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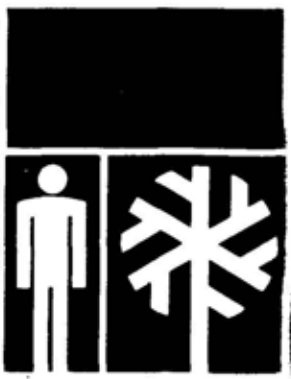
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HISTORIC RESOURCE STUDY

FORT HANCOCK

1895-1948

GATEWAY NATIONAL RECREATION AREA

NEW YORK/NEW JERSEY

by

Edwin C. Bearss

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HISTORIC RESOURCE STUDY OUTLINE
FORT HANCOCK, 1895-1948
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PREFACE

This Historic Resource Study, Fort Hancock, 1895-1948, has been prepared to satisfy the research needs for this facility as developed in discussions with the chief of professional services, North Atlantic Region, F. Ross Holland and his staff, and the area manager, Sandy Hook Unit, Gateway National Recreation Area, Dale Engquist and his staff. The aim was to provide management with a documented narrative history of Fort Hancock from its establishment until 1948, trace the construction history of the post structures with emphasis on the permanent buildings and features, identify those structures and features necessary in preserving and interpreting the history of the post, evaluate the significance of Fort Hancock as a military post during the years in which the United States emerged and asserted itself as a world power, and identify areas and activities requiring additional research.

To accomplish these broad goals, an exhaustive search for primary materials was made at the National Archives and the Washington National Records Center, Suitland, Maryland. Copious notes were taken and hundreds of documents were photocopied. All plans and specifications pertaining to Fort Hancock found in Record Groups 77 and 92 were photocopied. Prints of these items were forwarded to the Denver Service Center and the national recreation area. The Artillery Journal and Coast Artillery Journal for the pertinent years were also examined, and the extensive files of the Department of the Army's Center for Military Research were combed.

Many people have assisted with preparation of this report. Particular thanks are due to Dale Engquist, Tom Hoffman, and Elaine Harmon, historical technicians of the Sandy Hook Unit. They

introduced me to the area, shared their knowledge, and answered many questions. Ross Holland, historian Ricardo Torres-Reyes, and architect Blaine Cliver made available their store of information and gave encouragement. As always Emanuel Ray Lewis, my friend and fortifications expert par excellence, was available for discussions.

Henry Judd, chief restoration architect for the Park Service , Blaine Cliver, Harry Pfanz, chief historian, and Gary Higgins, historical architect at the Denver Service Center, reconnoitered Fort Hancock with me and shared their knowledge on architecture and the coast artillery.

My friends and colleagues at National Archives and the Washington National Records Center--Tim Ninninger, Dale Floyd, Mike Musick, Richard Cox, John Matias, Carol Zangara, Justin Dempsey, Mary Stoney, and Thomas Lipscomb--answered numerous questions, pulled thousands of documents, and copied hundreds of pages of correspondence and like numbers of maps, plans, and other items. Without their assistance, this project would have been impossible.

At the Department of the Army's Center of Military History, Stanley R. Connor, John Wilson, Robert Wright, and Moreau Chambers made major contributions to the project's success.

My immediate supervisor and longtime friend John Luzader reviewed the manuscript, made valuable comments, and shielded me from bureaucratic distractions. Harry Pfanz and Barry Mackintosh of the cultural resources management division also reviewed the draft manuscript with their habitual perception.

I am particularly indebted to Virginia Fairman and Ann McBride, who had the difficult and thankless job of typing the original manuscript.

Edwin C. Bearss

I. INTRODUCTION

A. Statement of Significance

The defenses of Sandy Hook from the 1890s through World War II had a key mission in the protection of America's largest metropolitan area and most important harbor against amphibious attack. These defenses, although adjacent to a densely populated area, were isolated, and exposed to a hostile climate during the winters. To quarter soldiers assigned to the Sandy Hook armament, designated as Fort Hancock, Congress authorized and appropriated funds in 1896 for construction of permanent barracks, officers' quarters, storehouses, a hospital, a guardhouse, an administration building, sewage and water systems, and other support facilities. Plans were prepared by the Quartermaster Department, and contracts were signed for construction of 34 handsome buff brick buildings and a few frame structures. Work dragged and it was 1899 before most of these structures were completed and occupied.

Until World War II, all permanent buildings erected by the Quartermaster Department on the Fort Hancock reservation conformed to the original architectural theme. During World Wars I and II (and the national emergency preceding the latter), large numbers of temporary structures were built by the military to house and support the thousands of troops stationed at Sandy Hook. By 1939 all the World War I temporary structures had disappeared, and in the years after World War II, the majority of emergency buildings erected between 1940 and 1942 have also been demolished.

Fort Hancock was first garrisoned on March 14, 1898, five weeks before the United States declared war on Spain. Until the barracks and quarters were completed, the troops lived in temporary housing. The garrison was strengthened in the ensuing weeks as various units arrived and departed.

During the years between the Spanish-American War and the entry of the United States into World War I, Fort Hancock was an important post garrisoned at first by four companies of coast artillery and then by six companies. Beginning in 1908 all coast artillery units stationed in the New York Harbor Defenses spent several weeks annually at Sandy Hook firing the coast defense and rapid-fire guns. The first class from the United States Military Academy made annual visits to Sandy Hook.

In the summer of 1917, following the nation's entry into the Great War, the coast artillery units manning the Sandy Hook defenses were heavily reinforced. A number of artillery and trench mortar units slated for service overseas were organized and trained at Fort Hancock. In 1918 the Ordnance Department established its important Sandy Hook Ordnance Depot on the reservation. Upon the return of peace, the post played a role in demobilization. Then in 1919, the Sandy Hook Proving Ground and the ordnance depot were phased out. The structures and improvements belonging to these two facilities were transferred to Fort Hancock.

Between World War I and September 1940, the post was home to several coast artillery units of the country's small peacetime military establishment. During the summers, Fort Hancock provided facilities and instructors for the national guard, civilian military training corps (CMTC), reserve officers training corps (ROTC), and army reserve encampments. Starting in 1937, Fort Hancock was also the site of a vital mission: the testing of equipment by the signal corps, which led the way in the development and deployment of radar. Taking cognizance of the growing threat to American security resulting from the sweeping successes scored by German military power in Europe, President Franklin D. Roosevelt declared a national emergency and federalized the national guard,

while Congress passed the nation's first peacetime selective service act. Fort Hancock had an important role in the country's buildup of its defenses in the months between September 1940 and the attack on Pearl Harbor. Units trained at Sandy Hook were manning coastal defense guns in Newfoundland and Bermuda when Japan struck.

During World War II Fort Hancock became headquarters for the harbor defenses of New York and the New York Subsector. In addition to coast artillery and antiaircraft units, a mobile defense force, the 113th Regimental Combat Team, was assigned to the command. This unit was responsible for protection of the Long Island and New Jersey beaches against enemy attacks. The post, as in the Great War, served as a base for the organization of units slated for service abroad. Beginning in 1943, the tide of war having turned in favor of the United Nations, coastal defense was given a reduced priority by U.S. War Department planners. The number and strength of the units assigned to Fort Hancock and the New York Harbor Defenses were slashed. In the spring of 1944, the 113th Regimental Combat Team was reassigned, preparatory to redeployment to Europe. During 1945 and 1946, Fort Hancock served the nation as a primary reception center for troops returning from the European theater of operations, before being demobilized and discharged. It was also the site of a disciplinary barracks, where military prisoners sent to the United States were confined.

Between 1946 and 1950, when Fort Hancock was deactivated in the interest of economy, the post functioned as a key installation for defense of the New York area against air attack. It was again garrisoned by a small force of regulars and hosted the civilian soldiers of the army reserve during the summers.

B. Recommendations

The extant masonry structures, along with representative examples of frame temporary buildings pertaining to military architecture, constitute an outstanding resource for interpreting the changing coastal defense system that guarded the vital New York Harbor area from the Civil War until the 1960s. These structures--relating to the proving ground, defense, protection of the site, quartering, supplying, and feeding of the garrison--form an ensemble, each of which constituted a part of the military community. The elimination of any one structure leaves a void in comprehending the totality. As a unit, Fort Hancock and its components are of first order of significance; and as individual structures, the buff brick buildings are of third order of significance, while many of the temporary World War II structures are of that category or less. The buildings to be retained must be given a compatible usage that will not destroy or detract from the historic scene.

It is recommended that the grounds and the exteriors of the structures be restored to their World War II appearance. The reasons for this are as follows:

From 1895-1940, Fort Hancock was one of several important posts protecting New York Harbor and in World War II became the preeminent installation and nerve center guarding the nation's greatest metropolitan area and most important harbor.

World War II forms a great watershed in American history, and it is an event of transcendental importance in world history.

By that time, all the buff brick structures had been erected, and to restore the scene as it appeared in early eras would involve razing structures representative of the army's efforts to preserve and continue the late 1890s architectural theme.

A number of World War II temporary structures survive to illustrate a rapidly disappearing form of construction, with which millions of veterans of that global conflict are familiar.

Although the majority of the structures will have their interiors adapted for compatible uses, their exteriors and the grounds should be restored to their World War II appearance. Selected structures, such as the commanding officer's quarters (building 12) and one of the four 1897-99 barracks and its contiguous kitchen/messhall, should be reserved for interpreting the life of the soldier. This will involve restoring and refurnishing the interiors of the subject structures.

C. Additional Research Needs

A resource study of Fort Hancock for the years 1948-74 should be programmed and given high priority. This would cover the cold war era, when massive retaliation was the keynote in U.S. strategic thinking. The post, with its Nike and Nike-Hercules missiles, was a key area for defense of the New York-Philadelphia corridor. A large number of structures were built during these years to support these defense systems, and a study is needed to evaluate the structures' significance.

If it is recommended to interpret the commanding officer's quarters and one of the barracks and associated kitchen/messhall complexes, historic structure reports and furnishings studies and plans will be prerequisites. An archeological excavation should also be programmed for the site of the signal corps testing facility to locate and identify subsurface remains.

II. SITE SELECTED AND PLANS PREPARED

A. Initial Step Toward Garrisoning Fort Hancock

By the autumn of 1895, the U.S. Army Corps of Engineers had completed and the Ordnance Department had armed two Endicott batteries at Sandy Hook--one mounting two 12-inch seacoast guns on lifts and the other mounting sixteen 12-inch breech-loading mortars. In addition, there was a dynamite battery with its three guns emplaced en barbette. These two Endicott batteries, as befitting the area's strategic significance, enjoyed the distinction of being the first operational units of the nation's modern coastal defense system. Two necessities, however, were lacking. The defenses were nameless, and there was no garrison to maintain and man the batteries.

1. Designation of Fort Hancock

On October 30, 1895, the secretary of war, Daniel S. Lamont, took care of the former shortcoming when he signed general order 57, designating the fortifications at Sandy Hook as Fort Hancock.[1] Name after Winfield Scott Hancock, who had been first a soldier and then a politician, Fort Hancock was a distinguished and honored name, well known to most Americans in the 1890s. Hancock and a twin brother were born on February 14, 1824, at Montgomery Square, Pennsylvania. In 1828 the family moved to Morristown, where the father read law and the mother worked as a milliner. Young Hancock attended school in Morristown and in 1840 received an appointment to the U. S. Military Academy, from which he graduated in 1844. Commissioned as second lieutenant, he was assigned to the 6th U.S. Infantry. After two

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1. General Order 57, Oct. 30, 1895, General Orders and Circulars, Adjutant General's Office, 1895, War Department, Washington, D.C.

years of service in the Indian Territory, he participated in the Mexican War, where he was brevetted for gallantry at Contreras and Churubusco.

Hancock, during the 1850s, took part in the Third Seminole War, the Kansas border wars, and the Mormon expedition. In mid-April 1861, he was assigned as chief quartermaster of the southern district of California at Los Angeles. Upon his arrival in Washington that summer, Hancock was appointed a brigadier general of volunteers, to rank from September 23.

The following spring and summer, Hancock led his brigade in the Peninsula and Maryland campaigns. At Antietam, on September 17, he succeeded to command of the First Division, II Corps, when Maj. Gen. Israel Richardson was mortally wounded. Hancock was named a major general of volunteers, to rank from November 29, 1862. He led his division with distinction at Fredericksburg and Chancellorsville. At Gettysburg, on July 1, 1863, he arrived on the field, with broad discretionary powers from army commander George G. Meade, to find the I and XI Corps shattered and retreating through the town. Taking charge, Hancock re-formed the battered units and held Cemetery Hill. On July 2 and 3, with Meade now on the field, Hancock and his II Corps defended Cemetery Ridge in face of slashing Confederate attacks. While his troops were repulsing Pickett's attack on July 3, Hancock received a painful wound from which he never fully recovered. A minié ball that struck his saddle drove a nail and scraps of wood from the pommel into his thigh. Disabled by his wound, Hancock did not return to duty until the winter of 1863-64.

Resuming command of the II Corps, he led the reorganized unit in the desperate fighting that marked Lt. Gen. Ulysses S. Grant's 1864 campaign aimed at the destruction of Gen. Robert E. Lee's Army of Northern Virginia. Hancock and his corps

distinguished themselves at the Wilderness, Spotsylvania, the North Anna, Cold Harbor, the June 15-18 fighting in front of Petersburg, Deep Bottom, Ream's Station, and Boydton Plank Road.

After his wound resumed suppurating in November 1864, Hancock was replaced as commander of the II Corps. Returning to Washington, he sought to recruit a veterans reserve corps. His efforts were only moderately successful, and in February 1865 he assumed command of the Department of West Virginia.

Reassigned in 1866, Hancock, now a major general in the regular army, saw service in various regions of the nation. On November 8, 1877, he became commander of the Department of the East, with headquarters at Governors Island, New York.

In 1880 General Hancock, who had received the votes of a number of delegates to the 1868 Democratic National Convention, was nominated by his party at Cincinnati for the presidency. He ran against James A. Garfield and was defeated, 214 electoral votes to 155. Six years later, on February 9, 1886, he died at Governors Island while still in command of the Department of the East.[2]

2. Estimates for Garrisoning Fort Hancock

Although the defenses at Sandy Hook had been named, there was still no garrison to man them as of the spring of 1896. The development of the garrison was to be a time-consuming process because it required extensive planning and large sums of money to accomplish. It troubled Maj. Gen. Thomas H. Ruger, commander of the Department of the East, that with the Sandy Hook

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2. Ezra Warner, Generals in Blue: Lives of the Union Commanders (Baton Rouge, 1964), pp. 202-204.

defenses "practically finished," there were no troops to care for the armament and to be drilled in its use. On March 27, 1896, General Ruger called this situation to the attention of the War Department and suggested that "barracks and other necessary buildings be erected as soon as practical." He recommended that facilities be built at Fort Hancock for a garrison of four batteries of heavy artillery.

Besides the benefits resulting from occupation of the reservation by a garrison, artillery companies from other commands could be sent annually to Sandy Hook for several weeks of instruction on the new seacoast guns. This would be especially important while defensive works at the respective posts were under construction.

Accompanied by his chief quartermaster, Col. Charles G. Sawtelle, General Ruger had reconnoitered the area. They had agreed on a general site, keeping in mind the location of defensive works that were now constructed and those that were to be erected. They had agreed that there "would be no variance of consequence in the cost of the necessary buildings on the site proposed, on the cove south of the Sandy Hook lifesaving station and west of the mortar battery," or at any other locality on the reservation.

With his recommendation, General Ruger forwarded a topographical map of Sandy Hook, estimates prepared by Colonel Sawtelle, and a sketch "showing how the necessary Buildings for a Military Post of Four Batteries of Artillery" might be positioned.[3]

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3. Ruger to the Adjutant General, Mar. 27, 1896, doc. 93,924, Correspondence 1890-1914, Records of the Quartermaster General, Record Group (RG) 92, National Archives (despository hereinafter cited as NA).

Colonel Sawtelle, in accordance with General Ruger's instructions, had prepared the estimates. In doing so, he had made his computations on the assumption that the basic construction material would be brick, although the cost of wooden buildings would be less by about one-fourth. This was justified by the following factors: permanency of occupation, necessity for solid construction because of high winds, low cost of repairs, and the "desirability" that combustible materials be held to a minumum because of their proximity to the batteries.[4] Sawtelle's estimates called for:

Two double sets of two-company barracks, similar to those constructed at Fort Ethan Allen, Vermont, $40,000 each	$ 80,000
Five double sets of officers' quarters, similar to those at Fort Columbus, New York, $16,500 each	82,500
One structure with five sets of bachelor officers' quarters, similar to the one at David's Island, New York	26,000
Administration building, similar to that at Fort Ethan Allen	13,000
Guardhouse, similar to that at Fort Ethan Allen	8,000
Quartermaster and commissary storehouse, similar to that at Fort Ethan Allen	8,500

4. Ibid.; Sawtelle to the Adjutant General, Mar. 25, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

Hospital, similar to that at Fort Ethan Allen	18,000
Hospital steward's quarters	2,000
One double set of noncommissioned officers' quarters, similar to those at Fort Ethan Allen	4,200
Fuel storehouse, similar to that at Fort Ethan Allen	2,200
Quartermaster stable, similar to that at Fort Ethan Allen	5,400
Wagon shed, similar to that at Fort Ethan Allen	2,300
Blacksmith shop, similar to that at Fort Ethan Allen	2,200
Shop building-mechanic shops, similar to those at Fort Ethan Allen	3,000
Bakery	4,875
Oilhouse	200
Scale house	500
TOTAL	$262,825

No estimate for a water supply system was included. Details, plans, and specifications were to be submitted as soon as a site for the post was agreed upon.[5]

5. Ibid.

General Ruger, bypassing the chain of command, also wrote Secretary of War Lamont. He informed the secretary of his reconnaissance and of his forwarding through channels of a "formal recommendation" for the establishment of a post at Fort Hancock. While he thought that the cost might be held within the $262,825 estimate, he did not think it prudent to reduce it in absence of detailed information.[6]

B. Quartermaster Department's Planners Take Action

1. Captain Murray's Rationale for a Post at Fort Hancock

Colonel Sawtelle gave to Capt. Arthur Murray the task of preparing a master plan for the proposed post. Murray, a native of Missouri, had graduated from the U. S. Military Academy, standing second in the class of 1874. Commissioned a second lieutenant in the 1st U. S. Artillery, Murray was ordered to Fort Adams, Rhode Island, in December 1875. From July to October 1877, he was on strike-breaking duty in the Pennsylvania coalfields. Murray, now a first lieutenant, was posted from May 1878 to April 1880 to the Fort Monroe Artillery School for Practice.

After a tour of duty at Fort Trumbull, Connecticut, in the early 1880s, Murray returned to West Point as assistant professor of natural and experimental philosophy. In October 1886 he was ordered to the Presidio of San Francisco. Murray was named acting judge advocate of the Department of Missouri and was promoted to the rank of captain in October 1887. From November 1891 to August 1896, he commanded Battery L, 1st U. S. Artillery, posted at Fort Wadsworth.[7]

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6. Ruger to Lamont, Mar. 27, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

7. George W. Cullum, Biographical Register of the Officers and Graduates of the U.S. Military Academy from 1802 to 1920, 6 vols. (New York, 1879-1920), 3:223, 4:241.

When he analyzed the subject, Murray found that unless the artillery arm was greatly expanded, it would be impossible to man all elements of the coastal defense system recommended by the Endicott board. Consequently, he urged that at "least one" of these posts be "completed to the minutest detail relating to its armament . . . and then placed as nearly as practicable on a war footing." He believed that this post should be completed at the earliest possible moment and be fully manned as soon as feasible thereafter.

The necessity for at least "one completed and fully manned coastal defense post" having been justified, Captain Murray documented why it should be located at Fort Hancock. He reasoned that it was one of the principal points of defense for the nation's metropolis and would be in time "one of our largest or most heavily armed posts"; it was situated to afford "an admirable practice ground for all scientific artillery work"; it was so sited as to make "the cost of changing its garrison" minimal; and the presence of the proving ground would afford the artillery garrison the "means of obtaining a very great amount of necessary data relating to the science of artillery that would otherwise be not only very difficult to obtain, but also very expensive."[8]

To man the lift battery would require one battery of artillery, the 16 mortars would need four batteries, and the dynamite battery would require one battery. Additional "primary" emplacements proposed for Fort Hancock would necessitate the assignment to the post of five more batteries of artillery. To man the rapid-fire guns that would be constructed in the future would call for at least another battery. This being the case, the new

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8. Arthur Murray, "Outline for an Artillery Post at Fort Hancock, N.J.," doc. 93,924, Corr. 1890-1914, RG 92, NA.

post should provide, if feasible, quarters for five batteries to serve the guns already mounted, and be so constructed as to permit enlargement of the quarters to provide accommodations for another battalion to serve the remainder of the projected primary armament.

Because a four-battery post plan had been called for by Colonel Sawtelle, Captain Murray showed on his plan the existing gun-lift and mortar batteries in black and the proposed batteries and barracks and quarters in red.[9]

2. Selection of a Site

As it was desirable to avoid friction between the commanding officers of Fort Hancock and the proving ground, an attempt was made to keep the two posts separate. On reconnoitering the site, Captain Murray saw that most of the ground north and west of a line extending from the West Beacon to the lift battery was occupied by structures belonging to or used by the proving ground, U.S. Army Corps of Engineers, Life-Saving Service, and the Western Union Telegraph Company. The area east of a line joining the lift and mortar batteries was part of the proving ground's beach range. To separate the facilities, the artillery post would have to be south of the line from West Beacon to the lift battery and west of the line from the lift battery to the mortar battery.

The distance between the existing batteries was more than 1,500 feet, so a central point was desirable. When Captain Murray studied the ground between the mortar battery and Sandy Hook Bay, he found that it consisted of sandy hillocks from 15 to 25 feet in height. They were covered with scattered cedars, from

9. Ibid.

15 to 30 feet tall, and a dense undergrowth of beach plum, haw, poison oak, and other bushes.

About 3,000 feet south of West Beacon, Murray encountered a narrow tidal slough. It was only a few feet wide and was nearly dry, except at very high tides, when water from the bay rushed in and overflowed the land on each bank. The slough during high water was about 60 yards across at its mouth, but this rapidly increased as the slough extended inland, reaching a width of 400 yards. The slough then divided, and the meadows followed the branches around a long, low island.

South of the slough, there was high ground paralleling the beach for a mile or more. On this elevated terrain, near the Camp Low dock (now occupied by the Marine-Hospital Service), the Corps of Engineers proposed to construct a second 16-gun mortar battery. Although the Camp Low site might have been better for building purposes than the area north of the slough, it was too far from the completed batteries.

Fronting the high ground at Camp Low was a dry meadow and some swamp land through which a tidal slough meandered before discharging into the Horse Shoe. By damming the two sloughs, all the swamps and meadows could be reclaimed and used by the military for drills and gardens.[10]

3. Site Plan

Barracks for the enlisted men assigned to Fort Hancock were to be positioned on the high ground west of the

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10. Ibid. Plan of Sandy Hook Defenses forwarded to the Ordnance Board, Mar. 1892, RG 77, NA. Plan of general outline for artillery post at Fort Hancock, Sandy Hook, N.J., RG 92, NA.

batteries. To keep the post's facilities from becoming too scattered, and to permit the men to be near the parade ground, the barracks were to be sited southwest of the mortar battery. Additional barracks for personnel manning the projected primary and rapid-fire batteries could be built south of the ones now required.

Quarters for the officers were to be "located with reference to the barracks for the organizations to which they belong." If the sites for the barracks were approved, then the officers' quarters were to be near the long stretch of beach beginning at the West Beacon and extending to the first slough.

The commanding officer's quarters and those for his staff were to be erected near where the "slough breaks in from the bay." A house here would be near the center of the post and parade ground, affording an excellent view of Sandy Hook Bay and of all shipping entering and leaving New York Harbor. Quarters for staff officers were to be near the post commander's house, while those for the surgeon and his assistants were to be adjacent to the hospital. The administration building, guardhouse, hospital, and related facilities were to be as "near the center of the post as practicable." Quarters for the noncommissioned staff and hospital steward were to be grouped, if practicable, for social reasons.

Captain Murray recommended that the quartermaster stables, garbage cremator, and other outbuildings be on the low ground south of the mortar battery. This area was near enough to the other post buildings for convenience, yet far enough away "to prevent any odor from the stables or garbage cremator from proving a nuisance." Manure from the stables could be easily scattered over nearby gardens, and ashes collected by the crematory party could be utilized for filling holes.

Drinking water for the proving ground was secured from well points driven only a few feet into the sand. This water was "pure and fresh," but whether it would continue to be, after a large post was established on the Hook, was a question to be resolved by the medical officers. All water for lavatory purposes, flushing sewers, and fighting fires could be obtained from the well points by pumps powered by windmills and connected with storage tanks.

Because the ground was comparatively low-lying and flat, the sewer system was to be the best procurable and laid with the utmost care. It was either to be supplied with automatic flushing tanks, as in the Waring system, or to be thoroughly flushed at regular intervals. The sewer pipes were to empty well out into the ocean off the east beach.

The soil was a loose sand, making it difficult for a team to pull much more than an empty wagon and quickly filling the shoes of a pedestrian. Therefore, plank roads and boardwalks, such as those found on the proving ground, were a necessity.

The new post was to have its own wharf, separate from those of the engineers and proving ground. Because the shallow beach immediately in front of the proposed post precluded construction of a wharf there, Murray called attention to the old dock at Camp Low. It was apparently in good condition and was only 3/4 mile south of the fort. If a good all-weather road were opened from the post to that wharf, there could be no objection solely because of the distance.[11]

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11. Murray, "Outline for an Artillery Post."

4. Murray's Plans for Barracks and Quarters

In discussing key post structures, Captain Murray argued that selection of a suitable barracks plan be governed by these factors: utility, comfort, "beauty of architecture," and cost of construction. Heretofore, when barracks were built, little consideration had been given to the first two of these points. He therefore submitted drawings of the first and second floors and the front elevation that took those factors into consideration.

Murray's arrangement of the squad rooms (dormitories) was thought to be better suited to an artillery command than previous arrangements. The addition of a gunner's drill and schoolroom was essential for the "proper theoretical instruction of artillery gunners during the winter." Latrines were to be placed in the basement of the barracks, directly under the washroom, rather than in a separate structure. If this were done, Murray believed, it would be better to have the stairway to the basement open on the rear porch, rather than in the lower hall of the barracks.

To make the barracks as comfortable as possible in the summers, Murray recommended that they be one-company, rather than two-company units, and that they be provided with a double porch, one in front and one in rear. The style, he believed, would "satisfy any desire to beauty of architecture."

Two single-company barracks, Murray cautioned, would cost slightly more than one double barracks, the materials being the same. But he thought that more money might be expended on barracks for an isolated post such as Fort Hancock to provide those stationed there with the "benefit of the comfort that would thereby be added." The projected "handsome and massive porches" would also add to the cost, but when the "comfort of the

occupants is considered they are practically necessary." Murray argued that it would be less expensive in the long run to build "rather substantial masonry" porches than to erect ones requiring frequent repairs.[12]

In his drawings of the lieutenants', captains', and commanding officer's quarters, Captain Murray prepared plans for the first, second, and third floors, as well as front elevations of all these quarters. He also drew a side elevation of the post commander's quarters. A study was provided for the first floor of the lieutenants' quarters, the need for such a room having been long apparent. The libraries in the captains' and commanding officer's quarters were designed to serve the same purpose.

As with the barracks, the quarters were to be single units, each with a full length front porch. The double sets of quarters that had been built during recent years at most army posts were not deemed suitable for Sandy Hook, where the slightest summer breeze was "hailed with delight," and where only one of a double set, depending on the direction of the prevailing winds, received what breeze there was. Additionally, double quarters unnecessarily subjected officers and their families to potential loss of life and property whenever a fire originated in adjoining quarters.

The proposed architectural style was simple but not "lacking in beauty." It was devoid of "gingerbread work" that would be constantly in need of maintenance.[13]

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12. Ibid. Plans of company barracks, artillery post at Fort Hancock, Sandy Hook, N.J., RG 92, NA.

13. Ibid. Plans of captain's house, lieutenant's house, and colonel's house at Fort Hancock, Sandy Hook, N.J., RG 92, NA.

5. Review and Refinement of the Plan

After preparing his drawings, Captain Murray had them critiqued by John M. Carrère and Thomas Hastings, distinguished New York City architects and close personal friends. Carrere and Hastings became interested in the project, and besides perfecting and refining Murray's crude drawings, they made extensive comments on his master plan.[14]

In reference to the general scheme, Carrère and Hastings pointed out that straight roadways, besides providing the most direct communication routes, would be the most effective because of the extended vistas in relation to the "picturesque surroundings of the natural landscape."[15]

They pronounced the barracks drawings to be interesting and practical. The elevations did not present any expensive features, although they were not "absolutely plain." The arched openings and the lower stories of the piazzas, to be constructed of masonry rather than wood, would add slightly to the expense.

Carrère and Hastings recommended that the barracks, as well as the officers' quarters, be built of rough brick with white joints, wooden trimmings, and metal roofs. For

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14. Carrere and Hastings had formed a partnership in 1886, and by the 1890s, they were among the nation's four leading architectural firms. In addition to the Ponce de Leon Hotel (1887), they did the Alcazar Hotel (1888), Grace Methodist Church (1887), and Memorial Presbyterian Church (1890), all in St. Augustine. From this beginning, their work grew rapidly and embraced all types of buildings.

15. Carrere and Hastings to Murray, May 14, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

contrast, the barracks brickwork could be treated with whitewash. They believed that this effect "would be exceedingly stunning in view of the size of the Barracks, and the necessity of avoiding all interesting detail and keeping the buildings simple."[16]

They estimated that the barracks could be built for about $30,000 each. This figure included the brickwork for all the walls, including the first-floor piazzas, and wooden columns for the second story and cornice. All floors were to be of North Carolina heart pine, 1½ inches thick; the walls plastered; and the ceilings patented, suspended stamped metal, so as to avoid damage from concussion when the big guns were fired. The trim and interior details were to be of oiled yellow pine and kept simple.

Murray's floor plans of the various officers' quarters provided for identical individual rooms--parlors, dining rooms, and halls--and staircases. It seemed to Carrère and Hastings that although formal, individual quarters should have a more home-like appearance, which would make them more comfortable. The large verandas seemed necessary at Sandy Hook and would add to the exterior appearance.

Carrère and Hastings arranged the rooms to obtain improved vistas, which lent charm to the design. In the colonel's house there was to be a vista from windows at each end, parallel with the front, extending through the sitting room, parlor, and hall. There was to be a similar vista through the staircase, library, hall, and dining room. This concept had been applied to a lesser degree in the captains' and lieutenants' quarters.

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16. Ibid.

The use of double flooring throughout the officers' quarters was recommended, with the upper course being of North Carolina heart pine. For the first-floor trim, white pine treated with enamel paint was suggested, and for the bedroom floors and service portions of the quarters, either oiled yellow pine or an oiled white wood. The mantels and all trim in the rooms were to correspond with the remainder of the rooms' finish, both in material and design.

To make the quarters appear "somewhat domestic in their character," Carrère and Hastings called for a rather "severe and dignified style of Colonial Architecture." They suggested using a common dark red brick with white mortar points and slate roofs; the trim, piazzas, dormers, cornice, and sash were to be painted white. The foundations were to be either brick or stone, and the key blocks, sills, and related features were to be a light-colored stone or white terra-cotta. They preferred common brick with white joints to the mechanical stiffness of a pressed brick with a small point.[17]

Carrère and Hastings estimated that each lieutenant's quarters could be erected for $6,500 to $7,000, the captain's for $7,000 to $7,500, and the post commander's for $9,000 to $10,000. These figures were very "close," but they believed that the quarters could be built for these sums, if managed judiciously and if "kept within our suggestions as to material." For example, rough brick had to be employed instead of face brick, they stressed, because these quarters were not designed to be built "stiffly and mechanically--like the ones on Governor's Island--but rather picturesquely and effectively."[18]

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17. Ibid.

18. Ibid.

In a supplementary letter, Carrère and Hastings informed Murray that common red brick laid with a broad white joint, after the colonial fashion, would cost $15 per thousand. This allowed $7 for the brick and $8 for labor and mortar. If he used buff brick, the cost would be $32 per thousand--$22 for the brick and $10 for mortar and labor--because the better quality brick necessitated more careful workmanship.[19]

6. Confirmation of Murray's Site Selection

On May 25, 1896, Capts. Crosby P. Miller and James W. Pope of the quartermaster general's office spent the day at Fort Hancock for the "purpose of reporting the best location for the buildings necessary for a garrison and to submit a plan for the post." They concurred with Captain Murray that the site facing Sandy Hook Bay was the "only one worthy of consideration." It was sufficiently elevated to be safe from the surf during storms, and it was near enough to the batteries to facilitate their care and the instruction of the troops. But the site was not too close to the batteries to cause injury to the structures when the big guns were fired.

Because the site was covered with sand, Miller and Pope recommended that the ground "be covered with two inches of good earth . . . to obtain a strong grass turf."

According to the New Jersey state geologist, the government was "practically certain" of obtaining good water within 500 feet of the surface and probably within 200 feet.[20]

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19. Carrère and Hastings to Murray, July 25, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

20. Miller to the Quartermaster General, June 5, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

7. Quartermaster Department's Final Plans and Drawings

Technicians in the quartermaster general's office went to work utilizing the drawings and plan submitted by Murray and the information collected by Miller and Pope. A revised site plan was prepared. Murray's conceptual drawings of the enlisted men's barracks and the lieutenants', captains', and colonel's quarters were refined and expanded to include detailed information required by contractors. Plans and elevations were also prepared for supporting structures.

Murray, having been transferred to Yale University as professor of military science and tactics, was given the opportunity to review the site plan and drawings. He was delighted with what he saw and was confident that if the post were completed as laid out, it would prove "not only an admirable army post, but also an immense advance in all that pertains to the style, beauty and comfort of army buildings." He urged, however, that several changes be considered. These recommendations were as follows:

> General Scheme: Measures should be taken to facilitate future enlargment of the post to accommodate six batteries by leaving space for two additional barracks. Two necessary structures, an ordnance and signal storehouse and a school and gymnasium, had been omitted. The first should be sited near the other storehouses and the second opposite the guardhouse. A road was also needed in rear of Officers' Row.[21]

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21. Murray to the Quartermaster General, n.d., doc. 93,924, Corr. 1890-1914, RG 92, NA.

Barracks: On the second story, the two large dormitories should be divided by a strong wire screen, such as is often used in gymnasiums, to form four squad rooms instead of two as designed. If this change were made, the number of squad rooms would correspond to the number of squads in a battery, thus affording a better means for the maintenance of discipline.[22]

Administrative Building: A slight improvement in the floor plan of the first floor could be effected by relocating the partition wall between the first two rooms on the right of the hall about 1½ feet toward the front. This would leave the front room large enough for a summary court-martial room and make the second of sufficient size for general courts-martial. The front porch could be improved if it were given a floor roof with a balcony railing.[23]

Captain Murray's comments were evaluated and incorporated into the site plan and drawings.

8. Lamont's Approval of Construction Allotment

Utilizing the preliminary figures submitted by Captain Murray, in cooperation with Carrère and Hastings, the people in the quartermaster general's office had formulated the necessary estimates by the end of July. On August 3, 1896, Actg. Q.M. Gen. George H. Weeks recommended to the secretary of war, Daniel S. Lamont, that an allotment of $339,600 be authorized for the construction of necessary buildings for a four-battery military post at Fort Hancock. The cost was to be charged against the following appropriations:

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22. Ibid.

23. Ibid.

Barracks and quarters, provided in the Fortifications Act under gun and mortar batteries	$100,000
Military posts	80,000
Barracks and quarters, 1896-97	120,000
Army transportation	18,025
Regular supplies	21,575
TOTAL	$339,600

The breakdown called for the construction of 32 buildings, with the costs allotted as follows:

Name of building	No. of Plan	Construction	Plumbing	Heating	Gas
1 administration building	84	$ 7,500	$ 700	$ 800	$ 50
1 guardhouse	30	7,500	750	1,000	50
1 quartermaster's storehouse	91	8,000			
1 fuel storehouse	67E	2,500			
1 shop (carpenter and plumbing)	59C	2,500			
1 bakery	49A	2,000	125		
1 stable	54	5,000	250		
1 wagon shed	60A	2,000			
2 double sets of noncommissioned officers' quarters	82A	7,000	800		75
4 barracks	107	79,250	6,000	6,500	600
1 commanding officer's quarters	108	12,000	600	800	50
6 captains' quarters	109	63,000	3,300	4,200	300
11 lieutenants' quarters	110	101,750	5,500	6,600	550
TOTALS		$300,000	$18,025	$19,900	$1,675.[24]

24. Weeks to Lamont, Aug. 3, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

On August 5 Secretary of War Lamont approved the requested allotment.

9. Offer of Assistance from Carrère and Hastings

Carrère and Hastings were delighted to learn of the secretary's action. Writing Secretary Lamont, they pointed out that they had taken great interest in the project since it had first been called to their attention by Captain Murray. This had been due to two factors: their friendship for Murray and the project's importance. The architectural problem--always interesting, they noted--was made "especially attractive by its unique location and its proximity" to New York City.

At first, Carrère and Hastings wrote, they had presumed that their advice would be "merely perfunctory," but they had become so much interested that "their work developed gradually into an extensive study of general plan and detail." They were therefore "gratified" to learn that the secretary of war was pleased with "their" design.

With the project about to be implemented, they hoped that the same desire which prompted the War Department to make "an entirely new departure in the design of the Post will lead to our being consulted as to its development, and our being called upon to advise in its execution." However, they feared that this was not the intention and that the quartermaster general planned to use the "scheme as shown on our drawings" without consulting them. This seemed unfortunate to them, they wrote, and they trusted that a means could be devised by which they could be consulted as to the "development of this scheme, so that it would be a success, not only from a military and practical point of view, but, as far as we are able, also from an architectural point of view." This latter feature, they pointed out, had been "sadly

neglected . . . in all of our public works." They further pointed out that their drawings had been only preliminaries, were inadequate for the purpose of obtaining good results, and required "further serious study."

Carrère and Hastings believed that without the assistance of experienced architects, the Fort Hancock project would cost the taxpayer a "great deal more," and results would be much less satisfactory, if not a total failure, from an architectural perspective. They reminded Secretary Lamont that there were many precedents for joint work of military engineers and private architects. Among others, they cited the projects at the U. S. Military Academy contracted to McKim, Mead & White.[25]

When they had prepared their drawings, Carrère and Hastings had realized that there was no commitment from the War Department to accept them. They, however, failed to see how their sketches could be used "in part or whole without involving on the part of the department our employment to develop and supervise the work in such manner as will not conflict with the regulations" of the War Department.[26]

They had planned, they noted, to execute the exterior of the structures in concrete and stucco, similar to the

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25. In all the hundreds of pages of correspondence pertaining to design of the post buildings at Fort Hancock, this is the first mention of McKim, Mead & White. For some unexplained reason, local historians have long claimed that Stanford White designed the original post buildings at Fort Hancock.

26. Carrère and Hastings to Lamont, Aug. 7, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

fabric used in the Ponce de Leon Hotel in St. Augustine, Florida, which they had recently built for Henry M. Flager.[27]

Captain Murray was surprised when he was called in by the quartermaster general and shown the Carrère and Hastings letter. He was certain, he explained, that they had not understood what was intended. On his return to New York City, Murray said that he would endeavor to explain the matter to their satisfaction.[28]

Major Edward Davis of Maj. Gen. Nelson Miles's staff was delegated the task of replying to Carrère and Hastings' letter for the secretary of war. He explained that the department was unable to employ outside assistance in the preparation of plans. Structures at the U. S. Military Academy, however, were governed by different regulations. They, unlike barracks and quarters, were covered by specific appropriations. All estimates for West Point buildings and architectural fees were, therefore, submitted to the House Committee on Appropriations. All other barracks, quarters, storehouses, and related facilities for the army were designed and constructed by the Quartermaster Department.

Carrère and Hastings were assured that the barracks, storehouses, guardhouse, and offices, as planned contained no features borrowed from their studies except as to subdivision of space in the barracks, and "this it is understood originated with Captain Murray." The adopted designs of the officers' quarters were, for practical purposes, the same as shown

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27. Ibid.

28. Murray to Quartermaster General, n.d., doc. 93,924, Corr. 1890-1914, RG 92, NA.

on the preliminary plans prepared by Captain Murray, and "wherever these plans vary from those studies the changes have received his commendation."[29]

Carrère and Hastings were taken aback by Major Davis's letter. On August 17 they explained that they had not intended to "emphasize particularly the question of our employment . . . as seems" to have been understood. They had merely met to express their desire to assist the War Department by consultation. Davis's letter and a meeting with Captain Murray clarified to Carrère and Hastings that the secretary was not at liberty to employ them professionally, and consequently, there was no impropriety in the use of their drawings by the department.[30]

10. Lamont's Approval of Plans

On September 14, 1896, Acting Quartermaster General Weeks forwarded, for approval by Secretary of War Lamont, plans of the following structures to be erected at Fort Hancock: administration building (plan 84), guardhouse (plan 30), quartermaster and subsistence storehouse (plan 91), coal shed (plan 67E), carpenter and plumbing shop (plan 59C), bakery (plan 49A), stable (plan 54), wagon shed (plan 60A), double noncommissioned officers' quarters (plan 82A), barracks (plan 107), commanding officer's quarters (plan 108), captains' quarters (plan 109), bachelor officers' quarters (plan 111), and lieutenants' quarters (plan 110).[31] These detailed plans had been prepared by personnel

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29. Davis to Carrère and Hastings, Aug. 14, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

30. Carrère and Hastings to Davis, Aug. 17, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

31. Weeks to Lamont, Sept. 14, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA. Copies of these plans are on file at Sandy Hook Unit, Gateway National Recreational Area.

in his office. Secretary of War Lamont promptly reviewed and approved the plans.

11. Engineers' Belated Site Approval

There was an embarrassing breakdown in communications during the planning stage. The quartermaster general had neglected to apprise the chief engineer of his department's plans for Sandy Hook.

It was mid-August 1896 before Col. George L. Gillespie, the district engineer, informed the Chief engineer, W.P. Craighead, that he had learned unofficially that a specific acreage had been set aside from the U. S. reservation at Sandy Hook as a site for "barracks and other government buildings required for a proposed garrison." The land in question, Colonel Gillespie reminded Chief Engineer Craighead, had been purchased by the Engineer Department for defense purposes and was currently under the jurisdiction of his office.[32]

Chief Engineer Craighead accordingly obtained a blueprint of the proposed post from the quartermaster general and mailed it to Colonel Gillespie. After reviewing the document, Colonel Gillespie concluded that the site could be occupied "without prejudice to Engineer operations."[33]

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32. Gillespie to Craighead, Aug. 19, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

33. Ibid., Sept. 8, 1896.

III. FIRST CONTRACTORS PREPARE THE SITE

A. Colonel Moore Receives Instructions

While the plans for the Fort Hancock structures were being drawn and reviewed, site preparation was commenced. In July 1896 the quartermaster general notified Col. James M. Moore that the project was to be expedited.

Colonel Moore was one of the department's senior officers. A veteran of the Civil War, he had served a three-month enlistment in 1861 as a private in Company G, 19th Pennsylvania Infantry. In February 1862 he had been commissioned a second lieutenant in Company A, 90th Pennsylvania Infantry. Fourteen months later, in April 1863, he had resigned his volunteer commission to accept an appointment of captain and acting quartermaster in the regular army. Moore had remained in the army with the Quartermaster Department after the war. He served at a number of posts and depots, as well as in the office of the quartermaster general, as he rose in rank from captain to colonel. He had been depot quartermaster at New York City since the early 1890s.[1] Moore was to execute a contract for grading the site in time to enable the builders to begin construction as soon as the ground was cleared. Before any grading could be done, however, it would be necessary for an engineer to complete a topographical map and determine the "finished grade," so that the cuts and fills balanced. The graded sand surface was to be sodded to a depth of 6 inches and to be finished after the building contractor had completed the structures.

As soon as the ground was graded, it would be necessary to open roads in order to get building materials onsite. Colonel

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1. Moore, James M., Appointments Commissions, and Promotions (ACP) Files, RG 94, NA.

Moore was to invite bids for the work, with tight deadlines as to completion dates, and he was to give plans and specifications for the roads to the bidders. It would be unnecessary to provide a system of surface drainage for the roads, as rain and melting snow would be absorbed into the sand through catch basins. Colonel Moore was admonished to give special attention to this project, because the secretary of war " wishes as much progress made at Fort Hancock as possible this fall."[2]

Several days later, the quartermaster general forwarded to Colonel Moore a plan of the post as approved by Secretary of War Lamont. At this time Moore was directed to prepare, as soon as practicable, plans and specifications for a spur from the ordnance railroad to pass in rear of the storehouse sites. After these had been formulated, Colonel Moore was to advertise for bids to lay the track.[3]

B. Contractor Mitchell Clears Site

On July 16 the quartermaster general authorized Colonel Moore to advertise for bids to clear the grounds. An enclosed blueprint identified what was to be cleared. As soon as bids were received, Moore was to award the contract and require the contractor to commence work immediately.[4]

Charles A. Smedley, a low bidder, was awarded the contract for clearing the underbrush. Work was to begin on

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2. Quartermaster General to Moore, n.d., doc. 93,924, Corr. 1890-1914, RG 92, NA.

3. Weeks to Moore, n.d. doc. 93,924, Corr. 1890-1914, RG 92, NA. A copy of the subject plan is on file at the Sandy Hook Unit, Gateway National Recreation Area.

4. Miller to Moore, July 16, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

July 30, and the project was to be completed in 30 working days.[5] Soon after Smedley's employees started work, they struck for higher wages. Because of the tight deadline, Smedley had to abandon the contract. At this time Colonel Moore invited new bids for the work.

R.B. Mitchell was awarded the clearing contract on August 12, and work was to be completed in 17 working days.[6] On August 20 Colonel Moore visited Sandy Hook and saw that Mitchell's laborers were making rapid progress and should be finished by Tuesday, August 25th.

As soon as the grade for the railroad spur could be ascertained, Colonel Moore was to ask for bids to grade the site. With the underbrush out of the way, Moore saw that the area was crisscrossed with "hills and hollows," which would require considerable labor to level. Mitchell estimated that it would take six weeks to grade the site, but Colonel Moore felt that the work could be accomplished in 30 working days. When the contract was awarded, Moore told the contractor to begin on the bay side, so that work on Officers' Row could be initiated before the grading was completed.[7]

On a second visit to Sandy Hook on Sunday, August 23, Moore found the brush clearing "progressing favorably under adverse circumstances." Most of the brush had been cut and burned, and smoke from the poison ivy had caused every laborer to

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5. Moore to Quartermaster General, July 28, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

6. Ibid., Aug. 12, 1896.

7. Ibid., Aug. 20, 1896.

break out in a rash; the mosquitoes were so bad that the men had difficulty sleeping at night. On Monday the force was so exhausted that Mitchell paid them, and they returned to New York City. A new gang was recruited and sent to Sandy Hook on Tuesday afternoon.

Moore, on reconnoitering the site, concluded that both he and Mitchell had underestimated the length of time it would take to grade the area. To level the succession of "hills and hollows varying from 3 to 15 feet in depth and extending from 50 to 300 feet in length," would occupy a large labor force for 60 days.[8]

C. W.H. Stair Surveys Site

In mid-July Colonel Moore had advised Washington that when the underbrush was out of the way, he would send Civil Engineer W.H. Stair to the area to make necessary surveys and to prepare a topographical map.[9]

When the clearing was completed, Stair traveled to Sandy Hook. On August 31 he wrote Colonel Moore that he was in doubt about the plan for grading the site and needed to know whether the surface was to be plane or undulating. Because the ground was badly cut up, leveling would be very expensive. Would it not, he inquired, be better to smooth it over, leaving high and low ground at the present elevations?[10] After checking with the quartermaster

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8. Ibid., Aug. 25, 1896.

9. Ibid., July 21, 1896.

10. Stair to Moore, Aug. 31, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

general, Moore informed Stair that the site would be leveled by grading down the hummocks and filling the depressions.[11]

By September 11 Stair had staked the ground to be surveyed and had commenced the stadia work. Because the terrain was difficult to map, Stair requested that a rodman be detailed to assist him for ten days. He felt that with assistance, he could complete the topographical map in ten days. The quartermaster general acceded to the request.[12]

D. Colonel Moore Relieved of Many Responsibilities

Before the survey was completed, Colonel Moore found that his duties as New York depot quartermaster were engrossing all his time. Therefore, he recommended that his 37-year-old assistant, Capt. Carroll A. Devol, take charge of certain aspects of the Fort Hancock project. Devol would be delegated the task of overseeing details of constructing the railroad spur, grading the site, and building roadways. Moore would prepare the specifications for grading the area and opening roads, as well as awarding the contracts. The quartermaster general agreed to this recommendation.[13]

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11. Quartermaster General to Moore, Sept. 3, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

12. Stair to Moore, Sept. 11, 1896, doc. 36,411, Corr. 1890-1914, RG 92, NA. Stair's old rodman, Alfred Farley from Plattsburg, soon reinforced the mapping party.

13. Moore to Quartermaster General, Sept. 24, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA. On September 18, Captain Devol had suggested to Colonel Moore that he would be agreeable to assuming responsibility for the Fort Hancock work. Devol to Moore, Sept. 18, 1896, doc. 93,923, Corr. 1890-1914, RG 92, NA.

Devol, who would become one of the department's senior officers before his 1923 retirement, was born in Waterford, Ohio, in April 1859. He attended Pennsylvania Military Accademy and graduated in 1879, with a second standing in his class. He was commissioned as a second lieutenant on September 5, 1879, and assigned to the 25th U.S. Infantry, one of the army's four black regiments. Lieutenant Devol served with his regiment in Texas, Dakota, Minnesota, and Montana. He was promoted to first lieutenant while at Fort Meade, Dakota Territory, in October 1886, and was named regimental quartermaster in the following year.

During the next ten years, Devol spent considerable time on detached service at Fort Yellowstone, Montana, where he supervised construction of many improvements to that post and in the national park. On August 26, 1896, Devol was promoted to captain and assistant quartermaster and was ordered to report for duty at Madison, Wisconsin. His orders were subsequently changed, and he was directed to report to Colonel Moore at New York City, preparatory to assuming duties as constructing quartermaster at Fort Hancock.[14]

E. R. B. Mitchell Levels and Grades Site

By October 2 Stair and his men had finished their contour map, and Captain Devol forwarded a copy to the quartermaster general. In a cover letter, Devol pointed out that to level the area would necessitate moving a large quantity of earth from the south end to the north end of the site. He cautioned the quartermaster general that the work would be expensive.

14. Devol, C. A., ACP File, RG 94, NA. On January 6, 1897, Devol resigned his commission as first lieutenant in the 25th Infantry.

Devol suggested that the surface be graded, with a uniform slope from east to west in the north and center and with a slope from east to west in the south. The grade above mean low tide was to follow the general surface of the site as shown and was to rise from 10½ feet in the north to about 15½ feet in the south.

Devol estimated that it would cost approximately $20,000 to move about 180,000 cubic yards of earth.[15] The quartermaster general approved this expenditure.[16]

On October 2 Captain Devol advertised for proposals to clear, grub, and grade the grounds. This work was to be completed by the last day of the year. Twelve bids were received, opened, and abstracted on October 12. R.B. Mitchell's proposal of 0.689 cents per cubic yard was the low bid. On being notified of this, the quartermaster general directed Devol to accept Mitchell's bid.[17]

Mitchell soon had a large, efficient crew at work. However, the winter of 1896-97 was unusually severe on Sandy Hook, and several working days were lost because of inclement weather. A northeastern storm washed out a section of the ordnance railroad trestle, and the workmen were slowed because

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15. Devol to Quartermaster General, Oct. 1, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

16. Quartermaster General to Devol, Oct. 6, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA. Charles G. Sawtelle had been named quartermaster general on August 19, 1896, to succeed Brig. Gen. Richard N. Batchelder.

17. Devol to Quartermaster General, Oct. 12, 1896, and Quartermaster General to Devol, Oct. 14, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

train cars loaded with sod failed to arrive on schedule. These delays compelled Mitchell to ask for an extension of his contract to February 15.[18]

On recommending the extension, Captain Devol reported that Mitchell's people would soon complete the most important fills in rear of the South Beacon and the borrow pit. Mitchell was dependable and had promised to reinforce his labor force to expedite the project. However, a series of severe storms during the four-week period ending on February 15 kept Mitchell's men indoors half the time. Even so, by that date the project was "fairly well along." In urging another extension, Devol reported that they were "practically out of the way of the builders, as they have graded the immediate site, leaving the high ground in the middle portion of the South end until the last."[19]

By a slight change in location of the buildings, but with no alteration in their general arrangement, Captain Devol had staked out all the barracks, officers' quarters (except one), and probably the administration building and bachelor officers' quarters on the "cut." The officers' quarters not on the cut would be on fill that had been positioned for more than six weeks. Therefore, the structures' footings were not affected by the time grading was completed.

During those weeks much of the fill had been positioned, it had mixed with snow, and some of it had frozen. Devol believed

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18. Mitchell to Devol, Jan. 2, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

19. Devol to Quartermaster General, Jan. 6, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

that it would be advantageous to permit the fill to stand as long as possible before final acceptance. R.B. Mitchell had laid this fill with the understanding that his men would go over the surface again and raise all portions to grade.[20]

Clinton Smith of the construction and repair division was at Sandy Hook in mid-February. He found the grading progressing "nicely" and urged that the gradeline of the buildings be filled as high as possible. Although specifications called for this "to be at least one foot in twenty," he thought that the fill should be higher so that the footings would be above the high-water mark, where there would be less chance for damage from flood tides during storms.[21]

Early in March, Devol observed that the Corps of Engineers had opened a large borrow pit about 200 feet east of the site staked for the quatermaster and commissary storehouse. Because water was standing in the depression, he believed that the location of these pits near the post would plague the garrison.[22] Quartermaster General Weeks, on forwarding Devol's complaint to the chief engineer, requested that the Corps of Engineers secure the sand for the two 10-inch batteries currently under construction from a remote part of Sandy Hook. The Quartermaster Department, in grading the area, had already been compelled to fill a large borrow pit at considerable expense.[23]

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20. Ibid., Feb. 15, 1897.

21. Smith to Quartermaster General, Feb. 23, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

22. Devol to Quartermaster General, Mar. 10, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

23. Weeks to Chief Engineer, Mar. 13, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA. George H. Weeks had replaced General Sawtelle as quartermaster general on February 16, 1897.

The Corps of Engineers was unsympathetic to Devol's problems. They pointed out that the borrow pit in question had been selected as the only one in the vicinity of the batteries that had "the requisite elevation and cube to admit an economical excavation and delivery." In December the engineer in charge, Lt. Robert McGregor, had gone over the ground with Captain Devol and had shown him the probable limits of the excavation.

The district engineer, Henry H. Ludlow, reported that the engineer department was charged with "care and custody of the real estate and fortification work at Sandy Hook." His department was engaged in the construction of additional batteries that the new post was to garrison. In view of the different projects underway at the Hook by the various departments, Ludlow believed that it would facilitate matters and avoid future misunderstandings if his officers were provided with a plan identifying the quartermaster activities.

Ludlow, for this part, had a complaint against the Quartermaster Department. He claimed that the R.B. Mitchell laborers, who were quartered alongside the borrow pit, within the engineers' sphere of operations, had been very destructive in cutting down trees and underbrush that "protects the grounds and prevents their conversion into an open desert of loose sand."[24] The "plant" having closed down, Chief Engineer John M. Wilson, assured Quartermaster General Weeks that the batteries to be constructed in the future would not cause a renewal of this problem because they would be farther from the post.[25] By early spring, R.B. Mitchell had completed his leveling and grading contract.

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24. Ludlow to Chief Engineer, Apr. 15, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

25. Wilson to Quartermaster General, Apr. 22, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA. General Craighead had been replaced as chief engineer by J. M. Wilson on February 1, 1897.

F. A.C. Chenoweth Builds Quartermaster Spur

Colonel Moore, on visiting Sandy Hook, discovered that the railroad line that the quartermaster spur was to connect with was a narrow-gage track running from the engineer's wharf to the mortar battery. Because materials and stores would be received over the standard gage ordnance railroad from the New Jersey Central, it was necessary to extend the Fort Hancock spur to tie in with the ordnance railroad at the engineer's wharf.[26]

In mid-August Colonel Moore advertised for bids to construct the spur. The low bid was submitted by A. Crawford Chenoweth of New York. He agreed to construct the needed 2,100 feet of track for $1.33 per lineal foot.[27] Although Chenoweth was unable to begin construction until the site had been cleared and graded, his contract was approved by the quartermaster general in late September.[28]

In laying the track, Chenoweth's gandy dancers tore up a plank road and boardwalk belonging to the proving ground. When no steps were taken to repair the damage, the proving ground commander, Capt. Frank Heath, notified the quartermaster general that the area where the railroad crossed the plank road was now almost impassable. He asked that measures be promptly taken to restore the plank road and boardwalk to their original condition.[29]

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26. Moore to Quartermaster General, July 31, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

27. Ibid., Aug. 29, 1896.

28. Ibid., Sept. 25, 1896.

29. Heath to Quartermaster General, Nov. 9, 1896, doc. 93,924, Consolidated Correspondence File, RG 92, NA.

Chenoweth, when called on for an explanation, stated that the boards were too rotten to replace. Because his contract made no allowance for this work, it had to be paid for as an extra.[30]

The Chenoweth workmen completed the spur by mid-January 1897. They had laid 2,214½ lineal feet of track at a cost to the government of $2,945.29. There had been some delays caused by the failure of the department to provide plans for a crossing and the frogs and connections with the ordnance railroad.[31]

G. The Conlans Fail to Install Artesian Well

To provide water for the post, Colonel Moore contracted in August 1896, with P. H. & J. Conlan of Newark to sink an artesian well. Starting in mid-September, Conlan's workmen put down a number of wells with varied results. On Wednesday, September 23, the drillers, while sinking a shaft near the lighthouse, struck a vein of carbonic acid with water at a depth of 151 feet. When ruptured, the vein sent a geyser of water and sand cascading more than 50 feet into the air with a roar that could be heard at a distance of ½ mile. The geyser continued for about five hours before it began to ebb. By 6 p.m. on August 25, it had ceased flowing, although there was still a great volume of gas escaping.[32]

Another four weeks having passed and no artesian well yet brought in, the Conlans' contract was renegotiated. They were

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30. Chenoweth to Moore, Nov. 18, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

31. Patton to Quartermaster General, Jan. 15, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

32. P. H. & J. Conlan to Clinton Smith, Sept. 26, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

to sink enough well points to yield 150,000 gallons of water daily. None of the well points was to have a diameter less than 2 inches or greater than 6 inches.[33] The well points drilled by the Conlans were grouped 3,700 feet southeast of the site staked by Captain Devol for the post hospital.

33. Quartermaster General to P. H. & J. Conlan, Oct. 16, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

IV. DISAPPOINTING CONSTRUCTION YEAR IN 1897

A. Paperwork Prepared

1. Establishing Time Frame

Captain Devol, if all went according to schedule, planned to let the construction contracts around November 1, 1896. Work was to begin March 1, 1897, and was to be completed by July 31. If the materials could be delivered during the winter, and if the weather were unseasonably mild, he fantasized that it might be possible to begin construction earlier and finish the project by April 30. If it were not contemplated to complete the post until the summer of 1897, he wrote the quartermaster general, it would be advantageous to delay starting the foundations until March because the surface of the earth was so low in a number of places that it was below the grade of the foundations. This would necessitate positioning the foundations on "made" ground.[1]

Quartermaster General Sawtelle, after reviewing the situation, directed Devol to ensure that the grading was completed in time to settle before the foundations were begun. Construction contracts were expected to be drawn early enough so that the foundations could be started when "spring opens, or by March 1st," and structures could be completed by October 31.[2]

2. Preparing Specifications

Before requesting bids for construction, Captain Devol made a study of possible materials that could be used. He found that dry press bricks were very absorbent--when water was

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1. Devol to Quartermaster General, Sept. 25, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

2. Sawtelle to Devol, Oct. 5, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

poured on them, the water would disappear almost instantly. The bricks also colored badly when used under sills and string courses. The lowest price was $15 per thousand for culled bricks that were not guaranteed uniformity in color.

Devol's first choice for face brick was the Eastern Hydraulic, shade 215. The manufacturer claimed that this brick was in no way similar to the dry press bricks Devol had tested previously. The Eastern Hydraulic was obviously the best brick. The manufacturer, whose price would be $19 per thousand delivered, would guarantee that every brick would be like the sample and would be uniform in color.

Devol's second choice was the Ridgeway. The manufacturer, Orrin D. Person, had reduced his price to $19 per thousand for kiln-run brick, which would probably come in four different shades. The Ridgeway was an excellent brick but rougher in appearance than the Eastern Hydraulic, and the Ridgeway did not "look quite so well laid up." Other dealers had told Devol that the Ridgeway Company was a small plant and would be unable to supply the quantity needed. However, Person guaranteed that he would provide the amount of brick needed. In regard to common brick, Captain Devol believed that Sayre & Fisher made as good as any on the market. Their price was $5.50 per thousand delivered. Because Sayre & Fisher had a huge plant on the Raritan River, they were conveniently near the site.[3]

The quartermaster general opted for Ridgeway, or their equivalent, for face brick. After Captain Devol formulated

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3. Devol to Sawtelle, Oct. 31, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

the specifications, he told prospective bidders that a common brick and a red face brick of the same color and quality as the samples would be accepted. As for the buff face brick, interested parties were informed that a preliminary competition had deemed the Ridgeway the best for the price.[4]

3. Transportation Arrangements

On investigating transportation costs, Captain Devol found that the Central Railroad hauled freight consigned to Sandy Hook as far as Highland Beach. From there the cars were pulled the rest of the way by the locomotive operated by the Ordnance Department over its railroad. The commanding officer of the proving ground told Devol that if the Quartermaster Department desired to use their engine while the post was under construction, he was agreeable, provided that the department absorbed half the monthly operating expenses amounting to about $75.

As for water transportation, the Corps of Engineers had a wharf and facilities for unloading vessels at the Hook, while the Ordnance and Quartermaster departments had a wharf but no track available for unloading. Consequently, the proving ground commander explained, the engineers could lay down stone for 75 cents while the same stone cost the Ordnance Department $1.80.[5] Quartermaster General Sawtelle, upon being advised of this, directed Devol to inform bidders that cars with freight would be transferred from Highland Beach to the site and back by the

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4. Devol to Quartermaster General, Nov. 23, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

5. Devol to Quartermaster General, Sept. 25, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

Ordnance Department locomotive. Facilities for unloading at the wharf were to be provided by the government.[6]

B. Government Reviews and Awards Contracts

1. Construction Proposals Advertised

On October 31, 1896, Captain Devol advertised in the New York Herald, New York Evening Post, and Engineering News that the Quartermaster Department was receiving bids for construction of 32 buildings and a bake oven at Fort Hancock.[7]

While waiting for the closing date, Devol transmitted to the department a revised site plan for the post. The advantages, he pointed out, were that it gave a full view of all buildings from Sandy Hook Bay, unmasking the four barracks, and allowing them to be seen; it would permit soldiers quartered in the barracks to have an unobstructed view of the bay; it would not be exposed to the family wash on the edge of the parade ground; and the barracks would be sited about 175 feet east of the road, so that it would be unnecessary to pass directly by the barracks when walking from one section of Officers' Row to the other.[8] Nevertheless, Quartermaster General Sawtelle failed to see the merit in Devol's plan and summarily rejected it.

