

Kirby Cove, Marin Headlands, California

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In January 1848 gold was discovered on the American River in California, and within two years San Francisco’s population skyrocketed to nearly 40,000. California and San Francisco were a long way from the east coast of the United States, where America’s population and military strength were concentrated, so strong defenses were critically needed against possible foreign aggression. In November 1850 a joint army-navy board recommended two large forts at the entrance to San Francisco Bay, on either shore of the straits that had recently become known as the Golden Gate - one at Fort Point in the Presidio and one at Lime Point on the Marin shore. A third was planned for Alcatraz Island within the inner harbor. Together, these forts would mount nearly three hundred guns at the gate’s narrowest point.

U.S. Army engineers commenced construction in 1853 on the forts at Fort Point and Alcatraz. At Fort Point, the new work was a three-tier masonry fort on the site of an earlier Spanish castillo. Completed in 1861, the “Fort at Fort Point” was armed with a mix of heavy smoothbore guns ranging in caliber from 24-pdr up through 10-inch columbiads – some of the largest armament of the day. In the following four decades there were many changes in the fort’s armament until the last guns were removed in 1900.(1)

Simultaneously, the engineers began work on Alcatraz Island, where the heights formed natural defensive positions. Barbette batteries were carved into the rocky slopes, and masonry defensive walls encircled the island shoreline. Roads, barracks, underground magazines, and water cisterns would make the island nearly impregnable even during a prolonged siege. Completed in 1859, Alcatraz remained a fort until 1907.(2)

Acquiring title to the land at Fort Point and Alcatraz was not a problem for the U.S. Government; those lands had been under direct control of the Spanish and Mexican governments. Lime Point, however, was another story. Part of the sprawling Rancho Saucelito, it had been in private hands since 1837, when William Antonio Richardson had been granted title by the Mexican governor of California. Richardson’s claim to Lime Point was confirmed by U.S courts in 1854, and before military plans could proceed the land would have to be acquired from Richardson—either through purchase or condemnation.

The army began initial surveys of Lime Point while title was still to be resolved. One of the earliest descriptions was reported in 1855 by Colonel of Engineers Renee DeRussy: “The head lands, from Point Bonita to Lime Point, are generally abrupt on the seaside, and of a rock formation, and yet the valleys intervening and their summits are covered with a natural growth of the country, the wild oats, which afford good pasturage during the whole year.” Other early military descriptions included similar descriptions of a rugged terrain: “Nothing grows upon it but grass and flowers”; “the land is broken and high; it is grazed upon by cattle and horses”; and its value was “little or nothing for agriculture or grazing.”



Figure 1. Lime Point Reservation and Gravelly Beach (future Kirby Cove) from Fort Point, 1869.
RG 77-F-94-101-26, NARA.

Historian E.R. Lewis in 1965 summarized the early appearance of the Lime Point tract: “Nineteenth century photographs, some taken as early as the late 1860s, bear out this picture; between Points Bonita and Cavallo not a single tree is to be seen, only an uninterrupted expanse of grass and rock.”(3)

The government’s negotiations with Capt. Richardson and his successor owner of the rancho, William Throckmorton, have been related many times in other history studies, nowhere better than in Erwin Thompson’s *Historic Resource Study: Forts Baker, Barry, Cronkhite*. Suffice it to say it took 16 years of negotiations, correspondence, condemnations, offers, and counteroffers before an agreeable sale price for the land was finally reached. On July 24, 1866, the government took title to the “Lime Point Military Reservation,” 1,898.66 acres stretching from the Golden Gate to Point Bonita. The cost was \$125,000.(4)

Work began the following year on the long-planned casemated work at Lime Point. Had it been completed, this fort would have mounted 109 cannon in a two-story masonry structure along the general lines of Fort Point across the Golden Gate. The fortification’s planned site would have necessitated carving out a four-acre plateau at the very foot of Lime Point, and within a few months Maj. George Mendell of the Corp of Engineers had workers leveling the end of the point. Mendell estimated that it would require excavating 1,000,000 cubic yards to clear enough space for the fort’s foundations. It would be an expensive job. He projected the total cost of the casemated work to be \$3,000,000 – nearly \$48 million in today’s dollars.

Around this same time, Mendell received authorization to build a temporary shelter at Gravelly Beach just west of Lime Point for a civilian or soldier to guard the beach, since people were apparently hauling away gravel by the boatload. This is the first mention of any construction at the cove.(5)



Figure 2. Had it been built, the proposed Lime Point fort would have been exactly where the north tower of the Golden Gate Bridge now rises. This artist's recreation is based on engineer plans approved in 1867. *Courtesy Larry Ormsby, from Fort Baker through the Years.*

As it turned out, Major Mendell's work on the new fort at Lime Point never proceeded beyond construction of a work camp at Horseshoe Cove and preliminary blasting on the east face of Lime Point. The project was doomed before it was begun, the victim of changing military technology.

Immediately following the Civil War, the U.S. Army Board of Engineers began reviewing the country's existing seacoast fortifications in light of lessons learned during the war, especially the vulnerability of masonry forts. When within range of land-based artillery, these had proven themselves to be little more than oversized targets for artillerymen. The army soon realized it needed to radically redesign all its present and future forts.

Proposals ranged from hanging metal plates on the forts' exterior faces to replacing them entirely with rotating iron gun turrets. However, more conservative and economy-minded engineers studied earthworks as an alternative. These improvised fortifications were simple to build, provided excellent protection, and had proven easy to repair. Earthworks, the board decided, would become the basis of the next generation of permanent American forts. Additionally, earthworks should be spread out. In the words of historian E.R. Lewis, "Never again would forts be built in the storybook style as single structures housing large numbers of cannon. From this time on, a fort was a piece of real estate occupied by a number of dispersed individual batteries."⁽⁶⁾

These new American fortifications would be low-rise affairs, extending only a dozen feet or so above grade. In order to provide maximum protection for the guns, the weapons would no longer be mounted on the long, unbroken lines of platforms built in the 1850s. The army now planned to emplace cannon in pairs, each pair separated from its neighbors by artificial hills called "traverses." The traverses would protect against incoming enemy shells and limit battle damage to, at most, two weapons at a time. Each traverse was also to house a powder magazine.

