

Earthen Fortifications/Early Military Prison and Fortifications (1868–1907)

The U.S. Army's "*Plan of 1870*" began the next phase of major construction on Alcatraz Island. The work actually began before 1870, starting with the approval from the Board of Engineers Report of 1868 for a major defense project for Alcatraz Island. By 1868, construction had already begun and excavations at the west end of the Island had already been finished. Although the Civil War had ended, the change to barbette batteries and earthen fortifications would turn into a "*full-scale rebuilding*" of the Island as it was transformed into a military prison.⁵⁶

Major physical changes to Alcatraz Island after 1868 included extensive modifications to its original masonry fortifications, extensive earth moving and topographic modifications including building the escarpment (steep, cut) slope at the southern edge of the lighthouse, and leveling of the lower plateau on the Island's south-side. The rebuilding of this period focused first on modifications to the earthen fortifications, building of batteries and Rodman canon mountings, and the removal of older wooden and granite gun platforms.⁵⁷

In addition to the extensive earthmoving operations, the large influx of prisoners and the mandate for Alcatraz Island to hold all long-term prisoners from the Spanish-American War required major expansion of prison buildings and cellblocks as well as facilities for the Island's regular military personnel. Changes in armament between 1876 and 1894 would result in changes to batteries and earthen fortifications.⁵⁸ By 1900 with the end of the Spanish-American War, Alcatraz Island was disarmed⁵⁹ and the Island's use for defense fortification shifted to its use primarily as a military prison.⁶⁰ The last of the Southern-sympathizers had departed sometime in late 1865 and the prisoner population returned to its normal makeup of military prisoners from all over the Department of the Pacific. The army culled the worst thieves, deserters, rapists, chronic drunkards, and repeated escapees from its ranks and sent them to Alcatraz Island where they presented a ready labor pool.⁶¹

This historic period captures the extensive earth moving that was undertaken for both fortification and for expanding the military prison. In the late 1860s and through 1876, earth fill, cut from the east hillside (Escarpment Slope) was placed over the original 1850s masonry batteries.⁶² Gun platforms were altered, and the original masonry fortification walls were remodeled and covered with earth fill. Guns were remounted so that pairs of Rodman cannon became the norm rather than long lines used earlier. Traverses, "*mounds of earth placed at frequent intervals along a battery to stop shot that might enfilade the battery,*"⁶³ separated each pair of Rodman guns.⁶⁴ The Alcatraz Island traverses were built over reinforced concrete and brick magazines, connected by tunnels that ran through them.⁶⁵ Once completed the traverses were covered by topsoil (brought from the mainland

⁵⁶ Thompson 1979: 162

⁵⁷ Thompson 1979: 168; Martini 2009

⁵⁸ Ibid., 194

⁵⁹ Ibid., 196

⁶⁰ Martini 2009: The earliest prisoner work activities on Alcatraz Island took place all across the Island and were not confined to specific areas. Starting in the 1860s these tasks included breaking rock, demolishing old fortifications, cutting down the Island's north and south end to reduce its profile and conducting general maintenance.

⁶¹ Martini 2009: The prison population fluctuated over the next several decades, sometimes numbering only a few dozen men but eventually swelling to nearly 500 prisoners early in the 20th century.

⁶² Delgado 1992

⁶³ Thompson 1979: 539

⁶⁴ Martini 2009

⁶⁵ Thompson 1979: 539; Martini 2009

and Angel Island)⁶⁶ and planted with grasses including barley. In later years, Iceplant (*Delosperma*) was planted to control erosion.⁶⁷ Although vegetative cover was sparse on Alcatraz Island, the introduction of soil to cover the embankments of the 1870s batteries resulted in the introduction of the seeds of various native plants found on Angel Island, such as coyote bush, blue elderberry, blackberry, and California Poppies.⁶⁸

During this period earthwork batteries were given numbers (e.g. Battery IX) in place of officers' names.⁶⁹ In 1876, work on the conversion of the Alcatraz Island batteries was suspended due to a nationwide reduction in military expenditures. Later modifications to the Upper Prison resulted in additional filling on the south end of the Island, including grading and filling over remaining batteries the Practice Battery, Battery 12 (Three Gun Battery) and Battery 11.

In 1887, the Wharf was extended to accommodate larger ships and its support facilities expanded as well. The Wharf now included a new coal storage shed, engineer's offices, a carpenter shop and boathouse. A prison chapel building and library were constructed over the road just south of the Guardhouse Complex. The 1856 Guardhouse and its surrounding structures were modified and its use remained as the first military prison on Alcatraz Island, known as the Lower Prison.⁷⁰ The character of both the prison and the Island was described in *Prisons of Alcatraz*, an article of the Daily Alta California, dated Sunday August 2, 1885.⁷¹ The article also chronicled the conditions and daily life of the prisoners.⁷² Alcatraz Island occasionally served as a place of confinement for Native American warriors during the "Indian Wars" of the 1870s through early 90s.⁷³ Following the end of the Spanish-American War in 1898, Alcatraz was filled with primarily military prisoners.⁷⁴

By 1909, the Guardhouse Complex and its support structures were converted to industrial and community uses with a plumbing shop in the former 1866 cellblock, carpenter shop in the former wooden cellblock above the Main Road, a laundry in the former kitchen and mess hall, and a gymnasium in the former chapel, library and theater building. The basement of the Guardhouse Complex was converted to a pump house.⁷⁵

⁶⁶ Delgado 1992

⁶⁷ Ibid.

⁶⁸ Hart 1996: 11

⁶⁹ Martini 2009

⁷⁰ Martini 2009: The Lower Prison served this function until 1904 when the Upper Prison was completed on the Parade Ground.

⁷¹ Prisons of Alcatraz 1885: "*On the lower level of the Island, and adjacent to the wharf, is the prison, a solid structure with barred doors and windows, abutting on one side the solid rock, and overlooking the water on the other. The interior of the building consists of a long hall, with rows of small compartments on either side. The original structure consisted only of the western section, which is lined with tiny cells, affording room for one man of fair proportions to stretch his limbs.*"

⁷² Prisons of Alcatraz 1885: "*The prisoners at present occupying quarters at Alcatraz, about 160 in number, are generally expiating prosaic offences, with one exception – that of the young Apache, Kaeteena. . . a prisoner of war. The majority of the prisoners at Alcatraz are young men, few having passed forty. No uncouth garb disgraces the military prisoner at Alcatraz, but he is neatly clad in the uniform of the service he has endeavored to renounce. Upon the back of each a number is marked in large characters plainly visible at a considerable distance.*"

⁷³ Martini 2009: The government incarcerated at least thirty two American Indians, including several of their own Indian Scouts who were convicted on charges of mutiny. Brigadier General George Cook's campaign against the Chiricahua Apaches led to the arrest of a young chief, Kaetena, in July 1884. After his release in March 1886 Cook wrote, "*His stay on Alcatraz has worked a complete reformation in his character.*"

⁷⁴ Martini 2009: Following the 1898 conflict between the Spanish Empire and the United States, there were so many prisoners on Alcatraz Island that they served as a labor pool for other U.S. Army posts in the Bay. Alcatraz prisoners built roads and a rifle range at Fort Baker, did forestry tasks and landscaping at the Presidio and Fort Mason, tended to vegetables on Angel Island, and repaired and built buildings at numerous posts.