On November 30 Captain Devol opened and abstracted the 39 proposals received in response to his advertisement. Six days later, he forwarded separate abstracts to

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6. Sawtelle to Devol, Oct. 5, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

7. Devol to Quartermaster General, Nov. 20, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

8. Devol to Quartermaster General, Dec. 1, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

Washington for construction of the structures and installation of the plumbing, steam heating, and gas piping. He also sent his recommendations as to which contractors should receive the contracts.[9]

2. Campaign by Regan for Major Contract

Meanwhile, the attorney for one of the bidders, Avery D. Andrews, had written Quartermaster General Sawtelle on behalf of his client Thomas J. Regan of Newark, New Jersey.[10] Mr. Regan, he pointed out, was "a contractor and builder of many years' experience and of the highest business and financial standing." Andrews' statement drew attention to Regan's proposal. Andrews had learned that Regan and Jenkins & Co. of Philadelphia had submitted the low bids. Regan's proposals were:

Buff brick with marble trimmings	$293,125
Buff brick with limestone trimmings	287,115
Red brick with bluestone trimmings	275,315

Jenkins & Co.'s bids were:

Buff brick with limestone or marble trimmings	$289,791
Red brick with bluestone trimmings	279,468

Because the materials had not been designated in advance, Andrews continued, Regan's bids--those for buff brick

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9. Devol to Quartermaster General, Dec. 5, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

10. Thomas J. Regan was listed in the Newark Directory for 1896-97 as a contractor and coal dealer doing business at 766 Broad Street. Holbrook's Newark City also Harrison and Kearny Directory for Year Ending May 1st 1897 . . . (Newark, 1897), p. 824.

with limestone trimmings and for red brick with bluestone trimmings--were lower than those submitted by Jenkins & Co. Regan, as he saw it, was clearly the low bidder and entitled to the contract, no matter what materials were selected. In addition, Regan had authorized Andrews to notify the War Department that he stood ready to execute the contract for buff brick and marble trimmings at the same figure named by Jenkins & Co.[11]

Andrews at the same time notified Captain Devol that Regan had built a number of important structures. Among these structures were Central Market, St. Vincent Academy, the First Congregational Church, and Hygea Ice Co. in Newark; the Orphan Asylum in Orange; St. Luke's Parish House in Montclair; and Christ Episcopal Church in Bloomfield.

For several years Regan had been the Bergen County treasurer. Among those vouching for his honesty, competence, and integrity were U.S. Senator Thomas Smith of New Jersey; the State Banking Company and Manufacture's Bank of Newark; J.C. Mundy, Bergen County superintendent of public works; and E. Adams, a Newark civil engineer. Andrews assured Captain Devol that Regan was the man, from both financial and professional views, to execute the contract to the government's satisfaction.[12]

3. Contracts Awarded

On December 10, 1896, Quartermaster General Sawtelle transmitted to Secretary of War Lamont the proposals for

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11. Andrews to Sawtelle, Dec. 5, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

12. Andrews to Devol, Dec. 5, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

and abstracts thereof received for construction of the authorized Fort Hancock structures. Sawtelle recommended acceptance of the low bid in each case. They were

Proposal 15, Thomas J. Regan of Newark, New Jersey, for constructing 32 buildings and one bake oven, employing buff brick with limestone trimmings for $287,115

Proposal 20, Leonard & Stratton of Columbus, Ohio, for installing plumbing in the buildings for $14,243

Proposal 37, A.W. Rutherford & Co. of New York City, New York, for installing steam heating in 24 buildings for $22,066

Proposal 20, Leonard & Stratton, for installing gas pipes in 28 buildings for $1,327

The total cost of these four proposals was $324,751. Sawtelle also recommended that an additional $3,283 be authorized from the appropriation for regular supplies to cover the expenses of heating and piping for the bake ovens.[13]

Secretary Lamont promptly authorized acceptance of the low bids and expenditure for the bake ovens. Sawtelle, on relaying this information to Captain Devol, directed him to execute the contracts without delay.[14]

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13. Sawtelle to Lamont, Dec. 10, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

14. Sawtelle to Devol, Dec. 10, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

C. Thomas J. Regan's Short Tenure

1. Regan's Contract

On December 15, 1896, Thomas J. Regan signed his contract for constructing 32 buildings (an administration building, a guardhouse, a quartermaster and commissary storehouse, a coal shed, a workshop, a bakehouse, a quartermaster's stable, a wagon shed, two double sets of noncommissioned officers' quarters, four barracks, the commanding officer's quarters, six captains' quarters, and 11 lieutenants' quarters) and one double bake oven. These structures were to be erected in accordance with plans and specifications on file in the office of the construction quartermaster, Captain Devol.

It was agreed that buff pressed brick with limestone trimmings was to be used for all face brickwork. The workmanship was to be performed in the best and most skillful manner known to the trade and to "the entire satisfaction of the United States."

Regan was to be paid the following amounts: administration building, $9,675; guardhouse, $8,295; quartermaster and commissary storehouse, $10,175; coal shed, $3,375; workshop, $3,745; bakehouse, $2,625; double bake oven, $1,465.25; quartermaster's stable, $8,175; wagon shed, $2,425; two double sets of noncommissioned officers' quarters, $4,395; four barracks at $16,975 each; the commanding officers' quarters, $7,725; six captains' quarters at $7,395 each; and 11 lieutenants' quarters at $7,125 each.

Work was to start about March 1, 1897, and "be carried forward with reasonable dispatch," and be completed on or before October 31, 1897. Payments were to be made at such times and in such amounts as the construction quartermaster elected, based upon estimates of completed work to be prepared by him.

From all payments, 20 percent was to be retained until final completion and acceptance by the government for work under contract. In the event that Regan failed to comply with the stipulations of the contract, the United States was to have the power to complete work at Regan's expense in such manner as the construction quartermaster might deem to be in the public's interest, either by day labor or by contract or both, and any excess of cost resulting from such failure was to be charged against Regan.[15]

2. Early Start Granted

Regan was eager to get started. In the second week of January, he asked Devol for permission to allow his carpenters and laborers to erect the coal and wagon sheds in February, weather permitting. Because construction time was rather limited, Captain Devol favored the plan, provided that the quartermaster general was agreeable. He would see that the foundations were not poured during subfreezing weather. If approval were granted, Devol would need an inspector one month earlier than scheduled.[16]

The quartermaster general agreed that Regan should be encouraged to push ahead. After the two sheds were built, Captain Devol was informed that the sheds could be used for storage of flooring and other lumber that must be kept under cover.

Mr. Stan, the overseer for the R. B. Mitchell grading contract, might double as building inspector.[17]

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15. Contract with Thomas J. Regan, Dec. 15, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

16. Devol to Quartermaster General, Jan. 13, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

17. Miller to Devol, Jan. 15, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

3. Materials and Change Orders

Clinton Smith of the department's construction and repair division traveled to New Jersey in early February to discuss with Devol building materials to be utilized in the project. Devol had previously selected a light-colored limestone classed as marble for foundations and underpinnings. The stone came from the upper part of Manhattan Island near King's Bridge. Accompanied by a Regan representative and a stonemason, Devol and Smith visited the quarry. Upon arrival, they saw that most of the stone had been disposed of, and that there was not enough left to accomplish the work required.

Regan's agent, in addition, objected to using New York building stone, as it came out of the quarry in an irregular shape, and some of it was of poor quality. He requested that they be allowed to use trap rock from the Hudson Palisades. However, Smith believed that this stone was too dark to harmonize with the buff brick and the light-colored Indiana limestone to be employed for the trimmings. The limestone, as approved by the quartermaster general for trimmings, was "a dark or colored stone classed as blue." If this were employed, Smith noted, the contrast with the trap would not be so great. The dark limestone, however, was more expensive than the Indiana limestone.[18] Therefore, Regan decided to use the dark limestone and the trap rock.

Smith and Devol traveled to the Newark factory of Chapin Hall Lumber Co. with whom Regan had subcontracted for woodwork, finishing lumber, and other materials. The lumber and other materials that Regan proposed to employ were examined, but

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18. Smith to Quartermaster General, Feb. 23, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

no materials were submitted that were to be used for the Fort Hancock buildings. The principal points decided were in response to plans and specifications. It was agreed that window frames and finished lumber were to be inspected before being primed at the factory, and samples were to be submitted to Captain Devol for approval.

The workmanship and materials were found to be of high quality, and Chapin Hall employees seemed to take pride in their products. When Smith and Devol visited Mr. Regan's office, Regan showed them samples of slate, tin, and vitrified brick, which Smith rejected as unsatisfactory.[19] As a result of the visit, a number of change orders were entered in the specifications. The change orders included

> Platform for quartermaster and commissary storehouse--plans to be revised.
>
> Face brick--sample submitted approved. The brick was to be laid with rowlock joints. In backing brick, every eighth course was to be face brick. Bats of less than one-half size would not be allowed as backing brick. Furring strips were to be nailed into mortar joints of brickwork with cut nails.
>
> Stonework rubble and ashlar--to be trap rock. Limestone trimmings were to be blue limestone. In the noncommissioned officers' quarters, the watertable was to be cut on the ashlar finish. The lintels over the cellar windows were to be the same material as the ashlar.

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19. Ibid.

Screens--estimates for black wire screening for doors and windows were to be submitted separately for each building.

Laundries--washtubs were to be built on platforms of sufficient height to give grade for sewers.

Slate--to be Brownsville roofing slate in four sizes (each size comprising one-quarter of the total amount: 14 by 10 inches, 14 by 12 inches, 16 by 12 inches, and 16 by 11 inches.

Mantels--wooden mantels preferred.

Roads and walks--the former to be of macadam, with cobblestone gutters, and the latter of either flagstone, cement, or brick.

Grading--behind sheet piling to be done under current appropriation. In grading around quarters, the earth was to slope away from the structure on all sides.[20]

4. Contract Abandoned by Regan

Regan, despite his eagerness to secure the contract, soon lost interest. On March 15 the Chapin Hall Lumber Co. complained to Captain Devol that they were unable to proceed with their work because T.J. Regan had failed to post his required performance bond. They had executed their bond on February 8 and had been ready to make deliveries for more than five weeks.[21]

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20. Change Orders, Feb. 26, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

21. Chapin to Devol, Mar. 15, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

Captain Devol, on forwarding the Chapin Hall letter to Washington, warned that Regan had given no bond to the masons and bricklayers. Although the contract called for Regan to begin construction on March 1, nothing had been accomplished in the first 15 days of the month. When Devol made inquiries, all he received were excuses and promises. Some materials were onsite and the track was laid, but that was all.

On March 13 Devol had notified Regan's surety company that something would have to be done. They replied that they were amply secured but did not seem too greatly concerned. He had also warned Regan. Men in the trades were suspicious of Regan and were afraid to sell to him on credit.[22]

Before another month passed, Regan abandoned his contract. On April 12 Captain Devol received a letter from Fidelity and Deposit Co. of Baltimore, Maryland, dated two days earlier. Enclosed were letters dated April 8, from Regan to Gottfried Krueger, M.A. Mullin, and Martin Burne, relinquishing to them, as his bondsmen, all his claim, right, title, and interest in his Fort Hancock contract. Messrs. Krueger, Mullin, and Burne pointed out that, Regan, having reneged on his contract, they were agreeable to assuming and completing his obligations.

The letter from Fidelity and Deposit Co. notified Devol that Krueger, Mullin, and Burne had "guaranteed and indemnified them against loss therefor when they furnished for Mr. Thomas J. Regan bond in the sum of $75,000 issued January 5." They also informed Devol that the bank would continue the bond in

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22. Devol to Quartermaster General, Mar. 15, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

case the United States gave the bondsmen permission to proceed with the contract.[23]

D. Bondsmen Take Over

1. Contract Negotiations by Krueger, Mullin, and Burne

The new quartermaster general, George H. Weeks, after reviewing the correspondence, notified Captain Devol that the transfer of the Regan contract to Krueger, Mullin, and Burne was invalid.[24] Article 8 of the contract, he reminded Devol, prohibited such a transfer or assignment. Fidelity and Deposit Co., as the sole guarantor for Regan's bond, was the only surety that could be recognized by the United States. The acceptance of the proposition made by Krueger, Mullin, and Burne under their representation of being connected with the "contract, would greatly involve the case and possibly defeat the object sought to be accomplished."

Captain Devol was directed to satisfy himself of the failure of Regan, without regard to the evidence submitted by the sub-bondsmen. Only then would a proposition for completion of the project, in full accordance with the provisions of the Regan contract, be entertained. Such a proposal could be made by Fidelity and Deposit Co., and the work could be carried on under article 7 of the contract. Any proposition, the quartermaster general cautioned, must be considered as being made by outside parties and in no respect to involve the contract. Due diligence was to be observed by the new contractors, and in case of failure to execute, the constructing quartermaster was to have the power

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23. Ibid., April 14, 1897.

24. General Sawtelle had retired on Feb. 16, 1897, and had been replaced by George H. Weeks as quartermaster general.

to take possession of the unfinished structures and to complete the work.[25]

Captain Devol accordingly solicited and received letters from the principals. On April 20 Regan formally notified Devol that he was "unable to carry on the contract entered into by me with you . . . for construction of Thirty Two Buildings, etc., at Fort Hancock."[26] Krueger, Mullin, and Burne proposed on the same day to furnish all labor and materials necessary and to prosecute the work with all due diligence. The sub-bondsmen agreed to comply with all the stipulations "particularly mentioned and enumerated in" the original contract signed by Regan and the United States government on December 15, 1896. The agreement included the original completion date of October 31, 1897. It was understood by the trio that the acceptance by the United States of their proposition would in no manner release them from their obligations, as sub-bondsmen to the Fidelity and Deposit Co., which company they agreed to indemnify against any loss due to its issuance of bond for $75,000.[27]

On April 21 Captain Devol transmitted copies of the letters received from Regan, and from Krueger, Mullin, and Burne to Fidelity and Deposit Co. The firm was asked to provide the government with a statement expressing the action the firm wished

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25. Quartermaster General to Devol, Apr. 17, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

26. Regan to Devol, Apr. 20, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

27. Krueger, Mullin, and Burne, Apr. 20, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

it to take.[28] Henry B. Platt, vice president of Fidelity and Deposit Co., notified Captain Devol that it would be in the best interests of all parties concerned for the government to proceed under article 7 of the Regan contract and accept the proposition advanced by Krueger, Mullin, and Burne.

These three men, Platt continued, had indemnified the company at the time that Fidelity and Deposit Co. issued the $75,000 bond against any loss it might incur. Hence, they, and not Fidelity and Deposit Co., would have been the losers through any failure by Regan under the contract, whereby cost of the work exceeded the specified price.

If Captain Devol decided to accept the proposal of Krueger, Mullin, and Burne, Fidelity and Deposit Co. agreed that its $75,000 bond would in no manner be invalidated. The company agreed that its bond was to continue in full force and effect until all stipulations contained in the Regan contract had been fully implemented to the satisfaction of the Fort Hancock construction quartermaster, and until all persons supplying labor and materials in furtherance of the project had been paid.[29]

On April 22, on receipt of Platt's letter, Captain Devol notified Krueger, Mullin, and Burne that their proposal to complete construction of the 32 buildings and one double bake oven for $287,115.25 was accepted.[30]

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28. Devol to Fidelity and Deposit Co., Apr. 27, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

29. Platt to Devol, Apr. 22, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

30. Devol to Krueger, Mullin and Burne, Apr. 22, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

2. Backgrounds of Krueger, Mullin, and Burne

Gottfried Krueger was a prominent Newark businessman and Essex County politician. Martin Burne was a Newark wholesale grocer, and M.A. Mullin was a Newark businessman.

In 1865 Krueger and Gottfried Hill had formed a partnership as owners of the Hill & Krueger Brewery. Their lager beer proved popular, and by 1875 they were brewing and selling 25,000 barrels annually. Their watchword was "to make just as good if not a little better beer than others," and they kept their popularity as brewers "on an even pace with the increase in sales." On Hill's retirement, Krueger became sole owner of the business. By 1895 the brewery was marketing 200,000 barrels of lager annually, with the operation housed in "one of the very best brewery plants in the country."

Krueger, having turned much of the management of the Gottfried Krueger Brewing Co. over to his sons, entered politics. On two occasions he was elected to represent Essex County in the New Jersey legislature. A power in the local Democratic organization, Krueger represented his party on the state committee where he was a cohort of U.S. Senator James Smith, Jr., the Democratic boss of New Jersey. In the mid-1890s Krueger was elected to the state court of appeals as a judge.[31]

E. Contractors Fail to Meet Deadline

1. Work Accomplished as of June 14, 1897

Some seven weeks after Krueger, Mullin, and Burne had assumed responsibility for the contract and about five months

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31. Newark, N.J., Illustrated Souvenir of the City and Its Numerous Industries (Newark, 1895), p. 242.

before the scheduled completion date, Clinton Smith returned to Sandy Hook. He spent Monday, June 14, inspecting the project and noted the following works that had been accomplished:

Lieutenants' quarters

No. 1, foundation nearly completed
No. 2, foundation to gradeline, cellar frames set
No. 3, foundation walls about 4 feet high
No. 4, concrete footings in place
No. 5, concrete footings in place
No. 6, excavation done

Barracks

No. 24, foundations practically completed
No. 25, foundations practically completed
No. 22, excavation completed
No. 23, excavation completed

Administration building

No. 26, excavation completed

Double noncommissioned officers' quarters

No. 29, foundations completed, floor joists set
No. 30, brick walls completed to about 9 feet high

Coal shed

No. 31, nearly completed and ready for painting

Quartermaster and commissary storehouse

No. 32, brick walls of first story nearly completed

Bakehouse

No. 33, foundations nearly completed

Workshop

No. 34, foundations completed

Wagon shed

No. 35, building closed in and roof ready for slating

Bachelor officers' quarters

No. 27, excavation one-half finished

Engineer's quarters

No. 37, foundation completed

As yet, no work had been done on the commanding officer's quarters (building 12), six sets of captains' quarters, (buildings 9-11 and 13-15), five more sets of lieutenants' quarters (buildings 7-8 and 16-18), the guardhouse, (building 28), and quartermaster's stables (building 36).

Construction had progressed slowly, especially when cognizance was taken of the October 31 completion date. Although Captain Devol had seemingly done everything possible to push the work ahead, there had been numerous delays, the cause of which Smith attributed to inefficient management on the part of the original contractor. Although it was "getting into better shape," since Krueger, Mullin, and Burne had become involved, Captain Devol urged them to even greater exertions. On the day of Smith's visit, there were 57 brickmasons, 65 stonemasons, 6 carpenters, and 62 laborers onsite.[32]

32. Smith to Quartermaster General, June 19, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

Smith found that the general character of the workmanship and materials were satisfactory and that plans and specifications were being followed. In regard to details, Smith suggested that more care be taken in sorting the bricks as to color, especially on the principal buildings. In addition, it would have been better if the brickwork and stonework were kept cleaner to facilitate a firm mortar bond between the bricks.

Captain Devol had told Smith that he was thinking of selecting mahogany for the parlors in the commanding officer's and captains' quarters, birch with mahogany finish for the parlors in the lieutenants' quarters, and sycamore for the front chambers in all the officers' quarters.

The mantels examined were excellent, and of "very good quality and grade." The choice of such mantels, Smith reported, was made possible by "healthy competition in the furnishing market, as sales were slow and prices correspondingly moderate."[33]

2. Plaster Substitution

In their discussions regarding interior plastering, Smith explained to Captain Devol that if the specifications were adhered to and the best materials and workmanship required, common lime mortar would suffice, provided there were no repeated firings of the 12-inch mortars while it was being applied or before it had dried. He believed, however, that adamant plaster was preferable because of its quick-setting qualities. Devol had been told by Krueger, Mullin, and Burne that they would not make this change unless they were paid an extra five cents per square yard.

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33. Ibid.

The contractors' reason for asking for an extra compensation for employing adamant was that with the common mortar, they could employ sand from Sandy Hook, but adamant plaster had to be mixed at the factory.[34]

On July 31 the contractors submitted to Captain Devol their proposition to use one of the following four plasters as a substitute for the common plaster originally specified.

King's Windsor plaster at 05¢ per yard	$3,000
Adamant plaster at 08¢ per yard	$4,000
Rock Wall plaster at 10¢ per yard	$6,000
American asbestic cement at 15¢ per yard	$9,000[35]

Captain Devol agreed that the King's Windsor, Adamant, or Rock Wall would be an improvement on the plaster specified, provided that the prices cited were not deemed too high.[36] The quartermaster general agreed. It was recommended that an extra $2,000 be allowed for use of King's Windsor cement plaster in place of lime plaster. On August 26 this change order was incorporated into the Krueger, Mullin, and Burne contract.[37]

3. Adjustments to Guardhouse Plans

While Smith was at Sandy Hook on June 14, the construction superintendent, Michael P. Kearney, had inquired if it

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34. Ibid.

35. Byrne to Devol, July 30, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA. Joseph M. Byrne was trustee for Krueger, Mullin, and Burne.

36. Devol to Quartermaster General, Aug. 3, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

37. Annex to Contract, Aug. 26, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

were intended that the iron cages in the guardhouse be "set up from the floor, or flush with" it. An examination of the drawings indicated that the concrete floor was to rise under the center partition between the cages and also within the cells to become flush with the ironwork. This was to prevent prisoners from passing anything under the ironwork. The floor was also to be graded up to this height to the center of the cages so that the cages could be washed out and the water could flow to the front and rear of the inner cage and to the front, rear, and end of the outer cage.[38]

4. Pressure on Contractors

After reviewing Smith's report, Captain Miller (of the quartermaster general's office) wrote Captain Devol. Devol was directed to take immediate measures to see that Krueger, Mullin, and Burne pushed the work. At the rate it was progressing, winter would be at hand before the buildings were closed in. This would be serious for all concerned because exposed brick walls could be so seriously injured by freezing in the severe New Jersey coastal climate that they would have to take down and rebuilt in the spring of 1898.

Devol was to impress on Krueger, Burne, and Mullin that their 32 buildings had to be completed by October 31, and "progress to that end must be made, not only to save them a large unnecessary expense in construction, but because the contract requires it." At the rate the contractors were proceeding, it would take them two years to complete the project. There was no excuse

38. Smith to Quartermaster General, June 19, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

for this since there was no scarcity of artisans and mechanics in the area.[39]

Goaded into action by Captain Miller's letter, Captain Devol contacted Krueger, Mullin, and Burne. In response, they beefed up their force of bricklayers and hired a "good man" to superintend them. They also adjusted their differences with Chapin Hall Lumber Co., and the firm promised to proceed at once with its subcontract. As for stone, they were making efforts to secure a "supply in addition to the quantity Dudolf" was selling them, and arches were being manufactured by Clearfield Clay Working Co. Having perfected these arrangements, the contractors assured Captain Devol on July 16 that "from now on the work will proceed rapidly and satisfactorily."[40]

Captain Devol, when he relayed this information to the quartermaster general, assured his superiors that the contractors seemed to be carrying out their promises. However, no arches for the doors had been received. Efforts to determine their whereabouts had been unsuccessful, and on Saturday, July 17, some bricklayers had to be laid off.[41] Finally, several arches were received from Clearfield Clay at the beginning of the following week. But, before much progress was made, the bricklayers struck on Thursday, July 22. They demanded a raise in their hourly rate from 40 cents to 50 cents.[42] Quartermaster General

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39. Miller to Devol, July 9, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

40. Burne to Devol, July 16, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

41. Devol to Quartermaster General, July 19, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

42. Ibid., July 24, 1897.

Weeks moved promptly to break the strike. On July 24 he telegraphed Captain Devol to see that all strikers were removed from the military reservation. Devol was to notify Krueger, Mullin, and Burne to fire the strikers and replace them, and the strike quickly collapsed.[43]

Several weeks before, Captain Devol had written Captain Miller, explaining that since Smith's visit in June, he had been endeavoring to improve the brickwork but not much had been accomplished. Workmen were going over the brick twice to gauge them for size before selecting for color. He found them discarding about half of them for small imperfections. The buff brick, he noted, showed "every little scratch, and not half of them were perfect." If this continued, Devol feared a "grand kickback" from Clearfield Brick Co.[44]

Captain Miller directed that the sizing had to be left to Devol's judgment. The brick was then sorted for size and color at the kiln, rather than at Fort Hancock, "as all brick of one shade and size would be found, in the kiln on the same level." This sorting was done at Clearfield, Pennsylvania, when the cars were being loaded.[45]

5. Smith's Mid-August Inspection

Clinton Smith returned to Sandy Hook in mid-August and made another inspection. The work that had been completed was as follows:

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43. Quartermaster General to Devol, July 27, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

44. Devol to Miller, July 8, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

45. Miller to Devol, July 10, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

Lieutenants' quarters (buildings 1-3) were ready for the second-floor joists.

Lieutenant's quarters (building 4) had its foundation finished, watertable and two door sills set, and first-floor joists positioned.

Lieutenants' quarters (buildings 5 and 6) had their foundations finished and first-floor joists laid.

Lieutenants' quarters (buildings 7 and 8) had their excavation done.

Captain's quarters (building 9) had its foundation completed.

Captain's quarters (building 10) had its foundation to grade, basement and window sills and frames set, and brick walls of basement raised to 4 feet.

Captain's quarters (building 11) had its foundation raised to grade.

Commanding officer's quarters (building 12) had its foundation raised to one-half its grade.

Captains' quarters (buildings 13-15) had their excavations completed.

Lieutenants' quarters (buildings 16-18) had their excavations completed.

Wagon shed (building 35) had been enclosed and had its slate roof on, ridge roll and gutters in place, and two coats of paint applied.

Workshop (building 34) had its foundation completed.

Bakehouse (building 33) had its foundation finished.

Quartermaster and commissary storehouse (building 32) was closed in, with one-half of its roof slated.

Coal shed (building 31) was closed in, its gutters and downspouts in place, and two coats of paint applied.

Noncommissioned officers' quarters (buildings 29 and 30) had their brick walls raised to one story in height. Work on these buildings would have progressed more rapidly, if the bricklayers had not been delayed by failure of Clearfield Brick Co. to ship the outside arch brick as provided by the contract.

Guardhouse (building 28) had its excavation completed.

Barracks (building 25) had its brick walls raised to one story in height, the iron columns set, and the second-floor joists laid.

Barracks (building 24) had its brick walls laid to a height of 4 feet, and 5 door and 15 window frames set.

Barracks (building 23) had its concrete footings in.

Barracks (building 22) was having its concrete footings poured.

Bachelor officers' quarters (building 27) had its foundations completed to grade.

Engineer's quarters (building 21) had been enclosed, the gutters hung, and one coat of paint applied.[46]

On the day of Smith's inspection, there were 326 masons, bricklayers, carpenters, roofers, and other workers on the job, "and not much to show for this number of men." Some of them were idle because of lack of materials.

Due to storms on Sandy Hook during the latter half of July, and the bricklayers' strike, delays in construction had occurred. But, Smith reported to the quartermaster general, "good business methods have not been pursued by the trustee," Mr. Byrne, as evident from the slight progress made since his June 14 inspection. He feared cold weather would close in before all the structures were roofed.

While at Captain Devol's office, Smith had met with Mullin and Burne. They promised him that they would see that the work was "pushed more vigorously" than heretofore. A new superintendent had been hired and told that the "work was to be pushed." They had asked Captain Devol to give them a further trial with the new superintendent, stating that "if he did not secure proper progress, they would employ someone who would."

If this did not suffice, Smith warned, it would be necessary for the government to protect its interest, to declare the contract forfeited, and to take charge of the project. If this occurred, Captain Devol had several good subcontractors ready who understood their business and were willing to do good work.[47]

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46. Smith to Quartermaster General, Aug. 17, 1897, doc. 105,261, Corr. 1890-1914, RG 92, NA.

47. Ibid.

Quartermaster General Weeks, after reviewing Smith's report, warned Captain Devol that the "slow progress" could not be permitted to continue. He was to "submit weekly reports of progress made, and the measures taken by you to have the work pushed." It required energetic measures on the part of the construction quartermaster to secure "good progress" out of some contractors, he warned Devol.[48]

6. Problems with Barracks Arches Resolved

In August and September 1897, two change orders for the barracks were implemented. Following a discussion with Inspector Smith in mid-August, Captain Devol changed the size of the first-floor window frames as follows:

All 10" x 16" to read 10" x 13"
All 10" x 15" to read 10" x 12"
All triplet windows to be 9" x 12"[49]

On September 10 Captain Devol examined the front piazza arches for the barracks recently received from Clearfield Clay Co. He was distressed to discover that they did not conform to the details called for in the plans. When he discussed this with the Clearfield agent, Devol learned that these arches had been made before receipt of the details. Clearfield craftsmen had followed the plan calling for the two side arches to be 7 feet and the center arch to be 7 feet, 2 inches. In addition, the courses "set in" were of ordinary brick instead of bevelled brick.

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48. Ibid.

49. Devol to Quartermaster General, Aug. 16, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

The agent told Devol that if these arches were rejected, it would take Clearfield five to six weeks to assemble replacements. Captain Devol therefore laid out one arch. He found, as he notified the quartermaster general, that "it will look pretty well."[50]

However, when Inspector Smith visited Sandy Hook on September 17, he examined the arch bricks and pronounced them very poor. "No selection had been made for color, and they were improperly cut, matching neither the original carvings," nor the details subsequently furnished. Captain Devol had had the arches laid out loosely on the floor, but no satisfactory result had been obtained. The contractor's representative, however, stated that they could be rearranged by "laying them up in mortar to match the drawings." Captain Devol was agreeable to giving him the opportunity.

When Smith returned to Fort Hancock on September 19, the arch had been repositioned, but it was still unsatisfactory. Captain Devol, it was agreed, would remodel the arch in accordance with the detail furnished. As the stonework and brickwork surrounding the arch were already in position, it would be difficult to "make the arch correspond and get good construction." It was believed that by sorting the brick, employing the smaller ones for center piers and the larger ones for the others, omitting one course of brick under the capitals, and effecting some other slight changes, these materials might suffice.[51]

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50. Devol to Quartermaster General, Sept. 10, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

51. Smith to Quartermaster General, Sept. 20, 1897, doc. 106,014, Corr. 1890-1914, RG 92, NA.

Captain Devol proceeded to remodel the arch. By late September one had been laid out, which was almost identical to the detail prepared in Washington. To do so, Devol had employed some of the brick sent by Clearfield and had cut the rest. He proposed to have the interior of these arches and both sides of the arches (6 feet 10 inches) laid up with 16-inch bonded brick.

After reviewing the drawings, the quartermaster general notified Devol that if he were satisfied with the appearance of the arch, and if "it would lay in bond with the rest of the work," he was authorized to use them. He would, however, have to guard against a "patchwork" appearance.[52]

7. Engineer's Quarters and Bachelor Officers' Quarters Contracted

Inspector Smith had been impressed with the progress made in the month since his August visit. It looked to him as if nearly half the structures would be "under roof in two to three weeks--depending somewhat on the weather." The noncommissioned officers' quarters and several other buildings were about ready for plastering. The engineer's quarters under contract to Warren H. Jenkins was nearly completed except for a few minor details and painting.[53]

On December 12, 1896, Quartermaster General Sawtelle had forwarded to the secretary of war for consideration plans for four sets of bachelor officers' quarters and one set of

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52. Devol to Quartermaster General, Sept. 29, 1897, and Quartermaster General to Devol, Oct. 8, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

53. Smith to Quartermaster General, Sept. 20, 1897, doc. 106,014, Corr. 1890-1914, RG 92, NA.

quarters for the engineer in charge of the pumping unit. An allotment of $17,500 was needed to fund these projects. This sum was to be divided in the following way:

Four Bachelor Officers' Quarters

Construction from barracks and quarters	$14,000
Plumbing from army transportation	1,150
Heating from regular supplies	1,000
Gas piping from regular supplies	100
TOTAL	$16,250

Engineer's Quarters

Construction from barracks and quarters	$ 1,250
TOTAL	$17,500

Most of the construction costs for these two structures were to be charged against the $14,350 remaining from the $300,000 allotted by the secretary of war for erecting the original 32 buildings at Fort Hancock.[54]

Upon being notified that the secretary of war had approved these projects, Captain Devol advertised for bids. Nine proposals were received, opened, and abstracted on February 6. On February 8 Devol transmitted the bids to Washington for approval along with his recommendation that the proposal of Warren H. Jenkins & Co. of Philadelphia for construction of one

54. Sawtelle to Lamont, Dec. 12, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

bachelor officers' quarters and one set of engineer's quarters be accepted.[55]

Jenkins' bid included $12,020 for constructing the bachelor officers' quarters, $982 for installing the plumbing, $925 for installing the steam heating system, $65 for installing gas piping, and $1,500 for constructing the engineer's quarters. Plans and specifications were provided by Captain Devol, with the architectural style and the materials to be identical to the 32 structures under contract to Thomas J. Regan. Both buildings were to be completed on or before October 31, 1897.[56]

8. Complications from Northeastern Storm

Captain Devol used the contractors' time books to compute the number of men employed. When he sought to verify the list, the numbers did not agree. On his last three weekly reports in September, the number of men (craftsmen and artisans) reported by his own actual count and by Superintendent Kearney, except for the laborers, was an estimate. All the men were working, and, in Devol's opinion, progress was satisfactory.

Krueger, Mullin, and Burne were receiving their payments every two weeks, based on a conservative estimate. They had warned Devol that they would be unable to meet their payroll unless this was done. He was unable to verify this statement, but it was known that there would be serious trouble if the 400 men did

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55. Devol to Quartermaster General, Feb. 8, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA. Warren H. Jenkins' associates were G. W. and Ulysses Mercur.

56. W. H. Jenkins & Co. Contract, Mar. 1, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

not get their pay when it was due. If there were no labor problems and the winter did not close in too soon, there was a "prospect of having all buildings enclosed this fall."[57]

On October 6 Captain Devol learned that Clearfield Clay was short of face brick. Although there was enough stockpiled at Sandy Hook to last through the week, the Clearfield agent told Devol not to expect another shipment until November 1. If colors could be matched, Devol decided to purchase Ridgeway brick to see them through the emergency.[58]

There was difficulty of a different sort in the fourth week of October, when a northeastern storm smashed a 150- to 200-foot break in the trestle carrying the ordnance railroad across the neck north of Highland Beach. Army engineers estimated that it would take one to three months to repair the damage. This would cause further delays, Captain Devol warned Washington, because all construction materials, except building and crushed stone, were being received by rail.

He assumed that under the contracts, which were about to expire, he could order the materials delivered by water, because they should have already been onsite. But, other contractors would, he feared, demand extra money if they were ordered to proceed in this manner. Also, deliveries by water were inconvenient and slow because only one barge could be unloaded at a time at the Fort Hancock wharf.

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57. Devol to Quartermaster General, Sept. 29, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

58. Ibid., Oct. 6, 1897.

The break had occurred at an especially inopportune time because Clearfield Clay was about to resume shipping brick.[59] Quartermaster General Weeks directed the New York depot quartermaster to see that the break was repaired at the earliest possible date. It was hoped that it could be accomplished in two weeks. During that period Captain Devol was to take measures not to put the contractors to more expense than absolutely necessary. They would be required to make all reasonable efforts to get materials to keep the work progressing, particularly in regard to the face brick for such buildings that might reasonably be expected to be enclosed before winter.[60]

Repair of the damaged trestle was given high priority by the quartermaster general. Proposals were invited for its repair, and a contract was awarded in the first week of November. Work was started on November 9 and concluded on November 24, when the first train since October 25 rumbled over the trestle.

As an emergency measure, during the 30 days that railroad communications were severed, General Meigs had been pressed into service, making several runs daily between Highland Beach and Sandy Hook.

On September 13 Captain Devol had notified the department that the way the project was dragging, it would be impossible to put down any topsoil that season.

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59. Ibid., Oct. 27, 1897.

60. Quartermaster General to Devol, Oct. 29, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

Winter storms lashing the Hook were expected to cause the sand to drift, shifting thousands of yards within a few days. Captain Devol, to cope with this, proposed they seed the area in oats, a crop which would spring up rapidly and help stabilize the sand.[61] The quartermaster general was agreeable, and several men were employed to perform this task.

9. Contractors Work on a Week-to-Week Basis

On October 14, 1897, Krueger, Mullin, and Burne notified Captain Devol that it would be impossible to complete the contract for construction of the 32 buildings and bake oven by October 31. They therefore asked an extension "ample and necessary to complete the work in question." The reasons cited for their failure to meet the deadline were: the necessity of their having to assume the task of the original contractor; the valuable time wasted by Regan; the great difficulty of procuring materials, especially the extraordinary delay and difficulty in securing building stone; and numerous others with which Devol was familiar.[62]

On reviewing the correspondence, Quartermaster General Weeks questioned the advisability of granting the extension, because at no time had Krueger, Mullin, and Burne taken proper and necessary steps to fulfill the contract. Weeks believed that if they continued at the same pace as they had since assuming the contract on April 22, it would take "about two years before the work was completed." Everything seemed to point to taking the project out of their hands in the near future. But before doing

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61. Devol to Quartermaster General, Sept. 13, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

62. Burne to Devol, Oct. 14, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

so, Captain Devol was to inform Fidelity and Deposit Co., and ascertain whether or not that company, for its own protection, wished to take any steps before the United States assumed charge of the enterprise.[63]

The quartermaster general was prevailed upon to reconsider. On Captain Devol's recommendation, he agreed to permit Krueger, Mullin, and Burne to proceed with the contract from week to week. This arrangement would continue as long as the quartermaster general received satisfactory weekly reports from Devol.[64]

Warren H. Jenkins & Co. were likewise unable to complete the bachelor officers' and engineer's quarters by October 31. In a letter to Captain Devol, the firm asked for an extension. Although there had been several delays, the principal one had been caused by the "non-delivery of brick on the part of Clearfield Clay Working Co., whose brick were accepted by you to be used in the construction of these buildings." In addition, many of the bricks delivered had been condemned by the constructing quartermaster because they were the improper color. They now had on hand all the brick that was needed, except for one carload, which was promised for delivery within several days.[65] Like Krueger, Mullin, and Burne, Warren H. Jenkins & Co. was allowed to continue work on a week-to-week basis, so long as the quartermaster general was satisfied with the progress.

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63. Murray to Devol, Oct. 16, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

64. Devol to Quartermaster General, Oct. 16, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

65. Jenkins & Co. to Devol, Oct. 29, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

10. Unsubstantiated Charges by Lerman

In late November one of Jenkins' carpenters, Hans B. Lerman, wrote Secretary of War Russell A. Alger, complaining that the superintendent of construction, Michael P. Kearney, was incompetent. He charged that Kearney had "condemned certain kinds of building materials and forbiding the use of the same and shortly thereafter allowing the same to be used and passing the same as correct and all right." Kearney had also permitted work to be done and materials to be used that had been passed as correct, and then he had condemned the items and had the work taken out. Superintendent Kearney, Lerman continued, through his incompetency had "hindered and greatly delayed the progress of the work at Sandy Hook." Finally, he charged that Kearney had never passed the Civil Service examination and was therefore unqualified for his position.[66]

When asked to investigate the charges by Quartermaster General Weeks, Captain Devol found that Lerman was employed by W. H. Jenkins & Co. When he checked with the company's onsite agent, the agent stated that he did not concur with the complaints.

Devol, in support of his project superintendent, pointed out that Kearney had orders to see that the plans and specifications were followed, and "to make no decisions on matters of any importance without first referring the matter to me." As Devol was familiar with all details of the project, Kearney was only carrying out his instructions.[67] Satisfied with Captain Devol's

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66. Lerman to Alger, n.d., doc. 93,924, Corr. 1890-1914, RG 92, NA.

67. Devol to Quatermaster General, Dec. 6, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

explanation, Secretary of War Alger pigeoned-holed Lerman's letter of complaint.

11. Smith's December Inspection and Report

Clinton Smith returned to Sandy Hook in the first week of December. He saw that the general condition of the materials and workmanship had retained their high standards, and, except in a few cases, was of very satisfactory character. The subcontractor for the woodwork (Chapin Hall) had done excellent mill work, but the carpentry, such as framing of roofs, was not up to standards.

Superintendent Kearney had been compelled to repeatedly call attention to several items that had to be attended to before any plastering was undertaken. These items included all angles of partitions, ceilings, and related structural features that were to be made solid by spiking timbers of furring together to prevent shrinking and cracking of mortar; too much patching or filling of joints of laths; several joists that had to be placed in the third floors to support ends of flooring; improvements in the framing, such as roof rafters, and especially in raising and putting in place of timbers; roofs that were to be properly stayed with ties before any of the galvanized-iron cornices could be positioned or ceilings could be completed; and all valleys that were to be properly stayed and supported until all the woodwork was completed.

The sectional drawings, through the front wall of the officers' quarters, Smith observed, indicated 2" by 6" ties, 32 inches on centers, and spiked to rafters at every other joint. These had been placed as ties to prevent the sagging and spreading of roofs, due to the weight of the slate and dormer windows. When he examined the structures, he found that the ties

had been omitted and that the front walls of the officers' quarters, which had been slated, had spread in the center about 3/8 inch. This spreading of the walls in the center had given the roof eaves a slightly "crooked and untrue appearance, and the valleys had sagged out of shape." However, it seemed to have reached its limit, and because there were strong 2" by 8" collar beams spiked to each rafter and supported by a center partition, no danger was anticipated. It was nevertheless a defect to which the contractors' attention had to be called and which required correction. If proper care had been exercised by the carpentry subcontractor, these defects would not have occurred.

Another imperfection observed was associated with the iron cornice. It had not been positioned true and straight everywhere. This had added to the "uneven and crooked appearance" of certain officers' quarters.[68]

A controversy had developed as to what was required for flooring in the third story of the officers' quarters. Because the plans and specifications did not agree, Smith suggested that the contractors should be permitted to employ the best quality longleaf southern pine for these floors, omitting the rift grain.[69]

From what Smith had observed, he was satisfied that, unless the weather turned severe in the next several weeks, all the structures under contract to Krueger, Mullin, and Burne (except lieutenants' quarters 7, 8, 16, 17, and 18; captains' quarters 14 and 15; barracks 22 and 23; and the guardhouse and administration building) would be completed before spring, if proper

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68. Smith to Quartermaster General, Dec. 9, 1897, doc. 106,014, Corr. 1890-1914, RG 92, NA.

69. Ibid.

care were exercised in keeping the bricks dry and heating them so that the mortar would not be injured. The foundations for the enumerated structures were to be laid, and the first-floor timbers were to be positioned. Their foundations were to be covered as soon as possible to preclude problems with the winter weather.[70]

Rough mortar had been applied to the two sets of noncommissioned officers' quarters under contract to Krueger, Mullin, and Burne; one was plastered with adamant and the other with asbestos (Smith believed the adamant was superior). Finally, Smith reported that progress had been slow because of unavoidable delays caused by winds and the washing out of the trestle.[71]

12. End of the Construction Season

The weather turned bitterly cold in mid-December, and the contractors and subcontractors, having obtained Captain Devol's permission, secured their structures and materials. Except for watchmen, all of their artisans and laborers were laid off, and work was scheduled to be resumed on or before March 1, 1898.

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70. Ibid.

71. Ibid.

V. PRIME CONTRACTORS COMPLETE 34 STRUCTURES

A. Captain Devol's Final Months on Sandy Hook

1. Change Order for Captains' Quarters Approved

Captain Devol carefully reviewed the drawings and specifications during the winter of 1897-98. On doing so, he observed that there were nine risers from the second-floor platform to the attic. The ceiling of this platform did not provide sufficient room for the head casing of the window shown on the plans. The drawing for the commanding officer's quarters showed eight risers on each platform.

Captain Devol accordingly proposed to construct the subject stairways in the same manner as those in the lieutenants' quarters, which would provide plenty of headroom above, where the valley comes to the plate. For changing the second-floor newels to correspond, Krueger, Mullin, and Burne were asking an extra eight dollars for each of the six captains' quarters.[1] The change order was approved and the extra funds were allowed by the quartermaster general.

2. Continual Procrastination by Krueger, Mullin, and Burne

In February 1898, to ensure that Krueger, Mullin, and Burne understood the government's position, Captain Devol called upon them "to have all arrangements made to start brickwork and stonework on about the first of March." They, however, failed to comply. The weather having turned unseasonably mild, Devol next directed that the bricklayers begin work by March 7. This order was ignored.

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1. Devol to Quartermaster General, Mar. 2, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

On March 9 exasperated Captain Devol handed the contractor's agent a memorandum reading:

> Work to be started at once, and pushed as fast as weather will permit.
>
> Brickwork: From No. 1 Lieutenant's Quarters, on south down the line, complete the brickwork, porch piers on the front, so the porches can be finished, and also rear piers to small platforms.
>
> 2 Captains' Quarters: brickwork [to be] started at once, Nos. 14 and 15.
>
> 2 Fronts or "Ls" to Barracks Nos. 24 and 25, brickwork [to be] completed at once.
>
> 1 Barracks Building No. 23, brickwork [to be] started at once.

About 75 bricklayers it is believed can start to advantage on the above work, and that more buildings can be started, until by April 1st 150 bricklayers can be worked to advantage.

> Stonework: Work to be started at once.
>
> From No. 1 Lieutenant's Quarters, on south down the line, front starting steps put in, coping set on rear hatchways, and all stone piers completed.
>
> Hatchways, rear of Barracks, [to be] built in and coping set.

Rubble and Ashlar work on Guard House and Administration Building [to be] completed at once.

Water table set in 5 Lieutenants' Quarters.[2]

Once again, Krueger, Mullin, and Burne ignored a deadline. Five days later, on Monday, March 14, a Mr. McGrath reported to Sandy Hook with four bricklayers and several stonemasons and notified Captain Devol that Krueger, Mullin, and Burne had sublet the brickwork and stonework to him. These bricklayers, Devol soon found, were in charge of a foreman to whom McGrath had, in turn, sublet the face brick. The foreman worked his crew 1½ days and declared that he was "throwing in" his contract because McGrath had "represented to him that the work to be done was not first class, and the brick to be used soft buff brick."

At this point, Captain Devol urged McGrath to employ additional bricklayers immediately as there were a large number of them "idle in New York, and many" of the old Fort Hancock hands were asking for work. This was not done. When Devol informed the quartermaster general of his problems on March 18, there were only three of McGrath's bricklayers at the fort. To make matters worse, the weather had been fair and warm since March 7. Devol looked on these foregoings as "gross trifling with work already long overdue."

There were, he reported, two barracks and two captains' quarters with water table set and two fronts of barracks "with walls all ready for men--room enough for a hundred men."

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2. Ibid., March 18, 1898.

He had heard that the contractors also planned to sublet the plastering. It seemed to him that Krueger, Mullin, and Burne, having lost "a good deal of money as well as time, were endeavoring to curtail expenses," and he feared that this would lead to loss of more time.

If the structures were to be finished in the near future, Devol could see "no way but that the Government assume the work." An examination of his books showed that there was $189,331.15 remaining in the account which, he believed, was sufficient to complete the project. The carpentry, trim, and slate work, indeed everything except the brickwork and stonework, were in "a fair shape, and these contracts could be assumed." If given the go ahead, Devol could have 100 bricklayers on the job within several days. However, when he had last discussed the subject with Fidelity and Deposit Co., the suretors were not anxious to take over the work.[3]

An air of urgency had been added to the situation by the crisis in relations with Spain, resulting from destruction of the battleship Maine in mid-February. On March 14 two batteries of artillery had arrived at Fort Hancock to man the coastal defenses and garrison the post. With the structures in an unfinished state, the artillerists were compelled to occupy temporary quarters in old frame barracks (dating back to the Civil War) and tents. To make matters worse, two more artillery batteries were scheduled to report at Fort Hancock on March 19.

3. Threats by Quartermaster General

Captain Devol wrote to the quartermaster general and informed him of the highly unsatisfactory situation. Devol's

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3. Ibid.

letter, taken in conjunction with his weekly reports, had satisfied Washington that Krueger, Mullin, and Burne were "far from making" satisfactory progress. To complicate the situation, the newly arrived troops were compelled to "camp under conditions of great discomfort and must remain so until the buildings are ready for occupancy." Consequently it was imperative that the work be pushed to completion as soon as possible.

Quartermaster General Marshall I. Ludington replied that the delays of Krueger, Mullin, and Burne had become intolerable, and unless they hired a sufficient force of mechanics and laborers at once and pushed the project to a speedy conclusion, Captain Devol was to take charge in the name of the United States and finish at the contractors' expense.[4]

Captain Devol hesitated to take such drastic action. On April 1 he was delighted to advise the quartermaster general that during the previous ten days there had been "quite an improvement" in the situation. He had induced Krueger, Mullin, and Burne to put a locomotive to use over the tracks of the ordnance railroad to expedite delivery of materials, and they were hiring men "about as fast as materials were being received." Devol believed that they could complete construction in the not too distant future, if this "improvement" continued without interruptions that had previously characterized their management.[5]

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4. Quartermaster General to Devol, Mar. 24, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA. General Weeks, who had retired on February 3, 1898, had been replaced as quartermaster general by Marshall Ludington.

5. Devol to Quartermaster General, April 7, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

4. Captain Devol Departs

Captain Devol, satisfied that war was about to break out with Spain, had written Sen. Thomas H. Carter of Montana, an old friend from Fort Yellowstone days. He informed Carter that he was anxious for "any active service." Carter contacted the War Department on Devol's behalf. On May 24, 24 days after Commo. George Dewey's fleet had destroyed the Spanish squadron in Manila Bay, Devol was detached as constructing quartermaster and ordered to the Philippine Islands, where he was to report to Maj. Gen. Wesley G. Merritt. Devol turned over his Fort Hancock duties to lst Lt. Edward F. McGlacklin and boarded the first train leaving New York for San Francisco.[6]

B. Captain Bailey Meets a Challenge

1. Captain Bailey as Constructing Quartermaster

Lieutenant McGlacklin served as constructing quartermaster less than four weeks. He was replaced on June 17 by Capt. George G. Bailey, a man familiar with the project.

Bailey, a son of Col. Guilford D. Bailey who was killed at the battle of Fair Oaks, was born in March 1861 at Oswego, New York. He was educated in the Poughkeepsie public schools. From 1879 to 1883 Bailey was employed as a shipping clerk by Union Iron & Steel Co. of New York City. He then went to work for the army as clerk to the quartermaster at Vancouver Barracks, Washington, a position he held for less than a year. In 1884 he became a merchant in Atwood, Kansas. He closed his business in 1889 to accept employment as clerk to the quartermaster at Ogden, Utah. From 1893 to 1896 he was chief clerk to the

6. Devol to Carter, April 2, 1898, ACP File, RG 94, NA.

constructing quartermaster at Columbus Barracks, Ohio, and in September 1896 he became chief clerk for Devol at Fort Hancock.

On the outbreak of war with Spain, the 37-year-old Bailey applied for a commission. On May 28 he received a commission in the U. S. Volunteers as captain and quartermaster. His expectations of being sent into the field were dashed when Captain Devol was ordered to the Philippines, and the quartermaster general called for an experienced officer to become constructing quartermaster at Fort Hancock.[7]

2. Contractors' Unsatisfactory Work

Upon assuming charge at Fort Hancock as constructing quartermaster, Captain Bailey, accompanied by Superintendent Kearney, made a careful survey of the work under contract to Krueger, Mullin, and Burne and found the progress highly unsatisfactory. An investigation satisfied him that there was a serious lack of harmony among the subcontractors, and that "the principals had no competent representative on the ground empowered to act for them." From Kearney he learned that in March and April, Krueger, Mullin, and Burne had sublet most of the project to other contractors, "each of whom appeared to be involved in some quarrel or disagreement concerning the construction of the buildings."

Some of the structures were at a standstill because of lack of materials--principally face brick and lumber. Satisfied that it would be useless to have the subcontractors take corrective action, Captain Bailey on June 21 wired Krueger, Mullin, and Burne at Newark, notifying them that steps must be taken immediately to

7. Bailey, George G., ACP File, RG 94, NA.

provide for prompt delivery onsite of face brick and flooring. They replied, "Brick has been ordered, and flooring being attended to by Chapin Hall Lumber Company."[8] Deeming their reply unsatisfactory, Captain Bailey made an appointment to meet the contractors' trustee, Joseph M. Byrne, and their architect, G. Staehlin. They were to have met at Bailey's New York City office on June 23, but a visit from Clinton Smith caused Bailey to cancel the meeting so they could inspect the work.

On June 27, with no improvement in the situation, Captain Bailey and Smith called on Judge Krueger in his Newark office. They explained to him the unsatisfactory conditions, while Smith impressed upon him "the lack of system in management and want of harmony among his sub-contractors, and consequent delays in providing materials and performing the work."

Judge Krueger replied that he had entrusted the business to Staehlin and other employees, that he was unacquainted with the facts and had been deceived by those who managed the work for him, that they had assured him everything was running smoothly, and that there was ample material onsite. Judge Krueger agreed to give personal attention to the subject and would again meet with Captain Bailey at Fort Hancock on Friday, July 1.[9]

On June 28, three days before his scheduled meeting with Judge Krueger, Bailey called on Byrne. Byrne asked him to make an estimate on the work, which Bailey refused to do until construction was again progressing satisfactorily. If the government would not make a payment, Byrne fretted, they would

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8. Bailey to Quartermaster General, July 3, 1898, doc. 114,569, Corr. 1890-1914, RG 92, NA.

9. Ibid.

be unable to pay their subcontractors, and this would result in a work stoppage. While he regreted such a result, Bailey could not do as Byrne desired.[10]

On June 29 Captain Bailey formally notified Krueger, Mullin, and Burne that "the work was not progressing to the satisfaction of the Department." Specifically, their management had failed "to secure rapid progress and avoid annoyance and inconvenience." Whenever he called their agent's attention to unsatisfactory progress or lack of materials on the ground, the agent stated that he was not authorized to take corrective action. Although the project was eight months past due, not a single structure had been entirely completed. On behalf of the United States, Captain Bailey was officially advising them that "work under your contract must immediately proceed, with harmony and system, and be so managed as to secure rapid progress, and avoid annoyances and inconveniences, so that the buildings may be finished without further delays."[11]

Meanwhile, the subcontractor for the stonework had called on Bailey and told him that he would be compelled to lay off his men unless some money were forthcoming. Bailey explained that such action would benefit nobody and that he could not assist him financially. He suggested that the subcontractor present his claims to Krueger, Mullin, and Burne, who were the only persons with whom he was authorized to transact business under the contract.

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10. Ibid.

11. Bailey to Krueger, Burne, and Mullin, June 29, 1898, doc. 114,569, Corr. 1890-1914, RG 92, NA.

On Friday, July 1, the masons were laid off, but on July 2 they were paid. On Tuesday, July 5, they were back in force.[12]

Judge Krueger, as he had promised, toured the project with Bailey on July 1. They were accompanied by Superintendent Kearney, Staehlin, and several subcontractors. Bailey pointed out "buildings which have for so long a period been practically completed." Krueger, before returning to Newark, gave orders to his men to immediately provide the "necessary material and complete the work."[13]

About 15,000 buff bricks and some flooring were received at Sandy Hook during the week of June 26-July 2. On July 2 four carloads of buff brick arrived at Highland Beach where they were being held under telegraphic orders from Clearfield Clay Working Co., because of nonsettlement of former shipments. Perhaps, Bailey reasoned, his strong stand had built a fire under Krueger, Mullin, and Burne.[14]

3. Bailey's Continuing Efforts

By July 3 the two double sets of noncommissioned officers' quarters, stables, wagon shed, workshop, quartermaster and commissary storehouse, coal shed, and bakehouse were nearly finished, and would have been completed by July 15 if the contractors had made good on their promises. In fact, the bakehouse had already been occupied for a number of weeks by the

12. Bailey to Quartermaster General, July 3, 1898, doc. 114,569, Corr. 1890-1914, RG 92, NA.

13. Ibid.

14. Ibid.

post bakers, while the quartermaster and commissary storehouse and wagon shed were being utilized by the post commander.[15]

Despite Captain Bailey's aggressive action, by July 9 it looked as if his threats had been wasted. During the week, he advised the department little progress had been made, but he hoped that his next report would indicate that there was an improvement in the situation.[16]

However, on July 16 when he made his weekly report, Bailey complained that there had been delays caused by the failure of materials to reach Sandy Hook as promised. A wild rainstorm and windstorm on Wednesday, July 13, had shut down construction for the day. Even so, there had been some improvement, and work was "proceeding fairly well with such materials as were on the ground." Bailey continued his efforts to get the subcontractors to increase their labor force which was inadequate to rapidly prosecute the work.

All the problems notwithstanding, it appeared that several structures would be ready for final inspection on July 21, provided that no last minute hitches developed. These stuctures were the two double sets of noncommissioned officers' quarters, the coal shed, the quartermaster and commissary storehouse, the bakehouse and ovens, the workshop, and the wagon shed. Payments to Krueger, Mullin, and Burne due on these seven buildings, including the retained percentages and authorized extras, totaled $11,336. After paying out this sum, the books

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15. Bailey to Quartermaster General, July 3, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

16. Ibid., July 9, 1898.

showed $155,554 still in the account to cover the cost of the remaining 25 structures.[17]

4. Seven Buildings Completed

a. Bailey's Dilemma

By August 11 Captain Bailey reported that Krueger, Mullin, and Burne had completed seven structures. All of them, except the two sets of noncommissioned officers' quarters and the workshop, had been occupied by the garrison--three batteries of regular artillery and two companies of New Jersey volunteers. The quartermaster and commissary storehouse was "pretty well" filled with supplies of the post quartermaster (whose office was located there),and the wagon shed was being utilized by the quartermaster as a temporary stable and storehouse.

Under article 6 of their contract, Krueger, Mullin, and Burne had applied for payment in full for the buildings that had been completed, without the 20 percent deduction stipulated. They claimed that when any one of the 32 structures was finished, they should receive the balance due on the price designated under their contract for that particular building. Moreover, they claimed that their insurance, being builders' risk, had been invalidated by the garrison's occupation of the structures, and that the United States should pay for and assume responsibility for care and preservation of buildings when each was satisfactorily completed.

When he relayed this news to Washington, Captain Bailey reported that he had declined to pay more than 80 percent of contract price for each of these seven structures, because he considered the contractors responsible for "care and preservation of

17. Bailey to Quartermaster General, July 16, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

each and every building until all are finally completed and accepted." In addition, if it were determined that the completed buildings were not to be accepted and fully paid for until all were finished, Captain Bailey wished to know whether the garrison could continue to occupy them.[18]

b. Judge Advocate's Decision

Quartermaster General Ludington referred these questions to the judge advocate general. On August 23 the judge advocate ruled that the contract precluded payment in full of the itemized prices for each building on its completion. However, if it were desirable to make payment in full for each structure upon completion, a supplemental contract was to be drawn, with consent of the surety company, to provide for such payments.

As for the effect of occupation of the buildings by the garrison before full and final payment was made, he held that such occupancy "would probably amount to an acceptance of such building, and would relieve the contractor of responsibility therefor."[19]

c. Supplementary Agreement Accepted

Krueger, Mullin, and Burne accordingly announced that whenever they had one or more buildings completed to the satisfaction of the constructing quartermaster, they would turn it over to the United States, provided that they were paid the entire amount stipulated in the contract for the respective structure

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18. Ibid., Aug. 11, 1898.

19. Lieber to Quartermaster General, Aug. 23, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA. Brig. Gen. G. Norman Lieber was judge advocate general of the U.S. Army from 1894 to 1901.

or structures, with authorized extras added. The government was to retain 20 percent of the amounts only for estimates prepared for buildings under construction until those were finished, accepted, and paid for.

They agreed that the acceptance of this supplemental agreement in no way released them from the obligation contained in their proposal of April 22, 1897, to complete all work stipulated. In addition, acceptance of this agreement would in no way release them from their obligations as bondsmen to Fidelity and Deposit Co.[20]

On September 24, Captain Bailey accepted the proposition, based on the following conditions: Krueger, Mullin, and Burne would not be released from their obligations under the contract signed April 22, 1897, and none of the completed buildings would be accepted; nor more than 80 percent of the contract price would be paid respectively for each building so finished before the time when all were finished, except only such "completed building or buildings as may, in the opinion of the War Department, be required for use by the United States pending completion of all other buildings then remaining to be finished under your contract."[21]

d. Buildings 29 and 30 Accepted

No time was lost in implementing this amendment to the contract. On September 27 Capt. C. W. Foster, the post commander, notified Captain Bailey that it was desirable that the

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20. Krueger, Mullin and Burne to Bailey, Aug. 31, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

21. Bailey to Krueger, Mullin and Burne, Sept. 24, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

double noncommissioned officers' quarters be accepted from Krueger, Mullin, and Burne without reference to other structures in their contract. Captain Foster pointed out that his quartermaster-sergeant was anxious to move into his quarters, because he was currently living in an old powder magazine, and his wife was in poor health.[22]

Captain Bailey accordingly recommended to Quartermaster General Ludington that the government accept the two double sets of noncommissioned officers' quarters. Until the post was completed, quarters in these structures were to be assigned to the quartermaster-sergeant, commissary-sergeant, and the two civilian superintendents of construction.

Payment in full for these structures would release only $1,758 of the 20 percent retained under article 5 of the contract. He believed that the disbursement of this sum would not be to the disadvantage of the United States, if it became necessary for the government to assume charge and finish the remaining buildings.[23] Quartermaster General Ludington agreed, and Captain Bailey was authorized to make full payment for the subject structures to Krueger, Mullin, and Burne.[24]

e. Buildings 31-35 Accepted

Next, Captain Bailey recommended acceptance of the other five structures (coal shed, quartermaster and commissary

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22. Foster to Bailey, Sept. 27, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

23. Bailey to Quartermaster General, Sept. 26, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

24. Quartermaster General to Bailey, Oct. 3, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

storehouse, bakehouse with double bake oven, workshop, and wagon shed). The five, except for the workshop, had been occupied by the garrison for a number of months. The workshop was urgently needed for storage of stoves, ranges, cooking utensils, and other equipment now on hand for the officers' quarters and barracks.

Bailey calculated that if these structures were paid for in full, $124,938.10 would still remain unpaid from the Krueger, Mullin, and Burne account. A carefully prepared estimate also revealed that the cost of finishing the other 25 buildings would be $100,589. Therefore, by exercising due care, he did not consider that the payment of 20 percent retained on account of these structures would result in any loss to the United States.[25] This was agreeable to the quartermaster general and it was so ordered.

f. Buildings 21 and 27 Accepted

In September Captain Bailey had reported the "satisfactory completion" of the bachelor officers' quarters and the engineer's quarters by Warren H. Jenkins & Co.[26] However, after these structures were accepted and paid for, Bailey was confronted by the question of who was now responsible for their care and preservation.[27] On September 30 Captain Bailey learned that if the subject buildings were turned over to the garrison, the post authorities were charged with their maintenance. If the buildings

25. Bailey to Quartermaster General, Oct. 3, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

26. Ibid., Sept. 8, 1898.

27. Ibid., Sept. 26, 1898.

were not turned over to them, Bailey was still responsible for their care and protection.[28]

C. Work Drags Through Last Five Months of 1898

1. Error in Captains' Quarters Ventilation System Corrected

Captain Bailey, after an August rainstorm, made a survey of the stone walls in the basements of the captains' quarters. Many leaks were found on the inside foundations, caused apparently by water draining toward instead of away from the exterior walls. This, he believed, would continue until a suitable topsoil or clay covering was laid over the sand surface, and grass started to hold the sand at a proper grade, which would give the necessary drainage.[29]

On August 23 Bailey had notified the quartermaster general that plan 109 for the captains' quarters provided for no foul air ventilation other than through the kitchen and laundry smoke flues. Although plans of the bathrooms depicted vents into the chimneys, no roof ventilators were detailed. Plans for the lieutenants' quarters for these rooms depicted them as being ventilated by registers entering the chimneys, except the third-story bathroom where the register was shown connected to a galvanized iron shaft with a roof ventilator.

Quartermaster General Ludington, after reviewing the correspondence and plans, informed Bailey that the large flue on the side of the chimney in the basement possibly

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28. Quartermaster General to Bailey, Sept. 30, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

29. Bailey to Quartermaster General, Aug. 22, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

could be employed for ventilation by making an opening into the chimney where it connected with the vent flue from the bathroom. A galvanized iron ventilator pipe could be installed in the closet and could be used to ventilate the bathroom with a globe on the roof. He suggested that Captain Bailey make a careful inspection of the chimneys, formulate a proposal for completing the ventilation, and submit a plan.[30]

After making an examination, Captain Bailey reported that there were two sets of plans for the captains' quarters. On the original, no provision was made for ventilating the laundry or kitchen, and the bathrooms were shown ventilated through the chimney. In the revised plan, the laundry and kitchen were depicted as ventilated through the chimney, and the bathrooms were ventilated through galvanized iron ducts and star ventilators on the roof.

In building the chimneys the contractors had omitted the galvanized ducts for ventilation of bathrooms according to the original plan. They claimed the first plan as their authority, although from reference to the blue prints, it could be seen that both plans were used in erecting the chimneys.

