B
9.	Quartermaster and Subsistence storehouse	No. 91E
10.	Quartermaster stable and wagon room	No. 37B
11.	Fuel shed	No. 67B[4]

In 1901 a new Corps of Artillery, in which coast artillery and field artillery were partially separated, was organized. The former regimental system was abolished and the 120 coast artillery companies were identified by number. The 68th Company of Coast Artillery became the garrison of Fort Baker in November 1901. About the same time, the War Department announced that two additional companies would be assigned to the post. The Secretary of War authorized the construction of four new buildings for housing the increased garrison: one barracks for 109 enlisted men, Plan 121E; one double set of officer's quarters, Plan 90A; one set of field officer's quarters, Plan 145A; and an administration building, Plan 122A. The construction contract on this occasion was awarded to James Campbell, while Ickelheimer again won the plumbing contract and the Handy Company, the electrical wiring.[5]

The Quartermaster Department at this time was using the old engineer wharf for unloading material. The teredo-ridden piling

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4. NA, RG92, OQMG, Gen. Correspondence, 1890-1914, QMG, telegram, Dec. 18, 1900, to Chief QM, Dept. of Calif.; Articles of Agreement between Col. J.M. Marshall and E.N. Jones, Fort Baker, June 11, 1901.

5. Ibid., Chief QM, Dept. of Calif., Dec. 5, 1901, and July 2, 1902, to QMG, referring to GO No. 126, War Dept., Sept. 21, 1901.

was in a terrible condition, and a request was made for a new wharf on iron pilings at an estimated cost of $22,150. The Mercer-Fraser Company won this contract early in 1902. Quartermaster funds were used in the construction of this wharf, rather than engineer money. The new structure was completed in February 1903. It had iron standard piles, a plank deck, and the necessary wooden fender piles, spring piles, and cluster piles. A year later the Quartermaster General authorized the addition of a small waiting room, complete with a most desirable fireplace.[6]

The demand for additional buildings grew along with the mounting of more guns and an increase in the garrison. In September 1902, the post ordnance officer requested a storehouse for his ordnance supplies. He was then using the magazines in old Cavallo Battery which were too small and damp for much of his material. The old engineer buildings had become too dilapidated for use. They were filled with bedbugs and fleas that resited all attempts at eradication. To stress his needs, he listed the ordnance equipment on hand. Because such lists are rare in surviving military records, it is reproduced as follows:

3 sets drawing instruments	14 blocks, hoisting & pulley
2 azimuth instruments	5 hydraulic blocks, lifting
1 transit	2 jackscrews
4 small arms targets	2 garrison gins
3 artillery targets	1 capstan
drawing materials	46 chocks
leather articles, miscellaneous	20 handspikes

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6. Ibid., Chief QM D.D. Wheeler, Dept. of Calif., Dec. 21, 1901, to QMG; and blueprints and specifications for a new wharf, February 1902; Chief QM W. Patten, Dept. of Calif., Dec. 29, 1903, to QMG.

Fuzes and primers for artillery guns	2 mauls
400 lbs. rope, assorted	300 blocks, manuevering
70 stands of small arms	46 skids
3 sets of implements & equipment for service of 8-inch converted rifles	20 way-planks (?)
	12 shifting planks

Construction of the storehouse was promptly approved. It was to be a simple, frame, gabled building measuring 110 by 20 feet. Double doors were planned for both ends and on one side.[7]

The first post exchange at Fort Baker was confined to a small damp room in the basement of a barracks. In 1903, the post commander urged the construction of a large brick building that would house both a post exchange and a gymnasium. He thought that the command's morale and general welfare would be uplifted if the exchange could sell beer to the enlisted men. The structure was approved, specifications being written that it would be built according to quartermaster standard plan no. 155.[8]

Other stuctures needed at the post included a larger mule stable, an additional quartermaster storehouse, a fire apparatus house (two hose carts and fire ladders), new galvanized iron covers for two water tanks, a workshop for the post carpenter and post blacksmith, a small guardhouse at the Sausalito entrance to the post, a storehouse for the artillery engineer's equipment (instruments, tools, cleaning equipment, oil, etc.), and an addition

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7. Ibid., Capt. H.E. Cloke, Fort Baker, Sept. 8, 1902, to Post Adjutant; QMG, Nov. 11, 1902, to Chief QM, Dept. of Calif.

8. Ibid., Lt. Col. A.H. Merrill, CO, Fort Baker, Jan. 19, 1903, to AG.

to the bakery including a new oven. All these structures were built at Fort Baker between 1903 and 1906.[9]

A third barracks building was authorized at Fort Baker in the spring of 1905. In contrast to the earlier two, this one would be made of brick. Many months passed before the contractor, Wilson-Lyon Construction Company, completed the job. First, the company got in financial difficulty and had to suspend work. Then came the great earthquake of 1906, and again construction was held up. Finally, in December 1906, a great wind storm blew off the porch roof, tore brick from the walls, carried away porch columns, blew off a square of slate from the roof, and damaged a ventilator. The Army did not hold the contractor responsible for the damage, and the barracks was eventually completed and occupied.[10]

The barracks' descriptive sheet recorded the completion date as being May 9, 1907. Its capacity was 109 enlisted men, and it cost $42,238. Other data shown on the sheet included: Walls, brick. Foundation, stone. Roof, slate. Floors, maple. Heated by hot water. Lighted by mineral oil. Ten water closets. Six urinals. Three wash sinks. Seventeen wash basins. Four laundry tubs. Six shower baths. One tub. And 109 lockers.

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9. Ibid., Post QM, Fort Baker, Mar. 19 and July 1, 1904, and Apr. 5, 1905, to Chief QM, Dept. of Calif.; Lt. C. Carrigan, Artillery Engr., Mar. 18, 1905, to Adjutant, Fort Baker; Articles of Agreement, Addition to Bakehouse, Fort Baker, July 7, 1905. A person acquainted with the difficulties experienced by post commanders in getting approval for new structures in the 19th century, might be surprised at the almost 100 percent approval in the 20th century.

10. Ibid., Chief QM W. Patten, Dept. of Calif., May 10, 1905, to QMG; Capt. B.F. Cheatham, Dec. 29, 1906, to QMG; QM, Ft. Baker, Dec. 21, 1908, to QMG.

By 1906 the post of Fort Baker had taken on its permanent character. There follows a list of the structures standing at that time, the numbers then assigned to them, and the numbers assigned to them today:

1906 No.		Today's No.
1	Barracks, frame	602
2	" "	601
3	Post Headquarters	603
4	Commanding officer's quarters	604
5 & 6	Duplex captains' quarters	605
7 & 8	" lieutenants' quarters	606
9 & 10	" captains' quarters	607
29 & 30	" lieutenants' quarters	629
31 & 32	" captains' quarters	631
11	Hospital	533
12	Hospital Steward's quarters	522
13 & 14	Duplex noncommissioned officers quarters	523
25 & 26	Duplex noncommissioned officers quarters	527
27 & 28	Duplex noncomissioned officers quarters	529
15	Guardhouse	615
16	Bakery	557
17	Coal Shed	Gone
18	Quartermaster & Subsistence storehouse	559
19	Quartermaster stable	Gone
20	Pumphouse	671
21	Ordnance storehouse	Gone
22	Barracks, temporary	Gone
23	Post exchange and gymnasium	623

24	Wagon shed	561
33	Wharf waiting room	Gone
34	?	---
35	?	---
36	Barracks, brick	636
---	Two water tanks	420 & 421

By 1910, several more structures had been added to the historic scene:

37	Commissary storehouse, brick	637
38	Electrical substation	502
39 & 40	Duplex noncommissioned officers' quarters	531
41 & 42	Duplex noncommissioned officers' quarters	530
43	Fire apparatus building	Gone
44	Blacksmith shop	644
45	Carpenter and paint shop	645
46	Engineer & Signal Corps storehouse	Gone
47	Pumphouse at well	?
48	Flagstaff	648[11]

B. Landscaping

When viewed across the bay from San Francisco, Fort Baker today is a charming scene of white buildings with red roofs sunggled together at the bottom of the Marin Headlands. Groves of trees grace the picture. This picturesque tranquility was not

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11. NA, Cartographic Archives Div., RG92, OQMG, map, Fort Baker, 1906; map, Fort Baker ca. 1908; NA, RG92, OQMG, Gen. Correspondece, 1890-1914, QMG, Sept. 16, 1909, to Sect. of War; Capt. F. Thornton, QM, Fort Baker, Mar. 5, 1910, to QMG; Capt. R.C. Marshall, OQMG, May 25, 1912, to Chief QM, Western Div.

always so. The first soldiers at Fort Baker were plagued with either billowing dust or clinging mud; and not a single tree graced the valley or the skyline.

One of the first problems to be attacked was the swamp that lay between Horsehoe Bay and the parade ground. In 1902 the post surgeon recommended that the swamp be filled in; he described it as little more than a cesspool where millions of germs were produced and poisonous gases generated. Maj. Gen. Robert Patterson Hughes over in San Francisco was not impressed. He demanded more proof that the marsh was detrimental to the health of the garrison. Not only was it 400 feet distant from the quarters, a steady wind from the west carried any "malarial vapors" out into the bay and away from the post: "I have acquired a great respect for malarial agents, but I would not expect to meet any of them in the inhabited part of Fort Baker."

The general's chief quartermaster did not agree. Not only was the swamp unsightly, it would provide over seven acres of useful ground if it were filled in. The Surgeon General reported to the Secreatry of War that the swamp had not affected the health of the command and that there were no malarial fevers in San Francisco anyway. Nevertheless, he too thought it should be filled in. Just after General Hughes' retirement, in 1903, the Quartermaster General approved a contract in the amount of $15,800 for filling the swamp. The work was done by a hydraulic machine and it involved 80,000 cubic yards of fill. The job was completed in four months.[12]

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12. NA, RG92, OQMG, gen. correspondence, 1890-1914, AA Surg. C. Baker, Aug. 26, 1902, to Adjutant, Fort Baker; Maj. Gen. R.P. Hughes, Sept. 24, 1902, to AG; Surg. Gen. G.M. Sternberg, Feb. 2, 1903, to Sect. of War; QMG, June 20, 1903, to Chief QM, Dept. of Calif.

In 1902 the Quartermaster Department began planning the post roads, sidewalks, gutters, and draining and grading the parade ground. The estimates were prepared in September. The main items included:

25,000 cubic yards, grading parade ground	$	8,750
26,300 " " concrete seawall	7,890	
22,000 square yards macadam (rock)	11,000	
10,200 lin. feet, gutters	5,100	
6,000 feet, drain tile, various sizes	11,200	
21,000 square feet, concrete sidewalk	3,360	

The quartermaster wrote that $7,000 could be saved by having military prisoners supply the macadam from the army quarries on Angel Island. The grading of the parade ground also involved filling in a ravine that ran through the center of the post, and cutting down the bluff in order to widen the road out to the wharf. A contract for this project was let in April 1903, the work being completed soon thereafter.[13]

The post commander complained bitterly about Fort Baker's mud and dust. The grading of the grounds had left them entirely bare. When it rained, he said, the post was a sea of mud, an adhesive mud that was carried into all the buildings in great quantities. And during the dry months, constant high winds stirred up a thick cloud of dust that hovered about like a dense fog. One small step forward in the summer of 1903 was the acquisition of 1,200 gallons of crude oil for sprinkling the road from the post to Sausalito. A few months later the Quartermaster

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13. Ibid., Lt. Col. A.H. Merrill, CO, Fort Baker, Feb. 27, 1903, to AG, Dept. of Calif.; QMG, Apr. 9, 1903, to Chief QM, Dept. of Calif.

General approved the purchase 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 new quarters constructed that year.

The post quartermaster prepared a tree-planting plan in the fall of 1903. It called for 150 elms and 150 pepper trees to be planted around the quarters and around the perimeter of the parade ground. The semicircle of hills behind the post was to be planted with a windbreak consisting of 10,000 Monterey cypress, 10,000 Monterey pines, and 10,000 common eucalyptus (blue gum). After a long delay, the Quartermaster General disapproved the purchase of the trees, saying that suitable trees could be supplied by the Presidio, where plans were being made for a thinning-out process. No further correspondence concerning trees followed; presumably today's groves, from Gravelly Beach to Yellow Bluff, came from the Presidio.[14]

Besides being sprinkled with oil, the Sausalito road recieved other attentions in these early years. Maj. Gen. Arthur MacArthur approved an expenditure of $800 for the construction of an entrance gate. The metal gate was to have cast iron ornamental finials similar to those on the Central Avenue (today, Presidio Avenue) entrance gate to the Presidio. The gate pillars were to be made of brick, with obsolete cannons to be set in their centers. The commander of Benicia Arsenal said he could supply the guns as well as two 10-inch cannon balls. When the road had first been

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14. Ibid., Merrill, Jan. 29, 1903, to AG; Lt. E.G. Abbott, QM, Fort Baker, June 4 and Oct. 8, 1903, and July 1, 1904, to Chief QM, Dept. of Calif., and Special Estimates of QM Supplies; Lt. F.H. Taylor, Sept. 30, 1904, Special Estimate for QM Supplies.

built, a post and rail fence had been constructed along a portion of it. After a team of mules became scared and fell over the cliff in 1905, it was decided to extend the fence from Cavallo Battery to the entrance gate. Fir was selected for both the railings and the posts. In 1908, the Quartermaster General learned that this road was lighted at nights by eighteen kerosene lamps. He was horrified. Calling it a country road, he informed the Chief of Ordnance that his department could not undertake this class of lighting. Presumably, the lights went out.[15]

C. Water

In the 1860s, Colonel Mendell had succeeded in supplying his engineer camp and the fortification work with sufficient fresh water from small springs on Lime Point Ridge. (Sea water was used in at least some of the concrete work.) Later, the fog signal station out on the point used Mendell's system to supply its boilers by constructing a flume from the engineers' reservoir. With the establishment of the post, the Army proceeded to bring in drinking water by boat, just as had been done at Alcatraz Island for years. The water was pumped from the wharf to two tanks, each having a capacity of 30,000 gallons, on the hill above. From there it was taken down to the pumphouse (Structure No. 671) and distributed through the post.

When the garrison increased in size in 1902, the quartermaster undertook the development of a new water supply on the reservation. A civilian water expert investigated the high ground behind the post and located several small springs that

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15. Ibid., Abbott, Nov. 18, 1903, Estimate for QM Supplies; Taylor, Jan. 16, 1905, Special Requisition for QM Supplies; QMG, J.B. Aleshire, Mar. 25, 1908, to Chief of Ord.

seemed promising. Accepting this expert's recommendations, the quartermaster sank a shaft (five by seven feet and fifty-eight feet deep) into the ground at the base of the hill behind the post--a few hundred feet beyond the hospital. At the bottom of this shaft a tunnel, 183 feet long, was driven into the hill. Although water was found, salt water seeped into the bottom of the shaft because of its depth, and made the well unsuitable for drinking purposes.[16]

The Secretary of War authorized the expenditure of $5,000 in 1904 to drive a new tunnel higher up on th hill where there was a spring. As first constructed, the vertical shaft, or "well," was about fifty-five feet deep. The six-by-six shaft was lined with wood. At the bottom, a seventy-foot tunnel was driven into the hill; it too was lined with wood. This new system provided 12,000 gallons a day, but the quality of the "blackish" water was little better than that of the first well. It was used only for irrigation and for flushing purposes at Batteries Duncan, Yates, and Spencer. Battery Kirby and the post garden in Gravelly Beach valley obtained their water from a spring in the vicinity. A statement of the average daily consumption of water at the post was prepared in 1908. It showed the following amounts and sources:

Delivered by government steamer	40,000 gallons
Pumped from well	12,000
From Springs	4,700
	56,000

Not willing to give up, the post quartermaster got permission in 1908 to deepen the second shaft by twenty feet. At

16. Ibid., J.W. Lowe, Aug. 14, 1902, to Chief QM, Dept. of Calif.; QMG C.F. Humphrey, Mar. 12, 1904, to Sect. of War.

the sixty-five-foot level he drove a second tunnel about twenty-five feet long, and at the seventy-five-foot level, a third tunnel about sixty-five feet in length. The results of this last effort at self-sufficiency in a water supply have not been determined. Whatever they were, the effort was a wasted one. In less than a year, the Marin Water and Power Company notified the Army that it had completed a twelve-inch castiron pipeline to Sausalito and that it was able to deliver water at the reservation boundary. The Quartermaster General promptly authorized a six-inch main connecting to the pipeline and an additional 100,000-gallon steel storage tank at the fort.[17]

D. Inspections, Maintenance, and Improvements

The 1906 earthquake caused only minor damage at Fort Baker. A few chimneys toppled and some plastering was slightly damaged. Rumors spread that the batteries had been damaged, perhaps severely, but the acting post commander could not verify the matter because the three companies of Coast Artillery had gone to San Francisco to aid the city's survivors. Within a month all was back to normal at Fort Baker. The batteries were found to be intact. The estimate of damage throughout the post amounted to less than $5,000.[18]

All permanent buildings at Fort Baker had been wired for electricity at the time of their construction. However, fixtures had

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17. Ibid., QM, Fort Baker, Sept. 5, 1908, to Adjutant, Fort Baker; Marin Water and Power Co., July 31, 1909, to Col. R.R. Stevens, QM, Dept. of Calif,; QMG Aleshire, Feb. 10, 1911, to AG.

18. Ibid., Chief QM, Fort Mason, Apr. 21, 1906, to QMG; Microcopy M617, Roll 66, Fort Baker, Post Returns, April and May 1906.

not been installed nor was power furnished to the post. The post commanders continually worried about fire danger from kerosene lamps, particularly in the frame quarters. When it was shown that electricity was cheaper than kerosene, steps were taken to bring commercial power into the fort. A brick transformer substation (structure no. 502) was completed in 1908, and electricity was introduced. The surplus lamps were sent to the Presidio where they were needed for the quarters of the 30th Infantry Regiment that was due to be stationed there.[19]

A fire destroyed the eight-year-old ordnance storehouse in the early morning of May 30, 1911. The ordnance officer was on leave at the time and the ordnance sergeant was confined to his quarters because of scarlet fever in his family. Two large explosions occurred while the building was burning, but the cause of them could not be determined. A sentry discovered the fire, and the command responded immediately. Nonetheless, the structure was totally destroyed. When reporting the fire, the commanding officer noted that the post had had seven other fires in the past two years, none of them serious and nearly all of them beginning in rubbish piles or piles of oily waste near the guns.[20]

The chief quartermaster of the Department of California inspected Fort Baker's buildings, transportation, and clothing

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19. NA, RG92, OQMG, Gen. Correspondence, 1890-1914, Capt. B.F. Cheatham, Construction QM, San Francisco, Dec. __, 1906, and July 20, 1907, to QMG; QM, Fort Baker, Mar. 5, 1909, to QMG; R.R. Stevens, Chief QM, Dept. of Calif., Aug. 2, 1909, to QM, Presidio. The surplus lamps at Baker consisted of: 67 bracket; 41 pendant; 8 hand, Rochester; 8 hand, student; and 44 street lamps. The Presidio did not want these last.

20. Ibid., Capt. L.T. Waldron, CO, Fort Baker, May 30, 1911, to AG.

supplies in February 1911. At that time four companies of the Coast Artillery Corps occupied the post: the 32d, 68th, 61st, and 148th Companies. Although the post was somewhat crowded, the quartermaster recommended the enlargement of only two structures: the coal shed (now gone), and the quartermaster storehouse (structure no. FB-559). Of special interest is the list of vehicles he found at the post:

1 buckboard, used by the commanding officer
1 market wagon, used for hauling market supplies from Sausalito
3 passenger wagons, used to transport officers to batteries and ferries
1 water wagon, used in sprinkling roads
1 wagonette, used to transport officers and enlisted men to ferries
1 truck, small, used in hauling freight from dock
4 dump carts, used for police purposes
4 handcarts, used by the companies for hauling rations, etc.[21]

A slight earthquake, followed by high winds, hit Fort Baker on the night of January 23-24, 1914. Damage was restricted to the porch of a frame barracks then occupied by the 61st Company (structure no. FB-601). The estimated cost for repairs amounted to $300. Six months later a small fire occurred in this same building. The blame was laid to a defective flue in the chimney.[22]

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21. Ibid., Col. F.V. Schrader, inspection of Fort Baker, Feb. 14, 1911.

22. Ibid., Proceedings of a Board of Officers, Fort Baker, Feb. 19, 1914; OQMG, June 25, 1914, to AG.

In 1915 the engineers found themselves under attack from the commanding general of the Western Division, Maj. Gen. Arthur Murray. The general wanted all buildings at all the Bay Area posts to be uniform in their paint colors. His color scheme called for dark red roofs, bronze-green walls, and white trimmings. The engineers had traditionally whitewashed their buildings, or painted them white at their three principal plants: at Fort Winfield Scott, Fort Barry, and Fort Baker (and earlier on Alcatraz Island). Sometime before Murray's order, the engineers (who were independent of Murray's command, being directly under the Chief of Engineers in Washington) had bowed to the Artillery's request that they paint their buildings in a less conspicuous color. At that time they had painted all structures with a dark red cold water paint. This paint had since flaked and faded. The resolution of this issue has not been found in the military records. General Murray was a forceful personality and one should not have been surprised to find all the engineer buildings painted bronze-green.[23]

E. Baker-Barry Tunnel

In July 1904 the Secretary of War authorized a two-company garrison of Coast Artillery for the batteries at Point Bonita. Later that year, on December 27, General Orders No. 194, War Department, announced the establishment of Fort Barry on the western part of the Fort Baker military reservation. The boundary between the two was a true north line from the tip of Point Diablo. While most supplies were delivered to Fort Barry by vessels, a crude and treacherous road connected the two posts. In 1916, the Army announced that because of planned expansion of Fort Barry the communications between it and Baker would be improved by

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23. NA, RG77, OCE, Gen. Correspondence, 1894-1923, Lt. Col. T.H. Rees, June 23, 1915, to Chief of Engrs.

driving a 2,000-foot tunnel under the ridge west of Fort Baker and constructing over 8,000 feet of new roadway to connect Fort Baker with the head of Rodeo Valley.[24]

America's entry into World War I heightened the need for the tunnel. It was pushed through to completion in 1918. Its length was approximately 2,200 feet. Most of the tunnel was driven through serpentine rock that varied from very hard material to quite soft and broken rock. Consequently, the entire tunnel was lined with sets of ten by ten-inch timbers, placed five feet apart and covered on the outside with two-inch lagging. The dimensions inside the timbers were sixteen by sixteen feet.

In 1922 a transmission line was installed through the tunnel, replacing an old line that had run over the hills between the two posts. At some early date a six-inch water main was also laid through the tunnel to supply Fort Barry. By 1925, a considerable amount of rotting had occurred in the timbers of the always-damp tunnel. The construction quartermaster undertook a repair program that lasted two years. In his completion report he said that the repairs had cost $16,618, and that the tunnel was now safe and sound. The particulars of the report included:

> Removal of rotted two-inch lagging and replacing same with 13,000 board feet of creosoted cedar lagging. Installing 200 additional 3-inch x 10-inch x 16-foot collar braces. Removal of rotted arch rings and subsituting with forty-four completely new creosoted ten by ten-inch cedar arch sets, including plumb posts.

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24. Ibid., Actg. QMG G.E. Pond, July 16, 1904, to Chief of Engrs.; Fort Barry, Fort Record Book, Presidio Museum, Presidio of San Francisco; San Francisco Examiner, Apr. 29, 1916.

Replacing rotted plumb posts with twenty new creosoted cedar ones.

Removal of rotted segmental arch pieces and substituting thirty-five new ten by ten-inch creosoted segments.

Removal of 121 rotted arch sets in the clay formation from station 17 plus 81 to west portal and replacing the same with reinforced concrete lining complete.

Removal of wooden supports under the six-inch water main and subsituting 182 cement blocks, and caulking the joints of the water main.

Cutting off the ends of rotted plumb posts and substituting concrete in their place.

Installing 1,785 feet of three by six-inch creosoted redwood filler along the edge of the concrete road and the six-inch water pipe to fill up cavity.

Installing eleven street lights in the tunnel and repairing all electric wiring and cable.

Creosoting the lining and timbers the entire length of the tunnel.

Installing 155 linear feet of galvanized iron in the arch of the tunnel to deflect seepage.

Digging 1,200 linear feet of trenches over western end of the tunnel to lead water away.

Constructing 1,500 linear feet of barbed wire fencing around the trenches to keep cattle [there by permit] out.

Repairing concrete road in the west end of the tunnel from station 17 plus 81-82 plus 66.

Additional repairs and improvements were made on the tunnel in 1935-37 as a Works Progress (later, Projects) Administration undertaking--a CCC camp had been established just west of the tunnel on the Fort Barry boundary. Work began in October 1935 on widening the tunnel to twenty feet and increasing its height to seventeen feet. Air hammers were used on the rock. The men also lined the enlarged tunnel

with unreinforced concrete to a depth of twelve inches. On May 31, 1936 a serious, fifty-foot-long cave-in occurred at the west end of the timbered section of the tunnel. This occurred at station 8 plus 00, where the material over the tunnel was mainly earth. Because funds were exhausted at this time further work was suspended. A summary of the work completed showed that the concrete had been placed (by a compressed air concrete gun) on both side walls up to the spring lines for a distance of 1,785 feet. The construction quartermaster estimated that the project was eighty-five percent complete.