⁷⁵ Martini 2009

In addition to the extensive work undertaken to rebuild/fill the original masonry fortifications into earthen fortifications, the Island's summit and its southern end were substantially modified. This consisted of extensive excavation and leveling of the lower plateau on the Island's southern end, and the resulting Escarpment Slope between the Summit and this new lower level. This undertaking required the blasting and removal of hundreds of cubic feet of soil and rock. This level plateau would become the location of new Upper Prison in 1900. During this period of large-scale earth moving, planting pits were cut out of the rock and filled with soil brought over from the mainland and Angel Island. Soil was also placed in the gardens associated with the Citadel and Officers' Row.⁷⁶

Beginning in 1869, continuing to 1890, and again in 1900,⁷⁷ the south end of the Island was transformed from a sloping hillside with masonry fortifications to a new enclosed prison facility set on a level plateau. The Main Road branch at switchback two that was cut off in 1865, was extended once again to the south as part of earthwork operations undertaken for building the lower plateau. The building of the Upper Prison in 1900 covered the north end of this excavated area.⁷⁸ The expansion of the Upper Prison in 1904 covered Battery 12 at the east end of the Island and created a much larger plateau.⁷⁹ The batteries along the western edge of the level plateau remained intact.

At the Island's Summit, major earthwork operations removed the earlier sloping hillside on the south. The resultant landform is the nearly vertical escarpment slope that remains today, and created the new southern edge of the Summit. The escarpment slope provided the Citadel and the Lighthouse with a commanding presence, while retaining the impressive setting of the Citadel. With the escarpment at its south end, the original brick building now appeared to sit further to the south, dominating the skyline as viewed from San Francisco.⁸⁰ With its white washed walls, the Lighthouse remained visible from afar. At its base, the keeper maintained lattice fencing and flowerbeds.⁸¹

The east and south sides of the Citadel included garden spaces, initially built during the previous historic period (as early as 1867).⁸² The south side also included a parade ground lined by stacked cannon used to define the space as a plaza. A small garden was located on the east facade of the Citadel, enclosed by a low decorative railing.⁸³ The garden was Victorian in style and had a clear view to the east towards Angel Island. The garden was situated between the main road and the building, set above the Citadel wall that ran the length of the road leading to the Summit. In 1900, the original 1857 iron fence was rebuilt around the brick moat that surrounded the Citadel.⁸⁴ On the north side of the Citadel remained a large open area, its use indicated as a parade ground in an 1863 historic drawing.⁸⁵ The Citadel was remodeled from 1881 to 1882.⁸⁶

⁷⁶ Delgado 1992

⁷⁷ Ibid.

⁷⁸ Thompson 1979: 233

⁷⁹ Martini 2009: In 1907, when the U.S. Army re-designated the Island as the "U.S. Army Military Prison, Alcatraz," the U.S. Army's approach to the prisoners changed from just incarcerating them to recognizing the value of training prisoners in practical trade skills. At about this time, workshops for prisoners began to appear in the structures surrounding the Lower Prison.

⁸⁰ Thompson 1979: 188

⁸¹ Martini 2009: The light station had many lighthouse keepers during this period, but one – Captain B. F. Leeds remained on the Island from the mid-1880s through about 1906. In addition to his lightkeeper duties, Leeds ran the Island's post office, located in the lighthouse basement.

⁸² Capron 1920: Mrs. Cynthia Capron's garden descriptions are the earliest references to gardens on the Summit. See the previous historic period.

⁸³ Muybridge historic photograph

⁸⁴ Thompson 1979: 238

⁸⁵ 1863 Map

A continual turnover of commanding officers occurred during this period, as was standard for any U.S. Army post during peacetime.⁸⁷ Perhaps the most notable officer during this period was not its commanding officer but rather the engineer who over saw its remodeling, Major George Mendell of the U.S. Army's Corps of Engineers (West Point, class of 1852) who arrived in San Francisco in late 1868. Mendell would oversee the complete transformation of Alcatraz Island to follow new military guidelines. He would eventually become a colonel and would have a direct role in the modernization of the fortifications surrounding San Francisco Bay into the 1890s.⁸⁸

Historic maps and photographs indicate that the front or south side of the Citadel was a large level plateau that served as an impressive terrace for the building with a large formal garden and tennis court. The formal gardens as well as other gardens on the Island were documented by Eadweard Muybridge in 1869. During the 1860s period, the Summit on the west side of the Citadel was excavated and graded as a level terrace that now extended all around the building. A retaining wall and steep slope on the west side of the Island (this would be the future site of the Cellhouse Slope) that extended down to the road were built to accommodate the new level plateau.

In 1905, construction work began on a new enlisted men's barracks (today's Building 64) overlooking the Wharf with the addition of three floors atop the unfinished Bombproof Barracks.⁸⁹ The previous wood frame buildings (built on top of the original lower level of the Bombproof Barracks) were demolished. These included barracks, battery offices, the original Post Exchange (a small frame building), battery kitchen and shoe shop. The construction of the barracks commenced using prison labor for "*four-company, three-story, concrete block barracks*," built in two stages so that troops could live in the old barracks while the new building was built.⁹⁰ In 1906, during San Francisco's famous earthquake and resultant fires, troops in the Bombproof Barracks (Building 64) survived with damage only to the sewer that ran under the casemates.⁹¹ The addition of the second floor promenade around the east façade and its staircase down to the Wharf redefined the entry into the Island along the main road. On the Wharf, engineers structures, carpenter shop and engine house storm pump were removed representing a clear change in case of the Island as "*a permanent military prison*."⁹² The troops residing on the Island during this period were from regular companies who had taken over the garrison duties on Alcatraz Island as the Militia units and Volunteers of the Civil War were discharged at the end of their enlistments. These regular soldiers had two duties. The first was to man the continually remodeled gun batteries and fortifications ringing the Island, and the second was guard duty over the military and American Indian prisoners when in the cellblocks or out for work details.⁹³ One of the units assigned to Alcatraz Island during this period was Company H of

⁸⁶ Thompson 1979: 188

⁸⁷ Martini 2009: Most commanding officers were professional soldiers, usually with the rank of captain or major, who carried out their duties but remain largely unknown to the general public. According to historians familiar with the 19th century U.S. Army, serving as commanding officer of the prison Island was seen as a career path to higher command.