In quarters 9, 10, 11, and 13 the chimneys, as built, did not provide for ventilation of laundries and kitchens, while in quarters 14 and 15 the chimneys were exactly like the revised plan but with no provision made for ventilation of the bathrooms. They found that to ventilate the various rooms in accordance with the revised plan, it would be necessary to tear

30. Quartermaster General to Bailey, Aug. 31, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

down and rebuild part of the first-story chimney in quarters 9 and in the first and second stories of quarters 10, 11, and 13.

As Bailey had noted in an earlier report, five sets of officers' quarters had already been plastered.[31] Therefore, the modifications would also necessitate cutting through the plaster and changing gas pipes in all the quarters to install the galvanized iron ducts for ventilation of the bathrooms. Also, it was impractical to position ventilation ducts in the closets at the side of the chimneys because of the installed plumbing pipes. This would have compelled them to cut support timbers, which would have weakened the structures.

Consequently, he suggested that the bathrooms be ventilated through the chimneys, as called for in the original plan, and that the laundries and kitchens be ventilated through smoke flues by means of the "J. P. Ekstrom Ventilator," by employing a "Smoke Pipe Register," or by use of the "Timble Ventilator."[32] The quartermaster general concurred and approved Bailey's proposal.

2. Trials of Constructing Quartermaster

a. Several Change Orders Rejected

Captain Bailey advised the quartermaster general on August 27 that the plumbing had been installed in barracks 24 and 25 while Captain Devol was in charge. Cast-iron vent pipe had been used and left exposed in the lavatory, kitchen, and hall, in accordance with specifications requiring "all pipes to run exposed where practicable." In barracks 22 and 23, Bailey

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31. Bailey to Quartermaster General, Aug. 23, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

32. Ibid., Sept. 15, 1898.

desired authority to conceal the vent pipes. If this were disapproved, he wished to substitute galvanized iron pipes for the cast-iron pipes called for in the specifications.

In the officers' quarters, where the "roughing in" had not been accomplished, he requested approval of a change order "to follow the same general idea for vent pipes, and to use, for minor wastes, from fixtures to soil pipes, galvanized iron pipes with Durham galvanized fittings, instead of lead pipes." These changes would, Bailey observed, result in "making a more sightly work, without impairing either efficiency or durability."[33]

Quartermaster General Ludington rejected both of Bailey's proposals to run the vent pipes in the partitions and to substitute galvanized iron for lead pipes.[34]

b. Continued Delays by Krueger, Mullin, and Burne

On September 3, 1898, Colonel Gillespie of the Corps of Engineers asked the quartermaster general when the barracks would be ready for occupancy. He complained that three batteries of regular artillery, numbering about 600 officers and men, were posted at Fort Hancock.[35] The quartermaster general, in

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33. Ibid., Aug. 27, 1898.

34. Quartermaster General to Bailey, Aug. 31, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

35. Gillespie to Quartermaster General, Sept. 3, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA. On September 6, Colonel Gillespie had written to the quartermaster general informing him that, as the garrison numbered more than 700 and the barracks could only accommodate 400, temporary quarters were still needed for 300 troops. In early September Batteries C and L of the 5th U.S. Artillery, Battery M of the 6th U.S. Artillery, and Battery A of the 1st Colorado Artillery were stationed at Fort Hancock.

turn, queried Captain Bailey, who informed him that with "reasonable dispatch" two barracks might be ready for the troops by September 30, with another two prepared by November 30.

Earlier, Bailey had pressed Krueger, Mullin, and Burne to specify their expected completion date for the barracks. They had also been notified that the work must be hurried.[36] However, to ensure no misunderstanding on the subject, Quartermaster General Ludington ordered Bailey to further advise the contractors that no additional delays would be tolerated. He stated that if there were any, the work would be taken from them and completed by the government.[37]

After acknowledging General Ludington's order, Bailey reviewed the situation for him. Krueger, Mullin, and Burne were endeavoring to finish barracks 24 and 25 and work was progressing "reasonably well." To accomplish this, they had pulled a number of carpenters off the job at the officers' quarters despite Bailey's protests. Since only a small number of workmen had been added to the labor force, there were not enough carpenters to keep the work progressing equally well on all the structures. There were only 35 employees in the work force and 50 could have been used to advantage.

There was also a shortage of materials at the work site, especially face brick. This had resulted in practically nothing being accomplished on the guardhouse, administration

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36. Bailey to Quartermaster General, Sept. 5, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

37. Quartermaster General to Bailey, Sept. 12, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

building, and several of the officers' quarters during the week of September 17.

As before, Bailey had been continually urging Krueger, Mullin, and Burne to provide needed materials in ample time. Several weeks before, their attention had been called to the necessity for securing delivery of sufficient face brick to complete all 32 buildings. But they had delayed ordering them from Clearfield until that very week, thereby creating an unnecessary material shortage and construction delay.[38]

A further delay was incurred on September 20, when Krueger, Mullin, and Burne refused Bailey's order to paint the metal ceilings of barracks 24 and 25 and to plane the attic floors in certain lieutenants' quarters.[39]

c. A. W. Rutherford Pressured

Meanwhile, Captain Bailey had also been compelled to pressure A. W. Rutherford, who held the contract for installation of steam heating. Rutherford was called upon to hasten the completion of the barracks to facilitate their occupancy. He was informed that he must take steps toward "setting boilers and the hot water heaters, and finishing the entire" barracks heating plant. If the firm failed to take immediate action, Bailey warned, the work would be taken out of its hands.[40]

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38. Bailey to Quartermaster General, Sept. 17, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

39. Krueger to Bailey, Sept. 20, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

40. Bailey to A. W. Rutherford, Sept. 7, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA. A. W. Rutherford had selected the Improved Dunning Boiler, manufactured by Philadelphia Steam

Two days later, on September 9, Captain Bailey telegraphed the contractor that only two steamfitters were on the job, and practically nothing was being accomplished. Once again, they were warned to "hurry completion of work under your contract, or I will do so at your expense."[41]

On September 13, in a final effort to galvanize Rutherford into action, Captain Bailey called attention to the provision in their contract, which provided that all "work must be carried on systematically, and is to be so managed at all times by contractor as to secure rapid progress and avoid annoyance and inconvenience."

Although some structures were ready for Rutherford to install the heating system, almost nothing had been accomplished. The two steamfitters onsite had done little, and when questioned, they stated that they lacked materials--radiator valves, radiators, eccentric fittings for barracks, smoke pipes for officers' quarters, and other required material.

Unless there was a marked improvement in the situation by September 21, Bailey wrote, he would assume charge of the work on behalf of the United States, under article 6 of the contract, and proceed to complete the same at Rutherford's

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Heating Co., over the Zenith Radiator, manufactured by T. C. Joy of Titusville, for heating the buildings. In the barracks the "direct-indirect radiators were positioned in wall boxes. Devol to Quartermaster General, and Carter to Alger, June 18 and 28, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA. John G. Carter was manager of Titusville Iron Co.

41. Bailey to Blackmore, Sept. 9, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA. L. B. Blackmore was an official with A. W. Rutherford.

expense.[42] A letter couched in similar terms was sent by Captain Bailey to Rutherford's bonding company.

These warnings had the desired effect. During the week beginning September 19, Rutherford reinforced his labor force and delivered some materials to Fort Hancock. By September 23, installation of the steam heating system in six of the lieutenants' quarters was well along. When he relayed this information to the quartermaster general, Captain Bailey noted that unless the firm again relaxed its efforts, he did not believe it would be necessary to take the contract out of Rutherford's hands.[43]

d. Leonard & Stratton Contracts Assumed

One of the minor contractors had already thrown in the sponge as Thomas J. Regan had done. Leonard & Stratton, after accomplishing a limited amount of work on their contracts for installing plumbing in 28 buildings and gas piping in 26 structures under contract to Krueger, Mullin, and Burne, declared themselves unable to continue with the work. On January 29, 1898, their bonding company, National Surety Company of New York, proposed to complete the contracts for $13,305.61, the unpaid balance of the contracts. Leonard & Stratton had been paid $1,940.89 on account for plumbing and $314 on account for gas piping.[44]

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42. Bailey to A. W. Rutherford, Sept. 13, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

43. Bailey to Quartermaster General, Sept. 23, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

44. Dean to Devol, Jan. 29, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA. Charles A. Dean was president of National Surety Co.

The United States accepted the proposition, with the provision that this did not release the suretors from their obligation as bondsmen on the Leonard & Stratton contracts.[45]

3. Krueger, Mullin, and Burne Confronted Again

a. Threats by Captain Bailey

On September 27, Captain Foster, as post commander, called for Captain Bailey to accept four sets of officers' quarters, two barracks, and the post hospital, as soon as they were completed by the contractors. These buildings, Foster had been told, would be finished by mid-October, and it was "very desirable that the garrison . . . get out of camp and under roof by that date on account of cold weather."[46]

This precipitated another letter from Captain Bailey to Krueger, Mullin, and Burne. They were informed that there were a large number of troops (more than 700) at Fort Hancock sleeping in tents and that it was imperative that they be moved into barracks before winter. On September 7, he reminded them that Byrne, the trustee, had promised to have two of the barracks finished by September 30. But a man from Bailey's office who had visited Sandy Hook on that day had reported that at least another week would be needed to finish them. To complicate the situation, very few men were at work. In addition, construction had been "practically suspended" on the officers' quarters.

Reiterating his old theme, Captain Bailey complained that the difficulty seemed to be that there was want of a

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45. Devol to National Surety Co., Jan. 29, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

46. Foster to Quartermaster General, Sept. 27, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

proper system in carrying on the business and a failure "to forsee requirements in the way of materials and to order a sufficient quantity at a time, and a want of harmony among the different sub-contractors in carrying on the work."

"I have several times," Bailey warned, "seriously comtemplated directing that the work be taken out of the contractors' hands entirely, but" had hesitated to do so. Now, however, the need for the barracks was so acute, and the time in which their completion might reasonably have been anticipated long past, that he would be compelled to act unless the project was greatly accelerated.[47]

b. Judge Krueger's Rebuttal

In a heated reply, Judge Krueger wrote the quartermaster general. His architect, Krueger exploded, had told him it would have been impossible to complete the Regan contract by October 31, 1897, even under the most favorable conditions. He had never encountered such obstacles in procuring materials and doing work as at Sandy Hook. Sand drifts filled up excavations as fast as they were dug, burying materials and blocking railroad tracks, requiring gangs of men to shovel sand.

In spite of various precautions, there had been frequent derailments and sand drifts were so high that the locations of various buildings had to be indicated by sign boards. To make matters worse, the railroad trestle had been damaged by the storm of October 25, 1897, the wharf had broken down, and a boatload of slate had sunk. The only locomotive available to pull the cars from

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47. Bailey to Krueger, Oct. 7, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

the Highlands to Fort Hancock was the General Rodman, which could be employed only when there were "no guns or anything else to be moved for the Ordnance and other Departments."

His offer to transport their materials had been rejected, he reminded General Ludington, because it had been feared that a heavier locomotive might break down the trestle, derail, or interfere with the movement of guns and carriages to and from the proving ground.[48]

There had been continued difficulty with materials called for in the specifications, Krueger went on. Good New York building stone "for all cellars acceptable to Captain Devol could not be obtained, and they were required to substitute trap rock." Experience had demonstrated that they would have fared better if they had built the basements with the best Indiana limestone. The face brick selected was unfamiliar, and so "hard that the best masons could not lay more than 300-400 per day, while front men can lay from 700-800 in New York City with any other hard pressed brick."[49]

"I became one of Mr. Regan's sureties," Judge Krueger explained, "upon his assurance that he had a fair price for the work," which he probably would have had under ordinary conditions. Therefore, knowing Regan to be a reputable builder, there had been no hesitancy on doing what he had done before. Regan had sublet part of the contract to a "so-called" reputable

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48. Krueger to Ludington, Oct. 12, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

49. Ibid.

Philadelphia firm. The Pennsylvanians had attempted to "violate the requirements of the specifications" and had been promptly removed from the reservation.

When Regan withdrew from the contract in April 1897, Krueger had been advised by his friends to let the government complete the work. This he could have done without loss, as it was known that Regan's contract price was $50,000 to $75,000 too low, and the United States was willing to pay for value received.

Regan had taken charge of the project for Krueger, Mullin, and Burne, and Krueger had sailed for Europe. When he had returned to the United States in the autumn of 1897, he found that Regan had withdrawn. Krueger had then employed Staehlin, an experienced architect, who had overseen all the important construction undertakings he had been associated with during the previous 20 years. Efforts to sublet the brickwork had failed in face of the approach of winter, the isolated situation of the Hook, and the "reputation of the terrible exacting requirements of the Government." They were accordingly compelled to continue the masonry work through the winter by day labor. Early in the spring of 1898, Krueger, Mullin, and Burne had asked for and received bids for completing the brickwork and stonework. The contracts had been awarded to the low bidders.

The brickwork had then "progressed spendidly." All the masonry would have been completed by mid-August 1898 if the carpentry had kept pace. Chapin Hall Lumber Co., however, had suffered financial reverses. Only after receiving a three-day ultimatum from Judge Krueger did they proceed. The company president then committed suicide. Krueger,

Mullin, and Burne had then been compelled to provide woodwork on short notice.

Chapin Hall Lumber Co. had been reorganized and reported their mill "stocked with work for Sandy Hook."[50] But Staehlin had served notice on the carpentry contractors that henceforth "all materials wanting will be furnished by Krueger, Burne and Mullin irrespective of cost."

Meanwhile, the brickwork contractor had lost all he could afford and had abandoned the project. His replacement had assured Judge Krueger that all the brickwork would be completed by October 31. The plastering was being done by one of New York's most reputable firms, and they expected to have the "brown coat" finish on all the walls by November 1.

The two barracks promised to be finished by September 30, Judge Krueger reported, were practically completed "although we were delayed by the plumbers . . . and could be occupied if the heating were completed." His people were "doing all" in their power to assist in this by bricking in the boilers and performing general plumbing work, although the heating was not in their contract.[51]

Sandy Hook, Judge Krueger complained, "must be haunted if the conditions under which works had to be done are not greatly abnormal." Every contractor had lost money, "starting with the poor fellow who fished up the sunken slate which the officers in charge now claim are unfit for use." Some were ruined. One had killed himself; Kreuger and his partners had lost $150,000.

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50. Ibid.

51. Ibid.

They had the consolation, however, that "the U. S. Government under all these adverse conditions has never received better work, if ever equal, under similar specifications."[52]

Acknowledging Judge Krueger's letter, Quartermaster General Ludington urged him to see that "the work at Fort Hancock" was pushed to a speedy and satisfactory conclusion.[53]

c. Deteriorating Situation

On October 12 Quartermaster General Ludington, to expedite matters, authorized use of an asbestos fire felt (navy brand) in the two barracks and five sets of officers' quarters nearest completion and required by the garrison. This authority was conditional on H. W. John Co. putting up the material, and then being held responsible for the workmanship, regardless of who became the subcontractor for the actual labor.[54]

Captain Bailey was able to notify the quartermaster general within 72 hours that, although there was "much delay on the part of contractors in finishing the many minor items of work" on lieutenants' quarters 1-3 and barracks 24 and 25, these structures were "practically completed." By a "continuance of special efforts," they might be ready for occupancy on or before the 27th.[55]

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52. Ibid.

53. Ludington to Krueger, n.d., doc. 93,924, Corr. 1890-1914, RG 92, NA.

54. Quartermaster General to Bailey, Oct. 12, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

55. Bailey to Quartermaster General, Oct. 15, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

Two weeks later, on October 28, Bailey inquired of the Quartermaster Department, "Will there be any objection to the occupation of these five structures by the garrison before they were fully paid for?" He assured General Ludington that he would not release the retained percentage until the department gave its approval.[56]

When a reply was not immediately forthcoming, Bailey contacted a friend in the quartermaster general's office. He wished to know if there was any objection to "my allowing the garrison to occupy a building practically completed but which is not fully paid for", and when "any one building is entirely completed in every minor detail, is it the intention to pay contractors in full thereof?" Barracks 24 and 25 were nearly completed, lacking only the galvanized iron shafts connecting the roof ventilators and a few other items. These, he decided, could be easily installed after the troops moved in.[57]

While awaiting a reply, Captain Bailey received a telegram from Krueger, Mullin, and Burne reading, "Can we count on a payment tomorrow?" This communication triggered a sharp reply. Bailey informed them that "owing to the condition of affairs under your contract, as the same exists today . . . I cannot see my way clear . . . to prepare an estimate of payment on account thereof."

They had, Bailey pointed out, violated and were continuing to violate the terms of their contract in all its

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56. Ibid., Oct. 28, 1898.

57. Bailey to Martin, Nov. 1, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

facets: subletting various portions of the work; not executing it to the satisfaction of the officer in charge; not giving it their personal superintendence or placing onsite a competent person to act for them; failing to provide proper materials on time, and sufficient competent workmen to complete the project within the specified time; not protecting materials delivered onsite; failure to work in harmony with their own employees and other contractors; and failing to manage the project in a systematic manner so as to "secure rapid progress, and so as to avoid annoyances and inconveniences."[58]

Although they had been repeatedly warned to provide and have delivered sufficient face brick for completion of all structures on the grounds, Bailey continued, there was not enough face brick onsite to finish the officers' quarters and barracks. Roofing slate for structures that should have been covered weeks before had not been received. Many of the buildings were awaiting the plasterers, and outside woodwork and metalwork (blinds, porch floors, ceilings, etc.) had been positioned and left for weeks without a primecoat of paint. There were many other buildings that had been primed, which should have been painted two weeks before.

Krueger, Mullin, and Burne had also failed to honor his requests that painters be hired. Captain Bailey chided that there was not one painter at work, whereas 20 could have been employed and used immediately. His positive instructions calling for completion of two barracks and three lieutenants' quarters, which the contractors had promised to "entirely finish" by September, had not been honored.

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58. Bailey to Krueger, Mullin, and Burne, Nov. 4, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

Consequently, he was left with no other alternative than to notify the contractors that if the work were "not being carried out in accordance to specifications by November 14,--systematically and so as to secure rapid progress and avoid annoyances and inconveniences,"--he would take charge of the project and complete it at their expense.[59]

d. Stormy Meeting

On November 10, four days before the deadline, Captain Bailey met in Newark with Judge Krueger, Staehlin, J. M. Chapin, Mr. Enstice (a carpentry contractor), representatives of Fidelity and Deposit Co., and other interested parties and reviewed the situation. Judge Krueger then took the floor, explaining that although he did not blame the government officers in charge, he had done and was ready to do "everything that his money and influence could do to complete the work." As he talked he "lost control of himself, and stormed around like a man who was temporarily insane, and made a scene not at all pleasant." After everyone had aired their grievances, the meeting again became orderly. Judge Krueger complained that "when they did finish a building, the Government would not pay them for it."

Bailey replied that he was prepared to pay the contractors in full for the two barracks and three lieutenants' quarters whenever they were "entirely complete," as well as for the five other structures (buildings 31-35) already finished and occupied. The reason that he had not done so already, he stated, was that Krueger, Mullin, and Burne had not given him the opportunity.

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59. Ibid.

Krueger agreed to supplement the force of workmen and to see that all necessary materials were shipped to Sandy Hook. Chapin, seemingly satisfied with Krueger's promises, agreed to forward lumber and woodwork, as soon as painters were there to prime coat the materials. Before the meeting broke up, Captain Bailey demanded that Krueger place a superintendent on the grounds, not "merely a non-resident man, who only has two or three hours of time to devote to the job." Krueger agreed to this demand.[60]

On November 13 Captain Bailey found a marked improvement when he visited the site. Work seemed to be "brisk in and around the buildings," and he believed that his "notice" had done some good.[61]

4. Possession of Lieutenants' Quarters 1-3 and Barracks 24 and 25

Captain Foster, as post commander, was overly anxious to get possession of lieutenants' quarters 1 and 2. On November 5 Foster told Superintendent Kearney that he and Lt. Conway H. Arnold were going to move into these quarters on Monday, November 7.[62]

Upon being advised of this, Captain Bailey directed Kearney to tell Foster that the buildings were not ready to be

60. Bailey to Martin, Nov. 12, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA. Col. M. C. Martin was assigned to the office of the quartermaster general.

61. Bailey to Martin, Nov. 12, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

62. Kearney to Bailey, Nov. 5, 1898, doc. 112,556, Corr. 1890-1914, RG 92, NA.

occupied.[63] When Foster was told this, he informed Kearney that he was not changing his plans.[64] Writing to Bailey, Foster did not put on such a bold front. All that he proposed to do, he explained, was to store his furniture that was being brought over to Sandy Hook by General Meigs in one of the quarters, but he was not planning to move in.[65]

Captain Bailey held his ground. On the same day, he informed Captain Foster that his orders were that none of the structures were to be used for any purpose by the garrison until they were ready to be turned over.[66] However, while visiting the post on November 8, Bailey was disappointed to see that Foster had moved his furnishings into lieutenants' quarters 1, having secured the keys from Kearney on the pretext that he "merely wished to look around." Some of the keys were missing, several rooms locked, and the quarters in possession of the garrison.

Captain Bailey accordingly protested to General Ludington that it was "essential, if the construction quartermaster is to secure the proper finishing of the work under contract that the garrison may be restrained from thus taking forcible possession of buildings in course of construction."[67]

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63. Bailey to Kearney, Nov. 5, 1898, doc. 112,556, Corr. 1890-1914, RG 92, NA.

64. Kearney to Bailey, Nov. 6, 1898, doc. 112,556, Corr. 1890-1914, RG 92, NA.

65. Foster to Bailey, Nov. 6, 1898, doc. 112,556, Corr. 1890-1914, RG 92, NA.

66. Bailey to Foster, Nov. 7, 1898, doc. 112,556, Corr. 1890-1914, RG 92, NA.

67. Bailey to Quartermaster General, Nov. 8, 1898, doc. 112,556, Corr. 1890-1914, RG 92, NA.

After having paid Krueger, Mullin, and Burne the retained percentage on the double noncommissioned officers' quarters, Quartermaster General Ludington decided, despite the reassurance given by the judge advocate, to refer the amended contract to the U. S. comptroller. Would he, Ludington inquired, "be justified . . . in view of this supplemental contract, in directing the payment of the retained percentage on such of the buildings as were required and used by the United States before the completion of all the buildings covered by the contract?"[68]

The comptroller ruled that both original and supplemental agreements entered into with Krueger, Mullin, and Burne were in violation of the revised statutes and army regulations, and consequently were "void as executory contracts." But, if the contractors had accomplished valuable work under their agreements and the United States accepted the same, they were entitled to their pay, not under the contract, but on the basis of quantum meruit, and the prices named in the agreement would be evidence as to the worth of these services. As the contract named a specific price for each structure, the comptroller saw no reason why a proper supplemental agreement could not be drawn under which the full price could be paid for each building completed, accepted, or occupied by the United States.

If, however, General Ludington deemed it "proper and safe" to allow construction to proceed under the void agreements, payments of 20 percent retained on the value of each structure could be made, if it were borne in mind that Krueger, Mullin, and Burne did not have an enforceable contract. It was

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68. Ludington to Comptroller, Oct. 17, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

uncertain, he cautioned, whether the United States could enforce performance.[69]

By mid-November the troops had broken camp and moved into barracks 24 and 25. With the garrison in possession of two barracks and Captain Foster and his officers in lieutenants' quarters 1-3, Captain Bailey, when notified of the comptroller's decision, had second thoughts on his difficulties with the contractors. He now concluded that it would be better to allow Krueger, Mullin, and Burne "to worry through the remainder of work as best they can,--meanwhile only giving them money when they complete a building."

There would be, he informed Washington, after paying the contractors retained percentages on the ten completed structures, more than $100,000 in the account. Work to be done could not exceed $75,000, so they would not get "caught napping."[70] The quartermaster general was agreeable. Therefore, during the next several weeks the contractors were paid the retained percentages on lieutenants' quarters 1-3, barracks 24 and 25, coal shed 31, quartermaster and commissary storehouse 32, bakehouse 33, workshop 34, and wagon shed 35.

5. Two Late Autumn Change Orders

On November 22 Captain Bailey asked for and received authority to contract with Krueger, Mullin, and Burne for a cypress water trough to cost $24. It was to be placed in the

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69. Mitchell to Secretary of War, Nov. 3, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA. L. P. Mitchell was acting comptroller.

70. Bailey to Martin, Nov. 12, 1898, doc. 93,924, Corr. 1890-1914, RG 92, WNRC.

stable's passageway and be convenient for use in watering public animals.[71]

Captain Bailey, on December 10, recommended the approval of another change order. The specifications for the barracks called for all rear porch and hatchway railings to be 1½-inch gas piping, with ends threaded and screwed in malleable iron railing fittings. The standards were to be 2½-inch pipe. However, Krueger, Mullin, and Burne claimed that Captain Devol had agreed to the use of 2½-inch iron standards through which they were to run the 1½-inch pipe railings, and the end bearings were to enter 2⅛-inch posts secured by a top screw and drilled through the cast-iron post.

Although Bailey did not consider the cast-iron posts and screws, in lieu of the materials specified, "a good construction practice," the subject ironwork had been delivered. If properly set, he determined that it would make a substantial railing.[72] So, Bailey approved the change order in view of the circumstances.

6. Stables Completed

In mid-December Captain Bailey notified the department that the quartermaster stables (building 36) had been accepted and paid for and that the post quartermaster was already in possession of the structure.[73]

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71. Bailey to Quartermaster General and Quartermaster General to Bailey, Nov. 22 and 28, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

72. Bailey to Quartermaster General, Dec. 10, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

73. Ibid., Dec. 19, 1898.

D. Krueger, Mullin, and Burne Muddle Through Construction

1. Work Drags into New Year

On January 25, 1899, Captain Bailey reported that the Krueger, Mullin, and Burne contract was about three-quarters finished. Sixteen buildings were completed, and most of them were occupied by the garrison. Seven others were nearing completion, while the nine remaining were little more than half finished. All structures had their slate roofs on, the metal ceilings almost completed, and the concrete work mostly in. But, to complete the brickwork, a number of piers still remained to be erected. If the necessary sash, doors, blinds, trim, stair materials, and hardware were promptly supplied, Captain Bailey believed, "it would be reasonable to expect that all buildings might be ready for occupancy in 60 days."

Krueger, Mullin, and Burne, who were involved in a bitter dispute with Chapin Hall Lumber Co., had notified Bailey that orders had been placed at other mills for materials needed to complete the carpentry. Because much of this material had to be cut to special sizes and kiln-dried, early delivery was not anticipated.

At that time, although the number of painters on the job was adequate and some stair builders and plasterers were employed, there were insufficient laborers onsite for clearing rubbish from the structures and policing the grounds. Also, there was continued neglect in completing the ironwork. All of this notwithstanding, the contractors still seemed desirous of completing the buildings, provided the department allowed them enough time; however, the project was not making the rapid progress required.[74]

74. Ibid., Jan. 25, 1899.

Quartermaster General Ludington, after reviewing the situation, determined to take action. Captain Bailey was told to warn Krueger, Mullin, and Burne that any structures not completed by June 30 would be taken out of their hands and finished by the United States at their expense. Moreover, if it appeared at any time that the contractors were not taking proper measures to prosecute the work in a manner to complete it by that date, it was to be taken away from them before the last day of the fiscal year.[75]

Captain Bailey notified the contractors by registered mail of General Ludington's decision.[76] Undoubtedly, the contractors, in view of the many past threats of this nature, did not take this latest notice too seriously.

In mid-February Captain Bailey notified the quartermaster general that Krueger, Mullin, and Burne had finally completed lieutenants' quarters 4-6, and no. 4 was already occupied.[77]

2. War Department Declines Intervention in Dispute

On January 12, 1899, J. M. Chapin of Chapin Hall Lumber Co., wrote Secretary of War Alger, concerning the difficulties encountered in financial dealings with Krueger, Mullin, and Burne. The materials for the buildings, he explained, were ready for shipment, and some of them had been prepared for more

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75. Quartermaster General to Bailey, Feb. 10, 1899, doc. 93,924, Corr. 1890-1914, RG 92, NA.

76. Bailey to Quartermaster General, Feb. 11, 1899, doc. 93,924, Corr. 1890-1914, RG 92, NA.

77. Ibid., Feb. 13, 1899.

than a year. Although the United States had occupied some structures and accepted others, the prime contractors had refused to pay him according to the terms of their contract. Because the government had been unable to protect him because he was a subcontractor, he had incurred a great financial loss.

Chapin wanted the War Department to send an inspector to Sandy Hook to make an investigation. The United States, he pointed out, had failed to compel Krueger, Mullin, and Burne to meet their contractural obligations as to the project's completion date.[78]

After Captain Bailey was delegated to investigate Chapin's complaint, he found that before construction commenced, Krueger, Mullin, and Burne had contracted with Chapin Hall Lumber Co. "to furnish certain materials and place same in position" for $112,600. Chapin Hall in turn sublet the carpentry to a third party for $31,000. Furthermore, on several occasions the prime contractors and Chapin Hall had become involved "in such differences that the work was seriously interferred with." To settle these, the constructing quartermaster had intervened.[79]

Within the past several months, their differences had taken a more serious turn. Krueger, Mullin, and Burne, instead of making payments to Chapin Hall, had been paying the monies due the lumber company to the carpentry subcontractor. When Captain Bailey asked why, Judge Krueger explained that they did this to protect themselves, because Chapin Hall was not paying its

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78. Chapin to Alger, Jan. 12, 1899, doc. 93,924, Corr. 1890-1914, RG 92, NA.

79. Bailey to Quartermaster General, Jan. 23, 1899, doc. 93,924, Corr. 1890-1914, RG 92, NA.

subcontractor, and the contract held him and his associates responsible for prompt payment to all persons supplying materials and labor. Chapin Hall, in the meantime, had sought to remove their subcontractor from the job, claiming he was controlled by Krueger, Mullin, and Burne, and was misusing their materials.

The prime contractors objected to the removal of the carpentry subcontractor on the "plea that the Government should allow them every reasonable chance to finish the work, and should not cause workmen to be thus summarily dismissed, merely at the instigation of a subcontractor, thus retarding the work and causing confusion."[80]

According to Chapin, he had been paid $66,000 by the prime contractors, but Judge Krueger reported that Chapin Hall had received about $73,000. This $7,000 difference, Captain Bailey believed, might be easily adjusted, if there were not large claims for damages by Chapin Hall against the prime contractors. Krueger, Mullin, and Burne also had numerous counterclaims against Chapin.

When Krueger, Mullin, and Burne became convinced that it would be impossible to purchase any more Chapin Hall materials, they had ordered the trim for barracks 22 and 23, and the sash, doors, stairs, and other woodwork for finishing all the buildings from other mills.

It was Captain Bailey's opinion that the difficulty was beyond his jurisdiction and was for the courts to decide.[81]

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80. Ibid.

81. Ibid.

Chapin was dissatisfied with this answer. On January 31 he wrote President William McKinley. He wanted to know, "Why is political influence being used to protect the General Contractors at Fort Hancock." Krueger, Mullin, and Burne were 15 months behind on the project, he reported, and "ruining the sub-contractors, because they do not pay their bills."[82]

The Chapin letter was referred to Secretary of War Alger. After checking with Quartermaster General Ludington, Secretary Alger wrote Chapin that the subject had been investigated by Captain Bailey. Alger assured Chapin that "politics" had not entered into this matter in any way, and that the action of this office in dealing with the contractors had been governed "entirely and soley by what appeared to be the interests of the Government." Therefore, as Chapin Hall had been informed by Captain Bailey, the controversy between the subcontractors and Krueger, Mullin, and Burne was for the courts to resolve.

However, Secretary Alger assured Chapin that Krueger, Mullin, and Burne had been placed on notice, and that they had until June 30 to complete their contract. After June 30 all uncompleted work would be taken out of their hands.[83]

3. Roebuck Contracts for Window and Door Screens

The insects, especially mosquitoes that plagued Sandy Hook in the summers, caused the quartermaster general to allot funds for door and window screens.

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82. Chapin to McKinley, Jan. 30, 1899, doc. 93,924, Corr. 1890-1914, RG 92, NA.

83. Alger to Chapin, Feb. 23, 1899, doc. 93,924, Corr. 1890-1914, RG 92, NA.

On March 30 General Ludington, after evaluating the specifications and samples submitted by various firms, wrote Captain Bailey that the proposal for bronze wire window screens submitted by S. Roebuck was very interesting. The Roebuck screen had an ash frame with a patent metallic corner piece for stiffening the angle, so that when the mortise and tenon were glued it made a solid corner. If the glue failed, the frame could not come apart as the iron piece would hold it together. The wire was to be fastened into a groove on the outside and held in place by a bead. The bronze wire was to be 14-mesh and 31-gauge. The screens were to slide on a strip, which would have a rubber edge forming a weatherstrip. A weatherstrip would also be put on the meeting rail so that the lower half of the windows would be weatherstripped in addition to the screens.

All screens were to be installed on the inside of the windows because it was a saltwater area. The screens of the pumphouse, bakeshop, detached lavatory, and hospital, unlike the others, were to be fabricated to fit half the window and to slide the same as the others, employing the same kind of wood, trimming, and fittings.

The screen doors were to be made of ash and painted on the outside to match the exterior trim of the building. No. 29 gauge bronze wire formed into a no. 12-mesh was to be the screen material. Five-panel doors were to be used, and the panels were to correspond in size, shape, and appearance with other door panels in the building. Roebuck agreed to remove the bell pulls, where necessary, to allow the screen doors to swing without interference.[84]

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84. Quartermaster General to Bailey, March 30, 1899, doc. 93,924, Corr. 1890-1914, RG 92, NA.

Roebuck's proposal to supply all the buildings specified at Fort Hancock with window screens and door screens would cost $2,922.75. The project, which was to meet all the preceding specifications, was approved by the Secretary of War.[85]

Roebuck had already started work on the proposal in anticipation of receiving the contract. Because of this premature action, the frames for the barracks' window screens had been manufactured on the assumption that they would be placed on the outside of the windows. When confronted by Captain Bailey, Roebuck explained that the screens could be made to fit tighter if he were allowed to continue as originally planned.

In seeking approval of this change order, Captain Bailey pointed out that if the screens were placed on the outside, they could be more easily managed and would be less susceptive to damage from use. However, he stipulated that Roebuck would have to provide weatherstriping on the sash and steel springs at the sides to hold the screen in any raised position.[86] General Ludington finally approved this change order on May 1, 1899.[87]

4. Completion of Contracts

On June 2, 1899, Bailey reported to the quartermaster general that the contracts for the fixtures had been completed at the end of May. He stated that A. W. Rutherford had satisfactorily finished installation of the steam heating systems, and that National Surety, who had assumed the Leonard & Stratton

85. Ibid., April 3, 1899.

86. Bailey to Quartermaster General, April 20, 1899, doc. 93,924, Corr. 1890-1914, RG 92, NA.

87. Quartermaster General to Bailey, May 1, 1899, doc. 93,924, Corr. 1890-1914, RG 92, NA.

contract, had completed the plumbing and gas piping for which they were responsible.[88]

5. Permission Granted for Contract Extention

With the June 30 deadline at hand, Krueger, Mullin, and Burne still had not completed all their buildings. Captain Bailey wrote Quartermaster General Ludington and assured him that the remaining structures were "practically completed, with the exception of the painting." He expected that the carpentry would be finished within a week, but that considerable interior and exterior painting remained to be accomplished on the administration building, lieutenants' quarters 7, 8, 16, 17, and 18, and barracks 22. The foreman estimated that it would take the 15 employed painters 50 to 60 days to finish, unless they were supplemented with additional men.

In order to expedite the remaining construction, Bailey urged Krueger, Mullin, and Burne to do several things: increase their force of painters and laborers, employ the latter to police the area and remove surplus materials, and put down temporary railroad tracks to further facilitate construction.

Bailey recommended to the quartermaster general that they be allowed to keep their contract, in view of the progress they had made since the preceding February. Rather than pulling the contract, he believed it would be much better to press them to "hasten the finish."[89] General Ludington concurred with Bailey's recommendation.[90]

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88. Bailey to Quartermaster General, June 2, 1899, doc. 93,924, Corr. 1890-1914, RG 92, NA.

89. Ibid., June 22, 1899.

90. Ludington to Bailey, June 24, 1899, doc. 93,924, Corr. 1890-1914, RG 92, NA.

On June 26 Captain Bailey listed 16 structures as completed, accepted, and paid for. The structures included lieutenants' quarters 1-6, barracks 24 and 25, noncommissioned officers' quarters 29 and 30, coal shed 31, quartermaster and commissary storehouse 32, bakehouse and bake oven 33, workshop 34, wagon shed 35, and quartermaster stable 36. Of the contract price for $289,435.47, with extras, he had paid $245,095.44 to Krueger, Mullin, and Burne. This left an unpaid balance of $44,340.03 in their construction account. In addition to these 16 structures, the garrison occupied the guardhouse and barracks 23.[91]

6. Last 12 Structures Accepted

During the summer of 1899 the commanding officer's quarters (building 12) was completed, accepted, and paid for.

On September 2 Captain Bailey informed the quartermaster general that 11 sets of officers' quarters (lieutenants' quarters 7-8 and 16-18, and captains' quarters 9-11 and 13-15) and barracks 23 had been completed but not turned over to the post commander, Maj. J. B. Burbank. Burbank had told Bailey that the garrison had no pressing need for them.

As he had insufficient funds to pay Krueger, Mullin, and Burne for the retained percentages on these structures, Bailey wished to know whether they should be turned over to the troops.[92] Ludington directed him to accept all completed structures and formally turn them over to Major Burbank. Then, if he were

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91. Bailey to Quartermaster General, June 26, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

92. Ibid., Sept. 2, 1899.

short of funds, he was to issue a voucher and forward it to the quartermaster general's office for settlement by the Treasury Department.[93]

Preparatory to settling their account, Krueger, Mullin, and Burne submitted a "claim for an extra $173.60 for labor and materials on the four barracks."[94] The claim broke down into four catagories. The first involved barracks 24 and 25 where, after the window frames had been set and bricked, it was found that the lights were to be 11 inches by 13 inches to each sash instead of 10 inches by 16 inches. To cut these frames down to size, it had been necessary to tear out and reconstruct the brick arches. It had also been necessary to cut out a portion of the cement floor for the return steam main in these two barracks.[95] The quartermaster general allowed this claim to be paid.

Clinton Smith, in accordance with orders from Quartermaster General Ludington, returned to Sandy Hook in mid-September for a final inspection of the work done by the contractors. He found that 32 structures--30 brick and two wood (the coal and wagon sheds)--had been built by Krueger, Mullin, and Burne, and one from engineer's quarters and one brick bachelor officers' quarters had been built by W. H. Jenkins & Co. All these structures had been turned over to Major Burbank, except lieutenants' quarters 7-8 and 16-18, captains' quarters 10-11 and 13-15, barracks 23, and workshop 34.

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93. Quartermaster General to Bailey, Sept. 8, 1899, doc. 93,924, Corr. 1890-1914, RG 92, NA.

94. Byrnes to Bailey, Sept. 13, 1899, doc. 93,924, Corr. 1890-1914, RG 92, NA.

95. Bailey to Quartermaster General, Sept. 21, 1899, doc. 93,924, Corr. 1890-1914, RG 92, NA.

There was, however, a "large amount" of small details that required attention, such as replacing missing keys; cleaning windows; "fixing clean out doors in bottoms of chimneys"; repairing broken sashes, blinds, and slate, and other minor items. All of this incompleted work could be finished in a week or less, Smith reported.

Smith found only one other area that required a modification. The Roebuck people had installed screens for windows and doors on all 36 structures contracted for. He pronounced this work satisfactory, with the exception of the springs on the outside doors, and the manufacturer had agreed to change these at no extra cost to the government.[96]

Captain Bailey was to be commended, Chief Constructor Smith informed the quartermaster general, for his skill in coping with the Krueger, Mullin, and Burne contract. It had been shuttled by the trio from one subcontractor to another. They and their various subcontractors had been "inclined to take the advantage at every point possible and have fought very stubbornly to complete these buildings without following the plans and specifications."[97] But Bailey had met the challenge. The "general character of the work," Smith found, was of the best, and the structures were a credit to all concerned, especially the Quartermaster Department. When completed, "Fort Hancock would be one of the best military posts in the Nation." Post Commander Burbank agreed, adding that the buildings "were a credit and ornament to the Government" as well as the state of New Jersey.[98]

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96. Smith to Quartermaster General, Sept. 14, 1899, doc. 141,570, Corr. 1890-1914, RG 92, NA.

97. Ibid.

98. Ibid.

In late September 1899, 23 months after the date stipulated in the agreement with Thomas J. Regan, first signed on December 15, 1896, the last of the 32 structures embraced in his contract were accepted by Captain Bailey and turned over to Major Burbank.

VI. INITIAL CONSTRUCTION PROGRAMS COMPLETED

A. Post Water and Sewer System Installed

1. Bids Invited and Contracts Awarded

A number of other improvements were undertaken at Fort Hancock during the last three years of the 19th century. One of the most important of these was the post water and sewage system.

On December 2, 1896, Quartermaster General Sawtelle had recommended to Secretary of War Lamont that $20,350 be allotted from the appropriation for army transportation for construction at Fort Hancock of a water supply system. Included would be a boiler, pumphouse, steel trestle, and a 50,000-gallon water tank. The post water mains were excluded from the allotted amount. The cost breakdown was as follows:

Water system	$8,000
Pump and connections	1,500
Boiler, breechings, and stack	2,000
Pumphouse	2,000
Main from pumphouse to tank (about 1,000 feet)	1,000
Steel trestle and tank	4,000
Contingencies	1,850
TOTAL	$20,350[1]

Although the secretary approved the project, it was mid-May before Captain Devol advertised for sealed proposals for installing the water and sewer systems. On June 13 he opened and abstracted the bids. When he forwarded these to the quartermaster general, he recommended acceptance of the following proposals:

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1. Sawtelle to Lamont, Dec. 2, 1896, doc. 93,924, Corr. 1890-1914, RG 92, NA.

James Westwater	Well system	$5,503
James Westwater	Pump, connecting boilers, breechings, and stack	2,523
A. M. Walkup	Pumphouse	2,989
Robert B. Mitchell	Water main and connections	5,308
Oil City Boiler Works	Steel trestle and tank connections	3,815
Robert B. Mitchell	Sewer system and connections	3,466[2]

On June 25 Quartermaster General Weeks directed Captain Devol to accept the following proposals:

Frank W. McNeal of New York for well system	$7,498
Woolsten & Randall of Hudson, New Jersey, for pump connection, boilers, breechings, etc.	3,240
A. M. Walkup of Philadelphia for pumphouse	2,989
R. B. Mitchell of Brooklyn for water mains and connections	5,308
R. B. Mitchell for sewer system and connections	3,211
Oil City Boiler Works, Oil City, Pennsylvania, for steel trestle and tank	3,815[3]

2. Work Progresses

By mid-August 1897, when Inspector Smith visited Sandy Hook, he saw that R. B. Mitchell was getting his equipment onsite. Mitchell's engineer complained that, because of the excavations for buildings and materials scattered about, he had

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2. Devol to Quartermaster General, June 21, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

3. Weeks to Devol, June 25, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

been unable to lay out the sewers. Where there was an excavation but no materials, Smith believed that sewers could be laid out and the work started in those areas.[4]

On his September 1897 trip, Inspector Smith found that workmen for Frank W. McNeal had positioned about half the conduit for the well system, but that R. B. Mitchell, as yet, had not commenced work on the water and sewer systems. Captain Devol wished to have him wait to bring in building materials until the temporary track, laid by Krueger, Mullin, and Burne, could be moved. Oil City Boiler Works had poured concrete footings for the steel tank and trestle, while the ironwork for the trestle and tank was en route to the Hook.

Ten weeks later, Smith observed that the Mitchell labor force had laid about 800 feet of water main pipe, commencing at the marsh and extending toward the pumphouse. No work had been done on the sewer system, because with the building materials in the way it would have been unwise to dig any ditches only to have them filled with drifting sand during the winter. The granite for the water tank's trestle was onsite, but Smith saw that the stone had been improperly cut. The steel trestle was on the grounds and ready to assemble.[5]

Frank. W. McNeal workmen had drilled 19 well points by the first week of December 1897, one or two of which had to be withdrawn and shortened. The main and connecting pipes had been

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4. Smith to Quartermaster General, Aug. 17, 1897, doc. 105,261, Corr. 1890-1914, RG 92, NA.

5. Smith to Quartermaster General, Sept. 20 and Dec. 9, 1897, doc. 106,014, Corr. 1890-1914, RG 92, NA.

laid, the conduits were nearly completed, and the stone flagging for covering the concrete had been delivered.[6]

By mid-September A. M. Walkup had nearly completed the pumphouse foundations. When Smith returned in early December, he found the house finished except for cementing the floor, which could not be done until the boilers were positioned. The ceiling and roof timbers for the structure still required coating with fireproof paint.

The Palmer boilers for the pumphouse had been delivered to the cars at the switch by Woolston & Randall, and the pumps were at Highland Beach. Captain Devol had ordered the contractors to substitute the Worthington, or its equal, for the pumps specified.[7]

3. Systems Accepted

Work on the various systems went well and progressed at a satisfactory pace. By mid-June 1898 the wells had been drilled, the pumping plant had been erected, and water was in the mains. Before the end of the month, Captain Bailey reported that Oil City Boiler Works had completed the water tank and trestle.[8] On August 30 he accepted the pump connections, boilers, breechings, and other fixtures installed by Woolston & Randall.[9] By November 1, Bailey reported that R. B. Mitchell & Company had

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6. Ibid., Dec. 9, 1897.

7. Ibid., Sept. 20 and Dec. 9, 1897.

8. McGlachlin to Quartermaster General, June 14, 1898, & Bailey to Quartermaster General, June 27, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

9. Quartermaster General to Bailey, Aug. 30, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

complied with the specifications of the water main contract.[10] However, it was not until five months later, on April 30, 1899, that the Mitchell workmen completed the sewer system.[11]

Clinton Smith, when he made his final inspection in mid-September 1899, discussed two of these structures--the frame pumphouse built by A. M. Walkup and the trestle and tank erected by Oil City Boiler Works.

The water system was working to everyone's satisfaction, he reported, and it was pumping from 50,000 to 60,000 gallons daily for general usage and sprinkling. As yet, McNeal's well points had shown no sign of giving out, although the months since March 1899 had been unseasonably dry.[12]

B. Grounds Topsoiled and Roads, Gutters, and Walks Built

1. Planning Process

On March 2, 1898, Captain Devol had transmitted to Washington the plans he had prepared for providing the post with a system of roads and walks and for regrading and topsoiling all or a portion of the area. He specified either brick or macadam roads with either a curb or gutter. The walks were to be brick, flagstone, or cement. By listing several types of materials, Devol gave the department an opportunity to determine which was a good combination of the best and the most economical material available.

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10. Bailey to Quartermaster General, Nov. 1, 1898, doc. 93,924, Corr. 1890-1914, RG 92, NA.

11. Ibid., April 30, 1899.

12. Smith to Quartermaster General, Sept. 14, 1899, doc. 141, 570, Corr. 1890-1914, RG 92, NA.

If brick were used, Captain Devol suggested that it be laid with no foundation other than sand; several nearby New Jersey towns had successfully done this. As traffic at Fort Hancock would be light, he believed a brick road would require minimal maintenance, and in wet weather it would not become muddy like macadam. Brick or belgium blocks had been specified for the gutters because there was no cobblestone in the area.[13]

While awaiting for authority to proceed, Captain Devol asked for approval to spend $60 on planting oats in the area. The oats would bind the sand until such time as money was allotted for putting down topsoil.[14] The quartermaster general approved "Project Oats" as an interim solution. Earlier, Captain Devol, while he was still at Sandy Hook, had proposed seeding half-acre tracts with creeping lent, red or creeping fescue, and bermuda grass as an experiment in preventing the sand from drifting.[15]

Captain Bailey, who had become the constructing quartermaster in June 1898, had also investigated the topsoil problem. The grass expert from Peter Henderson & Co. had told him that no less than 8 inches of topsoil was required in an area such as Sandy Hook. Finley W. Howell, a landscape gardener, spent a day at the site. He advised Bailey that a permanent and satisfactory sod could be developed by first laying a base-- formed from "2 inches of straw manure" covered with 6 inches of topsoil--that would be "rolled down to leave 6 inches above the sand." This could then be planted "by sowing 5 bushels [90 lbs.]

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13. Devol to Quartermaster General, March 2, 1898, doc. 98,760, Corr. 1890-1914, RG 92, NA.

14. Ibid., April 12, 1898.

15. Quartermaster General to Devol, April 19, 1898, doc. 98,760, Corr. 1890-1914, RG 92, NA.

to the acre of Central Park Lawn Mixture." As a possible alternative, Bailey had located land near the Highlands and accessible to the railroad, where suitable topsoil loam could be secured at a cost of $1.40 per cubic yard in sufficient quantity to complete the project.

Before any topsoil could be laid, the site had to be regraded where sand had drifted in the 18 months since R. B. Mitchell's workmen had originally leveled and graded the area. When he relayed this information to the quartermaster general in September 1898, Bailey cautioned that since the season was late, not much could be done that year "to insure a growth of grass or other vegetation necessary to hold the earth in place" during the winter storms.[16]

2. Contract Awarded

On September 6, 1898, Quartermaster General Ludington had asked Secretary of War Alger to approve an allotment of $33,133.30 for constructing roads, curbs, and walks, and putting down topsoil at Fort Hancock. To justify his request, General Ludington pointed out that the structures were approaching completion. As the site was covered with "shifting sand," it was necessary to shield at least part of the area with a topsoil "capable of supporting vegetation which will stop the drifting."

The handsome buildings demanded macadam roadways and granolithic walkways throughout the post. But, Ludington continued, because of the expense, he deemed it best to limit the

16. Bailey to Murray, Sept. 7, 1898, doc. 98,760, Corr. 1890-1914, RG 92, NA.

macadam at that time to the main roadway fronting Officers' Row. The other roads would be gravel with brick walks.[17]

Secretary Alger approved the allotment, and in October Captain Bailey advertised for proposals to build roads, walks, and grading. The most favorable bid was submitted by C. H. Connell. On November 28 Secretary Alger authorized acceptance of Connell's following proposal:

3,300 lineal feet of macadam roads at $1.95 per lineal foot	$ 6,435
6,500 square yards of gravel roads at 40¢ per square yard	2,600
300 square yards of crossings at $3 per square yard	900
1,800 square yards of brick walks at 73¢ per square yard	1,404
2,500 square yards of cement walks at $1 per yard	2,500
70,000 square yards of grading and topsoil at 18¢ per square yard	12,600
TOTAL	$26,439

Because of the favorable price, the department decided that the rear driveway would be macadamized instead of graveled.[18]

A November northeastern storm caused considerable damage at the Hook, with telephone lines downed, trees toppled, and sheet piling smashed. Therefore, because of the lateness of

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17. Ludington to Alger, Sept. 6, 1898, doc. 98,760, Corr. 1890-1914, RG 92, NA.

18. Quartermaster General to Bailey, Nov. 28, 1898, doc. 98,760, Corr. 1890-1914, RG 92, NA.

the season and the prospect of a more severe winter, Captain Bailey decided to permit C. H. Connell to delay beginning work on his contract until March 1899.[19]

3. Contract Implemented

Work commenced as scheduled and progressed as programmed. When Clinton Smith made his final inspection in mid-September 1899, the C. H. Connell workmen had nearly finished their grading, topsoiling, and seeding except around five officers' quarters. Most of the curbing was in, and about half the road in front of Officers' Row had been filled in with broken stone. The rear driveway was nearly finished and would be completed in two or three days.[20]

On September 13 Civil Engineer Rowland reported that C. H. Connell workmen had positioned 1,400 lineal feet of 9-inch macadam and 300 lineal feet of 5-inch macadam on the main road; 9,506 square yards of 6-inch macadam on the rear road; 1,500 square yards of brick sidewalk; 2,344 square yards of concrete; 63,000 square yards of topsoil; 5,260 square yards of subsoil, 3 inches thick; 6,312 lineal feet of stone curb; and 10,000 lineal feet of wooden curb.

As of that day all grading was practically completed, all stone and wooden curbing was in place, the cross-bridging and granite stones for road crossings were ready to set, bricks to complete brick walks were on the grounds, and all topsoil was in

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19. Bailey to Quartermaster General, Dec. 1, 1898, doc. 100,175, Corr. 1890-1914, RG 92, NA.

20. Smith to Quartermaster General, Sept. 14, 1899, doc. 141, 570, Corr. 1890-1914, RG 92, NA.

and seeded except between captains' quarters 13 and lieutenants' quarters 16.[21]

Smith, after discussing the situation with Captain Bailey and Post Commander Burbank, concluded that it would take C. H. Connell another three weeks to a month to complete the roads, walks, and topsoiling.[22]

4. Area Cleaned Up

With most of the contracts completed and the garrison in possession of the structures, Captain Bailey received orders sending him to the Philippine Islands, where the United States was engaged in setting down an insurrection. He left Sandy Hook on September 21, 1899.[23] His replacement as constructing quartermaster was 1st Lt. LeVert Coleman.

Lieutenant Coleman, besides overseeing the final days of the Connell contract, had large quantities of rubbish, such as railroad ties abandoned by the contractors, removed. In October he spent $250 for a "temporary hedge" on the east side of the roadway fronting Officers' Row to prevent sand blowing from the unsodded sections of the grounds across roads and lawns. Additionally, catch basins were built to provide necessary drainage for the rear roads.[24]

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21. Rowland to Bailey, Sept. 13, 1899, doc. 141,570, Corr. 1890-1914, RG 92, NA.

22. Ibid.

23. Bailey, George G., ACP File, RG 94, NA.

24. Coleman to Quartermaster General, Oct. 20, 1899, doc. 98,760, Corr. 1890-1914, RG 92, NA.

In mid-November Coleman asked the quartermaster general for $3,900 to construct a 1,300-foot macadamized roadway connecting the post road system with the wharf. There was an imperative need for this road because the only way of reaching the wharf from the post was to drive or walk across loose sand behind buildings occupied by the proving ground and Corps of Engineer employees. This necessitated passing between outhouses and garbage stands. Most personnel and visitors, he also pointed out, arrived and left Fort Hancock by boat.[25]

Quartermaster General Ludington agreed, and a change order was written for C. H. Connell to construct the macadam road. This roadway, passing between the ordnance barracks and Sandy Hook lifesaving station, skirted the beach.[26]

C. Improvements to Grounds

1. Grounds Lighted

On November 28, 1898, the quartermaster general approved the purchase and installation of 20 gas streetlamps for lighting the grounds. They were Dietz pattern with wooden posts.[27] Employees for the Quartermaster Department positioned the posts during the winter.

2. Flagstaff (Structure 78) Erected

On December 10, 1898, Captain Bailey recommended to the quartermaster general that a 100-foot iron flagstaff, similar

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25. Coleman to Quartermaster General, Nov. 12, 1899, doc. 98,760, Corr. 1890-1914, RG 92, NA.

26. Merritt to Adjutant General, Nov. 28, 1899, doc. 98,760, Corr. 1890-1914, RG 92, NA.

27. Quartermaster General to Bailey, Nov. 29, 1898, doc. 112,017, Corr. 1890-1914, RG 92, NA.

to plan 47A, be erected on the Fort Hancock parade ground.[28] General Ludington agreed and ordered the flagstaff from the department quartermaster at St. Louis.[29]

The flagstaff was already on hand in January when Captain Bailey advertised for proposals to construct a concrete foundation and to then erect the flagstaff. H. L. Brown, the low bidder, was paid $550 for this project.[30]

3. Clothesline Poles for Officers' Quarters Positioned

In June 1899 Quartermaster General Ludington authorized the installation of 132 clothesline poles at the rear of the officers' quarters. Each pole had the following specifications: fabricated from cedar or chestnut, 11 feet long and 4 inches square on the lower 4 feet; the upper 7 feet was to be "turned tapering to 2½ inches," and topped by a ball 3½ inches in diameter. Each pole, after being painted, was set in the ground by department employees. Six poles were positioned behind each quarters.[31]

4. Other Details

Quartermaster Department employees also attended to other "detail" grounds work. They sprinkled the grass, built gravel walks (from the rear road to the sea bulkhead) and walkways connecting the stoops of all officers' quarters with the "completed road", boxed in the foundation of the lighthouse,

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28. Bailey to Quartermaster General, Dec. 10, 1898, doc. 124,794, Corr. 1890-1914, RG 92, NA.

29. Ludington to Bailey, Dec. 15, 1898, doc. 124,794, Corr. 1890-1914, RG 92, NA.

30. Bailey to Quartermaster General, Jan. 27 & April 24, 1899, doc. 124,794, Corr. 1890-1914, RG 92, NA.

31. Quartermaster General to Bailey, June 12, 1899, doc. 112,017, Corr. 1890-1914, RG 92, NA.

planted small shade trees from the woods and donated peach trees, brought earth from the woods for fertilizer, relocated a fire hydrant, removed an old lighthouse dock, and placed battens the length of the shore where sheathing had opened up. The employees also filled around stables, sheds, shops, and bakehouse where sand had blown out; placed sand breaks where necessary; and constructed brick walkways to the lavatory and to the commanding officer's quarters.[32]

D. Post Hospital (Building 19) Constructed

1. Plans and Specifications Approved and Contracts Awarded

George M. Sternberg, as the Surgeon General, was responsible for preparing plans for the post medical facilities at Fort Hancock. Therefore, on March 15, 1897, he transmitted to the quartermaster general blueprints and specifications for the construction of a 12-bed hospital and a separate set of quarters for the hospital steward. The plans included details of the required plumbing and heating fixtures. He requested that separate bids be submitted for the structures and plumbing.[33]

The surgeon general specifically requested that the hospital be heated with hot water and that the exterior of the hospital be faced with buff brick, like all the other permanent buildings on the post.

In late July Captain Devol advertised for proposals to construct hospital and steward's quarters. The low bidders were as follows:

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32. Smith to Quartermaster General, Sept. 14, 1899, doc. 141,570, Corr. 1890-1914, RG 92, NA.

33. Surgeon General to Quartermaster General, March 15, 1897, doc. 100,715, Corr. 1890-1914, RG 92, NA.

Frank W. McNeal--hospital construction	$17,993.50
Frank Stratton--plumbing installation	$722.00
Frank Stratton--gas piping installation	$90.00
Frank Stratton--heating system installation	$1,877.00
Eustice Brothers--steward's quarters construction	$3,775.00
Frank Stratton--plumbing installation (steward's quarters)	$147.00
Frank Stratton--gas piping installation (steward's quarters)	$11.00

On August 18, 1897, Secretary of War Alger approved the awarding of these contracts.[34]

2. Contractors Progress Rapidly

Frank W. McNeal was a vigorous contractor and soon had a working force at the Hook, while Eustice Brothers moved slowly. When Clinton Smith inspected the project in early December 1897, he found that McNeal's workmen would probably complete the hospital foundations before winter compelled them to suspend operations. The cellar for the steward's quarters had been excavated, but it was filled in with drifting sand, and there was no evidence that work had been done by Eustice Brothers.[35]

In June 1898 Frank W. Stratton reneged on his contracts for plumbing, gas piping, and heating for the hospital and steward's quarters. Captain Bailey, who had recently been

34. Alger to Quartermaster General, Aug. 18, 1897, doc. 100,175, Corr. 1890-1914, RG 92, NA.

35. Smith to Quartermaster General, Dec. 9, 1897, doc. 106, 014, Corr. 1890-1914, RG 92, NA.

named constructing quartermaster, notified Stratton's suretor, American Bonding Co., that Stratton had abandoned the contracts. The bonding company agreed to assume and complete the contracts.[36]

Captain Bailey was satisfied with the way construction was progressing on the hospital, but he was not pleased with the way work was going on the hospital steward's quarters. On July 21 Bailey complained that he was unable to get Eustice Brothers to push ahead. There were no construction materials at the site, and in the past 11 months they had accomplished little beyond positioning the foundations.[37] Galvanized into action by Bailey's warning, Eustice Brothers resumed work on the steward's quarters. By mid-August the walls had been raised to one story.[38]

In August 1898 Frank E. McNeal asked to be paid an extra fee for construction of storm porches with panel siding.[39] Quartermaster General Ludington, on reviewing the specifications, found that the hospital contractor was to "build and fit up, complete moveable storm porches at ward, bathroom, and rear entrances, three in all, of narrow matched and beaded white pine." Consequently, Frank W. McNeal was not entitled to any compensation.[40]

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36. Bailey to Quartermaster General, June 25 & July 2, 1898, doc. 100,175, Corr. 1890-1914, RG 92, NA.

37. Ibid., July 21, 1898.

38. Bailey to Quartermaster General, Aug. 16, 1898, doc. 100,175, Corr. 1890-1914, RG 92, NA.

39. Ibid., Aug. 27, 1898.

40. Quartermaster General to Bailey, Sept. 8, 1898, doc. 100, 175, Corr. 1890-1914, RG 92, NA.

When Captain Bailey inspected the hospital in December 1898, he kept in mind the provision of the painting specifications which read, "inside work on 1st, 2d, and 3d floors to have one coat of shallow and two coats of elastica No. 2 or Pratt & Lambert's No. 38 preservative. All hard wood requiring it to be filled. Each coat to be rubbed down with emery cloth or hand cloth."

He observed that the McNeal workmen had complied with this specification except that the final coat had not been rubbed down with an emery cloth. The finish looked very good but it lacked a gloss. When he rubbed it with emery paper, it did not improve the looks but tended to make the gloss both uneven and unsightly. The contractor would not rub in oil, which Captain Bailey believed would improve the woodwork's appearance.[41] On learning of this, Quartermaster General Ludington advised Captain Bailey that specifications were written to give a general, not a specific, description of the work.[42]

3. Hospital and Steward's Quarters Finished

In mid-December 1898 Captain Bailey notified the quartermaster general that the hospital was nearly finished and would be ready for acceptance by Christmas.[43] The hospital steward's quarters were finished in January 1899, and both

41. Bailey to Quartermaster General, Dec. 1, 1898, doc. 100,175, Corr. 1890-1914, RG 92, NA.

42. Quartermaster General to Bailey, Dec. 1, 1898, doc. 100,175, Corr. 1890-1914, RG 92, NA.

43. Bailey to Quartermaster General, Dec. 1, 1898, doc. 100,175, Corr. 1890-1914, RG 92, NA.

structures were declared ready for inspection by the post surgeon.[44]

E. Five Additional Structures Constructed

1. Plans Approved and Two Structures Contracted

On October 13, 1898, Captain Foster (the post commander) informed Captain Bailey that there was need for three additional structures at Fort Hancock--a guardhouse at the railroad trestle, an ordnance storehouse, and a combination waitingroom and guardroom at the wharf. The trestle guardhouse was essential and should be erected as soon as possible, he stated. The guards were living in tents and would require more substantial shelter during the savage Sandy Hook winters. Captain Foster suggested that the proposed guardhouse be a 16' by 10' frame structure, with a partition dividing the guardroom and kitchen.

The wharf waitingroom and guardroom was to be a 10' by 20' frame building, with a transverse partition separating the guardroom and washrooms. Captain Foster, to justify this structure, pointed out that it was necessary in inclement weather to afford shelter for personnel awaiting the arrival of boats from New York City.

Captain Foster called for the ordnance storehouse to be of brick, with five rooms--a 10' by 12' cordage room, a 12' by 20' general storeroom, and three 6' by 8' rooms (an office, instrument room, and an oil and paint room).[45]

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44. Ibid., Jan. 16, 1899.

45. Foster to Bailey, Oct. 13, 1898, doc. 112,213, Corr. 1890-1914, RG 92, NA.

Captain Bailey, after giving the request his endorsement, forwarded it to Washington. On November 14 the quartermaster general notified Captain Bailey that Secretary of War Alger had authorized the expenditure of $1,650 for construction of the ordnance storehouse and trestle guardhouse and $184 for erecting the wharf waitingroom and guardroom.[46]

Bailey promptly advertised for proposals to construct these structures, along with the detached lavatory. The bids were abstracted and forwarded to Washington in early December. After reviewing them, Quartermaster General Ludington directed Bailey to accept H. Probst's proposal to build the trestle guardhouse for $347 and the wharf waitingroom and guardroom for $398. The bids for the ordnance storehouse and lavatory were rejected as too high, and he told Bailey that work on the last two structures would be delayed until spring.[47]

2. Construction of Trestle Guardhouse and Wharf Waitingroom and Guardroom

The plan for the waitingroom and guardroom called for a "single floor," with no joists or other timbers underneath. This was done upon the assumption that it would be built directly over the deck of the wharf. After Captain Bailey had discussed the situation with the commanding officer of the proving ground, it was decided to site the waitingroom and guardroom directly above the water at the "V" formed by the two wings of the wharf,

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46. Quartermaster General to Bailey, Nov. 14, 1898, doc. 121, 213, Corr. 1890-1914, RG 92, NA.