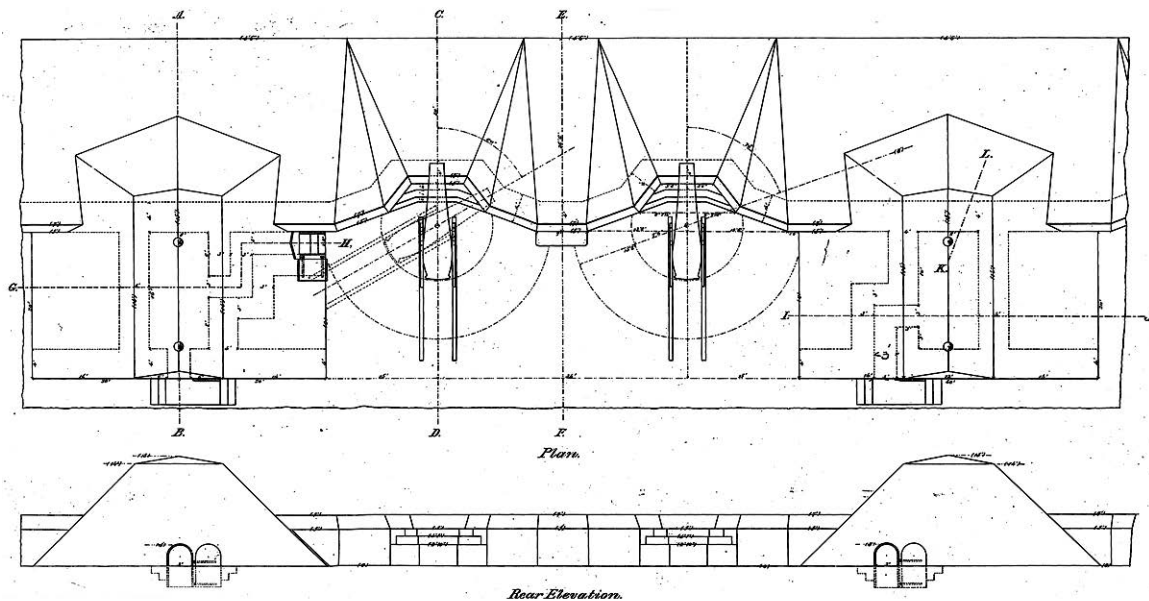


Figure 3. Standardized plan for an earthwork emplacement with two 15-inch Rodman guns and two traverses, 1868. Gravelly Beach Battery followed this general arrangement. *RG 77-155-4, NARA.*

All of San Francisco's existing fortifications were now considered obsolete, especially the works at Fort Point and Alcatraz Island. New plans would have to be drawn up for earthworks that conformed to the new guidelines.

At Lime Point, Mendell suspended excavations for the masonry fort and ordered surveys of the nearby hills for locations of earthwork batteries. Due to the hilly topography of Lime Point, it would prove difficult to locate extended lines of emplacements in a single spot. Five sites were eventually chosen along the Marin shore for earthwork batteries: Lime Point Ridge, Point Cavallo near Yellow Bluff, Gravelly Beach, Point Diablo, and Point Bonita. The new batteries would mount 74 weapons, including mortars, smoothbore guns, and large rifles.

Major Mendell needed additional information on the last three sites and in April 1870 he dispatched a young lieutenant of engineers, Thomas H. Handbury, to survey Gravelly Beach, Point Diablo, and Point Bonita. Handbury reported that Gravelly Beach contained about 25 acres for building and defensive purposes. Apparently the valley behind the beach 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." As for defenses, "a battery which would afford emplacements for say six of our largest guns, could be constructed here at very little expense."⁽⁷⁾

Mendell and other local engineers were tasked with designing works for these new locations and in August 1870 the Board of Engineers for the Pacific Coast forwarded initial drawings of the proposed earthworks at Gravelly Beach. Basically, the new battery would take the form of an earthen dam 30 feet high and 150-160 feet thick, spanning the mouth of Gravelly Valley, a distance of approximately 750 feet, with positions for ten 15-inch Rodmans behind the earthen parapet. In keeping with the standard plans being developed by the chief of engineers, each pair of Rodmans would be separated from the next pair by a high earthen traverse containing a masonry magazine. At either end of the line of Rodmans, positions were shown for four field guns that could sweep the beach to defend against raiding parties.⁽⁸⁾

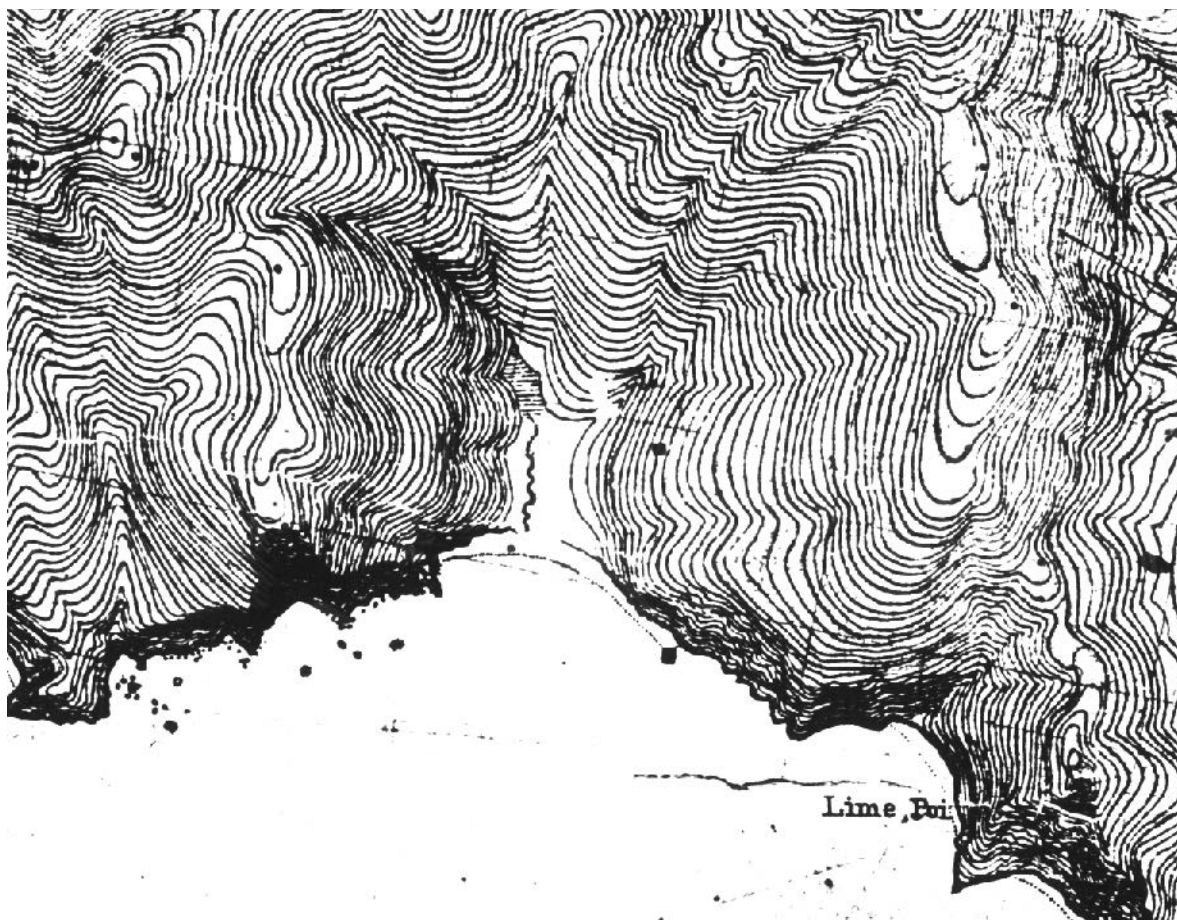


Figure 4. Original topography and conditions, Gravelly Beach and Valley, 1850. For some reason, only one of the two creeks draining the valley is shown. *USGS, PARC, GOGA-3512.*

With minor revisions, the plan was approved and the War Department authorized Mendell to proceed on September 10, 1870. The first job was to construct a road from Horseshoe Cove to the valley, and only five days later workers began excavating a road west around the tip of Lime Point. It rapidly became obvious that blasting a water-level road along the foot of Lime Point's cliffs would be a laborious and dangerous task, and within a month Mendell proposed a new route that climbed up and over the spine of Lime Point and then dropped down into Gravelly Valley. Although four or five times longer, it would be considerably cheaper. This route would also provide access to the earthworks being built along the top of Lime Point ridge. This became the eventual route to Gravelly Beach and work progressed on the newer, hillier route during October and November. By the end of November the road was completed. Mendell reported the road was fourteen feet wide, had a grade of 7.5 percent, was macadamized for $\frac{2}{3}$ of its length, and cost \$5,760.(9)

Originally, Gravelly Beach Valley was drained by two parallel creeks that emptied onto the beach. To construct the 30-foot-high, 750-foot-long rampart that formed the main body of the battery, Mendell's workers excavated substantial quantities of rock and soil from the hillsides flanking the beach. Since the new earthwork would form a barrier for these creeks, twin masonry tunnels were originally proposed, running through the earthworks to drain the valley. By 1871 the engineers had decided to merge the two creeks into a single drainage by constructing a 170-foot diversion channel connecting the two. In this way, all the waters were merged into a single drainage along the course of the western

creek that emptied through a single brick culvert under the battery. The diversion channel and brick culvert still survive, and the latter is a popular exploring feature of Kirby Cove Beach.