⁸⁸ Martini 2009: Studies of the Civil War had led Mendell and other engineers to conclude that Alcatraz Island's brick and granite walls were not protection against modern rifled artillery fire. Military planners now deemed low profile fortifications constructed mostly of mounded earth as preferable for future forts.

⁸⁹ Martini 2003

⁹⁰ Thompson 1979: 233

⁹¹ Martini 2009: Captain B. F. Leeds, the Island's lighthouse keeper from the mid-1880s through 1906, noted in the devastation in San Francisco, "*. . . is this the end of the world? . . . Terrible seeing S.F. from here.*"

⁹² Ibid., 240

⁹³ Martini 2009: These soldiers received no special training for their penal responsibilities, and simply picked up the skills of jail keepers as part of their duties. Typical of military recruits in the late 19th century, the Alcatraz Island soldiers were frequently new immigrants who saw the duty as a fast track to citizenship. For others with little schooling or skills, enlisting in peacetime assured them a life of three squares a day and a meager monthly paycheck. Units assigned to the

the 24th Infantry, one of the famous “Buffalo Soldier” units comprised of African-American troops that were in San Francisco during the Filipino-American War, and assigned to the Island briefly in 1899.⁹⁴

The transitory or changing nature of the Alcatraz Island landscape is obvious in ways in which the edges of the Main Road were modified over time. The Main Road continued to serve as the primary circulation route during this period, undergoing several modifications as more of the Island was made accessible. The original road profile remained, extending from the Wharf up to the Citadel on the Summit. Several fortification and retaining walls (originally built to accommodate the road cross section) and the spaces between walls were modified for new buildings and uses.

Just to the east of the Citadel, three Gothic-style houses (wood frame construction) were built between 1880 and 1881 for officer housing. This area, later known as Officers’ Row was home to senior officers and their families during this period. Dozens of wives and children lived on the Island in this area, in the old Citadel, and the NCO quarters. Alcatraz Island had many positives for military families. Not only was it adjacent to the metropolis of San Francisco, Alcatraz Island had luxuries such as a permanent living quarters, Stores/QM Warehouse, bowling alleys, a gym, library, and theater where prisoners put on musicals and minstrel shows.⁹⁵

Prior to this construction, the space between the upper portion of the Main Road and the center portion (near switchback two) was separated by a hillside covered in vegetation, possibly remnants from earlier garden illustrated on the 1879 Map.⁹⁶ This garden area may have just been planned for the use of officers and their families, and there is no evidence it was ever built.⁹⁷ Officers’ Quarters 8, the center house, was completed first in 1880 and was also the largest as it was to serve as the commanding officer’s quarters.⁹⁸ Officers’ Quarters 7 and 9 were completed in 1881 to the south and north of Officers’ Quarters 8 and had similar but smaller floor plans.⁹⁹ Each house also had an adjoining garden terrace on its north side. The 1894 map indicates four garden terraces on either side of the buildings and an additional (fifth) garden terrace adjacent to Building 2, the adjutant’s house.¹⁰⁰

The gardens are illustrated as idealized representations (formal geometric forms), but it is unknown whether they were built in this form as there is no photographic evidence.¹⁰¹ Although the exact plantings in the garden terraces are not well-documented, the style and type of plantings likely followed those at the formal Victorian-style gardens of the Citadel. The garden spaces were defined by the houses on the north and south, and by walls (many extant) and railings on the east and west. A 1893 photo shows a picket fence at the garden terrace of Officers’ Quarters 9, which slopes down from the Main Road towards Building 64 following the slope of the hillside. Small trees are planted at the top of the slope and on the east side of Officers’ Quarters 9.

Island during this period included companies from the 1st, 2nd, 4th and 5th U.S. Artillery Regiments and the 1st, 4th, 7th, 10th, 12th, 18th, and 24th U.S. Infantry Regiments.

⁹⁴ Martini 2009:

⁹⁵ Martini 2009: The little army steamer *General McPherson* made regular runs between the island, the City and the other army posts around the Bay. Alcatraz’s officers and their families moved among San Francisco’s elite and were invited to frequent balls and social events.

⁹⁶ The Engineer Office, Presidio 1879

⁹⁷ Byers and Ashford 2006

⁹⁸ Ibid.,

⁹⁹ Ibid.

¹⁰⁰ Redgers 1894

¹⁰¹ Byers and Ashford 2006

By 1893, the sloped area north of Officers' Quarters 9 appeared to have become a lawn or planted with low groundcovers interspersed by a few shrubs.¹⁰² The masonry wall along the east side of the Main Road (beginning at Switchback 3) was originally a flat-topped wall that bordered the residences of Officers' Row. Later, it was topped with obsolete cannonballs during the 1880s and 1890s. It was originally a low retaining wall, topped by a railing. With the disarmament of Alcatraz Island in the 1890s, dismantled and obsolete cannons and cannonballs were used as ornamentation, for tops of walls, carriage stops (bumpers)¹⁰³ and stacked as a means to define and separate spaces. By the early 1900s, the cannonballs atop the Officers' Row wall were replaced by square wood pots that were planted with pelargonium or agave.¹⁰⁴

The U.S. Army built a new hospital in 1882 on the slope below and across the road from the NCO quarters, just west of switchback 3 on the Main Road.¹⁰⁵ The terrace in front of the three NCO quarters (built several years earlier in 1859) was enlarged in 1894 as a new spur road, extending north from the Main Road.¹⁰⁶ A secondary road was also built by 1894 to access the hospital between the second and third switchback, set parallel to the Main Road above it (this road remains today).¹⁰⁷ In 1900, the hospital was enlarged with the addition of the hospital wing extending to the west, which required demolition of the hose house and gymnasium.¹⁰⁸

By 1894¹⁰⁹, the Main Road wrapped around the Summit, around the lighthouse, continuing around the terrace, and traversing down the west side of the Island and finally meeting the southern batteries.¹¹⁰ This road possibly followed an earlier road built in the 1880s.¹¹¹ The 1894 road dipped below the elevation of the summit, and was separated by a slope and wall (later referred to as the Cellhouse Slope). The road construction (later referred to the West Road) required the cutting and moving of rock and soil and the addition of a retaining wall at the bottom of the slope to the southeast of the summit. The steep slope was planted with sod, clover, alfalfa, and barley.¹¹²

The area to which the 1894 road led, had previously been a large level area (now known as the West Lawn) excavated in the 1880s by the U.S. Army. This was well below the summit on the Island's west side, and initially included a stable and accessory structure. According to an 1879 map, the area may have been accessed by an earlier lower road¹¹³ that extended to the north and south. To the north, the road followed batteries B5, B6, and B7 on the relatively flat area formed by their construction. To the south, it followed batteries B9 and B10, and then lowered around the south end of the Island and connected with switchback two of the Main Road.

By 1894 the level area included a corral, stables and carriage house (located just south of the current day Stockade/Recreation Yard). By 1902, a quarry was located further north (in the current location of the New Industries site) along with a Wharf that served the quarry and was used to access the Island to load quarried rock onto boats.¹¹⁴ The U.S. Army added a target range for small

¹⁰² Ibid.