47. Ibid., Dec. 10, 1898.

because of the space factor.[48] They also decided to locate the trestle guardhouse north of the railroad trestle.

Both of these simple frame structures were completed by H. Probst and turned over to the garrison by Captain Bailey in the spring of 1899.[49]

3. Construction of Lavatory and Ordnance Storehouse

Quartermaster General Ludington, in the spring of 1899, authorized Captain Bailey to build the ordnance storehouse and detached brick lavatory with day labor and local purchase of materials. The plumbing fixtures for the latter, costing $400, were purchased from J. G. Westwater.[50]

These two structures had been completed by the first week of September. Reporting this to Washington, Captain Bailey listed the cost of constructing the ordnance storehouse (building 43) at $2,264.76 and the lavatory (building 44) at $1,229.89. This was $932.34 under the low bid, although the ordnance storeroom had been provided with a basement that had a cement floor and a roof made of Ludowici tile.[51] Clinton Smith, when he made his final inspection in mid-September, pronounced that the two structures were satisfactory.[52]

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48. Bailey to Quartermaster General, Dec. 22, 1898, doc. 121,213, Corr. 1890-1914, RG 92, NA.

49. Smith to Quartermaster General, Sept. 14, 1899, doc. 141, 570, Corr. 1890-1914, RG 92, NA.

50. Quartermaster General to Bailey, May 19, 1899, doc. 121,213, Corr. 1890-1914, RG 92, NA.

51. Bailey to Quartermaster General, Sept. 4, 1899, doc. 121,213, Corr. 1890-1914, RG 92, NA.

F. A Garbage Crematory (Structure 40)

1. Contract Awarded to Laughran & Behrman

Funds having been appropriated for construction of a garbage crematory, proposals were solicited. The low bid, submitted by Laughran & Behrman, was accepted by Captain Bailey and approved by the quartermaster general. Work was commenced in the summer of 1898 and rushed to completion, as the newly arrived garrison badly needed a crematory for garbage disposal.[53]

2. Crematory's Firebox Damaged and Repaired

The crematory was turned over to the garrison by Captain Bailey on October 3, 1898, and until July 29, 1899, was in continuous operation. On that date, a soldier on KP, through carelessness, had sought to burn 1,210 pounds of bacon and a large quantity of tobacco. This overtaxed the capacity of the crematory--the furnace was clogged, the grates melted, and the brick linings burned out.[54]

Lieutenant Colemen, Captain Bailey's successor, believed the absence of any dampers had contributed to putting the crematory out of operation. He urged that a man be placed in charge of the crematory who was familiar with its care and operation. It would be better to hire a civilian than to detail enlisted men, Coleman added.[55]

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52. Smith to Quartermaster General, Sept. 14, 1899, doc. 141,570, Corr. 1890-1914, RG 92, NA.

53. Bailey to Quartermaster General, Dec. 22, 1898, doc. 121,213, Corr. 1890-1914, RG 92, NA.

54. Smith to Quartermaster General, Sept. 14, 1899, doc. 141, 570, Corr. 1890-1914, RG 92, NA.

55. Coleman to Quartermaster General, Oct. 16, 1899, doc. 140,129, Corr. 1890-1914, RG 92, NA.

Quartermaster General Ludington allotted $350 for repair of the crematory's firebox but rejected the proposal to employ a civilian operator.[56]

Lieutenant Coleman then suggested and received authority from the quartermaster general to erect a brick shed for protecting the man assigned to operate the crematory during inclement weather. The shed was to also provide storage and safekeeping for firing tools and fuel.[57]

G. Quartermaster Department and the Sea

1. Protection of the Shoreline Fronting Officers' Row

a. Bulkhead Built

On December 10, 1896, Captain Devol transmitted to the quartermaster general plans and specifications for sheet piling to protect the shore fronting the Officers' Row site at Sandy Hook Bay. He argued that some form of protection was necessary because beach erosion, although it would never become serious, was sufficient to wear away the beach front unevenly and "spoil its appearance."[58]

Quartermaster General Sawtelle recommended, and Secretary of War Lamont approved, the expenditure of $11,640 for construction of a bulkhead on the west side of Sandy Hook for protection of the cove fronting Fort Hancock. This expenditure

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56. Quartermaster General to Coleman, Oct. 28, 1899, doc. 140,129, Corr. 1890-1914, RG 92, NA.

57. Coleman to Quartermaster General, Oct. 10, 1899, doc. 140,129, Corr. 1890-1914, RG 92, NA.

58. Bailey to Quartermaster General, Dec. 10, 1896, doc. 97,922, Corr. 1890-1914, RG 92, NA.

was to be charged against the transportation appropriation, and about 3,500 feet of sheet piling was required for the project.[59]

About fifteen proposals were received in response to Captain Devol's announcement inviting bids for construction of the bulkhead. Edward B. Jenks, whose bid of $1.94 per lineal foot was low, was awarded the contract. He planned to build the bulkhead of chestnut pilings and yellow pine lumber.[60]

Jenks moved with alacrity. By mid-April he had a large force onsite. The 3,200 feet of timber bulkhead had been positioned by mid-summer, well before the September equinox.[61]

b. Reinforcing the Bulkhead

The bulkhead was soon tested. In July 1898 Captain Bailey requested and received authority from Washington to spend $90 for hire of labor to refill a "cavity" washed by recent storms behind the sheet piling driven by Jenks the previous year.[62] Then, a late November storm smashed several hundred feet of the Jenks sheet piling near South Beacon. Temporary repairs prevented more sheeting from being washed out, but Bailey saw that more substantial work would have to be made promptly if the bulkhead were to be maintained. Some of the piles needed to be

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59. Quartermaster General to Devol, Jan. 25, 1897, & Sawtelle to Lamont, Feb. 2, 1897, doc. 93,924, Corr. 1890-1914, RG 92, NA.

60. Quartermaster General to Devol, Feb. 20, 1897, doc. 97,922, Corr. 1890-1914, RG 92, NA.

61. Contract, Jenks with the United States, Feb. 19, 1897, doc. 97,922, Corr. 1890-1914, RG 92, NA.

62. Bailey to Quartermaster General, July 15, 1898, doc. 97,922, Corr. 1890-1914, RG 92, NA.

redriven, sheeting renewed, and the entire work rebuilt for a distance of 164 feet.[63]

On December 15 Captain Bailey submitted plans and specifications for reconstruction of the bulkhead near South Beacon. At the same time he proposed to strengthen the remainder of the bulkhead at such points as required by driving the "piles back there from and by securing same by means of rods."[64] Quartermaster General Ludington approved the proposal. On January 30, 1899, C. H. Connell was awarded the contract for repair of the pile revetment.[65]

Before the contractor could begin work, a mid-February storm caused the break in the bulkhead abreast South Beacon to reopen, letting the backfill out, and damaging the sheet piling for an additional distance of 90 feet. Immediately preceding the blow, there had been an unusually high tide that had covered sections of the bulkhead, washed out some of the sandfill, and left the piles more susceptible to damage from the surf.

The bulkhead, Bailey explained, had a frontage of 3,200 feet. Commencing at its southern end and extending north for 800 feet, it was secure and in no danger because of the abundance of sand banked along its front on the beach. Toward the north the sand had gradually washed away from the front, leaving the bulkhead vulnerable. Near the center of the barrier

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63. Bailey to Ludington, Nov. 30 and Dec. 5, 1898, doc. 97,922, Corr. 1890-1914, RG 92, NA.

64. Bailey to Quartermaster General, Dec. 18, 1898, doc. 97,922, Corr. 1890-1914, RG 92, NA.

65. Ludington to Bailey, Dec. 19, 1898, & Jan. 27, 1899, doc. 97,922, Corr. 1890-1914, RG 92, NA.

for about 500 feet, the storms had caused the piling to lean from the top toward the beach but not enough to warrant redriving the piles.

Contractor C. H. Connell was notified not to begin work until Captain Bailey had taken up the subject with the quartermaster general. When he did, Captain Bailey suggested that the 1,000-foot section of the bulkhead fronting the area between quarters 2 and 10 be shielded by riprap. However, it seemed advisable to permit C. H. Connell to proceed with the work of renewing 250 lineal feet instead of the 164 feet as previously intended. This would cost an extra $400 above the $2,000 originally allotted for the project.

Quartermaster General Ludington agreed and allotted $400 to repair the latest blowout in the bulkhead on March 3.[66] C. H. Connell moved promptly, and the gap torn in the bulkhead was sealed by March 8 when Captain Bailey opened proposals for construction of a riprap wall fronting the sheet piling.[67]

c. Riprapping the Bulkhead

The low bidder was Julian S. Smith, who was to build the riprap wall in front of the sheet piling for $1.17 per ton. On March 22, having secured War Department approval, Captain Bailey contracted with Smith.[68]

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66. Ibid., March 3, 1899.

67. Bailey to Quartermaster General, Feb. 18, 1899, doc. 97,922, Corr. 1890-1914, RG 92, NA.

68. Contract, Julian Smith with the United States, March 23, 1899, doc. 97,922, Corr. 1890-1914, RG 92, NA.

In mid-September a large force, Inspector Smith observed, was putting in stone along the shore of Sandy Hook Bay, fronting the post for protection against the surf.[69] By late autumn the riprap had been positioned and the allotment exhausted.

d. Dingle Study and 1902 Improvements and Jetties

Storms during the winter of 1900-1901 eroded much of the sand from in front of the bulkhead. Numerous holes and cracks in the lower part of the sheathings were exposed through which the fill in the rear of the bulkhead had been carried away by the pounding surf.[70] The quartermaster general allotted $100 for temporary repairs.

The quartermaster clerk, J. R. Dingle, in accordance with a request by Post Commander J. B. Burbank, carefully examined the bulkhead in September 1901. He found it "in fair condition, being apparently tight and sound the full length, with exception of a few places where small holes in the rear indicate some leakage." The beach fronting the bulkhead, however, had been cut away by the action of the waves, until the sand surface averaged 8 feet below the top of the bulkhead.

Storms in the spring of 1901 had lowered the level of the beach in front of the hospital about 2 feet and had necessitated the expenditure of $100 to repair the bulkhead. The current at this point was very strong because the curve was unprotected by riprap which extended from quarters 1 to quarters 17.

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69. Smith to Quartermaster General, Sept. 14, 1899, doc. 141, 570, Corr. 1890-1914, RG 92, NA.

70. Mills to Post Adjutant, Fort Hancock, March 27, 1901, doc. 97,922, Corr. 1890-1914, RG 92, NA.

As the level of the beach was only about a foot above the planking of the bulkhead, Dingle deemed it imperative to strengthen it by extending the riprap 500 feet and reinforcing the sunken wall. This, he argued, would be equal to building 1,000 feet of new wall. Unless this were done, he feared that the winter storms would seriously damage this unprotected section of the bulkhead. If it gave way, there would be a great loss of sandfill because the ground surface rose rapidly to the curb of the road fronting Officers' Row, 75 feet away.

Dingle was of the opinion that short jetties, constructed at right angles to the line of riprap and of the same material, would not only prevent the scouring action which undermined the bulkhead but would also tend to build up the beach until the space between the jetties filled with sand. He estimated the cost of this work at $6,435.[71]

Major Burbank approved and forwarded Dingle's report to the headquarters, Department of the East.[72] On October 31 the Secretary of War approved the expenditure of $3,600 to repair and strengthen the bulkhead. However, no funds were included for the jetties.

Quartermaster General Ludington forwarded a recommendation regarding the repair of the bulkhead to the chief quartermaster, Department of the East. He suggested that the stones comprising the riprap be divided into two weight ranges--half the stones were to weigh between 10 and 200 pounds

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71. Dingle to Burbank, Sept. 17, 1901, doc. 40,774, Corr. 1890-1914, RG 92, NA.

72. Burbank to Adjutant General, Department of the East, Sept. 18, 1901, doc. 40,744, Corr. 1890-1914, RG 92, NA.

and the remaining half were to weigh between 200 and 1,500 pounds. Also, he suggested that the smaller stones be deposited on the interior.[73]

On November 2 Julian C. Smith signed a contract with the Fort Hancock quartermaster, 2d Lt. Daniel F. Craig, and agreed to construct an addition to the riprap seawall and to repair an existing section of that seawall.[74]

Lieutenant Craig reported on May 10, 1902, that $2,836.50 of the original $3,600 had been spent for the repair and extension of the riprap. He wished to use the balance of the allotment for the purchase and installation of additional riprap and to position three more jetties, all under the Julian Smith contract.[75] This proposal was approved.

e. Continuing Fight Against the Sea

Two years later, on February 11, 1903, a new quartermaster, 2d Lt. John M. Dunn, found that the bulkhead had been damaged after a storm by surf gradually cutting away the beach in front, until the bottoms of the shortest planks were reached. This had allowed the sandfill in the rear of the pilings to escape. The loss of about 1,000 cubic yards of sandfill had therefore resulted.

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73. Quartermaster General to Chief Quartermaster, Department of the East, Nov. 2, 1901, doc. 97,922, Corr. 1890-1914, RG 92, NA.

74. Craig to Quartermaster General, Nov. 22, 1901, doc. 97,922, Corr. 1890-1914, RG 92, NA.

75. Craig to Post Adjutant, May 10, 1902, doc. 97,922, Corr. 1890-1914, RG 92, NA.

He recommended replacement of the short planks that were no longer sound along the southern 500 feet of the bulkhead. Once this had been accomplished, riprap would be deposited here as it had been elsewhere. Dunn also urged that "three extra rip-rap jetties" be positioned at intervals to break up the scouring action of the sea. The three jetties built by Lieutenant Craig in 1902 had been successful, having gathered and held the shifting sand that formed a beach.[76]

General Ludington had already recommended that $5,000 be allotted for the undertaking, and Secretary of War Elihu Root gave his approval on March 4. 1st Lt. James M. Wheeler, who had replaced Dunn as post quartermaster, contracted in May with Richard Parrott to repair the bulkhead and to construct an addition to the riprap wall.[77]

Although Parrott discharged his obligation, a storm on September 14-15, 1904, cut away about 100 yards of bulkhead in front of the hospital. The constructing quartermaster, Capt. Abraham S. Bickham, reported that the Jenks bulkhead along this section of the cove no longer had any riprap on the bay-side, all of it having been gradually washed out. The "piles, being raised from the sand, were strewn with other debris along the beach." To repair the damage, $1,800 was needed.[78] The requested funds were allotted, and the bulkhead along this section of the cove was rebuilt and buttressed with riprap.

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76. Dunn to Post Adjutant, Feb. 11, 1903, doc. 162,545, Corr. 1890-1914, RG 92, NA.

77. Wheeler to Quartermaster General, May 26, 1903, doc. 97,922, Corr. 1890-1914, RG 92, NA.

78. Bickham to Post Adjutant, Sept. 15, 1904, doc. 97,922, Corr. 1890-1914, RG 92, NA.

2. Quartermaster Department Repairs Camp Low Dock

On November 18, 1896, Captain Devol had forwarded a drawing of a dock to Quartermaster General Sawtelle. It was proposed to be 400 feet by 32 feet, with pilings driven into the bottom for 200 feet along the bayside to protect it from westerly storms. The dock and pilings would cost an estimated $9,000. A road to connect the dock with the new post also had to be built.

The proposed dock site on the Horse Shoe was well protected, and landings could be made in all kinds of weather. The only interruptions to traffic which Devol had foreseen would be sheet ice.[79] General Sawtelle vetoed the proposal, because he believed that the engineers' and ordnance wharves would suffice. If the contractors desired, they could repair the Camp Low dock at their expense to facilitate delivery of building materials.

About two years later, in October 1898, Captain Bailey complained to Quartermaster General Ludington, General Sawtelle's successor, that the wharves north of the fort, employed for unloading and loading passengers and freight, were unsatisfactory during storms. Because of their exposed situation, captains found it impossible to bring their vessels alongside when seas were running high. During severe storms, it was impossible for a craft to remain tied up.

Echoing his predecessor, Bailey urged that a new dock be constructed at the Horse Shoe near the dilapidated Camp Low wharf. Here, there was good holding ground where there was ample water for vessels drawing more than 12 feet of water.

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79. Devol to Quartermaster General, Nov. 18, 1897, doc. 97,922, Corr. 1890-1914, RG 92, NA.

Although the old wharf was "rotten and practically worthless," Bailey believed that much of the materials might still be salvaged.

Bailey estimated that the cost of a new wharf would be $8,500 for a 150' by 50' roadway approach and a 40' by 150' dock, if it were built of the best piles and Georgia yellow pine.[80] Ludington rejected Bailey's proposal.[81]

The post quartermaster, 2d Lt. Morrell M. Mills, took a new tack to accomplish the same goal in March 1901, when he transmitted through channels plans for the repair of the Camp Low wharf at a cost of $3,575.50. To justify the expense, Mills reiterated that the proving ground wharf was "much exposed and in stormy weather it is sometimes impossible for boats to make a landing there." In summer it was often so crowded with boats and scows landing guns, and other vessels and materials for the proving ground, that there was no room for other craft to tie-up. This caused delays and bad feelings.

The Camp Low dock, Lieutenant Mills reported, had been acquired by the United States from the Central Railroad in October 1891. It had not been new then, and in the years since, time and neglect had taken their toll. At this time the dock was in a deteriorated condition, some of the supports and spring pilings along the face of the structure were missing, some of the deck plank and stringers were decayed, and the only approach to the dock from the shore was a "crude one 10 feet in width constructed for temporary" use by one of the contractors.

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80. Bailey to Ludington, Oct. 13, 1898, doc. 97,922, Corr. 1890-1914, RG 92, NA.

81. Ludington to Bailey, Oct. 20, 1898, doc. 97,922, Corr. 1890-1914, RG 92, NA.

Lieutenant Mills reported that whenever construction was resumed at Fort Hancock, it would be desirable for the Quartermaster Department to have a dock where contractors might land materials without being subjected to annoying delays.[82] This time Quartermaster General Ludington approved the project and allotted the necessary funds. On May 7 Lieutenant Mills contracted with William Parrott ro repair the Camp Low dock.[83]

3. Ocean Threatens Railroad Trestle

It was in December 1898 that the post commander, Capt. C. W. Foster, called attention to the threat to the railroad trestle caused by beach erosion. To combat this, he suggested that the oceanfront east of the trestle be protected by rock. The sea, he pointed out, had several times in recent years flooded the narrow neck, and it was but a question of time before it severed Sandy Hook from the mainland. If this occurred, it would "mean a still further extension of the trestle, and many more times costly rock work to protect it than will be necessary to protect the shore."[84]

Captain Bailey was directed to investigate the situation. He was onsite during a severe January 1899 storm, with the wind howling out of the southeast and a flood tide. He found the ground surface near the trestle "but little above mean tide, and the distance across the neck less than 400 feet." The surf, although not then sweeping across the 400 feet, was threatening to

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82. Mills to Quartermaster General, March 6, 1901, doc. 97,922, Corr. 1890-1914, RG 92, NA.

83. Ibid., May 7, 1901.

84. Foster to Adjutant General, Dec. 19, 1898, doc. 97,922, Corr. 1890-1914, RG 92, NA.

do so. Bailey saw that if the wind had been any stronger or the tide any higher, the sea would have flooded the neck.

Debris lodged here and there proved to Bailey that the sea had recently swept across the neck from the ocean into the Shrewsbury River. Surfmen from the Spermaceti Cove Life-saving Station told him that the breakers frequently broke through and had recently necessitated relocation of the halfway house several hundred yards to the north.

Bailey reported that the engineers had recently constructed, at a cost of $75,000, a riprap seawall to shield the neck from Highland Beach to a point about 50 feet beyond the northern end of the trestle. The engineers' wall had been designed to prevent the ocean from breaching the neck and making an inlet into the Shrewsbury River, but it had caused sand to accumulate around the riprap forming a breach along its southern half.

If this seawall were extended north 2,700 lineal feet to a projecting point, Captain Bailey noted, protection would be afforded to both the area mentioned by Captain Foster and the trestle. There was a question, however. If the wall were extended up the beach, would the sea then turn its fury against the area where the barrier terminated, gradually washing away the sand, "thus causing a few rods to the north the same difficulty now encountered at the present terminus?"[85]

Captain Bailey estimated that a 2,700-foot extension to the seawall would cost $32,400. But Quartermaster General

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85. Bailey to Quartermaster General, Jan. 19, 1899, doc. 97,922, Corr. 1890-1914, RG 92, NA.

Ludington, satisfied that protection of the Sandy Hook communications was the responsibility of the Corps of Engineers, refused to allot any funds for such a project.

VII. THE TROOPS AND FORT HANCOCK: 1898-1914

A. Fort Hancock and the Spanish-American War

1. The Garrison Arrives

The failure by the contractors to complete the post buildings, as scheduled in the autumn of 1897, compelled the War Department to hold in abeyance plans to garrison Fort Hancock during the winter of 1897-98. On February 5, 1898, Insp.-Gen. J. C. Breckinridge reminded the quartermaster general that artillery garrisons were needed at Fort Hancock to man the four completed batteries.[1]

The destruction of the U. S. battleship Maine, with heavy loss of life in La Habana harbor on February 15, edged the nation to the brink of war with Spain and underscored Breckinridge's note. "Remember the Maine" became the cry of the hour of an enraged American public.

Four days after the blowing up of the proud warship, a 20-man detachment from Batteries E, K, and L, 5th U.S. Artillery, commanded by Lt. Conway Arnold, landed at Sandy Hook. Having secured permission from the engineers, Lieutenant Arnold and his men took up quarters in the old engineer barracks near the wharf. Arnold and his people had been sent to Sandy Hook as an advance echelon to prepare a camp for a battalion of heavy artillery.

Tents had been pitched and a camp site cleared behind the old masonry fort by March 14. On that day General Meigs made several trips down the bay from Forts Hamilton and Wadsworth, bringing the men of Batteries A and L, 5th U. S.

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1. Breckinridge to Quartermaster General, Feb. 5, 1898, doc. 108,659, Corr. 1890-1914, RG 92, NA.

Artillery. Ignoring the good-natured jeering of the men of the ordnance detachment, the artillerists marched from the wharf to their camp. On March 19 they were reinforced by Batteries C and M, 5th U. S. Artillery, which had made the trip down from Fort Slocum aboard General Meigs. With these troops came Lt. Col. Tully McCrea who assumed command of Fort Hancock.[2]

Early in April, as the international crisis worsened, two noncommissioned officers and 12 privates from Company D, U. S. Engineer Battalion, reached Fort Hancock from Willetts Point. While the artillerists familiarized themselves with the big guns and mortars, these men positioned and activated the submarine minefield.[3]

On April 25 the Congress declared that a state of war had existed with Spain since the 21st. For the next three weeks, the Fort Hancock garrison, as well as others manning Atlantic seacoast defenses, kept a sharp lookout for the Spanish fleet led by Adm. Pascual Cervera y Topete, which had sailed from the Cape Verde Islands. By mid-May it was known that Cervera's fleet had arrived in the Caribbean, and the garrison relaxed its vigilance slightly.

On May 19 the officers and men of Battery M, 5th U. S. Artillery, said goodbye to their comrades of McCrea's battalion and boarded General Meigs for the first stage of their long journey to Tampa, Florida. At Tampa, they were scheduled to join the force that Maj. Gen. William R. Shafter was massing to help

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2. Fort Hancock, Returns from U. S. Posts, 1800-1916, Microcopy 617, NA.

3. Ibid.

liberate Cuba. They were replaced at Sandy Hook by Battery M, 6th U. S. Artillery, brought down from Fort Hamilton.[4]

Six days later, on May 25, the 2d and 3d Battalions, 3d New Jersey Volunteer Infantry (31 officers and 655 enlisted men), reached Fort Hancock by rail from Sea Girt. The volunteers established their tent city at Camp Low. On June 21 Lt. Col. Benjamin Holmes of the New Jersey regiment, as senior officer present, relieved Colonel McCrea as post commander. On July 3 the United States fleet destroyed Cervera's squadron, and with U. S. forces closely investing Santiago-de-Cuba, the Fort Hancock garrison was reduced. On July 4, Battery A, 5th U. S. Artillery, returned to Fort Hamilton, and on July 12, Companies C and K, 3d New Jersey Volunteer Infantry, left for Fort Wadsworth.[5]

2. Major Crozier's Inspection

During the fourth week of July, Maj. William Crozier of the Ordnance Department inspected the armament. He found that Battery Granger (10-inch battery no. 1) was manned by Battery C, 5th U. S. Artillery. Both the guns and carriages were in "excellent condition in regard to cleanliness and maneuvered freely in all respects." Drifting sand, however, was a problem, so he called for tarpaulins to keep it out of the mechanisms. The magazines were dryer than most of those inspected, but the powder cases were wet. The lids of many had been left unclamped, endangering the sealing.

The mortar battery was served by Battery M, 6th U. S. Artillery. Major Crozier was pleased to find the matériel "in

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4. Ibid.

5. Ibid.

good condition and fit for service." The carriages maneuvered freely, with the exception of nos. 4 and 15. The mortar on the former touched the guide for the breech in elevating it, and the carriage of the latter required the combined strength of four men to traverse it. The magazines were very damp, with a large quantity of powder stored in barrels.[6]

Battery L, 5th U. S. Artillery, was in charge of the lift-gun battery. Major Crozier was disappointed to see that the carriages were not in the condition they should be, the chassis slides not being properly cleaned. The retraction pump for carriage 2 only functioned at one end, thus requiring double the time of no. 1 for retraction. Otherwise, the carriage maneuvered satisfactorily. Gun 1 had been provided with a telescopic sight. The magazines were damp from condensation, with the floor of one quite wet. The powder was stored in sealed cases.[7]

Battery Halleck, 10-inch battery no. 2, was manned by men from the ordnance detachment. On the outbreak of war, they had been volunteered for this duty by proving ground commander Capt. Frank Heath. Major Crozier found that the three guns and their carriages maneuvered freely, were in good condition, and were properly assembled, except that the disk in rear of the split rings of the breech mechanism of gun 35 was reversed. As with the other batteries the magazines were damp. Also, two of the three guns had their fields of fire partially obstructed by several frame structures belonging to the Western Union and Postal Telegraph Companies.[8]

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6. Crozier to Chief of Ordnance, Aug. 15, 1898, doc. 23,564, RG 156, General Corr. 1894-1914, NA.

7. Ibid.

8. Ibid.

Personnel from Battery M, 6th U. S. Artillery, manned the Dynamite Gun Battery, along with three civilians (a superintendent, engineer, and fireman) employed by the Ordnance Department to operate the air compressing plant. The power for compressing the air, which propelled the projectiles, was provided by four horizontal return tubular boilers of 100-horsepower each. Also constituting the plant were two duplex boiler feed pumps, two injectors, two air compressors, one dynamo engine, and a dynamo for furnishing electricity for training the guns.

Major Crozier criticized the sandbag parapet recently positioned by the Corps of Engineers. It left so little space around the three guns that ammunition service was troublesome and slow. Thirty-one loaded projectiles, with fuses and primers, were stored in the small magazine.[9]

Battery C, 5th U. S. Artillery, was responsible for three guns (a 5-inch siege gun, 7-inch howitzer, and 4.7-inch Schneider rapid-fire gun) recently emplaced to prevent penetration of the minefield by small craft. Major Crozier found the concrete platforms for the last two pieces unsuited for the guns to be "fired at high elevations from carriages with wheels and axles."[10]

3. Peace Returns and Most Troops Depart

Spain, having suffered a series of bitter defeats in the Caribbean and Philippines, asked for peace in August. Even before the war ended, Colonel Holmes with his staff and four companies of his 3d New Jersey Volunteer Infantry left Fort Hancock by rail for Pompton Lakes on August 2. The remaining

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9. Ibid.

10. Ibid.

two companies of the regiment stationed at Camp Low entrained on August 16, en route to Pompton Lakes. On the same day, their place was taken by another volunteer unit--Battery A, 1st Colorado Artillery. The Coloradans had traveled to the east coast from Fort Logan, Colorado.

On August 19 Battery M, 5th U. S. Artillery, returned to Fort Hancock, having spent two months in Florida. The unit's stay at Sandy Hook was abbreviated; on September 1 it was shifted to Fort Wadsworth. Meanwhile, the engineer detachment had been busy taking up and storing the submarine mines and cables. This task completed, they returned to Willetts Point on August 27.[11]

By September the Fort Hancock garrison had been reduced to three companies of regulars--Batteries C and L, 5th U. S. Artillery; Battery M, 6th U.S. Artillery; and Battery A, lst Colorado Artillery. Capt. C. W. Foster of Battery M, 6th U. S. Artillery, had assumed command of the post on September 1.[12]

Nine weeks later, on November 7, the number of units at Fort Hancock was reduced by one, when the officers and men of Battery A, 1st Colorado Artillery, were mustered out. Meanwhile, the troops had taken down their tents and moved into the handsome barracks. In the spring of 1899, on April 9, Battery M, 6th U. S. Artillery, was detached and started for its new post in the Philippine Islands. Captain Foster having accompanied his

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11. Fort Hancock, Post Returns for U.S. Posts, 1800-1916, Microcopy 617, NA. Capt. Garland Whistler of Battery M, Fifth U. S. Artillery, had, as senior officer, commanded the post from August 19 to September 1.

12. Ibid.

unit, Capt. Eldridge R. Hills was sent over from Fort Hamilton to command Fort Hancock. On June 15 Captain Hills' unit, Battery I, 5th U. S. Artillery, arrived from Fort Hamilton, again raising the number of units at the post to three.[13]

B. The 20th Century at Sandy Hook

1. Major Burbank Takes Command

On August 27, 1899, Maj. James B. Burbank of the 5th U. S. Artillery and a Civil War veteran reached Fort Hancock from Albany, New York, and relieved Captain Hills as battalion and post commander. On the last day of September, Major Burbank and the officers and men of Batteries I and L, 5th U. S. Artillery, left the post at 6 a.m. aboard General Meigs. They returned at 6:30 p.m., having participated in the parade staged in New York City to welcome Admiral Dewey on his return to the United States from service in the Far East.

Maj. Gen. Wesley Merritt, commander of the Department of the East, visited Fort Hancock on November 17. After inspecting the troops and seacoast defenses, he returned to Governors Island. On January 5, 1900, Battery C, 5th U. S. Artillery, was transferred to Fort Hamilton. It was replaced by Company A, 5th U. S. Artillery, which arrived from Fort Columbus four days later.

At 2 p.m., on February 8, Major Burbank, accompanied by Batteries A and L and an 18-man detachment from Battery I, departed Fort Hancock for Washington, D.C., to form part of the escort in the funeral parade for Maj. Gen. Henry W.

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13. Ibid. Posted at Fort Hancock on June 30, 1899, were Batteries C, I, and L, 5th U. S. Artillery.

Lawton. They returned at noon on February 10. On May 30, Major Burbank and a detachment from Battery I marched in the Brooklyn Memorial Day parade.[14]

On June 11 Battery I, accompanied by Major Burbank, traveled to Camp Otis at Rochester, New York, to participate in training exercises. They returned to Fort Hancock on June 18. On June 26, Battery A was transferred to Fort Hamilton, the same day that Battery O, 4th U.S. Artillery (recently stationed at Fort Monroe, Virginia), disembarked from General Meigs. The unit's first sergeant was Tom Mix of subsequent circus and motion picture fame.

On July 24 Battery I, 5th U. S. Artillery, was sent to Fort Columbus for 2½ weeks of temporary duty. During late autumn the post lost Battery L, 5th U. S. Artillery, which left for Puerto Rico on November 14 and gained Battery E, 5th U.S. Artillery, which came ashore at Sandy Hook on December 3. Several weeks before, on November 8-9, Colonel P.D. Varoom, inspector-general for the Department of the East, had inspected the post and garrison.[15]

2. The Coast Artillery Established and Batteries Redesignated

The complexity of the Endicott system called for action to upgrade personnel assigned to the army's heavy artillery. Legislation signed into law by President McKinley on March 2, 1899, for reorganization of the army provided for enlistment of two

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14. Ibid.

15. Ibid.

mechanics in each battery of heavy artillery and of an electrician sergeant at each artillery post.[16]

Then, in 1901, Congress established the organization of the army at 15 regiments of cavalry, 30 regiments of infantry, and a corps of artillery. Although this did not affect weaponry or the character of the fortifications, it was of great importance to harbor defense activity in the United States for the next half century. The Corps of Artillery was to consist of two branches--the Coast Artillery and the Field Artillery. This identified a situation that had existed since commencement of construction of the Endicott system and the advent of modern rifled ordnance. It recognized seacoast artillery as "a distinct branch of service," whose "officers and men must, in order to obtain the greatest proficiency, be specialists to a greater degree" in technical matters, such as handling of heavy ammunition, fire control, and nighttime harbor illumination. The Coast Artillery would be responsible for the "care and use of the fixed and moveable elements of land and coast fortifications, including the submarine mine and torpedo defenses." The Field Artillery would accompany the army in the field and would include horse artillery, field and light artillery, mountain guns, and machine guns.

Officers were assigned to the coast or field artillery according to their aptitude. The existing seven artillery regiments were reorganized into 126 companies of Coast Artillery, 30 batteries of field artillery, and ten bands. Consequently, on February 18, 1901, Battery O, 4th U.S. Artillery, was redesignated the 48th Company Coast Artillery; Battery I, 5th U.S. Artillery, as the 55th

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16. Frederic L. Huidekoper, The Military Unpreparedness of the United States: A History of American Land Forces from Colonial Times until July 1, 1915 (New York, 1915), p. 227.

Company Coast Artillery; and Battery E, 5th U.S. Artillery, as the 52d Company Coast Artillery. Each company possessed sufficient personnel to man either a major caliber gun or mortar battery, two or more rapid-fire batteries, or a mine battery.[17]

3. Colonel Stewart Replaces Colonel Burbank

On April 8, 1901, the 52d Company was sent to Fort Columbus. To replace the unit, on June 12 the 95th Company Coast Artillery was organized around a 52-man cadre transferred from the 48th Company. For the first time since 1898, the post was garrisoned by four companies.

October 1901 was a busy month for the troops. From October 2 to 4, there was the required annual service artillery practice. On October 23, 40 enlisted men were detached from the 55th Company and sent to Fort Hamilton to join the 123d Company. Thirty-six recruits arrived at the post, and after being processed, half were assigned to the 55th Company, and, half were ordered to join the 128th Company at Fort Hamilton. On October 24, the commander of the Southern District, New York Harbor Defenses, inspected the armament, and Colonel Varoom, the inspector-general, was at the post from October 30 through November 2 on an official inspection.[18]

On November 6, 41 recruits arrived at Sandy Hook from Columbus Barracks, Ohio, for assignment to the 55th Company. The district commander was back at Fort Hancock on November 27 to inspect the fire control system.[19]

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17. Ibid., p. 253.

18. Fort Hancock, Returns from U.S. Posts, 1800-1916, Microcopy 617, NA.

On July 29, 1902, the 48th Company departed the post for Fort Terry, New York, to participate in annual joint army-navy maneuvers. The company returned on September 15. While the unit was absent, Colonel Burbank, who had commanded the post for three years, was replaced as post commander on September 4 by Col. W.F. Stewart.

Four companies of Coast Artillery (the 50th, 53d, 57th, and 86th) from Fort Wadsworth were at Sandy Hook for most of October. They camped at Camp Low, where they fired on the rifle range.

Secretary of War Elihu Root spent November 2 at Sandy Hook, inspecting the post and defenses. On December 29 Maj. Gen. Adna R. Chaffee, commander of the Department of the East, was at Fort Hancock.[20]

On January 7 and 8, 1903, the gunners were given an examination to test their proficiency. Ten weeks later, on March 26, there was target practice. The 48th, 55th, and 95th companies fired the 15-pounder rapid-fire guns, the 55th Company fired the 10-inch disappearing guns of Battery Granger, and the 95th Company fired the 12-inch mortars. There was a death at the post on April 23, 1903, when Q.M. Sgt. William F. Madigan of the 95th Company died in the post hospital.

The First Class of cadets from the U.S. Military Academy made the first trip of what was to become an annual field trip to Fort Hancock on May 3. While on post, the cadets watched

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19. Ibid.

20. Ibid. Burbank had been promoted to lieutenant colonel on February 22, 1901.

the firing of the 12-inch mortars. On May 18 there was target practice at the post with the 48th Company firing the 15-pounders, the 55th Company firing the 15-pounders and 10-inch disappearing guns, and the 95th Company firing the 15-pounders and 12-inch mortars.

On May 29 the 55th and 95th companies left Fort Hancock to participate in the joint army-navy maneuvers held at Portland, Maine. They returned on September 17. While they were absent, there had been an accident at the proving ground. On July 23 a 12-inch mortar, being fired from the proof battery, burst. No one was injured, but fragments from the piece damaged several post and proving ground structures. Most seriously damaged were the chimney of the commanding officer's quarters, a sentry box at the corner stables, the quartermasters' stables, and the smokestack at the gun-lift battery.[21]

On September 13 the garrison was again increased to four units by the addition of the 113th Company, which was transferred to Fort Hancock from Fort McKinley, Maine.[22]

Colonel Stewart, having commanded the post for 55 weeks, was relieved by Lt. Col. Peter Leary on September 29.

4. Colonel Leary's Ten Months at Fort Hancock

The 95th Company held subcaliber practice with the 15-pounder guns on December 3, and the 55th Company practiced

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21. Ibid.; Board to Smith, Sept. 8, 1902, doc. 23,564, RG 156, General Corr. 1894-1913, NA.

22. Fort Hancock, Returns from U.S. Posts, 1800-1916, Microcopy 617, NA.

the following day. On December 16 the Southern District commander arrived at Sandy Hook to supervise target practice with the big guns. An accident aboard the tug, employed to tow targets, caused a day's postponement.[23]

On March 29 and April 26, 1904, the troops participated in a post athletic meet. The West Point class of 1904 spent May 7 at Sandy Hook touring the proving ground, the coast defenses, and Fort Hancock. Maj. Gen. Henry R. Corbin, commander of the Department of the East, inspected the troops on May 11.

C. Colonel Harris's 64 Months at Fort Hancock

1. The First 18 Months: July 1904-December 1905

Early on June 24, the 53d, 57th, and 58th companies reached Sandy Hook by boat from Fort Wadsworth. After holding artillery practice, they returned that evening to Staten Island.[24]

On July 10, 1904, Lt. Col. Henry L. Harris replaced Colonel Leary as post commander. On August 31 the 95th Company traveled south to Sea Girt, New Jersey. The artillerists remained there until mid-September, pulling targets and serving as markers and scorers at the annual meeting of the National Rifle Association.[25]

The first day of 1905 found Fort Hancock garrisoned by the 48th, 55th, 95th, and 113th Coast Artillery Companies. On January 13 the post officers took the boat to Governors Island,

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23. Ibid.

24. Ibid.

where they paid their respects to Maj. Gen. James F. Wade. March 2 to 6 found the 48th and 95th Companies on detached duty at Fort Jay, occupying that post while the garrison was in Washington, D.C., participating in President Theodore Roosevelt's inaugural parade.

April was a busy month for the artillerists. The 48th, 95th, and 113th Companies held subcaliber practice with the coast defense guns, while the 55th Company engaged in subcaliber drill with the 12-inch mortars. On April 19, men of the 48th, 95th, and 113th Companies completed "service target practice at short range"; on April 20 they commenced firing mid-range and finished both mid- and long-range firing on April 25.

On April 25 the 48th and 95th Companies were transported to Forts Wadsworth and Hamilton to occupy those posts, while the garrisons participated in the joint army-navy maneuvers. They were absent two months, returning on June 29.

While they were away, the West Point class of 1905 spent May 12 at Sandy Hook, watching the big guns fire. On May 24, 2d Lt. G. A. Taylor and a 16-man detachment left for Fort Hamilton "to participate in certain exercises." They returned at dusk the following day. At noon on Memorial Day, a national salute of 21 guns was fired.

On July 4 a salute to the Union was in order. News of the death of former President Rutherford B. Hayes caused the flag to be flown at half-mast from July 3 to 15.

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25. Ibid.

A detachment from the 57th Company (Torpedo) reached Sandy Hook aboard the mine planter General Knox on September 30. The detachment and the vessel remained until October 21. From October 16 through November 3, the troops engaged in subcaliber target practice.

On October 7 Fort Hancock and the proving ground hosted a distinguished group headed by Secretary of War William Howard Taft. Traveling with the secretary were Acting Chief of Staff John R. Bales, Maj. Gen. John P. Story (ret.), Chief of Artillery Samuel Mills, and Acting Chief of Ordnance Andrew Russell. They were welcomed by a 17-gun salute, a parade, and a review.

A committee from the newly constituted Taft Board, established by President Roosevelt to review the Endicott system, spent November 22 at Sandy Hook.[26]

2. 1906 Passes Quietly

In accordance with orders from Southern District headquarters, the flag was flown at half-mast on March 7, 1906, in observance of Lt. Gen. John M. Schofield's funeral. Five days later, Capt. W. F. Grote of the 18th U. S. Infantry reached the post from Columbus Barracks with 30 recruits.

On April 30 a board of officers was convened and remained in session for four days, examining and qualifying gunners. Then, on May 7, Lt. Col. W. L. Marshall, the district engineer, with a group of instructors and student officers from the engineer school at Washington Barracks spent the day on post.

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26. Ibid.

There was subcaliber practice beginning on May 17 and continuing through May 26. On May 19 the First Class from the U. S. Military Academy made its annual tour of Sandy Hook.

The 55th and 95th Companies traveled to New York City on May 30 to participate in the Memorial Day parade, while Colonel Harris led a battalion from Forts Wadsworth and Hamilton in the Brooklyn parade.[27]

Taking advantage of the superior facilities at Sandy Hook, the 57th Company (Torpedo) from Fort Wadsworth held service practice at the post on June 2, and the 54th Company from Fort Totten and the 81st Company from Fort Schuyler were there on May 29 for the same purpose.

On July 4, as usual, a salute to the Union was fired at noon. August 25 was a field day. The mine planter General Hunt was at Fort Hancock for two weeks in September for drill with the 95th Company, which had been designated the post torpedo unit. Colonel Harris and his staff inspected all seacoast batteries, the range finder towers, the mining casemate, and the 36-inch and 60-inch searchlights on September 14.[28]

3. A Visit by The American Society of Mechanical Engineers

On December 7, 1906, 700 members of the American Society of Mechanical Engineers arrived by rail for a special tour of "the most sacred of all government reservations." They were conducted by Chief of Ordnance William Crozier and Chief of Coast

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27. Ibid.

28. Ibid.

Artillery Arthur Murray. The latter officer had prepared the Fort Hancock master plan as a captain ten years earlier.

The ten-car train made its first stop near the southern end of the proving ground to allow the society to see the great 16-inch gun, "the largest and most powerful rifle in the world." This piece was still mounted on the temporary trial carriage on which it was proved several years before. It weighed 130 tons and fired a shell weighing 2,450 pounds.

About 200 to 300 yards east of the huge gun, the engineers were shown two targets, representing the belt armor, backing, and framing of "our latest" battleships and cruisers, which had been positioned for the purpose of testing their powers of resistance against modern shells.

The next stop was the proof battery. Two rounds were fired at a velocity of 3,000 feet per second from a 6-inch rapid-fire gun mounted on a barbette carriage. The brief interval of time before the shell struck the water, more than a mile distant, "afforded a dramatic illustration of what is meant by a muzzle velocity of 3,000 feet per second." Next, five rounds were fired from a 15-pounder rapid-fire gun. Other tests followed. The most spectacular was the firing, with full charge, of a 10-inch rifle mounted on a Buffington-Crozier disappearing carriage. This carriage had been designed by one of the day's hosts. The shell struck the water at a range of about 2½ miles, hurling a geyser of water into the air. "Ricocheting, it took another great leap of fully a mile and a half, when it struck again, throwing up another large column of spray."[29]

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29. "Sandy Hook Defenses," Scientific American 95 (1906):462.

The party then walked over to the Nine-Gun Battery. After one of Battery Richardson's 12-inch guns had been raised into battery, traversed, and returned to loading position, General Murray mounted the superior slope, and compared the best firing results obtained in target practice five years before with those obtained that day. Passing on, the visitors stopped at Battery Halleck, where they watched an exhibition of subcaliber target practice. A rifled tube, representing a 1-pounder gun, was placed centrally within the bore of a 10-inch gun, and all motions of unlocking the breech, loading, closing the breech, sighting, and other actions required to fire the gun were simulated, just as if a shell and powder were being employed.

After touring the mining casemate, the group was taken to Batteries Reynolds and McCook. From the superior slope, they looked down into the four pits, each containing four short, massive, rifled mortars. For their benefit, a four-gun salvo was fired with reduced charges, the mortars having been given an elevation of 50 degrees. At the command, "Fire!" there was a roar, and the eye "was able to follow the skyward sweep of the four projectiles which, keeping the same relative four-square position in which they left the muzzles of the guns, could be seen soaring into the blue." A few seconds later, after they had described a vast curve, a cloud of spray was thrown up from the ocean 3 miles from shore, marking the point where they fell. Finally, after watching the explosion of a land mine, the society reboarded the train and left the reservation.[30]

4. Wireless Distress Station Established

On March 26, 1907, a board consisting of Col. George S. Grimes and Lt. Col. George P. Scriven of the Signal

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30. Ibid.

Corps, and Colonel Marshall of the Corps of Engineers spent the day at the Hook with Colonel Harris, selecting a site for the Southern Artillery District wireless distress signal station. The trio first visited the pumping station, which had been previously suggested as a site. After reconnoitering the area, they concluded that the best place on the reservation was the southwest bastion of the old masonry fort, formerly employed as the mining casemate. They also noted that the level terreplein, some 35 feet above the ground, could be converted, at little expense, into an excellent tower for semaphore, international, ardoise, and acetylene systems of signaling.

The bastion was about 500 yards from the fire control system for the Sandy Hook Defenses centered at Battery Potter and was convenient to the harbor defense command post. Protection for the wireless station against small caliber projectiles would be provided by positioning it in lee of the bastion.[31] In fiscal year 1908 the wireless station was established as proposed.[32] Then, during World War I a new radio (wireless) station building and engine room were built.[33]

5. Fort Hancock Becomes Six-Company Post

In 1907 the busy season at Fort Hancock started in May and continued through the third week in December. On May

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31. Proceedings of Board Designated to Select a Distress Signal Station at Sandy Hook, March 27, 1907, doc. 236,142, Corr. 1890-1914, RG 92, NA.

32. Hurlbut to Marshall, April 2, 1908, and Marshall to Chief Engineer, May 25, 1908, Letters Sent & Received, Fort Hancock, RG 77, NA.

33. Carruth to District Engineer, Oct. 29, 1920, and Aug. 2, 1921, Letters Sent and Received , Fort Hancock, RG 77, NA.

10 the First Class from the U.S. Military Academy at West Point made its annual visit to the post.

July was an extremely active month, especially during the first two weeks when war games were held at the Hook. The officers and men of the Fort Hancock garrison (the 48th, 55th, 95th, and 113th Companies) camped behind the batteries during the period of July 1-8. A troop train arrived on July 6 carrying 51 officers and 669 enlisted men of the 3d New Jersey National Guard Regiment. The regiment bivouacked at Camp Low. On July 10 Governor Edward Stokes of New Jersey arrived to review the guardsmen. The joint military and coastal defense maneuvers ended on July 12. The following morning the national guard troops broke camp and entrained for their home armories.

During the same period, Colonel Harris assumed increased responsibilities when Fort Hancock was designated as the headquarters for the Southern District of New York. The Fort Hancock commander would henceforth wear two hats.

On August 1 the garrison was increased to a strength of six companies by the constitution of the 136th and 137th Coast Artillery Companies. The 136th was organized by a transfer of four sergeants, five corporals, three specialists (a mechanic, musician, and cook), and twenty-four privates. The 137th was formed by the transfer of three sergeants, six corporals, three specialists (another musician, mechanic, and cook), and nineteen privates from Fort Wadsworth's 86th Company.

Capt. Phillip A. Ward, one other officer, and 56 enlisted men of the 55th Company were at Sea Girt, New Jersey, from September 28 to October 5 firing the small-arms ranges; the 95th Company spent the week of October 5-12 there for the same

purpose; the 48th Company was there from October 12-18; and the 113th Company fired the Sea Girt ranges from October 18-24. The Sea Girt expeditions had been necessitated by the temporary closing of the Camp Low range due to construction of Battery Arrowsmith.

During much of this period 1st Lt. H. N. Tompkins and 12 enlisted men of the 54th Company (Cable) were on a training assignment aboard the mine planter General Hunt. On October 19 the 55th Company was sent to New York City to participate in a parade and ceremony at the dedication of a memorial to Maj. Gen. Franz Sigel, a Civil War leader.

On October 25 Colonel Harris, accompanied by District Engineer Marshall, inspected and accepted the newly constructed battery commander stations atop disarmed Battery Potter and the nearby switchboard rooms and latrine.

Detachments of the 50th, 53d, 56th, and 86th Companies from Fort Wadsworth were at Fort Hancock from November 11 to December 21 to participate in calibration tests and service practice. On December 5 there was calibration firing from Battery Granger and on December 13 from Battery Bloomfield. Three shots for record were made from Battery Granger on that day.[34]

The joint maneuvers had revealed that the supporting troops were camped too far from the batteries. Their camp had been about 4½ miles south of the post, near Spermaceti Cove, where limited underbrush had to be cleared for the tents. In

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34. Fort Hancock, Returns from U.S. Posts, 1800-1916, Microcopy 617, NA.

the future, camps for two battalions would be midway between Battery Arrowsmith and the secondary stations, and a third camp would be in the area between Fort Hancock and Batteries Potter and Granger.

Colonel Harris, to facilitate preparation of these camp sites, urged the quartermaster people to survey these sections of the reservation and prepare estimates for clearing and leveling camp sites, installing a sewerage system, and connecting these areas with the post water and lighting systems.

Troops posted in the two southernmost camps were to guard against landing parties advancing northward up the railroad against the secondary stations and Camp Low. Soldiers from the north camp were to patrol and guard the beaches at the point of the Hook.[35] In the ensuing winter, camp 3 (110 yards by 250 yards), was laid out in the area between Fort Hancock and Batteries Potter and Granger. Construction of camps 1 and 2 was deferred.

6. More Units Train at Fort Hancock

On May 28, 1908, the 55th Company left Fort Hancock for one month's detached duty at Fort Jay, returning on July 1. The 48th, 95th, and 113th Companies spent May 30 in New York City, where they participated in the Memorial Day parade. From June 9 to 20 the 136th Company was on detached assignment at Fort Wadsworth. On June 16 there was calibration firing from Batteries Granger and Bloomfield. Nine days later the 48th Company held service practice at Battery Bloomfield and the 113th

35. Harris to Adjutant General, Nov. 17, 1907, Letters Sent & Received, Fort Hancock, RG 77, NA.

Company at Battery Granger. The next day the 95th Company and the 113th Company (Mine) fired the 15-pounder rapid-fire guns of Battery Urmston.[36] Two companies were on detached duty at Fort Jay during July 1908--the 137th Company from July 1 to July 22, and the 113th Company from July 22 to July 30.

From early August through September, a number of Coast Artillery units spent time at Fort Hancock firing the small-arms range at Camp Low and the big, coast defense guns. The 54th and 135th Companies from Fort Totten were at the Camp Low range between August 8 and 15. The 157th Company (Mine) arrived from Fort Wadsworth on August 26 and remained until September 2. While at Sandy Hook, the unit fired the guns of Battery Urmston, as well as the Camp Low rifle range. The 53d (Fort Wadsworth) and 123d (Fort Hamilton) Companies spent the week of September 2-9 at Sandy Hook, the 84th and 86th (Fort Wadsworth) Companies the week of September 9-16, and the 50th and 98th Companies out of Fort Hamilton the week of September 16-24. The 51st and 56th (Fort Wadsworth) Companies arrived on September 23 and left on the 30th. The 5th Coast Artillery Band from Fort Hamilton was on post for three days--September 29 to October 1. Personnel from the band qualified on the pistol range, while officers and men from the other units fired both the rifle and pistol ranges.[37]

On October 5 Colonel Harris departed the post by train at an early hour with a provisional battalion for Philadelphia. There the troops participated in the parade and ceremonies

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36. Fort Hancock, Returns from U.S. Posts, 1800-1916, Microcopy 617, NA.

37. Ibid.

commemorating the 225th anniversary of the city's founding by William Penn. The battalion was back on post before midnight.[38]

7. Colonel Harris's Last Year at Sandy Hook

On February 17, 1909, the 55th Company, which had been stationed at Fort Hancock for almost a decade, was detached. Leaving Sandy Hook by boat, the company started for Fort Mills in the Philippine Islands, halfway around the world. The 76th Company reached the post from Fort Barrancas, Florida, on March 18 and occupied the barracks vacated by the 55th Company.

A provisional battalion (consisting of the 48th, 76th, 113th, and 137th Companies) marched in the Jersey City Memorial Day parade.

The Fort Hancock garrison engaged in the annual service practice during the period of June 7-19. Other activities then occupied the companies intermittently until the end of the month. The 48th Company vacated its barracks and camped behind Battery Bloomfield. On June 21 the unit returned to Bloomfield for a one-day practice session. The 76th Company had a slightly extended practice that lasted from June 7 to June 22, during which time it worked with the eight 12-inch mortars of Battery McCook. The 95th Company (Mine) bivouacked behind Battery Morris and held a service practice with the rapid-fire guns on June 23. The 113th Company camped in rear of Battery Granger for the initial period and then returned six days later for service practice. The 136th Company camped at Battery Morris and completed its training on June 24, when it used the four 3-inch rapid-fire guns. The 137th Company (Mine) camped behind Battery Urmston and returned

38. Ibid.

for additional practice on June 23. Also in June, the 6th, 8th, and 9th Companies of the 13th Coast Artillery Corps, New York National Guard, held their service practice at Fort Hancock on the 18th.[39]

In July, the following coast artillery companies were detailed to Fort Hancock for service practice with the coast defense and rapid-fire guns, as well as for small-arms training at Camp Low:

Unit	Permanent Station	Detail at Sandy Hook
3d Company	Fort Hamilton	July 2-22
98th Company	Fort Hamilton	July 2-15
122d Company	Fort Hamilton	July 2-15
53d Company	Fort Wadsworth	July 2-15
157th Company	Fort Wadsworth	July 2-22
82d Company	Fort Totten	July 17-31
81st Company	Fort Schuyler	July 17-31
87th Company	Fort Totten	July 17-31
101st Company	Fort Totten	July 17-31
167th Company	Fort Totten	July 17-31

In August and September six of these units spent from several days to two weeks at Sandy Hook (see following table) qualifying on the Camp Low rifle range and holding service practice with the big guns and mortars.

39. Ibid.

Unit	Permanent Station	Detail at Sandy Hook
122d Company	Fort Hamilton	August 1-2
53d Company	Fort Wadsworth	August 2-10
86th Company	Fort Wadsworth	August 23-September 2
56th Company	Fort Wadsworth	August 23-September 10
123d Company	Fort Hamilton	August 23-September 10
84th Company	Fort Hamilton	August 24-September 2[40]

From August 12 to 23 the 136th and 137th Companies were absent from Fort Hancock, having been sent to Boston to participate in the Coast Artillery exercises.

The First Class of West Point cadets spent six nights at Fort Hancock, from August 16 to 21, camped behind Battery Granger. They were schooled in the use of 10-inch guns, after which they held service practice.

Two companies from Fort Schuyler (the 11th and 18th) and three from Fort Totten (the 114th, 135th, and 165th) were at Fort Hancock for two weeks in early September. They fired the Camp Low range and held service practice.

In November the three Fort Hancock mine companies (the 95th, 136th, and 137th) again fired the rapid-fire guns.[41] On November 6, 1909, Colonel Harris, having commanded Fort Hancock for 64 months, was replaced by Col. Clarence Deems. One month later, on his 62d birthday, Colonel Harris retired from the army.

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40. Ibid.

Deems' tenure was brief, as he was relieved by Col. Walter Howe on November 15. Like Colonel Harris, Howe wore two hats, as he also commanded the Southern District. Colonel Howe's stay was also brief. On January 20, 1910, he was replaced by Col. John V. White.[42]

D. Fort Hancock's Expanded Training Mission, 1910-1914

1. Battery Richardson Rearmed

Maj. Gen. Leonard Wood, as department commander, was disturbed to learn that during 1909, 12 practices had been held at Battery Bloomfield. If this continued, he believed that the efficiency of its armament would be compromised. Therefore, he urged that measures be taken to place a second 12-inch battery in service for practice in 1910.[43]

In the years before 1909, Battery Bloomfield had sufficed for target practice, but in 1909 there had been a change in policy. It had been determined that all troops in the Eastern and Southern Artillery Districts of New York, the militia, and the West Point Corps of Cadets would hold their prerequisite annual service practice at Sandy Hook.

Battery Alexander, on the left flank of the Nine-Gun Battery, was so masked by buildings of the Lighthouse Board that the firing of full service charges was deemed unsafe. Battery Richardson was likewise unavailable for use during the season. Gun 2 had been dismounted and shipped to the Watervliet Army Gun

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41. Ibid.

42. Ibid.

43. Adjutant General, Department of the East, to Chief of Ordnance, Dec. 29, 1909, doc. 23,564, General Corr. 1894-1914, RG 156, NA.

Factory to be relined, while gun 1, although it had been fired only 88 times, was nearly in "worn out condition."[44]

The Ordnance Department, upon being officially apprised of the situation, suggested that two 12-inch guns, model 1898, be mounted in Battery Richardson. To facilitate this transfer, gun 1 would be dismounted and shipped to Watervliet for relining and gun 2, on its return from the gun factory, would be mounted in the proof battery.[45] This arrangement was agreed to. By late May, gun 1, model 1900, had been dismounted, and two 12-inch guns, model 1895 M1, had been emplaced. Battery Richardson was accordingly transferred to the Coast Artillery for use during the 1910 training season.

2. Additional Units Train at Sandy Hook

On May 1, 1910, Colonel White and the troops hosted a distinguished visitor, Prince Tsai Tao of China. The First Class from the U. S. Military Academy arrived on May 28 and spent the day touring Fort Hancock and the proving ground.

The garrison held service practice in June. Two of the three mine companies, the 95th and 137th, fired the 15-pounder and 3-inch guns of Batteries Urmston and Morris from June 3 to June 10; the 76th Company fired the 12-inch mortars of Battery McCook from June 4 to 10; the 48th Company fired the 12-inch rifles of Battery Richardson from June 4 to 10; the 136th Company (Mine) fired the 6-inch guns of Battery Peck from June 6 to 10; and the 113th Company fired the 10-inch rifles of Battery Granger from June 7 to 10.

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44. Birnie to Chief of Ordnance, Jan. 6, 1910, doc. 23,564, General Corr. 1894-1913, RG 156, NA.

45. Ibid.

The 48th and 113th Companies fired the Camp Low small-arms range during the third week of June; and the 95th and 137th Companies during the last five days of the month. On June 24, the 113th Company was detailed to Fort Jay, where it remained until July 8.[46]

Beginning on June 25 the troops from the Southern and Eastern Artillery Districts began their annual service practice at the Hook. The following units participated in the program:

Unit	Permanent Station	Battery Fired	Detail at Sandy Hook
3d Company	Fort Hamilton	Gunnison	June 25-July 21
86th Company	Fort Wadsworth	Halleck	June 25-July 21
98th Company	Fort Hamilton	Halleck	June 25-July 10
122d Company	Fort Hamilton	Richardson	June 25-July 21
11th Company	Fort Schuyler	Bloomfield	July 12-28
157th Company	Fort Wadsworth	Morris	July 2-11 & 21-28
137th Company	Fort Hancock	Urmston	July 9-10
95th Company	Fort Hancock	Morris	July 9-10
135th Company	Fort Totten	Morris	July 12-27
18th Company	Fort Schuyler	Halleck	July 12-28
101st Company	Fort Totten	Halleck	July 12-August 4

The visitors camped at Camp Low and held their annual small-arms target practice before returning to their duty stations. During July the three Fort Hancock mine companies (the 95th, 136th, and 137th) spent six days positioning and taking up a controlled minefield.[47]

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46. Fort Hancock, Returns from U.S. Posts, 1800-1916, Microcopy 617, NA.

47. Ibid.

Service practice with the seacoast and rapid-fire guns continued through August. The First Class from West Point was back at the post from August 13 to 20. On August 16 the cadets fired the 6-inch disappearing guns of Battery Gunnison, and, on August 18, they fired the 12-inch mortars of Battery McCook and the 10-inch rifles of Battery Granger. Other units participating in the program during this period were as follows:

Unit	Permanent Station	Battery Fired	Detail at Sandy Hook
123d Company	Fort Hamilton	McCook	August 1-12
53d Company	Fort Wadsworth	Richardson	August 1-13
56th Company	Fort Wadsworth	Richardson	August 1-13
84th Company	Fort Hamilton	McCook	August 1-17
82d Company	Fort Totten	Bloomfield	August 16-29
114th Company	Fort Totten	Halleck	August 16-29
87th Company	Fort Totten	McCook	August 18-29
167th Company	Fort Totten	McCook	August 18-29[48]

During August the 11th and 18th Companies out of Fort Schuyler spent several days firing the Camp Low rifle range.

In September the Fort Hancock garrison held its record service practice for 1910. On September 28 and 30, the 136th Company (Mine) manned and fired the 6-inch guns of Battery Peck, the 137th Company (Mine) fired those of Battery Urmston, and the 95th Company (Mine) fired those of Battery Morris. The 76th Company fired Battery McCook's 12-inch mortars, the 113th Company

48. Ibid.

fired Battery Granger's 10-inch guns, and the 48th Company fired Battery Richardson's two 12-inch disappearing guns on September 29.[49]

On October 22 the 76th Company traveled by boat to Jersey City. It marched five miles in the Bergen County Celebration Parade and returned to the post that evening.

The 82d, 87th, 135th, and 167th companies from Fort Totten were at Sandy Hook from November 2 to 10, firing on the Camp Low range. Fort Hamilton's 123d Company was on the Camp Low range from November 14 to 18. From November 7 to 15 fatigue details from the garrison planted trees.

Drills were suspended from December 24 to December 31 for the holiday season. Christmas was observed by the troops on Monday, December 26, when all duty but guard was excused.[50]

3. The 1911 Texas Maneuvers

New Year's day 1911 was observed at Fort Hancock on January 2, when all duty except guard was suspended. On January 29 the 95th Company (Mine), having been detached, left Fort Hancock for the Philippine Islands defenses.

Washington's birthday was a holiday at the post, with all duty, except guard and police, canceled.

On March 8 Colonel White--accompanied by the 48th, 76th, 113th, and 136th Companies--started for Galveston, Texas.

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49. Ibid.

50. Ibid.

There, as the 3d Battalion, 3d Provisional Regiment, 1st Separate Brigade, they were to participate in infantry maneuvers. As they embarked, the enlisted men exchanged cheers with the 137th Company, which remained behind.

Pvt. Lander W. Radford of the 113th Company recalled that the troops were turned out at 4:30 p.m., on the 8th, as he was preparing to secure his office in the quartermaster department and return to the barracks. When he arrived in the company area, "it was like bedlam with men rushing around, rolling blankets, packing gear and other belongings." Within a short time, they were aboard several of the tugs, which took them up the harbor to the Old Dominion Line pier, at 25 East River, and about midnight they "embarked aboard the cattle steamer, Jamestown."

Jamestown put in at Newport News, where she rendezvoused with three army transports (Sumner, McClellan, and Kilpatrick), which were veterans of the Spanish-American War. On March 11 the troops were transferred to this unholy trio and sailed for the Gulf of Mexico. The coast artillerists disembarked at Galveston on the afternoon of the 18th and marched out to Fort Crockett. As Private Radford recalled, "the only buildings or structrues at Ft. Crockett were some hitching racks for mules and two 8-inch guns near the Gulf shore. The tides and seas had washed the sands away from the guns and left them standing about ten feet high on their pedestals."