Section of Gravelly Beach Battery
Scale 1 Inch to 20 Feet

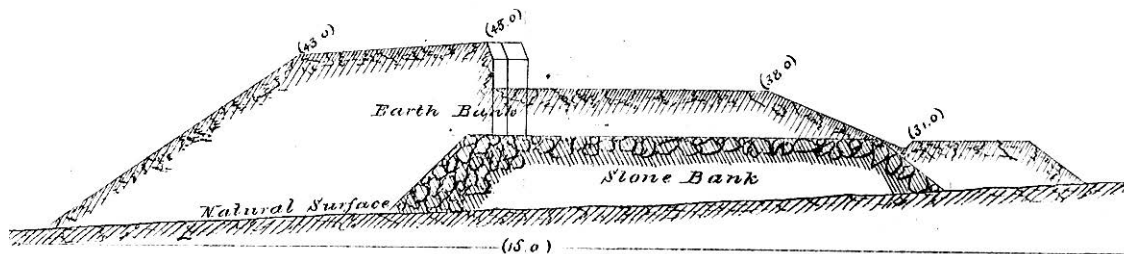


Figure 5. Cross-section through the earthwork parapet at Gravelly Beach, 1870. RG 77, NARA.

The final design of the battery was only slightly different from the one proposed by the Pacific Board in 1870 and included positions for 12 Rodmans separated by six earthen traverses.

The main changes were the elimination of the field gun positions on the flanks and their replacement by two additional 15-inch Rodman guns, along with slight modifications to the designs of the two traverses at either end of the battery. The gun positions were numbered 1 through 12, and the traverses were given letter identifications A through F. In both cases, the ordering was right to left when looking towards the sea.(10)

Construction of the Gravelly Beach battery was extensively documented in Maj. Mendell's "Journal of Operations, Lime Point, 1867-1876" and the *Annual Report of the Chief of Engineers*. A complete retelling of the battery's construction is outside the scope of this report, but following is a timeline of key benchmarks in its history:

July 1870:	Final design submitted by Pacific Board
September 1870:	Design with minor revisions approved by chief of engineers
November 1870:	Road completed from Horseshoe Cove to Gravelly Beach
November 1870:	Culvert constructed under the battery site
December 1870:	Work had commenced on battery structure
June 1871:	Masonry work on magazines nearly complete
Fall 1871:	Earthen parapet, forward slopes, and traverses completed and seeded
Spring 1872:	Work begins on gun platforms built of wood with concrete in-fill
June 1873:	Mendell reports "Gravelly Beach battery is ready for service."
September 1873:	A single 15-inch Rodman gun is mounted in position No. 9

Progress was slow in the last half of 1871 due to continuing uncertainty in Washington over the style of gun carriages that would eventually be emplaced. As an interim measure, the gun positions at Gravelly Beach were revetted with temporary timbers until a final design for platforms and carriages was determined.

The total cost for the Gravelly Beach battery including its access road was \$72,752.89.(11)

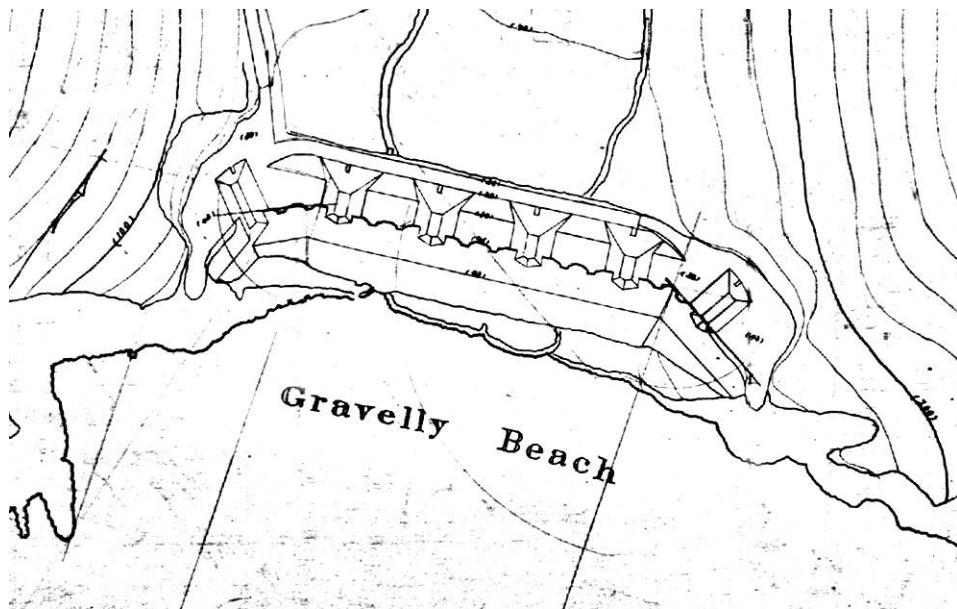


Figure 6. The completed Gravelly Beach battery in 1874. The trapezoidal shapes represent the six earthen traverses. *PARC, GOGA, Dr. 263, Fldr. 1.*

Although by mid-1873 work was essentially completed and all the gun platforms were in place, the battery was virtually unarmed. The lone 15-inch Rodman would be the only gun mounted at Gravelly Beach - or anywhere at Lime Point for that matter - for over two decades, and no troops were assigned to the battery. As elsewhere in the nation, fortification construction came to a halt on June 30, 1876. That year, Congress allocated only a very small annual sum (roughly \$100,000 for the entire country) for “protection, preservation and repair” of fortifications.

Lime Point and all of the unfinished fortifications were relegated to caretaker status for the next two decades. Mendell’s annual reports became repetitious on the topic. For example, in 1878 he wrote: “The works and public property have been under the charge of keepers throughout the year. No construction was in progress, all operations being suspended for want of funds. No changes have taken place either in number of platforms or in armament.”(12)

He also reported the Lime Point battery was under assault from a very small enemy: “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 did not help because “recruits from outlying country come in.”(13)

In 1886, at the direction the Congress, Secretary of War William Endicott convened a board to review the sad state of the country’s defenses. Their sweeping recommendations would result in a wholesale rebuilding of American fortifications during what military historians would eventually label the Endicott Era. At Fort Baker, construction began in the mid-1890s on new batteries atop Lime Point Ridge and at Gravelly Beach, the former to be named “Battery Spencer” and the latter “Battery Kirby.”

The Endicott Board’s initial recommendation for the defenses of San Francisco were breathtaking, involving scores of weapons mounted on everything from disappearing carriages to armored turrets to huge concrete “gun lift” batteries. The latter would hold large-caliber guns on hydraulic lifts that would bring the guns up out of their emplacements for firing and then lower them into cavernous concrete monoliths for reloading.