¹⁰³ Delgado 1992

¹⁰⁴ Byers and Ashford 2006

¹⁰⁵ Martini 2003

¹⁰⁶ Martini 2009: Gardens flourished around the houses and in innumerable window boxes.

¹⁰⁷ 1894 Map

¹⁰⁸ Thompson 1979: 232-233

¹⁰⁹ 1894 Map

¹¹⁰ 1867 Map

¹¹¹ There is seemingly no historical reference to construction of this road, and it may be a widening of an earlier informal route used by pedestrians and horse-back riders.

¹¹² Byers and Ashford 2008: 5

¹¹³ 1879 Map

¹¹⁴ Bradley 2005: 2b-11

arms firing, set at the west end.¹¹⁵ Firing positions were located near the site of the present-day West Lawn area and the targets were at the present-day Model Industries.¹¹⁶

In addition to the topographic modifications and demolition of many fortifications, changes were undertaken to buildings and structures in response to the expansion of prisoner facilities and facilities for military personnel. As Alcatraz Island became more of a military prison than a defensive fortification, additional buildings and facilities were added to the Island. Temporary frame buildings were demolished and new quarters for officers and their families were built. Water tanks were added to the top of the Citadel, tripling the Island's storage, a new smokestack for the saltwater engine was built on the Wharf. The dock was improved to sit on iron piles.¹¹⁷

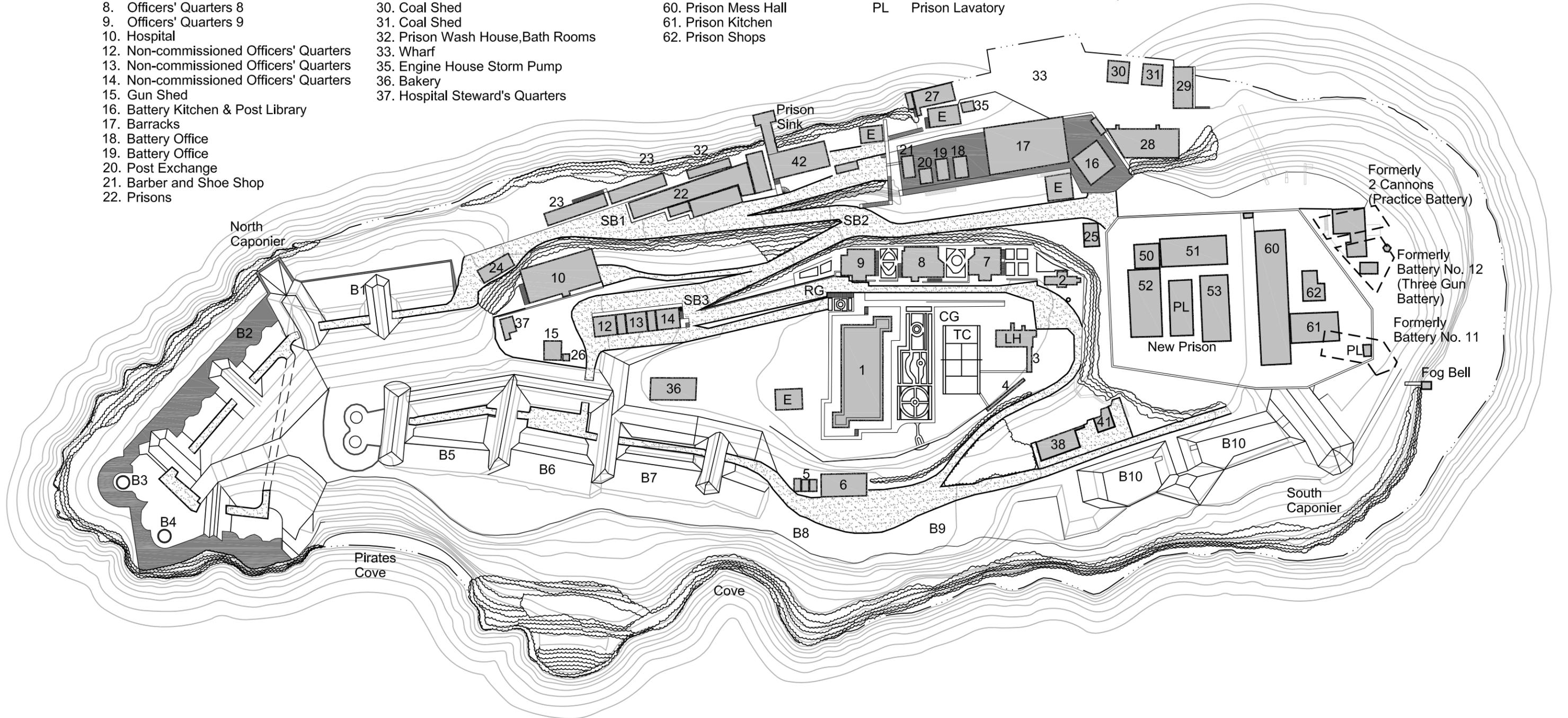
¹¹⁵ Thompson 1979: 629

¹¹⁶ Barker 2009

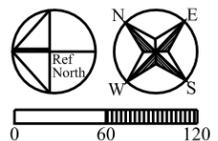
¹¹⁷ Thompson 1979: 238

Legend

- | | | | | | |
|-----------------------------------------|---------------------------------------|-------------------------------|----------------------|------------------|--------------------|
| 1. Citadel, Officer's Quarters | 23. Prison Mess Room, Kitchen | 38. Ordnance Store House | E Engineer Buildings | B1 Battery No. 1 | B8 Battery No. 8 |
| 2. Adjutant's Office/Post Headquarters | 24. Blacksmith Shop | 41. Married Soldiers Quarters | LH Lighthouse | B2 Battery No. 2 | B9 Battery No. 9 |
| 3. Conservatory | 25. Tool House | 42. Guardhouse Complex | SB1 Switchbacks | B3 Battery No. 3 | B10 Battery No. 10 |
| 4. Conservatory | 26. Hose House | 50. Prison Library | B Battery | B4 Battery No. 4 | |
| 5. Carriage House | 27. Carpenter Shop | 51. Prison 1 | TC Tennis Court | B5 Battery No. 5 | |
| 6. Q.M. Stable | 28. Quartermaster Officers Storehouse | 52. Prison 2 | RG Rose Garden | B6 Battery No. 6 | |
| 7. Officers' Quarters 7 | 29. Boat House | 53. Prison 3 | CG Citadel Garden | B7 Battery No. 7 | |
| 8. Officers' Quarters 8 | 30. Coal Shed | 60. Prison Mess Hall | PL Prison Lavatory | | |
| 9. Officers' Quarters 9 | 31. Coal Shed | 61. Prison Kitchen | | | |
| 10. Hospital | 32. Prison Wash House, Bath Rooms | 62. Prison Shops | | | |
| 12. Non-commissioned Officers' Quarters | 33. Wharf | | | | |
| 13. Non-commissioned Officers' Quarters | 35. Engine House Storm Pump | | | | |
| 14. Non-commissioned Officers' Quarters | 36. Bakery | | | | |
| 15. Gun Shed | 37. Hospital Steward's Quarters | | | | |
| 16. Battery Kitchen & Post Library | | | | | |
| 17. Barracks | | | | | |
| 18. Battery Office | | | | | |
| 19. Battery Office | | | | | |
| 20. Post Exchange | | | | | |
| 21. Barber and Shoe Shop | | | | | |
| 22. Prisons | | | | | |