Meanwhile, on March 11, the 135th Company reached Sandy Hook by boat from Fort Totten to help the 137th Company garrison the post. Capt. Robert E. Wyllie commanded Fort Hancock during Colonel White's absence.

The 135th Company remained at Sandy Hook until May 8, when it returned to Fort Totten. Ten days later the 56th

Company, the unit detailed to replace the 95th Company, arrived from Fort Barrancas, Florida, and moved into one of the handsome buff brick barracks.[51]

To close out the Texas maneuvers, the 3d Battalion broke camp at Dumont at 7 a.m., on June 1 and marched to Harrisburg. The next day the battalion, along with other units of the 1st Separate Brigade, paraded through Houston and returned to Dumont. As Private Radford saw it, some officers wanted to see how much a soldier could really take when the temperature hovered around 100 degrees and the men were allowed only one canteen of water per day. "The men stood it quite well, with a few heat prostrations." Upon their return to Fort Crockett, the troops built a rifle range, with butts and firing lines, and held their annual small-arms practice.

On June 13 the battalion broke up its Galveston encampment, marched to the docks, and boarded the U. S. Army transport Kilpatrick. Colonel White, who had preceded them, resumed command of the post and Southern Artillery District on June 21. The troops disembarked at Sandy Hook on June 23.[52]

4. The Second Half of 1911 at the Post

A number of companies from the Southern and Eastern Artillery Districts held service practice at Sandy Hook during the summer. Among these were:

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51. Ibid.; Radford to Hoffman, Aug. 8, 1978, files at Sandy Hook Unit, Gateway NRA.

52. Fort Hancock, Returns for U.S. Posts, 1800-1906, Microcopy M-617; Radford to Hoffman, April 6, 1978.

Unit	Permanent Station	Battery Fired	Detail at Sandy Hook
135th Company (Mine)	Fort Totten	Urmston	June 20-24
54th Company	Fort Wadsworth	Morris	June 24 & July 17
135th Company (Mine)	Fort Totten	Urmston	July 6-21
165th Company	Fort Totten	Eagle	July 6-21
137th Company	Fort Hancock	Morris	July 17
87th Company	Fort Totten	Not reported	August 27-Sept. 9
114th Company	Fort Totten	Not reported	August 27-Sept. 9
167th Company	Fort Totten	Not reported	August 27-Sept. 10
82d Company	Fort Totten	Not reported	August 28-Sept. 10
101st Company	Fort Totten	Eagle	August 28-Sept. 9
123d Company	Fort Hamilton	Not reported	Oct. 10-16

While five of these companies (the 82d, 87th, 101st, 114th, and 167th) were at Sandy Hook on September 7, Maj. Gen. Leonard Wood, commander of the Department of the East, inspected Fort Hancock. General Wood was received by Maj. Joseph Wheeler, Jr., son of the late general, who had replaced Colonel White as post commander on August 15.

The First Class of West Point cadets spent the third week of August camped at Fort Hancock. On August 15 they held service practice from Battery Gunnison and on August 17 from Batteries Granger and McCook.

On September 13 the nation's governors, who were holding a conference at Spring Lake, New Jersey, visited Sandy Hook. To provide their distinguished guests with something to

remember, Major Wheeler had the troops man and fire four rounds from Batteries Bloomfield and Richardson.

Annual coast defense exercises were held during the second half of September. While they were in progress, the 56th and 137th companies vacated their barracks and camped behind the batteries. The exercises closed on September 28 with an athletic meet.

On October 17 the companies from Forts Wadsworth and Hamilton disembarked at Sandy Hook in battle dress and with field equipment. The Fort Hancock battalion turned out in similar garb. The Chief of Coast Artillery, Erasmus M. Weaver, and his staff arrived and inspected the armament and the troops, who were formed as a provisional regiment. The remainder of the month found the units from these three posts completing their annual service practice with the coast defense and rapid-fire guns.[53] Also, on October 17, Maj. George T. Patterson relieved Major Wheeler as post commander. Patterson's tour was brief, and he was replaced by Col. George T. Bartlett on January 26, 1912.[54]

The 56th and 137th Companies, which had missed the Texas maneuvers, held their prescribed annual infantry exercises on post from October 20 to November 2. During the first half of November, fatigue details planted a number of trees.

5. Fewer Companies Train at Fort Hancock in 1912

Secretary of War Henry L. Stimson, accompanied by Chief of Coast Artillery Weaver, spent January 6, 1912, at Fort

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53. Ibid.

54. Ibid.

Hancock. During the month the 48th Company held service practice at Battery Richardson and the 113th Company at Battery Granger.

On February 9 Capts. Carlos Plaza and Alfredo Santander of the Chilean Army were guests of Colonel Bartlett. Two rounds were fired from Battery Granger for their benefit by the 113th Company.

Colonel Bartlett and the 48th, 56th, 76th, and 137th Companies traveled to New York City on April 26 and formed part of the escort for Maj. Gen. Frederick D. Grants' funeral procession.[55] Officers of the Signal Corps were at Sandy Hook on May 2 and 3 for n inspection.

The 56th and 76th Companies were on detached duty at Fort Jay from July 5 to 10. On September 7 a 21-man detachment from the 136th Company (Mine) and 137th Company (Mine) boarded mine planter General Schofield. They spent the next five days holding service practice in the New London Artillery District.

On September 13, the day after their return from New London, Colonel Bartlett was replaced as post and district commander by Lt. Col. Morris K. Barrol. During the second week of the month, the 48th and 76th Companies fired the Camp Low rifle and pistol ranges for qualification. The 136th Company spent five days positioning and taking up the controlled minefield, while the 137th Company participated in mine planting exercises on September 23.

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55. Ibid.

There was a simulated war alert on September 20-21, and the garrison manned its battle stations. Five Fort Totten companies were at Sandy Hook in October, holding small-arms practice.[56]

In 1912, unlike the years immediately preceding, no units from the Eastern and Southern Districts came to Sandy Hook for service practice with the coast defense guns. Instead they traveled to either Fort H. G. Wright or to Fort Terry to fire the big guns.

The battalion, except for small detachments from each company, left for Staten Island on October 25. As part of the provisional regiment, it participated in infantry maneuvers. The troops, having camped out for six nights, returned to Fort Hancock on the last day of the month.

On November 3 Colonel Barrol turned over his command to Lt. Col. Harry L. Hawthorne. Barrol was back at Sandy Hook on November 25, when he resumed command. Three days before, Colonel Hawthorne had had the privilege of welcoming and touring Sandy Hook with General Wood.[57]

6. Secretary of War Garrison Visits Twice in 1913

The outdoor training season opened on April 1, 1913. Beginning on April 22, there were examinations for those desirous of qualifying as gunners. Gordon Heiner, the acting inspector-general, was at Sandy Hook for a week, beginning on

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56. Ibid. The 114th and 167th Companies were at Camp Low on October 14-21, and the 82d, 87th, and 101st Companies on October 21-29.

57. Ibid.

on April 29. He inspected the garrison (the 48th, 56th, 76th, 113th, 136th, and 137th Companies) and the facilities.

The Secretary of War, Lindley M. Garrison, and Maj. Gen. Thomas H. Barry inspected Fort Hancock and the Sandy Hook Defenses on May 24, 1913.

In June a number of companies from the various New York Harbor Defenses spent a week at Sandy Hook firing the Camp Low rifle range.[58] Chief of Coast Artillery Weaver and Colonel White, who now commanded the North Atlantic Coast Artillery District, were at Fort Hancock on June 24 and 25. Secretary of War Garrison was back at Sandy Hook on July 6 to inspect the armament.

For the garrison it was an active summer. On June 26 the battalion was at Fort Hamilton participating in the quarterly field assembly of the units assigned to the Southern District. The 136th Company held subcaliber practice at Battery Peck on June 16 to 18 and from Battery Morris on June 28-29. The mine planter Harvey Brown was employed for mine laying exercises in July by the company, and the planter General R. T. Frank was for submarine defense drill from mid-August until the second week in September. On August 22 the First Class of West Point cadets were given practical experience in this phase of seacoast defense by the 136th Company. There was machine gun drill on September 12 and infantry field exercises from September 22 to October 4.[59]

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58. Ibid. The 98th and 122d Companies were on post from May 31 to June 7; the 84th and 123d Companies from June 7 to 14, and the 3d Company from June 14 to 21.

59. Returns from Regular Army Coast Artillery Corps Companies, February 1901-June 1916, Microcopy 691, NA.

The 137th Company held service practice at Battery Morris on July 12 and 25, fired the Camp Low rifle range on July 19, and fired the pistol range on August 25. The 113th Company held subcaliber drill at Battery Granger on June 3, 16 to 19, 25 to 26, and on July 28 and 29. On August 28 and 29 and from September 1 to 13 personnel fired the Camp Low small-arms range. There were infantry exercises on September 22 and 23. The 56th Company had subcaliber drill on May 26 and 29, on June 16 to 19 and 25, and on July 28 and 29.[60]

On July 31 the six companies, as prescribed in army regulations, evacuated their barracks and camped behind the batteries. There they remained until August 10, when they packed their field gear and returned to the barracks. While encamped, the companies fired the big, coast defense guns and mortars as well as the rapid-fire batteries to which they were assigned. On August 9 the troops were placed on a 24-hour war alert.[61]

In mid-August the 48th and 56th companies were detailed to Fort Jay for six weeks. They returned on October 1 in time for the autumn maneuvers. While they were away, the two companies missed the quarterly assembly of Southern District units held at Fort Hancock on September 3 and an inspection of the armament by General Weaver on September 18. On October 5 the garrison was transported to Long Island where, as a unit of the 1st Provisional Regiment, it spent the next 11 days marching and bivouacking. The artillerists returned to Fort Hancock on October 17.[62]

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60. Ibid.

61. Ibid.

62. Ibid.

In November, the final month of the year's outdoor training schedule, the troops participated in a program in which they camouflaged defenses and constructed field fortifications. On November 17 the 56th, 76th, and 113th companies fired the 5-inch siege guns at the Sandy Hook proving ground. The 48th and 56th companies were on the pistol range for several days.[63]

7. Much of the World Goes to War

The year that changed the world, 1914, began quietly enough at Fort Hancock. In January a detachment from the 137th Company boarded the mine planter General R. T. Frank and proceeded to Fort Monroe, where the vessel and 137th Company remained until July.

On March 13 the garrison and armament were inspected by Brig. Gen. Charles J. Bailey who had replaced Colonel White as commander of the North Atlantic Coast Artillery District (NACAD). The outdoor training season commenced in April. On April 22, drills with the coast defense and rapid-fire guns were suspended, and the battalion turned to learning the skills of the infantryman. On May 12 the 136th and 137th Companies boarded General J. E. Johnston and traveled to Staten Island, where they participated in an attack on Fort Wadsworth.

Artillery drill was resumed on May 18. Inspector-General Heiner was at Sandy Hook for a week, beginning May 19, for the annual inspection by his department.

From June 10-17 the 136th Company was aboard Harvey Brown for mine planting and recovery exercises. The

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63. Ibid.

company fired the Camp Low small-arms range in mid-September. On August 2 the detachment from the 137th Company, manning General R. T. Frank, transported the First Class of West Point cadets from New York City to Sandy Hook and returned them to the city on August 9. The 113th Company was at the Camp Low range in June, and on August 23 and 24 the company held its annual service practice with the coast defense guns of Battery Granger. The 56th Company fired the Camp Low range during the first week of June; held subcaliber drill on June 14 and July 7, 16, 21, and 23; and annual target practice was held on September 2 and 4. The 48th Company also fired the Camp Low range the first week of June and held service practice with the big guns on August 25 and 28.

General Bailey was at Fort Hancock on July 3 to inspect and review the battalion. On September 10 Colonel Barrol was relieved as commander for Fort Hancock and the Southern District. His replacement, Lt. Col. Thomas B. Lamoreux, reported for duty on September 28.[64]

Meanwhile, events, which no man could have foreseen, had triggered a global war in August. Before the month was over all the world's major powers, except the United States and Italy, were involved. The war, however, seemed far away, and few of the Fort Hancock soldiers or their fellow citizens realized its implications.

A war-condition encampment was in effect at Sandy Hook from October 5-9, the companies bivouacking behind the batteries. The battalion was at Fort Hamilton on October 13 for

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64. Ibid.

field exercises. The 136th Company fired Gatling guns on October 19, while the 137th Company held service practice with the 3-inch rapid-fire guns of Battery Morris on October 22. The year's active training season ended for the Fort Hancock garrison on October 31.[65]

65. Ibid.

VIII. STRUCTURAL HISTORY OF THE POST: 1900-1914

A. Improvements to Grounds

1. Landscaping Parade Ground and Other Areas

The C. H. Connell landscaping contract had been limited in its scope. Consequently, on March 10, 1900, Maj. James B. Burbank, the old army man who commanded Fort Hancock, called attention to the urgent need for sodding the parade ground, and areas surrounding the barracks, administration building, and staff noncommissioned officers' quarters. His battalion had no place for close order drill, parades, or ceremonial formations. Neither was there a "spot on the entire reservation where the men could practice games and out-of-doors sports, a natural and urgent want in a locality" as isolated as Sandy Hook.

The parade ground and area surrounding these buildings was "a waste of loose sand," which the strong winds drifted into "large mounds" or swept away, depending on its vagaries. During the past winter, thousands of tons of drift sand had been blown from 100 to 500 yards, covering macadamized roads and brick walks. The entrances of the barracks were so obstructed that it was difficult to enter or leave. In front of two of the barracks, these dunes were level with the tops of the lamp posts along the front walkways. In other places the "former surface had been cut out and swept away to a depth of from two to five feet."

These unstable surfaces were destructive. Foundations of a number of structures had been exposed, and walls had been so undermined that they were falling apart. Continual shoveling of the walks and roads by the enlisted men had heaped up unsightly drifts around the post. The time that enlisted men spent on fatigue-detail shoveling could instead be used to advantage in mastering the school of the artillerist. The extra labor

necessary to repair the erosions was not the least of the reasons that Major Burbank wished the situation corrected.

The success of the C. H. Connell landscaping project along Officers' Row satisfied Major Burbank that "for comfort to the eye . . . and utility as well, the spaces before referred to should be graded, covered with six inches of red soil, and seeded."[1]

Burbank's letter galvanized the quartermaster general into action. On May 18 Quartermaster General Ludington announced that Secretary of War Root had authorized the expenditure of $10,000 for the desired work, "in the way of construction of roads, and of grading, top-soiling, and seeding the reservation." The sums allotted to each of these activities would be determined by the department and post commanders.[2]

It was determined to allot $4,000 for construction of the wharf road and the remaining amount for landscaping the parade ground.[3] The $6,000, Adj. Harrison Hall complained, was far too little to accomplish the project. The parade ground, as well as the area surrounding the barracks, he reiterated, had "drifted into a very uneven surface and will continue shaping itself into a condition most unsuitable for top-soiling, unless the work is contracted for at once."

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1. Burbank to Commanding Officer, Department of the East, March 10, 1900, doc. 109,778, Corr. 1890-1914, RG 92, NA.

2. Ludington to Chief Quartermaster, Department of the East, May 18, 1900, doc. 109,778, Corr. 1890-1914, RG 92, NA.

3. Burbank to Commanding Officer, Department of the East, May 29, 1900, doc. 109,778, Corr. 1890-1914, RG 92, NA.

The following areas were to be graded, topsoiled, and reseeded:

Main parade ground	57,000	square	yards
Area around staff noncommissioned officers' quarters, guardhouse, and barracks	25,000	square	yards
TOTAL	82,000	square	yards

However, at 28 cents per square yard, the cost of this landscaping would be $22,960, instead of $6,000.[4] Therefore, it was determined to defer expenditure of the $6,000 until the department could come up with sufficient money to complete the undertaking. The troops would have to continue shoveling.

Finally, the necessary allotment was made in March 1901. In making plans to implement the program, Lt. Morrell M. Mills found that it would be necessary to commence the landscaping west of Officers' Row and work eastward. This would ensure that windstorms, which usually blew out of the west, would not drive the sand of the subgrade over the topsoil.

In following this scheme, this left the proving ground as the only section of the reservation subject to damage. To prevent this, Lieutenant Mills recommended to General Ludington that the area of the proving ground, used for quarters and shops, be landscaped at the same time as the Fort Hancock parade ground. This would ensure that no sand would be left unsodded and blow

4. Hall to Burbank, July 1900, doc. 109,778, Corr. 1890-1914, RG 92, NA.

over the completed work during the winter of 1901-02.[5] Ludington was agreeable, and bids were called for. The contract for sodding and seeding 52,500 square yards of parade ground was awarded to Edward Dunne.[6]

On August 20, 1901, Colonel Burbank complained that Dunne had failed to honor the section of his agreement requiring him to complete the landscaping by September 30. Although Dunne was repeatedly urged to increase his labor force, he had failed to do so. An inspection of Dunne's topsoil had been discouraging. Burbank found it unfit for the purpose, and "greatly inferior to the sample furnished with his proposal." This project, Colonel Burbank charged, "is under gross mismanagement," and was over a month behind schedule. Consequently, he said, it should be taken out of Dunne's hands at once and the bondsman called on to furnish a party with the proper credentials to finish the undertaking.[7]

The Quartermaster Department decided to allow Dunne to continue. Colonel Burbank waited another month before again broaching the subject. When he did, he reported that the rough grading was practically finished, with some cutting and filling still being necessary to raise the subgrade to the proper level before receiving topsoil. A narrow-gauge track had been laid

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5. Mills to Chief Quartermaster, Department of the East, March 19, 1901, doc. 109,778, Corr. 1899-1914, RG 92, NA. Mills had been named post quartermaster on February 7, 1901.

6. Mills to Post Adjutant, July 17, 1901, doc. 109,778, Corr. 1890-1914, RG 92, NA.

7. Burbank to Adjutant General, Department of the East, Aug. 20, 1901, doc. 109,778, Corr. 1890-1914, RG 92, NA. Burbank had been promoted to lieutenant colonel in March 1901.

from the Camp Low dock to the parade ground for transporting topsoil, and more than 2,000 square yards of the parade ground had been topsoiled. Progress was slow, however, chiefly because of "poor" facilities for unloading and hauling soil. Dunne's plant consisted of a derrick operated by horses, seven dump cars of about 3 yards capacity each, and five teams of horses.

Since September 13, only 350 cubic yards of topsoil had been delivered onsite.

The bonding company intervened, and Dunne promised to provide a locomotive, additional dump cars, another derrick, and other equipment necessary to boost his deliveries of topsoil to not less than 500 cubic yards daily.[8]

In mid-October, to complete the landscaping of the parade ground, the quartermaster general took the contract out of Dunne's hands and called on the bondsman to furnish the project.[9] The bondsman did as directed. Steps were taken to correct the deficiencies that Colonel Burbank had complained about. Work was expedited, and this contract, as well as the ones for landscaping other sections of the post and proving ground, was fulfilled.

2. Stabilizing Drifting Sand at Batteries

In mid-May 1901, Colonel Burbank complained of the annoyance and useless labor expended by his men in combating loose sand that accumulated behind Batteries Granger, Halleck, and

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8. Burbank to Adjutant General, Department of the East, Sept. 24, 1901, doc. 109,778, Corr. 1890-1914, RG 92, NA.

9. Quartermaster General to Commanding Officer, Department of the East, Oct. 18, 1901, doc 109,778, Corr. 1890-1914, RG 92, NA.

Reynolds. Strong winds from the west and northwest had continually drifted sand into these emplacements, onto the guns, and into the gearing and journals, "causing a usless waste of effort for the removal,"and damaging machined surfaces. After a severe storm, sand was found in drifts up to 3 feet deep against doors and galleries. Colonel Burbank urged that the slopes of these batteries be covered with cinders to combat this situation.[10]

The district engineer, William L. Marshall, when called on for a report, explained that this problem had been first called to his attention in February 1900. He had suggested sodding the problem areas with clay and soil. Estimates had been prepared, but they were rejected by the chief engineer as too high.

Subsequently, Major Marshall had observed that there was a "small area on which cinders had been wasted that was free of drifting sand." As an experiment, he had the slopes of the Dynamite Gun Battery covered with 3 or 4 inches of wet cinders and ashes. This had stabilized the slopes, and, encouraged by this success, Marshall next gave the slopes of Battery Eagle a similar treatment.

To extend this protection to the slopes of the three batteries in question would involve covering with cinders and ashes 8,220 square yards at Battery Reynolds, 4,980 square yards at Battery Granger, and 17,000 square yards at Battery Halleck.[11]

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10. Burbank to Adjutant General, Department of the East, May 14, 1901, doc. 109,778, Corr. 1890-1914, RG 92, NA.

11. Marshall to Chief Engineer, June 7, 1901, doc. 109,778, Corr. 1890-1914, RG 92, NA.

The U.S. Army Corps of Engineers and the Quartermaster Department agreed to divide the cost of treating the slopes of the three batteries.[12]

This work was accomplished before 1901 ended. On December 13 Major Marshall reported that the landscaping at Battery Reynolds included grading the ditch, as constructed, and filling in holes scoured by winds in the southeast and southwest slopes. At Battery Granger, the loose sand areas were covered with cinders along with the superior slope. At Battery Halleck the parade ground was leveled and seeded, and the sand surfaces, including the superior and exterior slopes, were covered with cinders.[13]

3. Constructing Additional Walkways

In May 1901, the Corps of Engineers removed the bluestone flagging from the terreplein of Battery Potter, replacing it with concrete. Major Marshall was agreeable to turning over the flagging to Post Commander Burbank for construction purposes. If he could secure necessary funds, Colonel Burbank proposed to salvage and position the flagging as walkways behind the barracks, around the bakehouse, and about the quartermaster and commissary storehouse.[14] Quartermaster General Ludington approved this proposal.

During the summer, $200 was spent by Lieutenant Mills in positioning the bluestone walkways. Colonel Burbank then

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12. Gillespie to Secretary of War, June 10, 1901, doc. 109,778, Corr. 1890-1914, RG 92, NA.

13. Marshall to Gillespie, Dec. 13, 1901, doc. 109,778, Corr. 1890-1914, RG 92, NA.

14. Burbank to Adjutant General, Department of the East, May 25, 1901, doc. 109,778, Corr. 1890-1914, RG 92, NA.

called for walkways from rear to front at the six captains' quarters to permit enlisted men coming across the parade ground to have some means of reaching the front entrances. In the lieutenants' and commanding officer's quarters, the entrance to the office was at the rear of the building. Consequently, they did not require additional walkways.[15] However, General Ludington rejected this proposal. As he pointed out, the enlisted men could just as easily gain access to their captains' offices through the rear doorways.

In March 1902, the post quartermaster, Daniel F. Craig, sought and received approval for replacing the "unsatisfactory gravel walks" with flagstone walkways behind the 11 sets of lieutenants' quarters and the one northeast of quarters 1. Also paved with flagstone at this time was the square, enclosed by the flagstaff anchors, that allowed the colors to be raised and lowered without the color guard tramping on the grass. A walkway behind the staff noncommissioned officers' quarters was also paved.[16]

Authority was likewise received for construction of a concrete walkway north of lieutenant's quarters 7, leading to the guardhouse and passing in front of the bachelor officers' quarters and the administration buildings. A second concrete walkway, bisecting the parade ground from east to west, was built to facilitate pedestrian traffic between the barracks and Officers' Row.[17]

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15. Ibid., Sept. 6, 1901.

16. Craig to Post Adjutant, March 20, 1902, doc. 109,778, Corr. 1890-1914, RG 92, NA. Lieutenant Craig was post quartermaster from September 1901 to October 1902.

17. Ibid.

4. Expanding Reservation Road Network

During the winter of 1901-02, Lieutenant Craig supervised construction of a wagon bridge across the marsh to link the road to the pumping station. At flood tide, the marsh had 3 feet of water, making it impassable to pedestrians and necessitating driving teams through freezing water during the winter.[18]

In August 1903, the post quartermaster, James M. Wheeler, requested authority to spend $3,861 for construction of a macadam roadway 2,740 feet in length and 15 feet wide, with wooden curbs. The road was to start behind barracks 25 and the YMCA and lead to Battery Potter. At Battery Potter, it was to connect with the road that had been recently opened by the Ordnance Department.

This new roadway was to be one of the most important routes affording direct access from the barracks to all the batteries, except the rapid-fire guns, and passing directly behind Batteries Reynolds and Granger. The macadam road was to follow the trace that had been originally planked by the engineers in 1898 and had deteriorated rapidly, necessitating an alternative construction.[19] The proposal was approved by the quartermaster general, and the road was constructed and macadamized by B. M. & J. F. Shanley Co. of Jersey City.[20]

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18. Craig to Post Adjutant, Feb. 3, 1902, doc. 109,778, Corr. 1890-1914, RG 92, NA.

19. Wheeler to Post Adjutant, Aug. 29, 1903, doc. 109,788, Corr. 1890-1914, RG 92, NA. Lieutenant Wheeler was post quartermaster from May 1903 to February 1904.

20. Quartermaster General to Chief Quartermaster, Department of the East, Sept. 23, 1902, doc. 109,778, Corr. 1890-1914, RG 92, NA.

In July 1904, Capt. Abraham S. Bickham, who had been named constructing quartermaster in February, requested an allotment of $24,300 to construct a 12-foot-wide macadam road from Fort Hancock to the trestle guardhouse. This road would connect the post road-network at the hospital with the pumping station, Camp Low, Life-Saving Station No. 2, and the trestle guardhouse. Its length was to be about 19,000 feet. With completion of the new 5,000-foot railroad trestle, Captain Bickham pointed out, the old trestle would be available as a wagon bridge, connecting with "the handsome roads of the New Jersey coastal resorts," and "throwing open the markets of these towns" to the Fort Hancock soldiers.[21]

Captain Bickham justified the cost of the new road, based on the military necessity for a good road to supplement railroad and water transportation. As everyone knew, Sandy Hook was frequently cut off from shipping by fog in the spring and autumn and ice in the winter. During the winter of 1903-04, there had been several weeks when it was impossible for a tug to force her way through the packed ice to either the proving ground or Camp Low wharves. In 1902, transportation by rail had been interrupted when a storm had demolished a section of the trestle.

The proposed road was to follow the wagon road from the hospital to the pumping station and a sand trail from the pumping station to Camp Low. However, from Camp Low to Life-Saving Station No. 2, the sand trail paralleled the railroad so closely that a horseman had to take to the woods whenever a train passed. There had been several accidents on this trail, which was the only route for pedestrians between Fort Hancock and Highland

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21. Bickham to Post Adjutant, July 22, 1904, doc. 109,778, Corr. 1890-1914, RG 92, NA.

Beach. It was heavily traveled by people on official and personal business. From the Life-Saving Station to the trestle guardhouse, the route was also a sand trail.[22]

It was 1906 before the quartermaster general was able to budget funds for opening an all-weather road south from Fort Hancock to the trestle. This graveled roadway crossed the tidal estuary south of the hospital and paralleled the slough on the east as far as the Horse Shoe. Spur roads, also graveled, branched off, the first leading to the pumping plant and the second to Camp Low. The road then veered to the southeast, and as it approached the Ordnance Railroad, turned south and paralleled the railway as far as the south end of the reservation.[23]

Other roads were also constructed during this period. In 1907 a gravel road was built south from Battery Gunnison to the secondary stations, and a crossroad was constructed from the secondary stations to the north-south road. Three years before, in August 1904, Captain Bickham had secured permission from the quartermaster general to complete the macadam road at the hospital annex and to repair and finish the road from the stables to Battery Potter. The hospital road had been authorized in 1903, and $600 was allotted for the project.[24] Additional money was made available, and these projects were completed before the end of the fiscal year.

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22. Ibid.

23. Fort Hancock, Sandy Hook, New Jersey, Dec. 2, 1911, RG 92, NA.

24. Bickham to Quartermaster General, Aug. 19, 1904, doc. 109,778, Corr. 1890-1914, RG 92, NA.

In December 1908, Civil Engineer Raymond E. Adams found the new roads with their flush curbs in fair condition. Roads previously built on the post had curbs elevated above their surfaces. The road fronting the storehouses was sloped, and there were many pockets in which water stood after rains.

To correct this situation would be expensive. It could be done by either filling in the low places to the level of the curbs or by cutting down the curbs. To accomplish this work, there was a large steam road roller and a quantity of gravel, broken stone, and screenings on hand.[25] It was decided to fill in the low places rather than cut down the curbs.

5. Extending Railroad Spur

On March 30, 1912, Colonel Bartlett notified the commander of the Department of the East that an extension of the switch track from the rear of the shops to the rear of the coal shed was needed. It was now necessary to place all cars, including those already unloaded, on the spur until the cars were emptied, unless they were pulled out together and switched onto the proving ground track. When this was done, it caused delays and interferred with unloading, especially coal, and often caused cars to remain on the siding while demurrage charges accumulated. In addition, a concrete sidewalk was needed in front of recently constructed noncommissioned officers' quarters 75.[26] These projects were approved. On July 25, 1912, John H. Ahearn was

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25. Adams to Quartermaster General, Dec. 16, 1908, doc. 250,434, Corr. 1890-1914, RG 92, NA.

26. Bartlett to Adjutant General, Department of the East, March 30, 1912, doc. 363,787, Corr. 1890-1914, RG 92, NA.

awarded the contract as low bidder for construction of an extension to the spur and for the concrete sidewalk.[27]

6. Landscaping Camp Grounds at Batteries

The annual war alerts called for the garrison to bivouac for five to ten days behind the batteries to which the troops were assigned. Although this phase of the training program had been inaugurated in 1912, it was two years before the post quartermaster called for $1,530 to topsoil a 150' by 60' cleared area for camp sites at each of the batteries--Urmston, Morris, Peck, Richardson, Gunnison, and Arrowsmith. Unless topsoiled, the cleared sandy areas would soon be "filled or depressed."[28] The quartermaster general, J. B. Aleshire, approved the request, and it was accomplished in fiscal year 1914.[29]

7. Acquisition of a 20-inch Rodman

On January 20 , 1903, Lt. Col. William F. Stewart, the post commander, contacted the War Department, seeking transfer from the proving ground to Fort Hancock "as souvenir of the old class of Guns" the 20-inch Rodman then at Sandy Hook.[30] The transfer was approved by the chief of ordnance and the huge gun, one of four cast, was positioned near the stables.

In 1937, the 20-inch Rodman was mounted on a concrete base in the triangular plot at the junction of the present

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27. Quartermaster General to Chief Quartermaster, Department of the East, July 25, 1912, doc. 363,787, Corr. 1890-1914, RG 92, NA.

28. Post Quartermaster to Chief Quartermaster, Department of the East, April 14, 1914, doc. 503,831, Corr. 1890-1914, RG 92, NA.

29. General Aleshire was quartermaster general from 1907 to 1916.

30. Stewart to Adjutant General, Jan. 20, 1903, doc. 23,563, General Corr. 1894-1913, RG 153, NA.

Hartshorne Drive and Kearney Road. The difficult task of moving and mounting the cannon was solved by M. Sgt. Louis Razga. The handsome solid brass tompion was fashioned by Capt. W. C. Fadden of the 7th Coast Artillery (HD). The design incorporated the insignia of the Ordnance Department and the Coast Artillery Corps.[31]

B. Post and Grounds Lighted

1. Awarding Contract for Electrical Wiring

On December 5, 1901, Quartermaster General Ludington informed Secretary of War Elihu Root that the Engineer Department was going to install an electric plant for the Sandy Hook Defenses, which would also service Fort Hancock. He therefore wanted approval for wiring the post buildings and installing electric fixtures. It was estimated that the cost would be $16,012.

The secretary, the quartermaster general continued, had approved the lighting of seacoast defense posts "from the fortification electric plants as being in the interest of the service." There was general agreement that the efficiency of the plants would be promoted by their regular and constant use, thus assuring their readiness for defense purposes when required.[32]

Secretary Root having allotted necessary funds, the post quartermaster on February 19, 1902, called for proposals to install electrical wiring and fixtures in 36 structures. These

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31. "Fort Hancock Now Has Rival for Old Gun 40 at Fort Monroe," Coast Artillery Journal, vol. 80, 1937, p. 141

32. Ludington to Root, December 5, 1901, doc. 137,229, Corr. 1890-1914, RG 92, NA and Edwin C. Bearss, "The Sandy Hook Defenses, 1857-1948: A Resource Study," Chapter 13.

buildings, it was pointed out in the announcement, had been built several years before, and for the most part, were occupied. Nineteen of them were officers' quarters in which the wiring would be run in concealed tubing. In the other structures, the wiring would be "done in the molding and cleats." The fixtures were to be furnished by the contractor.[33]

When the proposals were opened and abstracted on March 20, the low and successful bidder was Tucker Electrical Construction Co. with a bid of $15,877. If the project were completed within 90 days a bonus of $500 was to be awarded.[34] By mid-summer, Tucker Electrical had fulfilled its contract.

2. Adapting Street Lamps for Electricity

On April 7, 1902, Post Quartermaster Craig reminded the Washington office that because the 34 Fort Hancock lamp posts were only 8 feet high, it was thought that 5-foot arms over the walks and roads would be a visual intrusion. Because it would not interfere with the efficiency of the 50 candlepower lamps, Craig suggested that suitable globes should be placed directly on top of the posts, instead of employing street hoods and arms as specified. The recommended system, he believed, would give plenty of light for both roads and walks because the posts were midway between them.[35] Ludington approved this change.[36]

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33. Craig to Quartermaster General, Feb. 21, 1902, doc. 137,229, Corr. 1890-1914, RG 92, NA.

34. Quartermaster General to Quartermaster, Department of the East, April 3, 1902, doc. 137,229, Corr. 1890-1914, RG 92, NA.

35. Craig to Post Adjutant, April 7, 1902, doc. 137,229, Corr. 1890-1914, RG 92, NA.

36. Ludington to Craig, April 11, 1902, doc. 137,229, Corr. 1890-1914, RG 92, NA.

3. Wiring the Grounds

In the summer of 1902 Acting Chief Engineer Mackenzie notified the Quartermaster Department that an allotment had been made from the Corps of Engineers' funds for necessary ducts, cables, and other hardware for lighting the post from the central fortification power plant. Most of the post outlets would be provided with 110-volt current.[37]

Preparatory to extending the lighting system from the central powerhouse, one 80-kilowatt and one 25-kilowatt rotary transformer, for converting a 125-volt direct current into a 2,200-volt alternating current, were installed in the powerhouse. The distribution was effected by means of duplex, lead-covered cables drawn through underground vitrified clay conduit. The principal feeders ran from the powerhouse to a manhole in the center of the parade ground. Connected with these feeders were two laterals for supplying current to self-feeders behind the barracks.

Step-down transformers in underground manholes were positioned behind the officers' quarters. Current at a pressure of 100 to 116 volts was led into the basements. To conserve cable, the quarters were grouped by threes. Street lamps were fed from the nearest transformer, the current being transmitted by armored-lead cables.[38]

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37. Mackenzie to Ludington, July 25, 1902, doc. 137,229, Corr. 1890-1914, RG 92, NA.

38. Marshall to Chief Engineer, July 23, 1902, Press Copies, Letters Sent, Fort Hancock, RG 77, NA. "General Plan of Electric Lighting and Power Plant," RG 77, NA.

4. Constructing a Coal Shed

In February 1903 Post Quartermaster Dunn asked for and received authority to construct a brick 40' by 20' coal shed, with galvanized roof, against the north elevation of the powerhouse. To facilitate handling of coal, the north window of the powerhouse would be converted into doors.

At that time, there were two coal bins positioned outside the powerhouse. These bins fed into the interior through a small door in the wall. When the shed was built, the bins were to be removed. A railroad spur was to extend alongside the shed's north elevation so coal could be unloaded from cars directly into it.[39]

Archibald McIntyre, as low bidder, constructed the coal shed during the spring of 1903.

5. Transferring Responsibility for the Central Powerhouse

On July 1, 1905, the Corps of Engineers transferred responsibility for the central powerhouse to the post quartermaster. The structure had been constructed during 1901-02, at a cost of $55,700, to service the coast defenses. It had brick walls, stone foundations, concrete flooring, and a slate roof. The structure was lighted by electricity and heated by boilers.[40] The post quartermaster assigned the powerhouse (building 62) to the Fort Hancock structure inventory.

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39. Dunn to Post Adjutant, Feb. 19, 1903, doc. 137,229, Corr. 1890-1914, RG 92, NA.

40. Post Quartermaster to Chief Quartermaster, Department of the East, April 13, 1906, doc. 215,986, Corr. 1890-1914, RG 92, NA.

C. Hospital Improved and Deadhouse (Building 54) Constructed

1. Addition to the Hospital

By the winter of 1900-01, the increase of the garrison to more than 400 officers and men had taxed facilities of the 12-bed hospital. During the winter, many men on sick call, who should have been hospitalized, were treated in their quarters. The officers' and isolation wards had been used to house the overflow, and of the seven privates assigned to the medical detachment, only four could be accommodated in the hospital dormitory.[41]

To correct this situation, Secretary of War Root, at the behest of Surgeon General Sternberg, approved the expenditure of $30,954 for construction of a 12-bed addition to the hospital. Plans prepared in the surgeon general's office specified that the addition be made to the north elevation of the structure.[42]

On June 21, 1901, Post Quartermaster Mills called for proposals to build the addition and to improve the existing hospital. When Mills opened and abstracted the sealed bids on July 20, however, Chief Quartermaster Ludington reviewed them and found all of them excessive. He instructed Mills to advertise for new proposals, but again, when he examined them in August, he rejected all the bids because they were still too high. The third advertisement was the charm. When Mills abstracted the newest bids on September 28, the proposal submitted by Michael O'Sullivan

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41. Howard to Surgeon General, March 18, 1901, doc. 151,129, Corr. 1890-1914, RG 92, NA. D. C. Howard was post surgeon.

42. Mills to Chief Quartermaster, Department of the East, June 10, 1901, doc. 151,129, Corr. 1890-1914, RG 92, NA.

of Brooklyn was the lowest responsible one, and Ludington pronounced that the price was acceptable.

On October 26, Lieutenant Mills contracted with O'Sullivan. According to the agreement, O'Sullivan was to begin work on October 28 and was to finish by February 7, 1902. O'Sullivan's contract and bond, however, were rejected by the quartermaster general on a technicality and returned on November 9. O'Sullivan saw that erasures had been made and a note was attached, reducing by 28 days the time allowed for completion of the project. O'Sullivan was prevailed upon to agree to the change, when Colonel Burbank and Lieutenant Mills indicated that they would recommend that he be granted an extension.[43]

Because of this delay, it was November 18 before O'Sullivan and his men positioned the first foundation stone. The last brick was laid on the piers on February 26. During this period his artisans were able to work less than 58 days because of inclement weather. There were a number of days when the workmen remained in camp waiting for the weather to moderate. Four days were lost when there was no buff brick, three days were lost because of strikes, and a number of days were lost for the Christmas holidays. No allowances had been made for delays caused by Quartermaster Craig's call for change orders. During the three-month period Lieutenant Craig had seldom been onsite while O'Sullivan lived on the post.[44]

The plasterers had to wait until April before the walls were dry enough for the finishing coat. Even after the coat

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43. O'Sullivan to Quartermaster General, Sept. 6, 1902, doc. 151,129, Corr. 1890-1914, RG 92, NA.

44. Ibid.

was applied, O'Sullivan was unable to "rush the inside woodwork, trim, etc." When he tried, the moisture from the "half dried brick walls 'curled' and twisted the trim, out of line." If he had been allowed an extension, as twice requested and refused, he would not have been compelled to force the brickwork in unseasonable weather, and "the walls would have been dry in half the time."[45]

There had also been trouble with Colonel Burbank. O'Sullivan had called to complain about his workmen being refused passage on the government boat to and from New York City. The builder explained that the boat people had refused to honor Burbank's passes. Burbank inquired, "Who told that story?"

> "My men," O'Sullivan answered.
> "Are they all liars?"
> "They are not," O'Sullivan retorted.
> "If you are not more respectful I will tell you to leave the office," the colonel warned.

Whereupon, O'Sullivan protested and walked out.[46]

Consequently, it was June 22, 1902, before the addition and alterations to the original structure were completed.[47] This was 135 days after the date named in the contract, February 7. O'Sullivan, the United States held, was entitled to a credit of no more than 25 days for inclement weather on his contract, so he was subject to a heavy penalty of $25 per day.[48]

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45. Ibid.

46. O'Sullivan to Quartermaster General, Oct. 20, 1902, doc. 151,129, Corr. 1890-1914, RG 92, NA.

47. Ibid., Sept. 6, 1902.

48. Ibid.

O'Sullivan, on his part, claimed the United States owed him $173 for extras and $3,000 for losses caused by delays and interference on the part of the Quartermaster Department.[49] The claims and counterclaims were settled in 1903, with the United States paying O'Sullivan for the extras, and each party dropping their claims for damages.[50]

2. Construction of Hospital Annex and Deadhouse

a. Preparing Plans and Writing Contract

The decision to constitute the proving ground as a permanent facility had immediate repercussions on the medical department at Fort Hancock. The hospital was expected to provide care for the ordnance detachment, as well as the four companies of coast artillery. The number of beds would have to be increased, despite the recent completion of the addition.

On June 9, 1902, Secretary of War Root notified Quartermaster General Ludington that he had authorized construction of an annex to the post hospital and that plans and specifications were to be prepared in the office of Surgeon General Sternberg.[51]

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49. O'Sullivan to Quartermaster General, Oct. 21, 1902, doc. 151, 129, Corr. 1890-1914, RG 92, NA. The extras claimed were: building 24 lockers in "blocks" or sections of six each instead of in a continuous row, $48; porch ceiling, $30; stone pillars, $25; cutting and checking stone piers, $50; beams for stone piers, $10; and stop and waste, $10.

50. O'Sullivan to Quartermaster General, June 10, 1903, doc. 151, 129, Corr. 1890-1914, RG 92, NA.

51. Root to Quartermaster General, June 9, 1902, doc. 178,381, Corr. 1890-1914, RG 92, NA.

These documents had been prepared, reviewed, approved, and forwarded to the Fort Hancock commander by mid-autumn. On November 17, Post Quartermaster Dunn advertised that sealed proposals would be received at Fort Hancock until December 16 for construction of an annex to the hospital, and the associated heating, plumbing, and electrical wiring. Also solicited were proposals for building a "deadhouse," along with necessary wiring and plumbing.

The annex was to be a "two-story and attic building," 33 feet by 50 feet. It was to be connected with the post hospital by a corridor, one story in height. The structure was to be heated by hot water and have stone foundations, a buff brick superstructure, and a slate roof. The plumbing was to consist of four toilet rooms, kitchens, sinks, and other plumbing fixtures. The annex was to be wired throughout for electricity and supplied with the necessary fixtures.

The deadhouse, a one-story structure, 20 feet by 32 feet, was to be built of the same materials as the annex. It was to be supplied with sink, hot water heater, and other such items, and wired for electricity.[52]

Dunn opened, abstracted, and forwarded the proposals to Washington on December 19. On reviewing them, the quartermaster general rejected them as excessive. When he advised Dunn of this, General Ludington noted that the surgeon general had requested that construction be started no later than April 1, 1903. In addition, Dunn was to inquire of each bidder, when

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52. Dunn to Quartermaster General, Nov. 17, 1902, doc. 178,381, Corr. 1890-1914, RG 92, NA.

proposals were again invited, to indicate what reduction would be made in costs of the structures if brick foundations were substituted for faced stone.[53]

On February 20, 1903, Dunn, having called for new proposals, again opened and examined the bids. He found that the one submitted by Archibald McIntyre of New Brighton, New York, was low and recommended its acceptance.[54] The chief quartermaster, Department of the East, concurred. He urged that McIntyre's proposal to substitute brick with ashlar facing for the foundation walls of the annex be accepted at a saving of $150. This would reduce the contract price to $23,144 for constructing both structures.

Hosptial Annex (Building 19)

Construction	$16,725
Heating	1,415
Plumbing	1,800
Electrical wiring	341
TOTAL	$20,281

Deadhouse (Building 54)

Construction	$ 2,611
Plumbing	225
Electrical wiring	27
TOTAL	$ 2,863

53. Quartermaster General to Dunn, Jan. 8, 1903, doc. 178,381, Corr. 1890-1914, RG 92, NA.

54. Dunn to Post Adjutant, Feb. 20, 1903, doc. 178,381, Corr. 1890-1914, RG 92, NA.

Because the quartermaster general was satisfied that the structures could be built within the available allotment, he recommended that the proposal be accepted. The secretary of war agreed with him and subsequently authorized awarding the contract to McIntyre.[55]

b. Difficulties During Construction

Unfortunately, McIntyre proved to be an unsatisfactory builder. On October 15 Lieutenant Wheeler, who had relieved Lieutenant Dunn as post quartermaster, notified his superiors that the contract with McIntyre had expired two weeks earlier. Repeated efforts to get the contractor to push the work had failed. Not being energetic, McIntyre had been victimized by the labor and transportation difficulties common to Sandy Hook.

Since the builder had started work on May 21, his men had lost 15 days because of inclement weather, and on three occasions all his bricklayers had walked off. As far as Lieutenant Wheeler could learn, McIntyre was paying a fair market price for labor and was meeting his bills for materials.

To that date the United States had sustained no damage through the failure of the contractor to complete the project, and, consequently, Wheeler recommended that McIntyre be allowed to continue. The United States, however, reserved the right to take the contract out of McIntyre's hands anytime he failed to comply with instructions.[56] The quartermaster general was

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55. Quartermaster General to Dunn, March 9, 1903, doc. 178,381, Corr. 1890-1914, RG 92, NA.

56. Wheeler to Post Adjutant, Oct. 15, 1903, doc. 178,381, Corr. 1890-1914, RG 92, NA.

agreeable, provided McIntyre was held liable for any damages resulting from failure to complete the project in the 183 days stipulated. No further payments were, he stated, to be made until the work was completed.[57]

McIntyre protested that his failure to finish the structures by September 30 was through no fault of his. The main sewer had run across the annex site. Although the contract for relocating the sewer had been approved on March 30, his men were unable to return to work until late May because they had not received the pipe until May 1. His men had been further slowed in the sewer operation by sand that was continually caving in. Finally, after construction had started on the annex, there had been a 105-day delay in delivery of the buff face brick.[58]

Construction continued to lag. McIntyre, when questioned about the delays, blamed them on the continued failure of James R. Sayre, Jr., & Co. to furnish his masons with buff brick in the required quantities. Lieutenant Wheeler rejected this explanation on learning that Sayre & Co. had delivered 60,000 bricks onsite between October 24 and December 18.

By January 5, 1904, all the buff brick for the annex had been laid and the red bricks were on the ground. But when Asst. Surg. B. H. Dutcher inspected the annex in the first days of the new year, he discovered evidence of shoddy workmanship. To correct the problems, men were employed on the

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57. Quartermaster General to Post Commander, Oct. 19, 1903, doc. 178,381, Corr. 1890-1914, RG 92, NA.

58. McIntyre to Wheeler, Nov. 28, 1903, doc. 178,381, Corr. 1890-1914, RG 92, NA.

roof, floors, and cornice. He saw that the ridgepole was shored up by vertical shores extending from the ground floor to the roof. Roof ridges had been raised about 2 inches by this shoring, and the upper part of the west wall deflected outward from the vertical along most of its length.

Boards on the main roof of dormers and the connecting passage were not strained together. There were gaps from very small to 3/8 inch, through which daylight could be seen. There were knotholes in the roof boards. Three windows were out of plumb, one so far as to be visible to the eye. Twelve second-floor studs out of 20 were footed on floor beams instead of on the cap of the partition below.

No work had been accomplished on the deadhouse since the few bricks had been laid in early December, and the weather had become too cold for brickwork.[59] Lieutenant Wheeler commented on the points raised by Surgeon Dutcher. Slow progress in December could be attributed to the face brick not arriving until the 14th. By the time they were unloaded, the temperature had fallen to -20 degrees, and all the masons left for New York City.

Wheeler, accompanied by the post commander and surgeon, examined the west wall of the annex. They found it as reported, and it was taken down and rebuilt by McIntyre's bricklayers. The ridgepole had been shored up to relieve strain on the sidewalls and plate, which were being drawn back into alignment with block and tackle. This had been done with Wheeler's permission. They found that the boards on the main

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59. Dutcher to Surgeon General, Jan. 5, 1904, doc. 178,381, Corr. 1890-1914, RG 92, NA.

roof, dormers, and connecting passage had been laid in accordance with the specifications, except for a few boards with loose knots. McIntyre's foreman had been ordered to remove and replace all defective roofing. A few underfloors with knotholes had been pinpointed and were to be replaced before the finished floor was laid. All windows reported out of plumb had been straightened, while floor studs had been replaced as necessary.

Lieutenant Wheeler assured the Chief Quartermaster, Department of the East, that the work was in the "main satisfactory , . . except for the speed with which it had been carried on." The deadhouse construction had been stopped by cold weather and the failure of arrival of face brick.[60]

Surgeon Dutcher's letter resulted in orders for Lt. Col. George Ruhlen, deputy quartermaster general, to proceed to Sandy Hook and inspect the hospital annex and deadhouse.[61]

Colonel Ruhlen arrived on February 15 and inspected the buildings under contract to McIntyre. He found some details of the carpentry shoddy, showing lack of supervision. The most glaring faults (window frames out of plumb and studding supported on the flooring) were being corrected. Some knotholes were seen in the roof sheathing and a few open joints, but these were insufficient to affect seriously the strength of the annex. Open joints were pinpointed in the underflooring.

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60. Wheeler to Chief Quartermaster, Department of the East, Jan. 30, 1904, doc. 178,381, Corr. 1890-1914, RG 92, NA.

61. Quartermaster General to Assistant Adjutant General, Feb. 5, 1904, doc. 178,381, Corr. 1890-1914, RG 92, NA.

The most serious construction faults observed were in the upper part of the wall between the wall plates and the attic floor. Here there was a slight opening between the two outer layers and the inner course of brickwork, which extended nearly the length of the wall on either side.[62]

Work continued to drag. By late August the structures had been completed with the exception of the steel ceilings. Those manufactured by Berger Co. of Canton, Ohio, had been rejected, because they lacked a slip or lock joint. It was November before the ceilings were installed. In April 1905 the United States accepted the annex and deadhouse and paid McIntyre the retained percentage of his contract price.[63]

3. The December 1913 Fire

On December 19, 1913, an overheated stovepipe caused a fire on the second floor of the hospital steward's quarters (Building 20) occupied by Sfc. Paul Compton and his family. The fire, before being extinguished, caused $16.75 worth of damage to the ceiling and joists. The damage was promptly repaired by the post quartermaster.[64]

D. The YMCA

1. Refusal of Funds for Construction of School, Chapel, and Social Hall

In February 1899, Capt. C. W. Foster, the post commander, recommended construction of a post school for enlisted

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62. Ruhlen to Bickham, March 17, 1904, doc. 178,381, Corr. 1890-1914, RG 92, NA.

63. Bickham to Quartermaster General, Sept. 3, 1904, & Berger Manufacturing Co. to Secretary of War, Apr. 3, 1905, doc. 178,381, Corr. 1890-1914, RG 92, NA.

64. Quartermaster General to Adjutant General, Jan. 31, 1914, doc. 492,821, Corr. 1890-1914, RG 92, NA.

men of the garrison and dependent children. They could be housed in the same building, he said, but in separate rooms. The respective classrooms were to be entered from opposite sides of the 40' by 30' by 10' structure. He also asked that consideration be given to construction of a post chapel and a library and reading room. Foster's request was pocketed by Constructing Quartermaster Bailey.[65]

Several months after Foster had left for the Philippines, his successor, Capt. E. R. Hills, called the attention of the Department of the East to this need. When built, he noted, the library and reading room could be on the first floor and the post school on the second floor. At that time there were no suitable rooms on the post that could be set aside for these activities. The only space that might be used was the "assembly room" in the administration building above the offices occupied by the post adjutant and sergeant-major. But, he added, the assembly room was the only one on the post where garrison and general courts martials and lyceums could be held. The garrison also needed a gymnasium. There were no indoor recreational facilities of any kind for off-duty enlisted men.

Also, a chapel would be useful and beneficial for the troops. This structure, Captain Hills argued, should be "separate and distinct and used for religious purposes." There was a Roman Catholic Church and resident priest on the proving ground, while members of the Methodist faith were preparing to build their own church. Fort Hancock, however, had none.[66] Unfortunately, the

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65. Foster to Bailey, Feb. 1, 1899, doc. 129,209, Corr. 1890-1914, RG 92, NA.

66. Hills to Adjutant General, Department of the East, Aug. 5, 1899, doc. 129,209, Corr. 1890-1914, RG 92, NA.

quartermaster general was compelled to pigeonhole this request because of higher priorities elsewhere.

More than three years later, during the winter of 1902-03, Post Quartermaster Dunn forwarded to Colonel Stewart plans and specifications for a structure to be used as an enlisted men's school and "social" hall. To justify the expenditure, he pointed out that there was no suitable place at Fort Hancock for holding classes for coast artillerists. Classes were being held in the dayroom of barracks 25, but it was too small and lacked necessary equipment. If the garrison were reinforced, this room would instead be used for quartering troops. During the previous year, an attempt had been made to instruct the men in techniques of handling submarine mines, and the only place available for classes had been the torpedo shed.

The second floor of the school could be utilized by the enlisted men as a "social hall, because there was no other place at Fort Hancock of sufficient size for entertainments."

The chaplain, Lieutenant Dunn continued, held Sunday services in the "small social hall" on the second floor of the administration building, but this room was "make shift at best and in no way attractive to people who have been accustomed to associating such services with an edifice, be it large or small, especially designed and equipped for the purpose."[67]

The quartermaster general denied the request, pointing out that the building under construction by the YMCA would answer many of the requisites of a social hall.[68]

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67. Dunn to Post Adjutant, Feb. 17, 1903, doc. 191, 868, Corr. 1890-1914, RG 92, NA.

68. Quartermaster General to Post Commander, July 7, 1903, doc. 191, 868, Corr. 1890-1914, RG 92, NA.

2. Selection of Site

On Wednesday, April 3, 1901, William R. Millar, secretary of the YMCA, had met with Secretary of War Root. He had explained to Root that the YMCA was willing to provide $15,000 donated by Thomas S. Gladding for erecting a building at Fort Hancock to contain reading, recreation, and correspondence rooms, a gymnasium, and smaller rooms for meetings and Bible reading. The YMCA's formal application was forwarded to Colonel Burbank, the post commander, by the War Department.[69] Colonel Burbank was delighted to learn of the YMCA's proposal, because "such a building would be invaluable to this garrison in the promotion of contentment, better passing of spare time, and in the conservation of sound moral influence."

A committee from the association, accompanied by an architect and Mr. Gladding, visited the post in mid-May. Colonel Burbank pointed out to them the proposed site for the structure at the intersection of the post's main roads, where it would be convenient for access by all troops.[70] The quartermaster general, however, objected to the site proposed because it was adapted for the location of another barracks. But, if Fort Hancock was considered a "completed post," he would have no objection to this site for the YMCA.[71]

The artillery-inspector, however, noted that Fort Hancock was not, in fact, a "completed post," as it was currently

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69. Millar to Root, April 5, 1901, doc. 167, 910, Corr. 1890-1914, RG 92, NA.

70. Burbank to Adjutant General, Department of the East, May 21, 1901, doc. 167,910, Corr. 1890-1914, RG 92, NA.

71. Moore to Commanding Officer, Department of the East, May 25, 1901, doc. 167,910, Corr. 1890-1914, RG 92, NA. Lt. Col. James M. Moore was assistant quartermaster general, U.S. Army.

garrisoned by only three companies of coast artillery. For one relief to man the guns, 800 men were required. Consequently, more barracks were needed and the YMCA should not be erected on ground that might be used for future barracks.[72] Maj. Gen. John R. Brooke, commander of the Department of the East, accordingly returned the correspondence to Colonel Burbank, with an endorsement that the site indicated would in the future be occupied by barracks.[73]

Colonel Burbank explained that there was ample room for three more barracks on the continuation of the present line toward the southwest, where water and sewage lines had already been laid. The YMCA, Burbank continued, would be 40 feet by 80 feet and would include those features urgently needed at an isolated post--gymnasium, reading rooms, and reception rooms for visitors. If, however, it were deemed necessary to retain the site originally proposed for barracks, Colonel Burbank suggested that the YMCA be built in the open area south of the guardhouse, as one suited to "the harmony of the general building scheme of the post."[74]

On June 12 General Brooke concurred with Colonel Burbank and recommended to the War Department that the YMCA be erected on the "plat south of the guardhouse," and that a revocable permit be granted for its construction.[75]

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72. Story to Adjutant General, Department of the East, May 28, 1901, doc. 167,910, Corr. 1890-1914, RG 92, NA.

73. Sheridan to Burbank, May 31, 1901, doc. 167,910, Corr. 1890-1914, RG 92, NA.

74. Burbank to Brooke, June 10, 1901, doc. 167,910, Corr. 1890-1914, RG 92, NA.

75. Brooke to Adjutant General, June 12, 1901, doc. 167,910, Corr. 1890-1914, RG 92, NA.

3. Clearance of Project by Congress

Judge Adv. Gen. George B. Davis found, on reviewing the record, that the secretary of war lacked authority to "license a building to be used exclusively for union protestant worship on the Fort Hancock Military Reservation." Secretary of War Root accordingly decided that the matter was one that should be decided by Congress.[76] But as so often happens, the people in Washington neglected to apprise Colonel Burbank of this temporary roadblock. With Mr. Millar and his architect becoming anxious, Burbank wrote General Brooke, inquiring as to the project's status. It was then that Burbank learned of the reason for the delay.

In October, the War Department notified Secretary Millar that the site for the YMCA, between barracks 25 and the guardhouse, had been approved.[77] Nevertheless, in view of the judge advocate's opinion, it had been determined to first seek congressional sanction. The request for congressional approval was phrased in such general terms that the secretary of war could thereafter issue similar licenses whenever he deemed it advisable, rather than making an application to Congress on each occasion.[78]

Legislation was introduced in the 1st Session of the 57th Congress, granting authority to the YMCA's Internation Committee to erect buildings on military reservations, within the United States and its possessions. Such buildings were to be employed to facilitate the YMCA's promotion of the garrison's

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76. Davis to Secretary of War, July 10, 1901, doc. 167,910, Corr. 1890-1914, RG 92, NA.

77. Quartermaster General to Millar, Oct. 15, 1901, doc. 169,900, Corr. 1890-1914, RG 92, NA.

78. Quartermaster General to Secretary of War, Dec. 13, 1901, doc. 169,900, Corr. 1890-1914, RG 92, NA.

"social, intellectual and moral welfare . . . under such regulations as the Secretary of War may impose."[79]

Before the question was resolved by Congress, the Women's Christian Temperance Union came forward and asked the War Department for a similar privilege. They held that they were as much entitled to such a franchise as the YMCA.[80]

On May 31, 1902, President Roosevelt approved the legislation recently enacted by Congress, authorizing the Secretary of War to grant a revocable license to the YMCA to erect the subject facilities. Secretary Millar, on learning of the President's approval, wrote the quartermaster general giving permission to proceed with construction of the building at Fort Hancock.[81]

4. Construction of YMCA

With the legal and bureaucratic hurdles out of the way, the YMCA's Army and Navy Committee was eager to get started. The building, as planned, would be somewhat larger than the one erected at Governors Island in 1900.[82] The architectural style would be similar to that of other buildings facing the parade ground. The building was built and its facilities were opened to the troops in the winter of 1903-04.

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79. Adjutant General to Root, Jan 29, 1902, doc. 169,900, Corr. 1890-1914, RG 92, NA.

80. Ibid.

81. Millar to Quartermaster General, June 4, 1902, doc. 169,900, Corr. 1890-1914, RG 92, NA.

82. Sloane to Root, Dec. 6, 1901, doc. 169,900, Corr. 1890-1914, RG 92, NA.

In the years following the businessmen's depression of 1907, the YMCA's Army and Navy Committee was hard pressed for operating funds. On April 5, 1909, Colonel Harris, the post commander, notified the Department of the East that the YMCA badly needed painting and general repairs. He had been told that the building had never been legally turned over to the United States, and since the director of the YMCA had no maintenance funds, Colonel Harris needed guidance.[83]

E. The Post Exchange (Building 53) and Gymnasium (Building 70)

1. Fire Damage to First Exchange

Fort Hancock's first post exchange was in an old frame building turned over to the post commander by the Corps of Engineers. On the night of November 20, 1901, the roof of the combination post exchange-recreation hall caught fire. The fire was put out before it gutted the building, but considerable damage was done.

Quartermaster Craig estimated the cost of reroofing the building at $576. Colonel Burbank endorsed the request because there was no other building on the reservation that could be utilized for the same purposes, and the welfare of his troops thus demanded its repair.[84] On December 7, the quartermaster general allotted $450 for roof repairs.[85]

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83. Harris to Adjutant, Department of the East, Apr. 5, 1909, doc. 169,900, Corr. 1890-1914, RG 92, NA.

84. Craig to Post Adjutant, Nov. 26, 1901, & Burbank to Chief Quartermaster, Department of the East, Nov. 28, 1901, doc. 167,910, Corr. 1890-1914, RG 92, NA.

85. Quartermaster General to Quartermaster, Department of the East, Dec. 7, 1901, doc. 167,910, Corr. 1890-1914, RG 92, NA.

2. Plans Approved and Money Allotted for Permanent Exchange

Three years later, in mid-January 1904, Post Quartermaster Wheeler requested authority to spend $2,200 as soon as possible for construction of a new post exchange.

The structure then housing the facility, Lieutenant Wheeler pointed out, was "an old affair formerly used by the Engineer Department," and was on the proving ground reservation. Also, a temporary building was needed, pending construction of a permanent facility, so there would be no interruption in providing essential services when the old exchange was demolished.[86]

Chief of Ordnance Crozier, on reviewing plans for the new red brick barracks scheduled for construction at the proving ground, observed that the condemned structure used by Fort Hancock personnel as a post exchange occupied the approved site. Because construction of the new ordnance barracks was dependent on removal of the old exchange, and since it was General Crozier's understanding that the quartermaster general had already allotted $2,200 for erecting a post exchange on the Fort Hancock reservation, Crozier asked that the new exchange be given a high priority.[87]

After reconsideration of all factors involved, Q.M. Gen. C. F. Humphrey concluded that the severe Sandy Hook winters made it necessary to consider the possibility of erecting a

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86. Wheeler to Post Adjutant, Jan. 15, 1904, doc. 200,975, Corr. 1890-1914, RG 92, NA.

87. Crozier to Adjutant General, March 15, 1904, doc. 200,975, Corr. 1890-1914, RG 92, WNRC.

sustantial post exchange costing about $10,000. A brick building was deemed essential at this latitude. Moreover, he indicated, it should harmonize with the other post structures. The proposed building was not to include a gymnasium, but that facility could be added or housed in a separate structure whenever money became available.[88] The secretary of war, William Howard Taft, agreed with him, authorized the project, and allotted the necessary funds.[89]

Plans and specifications were prepared, reviewed, and approved. In late May, Constructing Quartermaster Bickham advertised for proposals to erect the post exchange. The lowest responsible bid was submitted by John Milnes Co., which had previously been awarded the contract for four mess halls and a double set of noncommissioned officers' quarters. On June 18, 1904, with the approval of Quartermaster General Humphrey, Captain Bickham contracted with John Milnes Co. for building the post exchange and installing the heating and plumbing systems.[90]

3. Construction of Post Exchange

In July 1904 workmen for John Milnes Co. staked out the selected site about 60 feet east of the YMCA, and ground was broken for foundations. No construction problems were encountered in the following weeks.

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88. Quartermaster General to Secretary of War, Apr. 22, 1904, doc. 200,975, Corr. 1890-1914, RG 92, NA. General Humphrey was quartermaster general from 1903 to 1907.

89. Taft to Humphrey, Apr. 28, 1904, doc. 200,975, Corr. 1890-1914, RG 92, NA.

90. Bickham to John Milnes Co., June 18, 1904, doc. 200,975, Corr. 1890-1914, RG 92, NA.

In January 1905 a change order was written calling for widening two of the doorways in the east elevation. By May the United States had accepted the structure and paid the contracts and the retained percentage.[91] In the summer of 1905 John Thomas, having secured a contract, provided the post exchange with door and window screens.[92]

4. Alteration of Interior Arrangements

The exchange's interior arrangements proved unsatisfactory. Within 14 months of the grand opening, post exchange officer Alison submitted a plan and estimates for enlarging the salesroom, storeroom, and office. Because all lectures and other group entertainments were held either in the assembly room on the second floor of the administration building or in the YMCA, this was to be done at the expense of the lecture room, which was much larger than required.