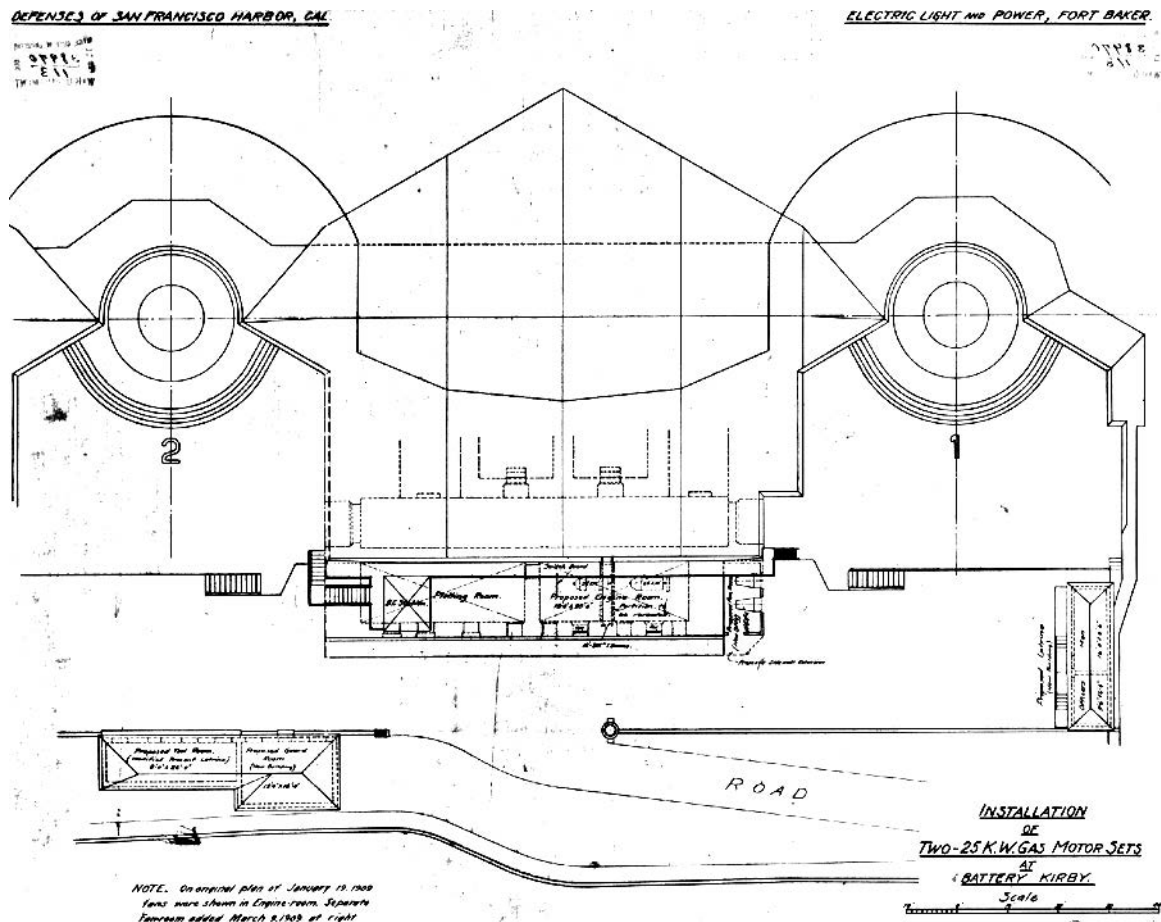


Figure 7. Final arrangement of Battery Kirby for two guns, 1909. The latrines, guardroom, and storeroom were in separate structures facing the battery parade. *PARC, GOGA, Dr. 263, Fldr. 2.*

Originally, four 12-inch gun lifts were recommended for Gravelly Beach. However, after only two such emplacements were built at Fort Hancock, NJ, it was evident that the disappearing carriage was superior. The plan for gun lifts at Gravelly Beach was dropped.

E.R. Lewis described these types of emplacements as “starkly heroic, as if the intent of the designers was to defeat an attacking enemy by sheer terror... The four-gun battery at Gravelly Beach was to be a monstrous, multi-story concrete structure 400 feet long and 54 feet high, which would cover the old earthen battery and completely span the valley like a huge dam.”(14)

Planning and funding for the new works took several years, and by 1896 the plans for the battery at Gravelly Beach had evolved from gun lifts into a more sedately designed emplacement for four 12-inch guns on disappearing carriages. The large emplacement would still span the width of the cove, but instead of a sheer masonry wall across the valley, the new design would be built behind the thick earthen ramparts of the 1870s works. The battery’s low profile would make it hard to spot from the sea. In addition, its sheltered position between high cliffs on either side of the cove meant its guns would be “masked” from an approaching vessel until it was directly in front of the battery.

The San Francisco Call reported in September 1897 in “Heavy Guns in Position,” that “A powerful battery of high-power guns representing the best type of modern rifled ordnance will be planted near the water line at Gravelly Cove under Lime Point.” Interestingly, the story explains exactly which military powers the army was preparing defenses against - Spain, Japan, and most importantly, Great

Britain: "England is the great power that we may be called on to fight at the entrance of the Golden Gate. She has a station at Vancouver, where her fleets may assemble and outfit for operations against San Francisco. Our position is strong enough . . . to make a splendid fight against the best fleet England could send against us."

In March 1898 *The Call* again reported on the Gravelly Beach battery (although the number of guns was incorrect) and succinctly described its important strategic location:

It is the judgment of well-posted artillery officers that works should be constructed at Gravelly Beach, on the Marin shore of the bay, near Lime Point. A position for a water battery has been designated at that point. In fact, the scheme for defense for San Francisco harbor, adopted by the Board of fortifications, embraces a battery of ten or twelve inch disappearing guns at Gravelly Beach. The guns of this proposed battery would not command much of an ocean range, as an arm of the mountain or bluff touching the Golden Gate shuts off a view of the sea further out than a line extending from Lime Point to the Cliff House. A battery there planted would be obscured from the view of an incoming fleet. An enemy would not discover the guns until the range of fire was short.

Six 12-inch disappearing guns at Gravelly Beach would constitute a tremendously effective battery, and should, at the short range of one thousand or fifteen hundred yards, be able to destroy any ironclad that floats.(15)

Final approval for the new battery came in August 1898, but the new work would be twice reduced in size: from four guns to three in 1898, and then from three to two in 1899. The reason for the first reduction was that squeezing four gun positions into the narrow cove became an engineering problem. Also, there were questions about committing so much money and firepower into a location with such a limited field of fire.(16)

The plans for a fourth gun position lingered, though, since a July 1898 drawing of the still-unnamed battery shows the three positions numbered 2, 3, and 4 - as if hope for Gun No. 1 were still alive. By January 1899 the battery was further reduced from three guns to two when Position No. 4 was changed from "under construction" to "projected." Still, the two surviving positions were labeled No. 2 and No. 3 for many months.(17)

Work on the battery finally began in September 1898 with grading and clearing of the site, which included the demolition of old traverses D and E and Rodman Positions 4 through 8 of old Gravelly Beach Battery. Interestingly, Position No. 9 where the only gun in the cove had been mounted in 1873, was spared and its concrete outline still survives on the left flank of Battery Kirby. The work continued throughout 1899 until all that remained was mounting the 12-inch guns on their disappearing carriages.(18) On July 22, 1900, *The Call* reported that "Ordnance Sergeant J. Schneur and forty men are engaged in erecting two twelve-inch disappearing guns at Gravelly Beach, near Fort Baker."(19)

Exactly how the army moved the 12-inch gun barrels and carriage carriages to Gravelly Beach is not recorded, but it is possible the guns were landed by barge on the beach and winched up to the emplacements, a technique used a few years later to move guns to the Point Bonita batteries. Maps of the cove prepared up through World War II show a ramp leading from the beach to the bluffs west of Battery Kirby, which might have served this purpose.