<p>FIGURE 2 - 13</p> <p>UNITED STATES DEPARTMENT OF THE INTERIOR</p> <p>NATIONAL PARK SERVICE GOLDEN GATE NATIONAL RECREATION AREA</p>	<p>TITLE OF PROJECT CULTURAL LANDSCAPE REPORT</p>
	<p>HISTORIC PERIOD EARTHEN FORTIFICATIONS / EARLY MILITARY PRISON 1868 - 1907</p>
	<p>NAME OF PARK ALCATRAZ ISLAND NATIONAL HISTORIC LANDMARK</p>
	<p>REGION COUNTY STATE PACIFIC SAN FRANCISCO CALIFORNIA</p>



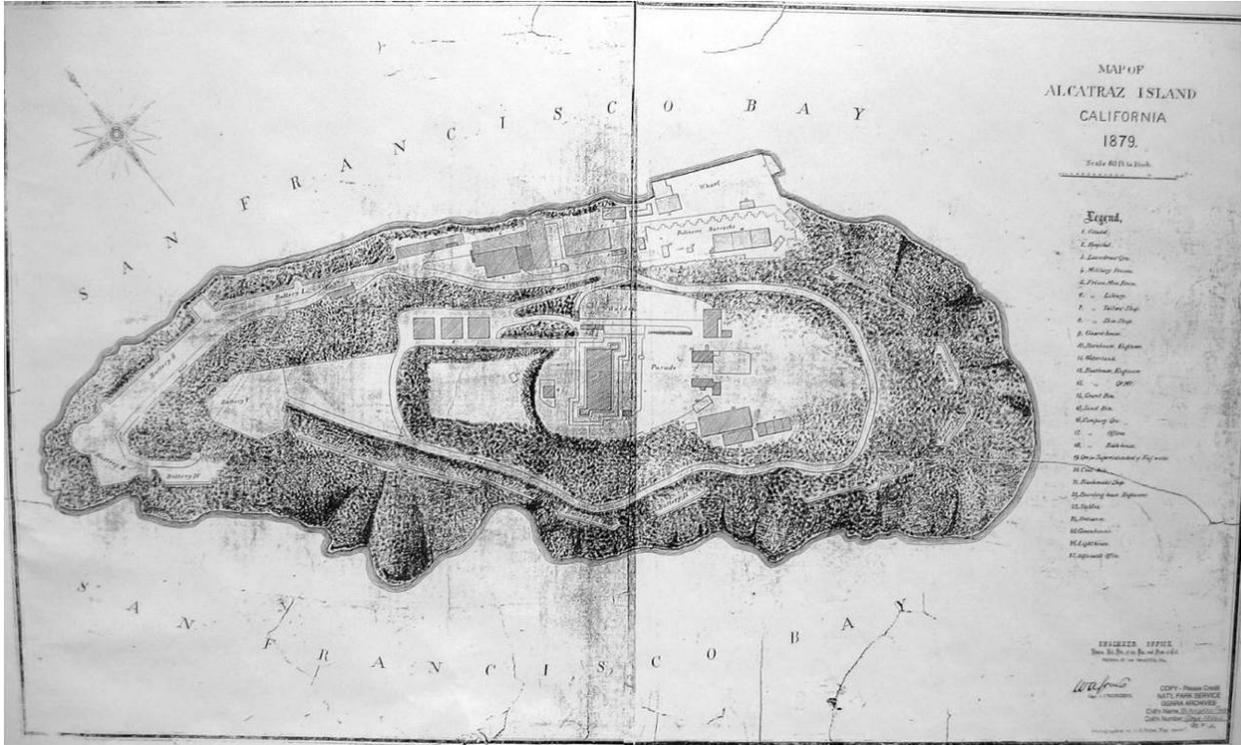


Figure 2-14. Illustrative drawing of Alcatraz Island (c1879) (source: NARA)
 Note: This drawing may have been a plan for improvements on the Island as it is not to scale and contradicts known built conditions on the south end of the Island.

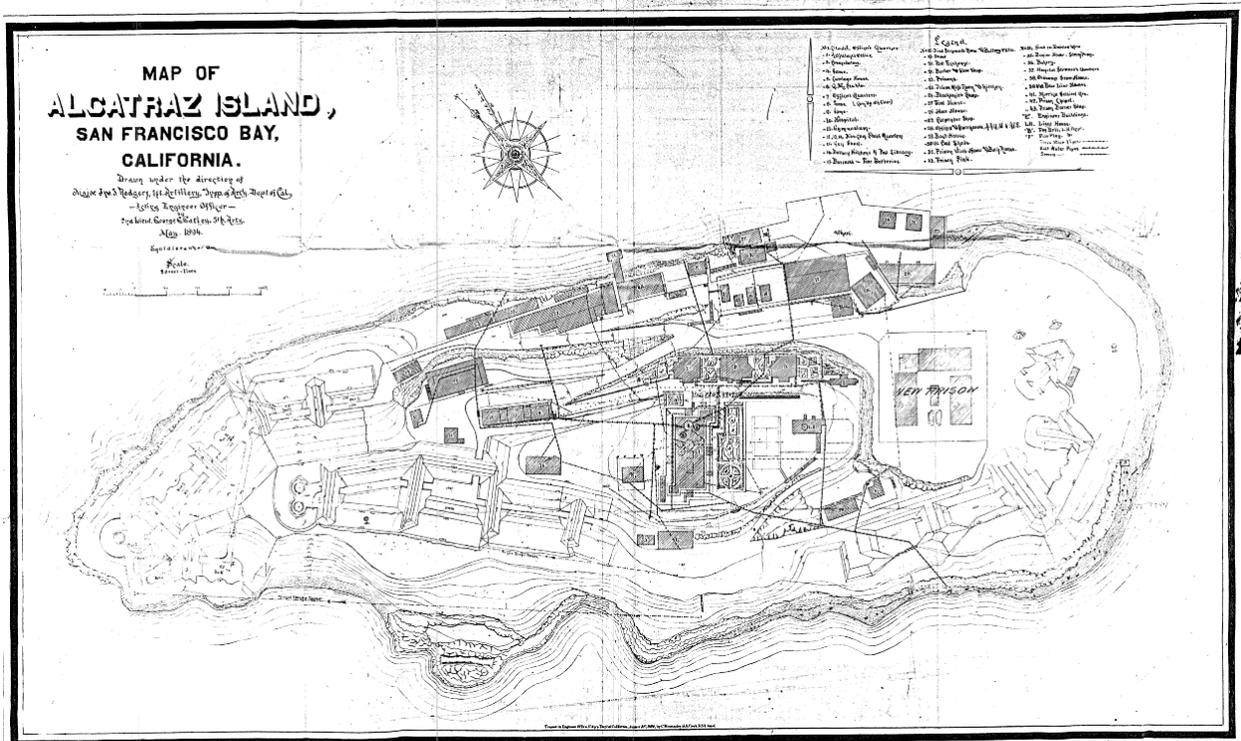


Figure 2-15. Alcatraz Island Map (c1894) (source: GGNRA)