Work resumed in August 1936. The concrete work was completed and, in addition, the six-inch iron water main was moved and relaid on galvanized steel brackets fastened to the north wall about fifteen inches above the floor. Also, a new lighting system was installed that consisted of thirty ceiling lights, Type I-3, placed in the center of the tunnel. No serious accidents occurred during the entire project, although one carpenter died of a heart attack. The construction quartermaster reported the total cost as being, $358,664. The tunnel is identified today as FB-268.[25]

F. Fort Baker, 1920s and'30s

During the wartime emergency of 1917-18, Fort Baker's armament was greatly reduced. Guns were needed elsewhere,

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25. Washington National Records Center, Suitland, Md. (hereinafter cited as WNRC), RG77, OCE, Completion Reports, Forts Baker and Barry, Lt. Col. I.L. Fredendall, Constr. QM, Installation of Cable through Tunnel, Jan. 23, 1922; Capt. C.W. Haney, Asst. QM, Completion Report on Repairs to Tunnel, Sept. 27, 1929; Capt. S.W. Hulse, Constr. QM, Completion Reports on Widening & Placing Concrete Lining in Baker-Barry Tunnel, Oct. 20, 1936, and Aug. 9, 1937.

including France. And no longer were large-caliber weapons required on the inner harbor. Even the submarine minefields at San Francisco would be moved to outside the Golden Gate. Battery Duncan's two 8-inch guns were dismounted in 1917 and shipped back East for use on railroad mounts. The carriages were sold as junk in San Francisco. Likewise, Battery Orlando Wagner's two 5-inch guns were dismounted and shipped to Ohio. Gun no. 3 at Battery Spencer, which covered the inner harbor, was moved to Battery Chester at Fort Miley, south of the Golden Gate. Only the remaining two 12-inch guns at Spencer and the six 3-inch guns at Battery George Yates remained in Fort Baker's armament.

In 1920, Fort Baker became the home of the 24th Balloon Company--a new development in San Francisco's defenses. The balloons and their hangar, however, were maintained at Fort Barry, now easily reached through the Baker-Barry tunnel. This company left Fort Baker only a year later. Then, in 1922, Fort Baker's 61st Company, Coast Artillery Corps, was deactivated. Beginning on August 31, 1922, the post was garrisioned by only a caretaking detachment of Coast Artillery troops from Fort Winfield Scott. Not until January 1, 1931, was Fort Baker returned to an active status with the reactivation of Battery K, 6th Coast Artillery.[26]

Despite the empty parade ground and the silent batteries, the Quartermaster Department did not ignore the post. In 1920 a contract was let to modernize the quartermaster wharf. New concrete piers, sixteen by sixteen inches and varying in length from twenty-five to thirty-five feet, were installed. A concrete

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26. Fort Baker, Fort Record Book, Presidio Musejm; Emanual Raymond Lewis, A History of San Francisco Harbor Defense Installations: Forts Baker, Barry, Cronkhite, and Funston (Division of Beaches and Parks, State of California, 1965), Appendix IV, pp. 3-4.

slab was placed under the existing storehouse on the wharf. And an extension was built onto the concrete abutment at the shore end. The cost of these improvements amounted to $17,870. Three additional contracts were let between then and 1928, the work consisting of replacing green and fender piles, renewing ribbons and chocks, and other repairs.[27]

The head of Horsehoe Bay had long had a wooden bulkhead along it to protect the filled-in lagoon area from waves and storms. In 1929 the Quartermaster Department constructed a concreted seawall, 134 feet long, in front of this bulkhead, and backfilled with rock. The new wall varied in height from four and one-half to fourteen feet. Three years later this seawall was extended westward another 134 feet. The concrete was reinforced with scrap iron found around the post. During these operations, the road behind the seawall, now called Sommerville Road, was widened and improved.[28]

Many improvements to the structures and the grounds at Fort Baker were undertaken as WPA projects in 1936-37. One of these projects called for renewal of the storm water drainage system, repair of the electric and water distribution system, erecting three additional hydrants, and installing a steam heating system in Barracks No. 1 (structure no. 602), which had been heated by fireplaces.

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27. WNRC, RG77, OCE, Completion Reports, Forts Baker and Barry, Lt. Col. I.F. Fredendall, QMC, Completion Reports, Construction of Concrete Approach to Wharf, Sept. 30, 1920; and Addition to Concrete Approach, Jan. 14, 1922; Capt. A.L. Koch, QMC, Repairs to Wharf, Jan. 30, 1928; Capt. C.W. Haney, QMC, Repairs on Wharf, Nov. 27, 1928.

28. Ibid., Haney, Report on Repairs to Seawall, May 21, 1929; Capt. H.B. Nurse, Extension to Seawall, Apr. 15, 1932.

Another project, in the amount of $30,000, saw minor repairs in nearly every building on the post, a great amount of painting on interiors and exteriors (General Murray's paint colors were probably discarded by then), enclosing the rear porches of the three barracks, new roofs here and there, and other improvements.

Nor was landscaping overlooked. A special project, "Care & Improvement of Parks and Recreation Facilities, Fort Baker," resulted in grading the slopes behind all the quarters around the parade ground. These slopes were then planted with ice plant. "General" landscaping was carried out throughout the post and, again, a number of buildings received fresh paint.

The CCC camp west of the Baker-Barry tunnel, built in 1935, was turned over to Ninth Corps in October 1936. By August 1937 it was being used as temporary housing for troops practicing on the Departmental Rifle Range at Fort Barry. The buildings had not been painted when they were built. No good quartermaster could tolerate such a state, and, in 1937, the structures received a coat of paint. The quartermaster's choice of colors was rather dismal--dark gray walls with black paint on the exterior sash. None of these buildings stands today. For the record, the camp consisted of: twelve barracks, a mess house, two shower and toilet buildings, three storage sheds, a cold storage house, and an open garage.[29]

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29. Ibid., Hulse, Completion reports: WPA Project No. 213-4007, Aug. 9, 1937; WPA Project No. 213-2004, June 30, 1937; WPA Project No. 213-3004, Aug. 9, 1937; and Completion Report on Painting Exteriors of CCC Camp Buildings, Aug. 9, 1937.

G. World War II

Fort Baker played a vital role in the Harbor Defenses of San Francisco throughout World War II in a variety of ways. The two 12-inch guns remaining in Battery Spencer stood guard until 1943, when they were finally dismounted. Battery George Yates retained two of its 3-inch guns that covered the antisubmarine net stretched across the harbor entrance from Fort Baker to the south shore. These two guns were not dismounted until 1946. Battery Kirby had been abandoned in 1934. Now, in the summer of 1942, two new concrete platforms were built nearby and the Ordnance Department mounted two of Yates's 3-inch guns on them. Sometimes called Kirby II and Kirby Beach (FB-702) this battery's armament was removed in the spring of 1944. Also emplaced at Gravelly Beach were four 90-mm (two fixed, two mobile) antimotor torpedo boat (AMTB) weapons. At Point Cavallo two 40-mm AMTB weapons were installed. These last two batteries, called Gravelly (FB-701) and Cavallo (now gone) respectively, were both disarmed in September 1946. (Today, there is a sandbagged pit on the parapet of old Cavallo Battery that may have been the site of one of the 40-mm guns.)

After years of recommendations, the Army finally established a mine depot at Fort Baker on the eve of World War II. The mine wharf (FB-415), adjacent to the quartermaster wharf, was constructed in 1937. The remainder of the mine structures--the mine storehouse (FB-407), the cable tank building (FB-670), a power house (FB-409), two magazines for explosives (FB-410 and 411), and two mine loading rooms (FB-412)--were not constructed until 1941. The three mine planters assigned to San Francisco Harbor Defenses, USAMP Ellery W. Niles, Samuel M. Miles, and Horace F. Springer, were all berthed at Horseshoe Bay although assigned to different mine fields.

Six mobile seacoast searchlights were assigned to Fort Baker: SL55 and SL56 at Gravelly Beach, SL57 and SL58 at Lime Point, and SL59 and SL60 at Battery Yates and Cavallo Point. Apparently, too, some antiaircraft searchlights were assigned to the reservation. At least, a battery of antiaircraft searchlight personnel was assigned to the post. (It is also possible that they manned the seacoast searchlights.)

A nonfortification operation of considerable magnitude was the hospital established at the post, between Horseshoe Bay and the south end of the parade ground. The War Department approved this facility on May 6, 1941, for the puposes of centralizing hospital service in the Harbor Defenses of San Francisco and relieving the pressure on Letterman General Hospital at the Presidio. Construction began on the complex on July 1, 1941, and the last structure, the administration building, was accepted October 22. All the structures were of the army designated "Mobilization Type," and each individual building was constructed according to standard plans for its particular function. The district regimental engineer described the complex as follows:

	Plan
1 administration building	AI-revised
1 nurses' quarters	HQ-12
1 nurses' quarters and mess	HQM-11
1 officers' quarters	HQ-18
1 officers' quarters and mess	HQM-17
3 barracks, medical detachment	HB-54
1 recreation building, medical detachment	RB-2
3 wards, standard	W-1
4 wards, combination	W-2
1 ward	W-4
1 mess, enlisted men and patients	M-14

1 clinic, dental	DC-2
1 infirmary	I-2
1 storehouse	SH-6
1 storehouse	SH-7
1 boiler house, heating system	HBH-8
2 vacuum pump shelters	P

In addition there were 1,550 linear feet of enclosed corridors (WK-2) and 650 linear feet of open, covered walks (WK-1) that connected all the various buildings. This station hospital remained on active duty until May 15, 1948 (it was inactivated for eleven days in 1946).[30]

Several sources provide data on the military organizations stationed at Fort Baker during the war. At the time of Pearl Harbor only one coast artillery unit, Battery F, 6th CA Regiment (HD) was assigned to the post. It had been there since August 1, 1940, and would remain at Baker until 1946. As was to be expected, there was a rapid build-up of personnel. Perhaps even before Pearl Harbor, the 4th, 11th, and 21st Mine Planter Batteries were assigned there. Battery A, 130th CA Battalion (Antiaircraft) was assigned on April 1, 1942. It remained at Baker until April 25, 1944. In October 1942, Battery M, 6th CA, was assigned to the batteries at Kirby Beach. It is not known when this unit left Fort Baker. Detachments from the 4th and 11th Coast Artillery

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30. Fort Baker, Fort Record Book, Presidio Museum; WNRC, RG77, OCE, Forts Baker & Barry Completion Reports, Maj. J.H. Veal, Completion Report of Construction of Hospital Buildings, June 30, 1942; Western Defense Command, USA, "Historical Record--Northern California Sector, Western Defense Command, 1 May 1942-September 1945," Appendix 4, Units assigned to Northern California Sector, MS, Typescript, Library of Congress, Microfilm Shelf No. 51391.

Military Police Batteries (CAMP) were assigned to the post on November 23, 1942. They were joined by a detachment from the 21st CAMP on July 10, 1943. The 4th and the 21st remained until August 21, 1945. It is not known when the detachment of the 11th CAMP departed.

Battery G, 6th CA, arrived on December 28, 1943. This unit was redesignated Battery A, 6th CA Battalion (HD) in a major reorganization of the Harbor Defenses on October 18, 1944. Again, on Spetember 15, 1945, in still another reorganization, it was redesignated Battery E, Harbor Defenses of San Francisco. Other changes in the 1944 reorganization brought the Headquarters Detachment, 173d CA Battalion (HD) to "LIME Command Post" at Baker. It remained there until it was disbanded on September 15, 1945. The 1940 unit, Battery F, 6th CA Regiment (above) was redesignated as Battery B, 174th CA Battalion (HD) in October 1944, and assigned to Mines I. It was again redesignated as Battery G, HD of SF on September 15, 1945. This unit was finally inactivated on June 10, 1946, making it the only organization at Fort Baker to be stationed there from 1940 to 1946.

In the postwar reorganization, September 15, 1945, three units were assigned to the garrison: Battery F, HD of SF, assigned to the AMTB weapons; Battery G, HD of SF, assigned to Mines I, II, and III; and Battery A, 174th CA Battalion (HD), also assigned to Mines I, II, and III. No enemy submarines had slipped through the net. No motor torpedo boats had dashed in through the Golden Gate. No enemy battleships had shelled San Francisco from the sea. But if they had, Fort Baker's men would have been prepared.[31]

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31. Western Defense Command, "Historical Record," Appendix 4, Units assigned to Northern California Sector; Lewis, History of San Francisco Harbor Defense Installations, Appendix IV, pp. 3-4.

H. Garrison Life

The monthly "Post Returns" and a scattering of other documents give a glimpse of the army man's life at Fort Baker. In contrast to the isolation found in ninteenth-century frontier posts, professionalism marked the routine at Baker. In 1897, for example, the battery crossed the bay for three weeks' (artillery?) training at "Camp C. W. Morgan" at the Presidio of San Francisco. After a sufficient supply of ammunition was acquired at the post, about 1903, target practice was carried out at Baker's own batteries. In March that year the 61st Company drilled at Batteries Orlando Wagner (5-inch) and Kirby (12-inch), while the 68th Company fired the 12-inch guns at Battery Spencer. Again, in January 1904, the companies fired the guns of Batteries Duncan, Spencer, and Kirby. When the 148th Company, CAC, was holding service practice at Battery Orlando Wagner in September 1910, practice had to be postponed when a part of the breechblock of No. 2 gun blew out. After the guns were mounted at Fort Barry, the companies occasionally went over there to practice at those batteries.[32]

In the early days the post was not open to visitors. But when President Theodore Roosevelt ordered the battle fleet ("Great White Fleet") to sail around the world to demonstrate American naval strength, Gen. Frederick Funston ordered the fort open to the public. The San Francisco Call said that this would give thousands of sightseers a splendid vantage point to watch the great battleships. It noted though, that automobiles and cameras would not be allowed on the post. The great day came and, on May 7, 1908, the entire garrison ferried over to San Francisco to take part in a parade welcoming the fleet.

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32. NA, M617, Rolls 65-66, Post Returns, Fort Baker, 1897-1913.

Security measures had lessened by 1920. That fall both of San Francisco's leading newspapers, the Chronicle and the Examiner, ran vivid columns describing tour roads available to motorists at both Forts Baker and Barry. The Chronicle urged its readers to take the old road over the hills that was now little used because of the new Baker-Barry tunnel. Not only were there grand views from this road, motorists would be impressed at how well the harbor was guarded.[33]

Relations between the military and the community were not always harmonious. Two fishermen, Joe Grasso and Angelo Onetta, found this out in October 1908. They set their baited lines, each held up by floats, off Lime Point, then settled back in their boat for a smoke. A dozen soldiers appeared on the shore and for no apparent cause fired their rifles at the floats. The fishermen begged the soldiers to stop firing; but the troops laughed and continued to sink the buoys. Grasso and Onetta later estimated their damages at $18 and billed the Army for that amount. It is not known if the soldiers were disciplined for their unorthodox target practice.[34]

Inspections and parades were, of course, a necessary part of the post's history. On September 29, 1902, Lt. Gen. Nelson Miles, commanding the U.S. Army, paid a visit to Fort Baker. The following day, the troops went over to the Presidio to participate in a review for the general. President Theodore

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33. San Francisco Call, Mar. 27, 1908; San Francisco Chronicle, Oct. 31, 1920; San Francisco Examiner, Nov. 21, 1920. The Examiner's reporter was not too well acquianted with the geography of the area; he insisted on calling Point Bonita "Point Lobos."

34. San Francisco Call, Oct. 8, 1908.

Roosevelt did not visit the post when he was in San Francisco in May 1903. Instead, the garrison crossed over the bay to march in review for him. In November 1904, Brig. Gen. Francis Moore, a veteran of the Civil War and now commander of the Department of California inspected the fort. Two artillery veterans, Maj. Gen. John P. Story and Brig. Gen. Samuel M. Mills (the former had been Chief of Artillery; the latter was then Chief of Artillery) visited the post as members of a Board of Officers in September 1905. A salute for Story was fired from one of the batteries.

A most distinguished visitor in September 1906 was Maj. Gen. Arthur MacArthur, who had returned from overseas to resume command of the Pacific Division. (His lieutenant son, Douglas, had been at the fort just the year before inspecting a broken base ring bolt at Battery Spencer.) Brig. Gen. Frederick Funston, who gained national attention during the 1906 earthquake, stopped off at the post in May 1907 while on his way to the Departmental Rifle Range at Fort Barry. All these and many more distinguished officers paid their respects to the handsome artillery post nestled at the base of Lime Point Ridge.[35]

I. Troop Units at Fort Baker

When Battery I, Third Artillery, arrived at Fort Baker for "temporary" duty in July 1897, there were five regiments of artillery in the U.S. Army, whith no dstinction being made between units assigned to field artillery and to coast artillery. Battery L, Third Artillery, replaced Battery I in February 1898. The Spanish-American War resulted in the departure of Battery L and the arrival of the 1st Battalion, Heavy Artillery, California U.S. Volunteers, in June 1898. The volunteers apparently departed in

35. NA, M617, Rolls 65-66, Post Returns, Fort Baker, 1897-1913.

December 1898, there being no post returns between that month and May 1899.

In January 1899, a detachment from Battery E, Third Artillery went into camp at either Battery Kirby or Battery Spencer. This detachment, still in camp, first appeared in the Fort Baker post returns in May 1899. From then until November 1901, this detachment, varying from twenty to sixty-six enlisted men, comprised the garrison. In 1901, an army-wide reorganization resulted in a new Corps of Artillery in which coast artillery and field artillery were partially separated. The 120 companies of coast artillery were now identified by numbers. This became apparent at Fort Baker in November 1901 with the arrival of the 68th Company, Coast Artillery. It was joined in January 1902 by the 61st Company, CA. A third unit, the 32d Company, CA, joined the garrison in June 1903, bringing the enlisted strength of the command up to 290.

In 1907 there was a complete separation of field and coast artillery, with the latter being organized as the Coast Artillery Corps. In August of that year the 148th Company, CAC, joined the first three, the 32d, 61st, and 68th, at Fort Baker. A month later the 161st Company was organized at the post. This last company transferred in February 1908. The 67th Company, CAC, joined the command in August 1909, bringing it up to over 500 enlisted men for the first time in its history. The 67th's stay was also short-lived, the company transferring in January 1910. The 68th Company transferred to Hawaii in January 1913, leaving the 32d, 61st, and 148th at the Post. As of December 31, 1913 these three units had a strength of ten officers and 274 enlisted men.[36]

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36. Ibid.

The returns/morning reports for the period between the two world wars have not yet been examined. It is known that coast artillery units, including the caretaking detachments between 1922 and 1931, continued to man the post. From 1931 to 1944 elements of the 6th Coast Artillery Regiment serviced the big guns. This account has already listed the World War II coast artillery units assigned to the fort. They are herewith summarized again, stripped of the details earlier mentioned:

Battery F, 6th CA (HD). Redesignated Battery B, 174th CA Bn (HD), and Battery G, HD of SF.
Battery G, 6th CA (HD). Redesignated BAttery A, 6th CA Bn (HD), and Battery E, HD of SF.
Battery M, 6th CA (HD)
Battery A, 67th CA Bn (HD)
Battery A, 130th CA Bn. (AA)
Headquarters Detachment, 173d CA Bn. (HD)
Battery A, 174th CA Bn. (HD)
Battery B, 174th CA Bn. (HD)
Battery F, HD of SF
4th Mine Planter Battery
11th Mine Planter Battery
21st Mine Planter Battery

On November 25, 1946, the Mine Detachment, Seacoast Branch of the Artillery School was activated at Fort BAker. Mining activity was the last coastal defense function to be carried on at the post. Then, in 1949, submarine mine activities were transferred to the U.S. Navy.[37]

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37. Fort Baker, Fort Record Book, Presidio Museum.

J. List of Historic Structures, Fort Baker

Fort Baker, along with Forts Barry and Cronkhite, has been placed on the National Register of Historic Places. However, the nomination form, while including the entire Fort Baker military reservation as a historic district, listed only nine structures by name: Battery Duncan, Cavallo Battery, Battery Yates, Battery Spencer, Battery Wagner, Battery Kirby, Battery Gravelly (World War II), Mine Cable Tank Building, and the Baker-Barry Tunnel.

The U.S. Army continues to occupy the post of Fort Baker (known locally as East Fort Baker, i.e., all that land east of the Redwood Highway). The Golden Gate Bridge Authority maintains a storage and work area at the east base of Lime Point Ridge, south of the mine wharf. And the U.S. Coast Guard operates a fog and light station on Sugar Loaf Rock at the tip of Lime Point, and another small light at Yellow Bluff.

The legislation establishing Golden Gate National Recreation Area calls for the inclusion of East Fort Baker within its boundaries at such time as the Army should abandon the area. This list of historic structures is compiled with that prospect in mind. When this area comes under the jurisdiction of the National Park Service, it is recommended that the following structures be added to the List of Classified Structures and that a new nomination form for the National Register of Historic Places be prepared and submitted to the National Register specifying the historic structures.

Harbor Defense Structures

Battery Kirby. (FB-700) Two 12-inch gun emplacements designed for disappearing carriages. Completed on July 5, 1900, and turned over to artillery troops on August 5, 1900. Included with Kirby are portions of Gravelly Beach Battery (twelve 15-inch

Rodman emplacements), the first fortifications undertaken on the north side of the Golden Gate, constructed between 1870 and 1873. There remain today two earthen traverses with a brick and concrete magazine under each and a brick and concrete drainage culvert running under Kirby. Nearby are said to be the concrete plugs for two World War II batteries: Battery Gravelly (FM-701), two fixed (and two mobile) 90-mm guns, and Battery Kirby Beach (FB-702), two 3-inch rapid fire guns.

Battery Orlando Wagner. (FB-703). Two 5-inch rapid fire guns. Completed and turned over to artillery troops on August 21, 1901.

Ridge Battery. (FB-704). Four 15-inch Rodman smoothbores and five mortar platforms. Constructed between 1871 and 1872. The Rodmans were not mounted until 1893 and remained in service through the Spanish-American War. The mortars were never mounted. Today the four gun emplacements remain, along with two brick and concrete magazines covered with earthen traverses. These traverses have been damaged by the removal of a portion of their earth that was used to seal the entrances to the magazines. They can be restored.

Battery Spencer. (FB-705). Three 12-inch guns on nondisappearing carriages. This was the first Endicott-period battery undertaken on the north side of the Golden gate. Completed and turned over to artillery troops on September 24, 1897. The several auxiliary structures adjacent to the battery proper are also considered to be historic and an integral part of the complex.

Fire Control Station. (FB-433). Located on Lime Point Ridge. By 1937 it was the F^1 Baker station. Constructed early in

the century. It is believed to be the only surviving brick-walled station in Golden Gate National Recreation Area. Access is quite dangerous.

Fire Control Station. (FB-434). Located a short distance below No. 433. It was the B^1S^1 station for Battery Spencer. Also dangerous of access.

Battery Duncan. (FB-573). Two 8-inch guns on nondisappearing carriages. Completed and turned over to artillery troops on May 5, 1900. Believed to be in an excellent state of preservation. Outside its south fence is a World War II barbed-wire obstacle of unusual design. This feature should be recorded through measured drawings and photographs before it disintegrates.

Cavallo Battery. (FB-575). Fifteen 15-inch Rodman emplacements. Constructed between 1872 and 1876. No guns mounted until the Spanish-American War, when three 8-inch converted rifles (Rodman) were installed. This battery is a superior example of the post-Civil War modernization program. Motocycles have caused some damage to the earthworks.

Battery George Yates. (FB-571). Six 3-inch guns mounted on pedestal mounts. Completed and turned over to artillery troops on June 6, 1905. This was the last of the Endicott-period batteries to be constructed at Fort Baker.

Mine Wharf. (FB-415). Constructed 1937.

Mine Storehouse. (FB-407). Constructed 1941.

Mine Cable Tank Building. (FB-670). Constructed 1941.

Mine Power House. (FB-409). Constructed 1941.

Mine Explosives Magazine. (FB-410). Constructed 1941.

Mine Explosives Magazine. (FB-411). Constructed 1941.

Mine Loading Rooms. (FB-412). Constructed 1941. The south entrance has been modified by the addition of windows. In recent times this structure served as enlisted men's quarters and as an office for the harbor master.

Two Fire Control Stations. (FB-706 and 707). Located above Battery Orlando Wagner. Both are examples of early fire control stations, having neither overhead protection nor camouflage.

Radio and Switchboard Rooms. (FB-770). This reinforced concrete structure built in cut and fill, was designed for Battery Construction No. 129, the sixteen-inch gun battery that was across the boundary in Fort Barry. Completed by 1943, it is believed to be in good condition today.

Garrsion Structures

Parade Ground. (FB-600). Laid out about 1900.

Flagstaff. (FB-648). There has been a flagstaff at this same site since 1905. It is possible that the existing staff is the original one, which was iron and seventy-five feet tall.

Guardhouse. (FB-615). Constructed in 1901-02. It is a single-story frame building that was designed to hold fifteen guards and fifteen prisoners.

Enlisted Men's Barracks. (FB-636). Completed in May 1907, it was the only barracks to be built of brick. It was designed to hold one battery of 109 men.

Post Exchange and Gymnasium. (FB-623). This large brick building was constructed in 1903-04. In 1915 an addition was built onto the structure to house bowling alleys.

Enlisted Men's Barracks. (FB-602). Completed in August 1902, this was the first permanent artillery barracks at Fort Baker. It is a frame structure and has a slate roof.

Enlisted Men's Barracks. (FB-601). Completed in May 1903. Identical to No. 602, it too could hold 109 artillerymen. Frame.

Post Headquarters. (FB-603). Also called the administration building, it was completed in May 1903. Frame construction. A basement furnance room was added in 1939.

Commanding Officer's Quarters. (FB-604). Constructed in 1902-03. It is a large frame residence having two and one-half stories and a basement.

Officers' Quarters. (FB-605). A frame duplex designed for captains, it was one of the first two sets of officers quarters built at the post. It was built in 1901-02.

Officers' Quarters. (FB-606). This frame duplex, designed for lieutenants, was also constructed in 1901-02.

Officers' Quarters. (FB-607). Also frame, this duplex was completed in May 1903.

Officers' Quarters. (FB-629). This frame duplex was completed in June 1904. Like the others it had two and one-half stories and a slate roof.

Officers' Quarters. (FB-631). Also completed in June 1904, this frame duplex would be the last of the buildings standing on the perimeter of the parade ground.

Hospital. (FB-533). A typical twelve-bed army hospital of the period, it was completed in August 1902. When a post hospital was no longer needed at Fort Baker, this structure became a dispensary station. Today, it functions as an office building.

Hospital Steward's Quarters. (FB-522). Built at the same time as the hospital, this frame set of quarters was set aside as the hospital steward's residence. Later, it became noncommissioned staff officer's quarters.

Noncommissioned Officers' Quarters. (FB-523). This frame duplex was also completed in August 1902.