With the $199.90 allotted for this purpose, Lieutenant Alison partitioned off the east 10 feet of the lecture room, closed a doorway in the west elevation of the office, and cut a new doorway in the office's south wall to give access to the portion of the lecture room which had been partitioned off. The enlarged office was converted into a sales area, and the reduced lecture area became a reading room.[93]

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91. Quartermaster General to Bickham, Jan. 13, 1905, doc. 200,975, Corr. 1890-1914, RG 92, NA.

92. Ibid., July 20, 1905.

93. Alison to Post Adjutant, Aug. 2, 1906, doc. 200,975, Corr. 1890-1914, RG 92, NA.

5. The 1909-10 Addition

By 1909 there were six companies posted at Fort Hancock, and rumors of plans to further increase the garrison. In addition, the post exchange was used by large numbers of troops from the Eastern and Southern Artillery Districts. These people were sent annually to Sandy Hook for service practice on the coast defense and rapid-fire guns and to fire the Camp Low rifle range.

Calling this situation to the attention of the Department of the East in November 1909, Colonel Harris complained that the existing building was too small to accommodate either the stock or the patrons. The reading room, he continued, was now too small, and there were no facilities for the post library, which was housed in his office in the administration building. Also, the lunchroom could not handle the needs of the increased garrison. Colonel Harris urged that funds be allotted for doubling the size of the structure by adding a wing of the "same type and style" to its south elevation.

The post exchange, Colonel Harris continued, was in need of extensive repairs. Among these were renewing the basement flooring where it was badly worn, repairing the plaster ceiling, recovering the steam heating main with asbestos, rebuilding the coal bin, rebuilding the back steps, repairing the electric lighting fixtures, and repairing the plumbing.[94]

Quartermaster General J. B. Aleshire, on receipt through channels of Colonel Harris's request, allotted $14,800 for construction of an addition to the post exchange and for necessary

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94. Harris to Adjutant General, Department of the East, May 28, 1909, doc. 200,975, Corr. 1890-1914, RG 92, NA.

repairs to the old structure.[95] Plans and specifications having been prepared, Constructing Quartermaster Wilford J. Hawkins advertised for and secured proposals for construction of the addition. George W. Wines, the lowest responsibile bidder, was awarded the contract on June 29, 1909.[96]

By early October it was apparent to George Wines that he could not complete the addition by the contract date stipulated, October 31. There had been, he pointed out, "unavoidable delays" in obtaining delivery of stone to match the ashlar in the 1904-05 structure. Moreover, he did not wish to proceed with necessary alterations in the old building until the new structure was nearly finished.[97] Wines' request was approved by General Aleshire, and he was given an extension until the last day of 1909.

In February 1910, the post exchange officer was confronted by a dilemma. George Wines was required by the specifications to install a 6' by 8' cold storage compartment in the former boiler room of the 1904-05 structure. Wines had stated that this would cost $185.

As it was proposed to have a butcher shop in the basement of the addition, the post exchange officer decided to

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95. Aleshire to Hawkins, June 15, 1909, doc. 200,975, Corr. 1890-1914, RG 92, NA. J. B. Aleshire was quartermaster general from 1907 to 1916.

96. Hawkins to Quartermaster General, June 29, 1909, doc. 200,975, Corr. 1890-1914, RG 92, NA.

97. Wines to Goodier, Oct. 11, 1909, doc. 200,975, Corr. 1890-1914, RG 92, NA 1st. Lt. Chester J. Goodier had replaced Lieutenant Hawkins as constructing quartermaster on July 4, 1909.

request a large cold storage compartment to be 10'6" by 8'6" by 8'4". In addition to meat, this area would be used for storage of butter, milk, eggs, fruits, and vegetables. Wines had explained that a compartment of this size could be obtained simply by "building same entirely across the room adjoining the old boiler room" at a cost of $364.40. This price included dividing the compartment to provide space for meat on one side and vegetables on the other, with the milk and ice chamber between.[98] This change order was approved by the quartermaster general on February 26.

The addition was completed and accepted by the government in March 1910. It had brick walls, stone foundations, concrete footings, and a slate roof, and it was heated by steam and lighted by electricity. The basement housed a 15'6" by 49'4" lunch room, a 24' by 11'1" kitchen, and a 24' by 11'1" furnace room. On the first floor were a 50'9" by 28'6" lecture room, a 10' by 6' office, and a 10' by 13'6" bedroom.[99]

6. Funds Allotted and Plans Approved for Gymnasium

In May 1906 Constructing Quartermaster Bickham prepared and submitted plans and specifications for building a gymnasium and bowling alley. This structure, which was estimated to cost $20,000, was to be positioned alongside the recently completed post exchange and to be attached by a connecting passage.

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98. Post Exchange Officer to Post Adjutant, Feb. 9, 1910, doc. 200,975, Corr. 1890-1914, RG 92, NA.

99. Smith to Quartermaster General, March 15, 1910, doc. 215, 986, Corr. 1890-1914, RG 92, NA.

Bickham, to justify the expenditure, reminded his superiors that Fort Hancock was an isolated post with only limited recreation facilities. As evidence of the soldiers' interest in athletics, Bickham called attention to the excellent baseball and football teams fielded by Fort Hancock.[100]

The quartermaster general was unprepared to act at that time and Captain Bickham's proposal was pigeonholed for 23 months. It was revived in the late winter of 1908 by Captain Bickham's successor as constructing quartermaster, Capt. Moor N. Falls. On April 2 Quartermaster General Aleshire notified Captain Falls that Secretary of War Taft had authorized construction of a gymnasium and bowling alley at Fort Hancock at a cost of about $20,000. The structure was to be built in accordance with the department's plan 222 and the specifications that General Aleshire's office enclosed.[101]

Captain Falls reviewed the plans and specifications, which he returned to Washington with a list of changes necessary to adapt them to local conditions.[102] While rejecting most of Falls' comments, the people in the quartermaster general's office accepted several suggestions that were incorporated into the plans and specifications.

The project was advertised in May 1908, and a number of contracts were awarded in June to the lowest responsible

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100. Bickham to Post Adjutant, May 1, 1906, doc. 200,975, Corr. 1890-1914, RG 92, NA.

101. Aleshire to Falls, Apr. 2, 1908, doc. 200,975, Corr. 1890-1914, RG 92, NA.

102. Falls to Quartermaster General, Apr. 6, 1908, doc. 200,975, Corr. 1890-1914, RG 92, NA.

bidders. On May 9, Captain Falls contracted with John Milnes Co. for construction of the building, on May 12 with James B. Gill & Co. for installation of the plumbing, on May 16 with L. B. Jacobs for installation of a steam heating system, and on May 25 with Western Electric Co. for installation of the electrical wiring.

7. Gymnasium and Bowling Alley Constructed

The prime contractor soon had a force on the ground. An area was excavated for the basement, east of the guardhouse and north of the post exchange. Although the foundations and framing were soon positioned, the masons employed by John Milnes Co. suffered frustrating delays in securing buff brick for facing the structure. Brickmakers did not stock the shade needed to match the other structues, and the bricks had to be fired in a special kiln. Captain Falls and his successor, Lieutenant Hawkins, refused to accept the Sayre & Fisher brick upon which John Milnes had bid and upon which the contract had been awarded.

John Milnes therefore asked on October 15 that the contract be extended 41 days, from November 19 to January 1, 1909.[103] Although Lieutenant Hawkins believed that no more than a seven-day extension was justified, John Milnes & Co. was given the full extension requested.

In November and December, several other change orders were recommended and approved. On November 6 the heating contractor, L. B. Jacobs, was authorized to substitute "Perfection Ornamental Radiators with extra heavy right and left

103. John Milnes Co. to Hawkins, Oct. 15, 1908, doc. 200,975, Corr. 1890-1914, RG 92, NA.

hand threaded supplies" for the "two column Rococo radiators" called for in the specifications.[104]

On November 7 Lieutenant Hawkins recommended that the scuttle in the first-floor stairway area be relocated to the main front hall. If built as planned, it would have been very difficult to get a hose up the scuttle. But, if changed, a "permanent ladder" could be fastened to the wall under the scuttle, which would "give easy and quick access under the roof and several lines of hose" could be passed through the gymnasium windows from either side of the structure. Also needed was a narrow strip of flooring over the ceilings of the front rooms, leading to the three dormer windows in the roof over them. This would provide easy access to these windows, which otherwise would have had to be opened often.[105] These changes were approved on November 14 but were to be made at no extra cost to the government.

On November 21 John Milnes was authorized to add three windows in the "dark" basement hall.[106] Two of these windows opened into the bowling alley and one into the dressing room.[107] Also, in November, Lieutenant Hawkins had contracted with Narragansett Machine Co. for installation of the gymnastic apparatus called for in the specifications.[108]

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104. Marshall to Hawkins, Nov. 6, 1908, doc. 200,975, Corr. 1890-1914, RG 92, NA

105. Hawkins to Chief Quartermaster, Nov. 7, 1908, doc. 200,975, Corr. 1890-1914, RG 92, NA.

106. Quartermaster General to Hawkins, Dec. 21, 1908, doc. 200,975, Corr. 1890-1914, RG 92, NA.

107. Hawkins to Quartermaster General, Jan. 2, 1909, doc. 200,975, Corr. 1890-1914, RG 92, NA.

108. Hawkins to Narragansett Machine Co., Nov. 17, 1908, doc. 200,975, Corr. 1890-1914, RG 92, NA.

On February 27, 1909, Lieutenant Hawkins inspected and accepted the structure from John Milnes Co. at a cost of $21,273.[109]

F. New Construction at the Post: 1900-06

1. Position of Constructing Quartermaster Reestablished

During the first five years of the 20th century, a number of structures were erected at Fort Hancock. Day-to-day operations had demonstrated a need for certain of these buildings, while a change in the table of organization, increasing the strength of the four companies assigned to the post from 320 to 432 rank and file, compelled the construction of additional facilities.

New construction through 1903 was rather limited and was supervised by the post quartermaster. But in 1904 the increased activity in this sphere led to the appointment of a constructing quartermaster--Capt. Abraham S. Bickham. This position had been vacant since Captain Bailey's departure for the Philippines in the autumn of 1899.

2. Ordnance Shed (Building 45)

During the winter of 1899-1900, a frame ordnance shed was constructed by day labor at a cost of $390.45.[110] The

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109. Harris to Adjutant General, Department of the East, June 19, 1909, doc. 215,986, Corr. 1890-1914, RG 92, NA. In the basement there were latrines with three water closets, three urinals, six wash basins, and five showers.

110. Coleman to Quartermaster General, Jan. 20, 1900, doc. 130, 297, Corr. 1890-1914, RG 92, NA.

shed stood until fiscal year 1910, when, in accordance with Colonel Harris's recommendation, it was razed.[111]

3. Frame Oilhouse (Building 46)

On December 12, 1899, the quartermaster general allotted $325 for construction of a frame oilhouse.[112] The post quartermaster, Harrison Hall, was unable to interest any contractors in bidding on the structure, because of the small sum involved. He therefore decided to purchase the materials and erect the oilhouse with hired labor. The cost was small (an additional $33.67) and the quartermaster general agreed to it.[113]

The 15' by 20' frame oilhouse was soon built 75 feet northeast of the post guardhouse. It stood there until fiscal year 1910, when it was relocated to a new site about 100 yards east of the bakehouse. In 1913 a 13' by 15' addition was made to the oilhouse. Twelve years later, in 1925, the building was demolished.[114]

4. Subsistence Storehouse (Building 47)

In June 1899 Inspector-General Varoom called attention to lack of space in the recently completed quartermaster-subsistence storehouse. There was insufficient space

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111. Harris to Chief Quartermaster, Department of the East, June 2, 1909, doc. 245, 069, Corr. 1890-1914, RG 92, NA.

112. Quartermaster General to Chief Quartermaster, Department of the East, Dec. 12, 1899, doc. 139,010, Corr. 1890-1914, RG 77, NA.

113. Hall to Quartermaster General, Feb. 20, 1900, & Quartermaster General to Chief Quartermaster, Department of the East, Feb. 24, 1900, doc. 139,010, Corr. 1890-1914, RG 92, NA.

114. Harris to Chief Quartermaster, Department of the East, June 2, 1909, doc. 245, 069, Corr. 1890-1914, RG 92, NA.

in the structure, he complained, for both departments, and flour was stored in a room assigned to the post quartermaster.[115]

When nothing was done to correct this situation, Post Quartermaster Coleman complained that there was inadequate space for the commissary stores. Part of the flour was in the corner of the quartermaster's storeroom, which had been reserved for clothing and equipage, and the remainder was in the stable loft.[116]

General Ludington, after reviewing the correspondence, ordered construction of a subsistence storehouse to have 6,600 square feet of floor space on the first and second stories, with a capacity of 56,000 cubic feet. It was to be located between the ordnance storehouse and the staff noncommissioned officers' quarters and was to conform to the architectural style of post buildings previously erected.[117]

On February 5, 1909, General Ludington recommended expenditure of $11,000, or as much thereof as was necessary, for construction of the subsistence storehouse. The high cost was due to the buff facing brick. This, he believed, was justified because it was "important that the building conform in general appearance to the other buildings."[118] Secretary of War Root agreed.

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115. Breckenridge to Quartermaster General, July 22, 1899, doc. 139,010, Corr. 1890-1914, RG 92, NA.

116. Coleman to Chief Commissary, Department of the East, Nov. 4, 1899, doc. 139,010, Corr. 1890-1914, RG 92, NA.

117. Ludington to Coleman, Nov. 27, 1899, doc. 139,010, Corr. 1890-1914, RG 92, NA.

118. Ludington to Root, Feb. 5, 1900, doc. 139,010, Corr. 1890-1914, RG 92, NA.

The next step was to call for proposals. When Post Quartermaster Hall opened the bids on March 30, he found that a low bid of $11,732 had been submitted by John Milnes of Port Richmond, New York. Although this was more than $700 in excess of the allotment, the quartermaster general recommended its acceptance, and, on April 20, the contract was signed. John Milnes agreed to begin work by May 1 and to complete the structure by September 1.[119]

A failure by the cutstone and brick subcontractors to make deliveries as early as promised slowed the workmen. An extension until November 15 was asked and granted. John Milnes met his new deadline, and the United States accepted and occupied the subsistence storehouse.[120]

5. Sawmill (Building 48)

In 1909 the sawmill, which had served Fort Hancock since the late 1890s, was condemned. The purpose of the new mill was for cutting fuel wood. It was erected east of the wagon shed (building 35) and north of the lavatory (building 44).

The mill was 55 feet 9 inches long from east to west and 20 feet wide from north to south. Its tar and gravel roof was supported by eight trusses, spaced at intervals of 5½ feet. The mill was divided into a kindling/mill room and a power room. Access to the mill was provided by sliding doors in its north and south elevations.[121]

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119. Ibid., April 9, 1900.

120. Milnes to Post Quartermaster, Oct. 19, 1900, doc. 139,010, Corr. 1890-1914, RG 92, NA.

121. J. H. Pearson, Civil Engineer & Supt. of Construction, "Proposed Fuel Sawmill, Fort Hancock, to Replace Condemned One," July 28, 1909, RG 92, NA.

6. Guardhouse for the Nine-Gun Battery

In February 1903 Post Quartermaster Dunn asked for funds to build a frame guardhouse behind Battery Halleck. To justify this request, he pointed out that the powerful Nine-Gun Battery was more than 3/4 mile from the guardhouse, and as sentries were always posted there, it was imperative that a suitable building be erected to shelter them when not on watch. Several days later, Lieutenant Dunn also called attention to the need for a 16' by 20' guardhouse behind Battery Granger.[122]

On July 7, 1903, the quartermaster general allotted $1,200 for construction of a frame guardhouse at Battery Halleck.[123] The structure, which was built by day labor with materials purchased on the open market, was positioned about 200 feet behind the battery.

7. Manure Pit Shed (Structure 49)

A 21' by 42' frame shed was built over the manure pit. This shed, 100 feet northeast of the stables, stood until it was demolished in 1932.[124]

8. Frame Ordnance Storehouse (Building 50)

On March 5, 1904, Quartermaster General Humphrey transmitted plans to Captain Bickham for a standard-type frame ordnance storehouse. A week later, Secretary of War Taft

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122. Dunn to Post Adjutant, Feb. 17 and 19, 1903, doc. 191,868, Corr. 1890-1914, RG 92, NA.

123. Quartermaster General to Post Commander, July 7, 1903, doc. 191,868, Corr. 1890-1914, RG 92, NA.

124. Cocheu to Commanding General, II Corps, Nov. 15, 1932, doc. 600.6, Corr. 1922-35, RG 92, Washington National Records Center (depository hereinafter cited as WNRC), Suitland, Md.

authorized allotment of funds for construction of seven buildings at Fort Hancock--an ordnance storehouse, four combination kitchen/mess halls, a double set of noncommissioned officers' quarters, and a fire apparatus house.[125]

After reviewing the plans, Captain Bickham recommended that the frame ordnance storehouse be similar in design and scale to those found in department plan 128. For appearance, he thought that it should be sheathed with galvanized iron siding pressed to resemble brickwork and painted buff to complement other post structures. A tin roof and brick foundations "as high as the sills of the framing" would complete the structure.[126] However, Quartermaster General Humphrey vetoed the galvanized siding proposal.[127]

Captain Bickham, having advertised for bids, opened and abstracted them on April 30. On May 17, with the department's approval, he contracted with George Wines to build the ordnance storehouse for $3,743.

Work commenced immediately at the site chosen--on the east side of the railroad spur and about 30 feet east of the brick ordnance storehouse. No problems were encountered, and the structure was finished and turned over to the garrison by August 1, 1904.

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125. Quartermaster General to Bickham, March 5 & 14, 1904, doc. 146,928, Corr. 1890-1914, RG 92, NA.

126. Dunn to Quartermaster General, April 1, 1904, doc. 146,928, Corr. 1890-1914, RG 92, NA.

127. Quartermaster General to Bickham, April 9, 1904, doc. 146,928, Corr. 1890-1914, RG 92, NA.

9. Construction of Six Additional Structures

a. Fire Apparatus House (Building 51)

As a defense against fires, such as those that had plagued the proving ground, Fort Hancock purchased a hook-and-ladder truck. To protect this vehicle from the elements, Post Quartermaster Craig, in February 1902, asked for $250 to build a shed.[128] When he reviewed the request, the chief quartermaster, Department of the East, called for construction of a permanent building of "sufficient size to house the fire fighting apparatus." He thought that it could be similar to the one that was being erected at Fort Adams, Rhode Island, at a cost of $3,500.[129]

Colonel Burbank agreed and called for construction of a fire station like the one depicted in department plan 98.[130] Although General Ludington approved the concept, the allotment of necessary funds had to be deferred until fiscal year 1904.

b. Double Set of Noncommissioned Officers' Quarters (Building 52)

On October 20, 1902, Post Quartermaster Craig asked authority to construct a third set of double noncommissioned officers' quarters, employing plan 82A. To justify the expenditure, he pointed out that there were six staff noncommissioned officers on post, two of whom were without housing for their families.

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128. Craig to Post Adjutant, Feb. 3, 1902, doc. 177,916, Corr. 1890-1914, RG 92, NA.

129. Memorandum, Chief Quartermaster, Department of the East, Feb. 8, 1902, doc. 177,916, Corr. 1890-1914, RG 92, NA.

130. Burbank to Chief Quartermaster, Department of the East, Feb. 17, 1902, doc. 177,916, Corr. 1890-1914, RG 92, NA.

The two sets of quarters (buildings 29-30) previously built in accordance with plan 82A were satisfactory. Craig, however, suggested that the following changes be incorporated in the new set: foundations composed of hard brick rather than the more expensive stone; copper wire screens provided for all doors and windows, storm sash for all windows, and a storm door for the front door; a set of stationary laundry tubs substituted in each kitchen for drip boards; and electrical wiring used instead of gas piping.[131] Craig's superiors disapproved three of his recommendations--using hard brick for foundations, positioning storm sash, and replacing drip boards.[132]

The question was rendered academic for the moment when Quartermaster General Ludington announced that the balance in the current appropriation for barracks and quarters did not allow an allotment for this project.[133]

c. Four Detached Kitchen/Mess Halls (Buildings 55-58)

Inspector-General Varoom, Department of the East, had spent three days in early December 1899 at Fort Hancock. He was impressed with the facilities and their police. When he inspected the barracks, he found that the air and floor space "per occupant" would not suffice for the batteries, if they were at their authorized strength of 113 enlisted men. Each of the

131. Craig to Post Adjutant, Oct. 20, 1902, doc. 186,919, Corr. 1890-1914, RG 92, NA. The laundry tubs were to have wooden covers to serve as drip boards for the sink.

132. Chief Quartermaster, Department of the East, Oct. 22, 1902, doc. 186,919, Corr. 1890-1914, RG 92, NA.

133. Quartermaster General to Chief Quartermaster, Department of the East, Oct. 28, 1902, doc. 186,919, Corr. 1890-1914, RG 92, NA.

four barracks contained only enough air and floor space for 60 men. To alleviate this situation, he suggested conversion of the attics into dormitories.[134]

Post Commander Burbank agreed with Colonel Varoom as to the capacity of the barracks. However, Burbank believed it would be more economical for the government to add another full story to each of the structures. Because the roofs were supported by heavy trusses, the roofs could be easily jacked up and the exterior walls built to the desired height.[135] The cost of this operation was estimated by the post quartermaster at $9,000 per structure.[136]

Quartermaster General Ludington, on reviewing this proposal, noted that at the post there were four commodious barracks (22-25), each designed for 65 men, with 940 cubic feet of dormitory space allotted for each man. In addition, there were ten noncommissioned officers' rooms (each about 10 feet by 9 feet), a 42' by 52' dayroom, and barber and tailor shops. Regulations provided for 800 cubic feet of air space per man.

Consequently, although the barracks were designed for 65 men, the space provided was so liberal that each would give "good accommodations" for 80 men. On checking the returns, Ludington found that the maximum strength of the three

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134. Varoom to Commanding Officer, Department of the East, Report of Dec. 5-8, 1899, doc. 146,928, Corr. 1890-1914, RG 92, NA.

135. Burbank to Commanding Officer, Department of the East, Jan. 4, 1900, doc. 146,928, Corr. 1890-1914, RG 92, NA.

136. Hall to Burbank, Jan. 23, 1900, doc. 146,928, Corr. 1890-1914, RG 92, NA.

companies at Fort Hancock was 339 enlisted men, leaving 19 to be provided for. He decided that these men could be accommodated temporarily in the kitchen/mess halls of the four barracks, unless it was planned to increase the garrison. If this were the case, General Ludington recommended constructing another barracks or adding wings to the existing structures, rather than implementing the proposal to add a third story.[137]

Maj. Gen. Nelson A. Miles, after studying the correspondence, notified Secretary of War Root that it was doubtful that the garrison would be increased in the near future. Moreover, the buildings that had been constructed afforded ample room for the three batteries now assigned to Fort Hancock.[138]

Secretary Root, on reviewing the question with his staff, learned that to man the Sandy Hook armament required 753 enlisted men. Any future construction program at the post "should be in accordance with a plan looking to ultimate provision for that force."[139]

With four batteries of the coast artillery assigned to the post, the space problem in the barracks continued to plague the army. In the winter of 1903-04, it was determined by Quartermaster General Humphrey to authorize construction of

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137. Ludington to Miles, Feb. 20, 1900, doc. 146,928, Corr. 1890-1914, RG 92, NA.

138. Miles to Root, Feb. 26, 1900, doc. 146,928, Corr. 1890-1914, RG 92, NA. Miles was general-in-chief of the Untied States Army from 1895 to 1903.

139. Root to Miles, March 31, 1900, doc. 146,928, Corr. 1890-1914, RG 92, NA.

detached kitchens/mess halls for the four barracks. Plans and specifications were prepared, reviewed, and approved. In mid-March 1904, Secretary of War Taft authorized an allotment for construction of seven buildings at Fort Hancock--four detached kitchen/mess halls, one fire apparatus house, one double set of noncommissioned officers' quarters, and one frame ordnance storehouse.

d. Structures Completed

On April 1, 1904, Constructing Quartermaster Bickham advertised for bids to construct the proposed structures, except the frame ordnance storehouse. When he opened and abstracted bids on April 30, Bickham found that the lowest responsible bid had again been submitted by John Milnes Co. of Port Richmond, New York.[140]

General Humphrey approved Milnes bid, and on May 17 Bickham signed the contract with John Milnes Co. The builder agreed "to furnish all the necessary material and labor for the construction" of the six subject buildings, in accordance with plans and specifications provided by the department. John Milnes Co. was to be paid $55,976 for erecting the four kitchen/mess halls, $6,360 for constructing the double set of noncommissioned officers' quarters, and $3,755 for constructing the fire apparatus house. Work was to start on or before June 10 and be completed by March 10, 1905.[141]

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140. Bickham to Quartermaster General, June 21, 1904, doc. 146,928, Corr. 1890-1914, RG 92, NA.

141. Articles of Agreement, Bickham with John Milnes Co., May 17, 1904, doc. 146,928, Corr. 1890-1914, RG 92, NA.

Joseph M. Rowan & Co. as lowest responsible bidder, was awarded the contract for furnishing the materials and installing the lighting fixtures in the detached kitchen/mess halls and post exchange.[142]

Construction began as scheduled. No difficulty was experienced in building the noncommissioned officers' quarters and the fire apparatus house. But, on November 25, a change order was written for the kitchen/mess halls. The contractor was ordered to perform the following additional tasks:

Furnish each structure with 72 additional ¼" by 2" wrought iron straps

Bolt the straps to each joist, instead of to every third joist, as shown on sheet 4 of the plans

Increase the size of the 6" by 10" posts (enclosed in the partitions and supporting the trusses) by bolting a 4" by 10" piece to each

Case these same posts, where exposed, with longleaf yellow pine.

John Milnes Co. was to be paid $300 for the additional work.[143]

Two other change orders were implemented in the following months. On January 5, 1905, a second change order was written. It called for increasing the width of a doorway from 3

142. Quartermaster General to Bickham, June 2, 1904, doc. 206,541, Corr. 1890-1914, RG 92, NA. Rowan & Co.'s bid was $497.

143. Articles of Agreement, Bickham with John Milnes Co., Nov. 25, 1904, doc. 146,928, Corr. 1890-1914, RG 92, NA.

to 4 feet in each basement transverse partition, John Milnes Co. was allowed $20 for this extra work.[144] A third change order was agreed to on May 11. The oiling of the brick walls of the structures was dispensed with at a savings of $60 to the government.[145]

Meanwhile, it had become apparent that John Milnes Co. could not complete the structures by March 10, 1905. The contractor was accordingly granted an extension to June 12.[146]

The structures were completed, inspected, and accepted by the post commander in mid-June 1905.[147] Each mess hall was large enough to seat 109 men. Located in each were a kitchen, pantry, cook's room, tailor shop, barber shop, latrine, basement, and an unfinished attic.[148]

e. Installing Screens to Kitchen/Mess Halls and Noncommissioned Officers' Quarters

In the summer of 1905, window and door screens were recommended for the recently completed, detached kitchen/mess halls and noncommissioned officers' quarters. The savage New Jersey mosquitoes made the screens mandatory.

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144. Ibid., Jan. 5, 1905.

145. Ibid., May 11, 1905.

146. Ibid., Feb. 18, 1905.

147. Quartermaster General to Bickham, June 12, 1905, doc. 146,928, Corr. 1890-1914, RG 92, NA.

148. Deems to Grant, March 8, 1909, doc. 215,986, Corr. 1890-1914, RG 92, NA.

Sixteen door screens and 92 window screens were needed for the kitchen/mess halls , while the quarters required four door screens and 30 window screens.[149] The request was approved by the department, and the screens were supplied by the low bidder, E. J. Burrowes Company.[150]

10. Hothouse (Building 59)

On September 27, 1904, Captain Bickham submitted plans and specifications for a hothouse at Fort Hancock to be built at a cost of $1,685. This expenditure was approved by the quartermaster general.[151]

The 16' by 20' structure was built by day labor, with the materials being purchased by Captain Bickham on the open market. It was positioned 500 feet north of the Sandy Hook Lighthouse and west of the narrow-gauge railroad connecting the mortar battery with the engineer's wharf. This placed it on the opposite side of the track from the post garden.

In 1909 two additions were made to the hothouse, one 17' by 49' and the other 17' by 34'. The hothouse stood until 1925, when it was demolished and the useable materials salvaged.[152]

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149. Bickham to Quartermaster General, Aug. 8, 1905, doc. 206,541, Corr. 1890-1914, RG 92, NA.

150. Quartermaster General to Bickham, Aug. 26, 1905, doc. 206,541, Corr. 1890-1914, RG 92, NA.

151. Bickham to Post Adjutant, Sept. 27, 1904, doc. 209,263, Corr. 1890-1914, RG 92, NA.

152. Campbell to Commanding General, II Corps Area, July 28, 1925, doc. 600.6, Corr. 1922-1935, RG 92, WNRC.

11. Icehouse (Building 60)

In October 1904 Captain Bickham submitted to Post Commander Harris plans and specifications for a icehouse. When forwarded through channels, the secretary of war approved its construction.[153]

The site selected for the structure was behind the subsistence storehouse (building 47), with the railroad spur passing between them. Built by day labor, the house had a capacity of 100 tons of ice and cost $1,970 to erect. It was an unlighted square structure (15' 4" by 15' 4") with frame walls, concrete foundations and floor, and a slate roof.[154]

The icehouse served the post for three decades. When the timber framing finally deteriorated, it was razed on February 20, 1935.[155]

12. Sleeping Quarters for Civilian Employees (Building 63)

In 1905, the John Milnes Co. erected a frame "shack" of tar paper to quarter its construction hands. The building measured 30' 3½" by 20' 6"; and it had two wings that measured 23' 8" by 10' 3" and 20' 6" by 15' 7". In the winter of 1905-06 Captain Bickham purchased the structure from John Milnes for $250.

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153. Bickham to Quartermaster General, Oct. 26, 1904, & Quartermaster General to Bickham, Dec. 14, 1904, doc. 209,263, Corr. 1890-1914, RG 92, NA.

154. Post Quartermaster to Chief Quartermaster, Department of the East, April 13, 1906, doc. 215,986, Corr. 1890-1914, RG 92, NA.

155. Kessler to Commanding General, II Corps Area, March 5, 1935, doc. 600.6, Corr. 1922-1935, RG 92, NA.

This structure had a board roof and wood flooring and rested on pine pilings. It was used by the post quartermaster as sleeping quarters for his department's civilian employees. Because it was lighted by oil lamps and heated by stoves, it was a fire trap.[156] Following construction of new housing for the civilian employees, building 63 was demolished on August 5, 1909.[157]

13. Battalion Bathhouse

On August 30, 1904, Captain Bickham submitted plans, estimates, and specifications for an enlisted men's bathhouse. The plans called for three rooms, each to accommodate one person at a time, but which in extraordinary circumstances could be occupied by several people. One bathhouse was to be erected for each of the four companies assigned to Fort Hancock.

Major Harris, on reviewing the plans, observed that every enlisted man in the battalion should have an opportunity to enjoy the beach in the summers and learn to swim. This, he noted, should be mandatory for the 57th Coast Artillery Company, the district torpedo unit.[158]

The quartermaster general decided to build one large bathhouse for the battalion, rather than smaller individual houses for each company.[159]

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156. Post Quartermaster to Chief Quartermaster, Department of the East, April 13, 1906, doc. 215,986, Corr. 1890-1914, RG 92, NA.

157. Harris to Chief Quartermaster, Department of the East, June 2, 1909, doc. 245,069, Corr. 1890-1914, RG 92, NA.

158. Bickham to Post Adjutant, Aug. 30, 1904, doc. 209,263, Corr. 1890-1914, RG 92, NA.

159. Quartermaster General to Bickham, Oct. 21, 1904, doc. 209, 263, Corr. 1890-1914, RG 92, NA.

14. Boathouse (Building 63A)

On July 30, 1904, Maj. Arthur Murray, who at this time commanded the Fort Totten mine school, forwarded to Fort Hancock plans and specifications of a boathouse recently erected at that post for submarine service yawls. This structure had cost about $1,800.[160] Four months later, in mid-November, Quartermaster General Humphrey allotted $2,075 from the appropriationed money for transportation toward construction of the boathouse.[161]

A contract for the boathouse was awarded to the low bidder, Samuel Johnson, by the quartermaster general on April 17, 1905. Johnson later defaulted and the boathouse was finished by the bondsman, R. E. K. Rothfitz.[162] As completed in June 1906, the structure housed five yawls and cost $1,817. Located adjacent to the engineers' wharf, the 30' by 52' structure had frame siding, pile foundations, wood flooring, and a shingled roof.[163]

A December 1908 inspection of the submarine mine equipment called attention to the absence of a storeroom for oars, oar locks, and other boating equipment. An addition was needed to allow the mine companies to store this gear near the

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160. Murray to Commanding Officer, Fort Hancock, July 30, 1904, doc. 209,263, Corr. 1890-1914, RG 92, NA.

161. Quartermaster General to Bickham, Nov. 21, 1904, doc. 209,263, Corr. 1890-1914, RG 92, NA.

162. Bickham to Quartermaster General, April 17, 1905, & Paterson to Quartermaster General, June 21, 1906, doc. 209,263, Corr. 1890-1914, RG 92, NA.

163. Harris to Adjutant General, Department of the East, June 19, 1909, doc. 215,986, Corr. 1890-1914, RG 92, NA.

yawls and to avoid loss of time in procuring and returning this equipment to the main post storeroom. The five yawls were also in bad condition and needed to be overhauled by a boatwright.[164]

In the spring of 1909, plans and specifications for a 6-foot addition to the boathouse were approved by Quartermaster General Aleshire. After bids were called for and reviewed, Robert J. Walsh contracted for and built the addition.[165]

G. Water and Sewer Systems Improved and Expanded 1905-14

1. Well 2

In August 1905, Constructing Quartermaster Bickham warned that the 36 well points, positioned by the Conlons nine years before, were showing signs of drying up. As these well points supplied about two-thirds of the post's water for flushing, sprinkling, and other maintenance, their replacement in the near future was inevitable.

Bickham believed that if a second artesian well were drilled during the autumn, the well points would suffice until then. A recent outbreak of typhoid at Sandy Hook underscored the need for a second deep well.[166]

Quartermaster General Humphrey accordingly allotted funds for drilling an 8-inch tubular deep well to a depth of

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164. Kessler to Post Adjutant, Dec. 30, 1908, doc. 252,019, Corr. 1890-1914, RG 92, NA. Capt. P. M. Kessler was post mine officer.

165. Harris to Adjutant General, Department of the East, May 28, 1909, doc. 252,019, Corr. 1890-1914, RG 92, NA.

166. Bickham to Quartermaster General, Aug. 8, 1905, doc. 217,982, Corr. 1890-1914, RG 92, NA.

600 feet or less. Proposals were invited and on October 26, P. H. and J. Conlon was awarded a contract for drilling a second artesian well about 100 yards west of well 1.[167]

The Conlons had reached 600 feet by late July 1906. Although this was 235 feet below the depth of their 1896 well, they did not have a satisfactory flow of water. Their contract was therefore amended to permit them to drill to 700 feet.[168]

By mid-November the Conlons had drilled 695 feet into a water-bearing strata of fine sand mixed with wood particles. Here there was sufficient pressure to force the water to ground surface. Second Lieutenant William Paterson, after discussions with the Conlons, learned that it would be necessary to sink the well to 710 feet to bring the filter screen into the water-bearing strata.

He wrote the quartermaster general, recommending that the Conlons be permitted to drill 745 feet or until a satisfactory flow was secured.[169] General Humphrey was agreeable. The Conlons' rig continued to pound away until a depth of 750 feet was reached.

2. Construction of Reservoir and Installation of a Compressor

Lieutenant Paterson, who in December 1905 had replaced Captain Bickham as constructing quartermaster, reviewed plans and specifications prepared by the department for increasing

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167. Ibid., Oct. 26, 1905.

168. Paterson to Quartermaster General, Aug. 9, 1906, doc. 217,982, Corr. 1890-1914, RG 92, NA.

169. Ibid., Nov. 20, 1906.

the facilities at Fort Hancock for water storage. He found the proposal inadequate to meet the daily requirements of the post--175,000 to 200,000 gallons per day.

At that time, all water for cooking and drinking was distributed by wagon and kept in galvanized iron cans. Rainwater was collected in cisterns for washing clothes, while water for general use was obtained from well points. The latter was too brackish for drinking purposes. Water from the 365-foot well drilled by the Conlons in 1896 was so impregnated with iron that it was unfit for use unless filtered. Because most of the iron was in suspension, the filtration was simple. Lieutenant Paterson was reasonably certain that the new well then being drilled by the Conlons would also have to have its water filtered.

The submitted plans provided a sufficient reservoir capacity, but they made no provision for filtering the water. Lieutenant Paterson urged that the new system make provision for two filter beds, each with 1,250 feet of filtering surface and a 200,000-gallon storage reservoir. Such a filtration system would provide 80 to 85 gallons per square foot of surface per 24 hours, or 200,000 gallons per day.

Similar systems were already in use and giving good service in such diverse cities as Poughkeepsie, New York; Lawrence, Massachusetts; Grand Forks, North Dakota; and Hackensack, New Jersey.

Lieutenant Paterson, taking cognizance of the proving ground fire, which on November 28 had destroyed the

machine, carpenter, paint, and plumbing shops, recommended that the pumphouse be built of brick.[170]

General Humphrey, after reviewing Lieutenant Paterson's comments, elected to proceed as planned. Paterson was directed to invite proposals for construction of a 400,000-gallon capacity concrete reservoir; an addition to the frame pumphouse; installation of an air compressor; piping for the deep wells for an air lift; and outside pumping.

In mid-February 1906, Lieutenant Paterson opened and abstracted the 12 proposals received for this work. When he forwarded them to Washington, Paterson recommended that the low bid, submitted by Merritt W. Pharo, be rejected because the kind of structure proposed was "unsubstantial" and unsuited for a permanent reservoir. Unfortunately, there was, he continued, little to choose from between the next two lowest bidders--Filbert Paving & Construction Co. and Hudson Engineering & Construction.

Paterson urged that the proposals for the other projects be "thrown out," and that he be allowed to "submit new plans covering the work better suited to the needs of post." The air compressor called for would tax the capacity of the two 40-horsepower boilers, and the addition to the pumphouse was not large enough to accommodate the compressor. The 2½-inch pipe specified for the two deep wells had a capacity of only 7,200 gallons per hour, and to secure a daily supply of 100,000 gallons would necessitate operating the air lift 14 hours per day.[171]

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170. Ibid., Dec. 22, 1905. The fire had started in the proving ground pumphouse and had precluded use of the plant when most needed.

171. Paterson to Quartermaster General, Feb. 17, 1906, doc. 217,982, Corr. 1890-1914, RG 92, NA.

Nevertheless, the quartermaster general's office again vetoed Paterson's suggestion for a change in plans.[172]

On March 19 Ingersoll Rand Co. was awarded contracts for installation of an air compressor with a capacity of 320 cubic feet of free air per minute ($2,925), piping the deep wells for an air lift ($1,185), and outside piping ($1,126).[173] John Milnes Co. was given the contract for the pumphouse addition at a cost of $1,037. Filbert Paving & Construction Co. was awarded the reservoir contract on its bid of $10,349.[174]

Neither John Milnes nor Ingersoll Rand encountered any difficulty in meeting the established deadlines. By early June, the frame addition to the pumphouse was installed; it had a concrete floor and measured 11'8" by 20'. The addition was heated by a stove and lighted by oil lamps, as was the main structure.[175]

Filbert Paving & Construction, however, had problems and asked for a 31-day extension on their reservoir contract until August 31. General Humphrey agreed to this.[176]

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172. Quartermaster General to Paterson, Jan. 6, 1906, doc. 217,982, Corr. 1890-1914, RG 92, NA.

173. Paterson to Ingersoll Rand, March 19, 1906, doc. 217,982, Corr. 1890-1914, RG 92, NA.

174. Paterson to Filbert Paving, March 28, 1906, doc, 217,982, Corr. 1890-1914, RG 92, NA.

175. Post Quartermaster to Chief Quartermaster, Department of the East, Feb. 28, 1907, doc. 215,986, Corr. 1890-1914, RG 92, NA.

176. Paterson to Quartermaster General, July 24, 1906, doc. 217,982, Corr. 1890-1914, RG 92, NA.

3. Additional Well and Filtration Plant

a. Continuing Problem With Water System

On March 4, 1907, Lieutenant Paterson repeated the warning that something had to be done soon to secure an adequate supply of water. The well points were failing, either due to obstructions or a falling water table. They were now pumping 18 to 19 hours per day to provide requisite amounts of water and to maintain a reserve of 45,000 to 50,000 gallons in the tank. In addition, the well points, which provided water for the powerhouse's condensing system, had failed. They had had to stop running the condensers because of the noise made by the exhausts, which caused protests from the proving ground commander.

Well 2, like well 1 before it , yielded water that was unpotable because of the high concentration of iron. It had a yellowish cast and ruined all piping that it came in prolonged contact with. As yet, it had been impossible to determine well 2's capacity because of damage to the pipes caused by February's subfreezing temperatures. Although the reservoir had been completed for months, it was not in use because of the water shortage.[177]

In response to Paterson's letter, Quartermaster General Aleshire ordered Civil Engineer Raymond Adams to Sandy Hook to investigate the situation. Adams found that well 1 was capable of delivering 12,600 gallons per hour into the reservoir. Well 2, because of the unsatisfactory character of its strainer, could deliver only about 1,200 gallons per hour. He learned that removal of iron from the water by pressure filters would not

177. Ibid., March 4, 1907.

constitute a problem, as the water was "well airated by the air lift."[178]

b. Replacing Well Points at Central Powerhouse

The 15 three-inch well points supplying water to the central powerhouse had finally failed. Because the post water system was inadequate to fill this need, Lieutenant Paterson asked authority to sink a 20-foot concrete-cased well near the powerhouse. It would be similar to the one that had recently been opened at the proving ground.[179]

Secretary of War Taft approved the proposal. Materials were purchased and men that were hired by the constructing quartermaster began work. This project took several months to complete.[180]

c. Constructing a Filtration Plant

In accordance with Lieutenant Paterson's and Civil Engineer Adams's recommendations, plans and specifications for a filtration plant were prepared in the Washington office. Capt. Moor H. Falls, Lieutenant Paterson's successor, advertised for proposals in the summer of 1907. The contract was awarded to Hungerford & Terry, the lowest responsible bidder.[181]

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178. Adams to Quartermaster General, April 19, 1907, doc. 217,982, Corr. 1890-1914, RG 92, NA.

179. Paterson to Post Adjutant, April 9, 1907, doc. 217,982, Corr. 1890-1914, RG 92, NA.

180. Adams to Quartermaster General, Dec. 17, 1908, doc. 217,982, Corr. 1890-1914, RG 92, NA.

181. Falls to Quartermaster General, Aug. 20, 1907, doc. 217,982, Corr. 1890-1914, RG 92, NA.

4. Water System Modernized

a. Repairing Sewer System

In January 1907, Lieutenant Paterson called attention to the need for repairs on part of the sewer system discharging into Sandy Hook Bay. The main line, positioned in 1897-98, extended out into the bay from the shore in front of Officers' Row for a distance of 1,200 feet. This line had been broken about 200 feet beyond the bulkhead, permitting sewerage to be brought ashore by the high tides. In warm weather this caused extremely offensive odors.

The second line, carrying sewerage from the stables and water from the central powerhouse, extended only 24 feet into the bay, beyond the high tide mark. Consequently, the surf frequently broke the pipe at the flood tide line, filling it with sand and causing the sewerage to back up.[182] The break in the main line was repaired, and the secondary line was extended.

b. Outlining a Program

Civil Engineer Adams returned to Sandy Hook in December 1908 to study and report on the water supply system. He found that the post commander had authorized the Corps of Engineers in 1898 to connect the coastal defenses and their support facilities to the Fort Hancock system. This, in view of the increased post population, placed a heavy drain on the system.[183]

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182. Paterson to Post Adjutant, Jan. 14, 1907, doc. 217,982, Corr. 1890-1914, RG 92, NA.

183. Adams to Quartermaster General, Dec. 17, 1908, doc. 217,982, Corr. 1890-1914, RG 92, NA. Dependent on the Fort Hancock system at this time were 685 officers and men; 177 civilians (families, Civil Service employees, members of the Life-Saving Service, telegraph operators); 60 contractor employees; and 70 animals (horses and mules). In addition, there were about 60 civilian employees who commuted.

Decisions made during recent months by Headquarters, Department of the East, would compound this situation. Fort Hancock's designation as headquarters for the Southern District, Defenses of New York Harbor, would increase the number of administrative personnel. But more important was the decision to send all the troops from the forts in the Southern and Eastern Districts to Fort Hancock for the required annual service practice with the coast defense and rapid-fire guns and to fire the Camp Low rifle range. The camps to be occupied by these men would further tax the limited resources.

Other heavy consumers were the locomotives operating over the Ordnance Department railroad and the three boats running between Sandy Hook and New York City.[184]

Adams found that the coast defense and rapid-fire batteries required only nominal quantities of water for hosing down the guns and cleaning the emplacements. However, large amounts of water were used in a very short time when wetting down the earthen slopes to prevent dust clouds from boiling up caused whenever the big guns and mortars fired. Each battery required about 5,000 gallons within 15 minutes. This necessitated boiler and pumping capacity far in excess of that for the existing post pumping plant.[185]

The existing water system did not provide any fire protection for the newly completed primary, secondary, and

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184. Ibid. The cable tanks held about 300,000 gallons of water, and it took about ten days to fill them. While this was being done, little water could be obtained by buildings farther down the main.

185. Ibid.

supplementary fire control stations. Chemical fire extinguishers were required for these stations.

Adams learned that the central powerhouse used about 10,000 gallons per day for feed water. He recommended that the surface well be completed and that measures be taken to provide for operating the condenser with unfiltered water.[186] The pumping plant needed another air compressor; if the old one failed, the garrison would be out of water within 72 hours except for water that could be secured from well points, which was unfit to drink.

To improve the water supply system, Adams recommended the following developments:

> Construct a standpipe on the terreplein of the southwest bastion for storage of water "close to where it is used," and thus remove the "present objections to the long discharge main from the pumphouse;"
>
> position on the terreplein a 300,000-gallon tank, 35 feet in diameter by 44 feet in height, which would not interfere with the wireless mast
>
> Run 7,000 feet of 6-inch cast iron main from the standpipe, extending to all batteries north and east of the post, and 1,500 feet of 8-inch cast iron main from Fort Hancock to the standpipe
>
> Install a new boiler and a light tank service pump to lift water from the reservoir and thus conserve steam.

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186. Ibid.

Adams estimated the following costs for these improvements:

7,000 feet of cast-iron pipe	$ 7,000
1,500 feet of cast-iron pipe	2,400
New pumphouse	10,000
300,000-gallon standpipe	5,000
Repiping wells	1,000
New air compressor	2,500
New pump tank service	500
Piping and connections	500
New boiler	2,000
Main for supplying water to boats	1,500
Subtotal	$32,400
Incidental	3,600
TOTAL	$36,000

This expenditure would provide sufficient water to enable Fort Hancock to meet its expanded mission.[187]

c. Positioning a Standpipe (Structure 81)

Money was allotted by the War Department in fiscal year 1910 to implement Adams's recommendations. On February 5, 1910, Constructing Quartermaster Chester J. Goodier contracted with Gaw Manufacturing Co. for the standpipe on the terreplein of the southwest bastion. The 300,000-gallon steel tank, costing $6,238, was accepted for the United States on July 20, 1910, by lst Lt. Frederic H. Smith, Goodier's successor. Designated as structure 81, the tank had a diameter of 35 feet and a height of 43 feet.[188]

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187. Ibid.

188. Post Quartermaster to Quartermaster General, undated, doc. 304,218, Corr. 1890-1914, RG 92, NA.

d. Constructing New Pumphouse (Building 82)

On May 31, 1910, Lieutenant Smith, having followed procedures, contracted with Edward Fay & Son for construction of a pumphouse and chimney and with A. D. Granger Co. to provide and install boilers and associated equipment in the new structure.

Work dragged, and it was June 20, 1912, before the new pumping station, costing $19,700, was accepted. It was 46' by 81'4" with a lean-to measuring 16' by 77' 8". The structure had brick walls, concrete foundation and floor, and tar and slag roof. It was divided into five rooms--a 46' by 40'2" boiler room, a 46' by 40'2" pump and filter room, a 16' by 40'2" fuel bin, a 16' by 24' shop, and a 16' by 6' latrine. Attached to the structure was a 41'8" by 40'4" brick addition, erected at a cost of $5,656.[189]

e. Drilling Well 3 and Removing Well Points

A third deep well, with a depth of 800 feet, was drilled about 50 feet south of well 1. The well points south of the pumphouse were then removed. By December 1911, the 8" and 6" cast-iron mains, called for by Civil Engineer Adams in his December 1908 report, had been positioned.[190]

H. The 1906-1912 Construction Program

1. Background of Construction Program

Between 1906 and 1914, 16 permanent structures were erected at Fort Hancock with Quartermaster Department funds.

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189. Ibid.

190. J.H. Pearson, Civil Engineer and Supt. of Construction, "Fort Hancock, Sandy Hook, N.J.," Dec. 2, 1911, Blueprint File, RG 92, NA.

Almost all of these were built by contractors, working under the general supervision of a constructing quartermaster. The most costly of these buildings, barracks 74, owed its construction to the increase of the garrison from four to six companies. Others--additional staff noncommissioned officers' quarters (buildings 73 and 75) and quarantine stables (building 68)--were erected following the elevation of the post to headquarters for the Southern Defenses of New York Harbor. The trestle guardhouse (building 67) and the crematory (building 69) replaced temporary structures or ones that were too small for the expanded post. The difficulty in securing Civil Service employees to work for the army at isolated Sandy Hook was alleviated by construction of a number of firemen's quarters for family men and a civilian barracks for bachelors.

2. Firemen's Quarters (Building 64) Added

On March 13, 1905, Captain Bickham submitted plans and specifications for a fireman's cottage at the powerhouse. Its cost was estimated at $3,000, and it was similar to the engineer's quarters at the pumping station.

It was proposed that one room in the quarters be made available for the enlisted man detailed as the fireman's assistant. (This extra-duty man bunked in the barracks at that time.)

To justify this request, Captain Bickham pointed out that there was no place on the reservation where a fireman's family could find quarters. Moreover, it was mandatory that the fireman be on call daily for 24 hours. Accordingly, six men, whose names had appeared on the latest Civil Service Register for the fireman's

position, had declined.[191] But, the department was unprepared to act, and Captain Bickham's proposal was held in abeyance.

When five months had passed and there was no action, Bickham's successor as constructing quartermaster, Lieutenant Paterson, called attention to the need for quarters for certain Civil Service employees at the post. There were at Fort Hancock a fireman and stoker at the central powerhouse and a fireman at the pumping plant whose duties compelled them to spend the night on the reservation. These men, who had families, had to rent housing at the Highlands, which was expensive during the summer vacation period.[192]

Secretary of War Taft, on reviewing the subject, approved construction of a fireman's quarters to cost about $5,000.[193] The site selected for the structure, which was to be built by contract, was on the lot between the guardhouse and noncommissioned officers' quarters (building 29).

George W. Wines, the lowest responsible bidder, was awarded the contract for building the fireman's quarters. The 21' by 30' structure, erected in accordance with plan 87K, quartermaster general's office, had brick walls and foundations. The quarters had wood floors, was lighted by electricity, and was heated by stoves. It was provided with water, but had no sewer

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191. Bickham to Post Adjutant, Mar. 13, 1906, doc. 209,263, Corr. 1890-1914, RG 92, NA.

192. Post Quartermaster to Post Adjutant, Aug. 24, 1906, Corr. 1890-1914, RG 92, NA.

193. Taft to Quartermaster General, Oct. 3, 1906, Corr. 1890-1914, RG 92, NA.

connections for sanitary facilities. There was one sink, a toilet, and a wash basin. On January 1, 1907, the structure was accepted by the United States, and Wines was paid his retained percentage.[194]

3. Ordnance Storehouse (Building 65)

It had been apparent for a number of years that additional storage space was needed at Fort Hancock. Two of the departments (the Engineers and Signal Corps) lacked separate facilities for their equipment and stores, and the people of the Ordnance Department needed more space. To assist with planning for a storehouse, the quartermaster general had forwarded to Lieutenant Paterson plans for the ordnance storehouse that had been recently authorized for construction at Fort Standish.[195]

The post engineer, on reviewing the plans, asked that those for the first floor be revised to provide for a repair shop and master gunner's drafting room, and he found that the large rear and interior doorways to the small storeroom could be eliminated. Wall shelving and center racks were needed, while steel "Wontsag" lockers (12" by 30" by 72") were to be positioned in each of the four small rooms.[196]

The plans were revised, and the constructing quartermaster advertised for bids to construct the ordnance storehouse. George Wines submitted the lowest responsible

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194. Post Quartermaster to Chief Quartermaster, Department of the East, Feb. 28, 1907, doc. 215,986, Corr. 1890-1914, RG 92, NA.

195. Quartermaster General to Constructing Quartermaster, Oct. 6, 1906, doc. 231,420, Corr. 1890-1914, RG 92, NA.

196. Post Engineer to Post Quartermaster, Oct. 13, 1906, doc. 231, 420, Corr. 1890-1914, RG 92, NA.

proposal. On May 14, 1907, Constructing Quartermaster Paterson, having secured the concurrence of the quartermaster general, contracted with Wines to build a buff brick ordnance storehouse with concrete foundations for $9,865. It would be positioned east of and across the railroad tracks from the 1904 ordnance storehouse.[197]

On January 12, 1908, the completed structure was accepted by the constructing quartermaster and turned over to Colonel Harris. Built in accordance with plan 128C, it had a slate roof and longleaf yellow pine flooring, was heated by stoves, and was wired for electric lighting.

The floor space above the basement of the 1½-story storehouse (80' 4" by 32' 4") was 4,466 square feet. On the ground floor were an office, 17' 10" by 14' 8"; a small storeroom, 17' 10" by 14' 9"; a large storeroom, 39' by 29' 4"; a master gunner's room, 19' 9" by 14' 8"; and a workshop, 19' 9" by 14' 8". Above the first floor was an attic storeroom 77' by 29'.[198]

In the autumn of 1908, plumbing was installed in the new ordnance storehouse, as well as in building 43. At the same time the plumbing was connected with the post sewer and water systems.[199]

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197. Quartermaster General to Paterson, May 8, 1907, & Paterson to Wines, May 14, 1907, doc. 231,420, Corr. 1890-1914, RG 92, NA.

198. Post Quartermaster to Chief Quartermaster, Department of the East, undated, doc. 215,986, Corr. 1890-1914, RG 92, NA.

199. Harris to Chief Quartermaster, Department of the East, Mar. 17, 1909, doc. 215,286, Corr. 1890-1914, RG 92, NA.

4. Double Set of Civilian Quarters (Building 66)

In 1907, it was decided to construct a duplex to provide quarters on the post for two more Civil Service employees and their families. The site selected fronted on the road passing behind the guardhouse and the staff noncommissioned officers' quarters, located about 30 feet north of the oilhouse.

Plans and specifications approved and funds allotted, Constructing Quartermaster Paterson contracted with George W. Wines to build the duplex for $7,248.[200] Work was carried out simultaneously on the duplex and the ordnance storehouse. By January 12, 1908, the double set of civilian quarters had been finished and accepted by the United States. It had frame walls, a brick foundation, shingled roof, and longleaf yellow pine floors. These quarters were lighted by electricity and heated by stoves.

Erected in accordance with plan 184A, each of the quarters contained one 13' 11" by 13' 11" first-floor sitting room; a 15' by 12' dining room; a 12' 6" by 9' 11" kitchen; a 13' by 12' bedroom; and a 6' 11" by 9' 11" bathroom.[201]

5. New Trestle Guardhouse (Building 67)

On October 29, 1902, Lieutenant Craig had notified Post Commander Stewart that the trestle guardhouse should be enlarged. It had always been too small for the needs of the men on duty there, and now that the guard detail assigned to the trestle had been increased to five men, the problem had become acute.

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200. Quartermaster General to Paterson, May 8, 1907, & Paterson to Wines, May 14, 1907, doc. 231,420, Corr. 1890-1914, RG 92, NA.

201. Post Quartermaster to Chief Quartermaster, Department of the East, undated, doc. 215,986, Corr. 1890-1914, RG 92, NA.

Because of exposure to the elements, "it would be necessary to use more than ordinary care in construction to insure the comfort of the guard." The present building, Craig noted, was not ceiled inside and could not be heated in cold weather.[202]

Colonel Stewart agreed with Craig, pointing out to the quartermaster general that the guardhouse was a "mere shed," and a new and larger building was required.[203] The quartermaster general concurred and allotted $714 for this project.

This proved to be only a stopgap measure. Four years later, in October 1906, Post Commander Harris asked that plans and estimates be prepared for an "inexpensive cookhouse" to be erected in the vicinity of the secondary stations for the picket guard.[204] Constructing Quartermaster Paterson, on checking into the situation, found that the trestle guardhouse was not worth enlarging or repairing.[205]

He therefore decided instead to prepare plans and estimates for construction of a new trestle guardhouse. The plans were completed, money allotted, and the project advertised. George W. Wines's bid of $4,309 for the structure and plumbing was low,

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202. Craig to Post Adjutant, Oct. 29, 1902, doc. 121,213, Corr. 1890-1914, RG 92, NA.

203. Stewart to Quartermaster General, Oct. 29, 1902, doc. 121,213, Corr. 1890-1914, RG 92, NA.

204. Jones to Post Quartermaster, Oct. 6, 1906, doc. 231,420, Corr. 1890-1914, RG 92, NA. Lt. D. F. Jones was post adjutant.

205. Paterson to Post Adjutant, Jan. 9, 1907, doc. 231,420, Corr. 1890-1914, RG 92, NA.

and on May 14, 1907, he was awarded the contract.[206] The water system included a small pump, windmill, tank, and necessary piping.[207]

The trestle guardhouse, built in accordance with plan 3-776, was accepted on January 12, 1908. It would accommodate one noncommissioned officer and six privates. It had concrete foundations, buff brick walls, slate roof, longleaf yellow pine flooring, was heated by stoves, and lighted with oil lamps. The one-story, 26' by 39' 6" structure was divided into four rooms--a 9' 6" by 17' office, a 18' by 18' guardroom, a 24' by 9' 6" kitchen and mess room, and a 9' 6" by 7' latrine.[208]

The 1899 guardhouse was then abandoned and was to be torn down whenever the men needed something to do.[209] Accordingly, on April 18, 1909, the building was demolished by a fatigue detail.[210]

6. Quarantine Stables (Building 68)

In the summer of 1908, employing day labor, a quarantine stables was built by the constructing quartermaster.

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206. Quartermaster General to Paterson, May 8, 1907, & Paterson to Wines, May 14, 1907, doc. 231,420, Corr. 1890-1914, RG 92, NA.

207. Paterson to Quartermaster General, April 9, 1907, doc. 231,420, Corr. 1890-1914, RG 92, NA.

208. Post Quartermaster to Chief Quartermaster, Department of the East, undated, doc. 215,986, Corr. 1890-1914, RG 92, NA.

209. Harris to Chief Quartermaster, Department of the East, Mar. 17, 1908, doc. 215,986, Corr. 1890-1914, RG 92, NA.

210. Harris to Quartermaster General, Apr. 8, 1909, doc. 245,069, Corr. 1890-1914, RG 92, NA.

The 110' by 14' structure, with stalls for 18 horses, was sited at the corral 100 yards east of the manure pit. The walls and roof were tar paper, and the floor was clay. The structure had no foundations.[211]

Colonel Harris, despite the construction of the quarantine stables, called for additional facilities--stables for his command's authorized horses. The situation had been complicated by transfer of headquarters, Southern Artillery District of New York, to Fort Hancock. Attached to that command were several officers who were allowed mounts and who expected to bring them to Sandy Hook.

Because it was incumbent by the Quartermaster Department to stable authorized mounts, Colonel Harris urged that plans and specifications be prepared for stables to house at least six horses, with provision for an isolation stall and saddle and feed rooms. To blend with the post's "architectural scheme," the stables were to be built of buff brick, have a slate roof, and be similar in design to the stable erected ten years before.[212]

On December 16, 1908, Civil Engineer Adams agreed that another stable was needed. It was possible, he noted, to extend the east elevation of the existing stables (building 36) and not intrude on the manure pit.[213]

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211. Harris to Adjutant General, Department of the East, June 19, 1909, doc. 215,986, Corr. 1890-1914, RG 92, NA.

212. Harris to Adjutant General, Nov. 4, 1908, doc. 250,934, Corr. 1890-1914, RG 92, NA.

213. Adams to Quartermaster General, Dec. 16, 1908, doc. 250,934, Corr. 1890-1914, RG 92, NA.

Neither the quartermaster general nor the secretary of war were prepared to allot funds for enlarging the stables. They held that, with the quarantine stables, there was sufficient housing for 45 quartermaster animals and three mounts belonging to field grade officers.

7. New Crematory (Structure 69)

The increase in the strength of the garrison necessitated construction of an enlarged crematory. Costing $4,480, it was completed and accepted by the United States on June 18, 1908. The 25' by 26' structure was built of sheet iron with concrete foundations and floor. It would burn 6 tons of garbage every eight hours.[214] The new crematory was on a gravel loop road, about 30 feet southeast of the old crematory. Here it remained until November 1935 when it was surveyed and demolished.

8. Firemen's Quarters (Buildings 71 and 72) and Double Set of Noncommissioned Officers' Quarters (Building 73)

On July 14, 1908, Colonel Harris notified headquarters that a double set of civilian quarters for the mechanics were badly needed at the pumping station. In case of fire or attack, the presence of these men would be vital.[215] Later in the month, Colonel Harris called for civilian quarters for one carpenter, one steamfitter, six teamsters, one fireman at the pumping station, and one laborer. Civilians then occupying government housing were a plumber, a blacksmith, an engineer at the pumping station, and three laborers. These civilians were housed in the double set of civilian quarters (building 66), the

214. Harris to Adjutant General, Department of the East, June 19, 1909, doc. 215,986, Corr. 1890-1914, RG 92, NA.

single set of frame quarters at the pumping station (building 38), and the plumber's quarters (building 21).[216] After reviewing the situation, Secretary of War Luke E. Wright authorized construction of one double set of noncommissioned officers' quarters (plan 82 K) and two double sets of firemen's quarters (plan 230).[217]

These structures would be positioned on a new roadway to be opened 125 feet east of and parallel to the one passing behind the noncommissioned officers' quarters (buildings 29, 30, and 52). Buildings 71, 72, and 73 would be positioned from south to north. Buildings 71 and 72, which would help alleviate the critical shortage of housing for married Civil Service employees at Sandy Hook, were to be built according to plan 230A. The staff noncommissioned officers' quarters were to be built according to plan 87K.

Bids were invited and reviewed and contracts were awarded. Robert J. Walsh was awarded the contract for erecting the three buildings and installing the heating system in the noncommissioned officers' quarters. Hines & Hammer were contracted for the plumbing, and S. Edward Eaton & Co. was contracted for the electrical wiring. These contracts were signed by Constructing Quartermaster Hawkins for the United States during the period of November 8-23, 1908.

No difficulties were experienced by the contractors in meeting their deadlines. On April 26, 1909, Constructing

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215. Harris to Adjutant General, Department of the East, July 14, 1908, doc. 250,934, Corr. 1890-1914, RG 92, NA.

216. Ibid., July 23, 1908.

217. Cheatham to Constructing Quartermaster, Aug. 7, 1908, doc. 250,934, Corr. 1890-1914, RG 92, NA.

Quartermaster Hawkins accepted for the United States the three sets of quarters, and the contractors were paid their retained percentages. The firemen's quarters, each costing $6,070, had brick walls, stone foundations, slate roofs, and wood floors. The 32' 3" by 52' 6" structures were lighted by electricity and heated by stoves.[218] The double set of noncommissioned officers' quarters, as completed, cost $8,100. It had brick walls, stone foundations, wood floors, and a slate roof. The 27' 5" by 37' 3" structure was heated by a hot air furnace and lighted by electricity.[219]

In the 12 months ending March 1, 1913, storm sash was acquired and installed in these structures. The two noncommissioned officers' quarters each received 14, and the firemen's quarters received 24.[220]

9. Double Artillery Barracks (Building 74)

a. Preparing Plans and Awarding Contract

In 1907, it was determined to increase the garrison from four to six companies. Secretary of War Taft accordingly approved construction of one double barracks for two companies of Coast Artillery, funded from the appropriations for fiscal year 1908.[221]

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218. Harris to Adjutant General, Department of the East, June 19, 1909, doc. 215,986, Corr. 1890-1914, RG 92, NA.