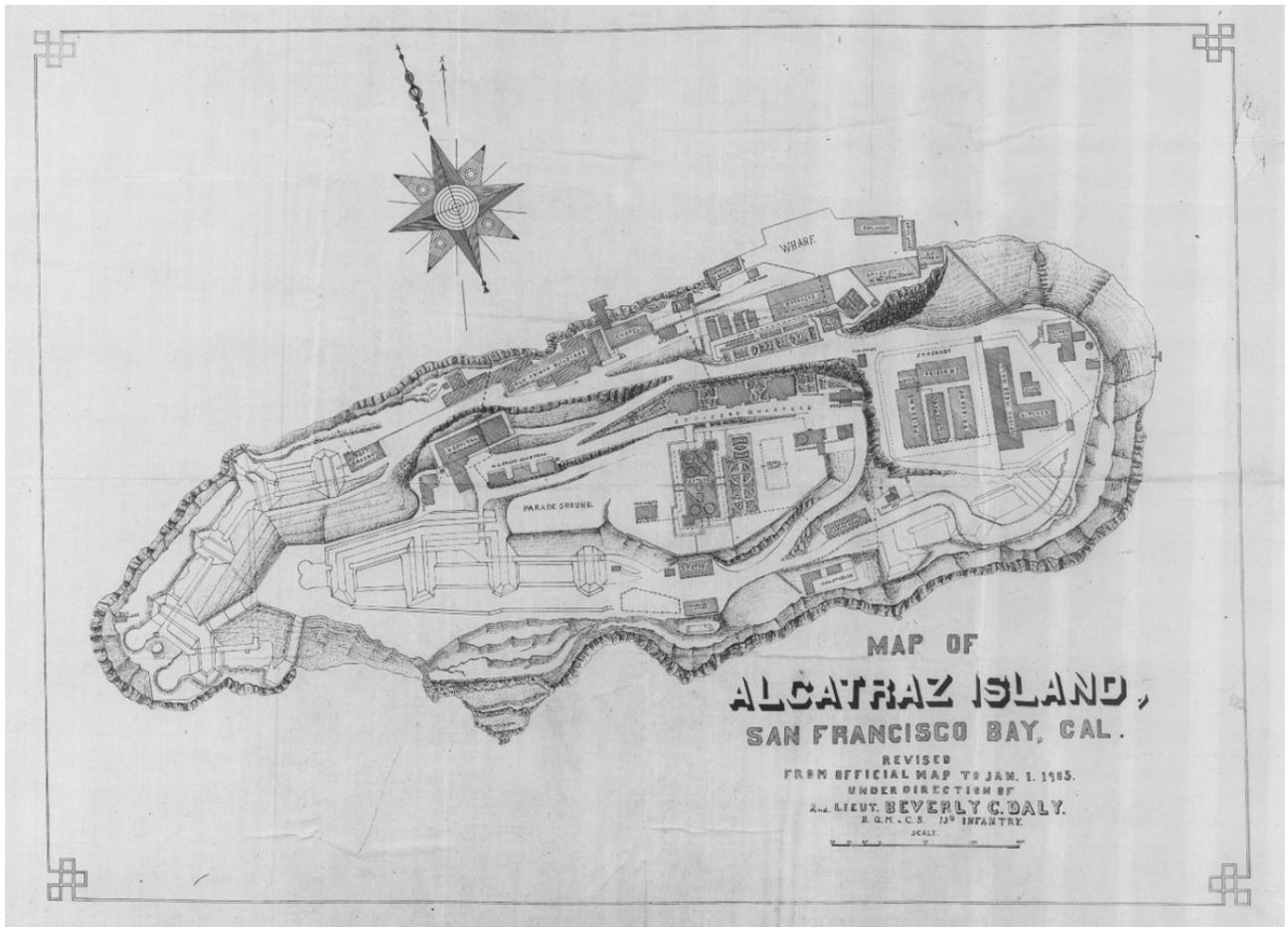


Figure 2-16. Alcatraz Island Map (c1905) (source: GGNRA)



Figure 2-17. South Battery, View to San Francisco (c1869) (source: BANC, Muybridge)



Figure 2-18. View to San Francisco from Alcatraz Island; View shows Battery XII at the southeastern tip of the Island. (c1880) (source: DPL, Jackson)

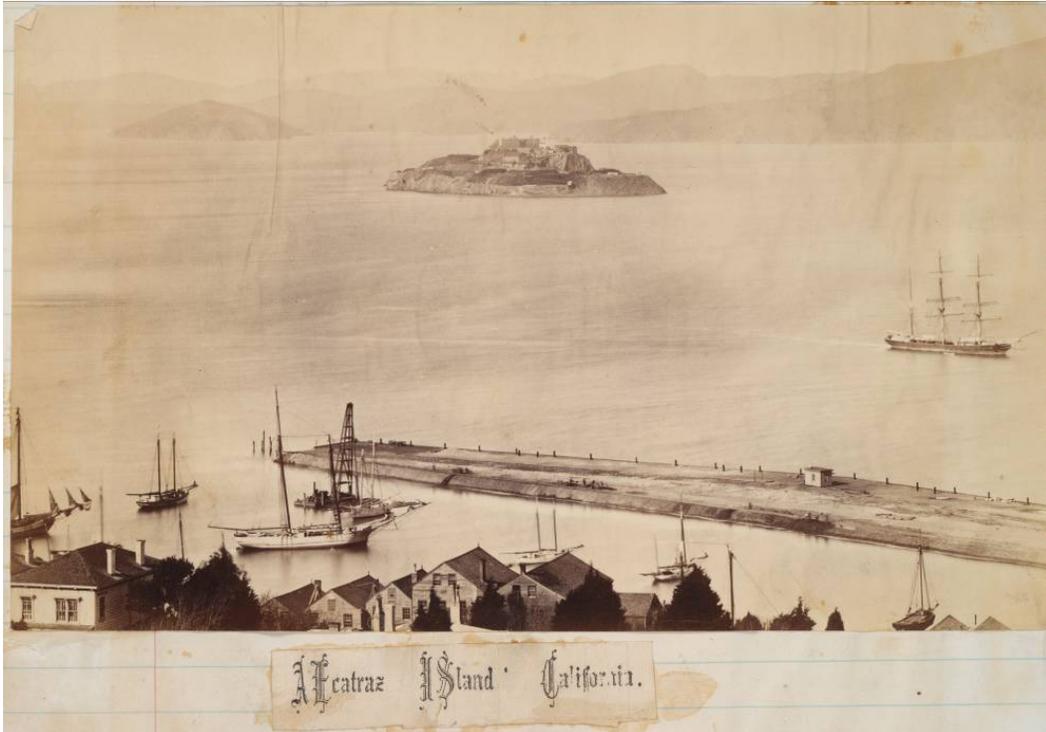


Figure 2-19. View to Alcatraz from North Point (c1882) (source: BANC, Hubbell)