The new Gravelly Beach battery and its two 12-inch M1895 guns on M1897 disappearing carriages were officially transferred from the engineers to the artillery on August 5, 1900. Its total cost was \$70,334.18.(20) The battery was formally named Battery Kirby in War Department General Order No. 16 in 1902, in honor of 1st Lt. Edmund Kirby, 1st U.S. Artillery, who died May 28, 1863, of wounds received at the battle of Chancellorsville, VA, during the Civil War.

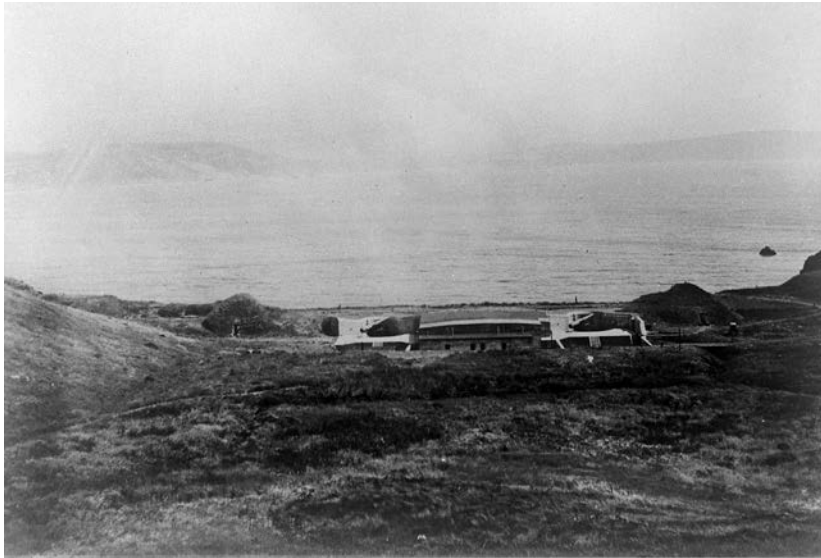


Figure 8. Battery Kirby with San Francisco in the distance, June 27, 1902. Earthen traverses from Battery Gravelly Beach flank the new battery. *PARC, TASC Collection, GOGA 35301.2009.*

Although Battery Kirby was several miles from the main post at Fort Baker, the engineers did not construct living quarters for the soldiers who manned its guns. Only a small guardroom was provided for the soldiers assigned to guard the battery. Instead, when soldiers arrived at Battery Kirby for extended target practice they lived in tents pitched on the flat plateau directly behind the gun emplacements. (See Figure 9.)



Figure 9. Soldiers tenting on the upper terrace behind Battery Kirby, circa 1922. Other tents are visible across the creek near the old traverses in the distance. Both terraces still exist at the cove. Newly planted cypress trees can be seen on the hillside. *PARC, Thomas Postcard Coll., GOGA-2605002.*

“Militiamen in Camp at Guns of City’s Defenses,” in *The San Francisco Call* from 1907, gives some insights into how the tenting area was laid out:

The guardsmen [i.e., National Guard] have been scattered between Forts Miley and Winfield Scott on the south shore and Baker on the north. With each company of militia is a company of regulars. The regulars took up their position last night within the shadow of the batteries, while the guardsmen pitched camp a little to the rear...

The troops of the Fifth regiment were the first to go into camp. Company B from San Jose reached the Oakland mole in the morning and was at once conveyed in a government vessel to Fort Baker. Company C from, Petaluma, D from San Rafael and, E from Santa Rosa ... Company M from San Francisco ... [were] taken to Fort Baker.(21)

Water for the battery originally came from a small creek that drained the northwest corner of the valley. “The permanent water supply of the battery comes from the ravine to the northwest. A concrete settling basin has been built in this ravine from which a pipe carries the water to the battery. A hydrant is placed in the rear of each emplacement; the water is under good serviceable pressure.” Water from the catchment was stored in a wooden water tank downhill from the drainage.(22)

A small cluster of buildings grew up in this corner of the valley that included the water tank, a powerhouse for Battery Kirby (completed in 1900), and two unidentified structures. The buildings may have been construction-related structures, and possibly served as a farming or ranch site for Fort Baker. A 1908 report by Baker’s post engineer stated that both the battery and the “post garden at Gravelly Beach valley” obtained their water from a spring in the vicinity. The powerhouse, about 400 feet northwest of the battery, held a 9 h.p. Hornsby-Akroyd “oil” (kerosene) engine, powering a 6 kW 110 volt generator.(23)

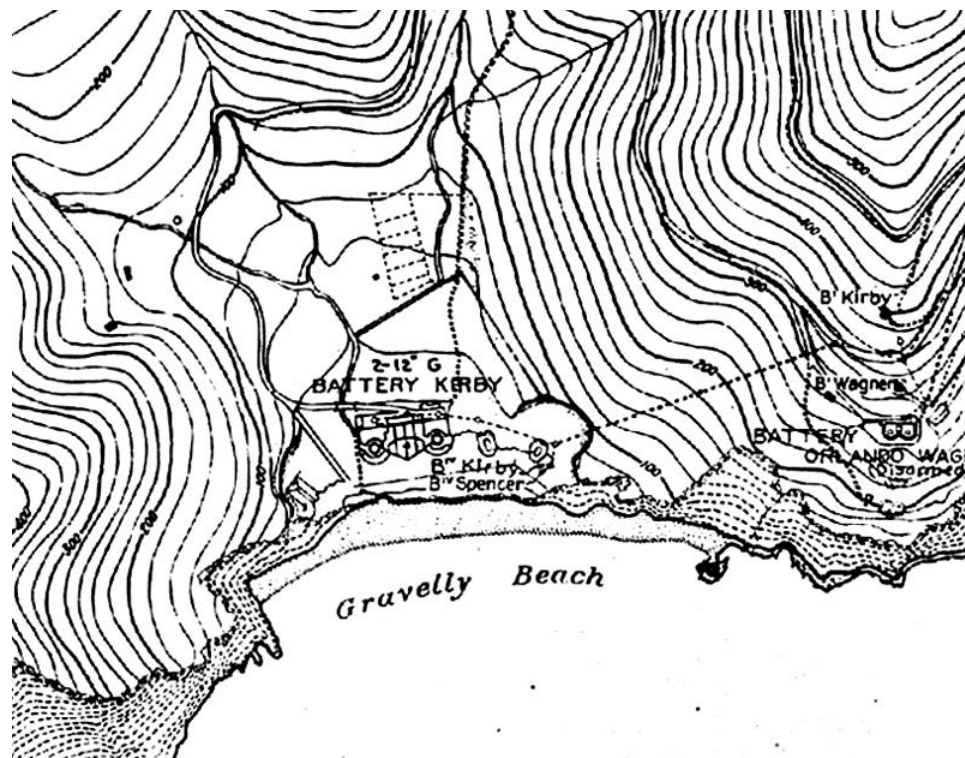


Figure 10. Gravelly Beach, December 1916. Details include post garden at center, road to beach, foot trail from main road, and support buildings in the side valley at left. *PARC, Dr. 195, Fldr. 1, GOGA.*