Noncommissioned Officers' Quarters. (FB-527). Also a frame duplex, it was not completed until June 1904.

Noncommissioned Officers' Quarters. (FB-529). Constructed at the same time as No. 527, above, it too was a two-story frame building having a slate roof.

Noncommissioned Officers' Quarters. (FB-530). Constructed in 1908-09, this duplex had brick walls.

Noncommissioned Officers' Quarters. (FB-531). Identical to No. 530, above, this brick duplex was built at the same time.

Bakery. (FB-557). Completed in August 1902, the bakery was enlarged in 1908. It is a single-story frame building for which the latest use has been a post office.

Quartermaster and Subsistence Storehouse. (FB-559). Also completed in August 1902, this frame building was the first quartermaster storehouse at Fort Baker. The post quartermaster also had his office in this one and one-half story structure.

Wagon Shed. (FB-561). This frame structure was completed circa 1903.

Pumphouse. (FB-671). This brick building was constructed about 1902. It had a pumping capacity of 200 gallons per minute. Its interior plan consisted of a large pump room, an electrical shop, and a storeroom.

Commissary Storehouse. (FB-637). When the first storehouse, FB-559 above, became too crowded, this new brick storehouse was constructed in 1908. It was used to store rations.

Blacksmith Shop. (FB-644). Completed in March 1910, this frame structure was also used as a shop for the post plumber.

Carpenter and Paint Shop. (FB-645). Also completed in March 1910. In 1932, it was referred to as the Artillery Engineer Storehouse.

Ordnance Storehouse. (FB-666). This frame structure was the second ordnance storehouse at Fort Baker, the first one having been destroyed by fire. Although not constructed until World War I (1918), it is located in the midst of the older storehouses and shops and is considered to be part of the historic

scene. At some later time it became yet another quartermaster storehouse.

Sentry Station. (FB-272). Constructed in 1919, it marked the official entrance to West Fort Baker and Fort Barry.

Unknown Structure. (FB-408). Located at the base of Lime Point Ridge, across the road from the Mine Cable Tank Building. This is one of the few structures at Fort Baker having touches of Mission Revival architecture, most of the historic structures having been built before this style was introduced to the military posts in the Bay Area. The function of this structure is as yet unknown.

Historic Roads and Tunnel

East Road. (FB-708). From the quartermaster wharf, past the southeast side of the Parade Ground, on east to Cavallo Battery, then north to the Suasalito entrance gate. The portion between the wharf and Cavallo Battery was constructed in 1872 by Col. George Mendell; it was required for the construction of Cavallo Battery. The extension to Sausalito was constructed in 1901, after considerable pressure from the citizens of that town. East Road was named following World War II for Maj. Joe C. East, CAC, a West Point graduate, who had served at Fort Baker as a battery commander before World War II. He was taken prisoner by the Japanese on Corregidor and died at sea on board a prison ship, January 15, 1945. (This name probably applies to only that portion of the road from the east corner of the parade ground to the Sausalito entrance. The entire road is considered historic.)

Murray Circle. (FB-709). It forms the perimeter of the parade ground on the west, north, and eastern sides. It was laid out in 1902. This road was named in honor of Chief Warrant Officer James E. Murray, U.S. Army Mine Planter Service. He was

killed when his vessel was attacked by a Japanese dive-bomber off Corregidor on May 2, 1942. At the time he was master of USAMP George F. E. Harrison.

Conzelman Road. (FB-710). That part of Conzelman Road that runs from the wharf, through the site of the 1860s-70s Engineer Camp, over the ridge near Ridge Battery, and down to Gravelly Beach. It was constructed in 1870-71 by the engineers so that fortification work could begin at Gravelly Beach and Lime Point Ridge. It was named in honor of Lt. Col. Clair M. Conzelman, a Coast Artillery officer who died on January 11, 1945, while a prisoner-of-war in a Japanese prison camp. (The historic road has been realigned where it crosses U.S. Highway 101.)

Moore Road. (FB-711). From the wharf south along the base of Lime Point Ridge to Sugar Loaf Rock (Lighthouse). This road was constructed by Engineer Mendell in 1868. It was required in order that blasting operations could begin at Lime Point. It was named in honor of Cpl. Francis J. Moore, 59th Coast Artillery, who was killed on Corregidor on April 2, 1942. The larger portion of this road appears to be under the administration of the Golden Gate Bridge Authority and/or the U.S. Coast Guard.

Baker-Barry Tunnel. (FB-268). Located under Lime Point Ridge on Bunker Road that leads from Fort Baker to Fort Barry. Constructed in 1917-18; enlarged and improved in 1935-37. An additional 100 feet was added to the tunnel by the State of California in 1954. The road was named in honor of Col. Paul D. Bunker, CAC, who died in a Japanese prison camp on Formosa in March 1943.[38]

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38. The information on the roads' names is found in a document by Albert E. Davis, dated April 29, 1960, in a folder, "California Miscellaneous. Fort Baker (Marin)," California Historical Society, San Francisco.

K. Conclusions and Recommendations

Fort Baker was the first artillery post to be established on the north side of the Golden Gate. It is a most attractive army post and one that has an important history as a part of the coastal defenses of San Francisco Bay. Recommend that the general historic appearance of the post be maintained, particularly in the housing area around the parade ground, the old storehouse area, the mine depot structures, and, of course, the batteries. The best means of preserving the historic structures listed above would be to provide adaptive uses for them, where possible. The mine storehouse, for example, is well suited to museum puposes, perhaps for exhibits of military transportation in the Bay Area. The mine cable tank building could be adapted to telling the long and interesting story of submarine mine defense--flooring would have to be placed over some of the cable tanks; others could be left open for exhibit purposes. Park maintenance, perhaps, could use some of the historic storehouses.

Structures not appearing in the above list are not considered historic. Should it be deisred, they could be removed from the scene. Indeed, steps are already underway by the army to remove the nonhistoric structures of the World War II hospital. It should be pointed out, however, that all these structures are located within a historic district that is already on the National Register of Historic Places, and that the established legal procedures have to be followed prior to removal.

One historic structure that was not included in the above list is the Quartermaster Wharf, structure no. 416, built by the Quartermaster Department in 1902-03. This structure appears to be in an advanced state of decay and is a dangerous hazard to Sunday fishermen. If this structure is as dangerous as it looks to a layman, it is recommended that it be removed as soon as possible. Again, Section 106 procedures must be followed.

For the four cut-and-fill mine structures, Nos. FB-409-414, only the preservation of the exteriors (fronts) is recommended. Nos. FB-409-411 are merely small concrete rooms, suitable for little except, perhaps, some storage. (No. FB-409 still possesses its power plant.) The U.S. Coast Guard has expressed an interest in making use of No. FB-412 as a facility for a new life saving station at Fort Baker. This would seem to be a good adaptive use for the structure, providing its exterior facade is not further impaired--it has already been somewhat modified. This proposal and the proposed use by the U.S. Coast Guard of the mine depot wharf should go through Section 106 procedures to determine effect on the historic structures. Likewise, the proposal to construct the life saving station on the site of the World War II hospital and adjacent to the historic mine cable tank building should go through Section 106 procedures for determination of effect.

In the case of the classic Cavallo Battery steps should be taken as soon as possible to prohibit motorcycles from riding through, over, and around the battery. These vehicles have already caused considerable damage to the earthen parapets--which should be restored to their original contours. Likewise, the unfortunate cutting into the earthen traverses at Ridge Battery (to provide fill for sealing the magazines) should be repaired. This destruction occurred before the area was conveyed to the National Park Service.

III. Fort Barry

A. Establishment

The western portion of Lime Point Military Reservation, informally called the Point Bonita reservation, was destined to become even more important in the the coastal defenses than Fort Baker. Here, on the outermost headlands of the Golden Gate, an array of Endicott-period batteries was constructed between 1901 and 1905:

Battery Mendell, two 12-inch guns on disappearing carriages (FA-1364)
Battery Alexander, eight 12-inch mortars (FA-1356)
Battery Edwin Guthrie, four 6-inch guns on nondisappearing carriages (FA-1354)
Battery Samuel Rathbone, four 6-inch guns on nondisappearing carriages (FA-911)
Battery Patrick O'Rorke, four 3-inch guns on pedestal mounts (FA-1351)

The Engineer Department prepared plans and estimates for the first two batteries (Mendell and Alexander) in September 1900. Noting that the only way to get men and materials to Point Bonita was over the crude mountain road from Fort Baker, five miles away, the local engineer requested funds for constructing a wharf at Bonita Cove and a single-track tramway up the 250-foot-high cliff. The wharf and tramway were completed by September 1901. The engineers had a special barge built in San Francisco to transport the guns, carriages, and heavy material to Bonita Cove. It was seventy-eight feet long, eighteen feet wide, and had a displacement of 102.5 tons. At first the hoisting apparatus for the tramway was borrowed from the Lighthouse Board; but in 1905 this had to be returned and the army then purchased its own hoisting engine.

As at Fort Baker the engineers required some temporary buildings at Point Bonita: office, cement shed, cook house, two barracks, stable for fifty horses, latrine, carpenter and blacksmith shop, and a house for assistants. The temporary character of these structures may be seen by their total construction estimate of $6,451. None of them remains standing today.[1]

Work on the batteries proceeded rapidly and, in August 1902, Maj. Gen. R. P. Hughes, commanding the Department of California, wrote the Adjutant General saying that the time had come when a company of coast artillery troops should be stationed at Point Bonita. The Chief of Artillery, Brig. Gen. Wallace Randolph, disagreed. He could not recommend the construction of a post at that time because there were too many artillery companies at other places living in tents because of a lack of quarters. He recommended that details from Fort Baker be sent to the point for target practice.

A detachment of one officer and twenty-three enlisted men from Fort Baker arrived at Point Bonita in July 1903, thereby marking the beginning of permanent occupation by the artillery men. Apparently, this detachment first lived in the magazines of Batteries Mendell and Alexander. A $161 kitchen and messroom were requested for their use. Then, in March 1904, the Secretary

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1. NA, RG77, OCE, Gen. Correspondence, 1894-1923, Maj. C. Davis, Sept. 12, 1900 and Sept. 12, 1901, to Chief of Engrs.; RG 92, OQMG, Capt. P.W. Cain, Dept. of Calif., Feb. 23, 1905, to Chief QM; Lewis, History of San Francisco Harbor Defense Installations, p. 174.

of War approved the expenditure of $2,272 for the construction of temporary accommodations for the detachment.[2]

Meanwhile, the Quartermaster Department proceeded to plan a permanent post at Point Bonita. The first site selected was above Bonita Cove, northeast of the life saving station. This area soon proved unsatisfactory owing to sliding ground. By the summer of 1904 a new site had been selected--where the post buildings are to be found today. On July 16, the Secretary of War authorized the construction of the necessary buildings for a two-company post. That November the Quartermaster Department forwarded specifications for the new structures to the construction quartermaster at San Francisco. The transmittal letter said that the bulk of the lumber for framing, sheathing, etc. was to be Washington or Oregon pine. That for inside and outside finish was to be redwood. For a few specific purposes, such as sash, sugar pine should be used. The upper floors of the barracks and guardhouse were to be built of maple, because redwood had an unsatisfactory wearing quality. Also, the standard pipe supports for verandas and porches were omitted and masonry piers substituted. Inasmuch as the enlisted men's barracks were to be built on a hillside, standard plan No. 1-409 for hillside construction was sent to San Francisco.[3]

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2. NA, RG92, OQMG, Gen. Correspondence, 1890-1914, Hughes, Aug. 27, 1902, to AG; Randolph, Oct. 18, 1902, to AG; Miller (?), San Francisco, Dec. 26, 1902, to QMG; QMG Humphrey, Mar. 16, 1904, to Chief QM, Dept. of Calif.

3. Ibid., map, Point Bonita, July 1903; Chief QM Patten, San Francisco, telegram, July 21, 1904, to QMG; Dep. QMG G. Ruhlen, Nov. 21 and Dec. 5, 1904, to Constr. QM, San Francisco; RG77, OCE, Gen. Correspondence, 1894-1923, Actg. QMG G.E. Pond, July 16, 1904, to Chief of Engrs.

The War Department announced the establishment of Fort Barry in General Orders No. 194, dated December 27, 1904. The fort was named in honor of Brig. Gen. William Farquhar Barry, a regular army artillery officer who had commanded the 2d Artillery at the time of his death, in 1879. He had distinguished himself during the Civil War, particularly in the capture of Atlanta and in the surrender of Confederate Gen. Joseph E. Johnston. As was noted earlier, the boundary between Forts Barry and Baker was established by the true north line running from the tip of Point Diablo.[4]

Despite the fort's establishment and despite the transfer of the completed batteries to the artillery in June 1905, the garrison continued to consist of the small artillery detachment living in its temporary quarters near what would become the departmental rifle range.

B. Post Structures and Post History, 1905-1922

In January 1905, the Quartermaster Department invited bid proposals for the construction of twenty-one buildings at Fort Barry. All were to be frame buildings except the oil house, which was to be built of corrugated iron. The proposed structures were:

Name	Standard Plan No.	Today's Structure No., where known
1 single set, field officer's quarters (CO)	145 F	FA-936

4. NA, Cartographic Archives Division, RG77, Fortifications File, DR. 189, Cal. 3-1, War Dept., General Orders No. 32, Mar. 30, 1908; Fort Barry, Fort Record Book, Presidio Museum, Presidio of San Francisco.

Name	Standard Plan No	Today's Structure No., where known
1 double set, captains' quarters	142 Rev.	FA-937
2 double sets, lieutenants' quarters	120 E	FA-934 & 939
2 double sets, noncommissioned officers' quarters	82 E	FA-955 & 956
1 single set, hospital steward's quarters	87 E	FA-942
1 hospital, twelve beds	SGO Plan	FA-941
2 barracks	147	FA-944 & 945
1 guardhouse	30 E	gone
1 administration building	122 D	FA-940
1 quartermaster & subsistence storehouse	91 F	FA-960
1 ordnance storehouse	137 A	FA-961
1 stable	54 G	gone
1 wagon shed	60 H	gone
1 bakery	49 L	FA-962
1 coal shed	67 B	gone
1 oil house	92 B	gone
1 fire apparatus house	98 D	gone
1 quartermaster shop	59 F	gone

The date that the contracts were awarded has not been determined. The winners were:

James Campbell, San Francisco--construction proper
R. Dalziel, Oakland--plumbing and heating
H. S. Tittle, San Francisco--electric wiring.[5]

Most of the structures were completed in the spring of 1907. They remained empty for the time being; the artillery detachment continued to occupy its temporary shelters. As early as March 1909, a landslide, caused by heavy rains, shoved the new ordnance storehouse (No. FA-961) from its foundation a distance of four feet. This same storm tore off half the roof of the coal shed and damaged the slate roof of one of the barracks. Other repairs soon became necessary. As early as the fall of 1907 the porches of the officers' quarters had settled so badly that they had to be jacked up and underpinned. Electricity was brought into the fort at the end of the year, being an extension of the new electrical distribution system at Fort Baker.[6]

The construction quartermaster notified General Funston in Janary 1908 that the quarters were finally ready for occupancy. On February 12, Capt. Sam F. Bottoms with forty-eight enlisted men of the 161st Company, CAC, arrived at Fort Barry from Fort Baker to take up permanent occupancy. The first post return for Fort Barry recorded the event: "Fort Barry was garrisoned by troops Feb. 12th 1908 per GO 35 Hdqrs. Dept. of Calif. c.s. This post is located at Point Bonita, Cal., a distance of 7 miles from

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5. NA, RG92, OQMG, Gen. Correspondence, 1890-1914, item no. 185219, unidentified newspaper clipping; and "General Instructions to Bidders," Jan. 14, 1905.

6. Fort Barry, Fort Record Book, Presidio Museum; NA, RG92, OQMG, Gen. Correspondence, 1890-1914, Capt. B.F. Cheatham, Mar. 29 and July 20, 1907, to QMG; Dep. QMG, Nov. 21, 1907, to QMG; QMG Aleshire, Dec. 16, 1907, to AG.

Saucelito, Cal., at which place the post office and ferry stations are located. The telephone station is located at this station. The telegraph station is located at Fort Baker, Cal., a distance of 5 miles."[7]

The engineers turned over their gasoline engine and pump to the post for use in the new water system. Barely had the troops settled down when the pump went out of commission and so many leaks developed in the system that not even one reservoir could be kept full. By the summer of 1908, the quartermaster had begun the construction of a dike at the east end of Rodeo Lagoon to separate the fresh water of Rodeo Creek from the brackish water of the lagoon. At first this dike did not stretch completely across the lagoon because the northern shore was private property. Instead, it bent east and touched shore so as to include the mouth of the creek. This was the beginning of today's Rodeo Lake. By the end of 1908 a pumphouse, having a capacity of 50,000 gallons per day, stood on the edge of the lagoon. This water, however, was restricted to flushing and irrigation purposes. Drinking water was supplied by three wells about two and one-half miles up Rodeo Valley; pumps forced the water into a 200,000-gallon reservoir on the hill behind the officer's quarters.

In 1910 the Secretary of War approved the construction of a 100,000-gallon concrete reservoir on the slope above the barracks. This reservoir supplemented a smaller one nearby for

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7. NA, M617, Roll 80, Fort Barry, Post Returns, Feb. 1908; The San Francisco Call, Jan. 28, 1908. There was a post return for January also, when the post was occupied by one man, QM Sgt. William Bromstedt. The artillery detachment continued to live at the rifle range and continued to submit its own post returns, as will be discussed later on under Departmental Rifle Range.

storing the flushing-irrigation water from the reservoir. The water system was now working so well that the Army agreed to supply the Bonita Point Light Station with its domestic supply (160,000 gallons per year at 15¢ per 1,000 gallons). As has already been noted in this study, a six-inch water main was run through the Baker-Barry Tunnel when it was completed in 1918. This main brought in a commercial supply of water from Sausalito.[8]

The engineers also turned over their wharf and tramway to the post quartermaster. This officer was quite dissatisfied with the condition of the wharf. It was in a poor state of repair, and when the winds came out of the southeast the government steamer could not dock. He recommended the construction of a 500-foot breakwater that would cost $60,000. However, he received only $10,000, with which he had the wharf reconstructed and extended, thus making landings somewhat safer. Like all wharves, it needed repairs over the years, including new cluster piles, fender piles, and green spring piles. On one occasion the post quartermaster toyed with the idea of cutting a road down the cliff side to the wharf (there already was a path), but the Quartermaster General disapproved firmly.[9]

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8. FARC, San Bruno, RG77, OCE, SF Dist., Letterbook No. 5, Jan. 10-Mar. 5, 1908, Maj. C.H. McKinstry, Feb. 14, 1908, to CO, Ft. Barry; NA, RG92, OQMG, Gen. Correspondence, 1890-1914, Funston, Mar. 13, 1908, to AG; Lt. C. Schudt, July 22, 1908, to QMG; Maj. G. Williamson, Dec. 30, 1908, to QMG; Lt. Col. J. Riddle, 12th Lighthouse Dist., May 5, 1910, to CO, Ft. Barry; NA, RG77, OCE, General Correspondence, 1894-1923, McKinstry, Apr. 13, 1909, to Chief of Engrs.

9. NA, RG92, OQMG, Gen. Correspondence, 1890-1914, Lt. Col. J. Biddle, May 17, 1909, to AG, Dept. of Calif.; Articles of Agreement, Feb. 26, 1913, for repairs to wharf; Aleshire, Sept. 23, 1911, to Chief of Staff.

From the military correspondence of these years miscellaneous references to the structures at Fort Barry have been culled. In 1909, for example, two dormer windows were added to the quartermaster storehouse (structure No. FA-960). That same year a second, temporary stable was constructed. The first stable had room for only fifteen animals, whereas the post had twenty mules and six horses. A flagstaff was not acquired until December 1909. It was an iron staff, seventy-five feet tall, and was mounted on a concrete foundation. It was located within the semicircle of quarters, in the area that was considered to be the parade ground. The rooms of the hospital (structure No. FA-941) were calcimined in 1910. At the same time the woodwork was varnished and the outside of the building painted. Because a number of Alcatraz's military prisoners was working at Fort Barry, a steel-bar cell, eighteen by ten feet, was constructed in the attic of the hospital as a detention room for any of these prisoners taken ill.

A major problem at Fort Barry was the lack of sufficient quarters for the staff sergeants assigned to the post, nearly all of whom were married. The sergeant first class, Hospital Corps, lived in quarters No. FA-942, which had been built for him. The two duplexes, nos. FA-955 and 956, were occupied by the sergeant major, the quartermaster sergeant, the commissary sergeant, and the ordnance sergeant. Having no quarters at all were the Coast Artillery Corps engineer, the electrical sergeant, and a second quartermaster sergeant who was assigned to the departmental rifle range. Two of these lived in San Francisco and commuted to work by steamer. This was a satisfactory arrangement on those days the steamer could dock at the Barry wharf. But on stormy days, these men had to take the ferry to Sausalito then make a two-hour hike to the post. The electrical sergeant was forced to live in quarters at Fort Baker and make the daily hike.

In addition a number of civilian employees had to be housed. The blacksmith built a rude house for himself. The plumber lived in an old shack that belonged to the engineers. And the civilian engineer made over another old engineer building as his residence. The corral boss and the nine civilian teamsters found bunks in the stables and at "improvised" quarters at the rifle range. Despite repeated requests for additional quarters, the Quartermaster General remained firm in his denials.[10]

The department quartermaster, in his periodic inspections, noted both changes and improvements required at the post. In 1909 he wrote that the boundary fence was in disrepair; neighboring cattle were devouring plantings made by the post quartermaster. Ground had been broken for a post exchange and work had already begun on a gymnasium (structure no. FA-946). He recommended the addition of bars to the basement windows of the barracks in order to protect company property stored therein. He also recommended the construction of a small concrete root cellar at the rear of each barracks. The quartermaster in 1911 carefully listed the transportation available at the post:

5 dump carts, used in police fatigue work
1 road cart, for carrying mail
5 army wagons, for repairing roads and for duty at rifle range
1 four-horse truck, for hauling fuel and heavy artillery stores
1 sprinkling wagon, for sprinkling roads and rifle range
3 buckboards, for transporting officers and troops on official business

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10. Ibid., Lt. C. Schudt, Feb. 19, 1909, to QMG; Capt. B.F. Cheatham, Mar. 5, 1908, to QM, Ft. Barry; General Instructions to Bidders, Ft. Barry, Oct. 5, 1908; Maj. J.A. Shipton, CO, Ft. Barry, Apr. 20, 1911, to AG.

1 dougherty (?)	"	"	"	"	"
2 mountain wagons	"	"	"	"	"
1 three-seat spring wagon		"	"	"	"
1 wagonette	"	"	"	"	"

1 express delivery wagon, for marketing purposes

At that time one of the buckboards was broken down. That was not surprising. The post commander complained loudly about the condition of the road to Fort Baker. He described it as being exceedingly dangerous. It wound up to an elevation of 650 feet (a slight exaggeration), then down again. It was too narrow in certain parts for teams to pass. There was no fence or other protection to keep a team from falling over--at points the slope was seventy-five percent and a wagon could fall 400 feet. Whole outfits had gone over the side on several occasions. To be certain, the road was essential. It was the communication with the outside when boats were unable to dock at the Point Bonita wharf. Also, marketing for the post was done at Sausalito.

A few weeks after writing the above, the company commander had cause to write a postscript. Three additional accidents had occurred on the road, involving a grocery delivery wagon, a work team, and a buckboard respectively. The buckboard had had four occupants: the driver, the post surgeon, the post adjutant, and none other than the post commander himself. All had suffered severe shock and contusions. This time he mentioned that from twelve to fifteen children traveled the road daily to attend school in Sausalito. Of course, they traveled at "great peril." The best solution, he said, would be a tunnel under the hill. But that idea's time had not yet come. The War Department approved the expenditure of $1,500 for materials to build a board fence at the more dangerous places.

An inspector general stepped into the transportation situation in the fall of 1911. He inspected the quartermaster tug Cartwright that made two or three scheduled trips to Fort Barry daily. He found her to be too small, too frail, and too unseaworthy. If a better boat were not available, he suggested that an "automotive stage run" for passengers be made available between Barry and Baker. Apparently, he had not taken a buckboard over the road. The post commander quickly put him straight on the infeasibility of an auto stage. As for the Cartwright, he said the tug was an invitation to disaster: "I refuse to use the boat & do not allow my family to use it."

Probably because of the condition of the road, the idea blossomed in 1913 of establishing a school for the children at the post. Correspondence on this matter finally reached the Judge Advocate General, who ruled that provision was made by statute for only two classes of schools at army posts: for officers, and for enlisted men. However, he saw nothing wrong with using a public building for school purposes, providing the parents equipped and maintained it at their own expense. This opinion resulted in the Treasury Department transferring a surplus boat house at Rodeo Beach to the War Department. The school board at Sausalito agreed to send a teacher to Fort Barry. And the parents paid the bills.[11]

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11. Ibid., Col G. Ruhlen, June 20, 1909, to QMG; Chief QM R. R. Stevens, Dept. of Calif., June 28, 1909, to AG, Dept. of Calif.; Col. F. Von Schrader, Feb. 13, 1911, report of inspection; J.A. Shipton, CO, Ft. Barry, Apr. 27, 1911, to AG, Dept. of Calif.; Maj. G. Blakely, IG, Extracts from Inspection of Ft. Barry, Nov. 6-22, 1911; H.G. Sharpe, Actg. Chief, QM Corps, July 9, 1913, to U.S. Dep. William Kent. At the time of the transportation crisis, Ft. Barry had a full complement of troops--2 companies, the 66th and the 161st.

C. Departmental Rifle Range

Each of the several posts in the Bay Area had long had some sort of small arms range for target practice. Even Alcatraz had developed one by placing the targets on one rocky point and the men firing over the water from another point. Fort Mason's range was on the beach west of Point San Jose. In early 1904, Gen. Arthur MacArthur appointed a Board of Officers to investigate and report on the idea of establishing a single large target range in an area between Point Bonita and Fort Baker.