Figure 2-20. View to Alcatraz Island (c1869) (source: BANC, Muybridge)

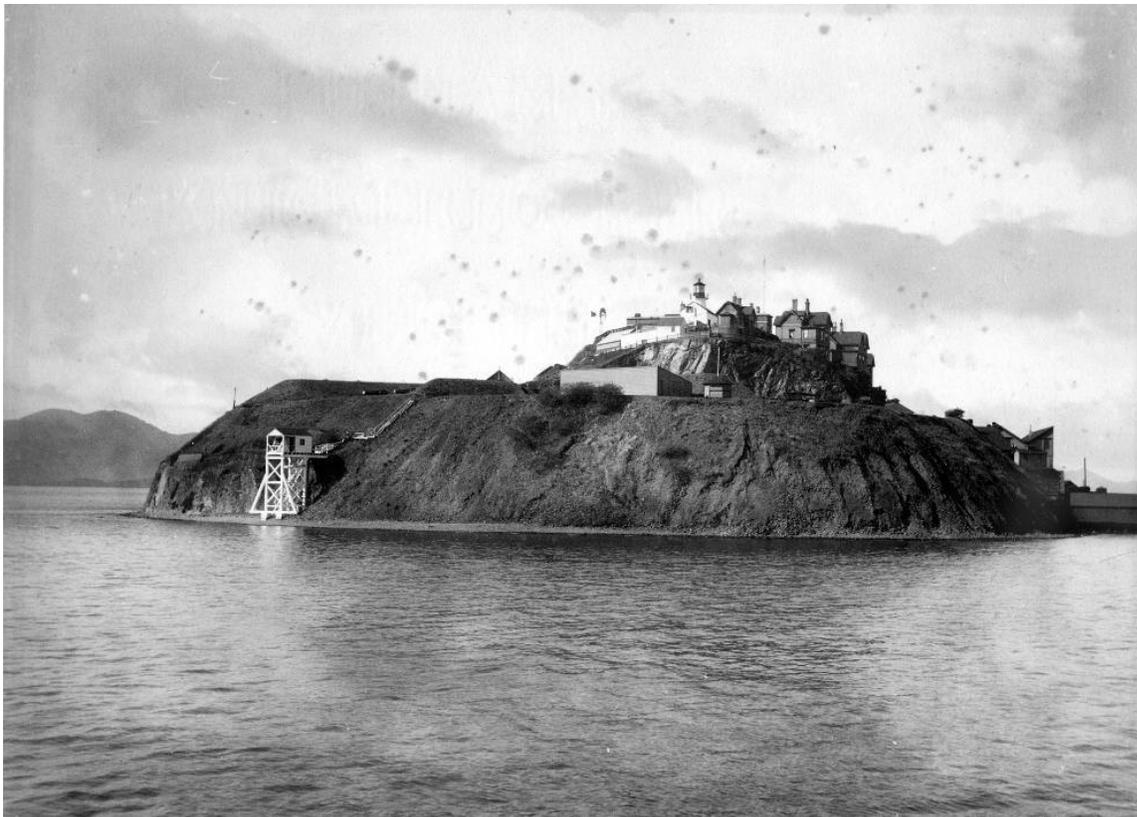


Figure 2-21. South end of Alcatraz Island (c1890) (source:GOGA-3089)



Figure 2-22. West side of Alcatraz Island (c1901) (source: GOGA)

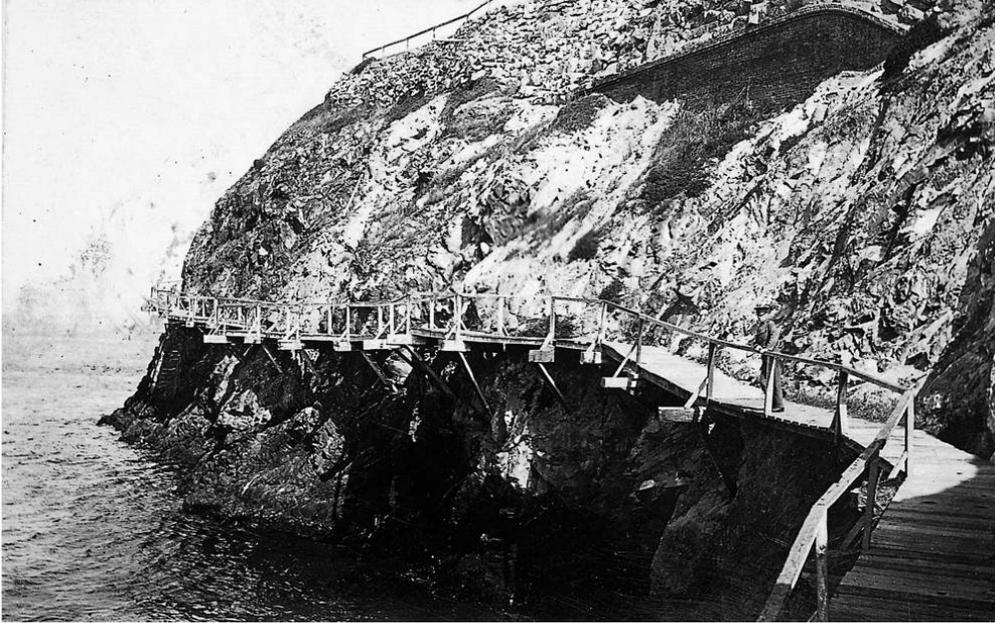


Figure 2-23. Alcatraz Island Perimeter Walk – shows wooden boardwalk (c pre-1933) (source: AAA)



Figure 2-24. Wharf (c1869) (source: BANC, Muybridge)



Figure 2-25. Fortification Wall and Barracks (c1893); (source: NARA)



Figure 2-26. right, NCO Cottages (c1893); (source: NARA)



Figure 2-27. Main Road, Switchback 2, and Officers' Row (c1882); (source: BANC, Hubbell)



Figure 2-28. Main Road, Switchback 3, Officers' Row; right (c1882); (source: BANC, Hubbell)