219. Ibid.

220. Post Quartermaster to Chief Quartermaster, Mar. 1, 1913, doc. 383,496, RG 92, NA.

221. Quartermaster General to Chief Quartermaster, Department of the East, Apr. 17, 1907, doc. 236,191, Corr. 1890-1914, RG 92, NA.

Chief of Artillery Arthur Murray, on reviewing the proposal, recommended construction of single-company barracks designed for 109 men. Quartermaster General Aleshire countered by pointing out that barracks 22-25 had been "built for 80 men each," but their capacity had been boosted in 1904-05 by removal of the company kitchen/mess halls, which were then located in separate facilities.

To accommodate 109 men, a single-company barracks would have to be either extended in length or enlarged by an annex, provided that the kitchen/mess halls, latrines, and other facilities were to be arranged under one roof. General Aleshire and his staff believed that a better method of enlarging a barracks of the type then at Fort Hancock would be by means of a two-story annex behind the center block, containing the kitchen/mess halls on the first floor and lavatories on the second floor.

The cost of two single-company barracks, General Aleshire pointed out, on this "enlarged plan" would be considerably more than for one double barracks of similar capacity.[222] General Murray was unconvinced, however, and plans and specifications for both a two-company and a single-company barracks were prepared.

On February 28, 1908, General Aleshire transmitted to the adjutant general prints of the post, with a request that sites for these structures (two barracks, one sergeant-major's quarters, two master gunner's quarters, one civilian employee's quarters, and four firemen's quarters) be

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222. Aleshire to Adjutant General, Sept. 16, 1907, doc. 236,191, Corr. 1890-1914, RG 92, NA.

indicated in red. These buildings were needed in view of the increase of the garrison from four to six companies.[223]

On February 19, 1908, Capt. Moor N. Falls, the constructing quartermaster, advertised for proposals to construct one double- or two single-company brick artillery barracks. Twenty-seven bids were opened, abstracted, and transmitted to Washington. In accordance with a decision by General Aleshire, Captain Falls on April 17 contracted with R. P. and E. O. Hamilton of Omaha, Nebraska, to construct one double barracks.[224]

b. Improving the Barracks

Work commenced on June 1. Four weeks before, a change order had been proposed by the Hamiltons. Taking cognizance of the proximity of the brick arches of the basement windows to the "finished floor," they asked to provide six-by-four angles to place over them, eliminating the brick arch and wooden headers. The joists would be permitted to rest directly on the steel lintels. Where the 8-inch angle formed a lintel over the basement windows at the porches, the 8-inch channel would be positioned on the outside; the angle on the inside could thereby be made to support the joist ends. General Aleshire agreed to this change.[225]

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223. Ibid., Feb. 28, 1908. To be indicated in yellow were the sites of those structures (one barracks, one colonel's quarters, and one major's quarters) that would be required for enlarging the facilities, in view of Fort Hancock's designation as a post of concentration.

224. Falls to Quartermaster General, Mar. 21 & Apr. 23, 1908, doc. 236,191, Corr. 1890-1914, RG 92, NA.

Construction progressed rapidly. By mid-December the structure had been closed in. Civil Engineer Adams, who made an inspection at this time, found the plasterers and steamfitters at work. The latter, however, had not made much progress. He found the lumber of poor quality, although several carloads had been rejected. Many of the joists and rafters had been doubled where substandard joists had been allowed by the inspector. Workmanship was sloppy where joists had been cut to fit supports at the sides of the girders, and most of the joists were held up by shims. Hereafter, he trusted that iron hangers would be used for all joists.[226]

On December 22 Lt. Wilford J. Hawkins, who had replaced Captain Falls as constructing quartermaster, forwarded the painting scheme for review. He proposed to have the Hamiltons paint the steel ceilings a rich buff; the door panels, dados, and interior of the window sash Indian tan; the chair rails and baseboards leather; the ceilings and porches French grey; and the exterior trim a matching color that had been used for similar features on other post buildings.[227] The department approved all these colors, except one. The steel ceilings were to be a light buff.[228]

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225. Hamilton & Hamilton to Falls, May 2, 1908, doc. 236,191, Corr. 1890-1914, RG 92, NA.

226. Adams to Quartermaster General, Dec. 16, 1908, doc. 250,934, Corr. 1890-1914, RG 92, NA.

227. Hawkins to Quartermaster General, Dec. 23, 1908, doc. 236,191, Corr. 1890-1914, RG 92, NA.

228. Whitworth to Hawkins, Dec. 29, 1908, doc. 236,191, Corr. 1890-1914, RG 92, NA.

c. Pointing Cracks

On February 4, 1909, Lieutenant Hawkins reported that cracks had developed "in the main exterior walls" of the barracks. The largest one was in the southwest face and extended from the cornice down to the water table on the outside and below the water table on the inside. Two smaller cracks were in the front wall above the window arches of the second story. There was also a crack in the brick wall between the lavatory and basement boiler room.[229]

The civil engineer, Leonard S. Doten, was sent by the quartermaster general to investigate and report his findings. Doten found that the crack in the basement wall had first been noticed by the construction superintendent on November 3 and the one in the southwest wall on December 13. Additional fine cracks were pinpointed by Doten in the exterior walls, "similarly located with reference to the vertical line of windows."

After checking the alignment of the southwest wall with a transit, Doten concluded that the fractures and bulging had been created by several problems. The stresses were "produced" in it because of the eccentric load on foundation footings, "the resultant line of pressure passing considerably outside of the center of the footing." This force tended to produce a greater compression under the outer edge of the footings and consequently a tendency to rotation. The vibrations produced in the long line of the wall by earth shocks resulting from the firing of the great guns and mortars had created stresses that, when added to those previously cited, caused fractures in the walls at

229. Hawkins to Quartermaster General, Feb. 4, 1909, doc. 236,191, Corr. 1890-1914, RG 92, NA.

the weakest lines. Most of the post buildings, he observed, had been injured in a similar manner.

To cope with this situation, Doten recommended the following:

> The constructing quartermaster should have all affected walls repointed.
>
> Accurate measurements were to be taken periodically until the barracks was accepted.
>
> An adequate means had to be devised for tying the foundation walls together if additional cracks appeared in the basement wall.
>
> Future buildings had to be designed to resist injury from ground shocks caused by firing of the guns.[230]

Lieutenant Hawkins accordingly directed the Hamiltons to point up all cracks. A mason was employed, and by March 12 this task had been accomplished. Three weeks later on April 3, Hawkins examined the pointing. He found that the pointing at the biggest bulge had "cracked and was open in fine hair lines approximately 1/100 of an inch." In the transverse brick wall, between the lavatory and boiler room, there was also a hair-line crack. Other measurements of the bulging, taken on March 7 and on April 2, had shown only a slight variation.[231]

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230. Doten to Quartermaster General, Feb. 19, 1909, doc. 236,191, Corr. 1890-1914, RG 92, NA.

231. Hawkins to Quartermaster General, Apr. 5 & 17, 1909, doc. 236,191, Corr. 1890-1914, RG 92, NA.

d. Completing the Barracks

On May 4, 1909, Hamilton & Hamilton notified Lieutenant Hawkins that the two-company barracks had been completed and that responsibility for its maintenance now rested with the United States. Any damage by fire, high winds, lightning, and other hazards would hereinafter be the government's loss. Although the building had not been accepted because of the cracks, they protested that the "unnecessary delay in inspecting" should not have been to their detriment and loss. The military should therefore assume responsibility for protecting the barracks as they were withdrawing their watchmen.[232] While awaiting instruction from the quartermaster general, Lieutenant Hawkins arranged with Colonel Harris for a barracks guard.[233]

On May 11 General Aleshire, having reviewed the situation, directed Lieutenant Hawkins to accept the structure and make final payment, provided that Hamilton & Hamilton had completed it in accordance with plans and specifications.[234] This was promptly done, and the barracks were occupied by two companies of coast artillery.

The handsome structure, designed to house 218 enlisted men, had cost $86,130. It had brick walls, stone foundations, slate roof, and wood floors. It was heated by steam and lighted by electricity. The main section of the two-story

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232. Hamilton & Hamilton to Hawkins, May 4, 1909, doc. 236,191, Corr. 1890-1914, RG 92, NA.

233. Hawkins to Quartermaster General, May 5, 1909, doc. 236,191, Corr. 1890-1914, RG 92, NA.

234. Aleshire to Hawkins, May 11, 1909, doc. 236,191, Corr. 1890-1914, RG 92, NA.

barracks was 111' 8" by 35' 4", with two wings each 35' 6" by 119' 5". The latrines had 24 water closets, 12 urinals, 36 wash basins, 12 laundry tubs, 12 showers, six wash sinks, and two tubs. There were also 218 wall lockers.[235]

10. Double Set of Noncommissioned Officers' Quarters (Building 75), Fire Station (Building 76), and Double Set of Firemen's Quarters (Building 77)

a. Allotting Funds and Awarding Contracts

On September 19, 1909, Colonel Harris called attention to the need for a new fire station. The original fire station erected in 1905-06 was inconveniently located, being ¼ mile north of the center of the post. Unless a fire was in that area, soldiers detailed as firefighters had to race from their barracks to the station and then return to the fire. In addition, the station was too small to accommodate the longest ladders.

Colonel Harris urged that funds be allotted for a new station to be erected behind barracks 25 and that the old station be converted into a blacksmith and plumber's shop. There was need for this, because the blacksmith shop was in a frame building abandoned by the Life-Saving Service, but this structure was in poor condition. The shop building (34) housed the carpenter's and plumber's shops, but the former was too small for efficiency. With the plumber's shop relocated to the old fire station, the carpenter's shop could be enlarged to occupy the entire building.[236]

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235. Harris to Adjutant General, Department of the East, June 19, 1909, doc. 215,986, Corr. 1890-1914, RG 92, NA.

236. Harris to Adjutant General, Department of the East, Sept. 9, 1909, doc. 256,927, Corr. 1890-1914, RG 92, NA.

Meanwhile, it had been determined to erect another double set of noncommissioned officers' quarters and a double set of firemen's quarters at Fort Hancock. The former would be sited on the spur road, 60 feet northwest of quarters 73, while the latter would be erected by the pumping plant.

Plans having been prepared and approved, Constructing Quartermaster Goodier advertised for proposals. Fifteen bids were opened and abstracted on January 15, 1910, for construction of a double set of noncommissioned officers' quarters, a double set of firemen's quarters, a fire station, and a second-story addition to the quartermaster storehouse.[237]

On January 25 General Aleshire directed Lieutenant Goodier to accept the following proposals:

Edward Fay & Son for construction of:

1 double set of noncommissioned officers' quarters	$ 5,533
1 double set of firemen's quarters	4,770
1 fire station	2,860
Second story addition to quartermaster storehouse	5,437
TOTAL	$18,600

Hines & Hammer for installation of plumbing in:

1 double set of noncommissioned officers' quarters	$695
Fire station	90
TOTAL	$785

237. Goodier to Quartermaster General, Jan. 8, 1910, doc. 256,927, Corr. 1890-1914, RG 92, NA.

George Dillon, Inc., for installation of plumbing in one set of firemen's quarters.

A. D. Granger Co. for installation of electrical wiring and fixtures in the fire station.

G. H. & E. E. Lowell for installation of the electrical wiring and fixtures in the noncommissioned officers' and firemen's quarters.

Union Stove Works for hot-air heating in one double set of noncommissioned officers' quarters.[238]

Contracts were accordingly signed by Lieutenant Goodier with the designated firms during the period February 9-25.

b. Accepting the Structures

Fay & Son were delayed by deep snow and inclement weather in February. Unable to complete the three structures and the addition to the quartermaster storehouse in the time specified, they asked for an extension until July 15. This was granted by the quartermaster general.[239]

On January 1, 1911, Colonel White inspected and accepted the following improvements, which he pronounced as satisfactory and fulfilling all requirements: one double set of noncommissioned officers' quarters, building 75; one fire station,

238. Aleshire to Goodier, Jan. 25, 1910, doc. 256,927, Corr. 1890-1914, RG 92, NA.

239. Fay & Son to Goodier, Apr. 30, 1910, doc. 256,927 Corr. 1890-1914, RG 92, NA.

building 76; and a second-story addition to the quartermaster storehouse, building 32.[240]

The noncommissioned officers' quarters (36' 10" by 27' 6") had stucco walls, concrete foundations, tile roof, and wood floors.

They were heated by hot air and lighted by electricity.[241] The 50' by 25' fire station had brick walls, a stone and concrete foundation, a concrete floor, slate roof, and was electrically lighted.[242]

Three weeks later, on January 23, the double set of firemen's quarters was accepted by the constructing quartermaster. The 52' 6" by 32' 3" duplex had brick walls, a brick foundation on concrete footings, a slate roof, and longleaf yellow pine floors. It was heated by stoves and was electrically lighted.[243]

c. Improving Two Structures (75 and 77)

In the 12 months ending February 28, 1913, several improvements were made to the noncommissioned officer's and firemen's quarters. Twenty storm sash were hung in the noncommissioned officers' quarters and 14 storm sash were installed

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240. White to Adjutant General, Jan. 1, 1911, doc. 292,467, Corr. 1890-1914, RG 92, NA.

241. Smith to Quartermaster General, Mar. 15, 1911, doc. 303,463, Corr. 1890-1914, RG 92, NA.

242. Ibid.

243. Ibid.

in the firemen's quarters and the latter were wired for electricity.[244]

11. Three Frame Dwellings

During this period three temporary frame dwellings were built by enlisted men belonging to the garrison. Authority to erect this housing was given by the post commander. These structures were positioned on the lot between the roadway passing behind the guardhouse and another fronting noncommissioned officers' quarters 73 and 75. The north dwelling was built by Mechanic Taylor of the 113th Company.[245] It has been impossible to determine who erected the other two houses.

12. Oil and Paint Storehouse (Building 79)

On May 24, 1909, Colonel Harris called for construction of an oil and paint storehouse. Heretofore, a small frame shed had been used for storage of some of the oil belonging to the Ordnance Department. This shed, however, was too small and had been condemned by the inspector-general. A second small frame oilhouse was employed by the Quartermaster Department while the post engineer had no facilities for keeping oil and paint acquired by his department. Consequently, much of the oil was stored outside.

To remedy this situation, Colonel Harris urged construction of a large oil and paint storehouse to be built of corrugated metal and to have a concrete floor. This structure was

244. Post Quartermaster to Chief Quartermaster, Mar. 1, 1913, doc. 383,496, Corr. 1890-1914, RG 92, NA.

245. Cocheu to Commanding General, II Corps Area, March 27, 1933, doc. 600.91, Corr. 1922-1935, RG 92, WNRC.

to be divided into three compartments by partitions, one for each department.[246]

Although the decision was made to construct the storehouse, it was the summer of 1910 (eight months after Colonel Harris had retired) before the structure was erected. It was positioned alongside a railroad siding, 130 feet east of the shops. The corrugated sheet metal structure, built of 12½' panels, was provided with two 12½' by 30' oil rooms and paint rooms, assigned respectively to the district ordnance and artillery officers, and a 25' by 30' storage and paint room for the district quartermaster. The latter was provided with a ramp for wheeling in vehicles and boats for painting. The structure cost $2,561.62.[247] In the autumn of 1910 two 1,000-gallon underground tanks, with heavy discharge pumps, were buried outside the structure.[248]

13. Civilian Barracks (Building 80)

On his December 1908 visit to Sandy Hook, Civil Engineer Adams found a number of the Civil Service employees quartered in the loft of an old frame building housing the blacksmith shop. The structure was dilapidated, and it was possible to see through cracks in the walls. Consequently, these quarters were impossible to heat during the long Sandy Hook winters. Adams recommended construction of a civilian employees barracks, with a mess hall for 25 men.[249]

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246. Harris to Adjutant General, Department of the East, May 24, 1909, doc. 263,481, Corr. 1890-1914, RG 92, NA.

247. Aleshire to Post Quartermaster, June 20, 1910, doc. 263,481, Corr. 1890-1914, RG 92, NA.

248. Ibid., Oct. 3, 1910.

249. Adams to Quartermaster General, Dec. 16, 1908, doc. 250,934, Corr. 1890-1914, RG 92, NA.

When months passed and no action was taken to implement Adams's proposal, Colonel Deems, who had relieved Colonel Harris as post commander, complained because there was no teamster barracks for proper accommodation of these people at Fort Hancock. The ten teamsters on the quartermaster's payroll were either housed in the blacksmith shop loft or in one end of the frame quarantine stables. Both structures were substandard and unsuitable for humans.

It was impossible to permit them to live off post because that would have removed them too far from their place of employment and because the available transportation facilities would have prevented them from reporting at the stables before 8 a.m. Because of the necessity to feed and grain the teams before taking them out to work, such a late start was impractical.

In view of the order from army headquarters to reduce the number of soldiers assigned extra duty, Colonel Deems presumed that civilian teamsters would continue to be employed. Plans and specifications had accordingly been prepared by the constructing quartermaster for an "inexpensive but sightly civilian teamsters' barracks."[250] Satisfied of the need, Secretary of War Jacob Dickinson approved construction of quarters for civilian teamsters to cost not more than $8,000.[251] Following Dickinson's approval, on August 24, 1910, the post quartermaster, Frederic H. Smith, transmitted to the quartermaster general a tracing locating the proposed barracks a short distance north of the stables.

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250. Deems to Adjutant General, Department of the East, Feb. 6, 1909, doc. 250,934, Corr. 1890-1914, RG 92, NA.

251. Dickinson to Quartermaster General, Aug. 6, 1910, doc. 250,934, Corr. 1890-1914, RG 92, NA.

Plans and specifications approved and funds allotted, Lieutenant Smith called for proposals to erect a brick barracks for civilian employees. After reviewing the bids, General Aleshire approved the following contracts:

Robert J. Walsh for construction of the brick quarters, with slate roof and brick foundation	$5,710
Robert J. Walsh for installation of electrical wiring and fixtures	265
Hines & Hammer for installation of plumbing	575
TOTAL	$6,550[252]

The completed ten-man civilian barracks was accepted by the United States in September 1911. The two-story, 24½' by 42½' structure had brick walls, brick on concrete foundations, a slate roof, and wooden floors. In the first story there was a kitchen, 14' 6" by 11' 8"; cook's room, 11' 8" by 8' 9"; dayroom, 14' 6" by 10' 2"; dining room, 12' 2" by 24' 4"; and a 12' 8" by 10' 2" hall and stairs leading to the second story. The second story was divided into a dormitory, 22' 4" by 27' 2"; latrine, 12' 8" by 11' 8"; and a hall and stairs, 12' 8" by 10' 2".[253]

14. New Laundry

In 1901, following disarmament of the Dynamite Gun Battery, the post exchange took over several of the frame buildings

252. Aleshire to Constructing Quartermaster, Nov. 1, 1910, doc. 267,829, Corr. 1890-1914, RG 92, NA.

253. Post Quartermaster to Chief Quartermaster, undated, doc. 204,218, Corr. 1890-1914, RG 92, NA.

erected by the contractor to service these guns. One of them was converted into a laundry for the garrison and another into quarters for the laundry manager.

On May 12, 1909, fire destroyed the laundry. Soon thereafter, Post Commander Harris recommended that a laundry and ice plant be built by the Quartermaster Department at Fort Hancock. Ice, he pointed out, was being sold on Sandy Hook for 50 cent per hundred pounds. By September 1, he expected the price to raise to 75 cents per hundred.[254]

The department, however, did not have funds to immediately allot for these projects. As an alternative, the post exchange officer, Alexander Grieg, proposed to utilize exchange funds to construct a "steam laundry building." The structure was to be a one-story concrete building, with a corrugated metal or gravel roof, and was to be large enough to service the needs of 1,000 men. The building was to be piped for steam heat, water, and sewage and wired for electricity.[255] To accomplish this, the post exchange council had voted to obligate $4,000.[256] This proposal was approved, and Colonel Harris provided the quartermaster general with plans and specifications for a laundry building and equipment for a 1,000-man post.[257]

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254. Harris to Adjutant General, Department of the East, June 5, 1909, doc. 255,801, Corr. 1890-1914, RG 92, NA.

255. Grieg to Adjutant General, Department of the East, Aug. 23, 1909, doc. 255,801, Corr. 1890-1914, RG 92, NA.

256. Ibid., Aug. 9, 1909.

257. Aleshire to Adjutant General, Department of the East, Sept. 11, 1909, doc. 255, 801, Corr. 1890-1914, RG 92, NA

After receiving the approval of the district engineer, the new laundry was built and equipped during the winter and spring of 1910. It was on a newly opened spur road about 100 feet southeast of kitchen/mess hall 56. The structure's foundations, walls, pilasters, and floor were concrete. The roof was supported by timber trusses, resting on concrete pilasters, and was covered with tar and cinders. The laundry was housed in the 40' by 100' main building, while the 29' by 38' ell sheltered a 25-horsepower engine and a 40-horsepower boiler.

Positioned in the well-equipped laundry were three wash wheels, one large flatwork annihilator, one starch wheel, two extractors, one soap tank, one starch boiler, one dry house with conveyor, one drying tumbler, one shirt-body machine, one starch bosom ironer, one shirt collar and cuff ironer, one collar and cuff annihilator, one Hoffman Sanitary Press, and a complete set of accessories, including tables, ironing boards, and other implements. This equipment had all been purchased from American Laundry Machinery Co..[258] The laundry was completed and ready to begin operating by early June 1910. However, it was necessary to employ enlisted men until quarters could be provided for civilian employees.[259]

Meanwhile, Captain Grieg had requested authority to relocate the frame dwelling, occupied by the laundry manager, from near the site of the former laundry. The 20' by 42' structure was on a site near the former laundry, and it was not listed on the post

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258. Paterson to Adjutant General, Department of the East, Jan. 9, 1912, doc. 350,854, Corr. 1890-1914, RG 92, NA. The 25-horsepower horizontal engine was manufactured by Pennsylvania Engine Works.

259. White to Adjutant General, June 6, 1910, doc. 255,801, Corr. 1890-1914, RG 92, NA.

inventory because it had been built under contract for storage of projectiles for the Dynamite Gun Battery. When the battery had been condemned and disarmed in 1901, this building had been occupied by the post exchange steward and more recently by the civilian manager of the laundry.[260] But, this request was disapproved, as the quarters in question were also occupied by the postman.

The construction of the laundry and installation of equipment placed the post exchange deeply in debt. As of January 1, 1912, the exchange owed $10,466.64 on the machinery purchased two years earlier from the American Laundry Machinery Co..[261] To rectify this situation, Secretary of War Robert S. Oliver asked Congress for an appropriation of $16,500 or less to permit the quartermaster general to purchase the laundry and its equipment from the post exchange council. This item was included in the army bill enacted by Congress to fund the War Department in fiscal year 1913.[262]

I. Post Structures Maintained and Enlarged

1. Modification of Crematory (Structure 40)

During the first 14 years of the 20th century, the Quartermaster Department, in addition to its expenditures for maintenance of the buildings and grounds, allotted funds for major alterations of several structures. These projects were necessitated

260. Post Exchange Officer to Post Adjutant, doc. 200,975, Corr. 1890-1914, RG 92, NA.

261. Paterson to Adjutant General, Department of the East, Jan. 9, 1912, doc. 350,854, Corr. 1890-1914, RG 92, NA.

262. Oliver to Chairman, House Committee on Military Affairs, Mar. 12, 1912, doc. 350,854, Corr. 1890-1914, RG 92, NA.

by the 1907 decision to increase the garrison from four to six batteries, along with implementation of a program that would send other units from the Southern and Eastern Districts to Sandy Hook for annual service practice and to fire the Camp Low small-arms range. Other projects were undertaken when experience demonstrated the need for an improved design. Typical of the latter was one involving the 1897-98 crematory (structure 40).

The top of the crematory was 5' 4" above the platforms on which the garbage was normally dumped. Because the doors of the crematory were on top, it was nearly impossible for an unaided man to throw the garbage into the crematory. Therefore, in January 1901, the post quartermaster proposed and implemented certain alterations. The platform was raised to the level of the crematory top. This mandated alterations to the approach ramps. Instead of lengthening the ramps leading to the platforms, they were built around the crematory chimney and sloped upwards until they met at the level of the platform. The entire job cost about $225.[263]

2. Maintenance and Repair of Barracks

a. Waxing and Polishing Floors

The floors in the barracks and quarters were waxed with a formula of 1 pint of parafine, 2 pints of raw linseed oil, and some wood shavings. To this mixture, 2 pints of liquid dryer and sufficient turpentine to thin it to the consistency desired were added. This provided a glossy finish. If a "dead" finish were desired, about half the quantity of parafine had to be used. The mixture was applied with a brush in the same manner as varnish. If a high degree of polish were desired, the mixture was

263. Post Quartermaster to Post Adjutant, Jan. 15, 1901, doc. 140,129, Corr. 1890-1914, RG 92, NA.

rubbed in with a polishing brush. One gallon of this mixture treated about 200 square feet of floor surface.[264]

b. Providing Storm Windows, Doors, and Additional Lockers

In November 1903, Lieutenant Wheeler, the post quartermaster, asked for authority to spend $1,180 for purchase and installation of wall lockers, storm windows, and doors for barracks 22-25. The shortage of lockers was as follows:

Barracks	Required	Installed	Shortage
22	110	72	38
23	110	76	34
24	110	68	42
25	110	74	36

The barracks, Lieutenant Wheeler observed, had been built to accommodate 70 men each, but the barracks were occupied instead by artillery companies with an authorized strength of 108 enlisted men. Consequently, about 20 artillerists in each barracks had to keep their clothing and gear in foot lockers. The squad rooms were uncomfortably crowded, and the foot lockers were in the way.

The storm doors and windows were to be placed over two doors and 12 windows on the north and west elevations of the second floors of each barracks. They were required for protection against cold northwest winds that buffeted Sandy Hook during the winter. Similar windows and doors had already been

264. General Order, Department of the East, Jan. 19, 1895, NA, RG 393.

positioned on the officers' and noncommissioned officers' quarters and on the post hospital.[265] The quartermaster general promptly approved expenditure of $280 for storm doors and window, but the locker request was deferred.[266]

Four years passed before funds were allotted for more lockers. In 1907, 37 steel, wall lockers were purchased and positioned in barracks 23. With 73 wooden lockers in the squad rooms, the total in this barracks was boosted to 111.[267] The use of steel, wall lockers instead of wooden, wardrobe lockers had been dictated by the difficulty at some posts of obtaining lumber suitable for construction of lockers at a reasonable cost. The enameled steel lockers cost less than wooden lockers and were therefore purchased.[268]

One year later, in 1908, 98 additional steel, wall lockers were purchased. Thirty-eight lockers were placed in barracks 22 and 24, and 32 lockers were placed in barracks 25.[269]

c. Converting Part of Barracks 25

On September 22, 1907, Capt. Henry M. Mimam of the 95th Coast Artillery Company requested authority to build a

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265. Wheeler to Post Adjutant, Nov. 14, 1903, doc. 193,991, Corr. 1890-1914, RG 92, NA.

266. Ibid.

267. Post Quartermaster to Chief Quartermaster, Department of the East, undated, doc. 215,986, Corr. 1890-1914, RG 92, NA.

268. Annual Report, Construction and Repair Division, Fiscal Year 1905, doc. 214,936, Corr. 1890-1914, RG 92, NA.

269. Harris to Chief Quartermaster, Department of the East, Mar. 17, 1909, doc. 215,986, Corr. 1890-1914, RG 92, NA.

partition across the north end of the basement of barracks 25, so that a recreation room could be provided for his troops and the men of the 136th Company. A stove was needed to heat the room during the cold Sandy Hook winters.[270] The project was approved by Post Quartermaster Falls and was promptly implemented.[271]

d. Repairing Barracks 22-25

In December 1908, Civil Engineer Adams visited Fort Hancock and inspected barracks 22-25. He saw that the plumbing was in "poor shape and unsanitary condition." Most of the faucets were worn out, handles were missing from some of the fixtures, and threads for the screws attaching the handles to the cocks were worn.

Out of 24 closet seats, all but two were split. Most of the washtub slabs were split, some were broken, and all were "out of level." Several wash basins were broken, but their worst feature was that they were no longer flush with the slabs, owing to settlement, and water slopped onto the floors. Under the urinals and bathtubs, the floors were waterlogged, and the plaster on the basement ceilings under the latrines had fallen in many places. These fixtures were in many cases beyond repair, and the wood flooring was unsanitary.

Any attempt to replace the fixtures, Adams cautioned, would be expensive and could result in a mixture of different types, requiring stockpiling of a large number of various spare parts. Adams believed that the only way to make the

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270. Mimam to Post Adjutant, Sept. 22, 1907, doc. 206,541, Corr. 1890-1914, RG 92, NA.

271. Falls to Miman, Sept. 25, 1907, doc. 206,541, Corr. 1890-1914, RG 92, NA.

plumbing sanitary was to install waterproof floors and new fixtures. He attributed the poor condition of the plumbing to the "use for a long time of brackish water." But with the installation of a post filtering plant, there would be no future problems with the plumbing.

Adams also called attention to the radiator valves. The wooden handles were attached by a screw instead of a nut. The handles were in the habit of working themselves loose, and a number of them had been lost. Also, in opening and closing the valves with wrenches, the enlisted men had twisted the tops off a number of stems.[272]

Continuing his inspection, Adams observed that the sandstone front door sill of barracks 25 was worn down 1-3/8 inch and the rear sill 1-3/16 inch, while the door sills in the other three barracks were almost as bad. He concluded that only granite should be employed for door sills.

The flooring in all the first-floor halls was worn "clear through the upper flooring and partially through the lower." The flooring in the upper halls was worn below the tongue. Flooring in the other lower-story rooms, Adams forecast, would cost more to replace than to renew. On the higher stories, the flooring was worn near the doorways, where the walkways were restricted by the proximity of the bunks. The quality of the original flooring, Adams found, was "good edge grain flooring," and only two or three pieces of flat grain were found.

Adams recommended that the hall flooring, the stair treads, and the first-story flooring, except in the latrines

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272. Adams to Quartermaster General, Dec. 15, 1908, doc. 250,934, Corr. 1890-1914, RG 92, NA.

(which would be charged against plumbing), should be replaced in all four barracks. He also recommended that the second-story flooring around the doorways and a few other areas where wear had been excessive should be repaired. Metal treads should be used on the stairways and from the front to rear entrances in the hallways, and good metal floor mats should be placed at the front and rear doorways to permit the soldiers to clean off their feet before entering.

At that time, the second-story back porches were the only places the soldiers had for airing their bedding. The porch roofs had been pulled away from the flashings, which caused the roofs to leak over the rear doorways. To correct this, Adams urged that "the wooden platform be covered with flashings to keep water from passing the supports and not rest directly onto the roof."[273]

e. Preparing Specifications for Renovations and Repairs

Specifications for undertaking certain portions of the recommended work were prepared by General Aleshire's staff. The plans called for "removal of all the old flooring" and underflooring, where decayed or unsuitable, to receive a new upper floor on the first and second stories. New flooring of the same material as that removed was to then be laid. The upper flooring was to be either maple or yellow pine, 7/8-inch thick, showing a 3½-inch face. If maple were employed, it was to be no. 1 hard rock maple, kiln dried, tongue-and-groove, "in edge and edge, bored for blind nailing." If yellow pine were employed, it was to be tongue-and-groove, "kiln dried heart faced quarter sawed long

273. Ibid., Dec. 16, 1908.

leaf yellow pine, free from sap stains pitch pockets," and knots. One layer of floor felt was to be placed between the upper and lower flooring on each story.

After the new flooring had been laid, it was to be dressed to an even surface by planning, scraping, or sanding. Afterwards, if it were maple, it was to receive one heavy coat of raw linseed oil well rubbed in. If the flooring were yellow pine, it was to receive two coats (both being well rubbed in) of raw linseed oil, with 24 hours intervening between the coats.

Stair treads and risers were to be removed as required and were to be replaced by the same kinds of wood selected for the new flooring and sawed in a similar fashion. They were to be of the same dimensions and shape as the ones replaced--tongued and grooved together, each riser into the tread above and each tread fitted into the riser in back of it, with both housed into the outside wall string. A new wall string 7/8-inch thick, with the quarter-rounded upper edge sawed to fit closely over the steps, was to be secured to the old wall string with round-headed brass screws. Then, new iron thresholds were to be inserted into the sandstone sills of the entrance doors.

As the four barracks would be occupied, the contractor was to regulate his work so that no more flooring would be torn up than could be replaced daily.[274]

f. Accomplishing Several Projects

On March 12, 1909, Constructing Quartermaster Hawkins, in accordance with authority received from the

274. "Specifications for the Repairs of the Four Barracks Buildings . . . at Fort Hancock," Aug. 1908, doc. 206,541, Corr. 1890-1914, RG 92, NA.

quartermaster general, invited proposals for reflooring the first story of barracks 22-25, employing either maple or pine; repairing the second-story flooring in these four barracks with either maple of pine; repairing the stair treads and risers in each structure; positioning metal treads and toe plates on stairs and in halls; and installing iron thresholds.[275]

On April 15, Lieutenant Hawkins opened and reviewed the five proposals received in response to his notice.[276] With the approval of General Aleshire, Lieutenant Hawkins accepted George W. Wines's proposal to position new maple floors in each of the barracks' first stories, repair with Georgia pine the second-story flooring,repair stair treads and risers, and provide and install iron thresholds.[277]

Lieutenant Hawkins readvertised for proposals to install metal treads and toe plates and for laying composition floors in the hallways of barracks 22-25. Three proposals were received. On May 28, General Aleshire, after reviewing them, authorized Lieutenant Hawkins to accept Marbleoid's proposal for positioning the composition flooring, George W. Wines's proposal for installing toe plates, and the proposal of American Mason Co. for installing treads.[278] Workmen for Marbleoid and Wines carried out the work during the summer of 1909.

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275. Hawkins to Quartermaster General, Mar. 12, 1909, doc. 206,541, Corr. 1890-1914, RG 92, NA.

276. Ibid., Apr. 15, 1909.

277. Aleshire to Hawkins, May 8, 1909, doc. 206,541, Corr. 1890-1914, GR 92, NA.

278. Hawkins to Aleshire, May 22, 1909, & Aleshire to Hawkins May 28, 1909, doc. 206,541, Corr. 1890-1914, RG 92, NA.

g. Rehabilitating the Latrines

In fiscal year 1908, the heating boilers in barracks 22-25 were replaced.[279] During the autumn of 1908, Lieutenant Hawkins called for proposals to rehabilitate the latrines in the 1897-99 barracks. Proposals were opened and abstracted on November 18. On December 22, Secretary of War Oliver approved the awarding of the contract to George W. Wines of East Quoque, New York, whose bid for $11,302 was low. The contract was signed on January 4, 1909, with Wines agreeing to complete the project on or before April 10. Wines, however, was later compelled to secure a 30-day extension.

Wines's workmen, in carrying out their task, removed all the plumbing fixtures in barracks 22-25, as well as the soil, waste, and vent pipes. They installed new pipes, and John Douglas & Co. positioned the fixtures. The main soil pipes in each barracks were 6-inch cast iron. The new fixtures were "bath tubs type A-2, extra heavy, 5½-foot with trap type TR-5"; water closet type B-2 with type C-4 tanks; lavatories type E-5 with type TR-1 traps; urinals type F-3 with tank type D-3; showers type G with slate stalls; laundry tubs type L-1 with type TR-1 traps; floor traps type M-2; and type P wall hydrants.

In each latrine the upper flooring was taken up and the under flooring patched, where necessary. The entire floor was then covered with gray-colored asbestolith floor tile, which was graded from the walls to floor traps and traps in the shower stalls. The tile continued to the top of the baseboards.

279. Harris to Chief Quartermaster, Department of the East, Mar. 17, 1908, doc. 215,936, Corr. 1890-1914, RG 77, NA.

At the doorway to each latrine, a beveled yellow pine threshold was positioned, rabbeted to fit closely to the wood floor and the tile. All breaks in the plaster were neatly patched and painted. The woodwork was sanded and given three coats of paint. Wood partitions between the water closets were replaced with slate and brass partitions.[280]

3. Maintenance and Repair of Quarters

a. Making the Quarters More Comfortable

In 1900, to provide shade for several of the more exposed quarters, Quartermaster General Ludington authorized the expenditure of $95 for porch awnings at four of the officers' quarters.[281]

Mosquitoes plagued Fort Hancock. In 1901, in hope of mitigating their bloodthirsty attacks, Post Quartermaster Mills decided to enclose the porches of the officers' quarters, noncommissioned officers' quarters, and enlisted barracks. Mills estimated the following costs for the project:

Enclose half of each porch of one commanding officer's quarters, 6 captains' quarters, and 11 lieutenants' quarters with suitable pine frames, covered with bronze wire, 14 x 14 mesh	$1,267.00
Enclose south half of second-story porch of four barracks with screens	448.80

280. "Specification for Plumbing and Construction, Barracks 22, 23, 24, and 25, Fort Hancock, N.J.," Sept. 1908, & Hawkins to Quartermaster General, Jan. 8, 1909, doc. 217,982, Corr. 1890-1914, RG 92, NA.

281. Ludington to Chief Quartermaster, Department of the East, Aug. 13, 1900, doc. 155,381, Corr. 1890-1914, RG 92, NA.

Enclose east end of bachelor officers' quarters porch with screens	68.20
Enclose porches of two double sets of noncommissioned officers' quarters with screens	164.56
TOTAL	$1,948.56

General Ludington rejected the request, pointing out that these structures were already provided with window and door screens. If the department were to provide screened porches at Fort Hancock, it would be expected to do so at other posts where mosquitoes also swarmed.[282]

Lieutenant Craig, who had replaced Mills as post quartermaster, informed the adjutant in November 1901 that all the officers' quarters, with the exception of four lieutenants' quarters, were equipped with storm sash. Since these four quarters were to be occupied in the near future, Craig asked that funds be allotted for purchase of necessary sash. This expenditure was promptly approved.[283]

b. Kalsomining, Papering, and Painting

On January 23, 1904, Post Quartermaster Wheeler asked for authority to spend $160 for kalsomining the

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282. Ludington to Secretary of War, Aug. 3, 1901, doc. 167,910, Corr. 1890-1914, RG 92, NA.

283. Craig to Post Adjutant, Nov. 15, 1901, doc. 167,910, Corr. 1890-1914, RG 92, NA.

officers' quarters. His request was approved.[284] Then, in fiscal year 1905, Post Commander Harris requested and received authority to have certain rooms in his quarters repapered and to have the woodwork of other rooms kalsomined and repainted. The cost of repapering was not to exceed $289.25.[285] The breakdown provided funds as follows:

Main hall from first to third floors	
Remove present paper and prepare walls	$ 31.50
Line and paper walls with 50 rolls of #451 paper	87.50
Dining room	
Remove present paper and prepare walls	16.00
Line and paper walls with 16 rolls of #414 paper	28.00
Smoking room	
Remove present paper and prepare walls	13.50
Line and paper wall with #414 paper	19.25
Parlor	
Remove six lengths of present paper and prepare walls	3.50
Line and paper walls with three rolls of #443 paper	5.25

284. Wheeler to Post Adjutant, Jan. 23, 1904, doc. 193,991, Corr. 1890-1914, RG 92, NA.

285. Harris to Adjutant General, Department of the East, Dec. 22, 1904, & Bickham to Harris, Jan. 3, 1905, doc. 193,991, Corr. 1890-1914, RG 92, NA.

Top-floor wall	
Paint 6 doors, trim and base	14.50
Three attic rooms	
Plaster, prepare, and tint ceilings and walls; paint woodwork	64.25
Paint woodwork in one attic room	6.00
TOTAL	$289.25[286]

c. Improvements: 1908-13

In fiscal year 1908, improvements were made to a number of quarters. New heating boilers were installed in lieutenants' quarters 1-4 and 16-18, captains' quarters and commanding officer's quarters 12, 9-11 and 13-1; and barracks 22-25.

Eighteen desks were received, one for each of the quarters on Officers' Row. Eleven sideboards were requisitioned by the post quartermaster for two lieutenants' quarters.[287]

Storm sash and doors were positioned on staff noncommissioned officers' quarters (buildings 29 and 30) and the double set of civilian employees' quarters, building 64.[288] On January 22, 1910, three storm windows were replaced in captains' quarters 14.

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286. Bickham to Harris, Jan. 3, 1905, doc. 206,541, Corr. 1890-1914, RG 92, NA.

During the 12 months ending February 28, 1913, $129.64 was spent to improve the plumbing on the third floor of lieutenant's quarters 19.[289] Eleven storm sash were hung on the administration building (structure 26) and nine were hung on the civilian engineer's quarters (building 37). The latter was also wired for electricity.[290]

d. Removing Partition in Bachelor Officers' Quarters (Building 27)

On February 22, 1912, Post Quartermaster Paterson called attention to changes desired in the bachelor officers' quarters. Between the front vestibule on the main floor and the closet leading into the billiard room, there was a 4-inch partition. This had been put in to "extemporize" a small closet off the billiard room.

Paterson wanted to remove the partition, thus allowing officers not quartered in the bachelor officers' quarters to enter the billiard room without passing through the hall leading to the bachelors' mess or disturbing the privacy of those in their quarters. Removal of the partition would also add to the attractiveness of the club proper. Movable lockers could be built in the card room to replace the closet.[291] As this alteration would not deface the structure and could be done with post labor, it was approved and implemented.

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287. Harris to Chief Quartermaster, Department of the East, Mar. 17, 1908, doc. 215,896, Corr. 1890-1914, RG 92, NA.

288. Ibid.

289. Post Quartermaster to Chief Quartermaster, undated, Report for Year, Mar. 1, 1912, to Feb. 28, 1913, doc. 498,724, Corr. 1890-1914, RG 92, NA.

290. Ibid.

e. Request for Bachelor Staff Noncommissioned Officers' Quarters Rejected

In September 1910, Capt. Joseph Wheeler called attention to the need for proper quarters for unmarried noncommissioned staff officers. To meet this deficiency, he proposed to rent quarters for three officers at the Highlands. These senior noncommissioned officers and two others were then living in impressed quarters on the reservation, while a sixth was in temporary occupation of quarters assigned to another individual.

Wheeler recommended construction of a quarters with eight bedrooms and a common living room, dining room, and kitchen to provide for the garrison's need for men of that pay grade and marital status.[292] General Wood, as commander of the Department of the East, rejected Captain Wheeler's plea. On doing so, he pointed out that there were at Fort Hancock three sets of noncommissioned officers' quarters occupied by men below grade 14. These quarters (72 south, 71 south, and 71 north), with the two sets under construction (buildings 74 and 75), would make five sets available to noncommissioned officers above pay grade 15.[293]

4. Bakehouse (Building 33) Altered

a. Constructing Steel Shed and Enlarging Rear Doorway

Inspector-General Varoom, following his December 5-8, 1909, visit to the post, had commented on the lack

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291. Paterson to Adjutant General, Department of the East, Feb. 22, 1912, doc. 356,874, Corr. 1890-1914, RG 92, NA.

292. Wheeler to Adjutant General, Department of the East, undated, doc. 268,878, Corr. 1890-1914, RG 92, NA.

293. Wood to Wheeler, Oct. 21, 1910, doc. 286,878, Corr. 1890-1914, RG 92, NA.

of storage facilities for fuel at the bakehouse. Reporting on this situation, Post Commander Burbank pointed out that when the bakehouse was erected, no provision had been made for entrance or exit of persons or materials, except by way of the front door. He recommended construction of an addition large enough to house a few days' supply of fuel and of a "proper opening to admit supplies of fuel and flour."

The addition of an iron shed directly behind the bakehouse would, in Burbank's opinion, suffice for fuel storage. Access from the rear could be provided by converting one of the windows into a doorway.[294] General Ludington allotted $325 for constructing the shed and enlarging a window in the rear doorway. This work was accomplished during the spring of 1900.

b. Improving and Enlarging the Structure

In 1908, the post quartermaster, William Dowd, called attention to the "congested condition" of the bakehouse. A capacity sufficient for four companies had been taxed by the recent increase of the garrison to six companies and the need to provide bread for the 100-man ordnance detachment. During the past summer, the bakehouse had been compelled to supply bread to coast artillery companies sent to Sandy Hook for service practice and to fire the Camp Low rifle range.[295]

The two brick ovens were capable of baking 770 rations in one shift. To feed nine companies and the hospital and

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294. Burbank to Adjutant, Department of the East, Dec. 23, 1899, doc. 146,316, Corr. 1890-1914, RG 92, NA.

295. Dowd to Post Adjutant, Sept. 7, 1908, doc. 247,424, Corr. 1890-1914, RG 92, NA.

ordnance detachments, 1,188 rations were needed, leaving a daily deficit of 418 rations. Two shifts were required to meet this shortage. The normal complement of a six-company post was 846, or 76 more than the bakehouse's capacity, Lieutenant Dowd explained.[296] When asked to submit a proposal to correct this situation, Lieutenant Dowd prepared a plan for installation of another oven in the iron woodshed. A partition would be removed and kneeding tables and troughs installed.[297]

Dowd's proposal was vetoed, and no further action was taken until March 1911. At that time, Post Commander Wyllie called attention to the urgent need for the following facilities:

> An addition to the bakehouse to permit installation of another oven--the two ovens then in use were inadequate for the needs of six companies, the ordnance detachment, and the units ordered to Sandy Hook annually for service and small-arms practice.
>
> A picket line in the sand for horses and mules
>
> An addition to the ordnance storehouse to provide increased space for post ordnance stores

In the near future, the following structures would be required:

> An additional stable for 20 animals that were housed in a "farm shed"

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296. Ibid., Sept. 15, 1908.

297. Ibid.

A new sawmill to replace the dilapidated structure

A shed for storage of lumber

Another coal bin

An extension of the standard gauge rail system to allow direct delivery to all batteries and to connect the post system with the sidings required by the "land defense plans"[298]

The improvements to the bakehouse were programmed for fiscal year 1913. Plans and specifications were prepared, and proposals were invited. After reviewing the bids, General Aleshire authorized the acceptance of Robert C. Emmons's proposal. Emmons agreed to the following costs for his work:

Construct an addition to the bakehouse	$3,868
Install necessary plumbing	500
Install necessary lighting	200
Install necessary heating	175
TOTAL	$4,743[299]

By late July, Emmons's workmen had completed the addition. General Aleshire, upon being apprised of this, suggested that Sgt. Marien H. DeGaff, the department's expert on installation of ovens, be ordered to Fort Hancock. He would

298. Wyllie to Adjutant, Department of the East, Mar. 30, 1911, doc. 318,241, Corr. 1890-1914, RG 92, NA.

299. Quartermaster General to Chief Quartermaster, Department of the East, Apr. 16, 1913, doc. 318,241, Corr. 1890-1914, RG 92, NA.

ascertain and report on the most desirable type of oven.[300] Sergeant DeGraff, after inspecting the facilities, recommended that a Marshall oven (no. 1) be installed in the addition. This oven was fired from the rear. Also needed was a three-barrel, motor-driven dough mixer and caster-mounted dough trough.[301]

In accordance with Sergeant DeGraff's recommendations, this equipment was requisitioned through the St. Louis depot quartermaster. Then, Emmons was directed to emplace a foundation for the Marshall oven. Emmons would be allowed an extra $70 on his contract for tearing down and removing the two brick ovens and chimneys built by Krueger, Mullin, and Burne in 1897-98 and for repairing the bakehouse roof. This work was done under Sergeant DeGraff's supervision.[302]

5. Second Story Added to Building 32

News that Fort Hancock's garrison was to be increased to six companies caused the post quartermaster to fret. The quartermaster storehouse (building 32) was already too small. It consisted of a basement, one floor, and a loft. The south end of the floor and loft were used for storage of clothing, but the space was inadequate. The south end of the basement was filled with articles awaiting survey. The first-floor storeroom at the opposite end of the warehouse was crammed with miscellaneous gear, such as crockery, handware, and camp and garrison equipage. The basement below was used for storage of items such as range parts,

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300. Ibid., July 29, 1913.

301. DeGraff to Chief Quartermaster, Department of the East, Aug. 29, 1913, doc. 352,394, Corr. 1890-1914, RG 92, NA.

302. Hartman to Chief Quartermaster, Sept. 18, 1913, doc. 352,394, Corr. 1890-1914, RG 92, NA.

kitchen utensils, glass, paints and oils, and wagon parts. The loft was filled with large "individual machines." Consequently, it was almost impossible to get at some of the stores to fill requisitions.

To cope with this situation, Post Quartermaster Paterson urged that an office be erected adjoining the storehouse. This would enable him to convert the existing office in the storehouse into additional storage space.[303] However, no action was taken on Lieutenant Paterson's request. Instead, the quartermaster general was determined to secure funds for adding a second story to building 32. Plans and specifications were prepared and funds were allotted.

On December 17, 1909, Constructing Quartermaster Goodier forwarded to General Aleshire a corrected set of specifications (plan 91) for construction of the second story addition to the quartermaster storehouse.[304]

Meanwhile, Goodier had advertised for proposals. These were opened and abstracted on January 15, 1910. The low bid, $5,700, was made by Edward Fay & Son, who also submitted the most favorable proposals for building a double set of noncommissioned officers' quarters, a double set of firemen's quarters, and a fire station. A contract, which was subsequently approved by Quartermaster General Aleshire, was signed on February 10 by Edward Fay & Son for building the addition to the

303. Paterson to Post Adjutant, May 13, 1907, doc. 236,191, Corr. 1890-1914, RG 92, NA.

304. Goodier to Aleshire, Dec. 17, 1909, doc. 256,927, Corr. 1890-1914, RG 92, NA.

storehouse and the three new structures. Fay & Son agreed to complete the work on or before May 20.[305]

Like most Sandy Hook contractors, Edward Fay & Son were unable to meet their deadline. On April 30 they requested an extension to July 15, which was granted.[306] By mid-July, the addition to the quartermaster storehouse was completed and accepted by the post commander. As of November 3, 1909, the 3,389 square feet of second story floor space was divided into five areas--two storerooms, one 29' 10" by 50' 4½" and the other 29' 10" by 45' 10½"; a 6' 6" by 6' 6" latrine; a 3' by 9' 6" hall and stairs; and 29' 10" by 14' 2" office.[307]

6. Guardhouse Interior Modified

On March 30, 1911, Post Commander Wyllie called attention to the urgent need for an addition to the guardhouse to accommodate another 12-man cage, sleeping quarters for six more members of the guard, and a small kitchen/mess hall for those prisoners not subject to close confinement. To justify this project, Captain Wyllie pointed out that in the years since the guardhouse had been built, the garrison had increased from four to six companies.[308] In the years since 1900, the only major improvement

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305. Contract, Edward Fay & Son with the United States, Feb. 10, 1910, doc. 256,927, Corr. 1890-1914, RG 92, NA.

306. Fay to Goodier, Apr. 30, 1910, doc. 256,927, Corr. 1890-1914, RG 92, NA.

307. Smith to Quartermaster General, Mar. 15, 1911, doc. 303,463, Corr. 1890-1914, RG 92, NA.

308. Wyllie to Adjutant, Department of the East, Mar. 30, 1911, doc. 318,241, Corr. 1890-1914, RG 92, NA.

to the guardhouse had been the installation of a new boiler in 1908.[309]

When no action was taken on Captain Wyllie's request, Colonel Bartlett, who had assumed command of Fort Hancock in January 1912, complained that there were only two cell blocks with five bunks in each. By utilizing the bunks in double tiers, it was possible to accommodate 20 prisoners.

As arranged, it was impossible most of the time to segregate general court-martial prisoners from those serving time for minor offenses. During the previous 12 months, the average number of inmates had been four general court-martial prisoners and 11 prisoners confined for minor offenses. On one occasion, during the previous year, there had been ten general court-martial prisoners and 19 others confined, which had resulted in serious overcrowding.[310]

General Aleshire approved plans costing $5,678.81 for an addition to the guardhouse. This item was included in the estimates submitted by the secretary of war to Congress for funding in fiscal year 1913.[311] With the necessary money appropriated, a contract was awarded and the number of cages increased from two to three. The interior dimensions of the structure were not changed.

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309. Harris to Chief Qaurtermaster, Department of the East, Mar. 17, 1909, doc. 215,986, Corr. 1890-1914, RG 92, NA.

310. Bartlett to Adjutant General, Eastern Division, May 9, 1912, doc. 368,575, Corr. 1890-1914, RG 92, NA.

311. Aleshire to Chief of Staff, May 24, 1912, doc. 368,575, Corr. 1890-1914, RG 92, NA.

7. Search for Additional Storage Space

On February 17, 1903, Post Quartermaster Dunn asked for an allotment to construct a storehouse for electrical and engineer supplies. Recently, the workloads of the electrical and engineering departments had zoomed with the installation of the electric lighting system. There was no longer room for their activities in the ordnance storehouse, and the electricians and engineers had been crowded out. They were forced to move into the workshop in building 34, at the expense of those already assigned to that structure, and the small room in building 34 assigned to the electricians and engineers was inadequate.[312]

No funds were forthcoming for that undertaking. So, to partially alleviate overcrowding, a frame structure for storing stoves, pipes, and other parts was acquired from one of the contractors and positioned about 100 feet northeast of the lavatory (building 44).

In May 1912, Colonel Bartlett protested that the workshop housing the carpenter, blacksmith, and plumbing shops was overcrowded. The carpenter and plumbing shops were being used for storage of lumber and plumbing supplies to such a degree that they interferred with work. Nearby in an "old shack" that was a fire trap, heating stoves, parts of ranges, and stove pipes were stored.

These items could not be removed to the quartermaster storehouse (building 32), because it was filled with clothing, tents, camp and garrison equipage, reserve tools of all

312. Dunn to Post Adjutant, Feb. 17, 1903, doc. 191,868, Corr. 1890-1914, RG 92, NA.

types, and valuable plumbing supplies (such as brass nickel-plated pipe and interior fixtures). To cope with this situation, another quartermaster storehouse was needed, but Colonel Bartlett's request was disapproved.[313]

Eleven months later, Colonel Barrol, who now commanded the post, successfully used a new ploy. He submitted a proposal for altering the first-story floor plan of the quartermaster storehouse. These changes would provide a rectangular office and more storage space. The door from the room to the quartermaster's private office would be fireproof.[314] Barrol's plan was approved and carried out by post labor, using materials that were stockpiled.

8. Labor Relations at Sandy Hook

a. Strikebreaking at Fort Hancock

In 1907 the Quartermaster Department's higher wage scale caused labor problems for the Corps of Engineers. At this time the Corps was pushing construction of the 8-inch emplacements destined to become Battery Arrowsmith. On June 22 most of the men working for $1.75 per day struck and walked off the job. The strike was caused by the engineers paying some of the best employees a daily wage of $2.00, while the Quartermaster Department had been paying a flat rate of $2.00 to all its people.[315]

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313. Bartlett to Adjutant General, Eastern Division, May 9, 1912, doc. 368,575, Corr. 1890-1914, RG 92, NA.

314. Barrol to Commanding General, Eastern Department, Apr. 2, 1913, doc. 453,369, Corr. 1890-1914, RG 92, NA.

315. Hurlbut to Marshall, June 22, 1907, Letters Sent & Received, Fort Hancock, RG 77, NA.

District Engineer Marshall, on learning that the Ordnance Department was paying its laborers $1.75 per day and that the Quartermaster Department would cut its wage scale to that figure on July 7, took a hard line. There would be no compromise.[316] To break the strike, on July 9 Assistant Engineer Hurlbut sought authority to hire emigrant labor--Italians and Hungarians.[317] Colonel Marshall directed Hurlbut to do so, provided they had taken out their first papers.[318]

b. Increasing the Wage Scale

In the spring of 1910, the proving ground and the Quartermaster Department raised the pay of their laborers from $1.75 to $2.00 per day. Hurlbut, after clearing it with the district engineer boosted the wages of his skilled craftsmen to $2.25 per day. This change gave the Corps of Engineers at Sandy Hook three grades of daily pay for unclassified employees--$1.75, $2.00, and $2.25.[319]

c. Adding a Civilian Blacksmith

In January 1906, Constructing Quartermaster Paterson called attention to his 14 mules that were suffering from "thrush and quittor." This he attributed to the lack of skill displayed by the rapid turnover of blacksmiths. During the previous 14 months, three men (one of them a soldier on detail) had

316. Marshall to Hurlbut, July 1, 1907, Letters Sent & Received, Fort Hancock, RG 77, NA.

317. Hurlbut to Marshall, July 9, 1907, Letters Sent & Received, Fort Hancock, RG 77, NA.

318. Marshall to Hurlbut, July 10, 1907, Letters Sent & Received, Fort Hancock, RG 77, NA.

319. Hurlbut to Roessler, Apr. 11, 1910, Letters Sent & Received, Fort Hancock, RG 77, NA.

held the position. In addition, facilities and tools were substandard, and the soldiers on fatigue detail at the stables and assigned as teamsters were constantly changing.

Fort Hancock, Paterson reminded Colonel Harris, was allowed only four extra-duty men as teamsters to care for 29 animals and 35 wagons. To partially alleviate this situation, Paterson recommended hiring a blacksmith from the Civil Service register.[320] This action was approved by the quartermaster general, and the necessary funds were allotted.

d. Establishing a Civilian Carpenter's Position

Encouraged by this success, in May 1906 Lieutenant Paterson asked authority to employ a carpenter for fiscal year 1907 to assist with maintenance of the post structures. Heretofore, he had managed to get by with the services of soldiers detailed as carpenters and the occasional hire of a civilian. However, the quality of the work was generally substandard, and it was difficult, because of the isolation factor, to hire part-time carpenters.[321]

e. Reinforcing the Civilian Teamsters

Once again, Paterson's efforts were successful. A carpenter's position was established, money allotted, and a craftsman selected and hired off the register. Lieutenant Paterson had also requested permission to employ a civilian teamster. He was to be paid $40 per month plus rations to act as stable foreman

320. Paterson to Post Adjutant, Jan. 17, 1906, doc. 212,629, Corr. 1890-1914, RG 92, NA.

321. Paterson to Post Adjutant, May 2, 1906, doc. 212,629, Corr. 1890-1914, RG 92, NA.

and to take charge of "care, treatment, and preservation of public animals, wagons, and harness." It was exceedingly difficult, Paterson noted, for the four soldiers detailed as teamsters to attend artillery drill and also care for the animals and vehicles.[322]

Colonel Harris, when called on by the Quartermaster Department for an explanation, reported that 15 horses and 14 mules were needed for post and construction work. The four detailed teamsters attended to seven animals and nine wagons.[323] Two garbage carts and one wagon for delivery of ice, milk, and other subsistence stores were used daily at the post. Daily, except Sundays, there was needed a carriage to and from the wharf, a truck to and from the boat, a water wagon, and two to four carts for delivery of coal. On Mondays, Wednesdays, and Fridays, there were three carriages to and from the wharf, and one to three trucks and wagons to the wharf.

In addition, a carriage was frequently required by the post commander and a buckboard by the constructing quartermaster. One or two carts and a similar number of escort wagons were needed for general purposes, such as delivery of supplies for the various departments and hauling earth and manure for the post and company gardeners. Seven mules and carts were required for road work. Although driven by civilians, the animals were fed and cared for by the soldiers or detailed stable hands. Three saddle horses were required daily by the patrol and usually one by the officer of the day.

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322. Ibid., Jan. 17, 1906.

323. Harris to Chief Quartermaster, Department of the East, Jan. 25, 1906, doc. 212,629, Corr. 1890-1914, RG 92, NA.

The teamsters, Colonel Harris explained, were excused from other duties but not the "old guard fatigue." Moreover, the average coast artillerist detailed for extra duty as a teamster had "little or no knowledge of the proper care of animals and their treatment" for minor ailments.[324] Maj. Gen. Frederick D. Grant, as commander, Department of the East, approved the proposal to hire a boss civilian teamster or wagon master for $40 per month and rations, as soon as the appropriations for fiscal year 1907 became available.[325]

On November 28, 1908, Colonel Harris complained that, as of January 1, the implementation of recent directives would reduce the number of teamsters responsible to the post quartermaster by three people. Heretofore, it had been difficult to provide for the prerequisite transportation with 12 teamsters. To care for 50 animals (public and private) required the full time of three teamsters. In addition, each of these vehicles required one teamster--post commander's carriage, officers' carriage, servants' carriage, constructing quartermaster's buckboard, and a truck. A sixth teamster, the one in charge of the stables, served as wagon master. On boat days (Mondays, Wednesdays, and Fridays), the post quartermaster had to detail three more teamsters for drays and escort wagons, employed to deliver the freight landed. Twelve teamsters were thus accounted for.

The post quartermaster was also expected to detail teamsters to meet the following demands: to saddle officers'

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324. Paterson to Harris, Feb. 1, 1906, doc. 212,629, Corr. 1890-1914, RG 92, NA.

325. Grant to Quartermaster General, May 16, 1906, doc. 212,629, Corr. 1890-1914, RG 92, NA.

horses, to drive drays or carts for transfer of ordnance supplies, and to deliver fuel to the trestle guardhouse and to the staff noncommissioned officers quartered at the Highlands. Colonel Harris urged that he be allowed to detail four enlisted men for this duty, besides the nine civilian teamsters already authorized.[326] The quartermaster general decided to allow two additional civilian teamsters, rather than have Colonel Harris detail four extra-duty men.[327]

f. Assigning a Second Quartermaster-Sergeant

On November 2, 1908, Colonel Harris complained that with the post serving as a district headquarters, the clerical work in the quartermaster's office had become too great to be "borne by the present office force"--one quartermaster-sergeant and two enlisted men on extra duty. As the clerks had to attend drill, they were not available for a full eight-hour day. Detail of additional enlisted men was not the answer. Colonel Harris urged that he be allowed to hire a clerk, skilled in quartermaster work, who was also a typist, or that an additional quartermaster-sergeant be allotted the post.[328]

It was decided to assign an additional quartermaster-sergeant to Fort Hancock, provided he was given quarters.[329] This was agreeable to those concerned.

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326. Harris to Adjutant General, Department of the East, Nov. 28, 1908, doc. 212,629, Corr. 1890-1914, RG 92, NA.

327. Murray to Aleshire, Jan. 13, 1909, doc. 212,629, Corr. 1890-1914, RG 92, NA.

328. Harris to Quartermaster General, Nov. 2, 1908, doc. 212,629, Corr. 1890-1914, RG 92, NA.

329. Aleshire to Adjutant General, Nov. 18, 1908, doc. 313,629, Corr. 1890-1914, RG 92, NA.

9. Quartermaster Department Attempts to Cut Boat Service

In the autumn of 1911, the Quartermaster Department cut its boat service to Sandy Hook. Service between Fort Hancock and New York City was now provided on Mondays, Wednesdays, and Fridays by the quartermaster steamers General Meigs and General J. E. Johnston. One or the other of these vessels made a daily round trip. The steamer Ordnance made a daily round trip on Mondays, Wednesdays, Fridays, and Saturdays, and two trips to Sandy Hook and back to the city on Tuesdays and Thursdays.

The only days on which Fort Hancock personnel and their families could visit New York City to shop, without spending the night, were Tuesdays and Thursdays. This caused complaints, and in January 1912, the quartermaster boats resumed their former schedule. One or the other made two round trips, one in the morning and the other in the afternoon on Mondays, Wednesdays, and Fridays.[330]

10. Rediscovery of Mass Burial of Douglas-Hallyburton Party

In mid-April 1908 a labor force, making an excavation near the old turntable of the Central Railroad for the new Camp Low road, uncovered a brick vault. Upon opening it, they found that it contained the skeletal remains of a number of men. Captain Falls was called to the scene. Observing the old English brick and the 10 feet of sand that had covered the vault, he concluded that these were the remains of British sailors or soldiers, who were probably buried here during or before the Revolution.[331]

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330. Deputy Quartermaster General to Depot Quartermaster, Jan. 31, 1912, doc. 352,394, Corr. 1890-1914, RG 92, NA.