The Board reported favorably in February but recommended the purchase of an additional 2,500 acres of land north of the reservation boundary to include that part of the watershed of Rodeo Creek that did not already belong to the United States. Not only would this allow for the establishment of one or more small arms ranges, it would permit a range for light artillery practice. MacArthur became enthusiastic about the report and asked the War Department to secure an appropriation of $125,000 with which to purchase the land. The Secretary of War was less enthusiastic and refused to send the request along to the Congress. Nonetheless, the Departmental Rifle Range would be built.[12]

It will be recalled that Fort Barry's first detachment of artillery (one officer and twenty-three men) arrived at the fort in July 1902. Their assignment was the maintenance of the new coastal guns that were being mounted at the time. By late 1904, a second detachment had arrived at the fort. General MacArthur had found a way to construct a range after all. This detachment

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12. Ibid., "Memorandum re land," n.d., ca. 1904-09. Twice more, in 1906 and 1909, the Secretary of War refused to acquire the additional land.

formed the nucleus of an intermittent camp that supported both the military units arriving at Fort Barry to practice on the new range and the military prisoners who came from Alcatraz Island to build the range. The camp site was located in a small vale lying east of the post, where the balloon hangar and the riding stables now stand. By 1910, the temporary frame structures consisted of a barn, an office, a storehouse, a cook house, a post exchange, an officer's quarters, and six mess kitchens. The troops lived in tents while at the range.

Captain Arthur Johnson, 13th Infantry, made out the first post return for "Departmental Rifle Range" at the end of November 1904. His company and some others from the 13th had carried out target practice at makeshift facilities during the first twelve days of November. Then, on November 13, fifty military prisoners arrived from Alcatraz, via Fort Baker, to begin construction on a permanent range. Their first task was to construct a barbed wire stockade for themselves and to erect ten conical wall tents within it. Until this was completed, on November 17, the prisoners had to return to the Rock each evening. Seventy-five prisoners occupied the stockade that evening and, the next morning, began construction of the range and a stable for the "public animals." The number of prisoners increased to 108 on November 25. By the end of the month it was found that the ordinary ration was insufficient for the laboring prisoners; Alcatraz forwarded additional quantities of pork, beans, cornmeal, and oatmeal.

The target range itself was located in a large valley still farther east, a valley that ran in a northwest-southeast direction. The ideal range had a length of one thousand yards, with firing points at every 100 yards. The terrain at Fort Baker was such that only 600 yards of fairly level ground was available in the

valley--one of the reasons the Board had recommended additional land. To have extended it even 100 yards farther to the northwest would have caused it to enter the privately-owned land north of Fort Barry, across Rodeo Creek. Consequently, the range as constructed had a length of 600 yards with firing points at 200, 300, 500, and 600 yards. At the end of 1904, Captain Johnson reported that the target pit at the southeast end of the range had been excavated and a concrete floor laid in it. Also, good progress had been made on a cut on the hillside on the northeast side that extended onto the range.

Heavy rains in January and February 1905 slowed progress measurably. Life at the camp was enlivened when two prisoners were caught excavating an escape tunnel from under the floor of the bath tent. The original Baker-Barry road had approached Fort Barry down the valley now occupied by the range. A new road segment passing in the rear of the range and keeping along Rodeo Creek was under construction by May.[13]

The range was sufficiently completed by May 1905 for no less than thirteen companies to camp there and engage in target practice. The last fifty-five military prisoners returned to Alcatraz in June. They came back to Fort Barry in the fall of 1905 for additional but unspecified work on the range, remaining for several months. From then until the post returns were ceased in June 1909, a steady stream of units arrived at the range to engage in target practice. At all times a small detachment remained at the camp providing what might be called an administrative overhead.

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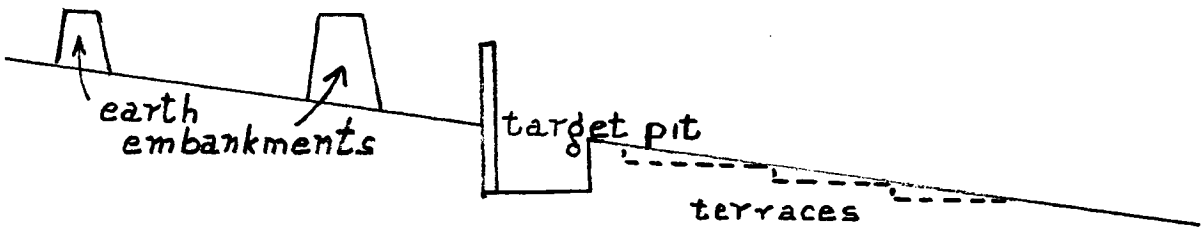
13. NA, Microcopy 617, Roll 945, Post Returns, Point Bonita and Departmental Rifle Range, November 1904-May 1905.

The U.S. Marine Corps was a welcomed guest at the rifle range both in 1909 and 1910. The Secretary of the Navy requested the use of the facilities again in 1911. However, unsettled conditions on the Mexican border called the Marines away from their West Coast garrisons, as were many army units. It is not known if the marines conducted target practice at Fort Barry in future years.[14]

An unusual problem concerning target practice came to light in 1911 when it was discovered that spent bullets were falling on Battery Kirby on the north shore of the Golden Gate, making the service of the 12-inch guns untenable. The commanding officer of Fort Barry, Maj. J. A. Shifton, found the cause, and the cure. The first 100 yards in front of the targets had a slope of seven percent. Bullets hitting this slope ricocheted off in the direction of Kirby. Shifton recommended providing three terraces or steps on this slope to prevent the rocochets. Also two earthen embankments should be built behind the targets to catch any stray bullets.[15]



14. NA, RG92, OQMG, Gen. Correspondence, 1890-1914, Col. J.E. Mahoney, Hdqrs., U.S. Marine Corps, Mar. 6, 1911, to Asst. Sect. of Navy.

15. NA, M617, Roll 945, Post Returns, Dept. Rifle Range, May 1905-June 1909; NA, RG92, OQMG, Gen. Correspondence, 1890-1914, Capt. E.W. Clark, OQMG, Apr. 11, 1911, to Chief QM, Dept. of Calif.

The Departmental Rifle Range remained in use until the Army's final departure from Fort Barry. The pistol range was moved from the northeast side to the southwest side of the range (and greatly reduced in size). Although Fort Barry was in a caretaking status after 1921, the range continued to be a busy place year in and year out.

D. Fortifications, 1905-1946

The engineers turned over Fort Barry's Endicott-period batteries to the artillery troops in 1905. The next forty years and more would bring many changes, improvements, and additions to the harbor defenses located in the Point Bonita area. Because of their location, Barry's guns and mortars had a seaward range much greater than those at Fort Baker; consequently their fortunes did not decline as quickly as did those of the batteries oriented toward inner harbor defense. The history of these fortifications has been presented in a separate study, but it is summarized herein to provide an inventory of the historic structures at Fort Barry.

Battery Mendell. FA-1364. Two 12-inch guns on disappearing carriages. It was the first gun battery to be constructed at Point Bonita. Its guns were salvaged in 1943.

Battery Alexander. FA-1356. Eight (later, four) 12-inch mortars in two pits. It was the only mortar battery located north of the Golden Gate. Its armament was dismounted and salvaged in 1943. Thereafter, its magazines stored mine explosives.

Batteries Edwin Guthrie and Hamilton A. Smith. FA-1354. Originally one battery (Guthrie) having four 6-inch guns. Because of its mission to cover the submarine mine fields it was one of the last batteries to be disarmed after World War II.

Batteries Samuel Rathbone and James F. McIndoe. FA-911. Originally one battery (Rathbone) having four 6-inch guns. Because of its mission to cover the submarine mine fields it too was one of the last batteries to be disarmed after World War II, in the late 1940s.

Battery Patrick O'Rorke. FA-1351. Four 3-inch guns. Its mission included covering the mine fields and the beach at Rodeo Cove. The battery was salvaged in April 1946.

Battery Wallace. FA-999. Two 12-inch guns. Constructed during World War I. It had the longest range of all the batteries at Fort Barry. In 1943 the guns were casemated. It was considered obsolete by 1948.

Battery Construction No. 129. FA-773, Designed for two 16-inch guns. Construction began on the casemated emplacements in 1942, but was suspended in 1943, when nearly 100 percent complete. The gun tubes arrived, but not their carriages. The battery was never armed.

Air Defense Missile Site, San Francisco 88L. FA-963, 966, 967, 969, 971, and 975. This Nike missile launch site is not properly a part of the seacoast defenses. But it is a significant element in the post-World War II defense system of San Francisco.

Mining Casemate. FA-1365. Constructed in 1908. It was the first casemate designed and located for mining the waters outside the Golden Gate. It was made bombproof in 1918. It remained an important element in mine defense until after World War II, during which it controlled Mines I in North Channel.

Searchlight Shelter. No structure number. Located below the lighthouse at Point Bonita, and constructed circa 1913. It is on property administered by the U.S. Coast Guard. In addition to its dramatic location, it is the better preserved of the two such shelters surviving north of the Golden Gate.

Searchlight Shelter. FA-1357. Located near Bird Island.

Four Fire Control Stations. FA-1375, 1376, 1377, and 1378. Located adjacent to the radar tower on U.S. Coast Guard property. Constructed between 1917 and 1921, these stations underwent several changes in assignments. In the post-war planning, three of them were assigned as GB-2 Battalion; Barry Group, and M^1, Mines I.

Signal Tower. World War II. Located near U.S. Coast Guard radar tower. Two stories. Reinforced concrete.

Double Fire Control Station. FA-1379. Located below and in front of the lighthouse and searchlight shelter on Point Bonita on property presently administered by the U.S. Coast Guard. Down to 1943 they served as B^1S^1, Battery Mendell; and $BC^2B^4S^4$, Battery Alexander.

Two Fire Control Stations. FA-1362 and 1363. World War II-type stations; these are located immediately north of Battery Mendell. They served as M^4, Mines II; and B^2S^2, Chamberlin.

Two Fire Control Stations. FA-985 and 989. Located on Rodeo Hill, these two stations were the BC and the B^1S^1 for Battery Wallace.

Antiaircraft Battery No. 2. FA-1380. Located on Rodeo Hill. Two concrete gun plugs were constructed in 1920, and the guns mounted soon thereafter. A third gun was added in 1940. The battery was salvaged in 1946. Associated with the battery are two concrete, cut-and-fill structures, Nos. FA-991 and 993, which were a magazine and a combination storeroom and power plant room.

Balloon Hangar. FA-905. Constructed in 1921. It is the only survivor of three such hangars built at San Francisco.

Automatic Weapon Emplacements. FA-1381. Four circular earthen emplacements located north of Battery Mendell. Believed to date from World War II and possibly designed for .50 caliber machine guns.

E. Fort Barry, 1922-1941

Although without a permanent garrison from 1921 to 1939, Fort Barry was far from being a lonely forgotten place. Companies arrived on schedule to fire at the Departmental Rifle Range. Coast Artillery units from other posts trained periodically at the coastal guns. A caretaking detachment, usually from Fort Baker, performed routine maintenance. In 1935 a Civilian Conservation Corps camp was established on its eastern boundary. And between 1936 and 1941, several projects were undertaken at the post under the program of the Work Projects Administration.

Nevertheless, the permanent post buildings remained uninhabited. But they were not entirely neglected. In 1929, for example, eighteen of them received fresh coats of paint at a cost of $3,459. The quartermaster did not help the cause of history much when he said that the color scheme would be the same as the existing one, and that all iron work, tin roofs, and metal gutters

would be painted with Prince's metallic paint to match the old color.[16]

A WPA project in 1936 resulted in all the permanent buildings again being painted on the exteriors. At the same time extensive plumbing repairs were made in the two barracks: flush valves in toilets, new lavatories, new wash trays, new kitchen sinks, and repair of showers. The latrines, kitchens, and mess halls received two coats of fresh paint. Two years later the interior plaster of all the officers' quarters was repaired and painted. The hospital was painted inside and out, as was the interior of the post headquarters building. A separate 1938 project called for similar work on other structures. It also provided for the clearing off of the parade ground area, and the grading, ditching, and rocking of three miles of road.[17]

The arrival of troops and the reactivation of the post in 1939 resulted in an increase in construction activity and building maintenance. In 1940 two temporary sheds (T145 and T147) were constructed for motor vehicles, as was a temporary guardhouse and dispatcher's office (T144). In the emergency construction of 1941, a regimental chapel was constructed at Fort Barry, although it was

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16. WNRC, RG77, Completion Reports, Forts Baker & Barry, Capt. C.W. Haney, Completion Report on Repairs to & Exterior Painting of Ft. Barry Buildings, Feb. 21, 1929. By 1940, two companies of the 65th Coast Artillery were living temporarily in the CCC barracks. At that time there was an abortive attempt to have the camp named Camp Spurr, after Col. John P. Spurr who commanded the Harbor Defenses of San Francisco from 1922 to 1925.

17. Ibid., Capt. G.H. Dietz, QM, Completion Report on WPA Project No. 513-2-5 and WPA Project O.P. 365-03-2-24, both 1938; Capt. S.W. Hulse, QM, Completion Report on WPA Project 13-186, 1936.

considered to be a chapel erected for Fort Cronkhite across the lagoon. A post theater was also erected in 1941. A fire partially destroyed the theater early in 1942; it was promptly repaired at a cost of $28,500.[18]

A rapid build-up of Coast Artillery units at Fort Barry in 1941 symbolized the approach of America's entry into the war. All structures, permanent and temporary, at the fort and at the new Cronkhite cantonment were utilized to capacity. Personnel took station at the guns, mortars, fire control stations, searchlights, mine casemates, and the antiaircraft guns. Fort Barry was as ready as it would ever be as a key element in the Harbor Defenses of San Francisco.

F. World War II

The army historian of the Western Defense Command wrote that on the bombing of Pearl Harbor, all the Harbor Defense stations and installations at San Francisco were manned by twelve noon on December 7, 1941. On that date, six batteries of the 6th Coast Artillery (Harbor Defense) were stationed at the fort:

Headquarters Battery, 4th Battalion,	assigned to the	G-2 Station
Battery H	"	" Rathbone-McIndoe, 6" guns
Battery I	"	" Smith-Guthrie, 6" guns

18. Ibid., Maj. A.N. Caldwell, QM, Completion Report, Apr. 4, 1941; Capt. J.H. Veal, QM, Completion Reports on Temporary Housing, Forts Baker, Barry, & Cronkhite, Oct. 22 and Dec. 17, 1941; Veal, Completion Report on Repairing Theater and Constructing a Dressing and Toilet Addition, July 1, 1942. All the temporary buildings at Fort Barry were painted gray with cream color trim.

Battery K	"	" Wallace, 12" guns
Battery L	"	" Mendell, 12" guns
Battery M	"	" antiaircraft searchlights

In April 1942 six additional batteries arrived at the fort:

Battery G, 6th CA (HD), assigned to the 3" antiaircraft guns
Battery C, 130th CA Bn. (AA), also " " " " "
Headquarters Battery, 266th CA Bn. (HD)
Batteries A, B, and C, 266th CA Bn. (HD), all three assigned to the 6" guns.

Also by April, Headquarters Battery, 1st Battalion, 6th CA had taken station at Fort Barry.

In addition to the coast artillery, a battalion of infantry troops (possibly from the 7th Infantry Division) was rushed to Fort Barry immediately after Pearl Harbor. This battalion hastily prepared the area, particularly Rodeo Beach and other beaches to the north, against an enemy landing. The infantrymen laid barbed wire entanglements, dug slit trenches, and cleared fields of fire for automatic weapons.

Such modernization programs as installing fire control and surveillance radar, casemating Battery Wallace (FA-999, constructed during World War I), gas proofing plotting rooms, and building 16-inch Battery Construction No. 129 (FA-773), were rushed toward completion during 1942 and 1943. By 1943, however, the War in the Pacific was turning in the favor of the Allies. This success began to have an effect at Fort Barry as the garrison gradually decreased. Finally, in October 1944, a major reorganization of the

Harbor Defenses of San Francisco occurred which reduced the coast artillery to three batteries at the post.

Headquarters Battery, 2d Bn., 6th CA, which had arrived from Fort Cronkhite on January 24, 1944, was redesignated the Headquarters and Headquarters Detachment, 172d CA Bn. (HD) and assigned to GATE CP. Batteries H and I, 6th CA (HD), which had been at Barry since before Pearl Harbor, were redesignated Batteries A and B, 172d CA Bn. (HD), respectively. Battery A was assigned to the 6-inch guns of Rathbone and McIndoe; while B manned the 6-inch gun of Smith and Rathbone. These assignments were another reflection upon the continuing importance of the 6-inch batteries in covering the submarine mine fields.

Another reorganization occurred after the war, on September 15, 1945, when Battery B, Harbor Defenses of San Francisco, was assigned to Rathbone and McIndoe, and Battery C, HD of SF, took charge of Smith and Guthrie. Finally, on August 1, 1946, these units were replaced by the 55th and 515th Coast Artillery Batteries.

These two units had a brief existence at Fort Barry; both were inactivated on November 25 that fall.[19]

G. Postwar Fort Barry

In 1943 Batteries Mendell (12-inch guns) and Alexander (12-inch mortars) had their armament removed and scrapped.

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19. FARC, San Bruno, RG77, OCE, SF Dist., Main Office, Fortifications Files, 1884-1944, Capt. L.E. Mullally, CE, Aug. 24, 1943, to CG, Western Defense Command & Fourth Army; Western Defense Command, "Historical Record, Northern California Sector, Western Defense Command," pp. 19-21, and Appendix 4; Lewis, History of San Francisco Harbor Defense Installations, Appendix IV, pp. 4-5.

Battery Wallace and its long-range 12-inch guns were placed on the inactive list in 1944, only a year after modernization of the battery had been completed. In 1946, the 3-inch guns of Antiaircraft Battery No. 2 were salvaged, as were the 3-inch guns of Battery O'Rorke. That fall the last of the Coast Artillery troops left Fort Barry. The four 6-inch rapid fire batteries continued to be functional because of their mission to give protective cover for minefields. When submarine mining was transferred to the U.S. Navy in 1949, Fort Barry ceased to have any role in harbor defense.

For a time after World War II, 40-mm guns and .50-caliber machine guns were authorized for Fort Barry. The 40-mm guns, nine in number, were stored in the balloon hangar and at Battery Construction No. 129. The machine guns apparently were stored elsewhere. All or most of the 40-mm guns were removed from Fort Barry in the summer of 1946.[20]

In the 1950s, Fort Barry became the location of an Air Defense Missile (Nike) Site, San Francisco 88L. Nearby was the administrative area, San Francisco 88, for the missile battery. When the Army abandoned the missile site, including two disarmed missiles, the National Park Service took over its administration as an important historic resource concerning the defenses of San Francisco Bay. The Army retained temporary control of the barracks, etc., at the administrative area. These latter, however, are not considered to possess historical significance. Another missile installation at Fort Barry was the control area for a Nike battery across the lagoon at Fort Cronkite. This control area, with

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20. Fort Barry, Fort Record Book, The Presidio Museum.

its radar installations, was situated on top of Battery Construction No. 129, near the Fort Baker boundary. Little remains of this control center today.

Between Rodeo Lake and the Departmental Rifle Range, the post-World War II "Smith Housing Area" was retained by the Army for a period following the establishment of Golden Gate National Recreation Area. The housing consisted of about fifteen major structures, most of them apartment houses. The assigned structure numbers ran from 903 to 926. The Army has since abandoned these quarters. Not being a part of the original Fort Barry complex, these quarters are judged to possess no historical significance.

Farther to the east, on both sides of the Barry-Baker boundary is the second army post-World War II, modern residential area known as the Capehart housing. Army personnel still occupy these quarters, their assigned numbers ranging from 801 to 870. Like the Smith housing, they are judged to possess no historical significance.

The United States Coast Guard continues to occupy its land on Point Bonita. Several artillery fire control stations and a seacoast searchlight shelter are located on Coast Guard property. Although these structures are not on land administered by the National Park Service, they are judged to possess a local level of historic significance and are listed in a following section as such.[21]

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21. This study does not consider the lighthouse or other Coast Guard structures at Point Bonita. My associate, Historian Anna C. Toogood, has discussed them in her study on Golden Gate NRA.

Fort Barry today is an integral and an important part of Golden Gate National Recreation Area. The many surviving elements of the seacoast and missile defenses of San Francisco Bay combine to demonstrate the evolution of harbor defense during the twentieth century. The original post buildings illustrate an early twentieth century coast artillery fort. Here the artillerymen manned the outer line of defense of a great harbor through two world wars. While the guns of Fort Barry never fired in anger, they would surely have been missed in December 1941 had they not existed.

H. List of Historic Structures, Fort Barry

Fort Barry has been placed on the National Register of Historic Places. However, the nomination form, while including the entire military reservation as a historic district, listed only nine structures by name: Battery Hill (i.e., Battery Construction No. 129), Battery Rathbone-McIndoe, Battery Wallace, Battery Alexander, Battery Mendell, Nike Administration Site 88, Nike Launcher site 88 (L), Battery Smith-Guthrie, and Battery O'Rorke. As already indicated in this study, Fort Barry contains a number of additional structures that are worthy of consideration for nomination to the National Register of Historic Places. A listing of all the historic structures follows:

Harbor Defense and Missile Structures

Battery Mendell. Structure No. FA-1364. Two 12-inch gun emplacements designed for disappearing carriages.

Battery Alexander. Structure No. FA-1356. Eight 12-inch mortars in two pits. It includes two firing booths that have army Nos. FA-1353 and 1355.

Batteries Edwin Guthrie and Hamilton A. Smith. Structure No. FA-1354. Originally one battery (Guthrie) having four 6-inch guns.

Batteries Samuel Rathbone and James F. McIndoe. Structure No. FA-911. Originally one battery (Rathbone) having four 6-inch guns.

Battery Patrick O'Rorke. FA-1351. Four 3-inch guns.

Battery Wallace. FA-999. Two long-range 12-inch guns. Casemated.

Battery Construction No. 129. FA-773. Two 16-inch gun emplacements. Casemated. Guns not mounted.

Air Defense Missile Site, San Francisco 88L. Nike missile launch site. FA-963, 966, 967, 969, 971, and 976.

Mining Casemate. FA-1365.

Searchlight Shelter, Point Bonita. No structure number, U.S. Coast Guard property.

Searchlight Shelter, near Bird Island. FA-1357.

Four Fire Control Stations. Near radar tower, U.S. Coast Guard property. FA-1375, 1376, 1377, and 1378.

Double Fire Control Station. Below lighthouse on Point Bonita. FA-1379. On U.S. Coast Guard property.

Two Fire Control Stations. North of Battery Mendell. FA-1362 and 1363.

Two Fire Control Stations. On Rodeo Hill. Both for Battery Wallace. FA-985 and 989.

Antiaircraft Battery No. 2. Three 3-inch antiaircraft guns. Ruins only. FA-1380.

Magazine and Storeroom. For AA Battery No 2. FA-991 and 993.

Balloon Hangar. FA-905.

Automatic Weapon Emplacements. North of Battery Mendell. FA-1381.

Garrison Structures

Officers' Quarters. FA-934.

Commanding Officer's Quarters. FA-936.

Officers' Quarters. FA-937.

Officers' Quarters. FA-939.

Post Headquarters. FA-940.

Post Hospital. FA-941.

Hospital Steward's Quarters. FA-942.

Barracks. FA-944.

Barracks. FA-945.

Gymnasium and Post Exchange. FA-952.

Noncommissioned Officers' Quarters. FA-955.

Noncommissioned Officers' Quarters. FA-955.

Quartermaster and Subsistence Storehouse. FA-960.

Ordnance Storehouse. FA-961.

Bakery. FA-962.

Departmental Rifle Range. FA-830.

Departmental Pistol Range. FA-831.[22]

I. Conclusions and Recommendations

Fort Barry, on the outer line of defense, was a most important seacoast artillery post through two world wars. Today, it has a concentration of batteries that encompass an impressive array of types of weapons, ranging from 3-inch guns to 16-inch guns and including mortars and Nike missiles. Further, from Fort

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22. In 1976 a List of Classified Structures was prepared for Golden Gate NRA. The Fort Barry Chapel, No. FA-948, was recommended for that list. Now, with additional historical research accomplished, it is recommended that this structure be dropped from the list in that it possesses neither historical nor architectural significance.

Barry one can see a panorama of other coastal defense sites of the Bay Area--ancient Fort Point, the Presidio, Fort Miley, etc.

Recommend that Fort Barry be the location for a major interpretation of the history of seacoast defense and that this interpretation be carried out through the batteries themselves and the viewpoints. Also recommend an interpretation of the garrison life of the Coast Artillery through the medium of the original post structures.

Association, 1969), pp. 56-59; Lawrence Kinnaird, "History of the Golden Gate and its Headlands," MS, typescript, 1967, p. 216; Erwin G. Gudde, California Place Names, The Origin and Etymology of Current Geographical Names (Berkeley: University of California Press, 1962), pp. 33 and 55; National Archives, Cartographic Archives Division, Record Group 77, Fortifications File, Drawer 189, Cal. 3-1, "Military Lands, California, Fort Baker." Hereinafter, National Archives is cited as NA, and Record Group, as RG.

IV. Fort Cronkhite

A. A Brief History

Fort Cronkhite is the newest of the several military reservations now included in Golden Gate National Recreation Area. Along with Forts Baker and Barry it had been a part of the ancient Rancho Sausalito. Samuel R. Throckmorton, whose acquisition of the rancho has already been mentioned, sold various parcels of the land north of the Lime Point Reservation over the years. By the time the army became interested in the area north of Rodeo Lagoon, it was owned by Antoine Borel and Company, whose office was at 440 Montgomery Street, San Francisco.