Figure 2-29. Rose Garden at Citadel (c1869) (source: BANC, Muybridge)



Figure 2-30. South Garden at Citadel (c1869) (source: BANC, Muybridge)



Figure 2-31. Main Road and Officers' Row (c1893) (source: NARA)

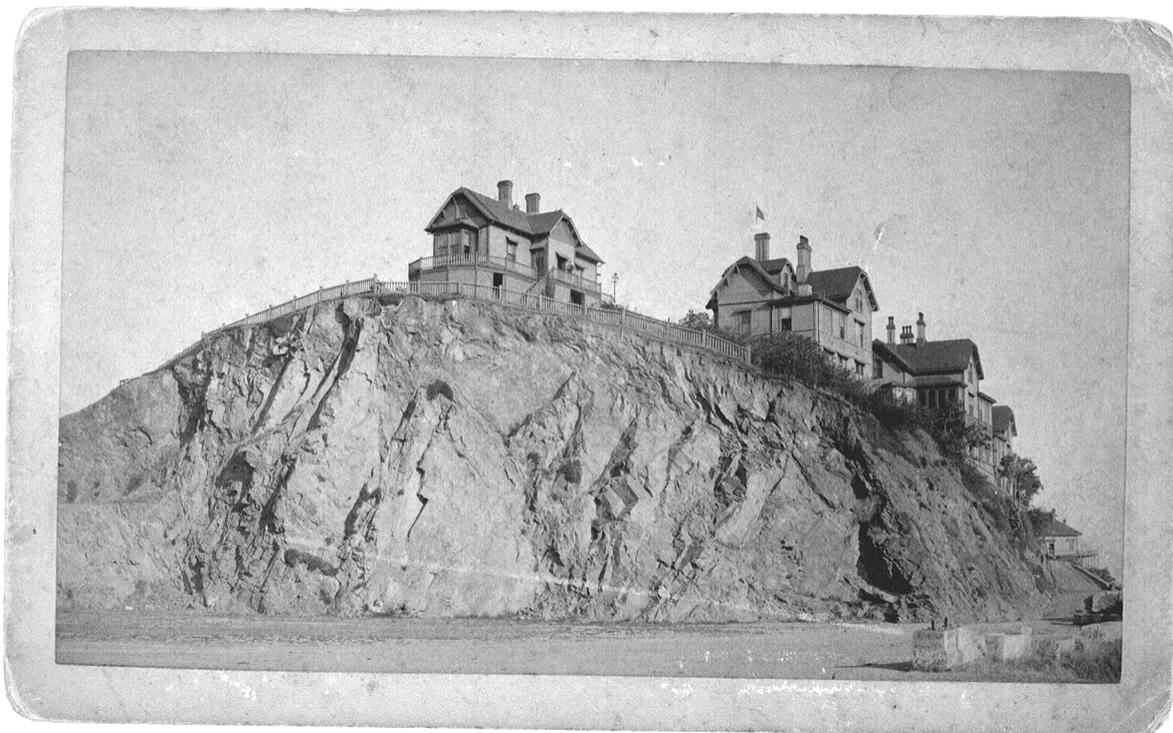


Figure 2-32. Commandant House and Officers' Row from Parade Ground (c1885) (source: GOGA-3057)



Figure 2-33. Practice Battery, Commandant House and Officers' Row from Parade Ground (c pre-1933, no date) (source: CSL, Taber)



Figure 2-34. Lighthouse, Steps, Lawn, and wall with cannonballs (c1889) (source: GOGA)



Figure 2-35. Citadel Garden, Concrete Tennis Court (c1882) (source: BANC, Hubbell)



Figure 2-36. Citadel lawn, brick and concrete paving, and cannonball edge (c1893) (source: NARA)



Figure 2-37. 15-inch Rodman in Battery 3, old North Battery (c1869) (source: BANC, Muybridge)



Figure 2-38. Pirate's Cove on west side of Island (c1869) (source: BANC, Muybridge)



Figure 2-39. West Side of Island (c1901) (source: John Martini)



Figure 2-40. Battery III looking west (c1908) (source: NARA)



Figure 2-41. Earthwork South End of Island (c1908) (source: NARA)



Figure 2-42. Upper Prison (c1908) (source: NPS GGNRA Archives)

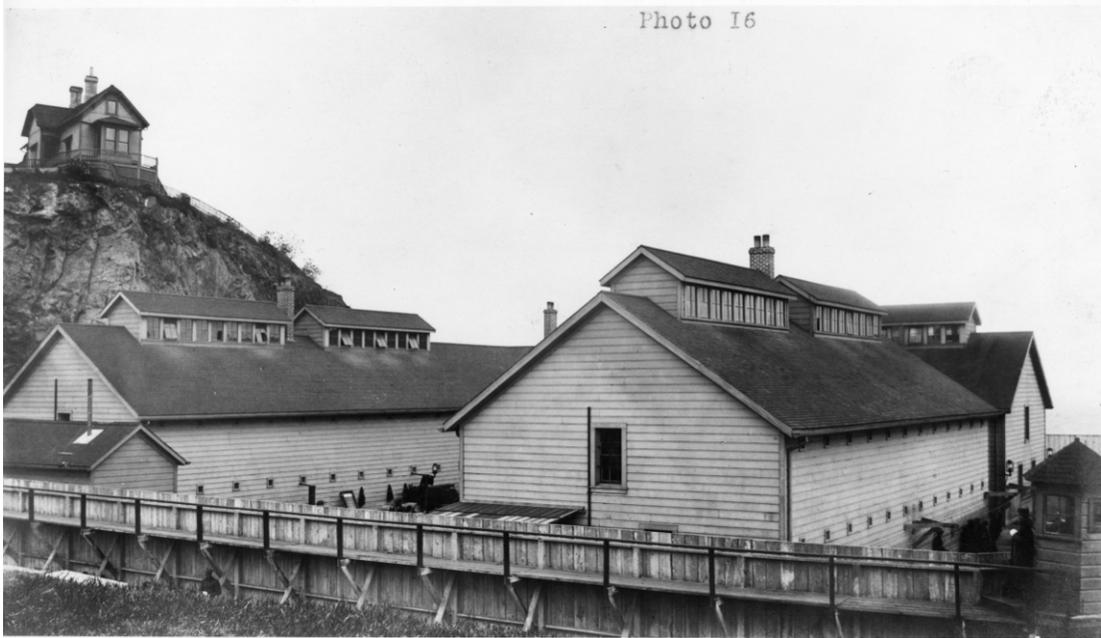


Figure 2-43. Upper Prison (c1902) (source: NPS GGNRA Archives)



Figure 2-44. View of Alcatraz Island from South (c1902-1905) (source: NPS GGNRA Archives)



Figure 2-45. Upper Prison, Sentry Walk and Officers' Row (c1902) (source: NPS GGNRA Archives)