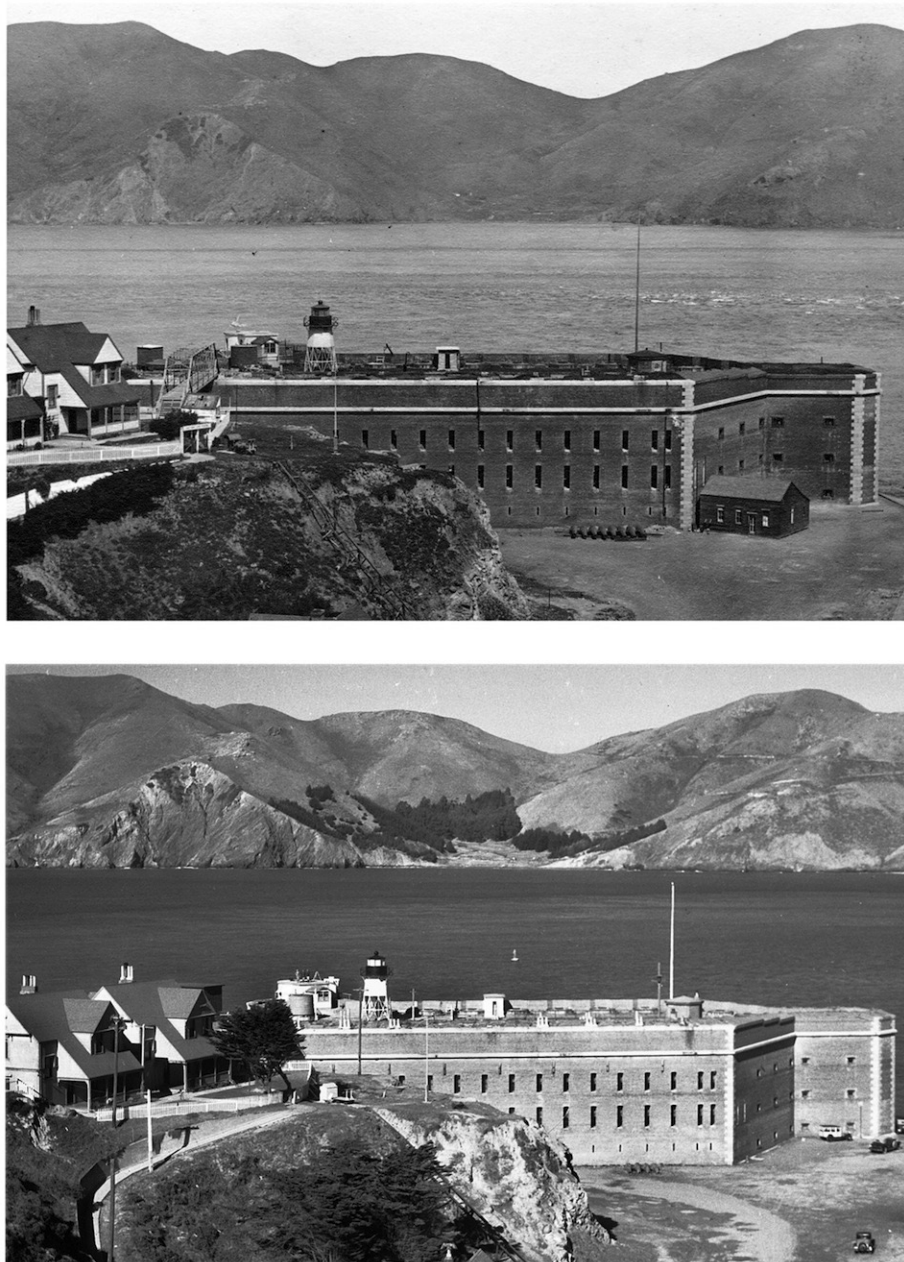


Figure 11. Comparison views from Fort Point showing dramatic tree spread in Kirby Cove, circa 1915(top) and circa 1932 (bottom). *John A. Martini Collection.*

Another clue that the unidentified buildings may have had an agricultural use appears in a 1912 article in *The Sausalito News* recounting a court dispute between a local rancher and soldiers from Fort Baker - over a cow. Soldiers from the 68th Company of Coast Artillery were holding the cow at Gravelly Beach and the rancher claimed it was stolen from his herd. "The Judge considered the question of the brand as a deciding factor in the case and adjourned court for the purpose of going to Gravelly beach to inspect the brand."(24)

Gravelly Beach and its valley continued to be barren of trees until well into the 20th century. Photographs taken as late as 1915 reveal no vegetation in the valley, but by 1920 stands of eucalyptus

and cypress had begun to appear. The purpose of this planting program, undertaken many years after similar efforts at the main post of Fort Baker, is still unclear, since there is no documentation of the army's efforts. However, likely reasons were erosion control on the valley slopes, windbreaks, and post beautification.

Based on historic aerial photographs, it appears most of trees were planted between 1915 and 1921 and consisted originally of blue gum eucalyptus and Monterey cypress. The various plantations can be divided into five distinct areas or stands (see Figure 12):

Stand 1, hillside furthest east of Battery Kirby, consisted solely of Monterey cypress.

Stand 2, hillside northeast of Battery Kirby, consisted of eucalyptus plantation bordered on its west side by Monterey cypress.

Stand 3, north end of the valley below the access road, consisted solely of Monterey cypress.

Stand 4, northwest corner of valley above the access road, consisted solely of eucalyptus.

Stand 5, the steep hillside west of Battery Kirby, consisted solely of Monterey cypress.



Figure 12. 1938 aerial photograph of Gravelly Beach Valley showing five original plantings.
RG 499, E118, NARA.

These five plantations originally surrounded only the perimeter of the cove, leaving the valley floor as an open grassy meadow crisscrossed by the creeks and the 1871 drainage channel. The heavily forested cove of today is the result of the trees spreading out from their original boundaries, compounded by the introduction of pines and other trees after 1950 that have since covered the valley floor and spread upslope and out of the valley.

Aside from vegetation spread, little changed at the cove between completion of Battery Kirby and the start of World War II. However, changes occurred at the battery proper. In 1910 a major renovation of the battery was completed that included widening the loading platforms, remodeling the guard room into a plotting room, relocating the powerhouse from the remote building to the battery interior, and adding an elevated battery commander's station. At the same time, a fire control station for Battery Spencer at Fort Baker was built at the extreme eastern end of the cove in what had originally been Gun Position No. 12 for Gravelly Beach Battery.

In September 1933, Kirby's No. 1 disappearing gun was removed and sent to the Philippine Islands. Sometime after January 1938, Gun No. 2 was dismantled and stored on-site as a spare until it was also shipped to the Fort Mills in the Philippines in 1941.(25)

Immediately following the attack on Pearl Harbor on December 7, 1941, a battery of mobile 155 mm guns from Fort Cronkhite was emplaced on the foreword slope of Battery Kirby. The guns were camouflaged by nets stretched over the guns and their temporary emplacements, while the crewmen apparently took up residence in the magazines of Battery Kirby itself.