In 1904, when the Department of California was contemplating the construction of a large rifle range in the Marin Headlands, a Board of Officers noted that a piece of Borel's land would be needed to round out a sufficiently large level space for the range. The history of Fort Barry, in Part III of this study, noted that the Secretary of War refused to ask the Congress for an appropriation for this purpose. Five years later, the Army again became interested in Borel's land as a suitable location for seacoast searchlights. The searchlight project in 1909 called for two lights (to be numbered 16 and 17) to be installed on Tennessee Point. Lt. Col. John Biddle, Corps of Engineers, informed the Chief of Engineers that Borel was willing to sell five acres at the point and a right-of-way thereto for $2,000.[1]

Lengthy negotiations followed. When Borel refused to furnish a warranty deed for the five acres, the Army considered

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1. NA, RG77, OCE, Gen. Correspondence, 1849-1923, Biddle, Oct. 13, 1909, to Chief of Engrs.

instituting condemnation proceedings in order to secure a clear title. Borel declined to agree to a consent verdict and began hinting that he valued the land at much more than $2,000. These tactics scared the Engineer Department into dropping the idea of a condemnation suit and it suggested to the U.S. District Attorney at San Francisco that a "grant, bargain, and sale" deed be accepted inasmuch as the California statute of limitation seemed to establish Borel's title.[2]

Borel was agreeable, if not enthusiastic, to providing this type of deed; but now negotiations between him and the U.S. District Attorney bogged down over restrictions that Borel imposed concerning the right-of-way. Meanwhile, the engineers grew more and more nervous, fearing that Borel would withdraw. Not until July 28, 1914, were 5.5 acres of land and the right-of-way thereto at Tennessee Point purchased by the United States.[3]

Searchlights Nos. 16 and 17 were constructed on Tennessee Point eventually; and the five and one-half acres became an integral part of the seacoast defenses of San Francisco Bay. The design of these two lights was unusual in that each was mounted on an elevator that lowered them into the ground when they were not in use. Practically no remains of them are visible today.

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2. FARC, San Bruno, RG77, OCE, San Francisco Dist., Letterbooks, vol. 25-27, 1911-13, Lt. Col. T.H. Rees, Sept. 24, 1911, to Borel, and Oct. 4, 1911, to R.T. Devlin, U.S. Dist. Attorney; No. 11, 1911-12, W.B. Thomas, Chief Clerk, U.S. Engr. Office, Mar. 20, 1912, to Borel.

3. NA, RG77, OCE, Gen. Correspondence, 1894-1923, Biddle, Oct. 13, 1909, to Chief of Engrs., and subsequent documents; RG407, Supplement to Harbor Defense Project, San francisco, 1945, Annex A, p. 29; FARC, San Bruno, RG77, OCE, SF Dist., Letterbooks, vols. 25-27, 1911-13, Rees, Feb. 11, 1913, to J.L. McNab, U.S. Dist. Attorney.

Installation of the mighty 16-inch gun at San Francisco became a matter of serious discussion as early as 1915. Planning at first was oriented toward siting the guns at Fort Funston, south of San Francisco. In 1928, however, the Adjutant General of the Army announced there would be two batteries of two 16-inch guns each, one battery on either side of the Golden Gate. Tennessee Point was selected tentatively for planning the northern battery in 1932. Then in the appropriation "Seacoast Defenses, United States, 1937," the Congress approved the expenditure of $318,500 for the purchase of land at Tennessee Point on which to build the immense battery. The army acquired approximately 800 acres north of Rodeo Lagoon by condemnation in 1937, the deed being recorded on June 21. War Department General Orders No. 9, December 17, 1937, designated the new reservation Fort Cronkhite in honor of the recently deceased Maj. Gen. Adelbert Cronkhite, a West Point graduate (1882) who had commanded the 80th Division, National Army, during World War I.[4]

In March 1938, excavation on Wolf Ridge for the firing platforms began. In a secret letter dated December 31, 1937, the Adjutant General announced that the battery would honor Maj. Gen.

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4. NA, RG407, Supplement to Harbor Defense Project, San Francisco, 1945, Annex A, p. 29; Annexes to Harbor Defense Project, Harbor Defenses of San Francisco, 1937, Annex A, p. 6; FARC, San Bruno, RG77, OCE, SF Dist., Fortification Files, 1880-1944, AG, Nov. 22, 1937, to Chief of Engrs.; Lewis, A History of San Francisco Harbor Defense Installations, Appendix I, pp. 3-4. Although the General Orders naming Fort Cronkhite were not published until Dec. 17, 1937, the Adjutant General notified the Chief of Engineers on Nov. 22 that the fort was designated Cronkhite. The original 5.5-acre site at Tennessee Point was not added to Fort Cronkhite until 1938, making the entire reservation 805.80 acres.

Clarence P. Townsley, an artilleryman. At one time, Townsley had been superintendent at West Point, and, later, the commanding officer on Corregidor Island in Manila Bay. In World War I, he was one of the first American officers to arrive in France, where he later commanded the 30th Infantry Division. Townsley died in 1926. The battery and its reserve magazine were both transferred to the artillery in July 1940. On July 1, the first 16-inch round ever fired from the Pacific Coast of the continental United States was fired here.[5]

The 1937 Annexes for the Harbor Defense Project, San Francisco, called for a mobile antiaircraft battery of three 3-inch guns on Wolf Ridge, above Battery Townsley, at Fort Cronkhite. Two years later, a Board of Officers recommended that this battery be a fixed one, i.e., the guns be permanently mounted on concrete plugs. The battery, designated AA Battery No. 1, was completed on August 26, 1940. In addition to the three guns and their concrete platforms, two reinforced-concrete structures were built. One of these served as the magazine; the other contained the power and storage rooms. Nearby was a director pit, a reinforced concrete, rectangular pit sunk into the ground.

Five fire control stations were constructed on Wolf Ridge during the 1930s and World War II. Two of these served as the B^1S^1 and the battery command post for nearby Battery Townsley. All of them still exhibit various camouflage endeavors, including

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5. Data concerning Battery Townsley has been taken from my earlier volume on the fortifications of San Francisco Harbor, which is still in a draft stage.

rocks mortared into place and concrete that simulated rock, and all are in a good state of preservation.

In addition to these fixed fortifications, Fort Cronkhite became the home of three batteries of mobile 155-mm guns in July 1941, as America's entry into World War II grew nearer. The twelve guns were located at the north end of the parade ground which was west of the cantonment area. The 56th Coast Artillery was activated and assembled at Fort Cronkhite that summer to man the 155-mm weapons. The day after Pearl Harbor one battery (four guns) moved into position at Tennessee Point; another battery moved into position at the west end of the parade ground; while the third traveled up the coast to Drakes Bay. The 56th Regiment left Fort Cronkhite in February 1942; but the disposition of the weapons remains unknown.[6]

The cantonment at Fort Cronkhite, with its ubiquitous World War II-type barracks was rushed to completion during the spring and early summer of 1941. A photograph taken June 24, 1941, shows the nearly-completed project and a platoon of soldiers marching on the parade ground--possibly Battery E, 6th CA, which had officially established the garrison only four days earlier.[7]

Despite the rows of tidy quarters, the 150 men who manned the great guns of Battery Townsley found themselves from

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6. Fort Record Book, Fort Cronkhite, Presidio Museum, San Francisco.

7. FARC, San Bruno, RG77, OCE, Photo, Ft. Cronkhite, 2 p.m., June 24, 1941, No. 0-111-3 (QM899); Lewis, A History of San Franicsco Harbor Defense Installations, Appendix IV, p. 5.

Pearl Harbor on living within the concrete walls of the battery itself rather than down on the shore of Rodeo Lagoon. They were still occupying the gloomy corridors a year later when a plea was made for adequate bathing facilities for them at the battery. It took fifteen minutes one-way by truck to get down to the barracks to use the showers there. Because the guns of Battery Townsley were required to be ready for action within fifteen minutes or less, approval was given for the installation of showers.

The men manning the antiaircraft guns also had to live up on Wolf Ridge. The personnel shelters, the mess hall, and the battery offices were all built underground. Because of the sparse vegetation of the ridge, camouflage procedures were extensive. Even the aboveground passageways between the guns and the other structures were covered with simulated rocks. This "rock" consisted of a framework of wood and chicken wire, covered with burlap, and plastered with a mixture of casting plaster, cement, and sawdust or sisal. Coloring matter was added to the mixture; but the experimenters found they could get a more satisfactory effect by spraying the finished rock with color. Much of this camouflage was fragile in nature; but remnants of it may yet be found on Wolf Ridge.[8]

By 1944 the war had receded to the western Pacific and the threat of a Japanese naval or air attack on the West Coast had greatly diminished. Reflecting this change was the diversion of Fort Cronkhite's mission from that of being solely a seacoast fortification garrison to the added function of a Commando Combat School. This school, the first of its kind in the Western Defense

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8. WNRC, RG77, OCE, Harbor Defense Files, San Francisco, Brig. Gen. R.E. Haines, HDSF, Dec. 1, 1942, to CG, Western Defense Command; unsigned, undated report concerning camouflage, HDSF.

Command, began operations on January 4, 1944. The school trained officer instructors in commando tactics and in combat training for smaller units. The four weeks, later increased to eight, of intensive schooling included judo, war aquatics (?), physical training, hand and shoulder weapons, scouting, chemical warfare, stream crossing (Rodeo Lagoon?), map reading, infiltration tactics, demolitions, booby traps, camouflage, jungle living, street and village fighting, and communications. The school lasted less than a year, being discontinued in December 1944.[9]

Fort Cronkhite continued to play an important role in the coastal defenses throughout World War and into the immediate postwar years. Radar increased the effectiveness of the 16-inch and the antiaircraft guns. But this coastal artillery post, like the others, was soon to be stripped of its guns, now made obsolete by atomic bombs and missiles. The fort assumed a new function in the late 1950s and early '60s when it became the home of Nike missile installations. In 1955 a Nike radar control center (San Francisco 88C) was constructed on top of Wolf Ridge at an elevation of over 800 feet. This complex served as the control center for the Nike battery at Fort Barry. Of the several elements remaining, two radar control towers are considered to possess historical significance. They are the only such towers remaining within Golden Gate NRA. To the north of the cantonment area, a Nike launch area (San Francisco 87-L) was constructed. Presently adapted in part for use as a maintenance area, this Nike complex is also considered to possess a local level of historical significance.

The east half of the 1941 cantonment was largely remodeled to house the Nike personnel. The western portion,

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9. Western Defense Command, "Historical Record," p. 30.

however, still retains its character as a World War II army post. This military architecture, then to be found in all corners of America, is fast disappearing everywhere. These "balloon" barracks, mess halls, day rooms, and orderly rooms were so familiar to millions of Americans only a few years ago as to be held in contempt. Today, veterans of the wars seek out their old military homes only to discover they no longer exist. The importance of those times in the national memory is demonstrated by the fact that the Smithsonian Institution recreated a squad room and a latrine, down to the smallest detail, as a major Bicentennial exhibit.

B. A Partial List of Units Assigned, 1940s-1950s

Much confusion exists concerning military units stationed at Fort Cronkhite during World War II. The Fort Record Book, as noted above, recorded that the 56th Coast Artillery Regiment was activated and assembled at Fort Cronkhite in July 1941, and that it departed from the post in February 1942. The "Historical Record" of the Western Defense Command, however, states that the Headquarters and Headquarters Company of the 56th CA was at the post from May 1, 1942 to February 13, 1943; the 1st Battalion of the 56th was there from May 1, 1942 to January 22, 1944; the 2d Battalion, from May 1, 1942 to October 1, 1942; and the 3d Battalion, from May 1, 1942 to October 1, 1942. This "Record" goes on to say that the 2d and 3d Battalions, 56th CA, returned to Cronkhite for one day in 1944--January 22; while Battery G of that regiment stayed at the post from January 22 to February 7, 1944. Other short-timers in 1944 were the 44th, 45th, and 48th CA Battalions who were present from January 22 to February 12. Also listed in the "Historical Record" was the 283d CA Battalion (HD) (Comp.), stationed there from March 27 to June 12, 1943.

Annex No. 1 to Appendix No. 4 of the "Historical Record" has a quite different listing of units at Fort Cronkhite:

Organization	Assignment	Activated	Inactivated or Transferred
Hdqrs. Btry, 2d Bn, 6th CA	G-1 Station	Before Dec. 7, 1941	Oct. 18, 1944
Btry. E, 6th CA	Townsley	Before Dec. 7, 1941	Oct. 18, 1944
Btry B, 130th CA Bn. (AA)	AA Guns	Apr. 1, 1942	Apr. 25, 1944
Btry. B, 173d CA Bn. (HD)	Townsley	Oct. 18, 1944	Sept. 15, 1945

Still another listing of Fort Cronkhite units, 1941-47, has been compiled by Raymond Lewis in his study of the fort:

20 Jun 1941 Garrison officially established, by Btry. E, 6th CA. Prior to this date, reservation maintained by Btry. K, 6th CA.

20 Jun 1941 Following units of 56th CA arrived at Ft. Cronkhite: HQ & HQ Btry.; HQ & HQ Btries of the 1st, 2nd, and 3rd Bns.; Btries. A-G, inclusive.

20 Jun 1941 Btry. G, 6th CA, activated, assigned to Ft. Cronkhite.

13 Apr 1942 56th CA (less Hq & Hq Btry. and Btry. B) left Ft. Cronkhite.

13 Apr 1942	Hq & Hq Btry., 2nd Bn., 6th CA, arrived Ft. Cronkhite.
13 Apr 1942	Btry. G, 6th CA, left Ft. Cronkhite for Ft. Barry.
14 Oct 1942	Btry. B, 56th CA, left Ft. Cronkhite sometime prior to this date.
30 Aug 1943	Hq & Hq Btry., 56th CA, left Ft. Cronkhite sometime prior to this date.
28 Jan 1944	Hq & Hq Btry., 2nd Bn., 6th CA, left Ft. Cronkhite for Ft. Barry.
18 Oct 1944	Btry. E, 6th CA, redesignated Btry. B, 173rd CA Bn. (HD).
15 Sep 1945	Btry. B, 173rd CA Bn. (HD), disbanded.
20 Mar 1947	Arty. Det., SBTAS (billeted at Ft. Baker) assigned to Battery Townsley, Ft. Cronkhite.

A list of units assigned to and organizations at the post between 1951 and 1957 has been compiled by reference to the telephone directory for the Presidio of San Francisco and its subposts:

July 1951	Engineering Research Institute, University of California.
July 1952.	Battery C, 9th AAA Gun Bn. Batteries A, C, and D, 459th AAA AW Branch

	Headquarters Battery, 459th AAA AW Branch Headquarters and C Batteries, 718 AAA Gun Bn. 93rd AAA Gun Bn.
January 1953.	Hdqtrs., A, B, C, and D Batteries, 459th AAA Gun Bn. Battery C, 9th AAA Gun Bn.
July 1953.	Battery C, 9th AAA Bn.
February 1954.	Battery C, 9th AAA Bn., Western Antiaircraft Command 459th AAA Gun Battalion 60th Signal Detachment.
December 1954.	Battery B, 752nd AAA Gun Bn., Western Antiaircraft Command 194th Ordnance Det. (QM MAINT NIKE).
April 1955.	Battery B, 752nd AAA Gun Bn., Western Antiaircraft Command 194th Ordnance Detachment (QM MAINT NIKE) 197th Ordnance Detachment (QM MAINT NIKE).
October 1955.	Battery B, 9th AAA Gun Bn., Sixth Antiaircraft Regional Command. Batteries A, B, C, and D, 441st AAA Missile Bn. Command. 194th Ordnance Detachment (QMM NIKE). 197th Ordnance Detachment (QMM NIKE).
February 1956.	Battery B, 9th AAA Gun Bn., Sixth Antiaircraft Regional Command.

Hdqtrs. & A Batteries, 441st AAA Missile Bn., Sixth Antiaircraft Regional Command.
194th Ordnance Detachment (QMM NIKE).
197th Ordnance Detachment (QMM NIKE).

October 1956. Hdqtrs. and A Batteries, 441st AAA Missile Bn.
194th Ordnance Detachment (QM MAINT NIKE).

April 1957. Battery B, 9th AAA Gun Bn., Sixth Antiaircraft Regional Command.
194th Ordnance Detachment (QM MAINT NIKE).[10]

C. List of Historic Structures, Fort Cronkhite

Fort Cronkhite, like Forts Baker and Barry, has been placed in its entirety on the National Register of Historic Places. The nomination form, however, listed only two structures by name: Battery Townsley and Nike Control Site 88. As already indicated in this study, Fort Cronkhite contains a number of additional structures that are worthy of consideration for nomination to the National Register. A listing of these historic structures follows:

Harbor Defense and Missile Structures

Battery Townsley. Structure No. FC-1014. Two 16-inch guns, casemated. First 16-inch battery to become operational on the West Coast of the United States, July 1940.

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10. Fort Record Book, Fort Cronkhite, Presidio Musem; Lewis, History of San Francisco Harbor Defense Installations, Appendix IV, p. 5; "Units Stationed at Fort Cronkhite," typed document, 3 pages, acquired by Regional Historian Gordon Chappell, Western Regional Office, NPS, San Francisco, from the Presidio of San Francisco, U.S. Army.

Reserve Magazine, Battery Townsley. Structure No. FC-1130.

Switchboard, Radio, and Plotting Rooms, Battery Townsley. Structure No. FC-1008.

Antiaircraft Battery No. 1. Structure No. FC-1200. Complex includes three concrete plugs for the guns; reinforced concrete magazine; reinforced concrete storage and power rooms; director pit, and underground quarters.

Five Fire Control Stations, Wolf Ridge. These steel and concrete stations served during World War II as B^1S^1, Townsley (FC-1201); battery command post, Townsley (FC-1202); GB-1 (FC-1203); B^4S^4, Davis (FC-1204); and B^1S^1, Construction No. 129 (FC-1205). They are in excellent condition, and most of them exhibit good examples of camouflage.

Fire Control Station, Tennessee Valley. Mines I. Structure No. 1206.

Two Missile Tracking (Radar) Towers, Air Defense Missile Site, Nike, San Francisco 88C. Structure Nos. FC-1194 and 1197. These two steel radar towers are the only survivors of the several control centers that were located within the boundaries of Golden Gate NRA. This control center was for the Nike missiles at Fort Barry.

Nike Launch Area (San Francisco 87-L). Two batteries, two assembly shops, and a warhead building. Structure Nos. FC-1100, 1101, 1106, 1107, and 1109, respectively.

Garrison Structures

Although built as late as 1941, the cantonment area at Fort Cronkhite is the best example of the military architecture adopted on the eve of World War II that is to be found within Golden Gate NRA. This study recommends that a portion of the complex of barracks and associated structures be preserved and interpreted as representative of that still familiar but fast disappearing era of massive mobilization. It is further recommended that as much as possible of the western half of the original cantonment area be preserved. This includes barracks, mess halls, orderly-supply rooms, and recreation rooms between Structure No. 1048 and Structure No. 1071.

No. FC-1048, Recreation building
No. FC-1049, Mess Hall
No. FC-1050, Administration building (company orderly room and supply room)
No. FC-1051, Administration building
No. FC-1052, Mess hall
No. FC-1053, Recreation building
No. FC-1054, Barracks
No. FC-1055, Barracks
No. FC-1056, Barracks
No. FC-1057, Barracks
No. FC-1058, Barracks
No. FC-1059, Barracks
No. FC-1060, Administration building
No. FC-1061, Barracks
No. FC-1062, Barracks
No. FC-1063, Barracks

No. FC-1064, Barracks
No. FC-1065, Barracks
No. FC-1066, Recreation building
No. FC-1067, Mess hall
No. FC-1068, Administration building
No. FC-1069, Administration building
No. FC-1070, Mess hall
No. FC-1071, Recreation building

These structures represent the quarters requirements for approximately four batteries or companies, each unit having one administrative building, one recreation building, one mess hall, and two barracks.

D. Conclusions and Recommendations

Although a relatively recent seacoast artillery post in San Francisco, Fort Cronkhite was strategically important to the World War II defenses of San Francisco Bay. Battery Townsley's huge 16-inch guns protected the northern approaches to the Golden Gate from a naval attack. The antiaircarft guns likewise protected San Francisco from a northern attack. When the traditional coastal defenses became obsolete, Fort Cronkhite continued to play an important defense role as the home for Nike missile batteries.

In recent times Battery Townsley was occupied by a private firm that carried out experiments of some unknown kind. When this use of the battery ceased, several large pieces of equipment were left in the corridor and in the rooms. Recommend that this material be removed so that the battery may be properly interpreted for its important role in coastal defense.

The underground personnel shelters for the antiaircraft battery on Wolf Ridge are generally in an advanced state of

deterioration and some portions present a safety hazard to visitors. Yet, these remains are historically important and are prime exhibits for demonstrating the extreme emergency that followed the destruction of the battleships at Pearl Harbor. Recommend that the several structures and ruins be stabilized where possible and safety hazards be removed. Also recommend an early recording of these structures, through measured drawings and photographs, because of their fragile nature. If the camouflage "rock" cannot be preserved in place, recommend that samples be removed for preservation in a museum collection.

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ILLUSTRATIONS

1. Engineer Buildings at Lime Point, Fort Baker, 1868
2. Lime Point Blasting Area, Fort Baker, 1868
3. Fog Horn at Lime Point, Fort Baker, n.d.
4. Mine Depot Wharf, Fort Baker, 1938
5. Commanding Officer's Quarters, Fort Baker 1977
6. Coast Artillery Barracks, Fort Baker, 1977
7. Pump House, Fort Baker, 1977
8. Post Bakery, Fort Baker, 1977
9. Point Bonita at Fort Barry, n.d.
10. Fort Barry from the air, ca. 1930s
11. Post Storehouses, Fort Barry, ca. 1976
12. Duplex Officers' Quarters, Fort Barry, 1977
13. Barracks, Fort Barry, 1976
14. Departmental Rifle Range, Fort Barry, 1975
15. Forts Barry and Cronkhite, 1977
16. World War II Cantonment, Fort Cronkhite, 1941
17. Battery Townsley nearing completion, Fort Cronkhite, 1939
18. Fire Control Station, Fort Cronkhite, 1976
19. Antiaircraft Battery No. 1, Fort Cronkhite, 1976
20. West Cantonment, Fort Cronkhite, 1976
21. Nike Radar Tower, Fort Cronkhite, 1976

1. Engineer Buildings at Lime Point, Fort Baker, 1868

Located on the west side of Horseshoe Bay, these structures were built by Col. George Mendell to house civilian workmen who constructed the first fortifications on the north side of the Golden Gate. Today, Golden Gate Bridge stands directly over the site. Faint traces of some of the former structures can still be seen on the ground.

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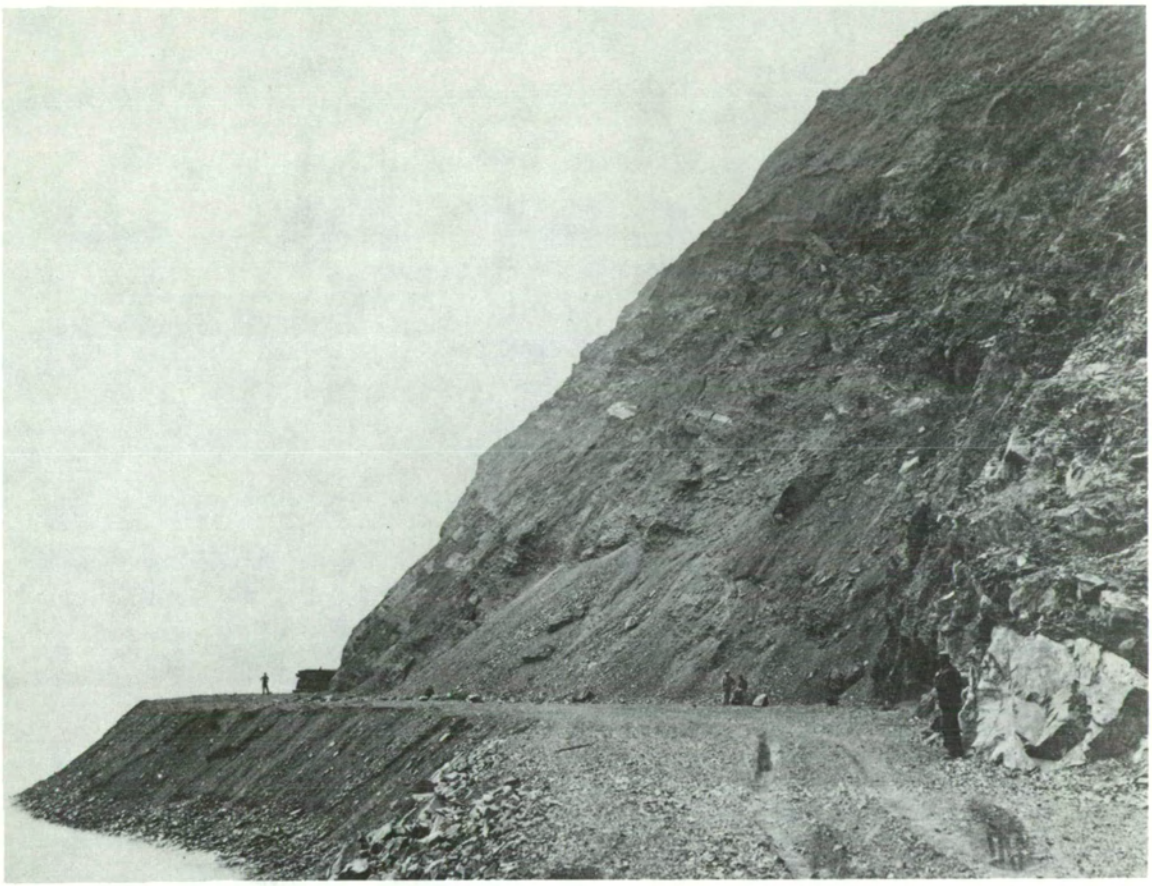

2. Lime Point Blasting Area, Fort Baker, 1868.

This photograph was taken soon after Colonel Mendell carried out one of his blasting operations. He was attempting to blast off the rocky point so as to create a large natural platform on which to construct a masonry fort. Its guns would guard the north side of the Golden Gate.

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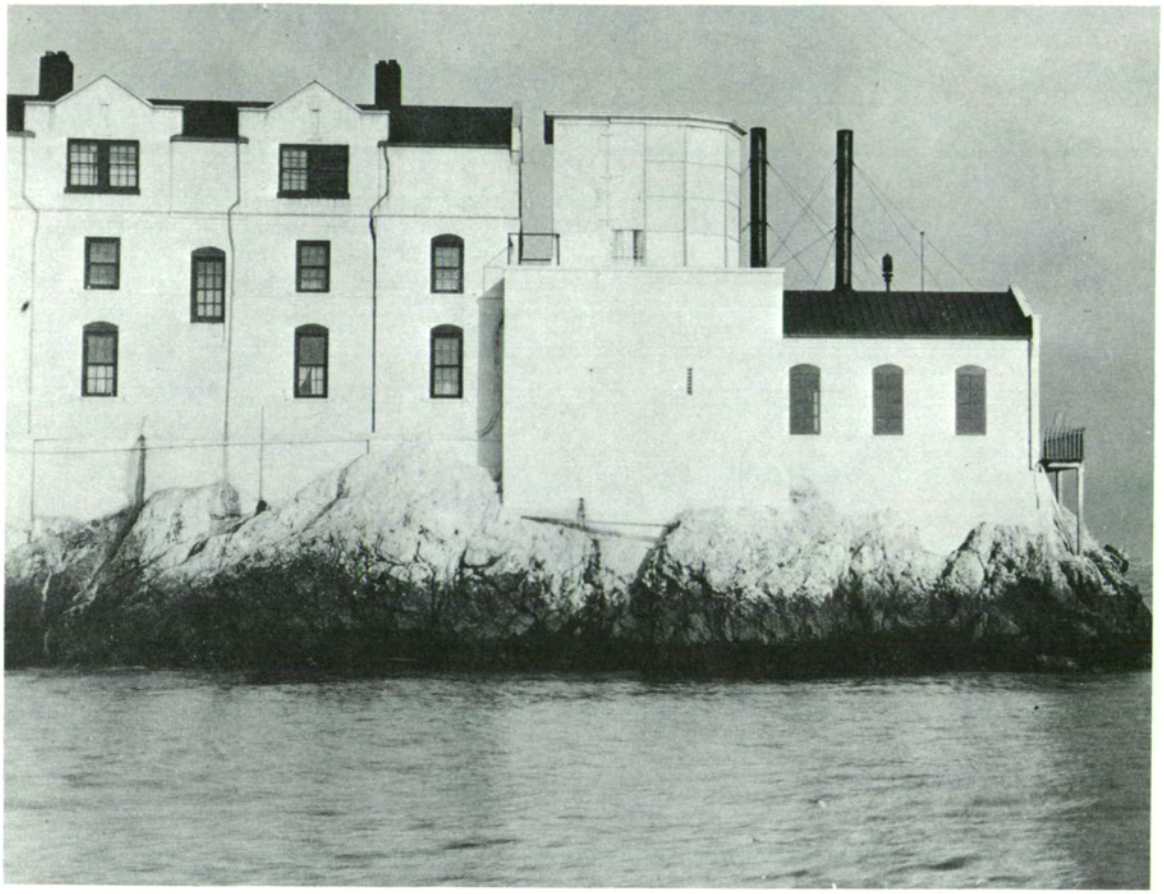

3. Fog Horn at Lime Point, Fort Baker, n.d.

The foghorn sits on the roof of its boiler building, to the right. Only this part of the complex still stands. In the center of the picture is the coastal searchlight shelter, used by the coast artillerymen. To the left are the residences for Coast Guard personnel.

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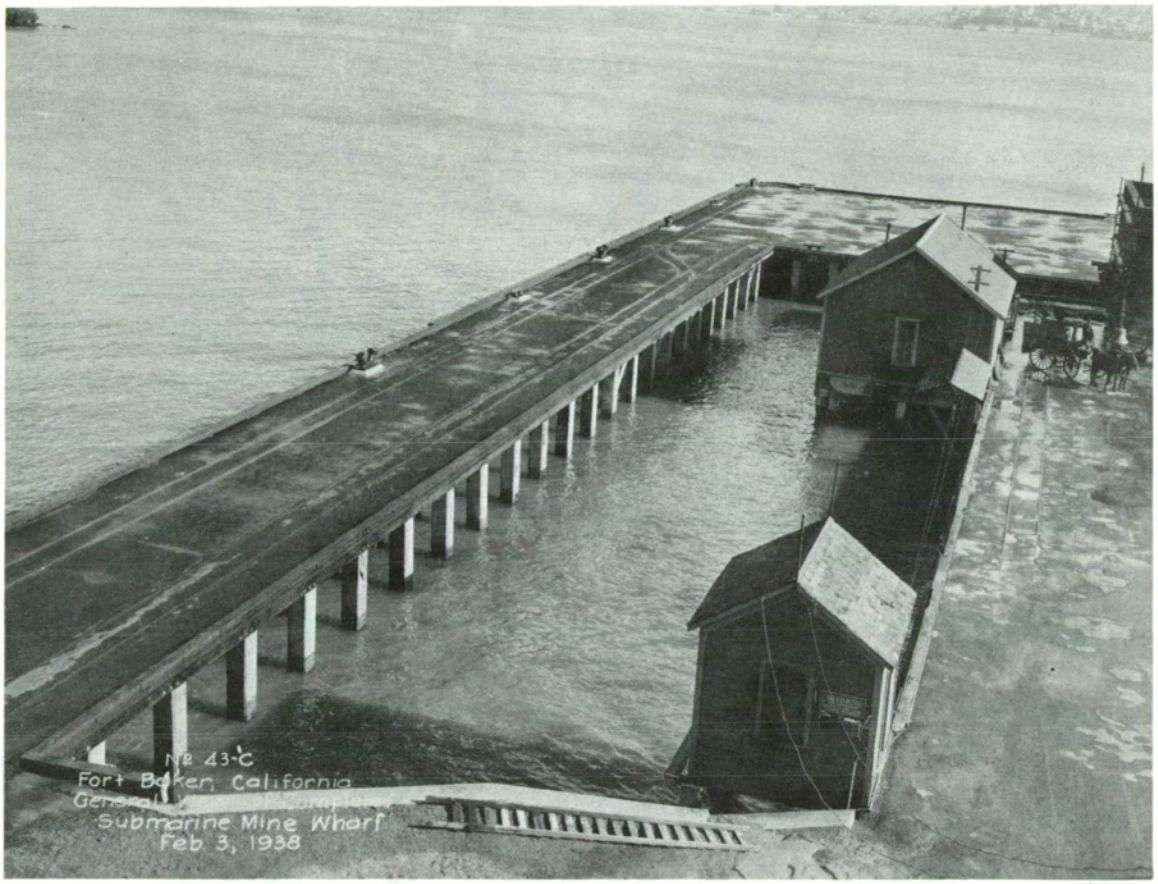

4. Mine Depot Wharf, Fort Baker, 1938.

The new mine depot wharf, on the left, partly encompasses the older quartermaster wharf. The latter today is in poor condition. Alcatraz Island is in the upper left of the photograph.

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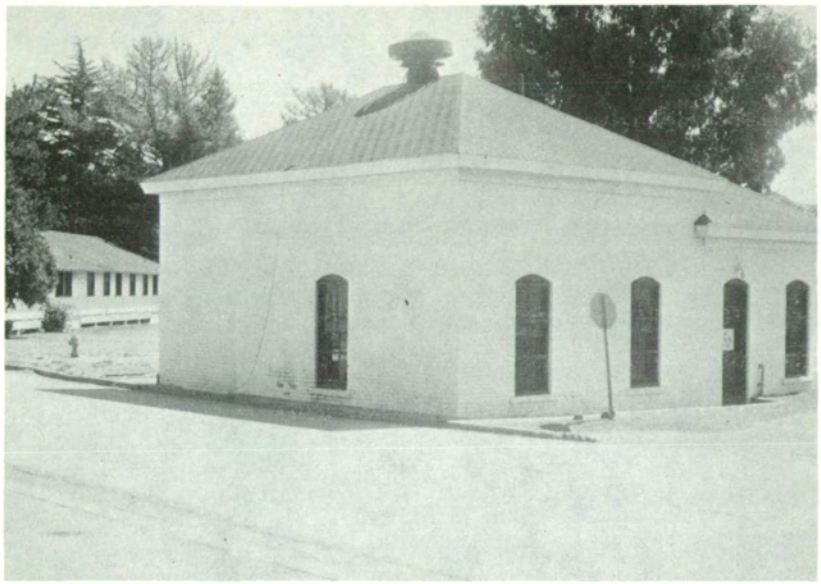
5. Commanding Officer's Quarters, Fort Baker, 1977.

This handsome building is one of the horseshoe of early post structures that lined the parade ground of the coast artillery post.
Erwin Thompson, NPS

6. Coast Artillery Barracks, Fort Baker, 1977.

These two frame barracks date from Fort Baker's earliest days as the first coast artillery post on the north side of the Golden Gate.

Erwin Thompson, NPS.



7. Pumphouse, Fort Baker, 1977.

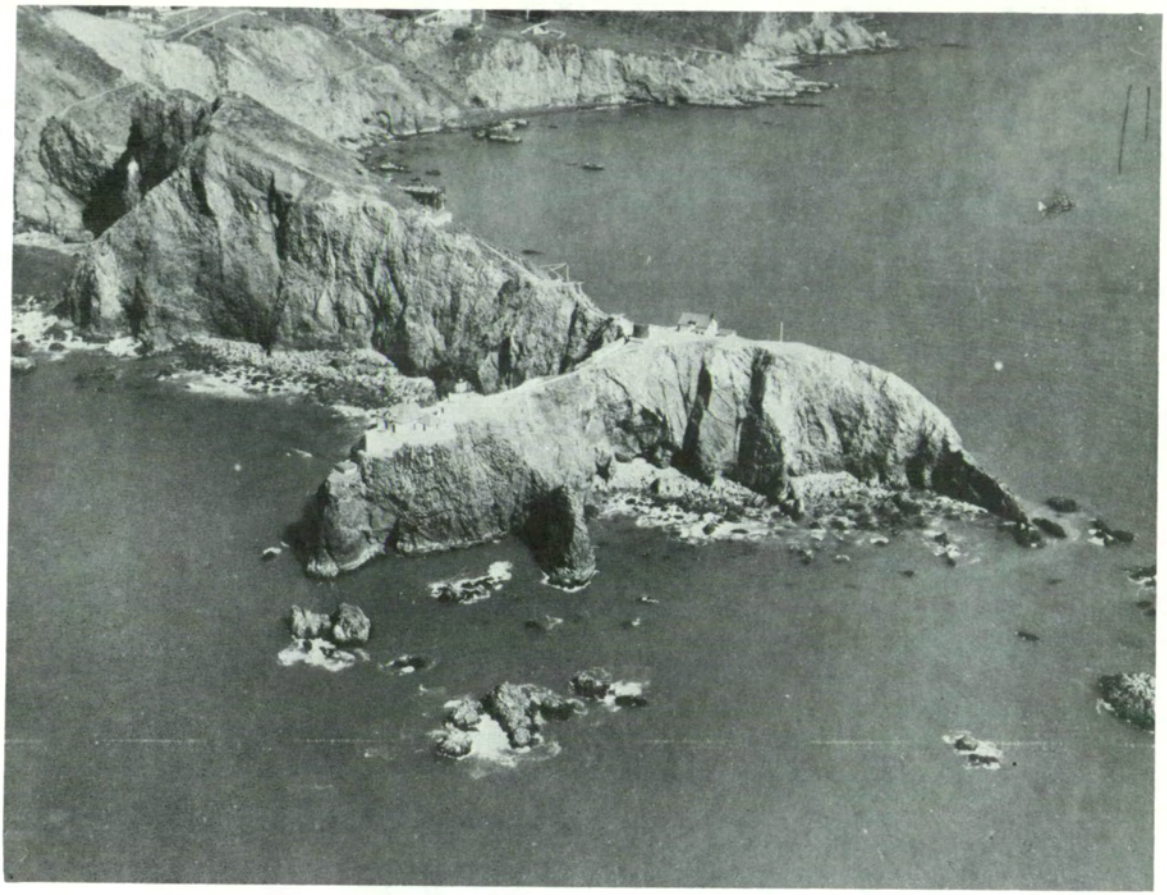
The brick pumphouse for water distribution was one of the first structures built at the post of Fort Baker.

Erwin Thompson, NPS

8. Post Bakery, Fort Baker, 1977.

The brick bakery building was later used as the Fort Baker post office.

Erwin Thompson, NPS



9. Point Bonita at Fort Barry, n.d.

On the point are the lighthouse, a coastal searchlight, and an artillery fire control station. This rugged promontory marks the northern entrance to the Golden Gate.

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10. Fort Barry from the air, ca. 1930s.

The Pacific Ocean is to the left of the photo. Rodeo Lagoon is at the top. From top to bottom in the middle of the picture is a row of coastal batteries:

Top: Battery O'Rorke, four 3-inch guns
Second: Batteries Guthrie and Smith, four 6-inch guns
Third: Battery Alexander, four 12-inch mortars
Bottom: Battery Wallace, two 12-inch guns

In the lower left of the photo is Battery Mendell, two 12-inch guns. The post storehouse complex may be seen in the lower right.

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11. Post Storehouses, Fort Barry, ca. 1976.

On the left is the quartermaster and subsistence storehouse (FA-960). The structure nearer the camera on the right is the post bakery (FA-962). Beyond it is the ordnance storehouse (FA-961).

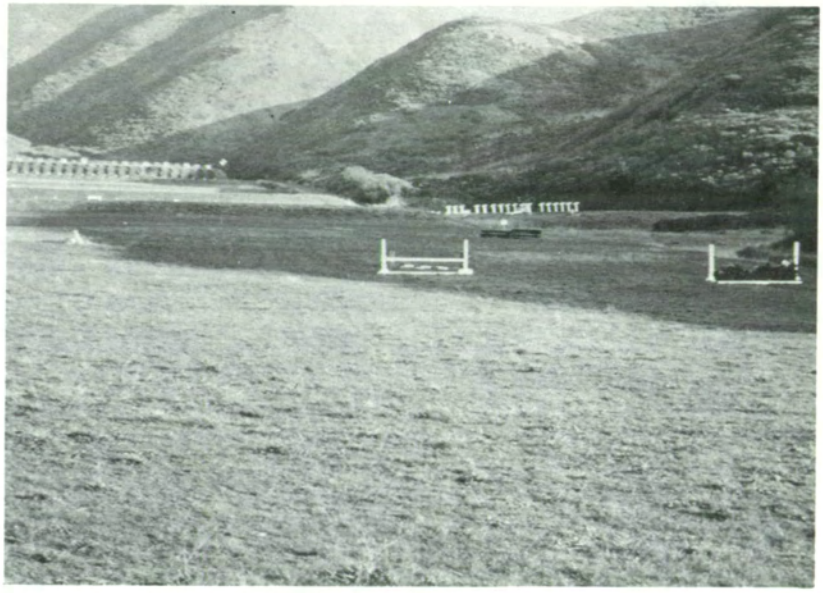
Robert Cox, NPS

12. Duplex Officers' Quarters, Fort Barry, 1977.

The residential area of the post at Fort Barry is somewhat similar to but smaller than that at Fort Baker.
Erwin Thompson, NPS

13. Barracks, Fort Barry, 1976.

One of two large frame barracks at Fort Barry, it was designed to house one company of coast artillery.
Harold LaFleur, NPS



14. Departmental Rifle Range, Fort Barry, 1975.

In the far left of the photo are the target butts. This was the army's first modern rifle range in the Bay Area, and probably the first on the West Coast.

Erwin Thompson, NPS

15. Forts Barry and Cronkhite, 1977.

The hills in the foreground are within Fort Barry. Beyond the valley are the uplands of Fort Cronkhite.

Erwin Thompson, NPS

16. World War II Cantonment, Fort Cronkhite, 1941.

This picture was taken just after the barracks were completed and the first coast artillerymen were assigned to the new post. The buildings in the distance, beyond Rodeo Lagoon, belong to Fort Barry.

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17. Battery Townsley nearing completion, Fort Cronkhite, 1939.

Backfilling of the two 16-inch gun emplacements of Battery Townsley has already begun. Later, elaborate camouflage measures were taken to hide the huge guns from aerial observation.

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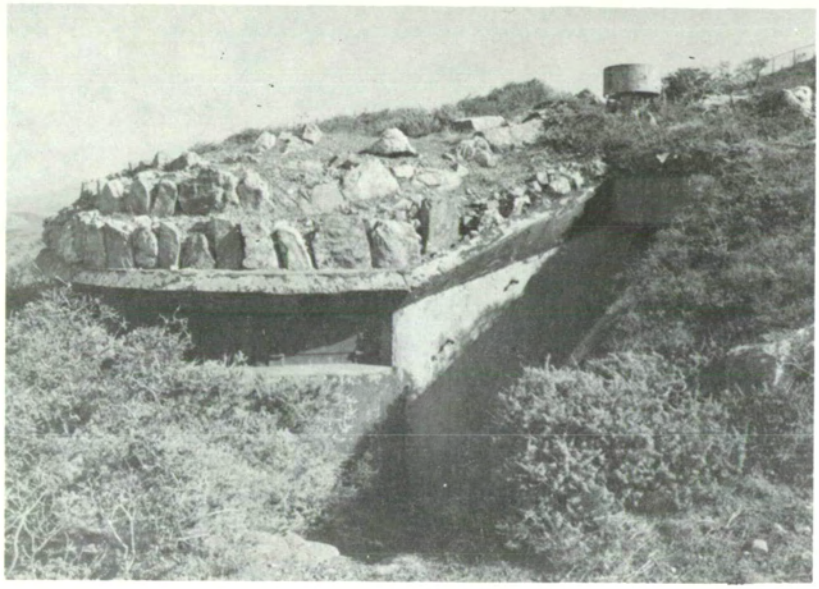
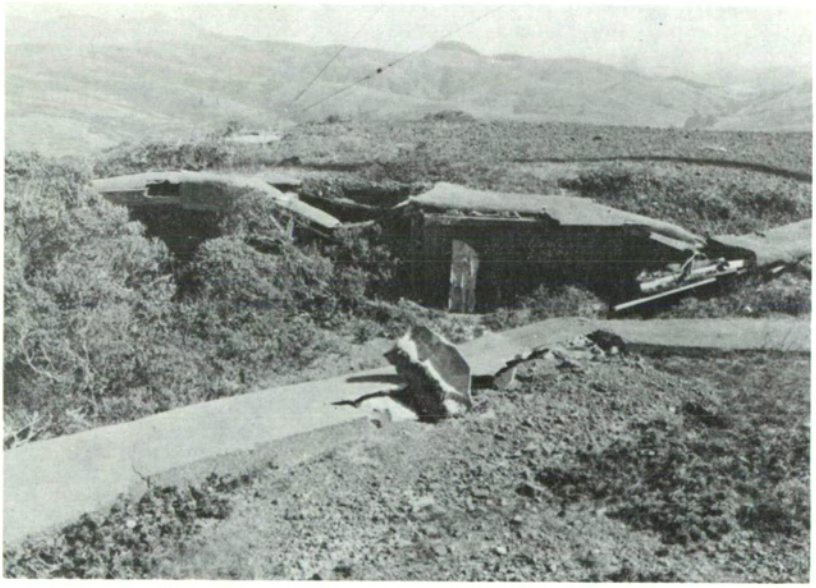


18. Fire Control Station, Fort Cronkhite, 1976.

This is one of several fire control stations located on Wolf Ridge, Fort Cronkhite. Note the World War II camouflage techniques.

Harold LaFleur, NPS



19. Antiaircraft Battery No. 1, Fort Cronkhite, 1976.

Ruins of the underground personnel quarters and administrative offices for the antiaircraft battery on Wolf Ridge, Fort Cronkhite. These structures were placed underground because of the difficulty of camouflaging aboveground buildings on the ridge. The smooth "roofs" were simulated rock, similar to natural outcroppings in the vicinity.

Harold LaFleur, NPS

20. West Cantonment, Fort Cronkhite, 1976.

These barracks form a part of the World War II cantonment that is recommended for preservation.

Rodeo Beach lies in the foreground between the waves of the Pacific Ocean and Rodeo Lagoon (barely visible).

Erwin Thompson, NPS

21. Nike Radar Tower, Fort Cronkhite, 1976.

One of two radar towers in the Nike control area located on top of Wolf Ridge at Fort Cronkhite. The radar controlled the flight of Nike missiles that were launched from nearby Fort Barry.

Erwin Thompson, NPS

SELECTED HISTORIC DRAWINGS

1. Lime Point Military Reservation, 1868
2. Fort Baker, ca. 1902
3. Fort Baker, 1906
4. Fort Baker, ca. 1930
5. Forts Baker and Barry, 1912
6. Fort Barry, ca. 1910
7. Fort Baker, 1972 8. Fort Barry, 1972
9. Fort Cronkhite, 1972

1. Lime Point Military Reservation, 1868.

Col. George Mendell, in charge of the construction of fortifications at Lime Point, prepared this early map of the west side of Horseshoe Bay. The engineer buildings, the wharf, and the breakwater out to the Needles are shown. The road along the shore out to Lime Point (lower left) has not yet been constructed. The island shown in the lower left corner is Sugarloaf, on which a foghorn would soon be installed.

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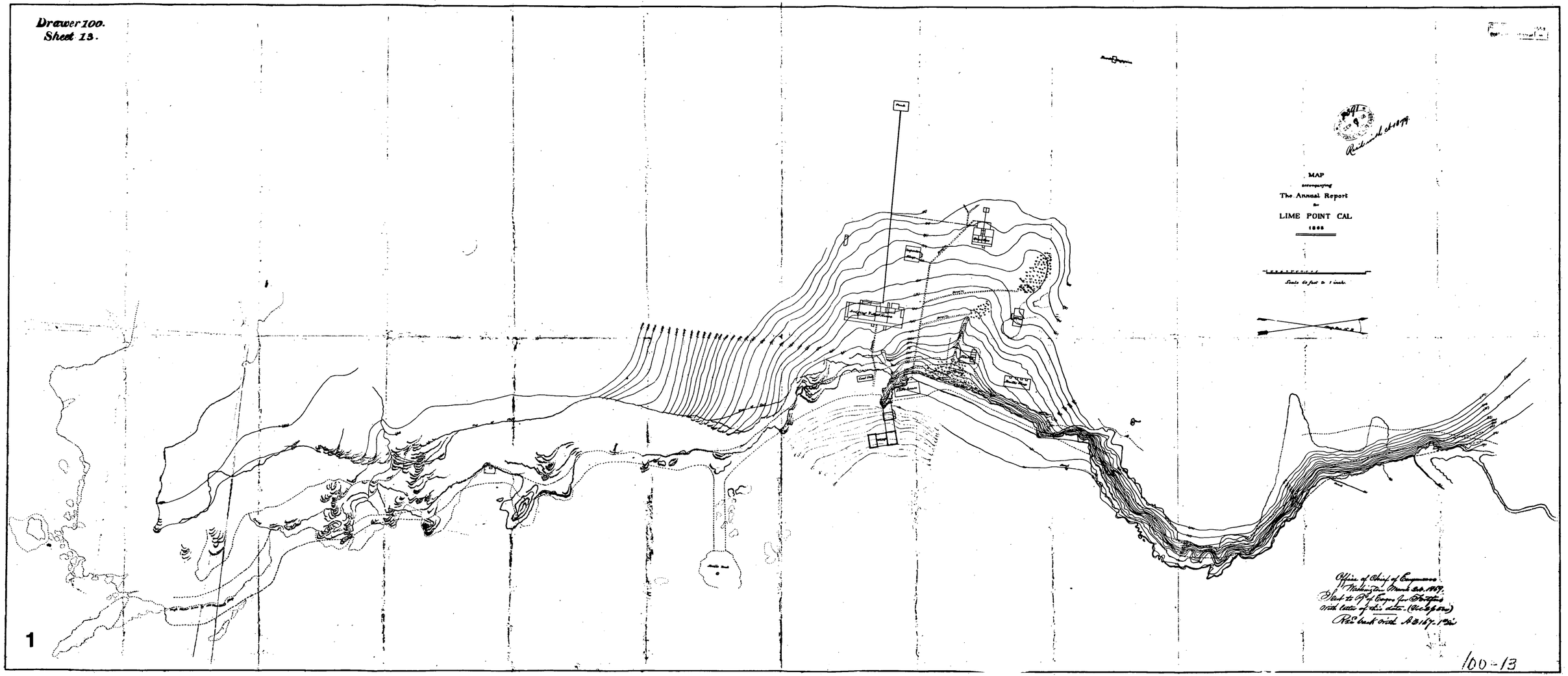

2. Fort Baker, ca. 1902.

The first of the permanent post buildings have been constructed and the parade ground laid out. The swamp between the parade and the bay has not yet been filled in. The engineer wharf has been supplemented with a quartermaster wharf. Note the sewage tunnel across Point Cavallo.