Figure 13. Oblique view of Battery Kirby, January 1938. Now-vanished features include a post-and-wire fence enclosing the battery and 1870s traverses, the road terminating in the battery parade, the latrine (left), and the guardroom/storeroom (right) behind the battery. At extreme right, a square-roofed fire control station assigned to Battery Spencer can be seen on the bluff. *RG 499, E118, NARA.*

The 155 mm guns were only a stop-gap measure, and in August 1942 two concrete gun blocks for 3-inch rapid-fire guns were constructed at the edge of the bluff, 87 feet apart, in front of Battery Kirby's Emplacement No. 2. Two M1902 3-inch guns formerly at Battery Townsley at Fort Cronkhite were mounted on the blocks and the battery dubbed "Battery Kirby 3-inch." (To avoid confusion, this report will use the name "3-inch AMTB battery.") The total cost of the battery was \$955.78.(26)

The 3-inch gun battery lasted only slightly longer than the original mobile guns they replaced. In June 1943 work began on a third generation AMTB battery at Gravelly Beach, this time mounting a pair of 90 mm dual-purpose rapid-fire guns emplaced at the extreme eastern end of the beach. As with the 3-inch battery, the emplacement consisted of two concrete “gun plugs” 120 feet apart. A battery commander’s station was located uphill east of Gun No. 2. Completed in September, the battery consisted of two 90 mm M1 guns on fixed T3 carriages equipped with steel shields. It was designated “Battery Kirby Beach.” (Again, to avoid confusion, this report will refer to “90 mm AMTB battery.”) The total cost of the battery was \$4,907.63.(27)

All four of these gun blocks still exist and can be easily recognized by their shape. The 3-inch emplacements are octagonal, while the 90 mm gun blocks are circular.

Troops manning the AMTB batteries apparently pitched tents as additional living quarters among the eucalyptus trees growing in Tree Stand No. 2 on the east side of the cove. A 1943 topographic map of the 3-inch battery shows a fence separating the emplacements from the hillside, with a notation “existing tent camp area north of fence” on the far side of the fence.

Other features of the map reveal that the artillerymen were using 1870’s traverse “E” for ammunition storage, and had constructed a small shed and an observation post between the traverses.(28)



Figure 14. 163rd MP Company tenting at Kirby Cove, February 3, 1963.
PARC, PAM Photo Coll., GOGA-1766.

Other changes occurring during World War II are only visible when comparing aerial photographs of the cove. These included extending the original road from its terminus behind Battery Kirby to the extreme east end of the bluff (today's Campsite No. 1) for constructing and supplying the AMTB batteries, grading a new road across the width of the valley between today's parking lot and Campsite No. 4, and unidentified activities taking place within Tree Stands Nos. 3 and 4 indicated by vehicle roads through the trees.(29)

The end of World War II marked the end of Kirby Cove's role as an active defensive position, and by 1948 the 90 mm AMTB guns had been removed, along with the rest of the army's harbor defense fortifications. In 1950, the U.S. Army disbanded the Coast Artillery Corps and reorganized its personnel into a new artillery branch.

For the purposes of this study, Kirby Cove's period of significance ends with the removal of its last weapons and the end of the coast defense role at Fort Baker.

In the 1950s and early 1960s, the army occasionally used Kirby Cove as a training area. Photographs in the Golden Gate NRA Park Archives show military activities that included beach landings on Gravelly Beach, tenting and cooking activities among the trees, and using an 1870's traverse magazine for a command post. Interestingly, the soldiers appear to have pitched their tents on the same slope northeast of Battery Kirby that had been used by WWII artillerymen. This hillside area of Kirby Cove is still notched with former tent sites.(30)



Figure 15. 1954 aerial view of Kirby Cove. Newly-planted pine trees have begun to appear in the central meadow and along the former tenting terrace behind Battery Kirby. *PARC, GOGA-3156.*

By the early 1960s, Kirby Cove and other areas of Forts Baker were becoming surplus to the needs of the Department of Defense (DOD). Simultaneously, the land's dramatic location along the Golden Gate Straits made it increasingly valuable for recreation. An agreement was worked out to transfer some of these lands to civilian control, and in 1961 a large tract of Fort Baker, stretching from Battery Spencer to Point Diablo, was declared surplus by DOD and transferred to the General Services Administration, and then to the State of California. The new parklands, which included Kirby Cove as a centerpiece, were put under the State Division of Beaches & Parks and rechristened "Marin Headlands State Park." (31)

Over the next 15 years the state developed Kirby Cove as a group campground, used for many years almost exclusively by Boy Scouts and Cub Scouts. The army was allowed to continue using Kirby Cove for training, and several photographs in the Golden Gate NRA collection show maneuvers taking place at the cove after its transfer to state ownership.

But the state also developed various alternatives for the long-term development of Kirby Cove, some of which envisioned massive development of the valley floor for large group activities. One plan, released in September 1966, was stunning in its scope. It called for 90 picnic sites, two restroom buildings with changing rooms, a leach field, and shaded lawns with irrigation systems. A parking lot spanning the entire valley would provide space for 150 cars. Surprisingly, no camping facilities were shown. (32)

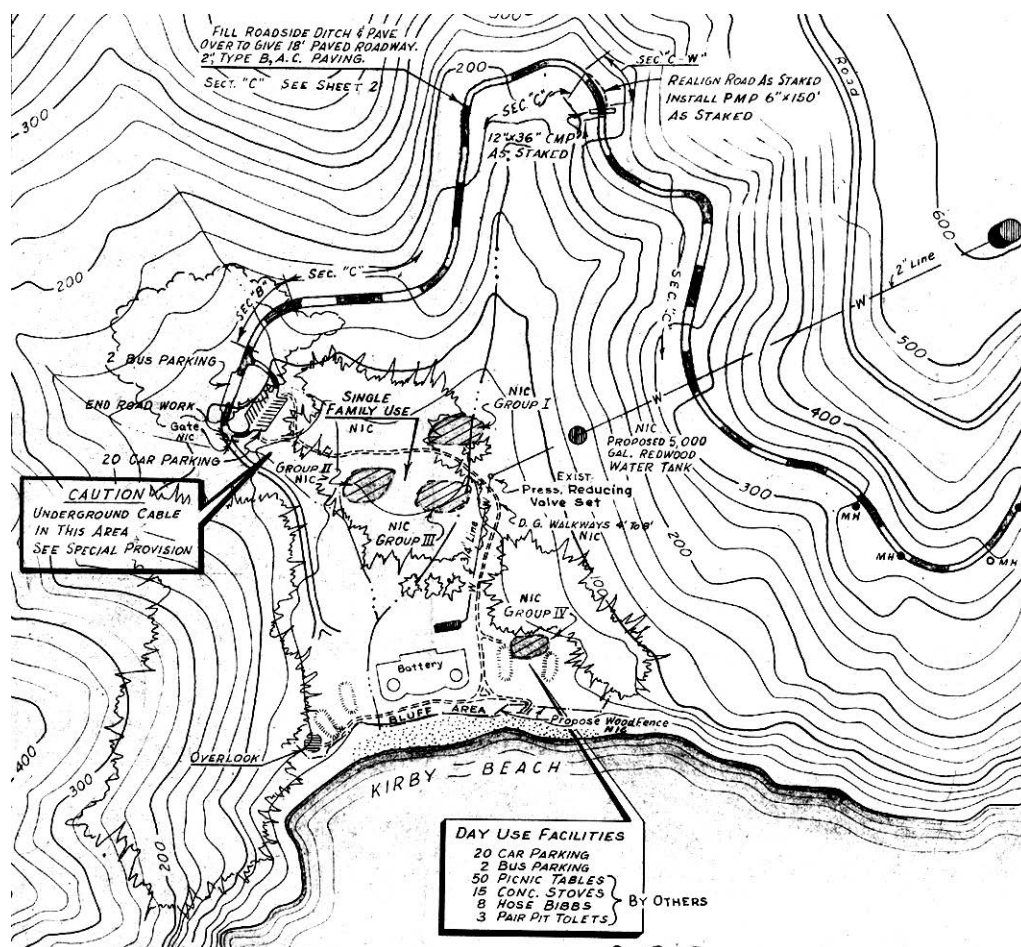


Figure 16. California State Park development plan for Kirby Cove, October 1968.
PARC, GOGA 3317, Fldr. 3.