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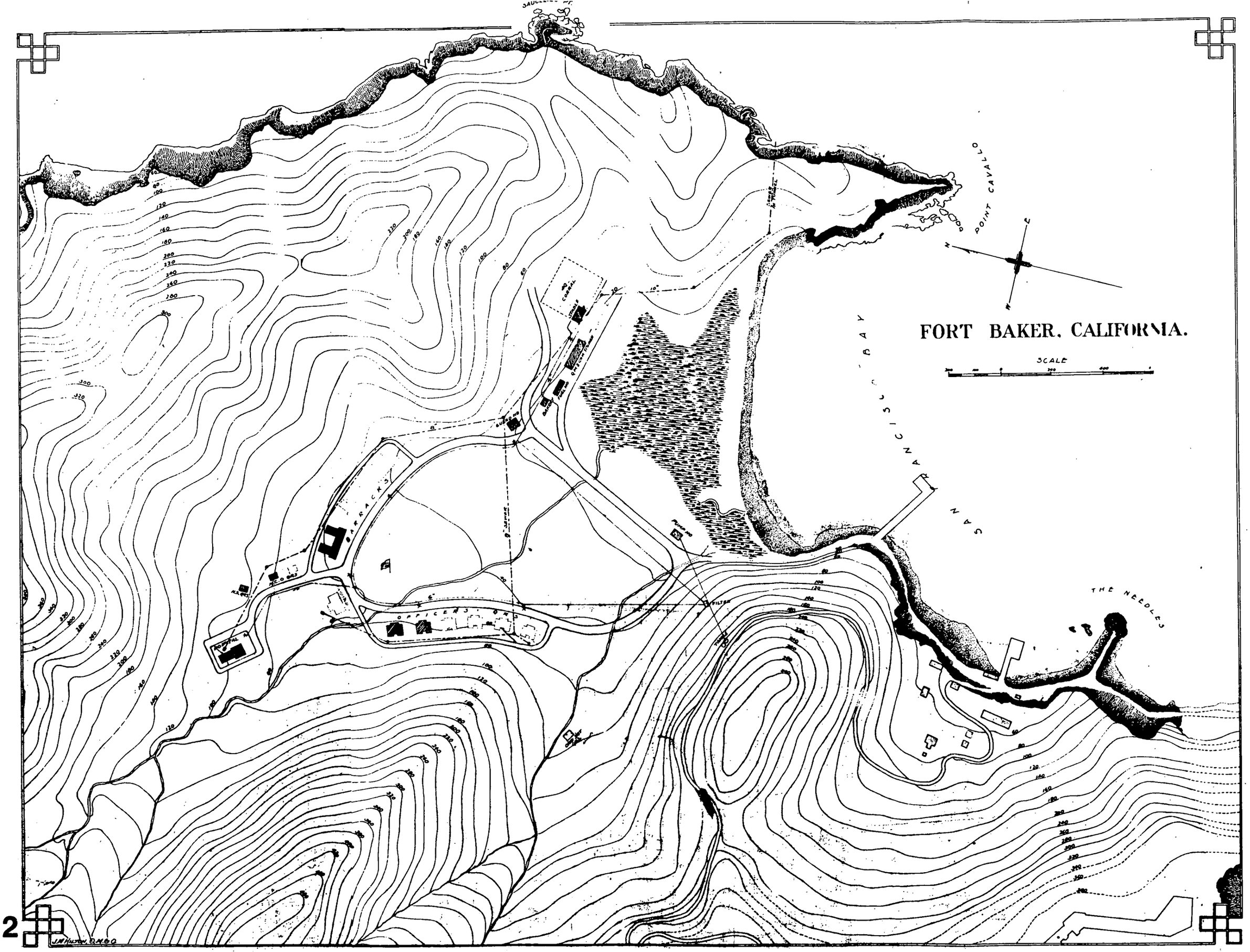
Office of the Quartermaster General
General Record


FORT BAKER, CALIFORNIA.
SCALE
POINT CAVALLO
SAN FRANCISCO BAY
THE NEEDLES
BARRACKS
OFFICERS QRS
CORRAL
STABLE
FILTER
J.M. HILTON, D.M.G.O.

2

3. Fort Baker, 1906.

The coast artillery post has taken on its permanent character. The swamp has been filled in. The temporary barracks has not yet been removed from the parade ground.

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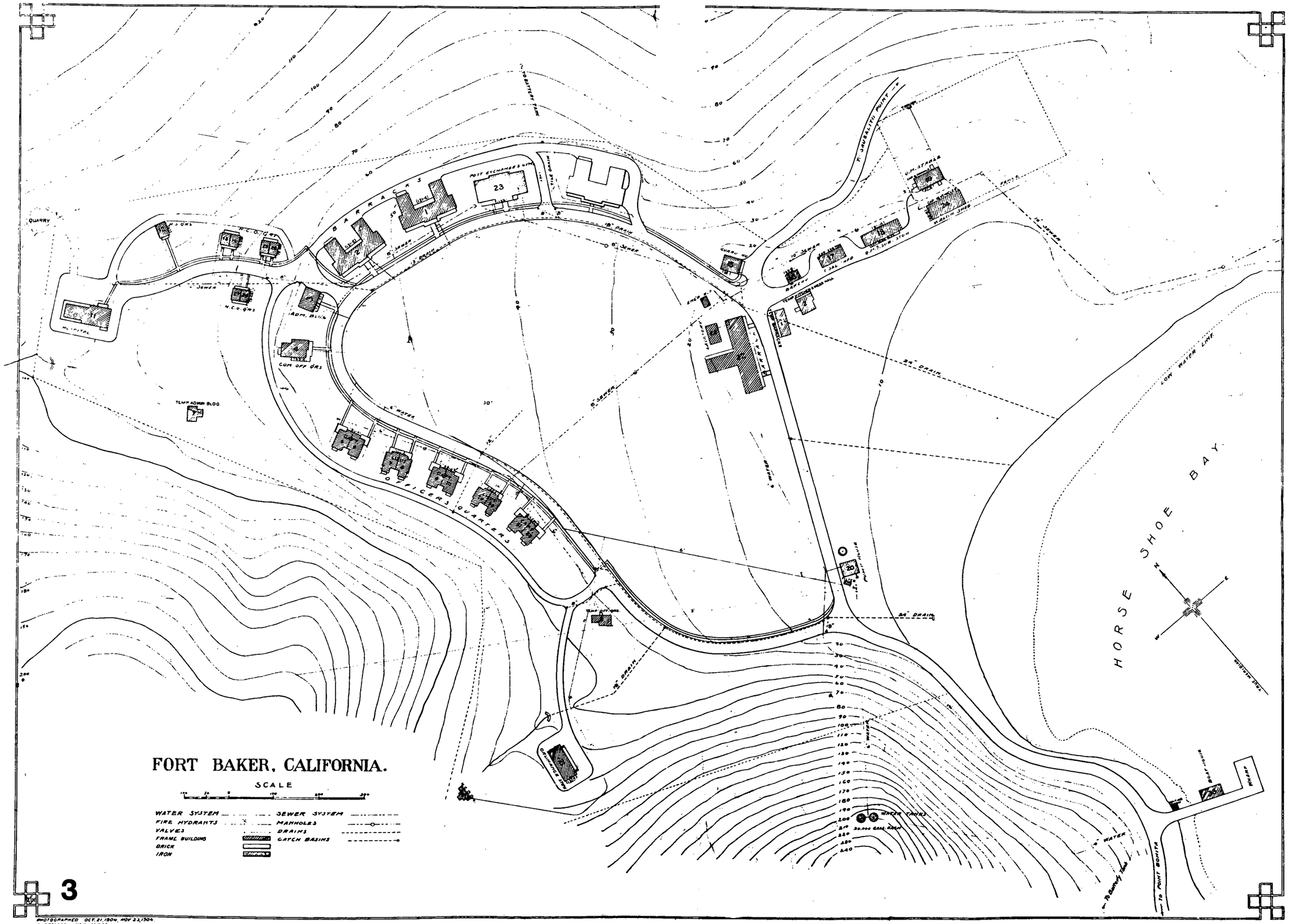
Record Group 92
Office of the Quartermaster General



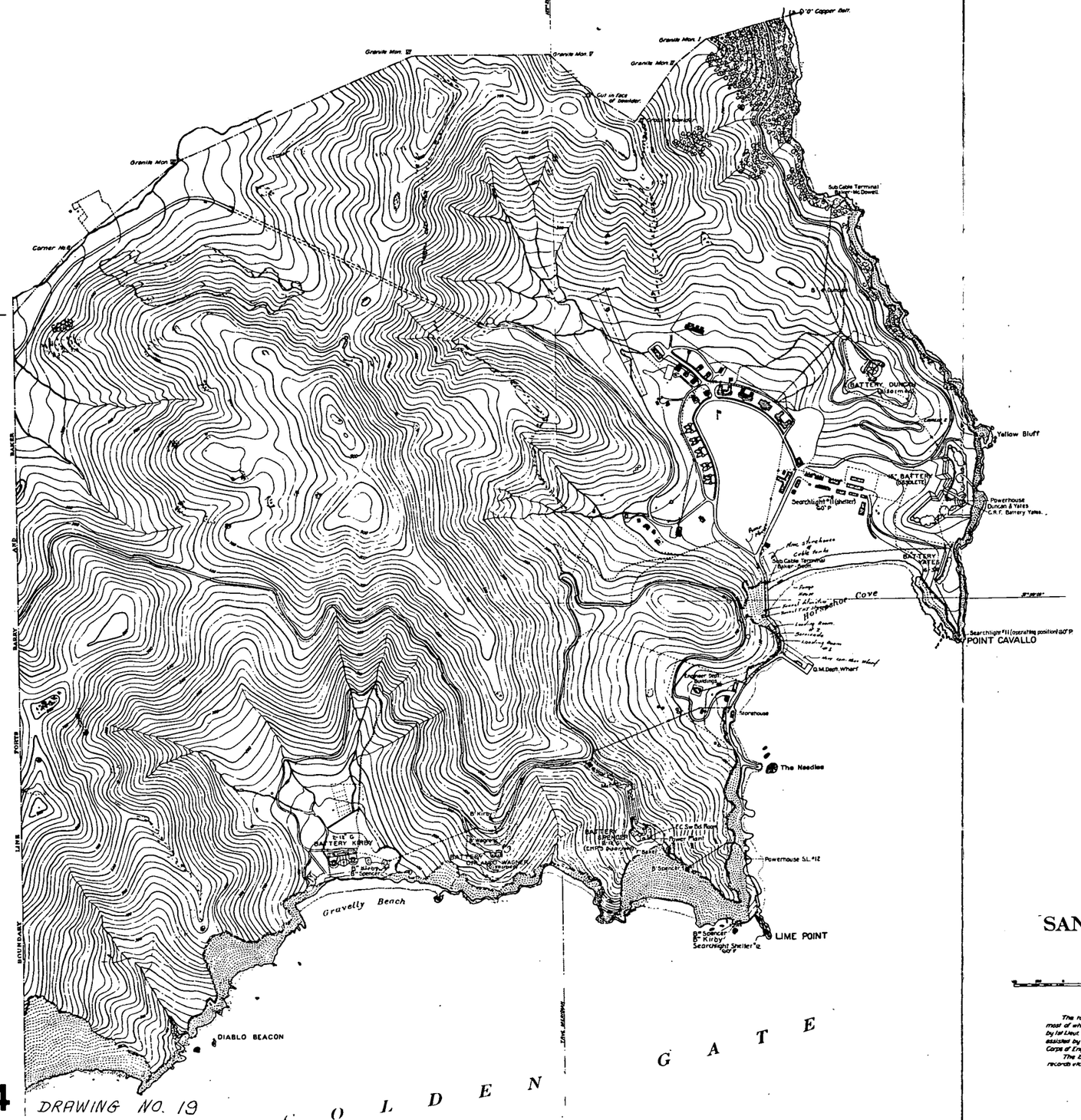
PHOTOGRAPHED OCT. 21, 1904. NOV 23, 1904.
CORRECTED NOV 12, 1906.

4. Fort Baker, ca. 1930.

Although this map was drawn before the construction of the Golden Gate Bridge, it has been updated by the addition of the submarine mine depot structures that were built on the eve of World War II.

The post buildings, the various fortifications, and the Baker-Barry tunnel are all shown.

National Archives
Cartographic Archives Division
Record Group 77
Dr. 93, Sht. 69-58



FORT BAKER
SAN FRANCISCO HARBOR
CALIFORNIA

SCALE: 1 INCH = 400 FEET

NOTES

The topography of this map was traced from the map entitled "Map of the Lime Point Tract" most of which was surveyed under the direction of the Board of Engineers for the Pacific Coast by 1st Lieut. T.H. Handsburg, Corps of Engineers, assisted by J.G. Le Conte in 1868-9 and by W.H. White, C.E. assisted by J.R. Maurer and R.H. Salter Jr. in 1871-2. The remainder by 1st Lieut. J.B. McPherson, Corps of Engineers in 1880.

The batteries, wharves, barracks and structures in general were compiled from surveys, records etc. on file in the U.S. Engineer Office, San Francisco, California.

SERIAL PRINT No. 8
1ST SAN FRANCISCO DISTRICT

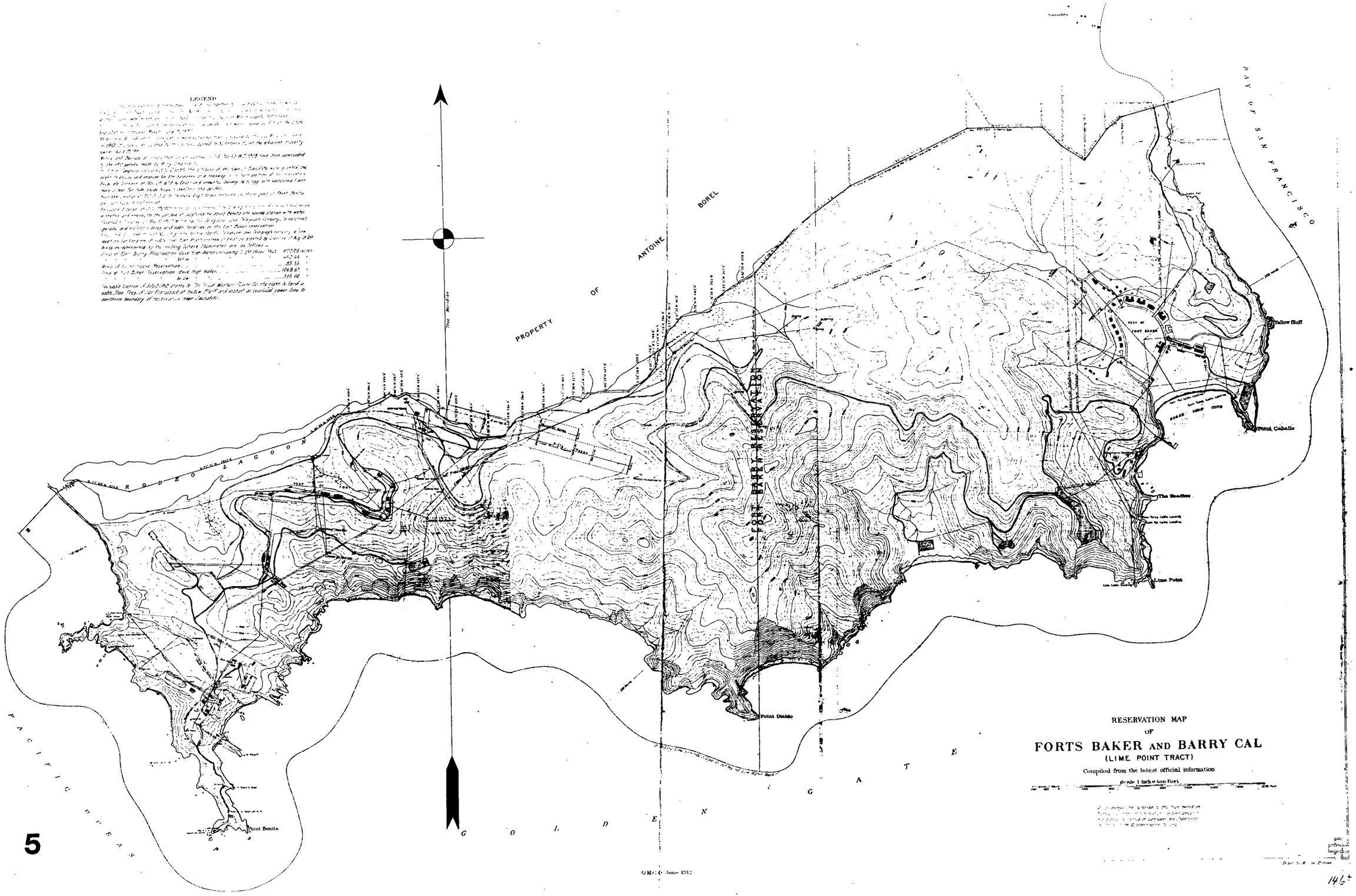
4

DRAWING NO. 19

5. Forts Baker and Barry, 1912.

Communication between the two posts is still the winding and dangerous road over the hills. The Departmental Rifle Range is shown extended onto Antoine Borel's private property. This being a Quartermaster Department map, all the fortifications have been blocked out.

National Archives
Record Group 92
Office of the Quartermaster General
Forts Baker and Barry
No. 1462 California


LEGEND
RESERVATION MAP
OF
FORTS BAKER AND BARRY CAL
(LIME POINT TRACT)
Compiled from the latest official information
Scale 1 inch = 400 Feet
PROPERTY OF ANTOINE BOREL
FORT BARRY RESERVATION
FORT BAKER RESERVATION
RODEO LAGOON
BAY OF SAN FRANCISCO
GOLDEN GATE
PACIFIC OCEAN
Point Diablo
Point Bonita
Lime Point
The Needles
Point Caballo
Yellow Bluff
POST OF FORT BAKER
True Meridian
Sausalito
Q.M.G.O. June 1912

5

6. Fort Barry, ca. 1910.

This map is unusual for the army in that it is oriented to the south rather than the north. The residential area of the post is shown in a valley, separated from the storehouses and shops by a ridge. The Pacific Ocean and the coastal batteries are off to the west.

National Archives
Record Group 92
Office of the Quartermaster General

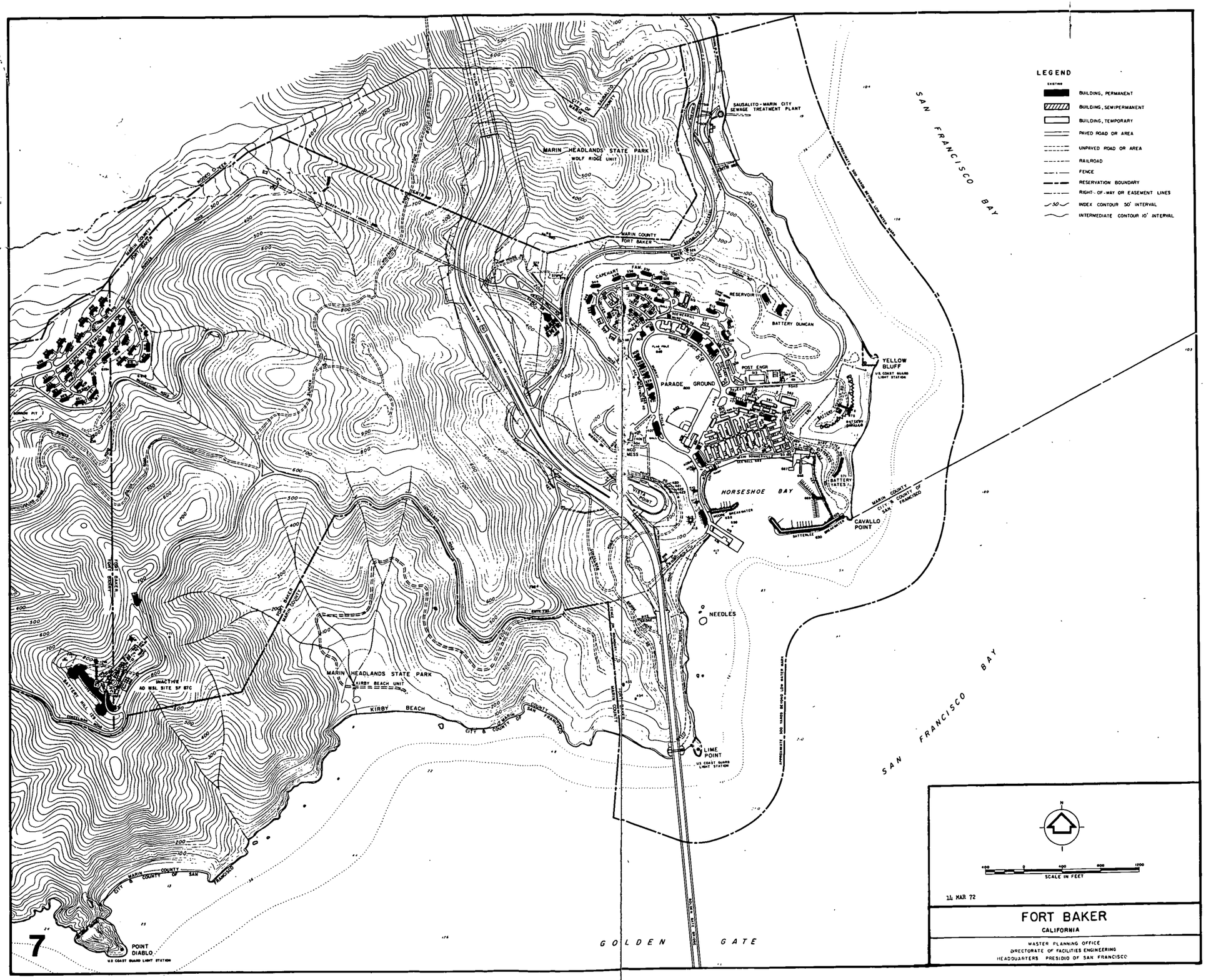
Reservoir Cap. 200,000 Gals.
Valve Chamber
Reservoir 10,000 Gals.
Officers Quarters
Road to Wharf
Road to Wharf
Variation 17° 36' E.
Gasoline Benchmark
Town Office
Rodeo Lagoon
Pacific Ocean

6

7. Fort Baker, 1972.

Portions of the military reservation in both the south and north have become Marin Headlands State Park. On the west boundary, Battery Construction No. 129 (World War II) and the modern Capehart family housing development are shown.

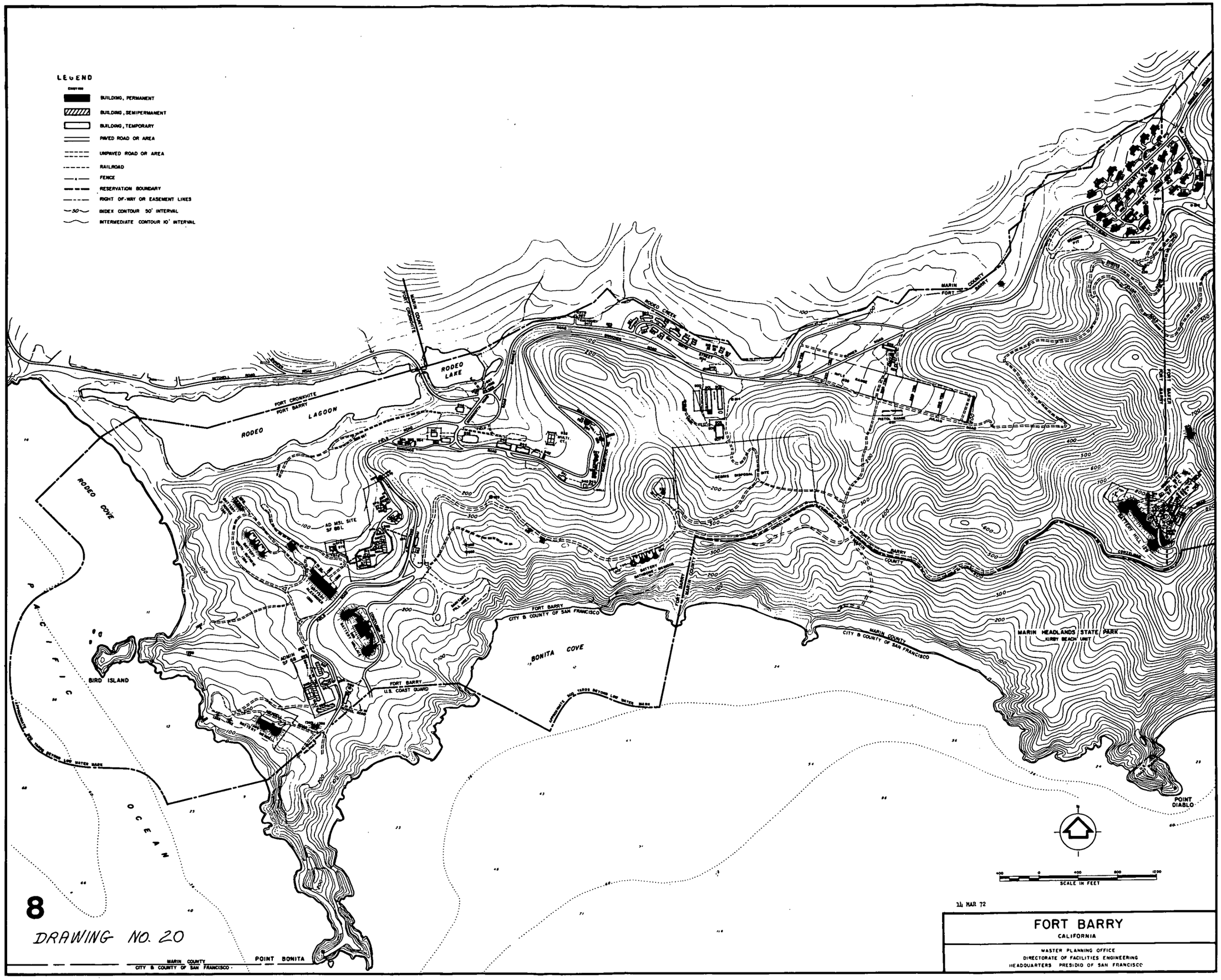
U.S. Army Presidio of San Francisco


LEGEND
EXISTING
BUILDING, PERMANENT
BUILDING, SEMIPERMANENT
BUILDING, TEMPORARY
PAVED ROAD OR AREA
UNPAVED ROAD OR AREA
RAILROAD
FENCE
RESERVATION BOUNDARY
RIGHT-OF-WAY OR EASEMENT LINES
50 INDEX CONTOUR 50' INTERVAL
INTERMEDIATE CONTOUR 10' INTERVAL
SAN FRANCISCO BAY
SAUSALITO - MARIN CITY SEWAGE TREATMENT PLANT
MARIN HEADLANDS STATE PARK
WOLF RIDGE UNIT
MARIN COUNTY
FORT BAKER
RESERVOIR
BATTERY DUNCAN
YELLOW BLUFF
US COAST GUARD LIGHT STATION
PARADE GROUND
POST ENGR
HORSESHOE BAY
BATTERY STATES
CAVALLO POINT
NEEDLES
MARIN HEADLANDS STATE PARK
KIRBY BEACH UNIT
KIRBY BEACH
CITY & COUNTY OF SAN FRANCISCO
LIME POINT
US COAST GUARD LIGHT STATION
POINT DIABLO
US COAST GUARD LIGHT STATION
GOLDEN GATE
7
N
SCALE IN FEET
14 MAR 72
FORT BAKER
CALIFORNIA
MASTER PLANNING OFFICE
DIRECTORATE OF FACILITIES ENGINEERING
HEADQUARTERS PRESIDIO OF SAN FRANCISCO

8. Fort Barry, 1972.

A portion of this reservaton has also become Marin Headlands State Park. Point Bonita, as shown, is administered by the U.S. Coast Guard.

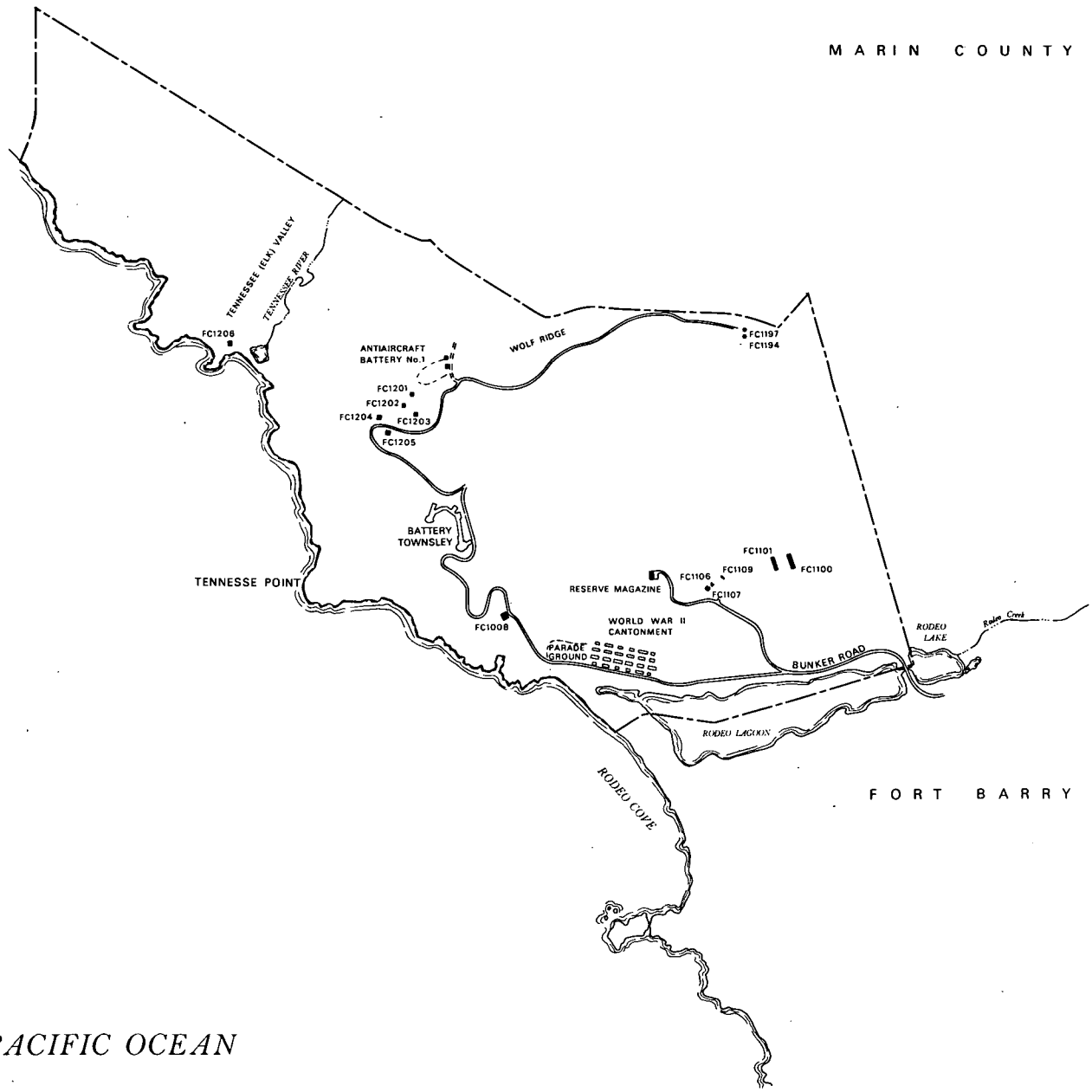
U.S. Army
Presidio of San Francisco


LEGEND
BUILDING, PERMANENT
BUILDING, SEMIPERMANENT
BUILDING, TEMPORARY
PAVED ROAD OR AREA
UNPAVED ROAD OR AREA
RAILROAD
FENCE
RESERVATION BOUNDARY
RIGHT OF-WAY OR EASEMENT LINES
INDEX CONTOUR 50' INTERVAL
INTERMEDIATE CONTOUR 10' INTERVAL
RODEO LAKE
RODEO LAGOON
RODEO COVE
RODEO CREEK
FORT CRONKHITE
FORT BARRY
MARIN COUNTY
BONITA COVE
CITY & COUNTY OF SAN FRANCISCO
U.S. COAST GUARD
BIRD ISLAND
POINT BONITA
POINT DIABLO
MARIN HEADLANDS STATE PARK
KIRBY BEACH UNIT
PACIFIC OCEAN
SCALE IN FEET
14 MAR 72
FORT BARRY
CALIFORNIA
MASTER PLANNING OFFICE
DIRECTORATE OF FACILITIES ENGINEERING
HEADQUARTERS PRESIDIO OF SAN FRANCISCO
8
DRAWING NO. 20

9. Fort Cronkhite, 1972.

The original military reservation has been sharply reduced in size, the northern portion being U.S. Coast Guard property and a state park. The Nike missile installation on Wolf Ridge dominates the skyline.

U.S. Army
Presidio of San Francisco



LEGEND

RESERVATION BOUNDARY
PAVED ROAD
UNPAVED ROAD

N

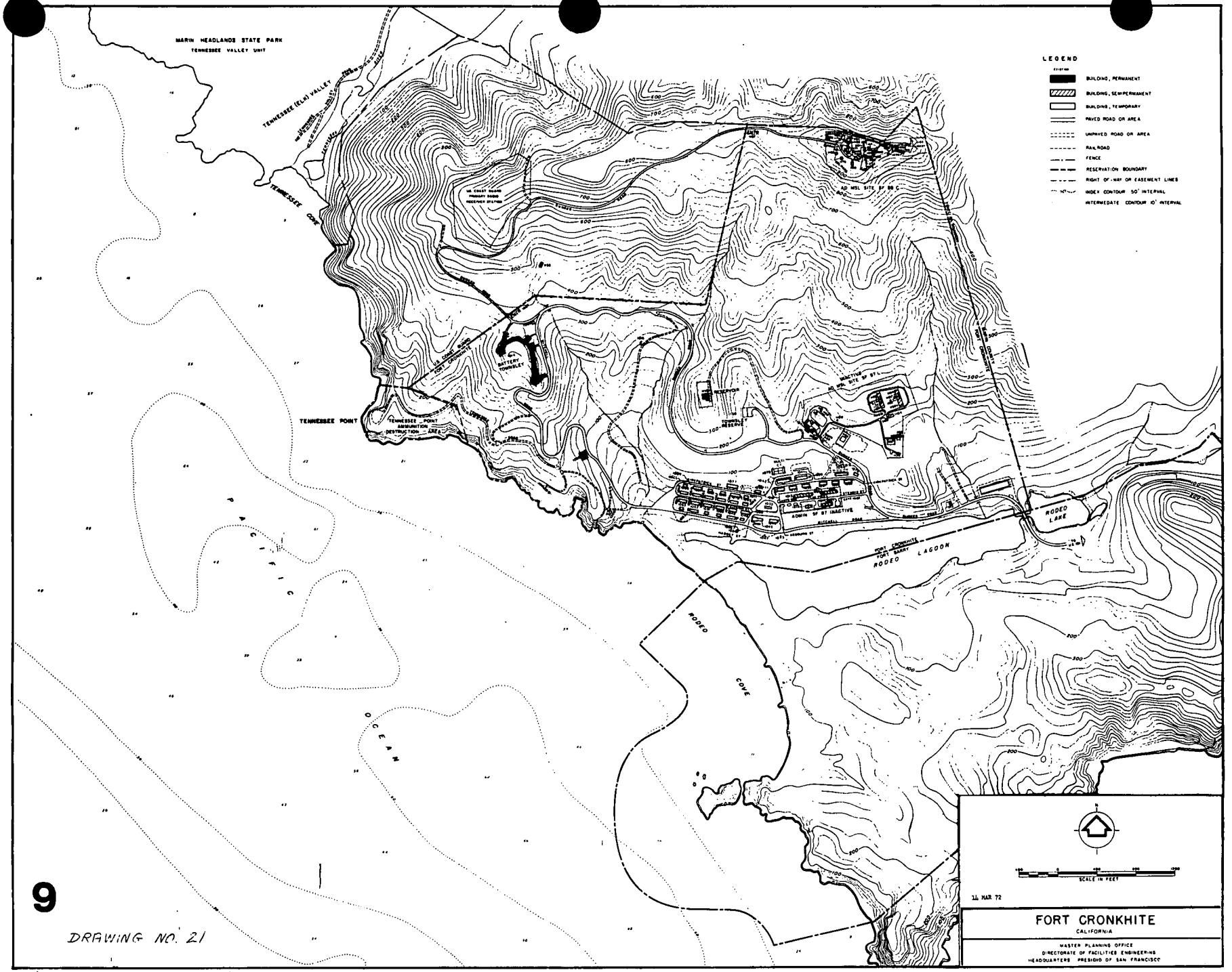
600 0 600 1200 1800 FEET
180 0 180 360 540 METERS
590.54 FEET = 180 METERS

GOLDEN GATE NATIONAL RECREATION AREA

FORT CRONKHITE

HISTORIC BASE MAP, SHEET 3

UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE 641 20,085 JAN 79 DSC



9

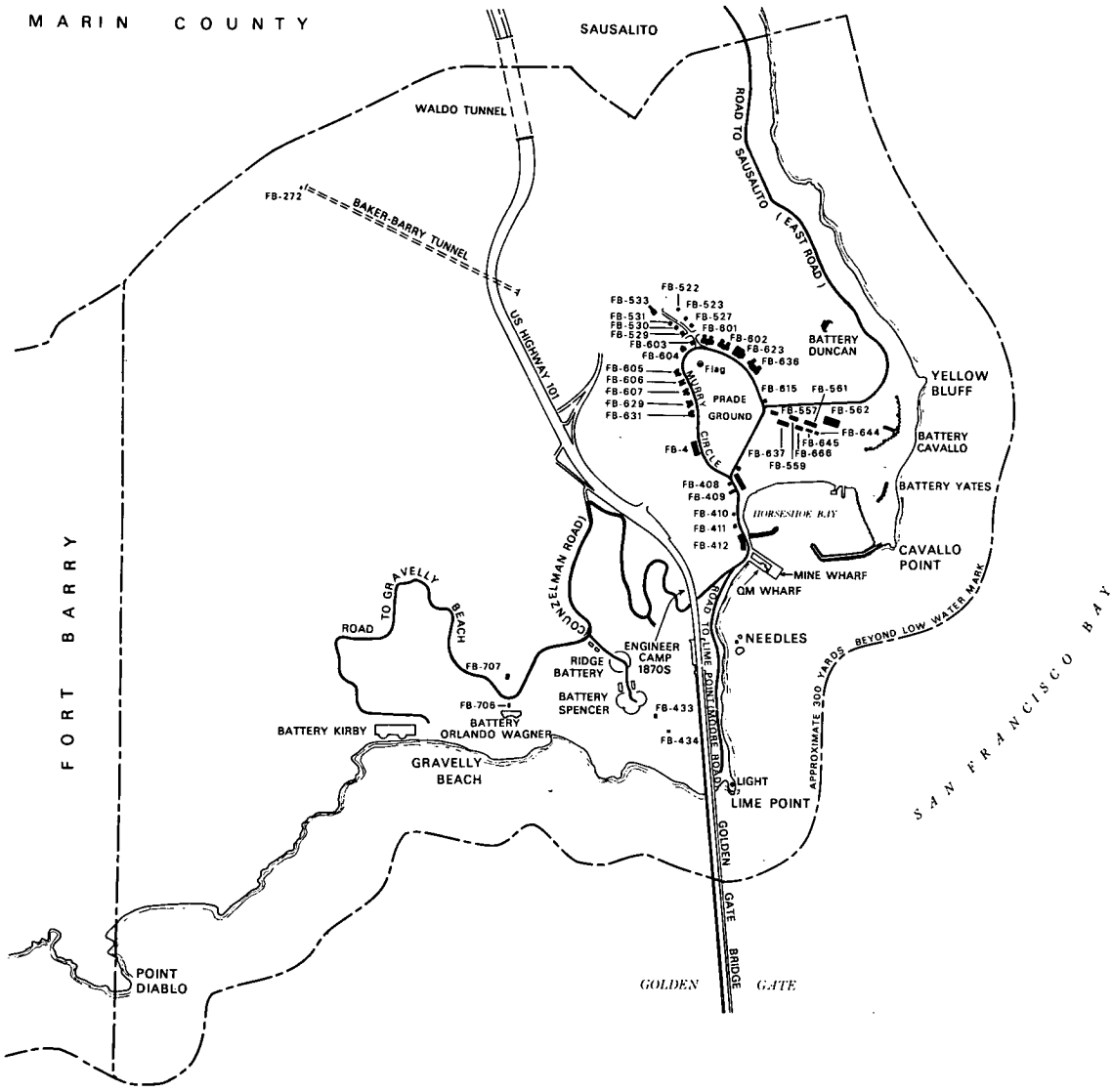
DRAWING NO. 21

HISTORIC BASE MAP

1. Fort Baker

2. Fort Barry

3. Fort Cronkhite



LEGEND

RESERVATION BOUNDARY
HISTORIC ROAD
MODERN ROAD

N

600 0 600 1200 1800 FEET
180 0 180 360 540 METERS
500.54 FEET = 180 METERS

GOLDEN GATE NATIONAL RECREATION AREA

FORT BAKE

HISTORIC BASE MAP, SHEET

UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE 641 20,063 JAN 79 DSC

Fort Baker Golden Gate National Recreation Area Historic Base Map. Sheet 1.

Battery Kirby was also the site of Gravelly Beach Battery (1870s), Battery Gravelly (WWII), and Battery Kirby Beach (WWII).

Lime Point was the location of a foghorn, a light, an army fire control station, and a coastal defense searchlight.

List of historic structures and their numbers (all numbers prefixed "FB," for Fort Baker).

268 Baker-Barry Tunnel
272 Sentry station
407 Mine storehouse
408 Unknown structure
409 Mine powerhouse
410 Mine explosive magazine
411 Mine explosive magazine
412 Mine loading room
415 Mine wharf
433 Fire control station
434 Fire control station
522 Hospital steward's quarters
523 NCO quarters
527 NCO quarters
529 NCO quarters
530 NCO quarters
531 NCO quarters
533 Hospital
557 Bakery
559 QM & Sub. storehouse

561 Wagon shed
562 QM stable
571 Battery George Yates
573 Battery Duncan
575 Cavallo Battery
600 Parade ground
601 EM barracks
602 EM barracks
603 Post headquarters
604 COs quarters
605 Officers' quarters
606 Officers' quarters
607 Officers' quarters
615 Guardhouse
623 PX and gym
629 Officers' quarters
631 Officers' quarters
636 EM barracks (brick)
637 Commissary storehouse
644 Blacksmith shop
645 Carpenter and paint shop
648 Flagstaff
666 Ordnance storehouse
670 Mine cable tanks
671 Pumphouse 700 Battery Kirby (and Gravelly Beach Battery 1870s)
701 Battery Gravelly (WWII)
702 Battery Kirby Beach (WWII)
703 Battery O. Wagner
704 Ridge Battery
705 Battery Spencer
706 Fire control station

707 Fire control station

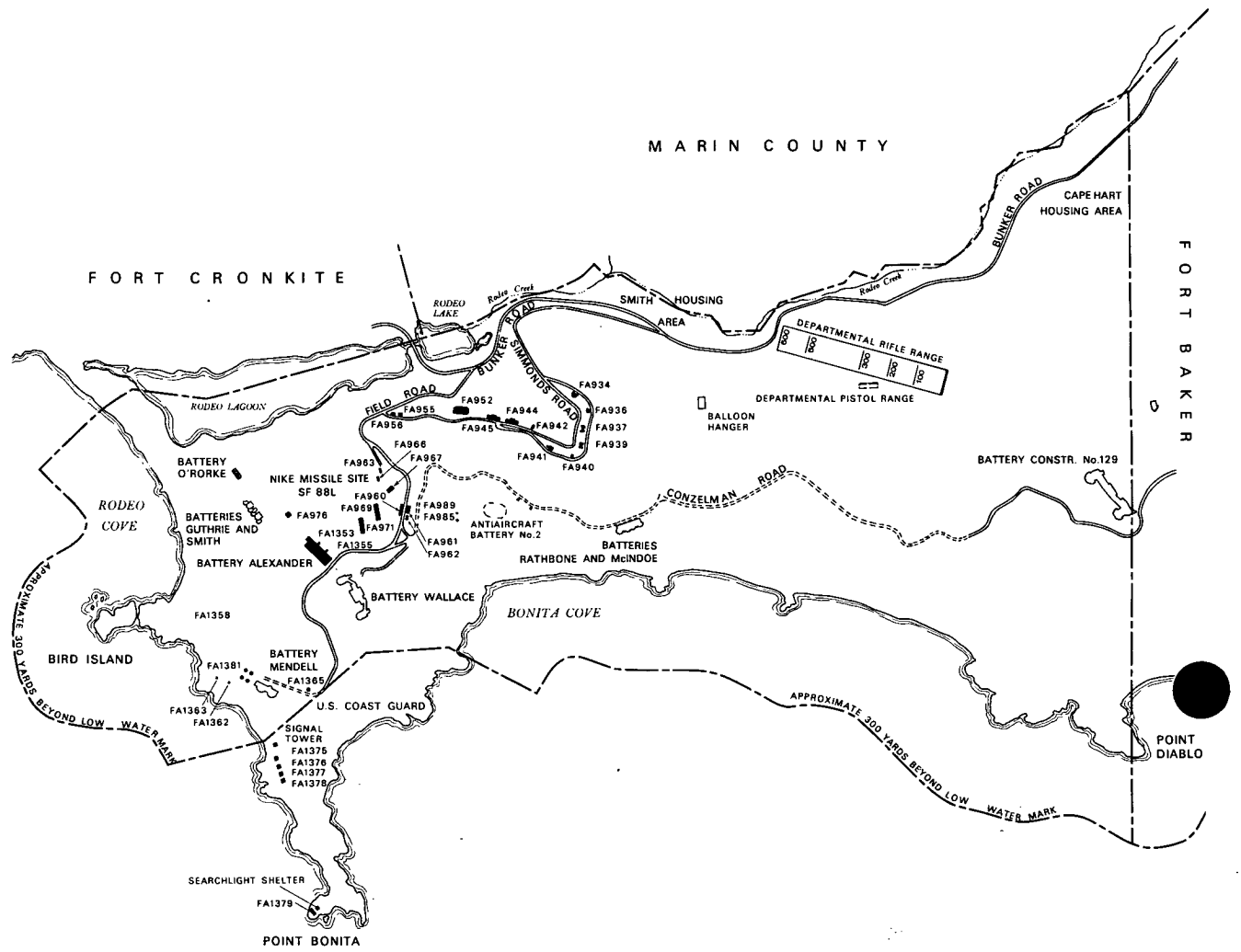
708 East Road

709 Murray Circle

710 Conzelman Road

711 Moore Road

770 Plotting, radio, switchboard rooms, Battery Construction No. 129



LEGEND

RESERVATION BOUNDARY
PAVED ROAD
UNPAVED ROAD

N

600 0 600 1200 1800 FEET
180 0 180 360 540 METERS
590.54 FEET = 180 METERS

GOLDEN GATE NATIONAL RECREATION AREA
FORT BARR
HISTORIC BASE MAP, SHEE

UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE 641 20,064 JAN 79 DSC

Fort Barry Golden Gate National Recreation Area Historic Base Map. Sheet 2.

The road system shown on the map is greatly simplified, as compared to the actual facts. No roads in Fort Barry are judged to be historically significant.

List of historic structures and their numbers (all numbers prefixed "FA," for Fort Barry).

773 Battery Construction No. 129
830 Departmental rifle range
831 Departmental pistol range
905 Balloon hangar
911 Batteries Rathbone and McIndoe
934 Officers' quarters
936 Commanding Officer's quarters
937 Officer's quarters
939 Officers' quarters
940 Post headquarters
941 Post hospital
942 Hospital steward's quarters
944 EM barracks
945 EM barracks
952 Gymnasium and post exchange
955 Noncommissioned officers' quarters
956 Noncommissioned officers' quarters
960 Quartermaster and subsistence storehouse
961 Ordnance storehouse
962 Bakery
963 Air Defense Missile Site (Nike), San Francisco SF88L
966 " " " " " " " "

967 Air Defense Missile Site (Nike), San Francisco SF88L
969 " " " " " " " "
971 " " " " " " " "
976 " " " " " " " "
985 Fire control station
989 Fire control station
991 Magazine, Antiaircraft Battery No. 2
993 Storeroom Antiaircraft Battery No. 2
999 Battery Wallace 1351 Battery O'Rorke
1354 Batteries Guthrie and Smith
1356 Battery Alexander (includes two firing booths, Nos. 1353 and 1355)
1357 Searchlight shelter
1362 Fire control station
1363 Fire control station
1364 Battery Mendell
1365 Mining casemate
1375 Fire control station
1376 Fire control station
1377 Fire control station
1378 Fire control station
1379 Fire control station
1380 Antiaircraft Battery No. 2
1381 Automatic weapons emplacements

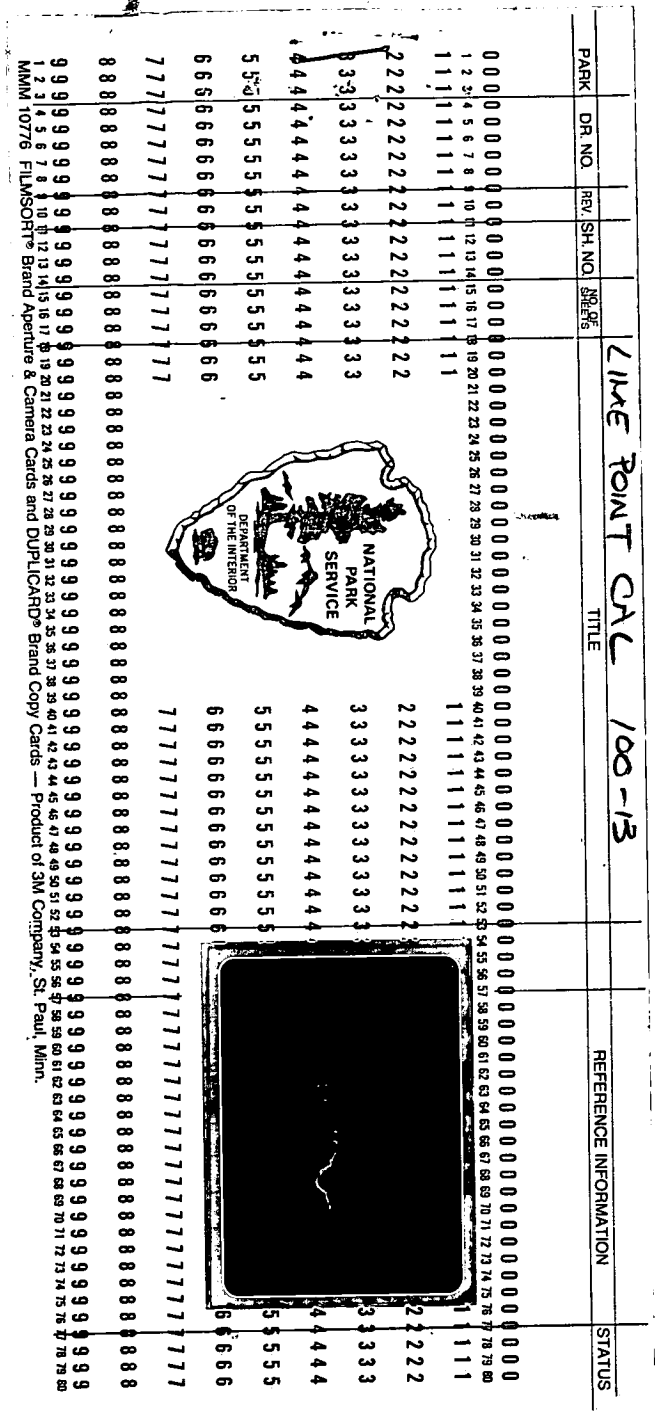
Fort Cronkhite Golden Gate National Recreation Area Historic Base Map. Sheet 3.

The road system is shown greatly modified. There are no Historic roads within Fort Cronkhite.

List of historic structures and their numbers (all numbers prefixed "FC," for Fort Cronkhite).

1008 Plotting room for Battery Townsley
1014 Battery Townsley
1048 Recreation building
1049 Mess hall
1050 Administration building
1051 Administration building
1052 Mess hall
1053 Recreation building
1054 EM barracks
1055 EM barracks
1056 EM barracks
1057 EM barracks
1058 EM barracks
1059 EM barracks
1060 Administration building
1061 EM barracks
1062 EM barracks
1063 EM barracks
1064 EM barracks
1065 EM barracks
1066 Recreation building
1067 Mess hall
1068 Administration building

1069 Administration building
1070 Mess hall
1071 Recreation building
1100 Nike missile battery
1101 Nike missile battery
1106 Nike assembly shop
1107 Nike assembly shop
1109 Nike warhead building
1130 Reserve magazine
1194 Nike radar tracking tower
1197 Nike radar tracking tower
1200 Antiaircraft Battery No. 1
1201 Fire control station, Wolf Ridge
1202 Fire control station, Wolf Ridge
1203 Fire control station, Wolf Ridge
1204 Fire control station, Wolf Ridge
1205 Fire control station, Wolf Ridge
1206 Fire control station, Tennessee Valley



As the nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, and parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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