The reasons for not implementing the 1966 plan are unclear, but by 1968 a greatly scaled-back version of picnicking facilities at Kirby Cove was prepared by the state. This time, parking was limited to 20 cars and two busses and only four picnic areas were planned: three “group areas” and one family area. The elaborate comfort stations and septic system had been replaced by pit toilets and the lawn area eliminated completely. (Three of the proposed group picnic areas shown on the state drawing are occupied present-day NPS campsites 1, 3, and 4).(33)

Minor revisions took place later that year, mostly involving an additional group picnic site in the center of the valley, and by 1969 Kirby Cove had taken on the general layout that it retains today. An “as built” drawing prepared in May 1969 shows the parking lot in its present configuration, foot trails connecting the lot with then-picnic sites, a ramp leading from the east end of Battery Kirby to the beach, a 5,000 gallon water tank and distribution system, and two sets of pit toilets.(34)

However, there were still no provisions for camping. How the policy of camping at Kirby Cove began, and how the cove evolved under the California State Parks from a picnic area to a group campground is not currently known.

Other changes to Kirby Cove under the state’s jurisdiction are less well documented. Around 1961, two ancillary structures associated with Battery Kirby were demolished: a latrine behind Emplacement No. 1 and a combination tool room and guard room behind Emplacement No. 2. Sometime in the 1970s, the entrances to the four traverse magazines from the original Gravelly Beach Battery were buried as safety hazards.



Figure 17. Entrance to Gravelly Beach traverse magazine, April 1973. *PARC, GOGA 35301.2007.*

Additional tree plantings also took place in Kirby Cove sometime in the early 1950s. As mentioned previously, the army's original cypress and eucalyptus stands were planted on the upper slopes of the valley, leaving the floor as an open meadow. Photographs taken as late as 1951 reveal the meadow still intact. By 1954, however, the central meadow was beginning to sprout pine trees. One large stand of trees, which included both Monterey pine and California redwoods, was planted in a straight line directly behind Battery Kirby, presumably as a windbreak. (See Figure 14.) It is assumed that all the pine and redwood were planted by the U.S. Army during their last years of occupancy, either for use during training exercises or for recreational values.(35)

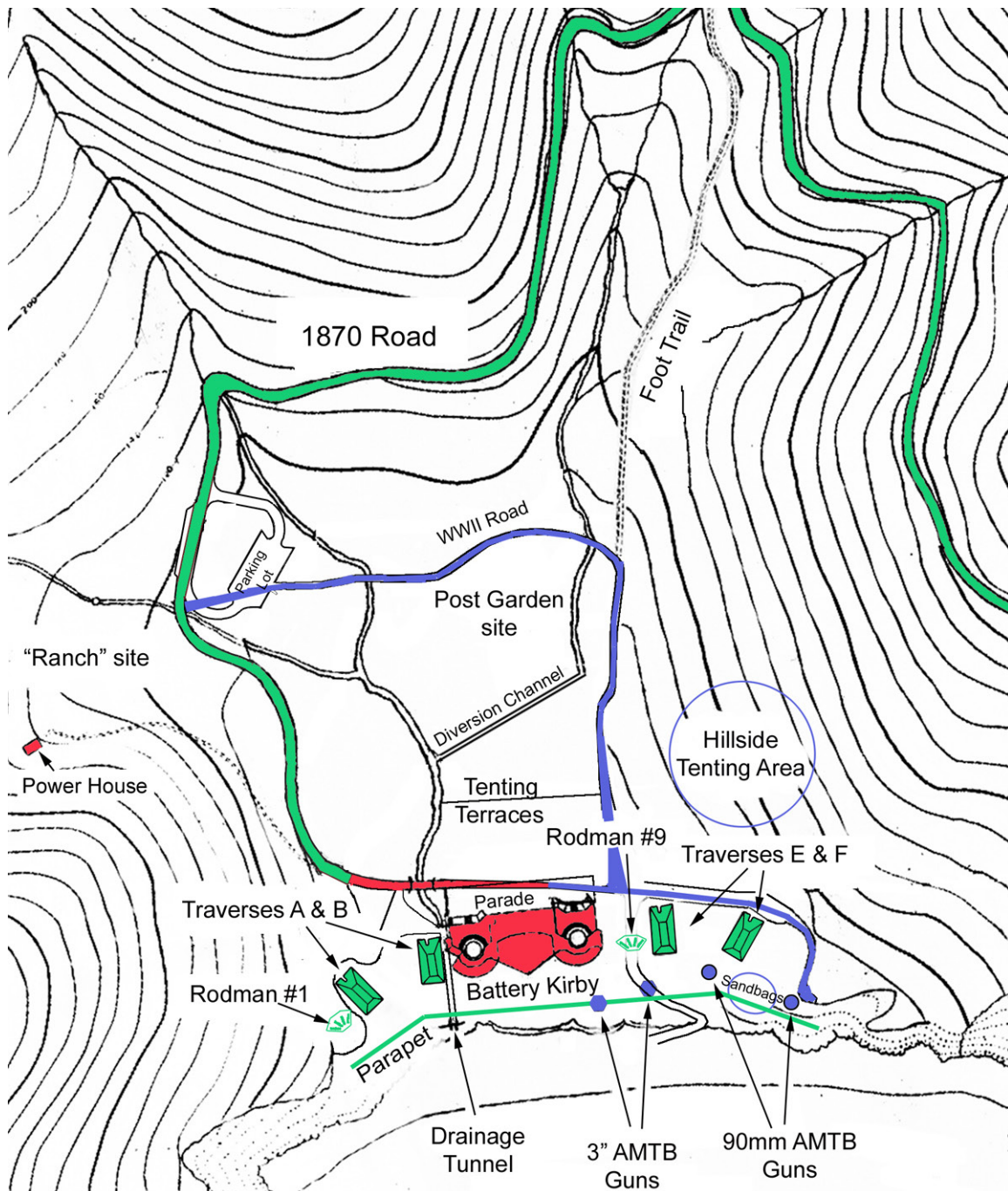


Figure 18. Significant landscape features at Kirby Cove, not to scale. *Courtesy John Martini.*

In October 1972, Congress created the Golden Gate National Recreation Area (GGNRA) and included Fort Baker - and Kirby Cove - within the new park's legislated boundaries. The National Park Service began to accept transfer of former DOD lands in Forts Baker, Barry, and Cronkhite in late 1974, and in 1978 the California State Parks transferred its former Marin Headlands State Park areas to GGNRA. Final transfer of Kirby Cove to GGNRA took place on September 29, 1978, when the state filed a "quit claim" on the property.(36)

Since 1978, the GGNRA staff has continued to operate Kirby Cove as a group campground with four camp sites and a day-use picnic area, each with a maximum capacity of 10 people. Parking is restricted to three cars per site, within 100 yards of the campsites. Pit toilets, BBQ-pits, picnic tables, and fire rings are available, but there is no water for drinking or hygiene. Only one weekend reservation per group per season is allowed.(37)

Vehicle access to the cove is controlled by a fire gate at the intersection of Kirby Cove Road and Conzelman Road, and the gate combination is changed monthly. Visitors making reservations for campsites or the day use area are given the combination when they pick up their permits. The cove is open at all times to pedestrians who hike down the one-mile road to the beach.

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