331. Falls to Harris, Apr. 20, 1908, doc. 212,979, Corr. 1890-1914, RG 92, WNRC.

The New York Daily Tribune carried a story regarding the discovery on April 20. It read:

> UNEARTH SKELETONS AT SANDY HOOK Bodies Found on Reservation Believed to Have been those of Revolutionary Soldiers
>
> Sandy Hook, N. J., April 19--The quartermaster's department at Ft. Hancock is caring for the bones of men dug up recently on the reservation. Sixteen of the bodies have been found inside a brick vault which has been unearthed, and others have been found in the earth near by. Meanwhile every effort is being made to learn the identity of the bodies.
>
> There is a tradition that several officers and men were frozen to death during the first part of the Revolution while in camp upon the Hook. They were Americans, according to mainland folklore. Then, too, there is the story of the Hook being the refuge of the British after the disastrous retreat across New Jersey. Some relics have been recovered from the vault, but nothing that throws light on the identity of the dead.[332]

The Rev. Charles H. Wells of New York City's Trinity Church read the article, and he was able to solve the mystery. Writing Captain Falls, he called attention to the inscription on a memorial tablet in his church's sacristy that read:

> At Sandy Hook lye interred the honourable Hamilton Douglas Hally burton, son of Sholto Charles, Earl of

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332. New York Daily Tribune, Apr. 20, 1908.

Morton and heir of the ancient family of Hally burton of Pitcurr in Scotland, who perished on the coast with twelve more young gentlemen and one common seaman in the spirited discharge of duty.

On the 30th or 3lst of December 1783.

Born on the l0th of October 1763.

A youth who in contempt of hardship or danger possessed of an ample fortune, served seven years in the British navy with a manly courage and seemed to deserve a better fate.

This plain monumental stone is erected by his unhappy mother, Katherine, Countess Dowager of Morton, to his dear memory and that of his unfortunate companions: James Champion, Lt. of Marines; Alex Johnston, George Paddy, Robt. Haywood, Midshipmen; Chas. Gascoigne, Andrew Hamilton, William Scott, Davitt Reddie, Wm. Thomlinson, Wm. Spry, John McChain, Robt. Wood, young gentleman; George Towers, common seamen.

Cast away, all found dead and frozen and buried in one grave.[333]

George H. Moss, Jr., has made a detailed study of the circumstances associated with the death of Hamilton Douglas-

333. Wells to Falls, Apr. 20, 1908, doc. 212,979, Corr. 1890-1914, RG 92, NA.

Hallyburton and his companions. Readers desiring information on this subject, may refer to Moss's work entitled, Nauvoo to the Hook: Iconography of a Barrier Beach (1964).

On June 17, 1908, General Aleshire recommended to the Secretary of War that he contact the British ambassador to ascertain his views as to the transfer of the remains to Cypress Hills National Cemetery or such other disposition as he might direct.[334] At the request of the War Department, the acting secretary of state, Robert Bacon, brought the subject to the attention of the British charge de affaires. He was informed that if the remains were reinterred in Cypress Hills, the grave site would be appropriately marked.[335]

The embassy, while waiting to hear from the admiralty or such of their families who might be traced, agreed that the remains might be reinterred as suggested. It was also suggested that it might be desirable to mark the site of interment and "note taken of any marks sufficient to identify in case a different disposition should be desired of any of the remains."[336]

In July 1908, the Fort Hancock quartermaster authorized requisition of 200 feet of dressed 7/8" by 10" white pine lumber to prepare boxes for the remains of 14 men. The boxes with the remains were shipped to Cypress Hills National Cemetery,

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334. Aleshire to Secretary of War, June 17, 1908, doc. 212,979, Corr. 1890-1914, RG 92, NA.

335. Bacon to Howard, June 30, 1908, doc. 212,979, Corr. 1890-1914, RG 92, NA. Esme Howard was the British charge de affairs.

336. Howard to Bacon, July 3, 1908, doc. 212,979, Corr. 1890-1914, RG 92, NA.

where they were reinterred. On September 7, Cemetery Supt. Ed Taubenspeck wrote Col. W. S. Patten, the depot quartermaster, "I have the honor to report reinterment of remains of fourteen men . . . in Post Cemetery."[337]

When this information reached the quartermaster general, he realized that it had been an error to bury the coffins in separate graves, as it had been impossible to establish the identity of the individual remains. Since it would have been impractical to mark individual graves with headstones, "indicating the person buried therein," orders were given "that the graves be reopened and the boxes removed to one or two burial sites, as may be required."[338] Upon receipt of these orders, Superintendent Taubenspeck reopened the graves, had the boxes taken up, and reinterred them in grave 36.[339]

Arrangements were then made by the quartermaster general for a specially designed headstone for the mass grave. Information as to the names and other data for the inscription on the stone was secured from the Trinity Church memorial tablet. Photographs were made of this stone after it was positioned. At the request of the War Department, the State Department transmitted four photographs of the headstone to the British ambassador as a goodwill gesture.[340]

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337. Taubenspeck to Patten, Sept. 7, 1908, doc. 212,979, Corr. 1890-1914, RG 92, NA.

338. Humphrey to Patten, Mar. 5, 1909, doc. 212,979, Corr. 1890-1914, RG 92, NA. Capt. E. H. Humphrey was assigned to the quartermaster general's office.

339. Taubenspeck to Patten, Mar. 11, 1909, doc. 212,979, Corr. 1890-1914, RG 92, NA.

340. Secretary of War to Secretary of State, Aug. 6, 1909, doc. 212,979, Corr. 1890-1914, RG 92, NA.

In 1939 a memorial was erected by workmen for the Works Projects Administration (WPA) at Sandy Hook, near the site where Captain Falls' people had uncovered the burial vault 31 years before.

IX. FORT HANCOCK AND THE DEFENSES OF SANDY HOOK IN WORLD WAR I

A. Garrison and the Road to War

1. New Interest in War Games: 1915

New Year's 1915 found the United States at peace but much of the world at war. On the western front in Europe, Germany's dream for a quick victory had been shattered by the "Miracle of the Marne." On the eastern front, the Germans had routed the Russians in East Prussia, but the Tsar's armies had more than held their own against the soldiers of Austria-Hungary. Little Serbia was holding her own in the Balkans. At sea, the warships of the Allies ruled the waves, and a tight blockade, rigorously enforced, had sliced the overseas trade of the Central Powers to a trickle. Germany struck back with her submarines. President Woodrow Wilson and the United States government held aloof. While maintaining its strict neutrality, the United States demanded that the belligerents respect its right to freedom of the seas.

Like most of their fellow citizens, the troops at Fort Hancock little realized that within 28 months they would be at war. The post, as it had been for a number of years, was garrisoned by six companies of coast artillery--the 48th, 56th, 76th, 113th, 136th, and 137th companies. Lt. Col. Thomas B. Lamoreaux had commanded Fort Hancock and the vital Sandy Hook Defenses, the key to New York Harbor, since September 1914. As had become customary, because of the severe weather experienced at this season, the troops during the winter of 1914-15 performed routine garrison and artillery duties. On February ll there were lectures on hygiene, and on February 25 there were lectures about camp and field sanitation.

The garrison was reduced by one-sixth in March, when the 56th Company was sent to Fort Jay. It remained there for six months, returning on August 4.

In late March, men desirous of being qualified as gunners were examined. These tests continued until April 8. Meanwhile, the post received a new commander. Colonel Lamoreaux, on April 2, was detached and turned over his duties to Maj. Malcolm Young, his executive officer. Six days later, on April 8, Lamoreaux's successor, Col. Samuel E. Allen, reported for duty. Allen, like Lamoreaux, would command the Sandy Hook Defenses, as well as Fort Hancock.[1]

There was excitement on April 4. While the Hook was being buffetted by 50-mile-an-hour winds, the cry "Fire!" was heard. The paint and oil house (building 79) was in flames. The firefighters and truck arrived, but they were unable to save the building and its contents, although the structure was constructed of galvanized iron.[2]

The 137th Company spent May 4 at Fort Hamilton, where it participated in field-day exercises. In mid-May each of the five companies spent from 4 to 11 days firing the Camp Low rifle range. The inspector-general made his annual visit to Sandy Hook in late May, remaining until June 3. He listened to complaints, inspected the structures, ate at the messes, and examined the various departments, including the post exchange.

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1. Returns from Regular Army Coast Artillery Companies, Feb. 1901-June 1916, Microcopy M-691, NA.

2. Proceedings of a Board to Investigate and Report on the Fire, April 5, 1915, Gen. Corr. 1917-22, RG 392, NA.

Col. Henry C. Hodges, commander of the North Atlantic Coast Artillery District, was at Sandy Hook on June 25 and 26. Besides reviewing the battalion, he inspected the barracks, the batteries, and the fire control stations. In July the companies participated in their annual service practice with the coast defense batteries. There were day and night firing problems. The two mine defense companies--the 136th and 137th--spent a number of days aboard the mine planter Royal T. Frank.[3]

In mid-July friends of Secretary of War Garrison, while motoring across the bridge from the Highlands to Highland Beach, found a drunken soldier passed out. Stopping, they carried him to safety and reported the matter to the secretary.

The following week, Garrison chanced to be driving across the same bridge. On doing so, he was distressed to see three men in army uniforms, without blouses, staggering drunk. If there had been no side rails, they would certainly have fallen to their deaths in the Shrewsbury.

Secretary Garrison wrote to the Chief of Staff, Hugh L. Scott, and after describing the incidents, he directed that "such public spectacles must be prevented." The secretary's letter caused Colonel Allen to caution his troops on their conduct while off the post and to assign military police to nearby communities during the late afternoons and evenings.[4]

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3. Returns from Regular Army Coast Artillery Companies, Feb. 1901-June 1916, Microcopy M-691, NA. The 113th Company fired the 10-inch guns of Battery Granger, the 136th Company the 15-pounder rapid-fire guns of Battery Urmston, the 137th Company the 3-inch rapid-fire guns of Battery Morris, and the 76th Company the 12-inch mortars of Battery McCook.

4. Garrison to Chief of Staff, July 27, 1915, Gen. Corr. 1917-22, RG 392, NA.

On the morning of August 17, the 82d and 87th Companies from Fort Totten were firing the Camp Low rifle range. A bullet from a marksman's rifle missed the butts and struck J. E. Duffey in the right forearm. Duffey was aboard the fishing boat Velocity, which was about 3/4 of a mile west of the Spermaceti Cove Coast Guard Station at the time of the accident. Duffey was taken to the Fort Hancock hospital, where the post surgeon removed the projectile and dressed the wound.[5]

On August 4 the 113th Company boarded General Meigs and relieved the 56th Company at Fort Jay. Having missed the required service practice while on detached duty, the officers and men of the 56th Company held subcaliber drill on August 8 and September 10 and fired the big guns on September 18. The battalion, on September 20, was turned out as infantry. For the next four weeks, the artillerists threw up field fortifications, made forced marches, and maneuvered.

On October 21 the joint army-navy exercises began, with the five companies camping in rear of the batteries. The garrison was reinforced by the 82d, 87th, 101st, 135th, and 167th companies from Fort Totten. The batteries that were manned were Battery Reynolds by the 167th Company, Battery McCook by the 76th Company, Battery Gunnison by the 101st Company, Battery Granger by the 87th Company, Battery Richardson by the 48th Company, Battery Bloomfield by the 56th Company, Battery Alexander by the 82d Company, Battery Peck by the 135th Company, Battery Morris by the 137th Company, and Battery Urmston by the 136th Company. Three batteries--Halleck,

5. Post Commander to Commanding Officer, Eastern Department, undated, File 387, Gen. Corr. 1917-22, RG 392, NA.

Arrowsmith, and Engle--were not manned. The attacking fleet included the auxiliary cruiser U.S.S. Panther, three mine planters, five auxiliary mine planters, and five destroyers.

Colonel Allen lost the opportunity of commanding the Sandy Hook Defenses as they braced to ward off the naval attack. On the 19th he was given a new assignment. Pending the arrival of his replacement, Lt. Col. Delamere Skerrett on November 8, Major Young again commanded the post.

On October 27 the exercises ended, the Fort Totten battalion departed, and the garrison packed up their gear and returned to the barracks.

The 56th Company was on the Camp Low range from October 29 to November 11, qualifying with the rifle and pistol. Two companies--the 56th and 76th--were at the proof battery in early December, firing 3.2-inch field guns.[6]

During 1915 the nation had continued to remain aloof from the "Old World's War." Neutrality, however, was becoming more difficult. The sinking of Lusitania in May, with the loss of many United States' citizens, had caused much anger. President Wilson had threatened to sever diplomatic relations with Germany, and the Kaiser's government had abandoned its unrestricted submarine campaign. The Allies, capitalizing on the Central Powers' blunders in psychological warfare, were winning the battle for the Americans' hearts and minds.

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6. Returns from Regular Army Coast Artillery Companies, Feb. 1901-June 1916, Microcopy M-691, NA.

On the western front the stalemate had continued, with huge armies locked in savage trench warfare. The Central Powers in the east had hammered and battered the Russian hordes. Italy had rushed to arms on the side of the Allies, while the Turks had rebuffed the British and French at the Dardanelles. Joined by Bulgaria and reinforced by a German army, Austria-Hungary had crushed Serbia and Montenegro.

2. One Company on the Border: 1916

In the winter of 1951-1916 and the first weeks of spring, Colonel Skerrett and his troops performed the usual garrison duties. On April 28 the battalion was shuttled to and from Governors Island. There the companies participated in mobilization of the 8th Provisional Coast Artillery Regiment and were inspected and reviewed by Maj. Gen. Leonard Wood, commander of the Eastern Department.[7]

The first class of West Point cadets were at Fort Hancock on May 3. Several of the batteries were fired and a controlled mine exploded for their benefit. Colonel Skerrett was disappointed to learn that no airplanes would be available for observation during service practice with the 12-inch mortars and long-range guns.[8]

With military preparedness becoming increasingly important, as war fever grew in the United States, there were calls

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7. Returns from Regular Army Coast Artillery Companies, Feb. 1901-June 1916, Microcopy M-691, NA.

8. Chief of Staff to Commanding General, Eastern Department, May 1, 1916 & Headquarters, NACAD, to Coast Defense Commanders, April 5, 1916, Files 832 and 881, Gen. Corr. 1917-22, RG 392, NA.

for the troops to march in parades. On May 26, the 48th, 56th, and 136th Companies were transported to Governors Island to participate in the Army Relief Association parade. Four days later, on the 30th, the battalion marched in New York City on Memorial Day.[9]

The United States, acting its role as the western hemisphere policeman, had intervened in the Mexican Revolution. On March 9 the faction led by Francisco Villa struck back, crossed the border, and raided Columbus, New Mexico. To prevent a repetition, the United States rushed large numbers of troops to the Mexican border. A punitive expedition was sent deep into northern Mexico in a futile effort to find and destroy Villa and his men.

These troubles on the distant border had repercussions at Fort Hancock. On the morning of June 16, the 56th Company, having been alerted, packed its gear and entrained. The company had been ordered to Columbus. At Seymour, Indiana, orders were received changing its destination to Laredo, Texas. The train chugged into that border city at 2:30 a.m., on June 19.[10]

The 56th Company remained on the Rio Grande for ten weeks. By the last week of August, the United States had recalled its punitive expedition, and passions had cooled. With the easing of tension, the United States redeployed many of the units rushed to the border. The 56th Company was one of these, and it arrived back at Sandy Hook on September 4.[11]

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9. Returns from Regular Army Coast Artillery Companies, Feb. 1901-June 1916, Microcopy M-691, NA.

10. Ibid.

11. Records of Coast Artillery Companies, 1916-24, the 56th Company, RG 391, NA.

On June 18 General Wood, as commander of the Eastern Department, called on his post and regimental commanders to comment on the advisability of eliminating the enlisted men's blue uniform and making the olive drab uniform mandatory.[12] Colonel Skerrett replied that most of his troops favored abolition of the blue uniform. They felt that the blue uniform was generally "ill-fitting," the material was so "cheap-looking" as to be shoddy, and it spotted easily and "showed dust."[13]

While the fate of the traditional blue uniform was being weighed, Colonel Skerrett, on July 3 implemented General Order 31. In accordance with the order's provisions, the units assigned to the post were redesignated as follows:

the 48th Coast Artillery Company became the 1st Company, Fort Hancock

the 76th Coast Artillery Company became the 6th Company, Fort Hancock

the 113th Coast Artillery Company became the 3d Company, Fort Hancock

the 136th Coast Artillery Company became the 4th Company (Mine), Fort Hancock

the 137th Coast Artillery Company became the 5th Company (Mine), Fort Hancock

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12. Wood to Post Commanders, June 15, 1916, File 997, Corr. 1917-22, RG 392, NA.

13. Skerrett to Wood, Aug. 4, 1916, File 997, Gen. Corr. 1917-22, RG 392, NA.

the 56th Coast Artillery Company became the 6th Company, Fort Hancock[14]

Shortly thereafter, the following battery assignments were revised. The 1st Company would man Battery Richardson, the 2d Company Battery McCook, the 3d Company Battery Reynolds, the 4th Company Battery Gunnison, and the 5th Company Battery Peck. The 6th Company, on duty at the Mexican border, would be given its assignment when it returned.[15]

The training program during the second half of 1916 found the garrison on a war condition alert from July 19 to 24. From August 1 to 19 there were drills with machine guns and in siege craft. The 4th and 5th companies practiced mine planting from August 20 through September 2, while the gun and mortar units fired the Camp Low small-arms range. The mine companies fired the small-arms range from September 26 through the first week of October. From October 11 to November 10 there was "mobile army field training," with the garrison moving out of the barracks and becoming proficient in extended order drill and living in the field under combat conditions.[16]

Many of the enlisted men, because of "poor passenger service" provided by the Quartermaster Department's boats to and from New York, now received passes to visit the Highlands, the nearest village on the Jersey shore. The Highlands

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14. General Order 31, War Department, 1916, files, Center of Military History (herinafter cited as CMH).

15. Young to Adjutant General, U.S. Army, July 9, 1916, File 1033, Corr. 1917-22, RG 392, NA.

16. Skerrett to Commanding Officer, NACAD, March 13, 1916, File 911, Corr. 1917-22, RG 392, NA.

(a summer resort) had several hotels, boardinghouses, bungalows, shacks, and saloons. The village, with its large transient summer population, afforded "few healthful and clean amusements" for the soldiers. They went there because of the girls and saloons. The proprietors of the latter sold them "liquor to the limit of their cash and capacity." As might be expected, fights were frequent under these conditions. There were occasional complaints from townspeople that drunken soldiers had started fights with "young men" of the town and had insulted the young ladies.[17]

B. The United States Goes to War

1. War Declared

The United States had continued to avoid becoming involved in the European holocaust, but more and more of the citizens, led by men such as former President Theodore Roosevelt, were urging intervention on the side of the Allies. To discourage the sale and shipment of munitions to the Allies by American businesses, German and Austrian agents engaged in industrial sabotage. In November 1916 Woodrow Wilson was reelected President on the strength of his campaign slogan, "He kept us out of war."

On the western front in 1916, the German bid for victory at Verdun and the Allies' gamble at the Somme had cost rivers of blood and yielded insignificant gains. The Russians in the east had seized the initiative in the spring and held it for three months. There were successes against the Austrians and Hungarians in Bukovina and Galicia. Rumania, encourged by these chimerical victories, plunged into the war. The Russian steamroller stalled, its strength was sapped by more than 1,000,000 casualties,

17. Skerrett to Commanding General, Eastern Department, May 18, 1916, File 922, Corr. 1917-22, RG 392, NA.

and the Central Powers crushed Rumania. On the Italian Front, Allied gains had been measured in yards.

At sea, the British and German fleets had met at Jutland in May. His Majesty's forces had suffered heavier losses, but the Kaiser's ships returned to their bases, never again to challenge the British in a fleet action.

Encouraged by successes in the Balkans and on the eastern front, the German high command determined to employ their growing undersea fleet to bring Great Britian to her knees and end the stalemate on the western front. The Kaiser's government declared that after February 1, 1917, its submarines would sink on sight and without warning all merchant ships in a war zone around the British Isles and in the Mediterranean. The commencement of this campaign caused the United States, on February 3, to sever diplomatic relations with Germany.

During the winter of 1916-17, as these events made headlines, the Fort Hancock troops followed their usual cold weather training schedule. On March 19 the North Atlantic Coast Artillery District headquarters notified Colonel Skerrett that his 3d Company, on detached duty at Fort Jay since August 2, 1915, was to be relieved. Skerrett was to designate its replacement. The change, however, was not to be made until the unit that was to be sent to Fort Jay had held its annual service practice in April.[18]

A number of ships flying the United States flag were torpedoed by German submarines in February and March, and a number of lives were lost in these attacks.

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18. Adjutant, NACAD to Commanidng Officer, Fort Hancock, March 19, 1917, File 1517, Corr. 1917-22, RG 392, NA.

On April 5 President Wilson issued an executive order, establishing defensive sea areas on the approaches to New York Harbor. The areas on the main channel would consist of the outer limit--the arc of a circle with its center at the Romer Shoals Light and a 6-nautical-mile radius; and the inner limit--a line west from the Fort Hamilton flagstaff.

As of April 5 all responsibility of the United States for any damage "inflicted by force of arms with the object of detaining any person or vessel proceeding in contravention to regulations was duly promulgated in accordance" with this executive order ceased. Strict regulations were established by the army and navy for implementing this order.[19]

On April 6 Congress declared war on Germany. Although there was a rush to the recruiting offices, it was soon apparent that conscription would be necessary to provide the manpower to ensure victory. After heated debate, Congress enacted and President Wilson signed into law a selective service act on May 18. On June 5 there was a registration of more than 9,660,000 men between age 21 and 31, and on July 20 Secretary of War Newton D. Baker drew the first pellet in the draft lottery.

2. Sandy Hook Defenses Reinforced

In the second week of June, the initial step was taken to strengthen the force assigned to the Sandy Hook Defenses. On June 12 and 13, the 7th Company, Fort Hancock, and the 17th Coast Artillery Band were constituted. The enlisted cadre for the

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19. Executive Order, April 5, 1917, File 1573, Corr. 1917-22, RG 392, NA.

new company was composed of men transferred from the other Fort Hancock units.[20]

In July three more units were organized at the Hook. On July 12 Headquarters and Supply Company, 7th Provisional Regiment, Coast Artillery Corps, was formed, and drew personnel from its post units. The new company remained at Fort Hancock for only nine days. On July 21 the company left for Fort Adams, Rhode Island, to join the Coast Artillery Brigade, American Expeditionary Force.

On July 25 volunteers from the seven Fort Hancock companies were organized as the Motor Truck Company, with Headquarters Section, Divisional Ammunition Train. Two days later these men were sent to Fort Totten.[21]

On August 31 the War Department issued General Order 98, redesignating its Coast Artillery Companies. At the New Jersey post, the words "Coast Defenses of Sandy Hook" were substituted for "Fort Hancock" in each of the seven companies' designation.[22]

Two days before, Colonel Skerrett, who had commanded the post for 22 months, was transferred. His replacement was Col. John H. Byrne of the New York Coast

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20. The band was organized on the 12th and the 7th Company on the 13th.

21. Freehoff to Commanding Officer, Harbor Defenses of Sandy Hook, May 28, 1936, files, CMH. Maj. W. F. Freehoff was on the staff of the Army War College.

22. General Order 98, War Department, Aug. 31, 1917, files, CMH.

Artillery National Guard. Colonel Byrne's unit, the 9th New York Coast Defense Command, had been ordered into camp in July and federalized on August 5. The New Yorkers were ordered to Fort Hancock, where the 12 companies, band, and sanitary troops (53 officers and 1,352 enlisted men) reported.[23]

Colonel Byrne commanded Fort Hancock for one week. Col. Henry L. Harris, having been recalled from retirement, relieved Colonel Byrne as commander of the Sandy Hook Defenses on September 8. Harris was delighted to return to the post that he had commanded for more than five years in the first decade of the century.

C. Facilities for Quartering, Messing, and Supplying the Troops

1. Construction of Cantonments

In the summer of 1917 there were permanent facilities for the quartering and messing of six companies at Fort Hancock. On July 30, before the arrival of the 1,400 New Yorkers, Colonel Skerrett called for construction of a "one-building cantonment of ten sets of two rooms" for staff noncommissioned officers assigned to the post and a cantonment for 40 men--the band and ten staff personnel. These cantonments and the five permanent barracks would be sufficient to house the regular army units assigned to the Sandy Hook Defenses.[24]

The assignment of the 9th New York Coast Defense Command to the Sandy Hook Defenses complicated the situation.

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23. Post Diary, Fort Hancock, Records of the U.S. Army Continental Commands, RG 393, NA.

24. Skerrett to Commanding General, MACAD, July 30, 1917, File 1816, Corr. 1917-22, RG 392, NA.

The tent camps, or tent cities as they were called by the troops, which sprang up at the camp sites in rear of the batteries and at Camp Low, would provide inadequate shelter during the harsh Sandy Hook winters.

On September 13, 1917, the headquarters of the Middle Atlantic Coast Artillery District (MACAD), called on Colonel Harris for data on the number of cantonment barracks necessary to shelter the troops quartered in tents.[25] After checking with his staff, Colonel Harris replied that he needed twelve 110-man barracks, one 40-man barracks for the band and staff noncommissioned officers, one 50-bed hospital annex, and cantonment quarters for 50 officers.[26]

A project was approved and funds allotted by the quartermaster general. The undertaking would be supervised by the constructing quartermaster from the Fort Hamilton office. Proposals were invited, and the contract for construction of the cantonments was awarded to Turner Construction Co.

By early November seven cantonment sites--Nine-Gun Battery, Gunnison, Morris, Low, Reynolds, Navesink, and Arrowsmith--had been selected by Colonel Harris and the district engineer. Several of these had sand hills which had to be leveled to establish a uniform grade. These hills averaged 9 feet in height, and ten days were required to remove "this material before construction could proceed."[27]

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25. Greig to Commanding Officer, Sandy Hook Defenses, Sept. 13, 1917, File 3365, Corr. 1917-22, RG 392, NA.

26. Harris to Commanding Officer, MACAD, Sept. 13, 1917, File 3365, Corr. 1917-22, RG 392, NA.

27. Completion Report, Coast Defenses of Sandy Hook, RG 77, NA.

The first items to be erected were eleven 20' by 91' mess halls and eleven 20' by 35' latrines. The master plan called for two-company units at each cantonment except for Arrowsmith and Navesink. Therefore, one of the eleven mess halls could be converted into a barracks. Yet to be built were 23 barracks (30' by 60') and 24 officers' quarters (half of these quarters were to be 35' by 29' 10" and the other half were to be 25' 6" by 29' 10"). Water and electric lines were available, but a method for handling sewage would have to be designed.

No provision had been made for quarters for the additional 19 field and staff officers now assigned to the Sandy Hook Defenses nor the bands. The bands would require a 30' by 60' barracks, a lavatory, and a mess hall. Eleven of the New York companies were assigned to Fort Hancock and one to the Navesink mortar battery.[28]

In the ensuing weeks several change orders were written, and when Turner Construction Co. completed its contract, it had built 27 66-man barracks, 14 type G and 14 type H officers' quarters, three new and seven altered mess halls, one large band barracks mess hall, three new and six altered latrines, one storehouse, and a guardhouse. All structures were of batten and tar paper construction and afforded accommodations for 42 officers and 1,792 enlisted men. The barracks were completed by early December, and as soon as one was finished the troops moved in.

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28. Coleman to Roberts, Nov. 3, 1917, Gen. Corr. 1917-22, RG 92, WNRC. J. B. Coleman was a captain in the Quartermaster Corps.

Two typical two-company cantonments were sited in rear of the Nine-Gun Battery. Each included four barracks for 66 men, one latrine, one mess hall, two type G and two type H officers' quarters, and a number of sumps. A macadam road was laid out separating the north and south cantonments. The cantonments, except the one at Navesink, were lighted by electricity provided by the Fort Hancock power station. New sewers discharging into the bay were built for these two cantonments. Water connections were made with the post system, and fire hydrants were placed on all company streets.

A typical one-company cantonment was constructed at Navesink to quarter the unit assigned to the new mortar battery. It included two 66-man barracks, a latrine, a mess hall, a type G and a type H officers' quarters, and a incinerator. Because this was a detached area, Turner Construction had to provide utilities. A 10-horsepower pump and a 10,000-gallon water tank were positioned, and a Delco Electric Light plant was installed. A macadam roadway connected the cantonment with the area's road system.[29] In addition to the cantonments, Turner Construction erected a large 20' by 196' storehouse near the parade ground area and a 14' by 20' guardhouse at the pumping station.[30]

2. Additional Facilities

In early December, while many of the New York companies were still in tents, Colonel Harris learned that the 57th Regiment, Coast Artillery Corps, was to be organized and trained at Sandy Hook for duty overseas. This disturbed Harris, because

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29. Completion Report, Coast Defenses of Sandy Hook, RG 77, WNRC.

30. Ibid.

with winter at hand, he questioned the wisdom of quartering recent draftees in tents. Harris wrote his immediate superior and called his attention to the exposed condition of Fort Hancock, the loose sandy soil, and the flat windswept terrain, which would "permit only such accommodations" that were weatherproofed and windproofed. Semipermanent structures, such as those being built by Turner Construction, were mandatory.

There were, Harris continued, no barracks available for the large increase in enlisted personnel at Sandy Hook. The semipermanent officers' quarters under contract to Turner Construction were unfinished, and when these quarters were completed, they would barely suffice for the officers currently on post and those scheduled to report on December 15.

To provide quarters for new units to be organized and trained at Sandy Hook, Colonel Harris requested the following facilities:

66-man barracks	31
250-man mess halls	7
150-man mess hall	1
250-man latrines	7
150-man latrine	1
100-man guardhouse	1
100-man hospital	1
Headquarters building	1
Bakery, with a capacity of 60,000 pounds per month	1
Commissary and quartermaster office	1
Storehouses	6
Laundry	1

Repair shops (60' by 36')	3
Garages (60' by 54')	15
Post Exchange	1
Officers' quarters (type G)	18
Officers' quarters (type H)	25
Fire reel houses with equipment	8
Bowser gasoline pumps	30
Gas tanks (250-gallon)	30
Necessary sewage and fuel lines[31]	

Headquarters, MACAD, was irritated by Colonel Harris's failure to appreciate the urgency of the situation. His request for a tremendous expansion in facilities was tabled, and he was ordered to "utilize the facilities now erecting in your defense for the accommodation of the 57th Coast Artillery."[32]

Colonel Harris was undaunted by this rebuff. On February 1, 1918, he called for a report from his post quartermaster on quartering troops at Sandy Hook. His quartermaster informed Harris that the five permanent barracks housed 900 enlisted men, five companies of regulars, the quartermaster detachment, and the 17th Band. The 14 cantonment units would accommodate 1,848 men (132 men per pair of barracks) or 14 companies of the Coast Artillery Corps and the 26th Band. Five companies would still be under canvas. To provide for the five companies, these structures were needed: ten 60' by 30'

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31. Harris to Commanding Officer, MACAD, Dec. 11, 1917, File 4419, Corr. 1917-22, RG 392, NA.

32. Commanding Officer, MACAD, to Harris, Dec. 14, 1917, File 4419, Corr. 1917-22, RG 392, NA.

barracks, five 91' by 20' mess halls, five 35' by 20' latrines, and five type H lieutenants' quarters.[33]

As troops would be brought to Sandy Hook from areas subject to quarantine, four small isolation units were needed. Each unit was to consist of a barracks, mess hall, latrine, and lieutenants' quarters.

To provide all-weather shelter for the 57th Coast Artillery Regiment and other units to be organized for overseas service, the following facilities were needed:

28 barracks
7 mess halls (168' by 20')
7 latrines (49' by 20')
4 officers' barracks (103' by 20')
2 storehouses (126' by 20')
1 administration building (84' by 20')
1 guardhouse (63' by 20')[34]

This report, when forwarded, was tabled at headquarters, MACAD.

In mid-April 1918, Post Surgeon John P. Hicks reported that there were now 4,043 officers and men at Fort Hancock, exclusive of personnel assigned to the ordnance supply depot and proving ground. The 57th Coast Artillery was still on post. Most of the troops were crowded into the temporary

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33. The Quartermaster General Plan numbers for these structures were barracks 60, mess halls 47, and latrines 25C.

34. Quartermaster to Commanding Officer, Sandy Hook Defenses, Feb. 1, 1918, File 3365, Corr. 1917-22, RG 392, NA.

barracks--squad rooms designed for 33 men were occupied by 50 to 55 men. During the winter at least 250 soldiers had been crowded into each of the five permanent barracks.

Large numbers of draftees were arriving. To prevent contagious diseases from destroying the efficiency of recently organized units slated for early service overseas, there was an imperative need for another hospital ward. On March 26-27, 700 recruits from Columbus Barracks had detrained. These men were quartered in tents on "a flat sandy plain, below high tide mark." The 700 men still there were under quarantine with inadequate latrines and baking facilities.[35]

Information about the inadequate facilities was brought to the attention of Secretary of War Baker by the quartermaster general. On May 18 Baker approved an allotment of $94,000 for construction of additional cantonment structures at Fort Hancock. The contract for six 66-man barracks, three mess halls, three latrines, three officers' quarters (type G), three officers' quarters (type H), two storehouses, one guardhouse, one officers' mess, and necessary sewer, water, and electric lines was awarded to Amsterdam Building Co.[36]

Four of the barracks were at the Morris cantonment and two at the Nine-Gun Battery cantonment. The three messhalls were at Camp Low, the three latrines at Camp Low, the six officers' quarters at Camp Low, the officers' mess in rear of building 27,

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35. Hicks to Post Quartermaster, Sandy Hook, April 19, 1918, File 3313, Corr. 1917-22, RG 392, NA.

36. Chief of Construction Division to Director of Operations, Dec. 5, 1918, Gen. Corr. 1917-22, RG 92, WNRC.

the two 20' by 70' storehouses east of structure 65, and the 40' by 49' guardhouse between building 28 and the YMCA.

Upon receipt of news that Germany had sued for an armistice, the quartermaster general notified the post commander that all construction "will be put upon an economical basis instead of a speed basis." Overtime would not be paid, except in special circumstances. Amsterdam Building Co. was to focus its attention on the structures and facilities nearest completion.[37]

By the time Amsterdam Building Co. completed their contract in early December 1918, there was a $15,000 cost overrun.[38]

3. Construction of Hospital Annex

On December 21, 1917, the surgeon general had requested the secretary of war to authorize construction of additional hospital facilities to consist of two "temporary single wards of standard type." The wards would have hot and cold water, heat, and light. Because they were urgently needed to supplement the inadequate facilities of the 40-bed hospital, they should be rushed to completion. The estimated cost of the two 34-bed wards was $21,450.[39]

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37. Coleman to Construction Quartermaster, Nov. 11, 1918, Gen. Corr. 1917-22, RG 92, WNRC; Harris to Bingham & Bingham to Chief Engineer, June 17 & 24, 1918, Letters Sent and Received, Fort Hancock, RG 77, WNRC.

38. Ibid.; Completion Report, Coast Defenses of Sandy Hook, RG 77, WNRC.

39. Quartermaster General to Asst. Secretary of War, Jan. 7, 1918, Gen. Corr. 1917-22, RG 92, WNRC.

The project was approved by the assistant secretary of war on January 7, and proposals for bids were solicited. Turner Construction was awarded the contract for its low bid of $33,000.

Work on the temporary wards started immediately at the site selected adjacent to, and southeast of, the post hospital. It was completed in the second week of April 1918.[40]

4. Construction of Highlands Guardhouse

On October 8, 1917, Post Quartermaster G. E. Shipway had notified Colonel Harris that, because of the war, it was necessary to maintain an outpost at the south end of the reservation. Troops had been ordered to guard the government beaches from casual summer visitors, protect personnel entering and leaving the reservation because of a dangerous railroad crossing, and to watch government property because the Southern Railroad switched cars to and from their tracks to those of the Sandy Hook Proving Ground Railroad. A shelter was needed at this point for the guard detail.[41]

A project was submitted and approved for constructing a guardhouse. A frame guardhouse, located between the highway and the Shrewsbury River, was completed and occupied in March 1918. The four-room, one-story structure (58' 8" by 14') was built by Turner Construction at a cost of $1,467.50.[42]

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40. Ibid; Completion Report, Coast Defenses of Sandy Hook, RG 77, WNRC.

41. Shipway to Harris, Oct, 8, 1917, Gen. Corr. 1917-22, RG 92, WNRC.

5. Construction of Fireproof Oil and Paint Storehouse

On October 4, 1918, the quartermaster general allotted $12,500 to replace the oil and paint storehouse destroyed by fire three years before. The contract for the 29' 10" by 49' 8" concrete structure was awarded to Amsterdam Building Co. The fireproof oil and paint storehouse, which was positioned on the east side of the railroad spur servicing buildings 31-33, was completed and turned over to the post commander in late November 1918.[43]

6. Construction of Mine Boathouse and Tramway

In the autumn of 1918, workmen for Amsterdam Building Co. built a 30' by 48' mine boathouse to accommodate four mine defense yawls. It was about 100 feet from the water's edge and north of the engineers' wharf. A marine tramway, extending about 75 feet out into the water, was erected in conjunction with the boathouse. It was situated so that boats could be easily run in or out.[44]

7. Construction of a Pigeon Coop

In August 1918, Amsterdam Building Co. constructed a frame coop for the carrier pigeon detachment. The coop was sited east of structure 21.[45]

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42. Ibid.; Completion Report, Coast Defenses of Sandy Hook, RG 77, WNRC.

43. Completion Report, Coast Defenses of Sandy Hook, RG 77, WNRC.

44. Ibid.; Harris to Bingham & Bingham to Chief Engineer, July 26 & 30, 1918, Ltrs. Sent & Recieved., Fort Hancock, RG 77, WNRC.

45. Completion Report, Coast Defenses of Sandy Hook, RG 77, WNRC.

8. Reconstruction and Construction of Incinerators

In the summer of 1918, Amsterdam Building Co. reconstructed seven 20' by 25' incinerators at Camp Low. Six months before Turner Construction had built a 20' by 25' incinerator at Gunnison cantonment.[46]

D. Fort Hancock as a Camp of Instruction for the Coast Artillery Corps

1. Redesignation of the Companies of the 9th New York Coast Defense Command

During the winter of 1917-18, the 13 companies of the New York National Guard, which had been federalized and on post since August, were redesignated. Hereinafter, the 1st to 12th companies and band would be designated the 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22d, 23d, and 24th Companies and the 26th Coast Artillery Band, Coast Defenses of Sandy Hook.[47]

In December 1917 four companies from the Sandy Hook Defenses were detached. On December 10 the 14th and 15th Companies were sent to the Picatinny Arsenal at Dover, New Jersey; on December 16 the 13th Company was sent to guard the Pennsylvania Railroad piers in Jersey City; and on December 22 the 15th Company was sent to Tuckahoe, New Jersey.

The 15th Company returned from Tuckahoe on March 26, 1918, the 14th and 15th Companies from the Picatinny Arsenal on March 28, and the 13th Company from Jersey City on April 13.[48]

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46. Ibid.

47. Freehoff to Commanding Officer, Harbor Defenses of Sandy Hook, May 28, 1936, files, CMH.

48. Ibid.

2. Battery A, 1st Trench Mortar Battalion

On October 23, 1917, MACAD headquarters ordered the commanding officer, Sandy Hook Defenses, to organize immediately, from the troops under his command, a company of selected coast artillery troops for duty with 240-mm trench mortars. The authorized strength of the new unit would be three officers and 181 enlisted men. The latter would be drawn from the regulars and the New York National Guard companies.

Consequently, on the 26th, Colonel Harris announced that a trench mortar battery would be organized at Sandy Hook. The unit would be commanded by Capt. John G. Donovan, Coast Artillery Corps. Enlisted men were invited to volunteer for service in the battery, which was slated for early deployment overseas. Captain Donovan and his officers and senior noncommissioned officers soon recruited 185 men from the 1st, 2d, 3d, 4th, 5th, 6th, and 7th Companies, Coast Defenses of Sandy Hook, and the 13th, 14th, 18th, 19th, 20th, and 22d companies, New York National Guard.

After a brief but rugged training program, Battery A, as it was known, departed Fort Hancock shortly before sunrise on January 3, 1918. Because of severe weather, there was no band or official send-off, as the men boarded the waiting railroad coaches. Traveling by way of the Highlands, the battery proceeded to the Hoboken Port of Embarkation. Within a matter of days, Battery A, along with other units of the 1st Trench Mortar Battalion, was in France.[49]

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49. Post Diary, Fort Hancock, Records of the U.S. Army Continental Commands, RG 393, NA.

3. The 57th Regiment, Coast Artillery Corps

On December 7, 1917, MACAD headquarters notified Colonel Harris that a second unit--the 57th Artillery Regiment, Coast Artillery Corps--was to be organized at Fort Hancock for early deployment overseas.

Enlisted personnel would be transferred from the organizations assigned to the Sandy Hook Defenses: Headquarters Company and A and C batteries from troops of the regular coast artillery companies, and Supply Company and B, D, E and F batteries from the New York National Guard Coast Artillery Companies. These units would be fleshed out with 500 Coast Artillery Corps draftees to be sent to Fort Hancock.

Officers were to be assigned by the adjutant general's office and were to include one colonel, one lieutenant colonel, three majors, 12 captains, and 46 lieutenants. Col. Elmore F. Austin was designated regimental commander.[50]

A number of draftees reached Sandy Hook in mid-December. Arriving on the 16th from Jefferson Barracks, Missouri, were 200 coast artillery recruits, and on December 18, 496 national army recruits. Many of these men soon found themselves assigned to the 57th Artillery.[51]

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50. Commanding Officer, MACAD, to Commanding Officer, Sandy Hook Defenses, Dec. 7, 1917, File 4419, Corr. 1917-22, RG 392, NA. Headquarters Company was organized from the 1st Company, Supply Company from the 20th Company, Battery A from the 2d Company, Battery B from the 19th Company, Battery C from the 3d Company, Battery D from the 21st Company, Battery E from the 22d Company, and Battery F from the 24th Company.

51. Freehoff to Commanding Officer, Harbor Defenses of Sandy Hook, May 28, 1936, files, CMH.

To beef up the regiment, more men were needed at Fort Hancock. On January 17, 1918, artillerists arrived from Fort Slocum Recruit Depot, 146 for assignment to the 57th Artillery. Eighty national army draftees reported in February.

The transfer of men from the garrison to the 57th Artillery drastically reduced the strength of the units needed to man the Sandy Hook Defenses. On the morning of January 31, Colonel Harris prepared the following report:

Regiment	Strength	
	Officers	Enlisted Men
17th Band, CAC	0	9
26th CA Band	0	28
Sandy Hook Companies		
1	1	12
2	1	6
3	2	9
4 (Mine)	3	97
5	4	92
6	10	47
7	2	32
13 (DS Jersey City, N.J.)		
14 (DS Picatinny Arsenal)		
15 (DS Tuckahoe, N.J.)		
16 (DS Picatinny Arsenal)		
17	4	72
18	3	62
19	1	4
20	1	16
21	1	4
22	1	4
23	3	83
24	1	5
TOTAL PRESENT -	52	688[52]
" ABSENT -	27	481

52. Ibid.

Late in January, Lt. Col. Granville Sevier notified MACAD headquarters that the date the regiment would be prepared to proceed to a port of embarkation was dependent on how soon the officers and men were equipped. At present all the officers were with the unit, excepting the colonel, two majors, seven captains, and four lieutenants, who were attending the Fort Monroe School of Instruction. There were 357 recruits in quarantine, 211 of whom were isolated because of a mump and measle epidemic. Many recruits had not yet received their typhoid vaccinations.

Each enlisted man, except for 300 recruits, had one serviceable uniform and a partial issue of clothing. There had been 630 rifles and belts, 250 mess kits, and 500 haversacks issued. Requisitions had been made for the remainder.[53]

The 57th Artillery would man tractor-drawn, 6" seacoast guns on its arrival in France. While at Sandy Hook, the regiment was fully equipped except for its big guns and motor transport. Capt. E. L. Dyer, CAC, conducted a school for the 61 officers in gunnery, including both lectures and field exercises. During their free time, several of the enlisted men published a periodical, "The Range Finder." On the afternoon of May 3, the regiment was formed on the parade ground. After Colonel Harris had presented Colonel Austin with the regimental colors, the 57th Artillery passed in review.

The regiment (1,888 officers and men) broke camp early on May 9. Marching to the wharf, they boarded S.S. Grand Republic, as the 26th Band, CAC, played a stirring medley of

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53. Sevier to Commanding Officer, MACAD, Jan. 23, 1918, File 4231, Corr. 1917-22, RG 392, NA.

marches, and the garrison cheered and wished them bon voyage. One day later, the regiment, having transferred at the port of embarkation to Rindam, sailed for France.[54]

4. Organization of the 8th, 9th, 10th, 11th, and 12th Companies, Defenses of Sandy Hook

On April 25, the 8th, 9th, 10th, 11th, and 12th Companies, Coast Artillery Corps, Sandy Hook Defenses, were organized by Colonel Harris. Authority for this action was contained in a letter, dated January 3, from the adjutant general.[55]

5. Recruits and Casuals

During the 15 weeks beginning May 1, a number of units reached Fort Hancock from various recruit depots. Arriving in May were 40 enlisted men of the 2d Casual Detachment, to be followed in June by three Signal Corps casuals, 106 enlisted men of the 1st Casual Detachment, and 47 soldiers of the 2d Casual Detachment. In July, reporting to Colonel Harris were the lst Recruit Detachment (237 enlisted men), the 2d Recruit Detachment (238 enlisted men), and four unassigned officers.[56]

In mid-July, 300 soldiers were organized into a 300-man draft. Included were recruits, casuals, federalized members of the New York National Guard, and regulars. On the 15th these men turned out in heavy marching order. After being inspected by Colonel Byrne, they were escorted to the wharf by

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54. Post Diary, Fort Hancock, RG 393, NA.

55. Freehoff to Commanding Officer, Harbor Defenses of Sandy Hook, May 28, 1936, files, CMH.

56. Ibid.

the 17th Band. While those remaining behind cheered, they boarded the steamer President. They were taken to Hoboken, from where they proceeded to Camp Eustis, Virginia, by rail.[57]

The following month, a 250-man draft was drawn from the units manning the Sandy Hook Defenses and the casuals for duty overseas. These men remained with their companies until August 14, during which time they were given physical examinations and issued overseas gear. The detachment left the post on the steamer President at 3 p.m. for the Hoboken Port of Embarkation.[58]

6. Organization of Two Regiments and Two Battalions for Overseas Service

Colonel Harris again yielded command of Fort Hancock. His replacement, who reported for duty on August 12, was Col. James T. Brady.

The German win-the-war offensives had been checked by the Americans and their French and British allies at Cantigny, Belleau Wood, and Chateau-Thierry in the weeks between May 27 and July 17. Seizing the initiative, the Allies delivered a series of sledge-hammer-like blows to the Kaiser's war machine. Although the Allies were advancing along a front extending from the Lorraine to the North Sea, there was no letup in the feverish activity at Fort Hancock and other stateside training camps.

In August the 5th Trench Mortar Battalion (26 officers and 739 enlisted men) and Headquarters Company and

57. Post Diary, Fort Hancock, RG 393, NA.

58. Ibid.

Battery C, 74th Artillery, CAC (8 officers and 187 enlisted men), were organized at Sandy Hook.

On September 11 Colonel Brady was directed to inspect the 5th Trench Mortar Battalion to determine if the troops were properly supplied with serviceable clothing, equipment, and medical stores. Shortages were to be reported to the officer in charge of the Hoboken Port of Embarkation. The inspection was held, and on the 16th the battalion was sent to Fort Mills.[59]

In mid-September the officers and men of the 2d Battalion, 74th Coast Artillery, were ordered to Camp Upton, Long Island, where they rendezvoused with the regiment. On September 23, the 74th Coast Artillery moved to the Hoboken Port of Embarkation.

On September 17, the 37th Artillery, CAC, was formed at Camp Low. The 20 officers and 770 rank and file were to man 8-inch howitzers. Notifying headquarters, MACAD, that the regiment had been organized, Colonel Brady reported that the enlisted men had their clothing allowance and mess gear, and that the full complement of officers should be assigned to the regiment as soon as practicable.[60] This was done, and on the first day of October the 37th Regiment left Fort Hancock.

The next unit organized at the Hook was the 31st Artillery, CAC (16 officers and 871 enlisted men). On November 5

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59. Commanding General, Eastern Department, to Brady, Sept. 11, 1918, Doc. 5024, Corr. 1917-22, RG 392, NA.

60. Brady to Commanding Officer, MACAD, Sept. 17, 1918, File 4796, Corr. 1917-22, RG 392, NA.

the 31st Artillery left Sandy Hook for Camp Eustis, Virginia, before moving to the Norfolk Port of Embarkation.[61]

7. Organization of Five Antiaircraft Batteries

The war in the air was not overlooked. The coast artillery, to discharge a new mission, moved into this sphere. On October 7 Colonel Brady received orders to organize five antiaircraft batteries and to have them equipped and ready for transfer to Camp Eustis by the 26th. Commissioned officers were to be designated by the adjutant general's office. Enlisted personnel were to be obtained by transfer from coast artillery units posted at Sandy Hook. Insofar as it would be practicable, trained personnel were to be assigned as noncommissioned officers.

Colonel Brady would not strip the Sandy Hook Defenses of sergeants and competent drill instructors, because they were needed for training recruits. Men fit for overseas duty could be relieved from the mine defense companies and be replaced by domestic servicemen.

Requisitions were to be submitted immediately for necessary clothing and equipment to outfit units A and B. Winter underclothing and three blankets were to be issued to each man.

The date that additional draftees were scheduled to arrive at Sandy Hook from induction centers had not been established. But when they came, they would probably still be clad in civilian garb.[62]

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61. Records of Coast Artillery Corps Regiments, 1916-34, the 31st Regiment, RG 391, NA.

62. Adjutant, MACAD, to Brady, Oct. 7, 1918, File 4827, Corr. 1917-22, RG 392, NA.

By mid-October the five antiaircraft batteries--the 26th, 27th, 28th, 29th, and 30th--had been organized.[63] However, in early November orders were received from Washington to redesignate the five batteries. The 26th Battery became Headquarters and Supply Company, 17th Antiaircraft Section; the 27th Battery the 65th Antiaircraft Battery; the 28th Battery the 66th Antiaircraft Battery; the 29th Battery the 67th Antiaircraft Battery; and the 30th Battery the 68th Antiaircraft Battery.[64]

8. Garrison Loses a Band

In October the permanent garrison lost a unit, when the 26th Coast Artillery Band was transferred to Jackson Barracks, Louisiana.[65]

E. Soldiering at Fort Hancock During the Great War

1. Expansion of Facilities for Off-Duty Recreation

During their off-duty hours, the enlisted men participated in organized sports and visited the YMCA and post exchange bowling alleys and recreation rooms. An officers' club was available in the bachelor officers' quarters, and passes were distributed to the men for visits to New York City and the Jersey shore communities.

In June 1917 all troops in the Eastern Department were warned that they were not to attend any "peace or anti-conscription" meetings nor participate in demonstrations against

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63. Freehoff to Commanding Officer, Harbor Defenses of Sandy Hook, May 28, 1936, files, CMH.

64. Chief of Coast Artillery to Brady, Nov. 2, 1918, File 4827, Corr. 1917-22, RG 392, NA.

65. Post Diary, Fort Hancock, RG 393, NA.

pacifists and persons opposed to the war. Charges would be brought against soldiers violating this order.[66]

In late August, Chief of Staff Hugh L. Scott received a letter signed, "An American," calling attention to the "moral conditions" at Fort Hancock. According to the author, "whiskey flows down there like water, some of the men have as much as eight quarts at a time in their quarters and some of them never draw a sober breath." This situation was known to the officers, but they ignored it. These soldiers, "An American" continued, were regulars, who had been posted there long before war was declared. If the country had to "look to such a bunch" for protection, it would be a sorry day. About two weeks ago, he reported, one of this "bunch" went to New York on a pass and killed a "woman in his drunken frenzy." A young recruit had told "An American" that if he had known "such drunkards were in the army," he would "never have tied up with it." The "Bowrey" has nothing on Fort Hancock for "stew bums," he fretted.

Chief of Staff Scott called on Colonel Byrne for an explanation. An investigation satisfied Byrne that the letter was the work of a "malicious person, either misinformed or entirely void of any idea of the truth." One thing that Byrne was certain of was that there were no drunks or drunkeness on the post.[67]

Soldiers have always complained, and some soldiers that had been called to the colors got politicians to intervene on

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66. Adjutant General, Eastern Department, to Commanding Officer, Defenses of Sandy Hook, June 19, 1917, File 2039, Corr. 1917-22, RG 392, NA.

67. Byrne to Commanding General, Eastern Department, Sept. 10, 1917, File 1896, Corr. 1917-22, RG 392, NA.

their behalf. Mayor Harry Bacharah of Atlantic City, after hearing a tale of woe from one of his constituents, telegraphed Colonel Harris. He protested that this soldier had been on post for three months and had not yet had a leave. Many others were in a similar situation. Worse, no amusements were provided and receiving a "Sat. Evening Pass was a great novelty."[68] Colonel Harris assured the mayor that the conditions as reported by one of his privates "do not exist" at Sandy Hook.[69]

With thousands of men at Sandy Hook, where formerly there had been hundreds, facilities at the YMCA were inadequate. On March 6, 1918, B. C. Pond of the YMCA wrote Dist. Eng. Theodore A. Bingham, requesting authority for construction of an addition to the YMCA. The 74' by 38' extension was to adjoin the present structure on the south, and cost of $6,500. The justification for this request, Pond pointed out, was that the addition would enable the association to better serve the greatly increased garrison. The project was reviewed and approved by Bingham and the Eastern Department headquarters. Construction commenced immediately, and before mid-summer the addition was completed.[70]

In late April 1918, to provide diverse recreation for his officers and men during their off-duty hours, Colonel Harris

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68. Bacharah to Commanding Officer, Sandy Hook Defenses, April 30, 1918, File 3879, Corr. 1917-22, RG 392, NA.

69. Harris to Bacharah, undated, File 3879, Corr. 1917-22, RG 392, NA.

70. Pond to Harris, March 8, 1918, File 2310, Corr. 1917-22, RG 392, NA.

requested authority to obligate post exchange funds to build an amusement hall with a seating capacity of 1,000.[71]

On May 10 Secretary of War Baker approved the project for an amusement hall and the method of funding. Construction commenced immediately on the frame structure, which was in the area north of Officers' Row, east of the bulkhead and west of Hartshorne Drive.[72] When completed, the hall was named the Liberty Theatre.

In September 1918 the Jewish Welfare Board requested permission to erect a headquarters for their workers with facilities for holding religious services. In their letter to Colonel Brady, the Jewish Welfare Board pointed out that they were charged with ministering to the spiritual, mental, and moral welfare of men of Jewish faith called to the colors.[73]

Officials of the welfare board, in cooperation with Colonel Brady, selected a site for the Jewish Welfare Center between mess halls 57 and 58. This site was approved by the Corps of Engineers three days before Armistice Day.[74] However, the rapid demobilization in the months following the armistice slashed the strength of the force at Sandy Hook, and the Jewish Welfare Board canceled plans for the center.

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71. Harris to Commanding General, Eastern Department, April 29, 1918, File 3852, Corr. 1917-22, RG 392, NA.

72. Harris to Bingham, & Bingham to Chief Engineer, May 8 & 9, 1918, Letters Sent & Received, Fort Hancock, RG 77, NA.

73. Cutler to Brady, Sept. 20, 1918, Letters Sent & Received, Fort Hancock, RG 77, NA. Harry Cutler was an official of the Jewish Welfare Board.

74. Brady to Bingham, Oct. 24, 1918, Letters Sent & Received, Fort Hancock, RG 77, NA.

2. Troops Endangered by Firings

Although the troops did not come under hostile fire while at Sandy Hook, despite a rumor that a German U-boat had shelled the area, a number had narrow escapes from errant rounds fired from the Ordnance Department's proof battery.

On August 25, 1917, a 3-inch antiaircraft gun was being tested at the proof battery. The gun was being tested for firing shrapnel at a high angle. Suddenly and unexpectedly, one of the shells burst near the Battery Gunnison encampment occupied by Capt. Lucian Higgins's 17th Company. One of the fragments just missed decapitating Captain Higgins and Cpl. Kenneth Gallien and then struck the emplacement in rear of gun 1.[75]

On November 14 a 6-inch shell struck within 10 feet of searchlight 2 where two men were working. Later in the day, a fragment whizzed to earth within 50 feet of the post ordnance officer. Several days earlier, a fragment had ripped through a shed, missing a soldier by less than 10 feet.

One month later, on December 19, another shell fell into Battery Gunnison. The 4.7-inch projectile slammed into the sand within 3 feet of Barracks JJ, occupied by men of Captain Higgins's 17th Company.[76] The investigation resulted in moving the proving ground's mobile artillery testing activities to the new facility at Aberdeen, Maryland. On January 14, 1918, Col. Colden Ruggles of the proving ground assured Colonel Harris that the

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75. Higgins to Commanding Officer, Sandy Hook Defenses, Aug. 26, 1917, File 1972, Corr. 1917-22, RG 392, NA.

76. Higgins to Commanding Officer, Sandy Hook Defenses, Dec. 19, 1917, File 2876, Corr. 1917-22, RG 392, NA.

departure of the mobile artillery would make a repetition of this kind "very rare."[77]

On April 13, a 10-inch high explosive shell fired from the proof battery into a sand butt, ricocheted into the air and burst. One fragment crashed onto the road behind the guardhouse, a second landed 150 feet farther up the road near barracks 25, and a third one fell near a tent occupied by recruits at Battery Granger.

Colonel Harris fired off a letter to the commanding general of the Eastern Department. He demanded that measures be taken to prevent a repetition. There were, he fumed, more than 3,000 men in his command quartered in the area "shelled on the 13th."[78]

In late August several shells, some as big as 10 inches, impacted at various points on the Fort Hancock reservation. Barracks and other structures occupied by troops had been endangered. Colonel Brady, who had replaced Colonel Harris, called these incidents to the attention of his superiors.[79] When asked for an explanation, Col. William A. Phillips of the proving ground reported that his people took every reasonable precaution, but "Fort Hancock is in dangerous proximity to the proof battery." Premature explosions and other accidents were impossible to foresee or control.

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77. Ruggles to Commanding Officer, Sandy Hook Defenses, Jan. 14, 1918, File 2876, Corr. 1917-22, RG 392, NA.

78. Harris to Commanding General, Eastern Department, April 13, 1918, File 3695, Corr. 1917-22, RG 392, NA.

79. Brady to Commanding Officer, MACAD, Aug. 31, 1918, File 4684, Corr. 1917-22, RG 392, NA.

Because the materiel that caused the trouble was slated for service with the American Expeditionary Force, it had to be tested, and there was no immediate remedy. The most dangerous tests, he assured the Eastern Department headquarters, had been transferred to Aberdeen.[80]

3. Brick House Saved

The branches of the service cooperated in emergencies. For example, in late November 1917, there was a fire at the Brick House. At the first alarm, a number of men from the coast artillery turned out to assist personnel of the ordnance detachment in fighting the flames, which were quickly extinguished.

The proving ground commander, Colonel Ruggles, reported that without the assistance of the Fort Hancock troops, the handsome old structure would have become a "total loss."[81]

4. Success of Liberty Loan Campaigns

Colonel Byrne of the New York National Guard headed the Second Liberty Loan Campaign at Fort Hancock. On October 26, two days after the campaign was announced, the troops were assembled on the parade ground. There were rousing speeches by officers and enlisted men and soul-stirring music by the 26th Coast Artillery Band. Following this kickoff, there was competition between the companies. Daily, at retreat roll call, the list of subscribers in each company was read. A large clock was built, its hands being moved daily to tally subscriptions.

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80. Phillips to Commanding General, Eastern Department, undated, File 4684, Corr. 1917-22, RG 392, NA.

81. Ruggles to Commanding Officer, Fort Hancock, Dec. 3, 1917, File 2536, Corr. 1917-22, RG 392, NA.

The campaign was very successful, with Colonel Byrne's committee raising more than $155,000, a greater per capita sum than at any other army post in the nation. The 19th Company, with three officers and enlisted men, posted a high total of $19,300 at Fort Hancock, and the 17th Band, with only 26 members, posted the least amount of $1,000.[82]

The Third Liberty Loan Campaign, in April 1918, featured a mass meeting on the parade ground on Liberty Day, the 26th. The post campaign chairman, 2d Lt. Harold Hersey, CAC, read President Wilson's proclamation, while others made patriotic speeches and explained why the loan's goal must be met.

When the drive closed on May 3, Fort Hancock personnel had subscribed $20,000, and the proving ground people had subscribed $15,700. In appreciation of these sacrifices, the Liberty Loan Committee delivered an honor flag to Colonel Harris. The flag was thereafter flown from the Battery Potter flagstaff on holidays.[83]

5. The Nation's Allies Honored

There were frequent parades and ceremonies; typical of these was the one held on May 24, 1918, to commemorate the third anniversary of Italy's declaration of war on Austria-Hungary. Orders were given to display the Italian flag, one having been secured by Colonel Harris from Mrs. J. S. Woodruff of Atlantic Highlands.

At 11 a.m., the ceremony was held at Battery Potter. With Colonel Harris and District Engineer Bingham in

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82. Post Diary, Fort Hancock, RG 393, NA.

83. Ibid.

attendance, the 17th Band struck up "Marcia Reale," the guard presented arms, and the flag was hoisted. At the daily band concert in front of post headquarters, the "Quartet" from Rigoletto, "Misereri" from Trovadore, and other Italian aires were featured.[84]

6. Training Routine Varies

While the units being organized for overseas service followed a rugged training program, the companies assigned to the Sandy Hook Defenses continued to hold service practice with the coast defense and rapid-fire guns and the submarine mine defenses. A new mortar battery at Navesink was constructed and armed. The proof firing of the four 12-inch mortars removed from Batteries McCook and Reynolds to the new emplacement was postponed by the ordnance people in late July 1918, pending clearance from District Engineer Bingham. Colonel Phillips of the proving ground wanted assurance that the "big barkers" would not damage the nearby Twin Lights. Once this was forthcoming, they were fired.[85]

The expansion of the Camp Low cantonment resulted in the elimination of the nearby rifle and pistol ranges. To enable troops assigned to the garrison and those slated for early deployment to France to fire their pieces, a new range, with butts and 200- and 300-yard firing lines, was constructed in June 1918, by Amsterdam Building Co. on the Hook west of the engineer reservation.[86]

War had taken a new dimension. The military now had to worry about defense against attacks from the air. German

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84. Ibid.

85. Phillips to Harris, July 22, 1918, File 4377, Corr. 1917-22, RG 392, NA.

86. Completion Report, Coast Defenses of Sandy Hook, RG 77, NA.

zeppelins had bombed England, while long-ranged Gotha bombers had raided London. Consequently, on June 6, MACAD headquarters instructed Colonel Harris to make daily reports on any airplanes overflying Sandy Hook. These were to be submitted to Maj. Claude K. Rhinehardt at Garden City, Long Island.

The following occurrences on June 8 were a typical day:

5:50 a.m.	airplane going out over Sandy Hook
6:23 a.m.	airplane landed at Sandy Hook with engine trouble
7:10 a.m.	airplane going north over Sandy Hook
7:35 a.m.	airplane going north over Sandy Hook
10:00 a.m.	airplane going north
10:24 a.m.	airplane landed at Sandy Hook
1:35 p.m.	two airplanes left Sandy Hook
3:05 p.m.	airplane flying south
4:29 p.m.	airplane going over Ambrose Light
4:50 p.m.	airplane going over Ambrose Light
5:39 p.m.	airplane going over Ambrose Light
6:55 p.m.	airplane going over Ambrose Light[87]

After six days, MACAD headquarters put a stop to these reports. Henceforth, no aircraft reports were to be made unless they were believed to be "of enemy origin."[88]

7. Epidemic of Spanish Influenza at Sandy Hook

Three cases of Spanish influenza were diagnosed at the post on September 28, 1918. From then until November 3, not a day passed without new admissions to the hospital. The worst period was the 18 days between September 30 and October 17, when the daily average of new cases was 15; on October 10, alone, 25

87. Harris to Commanding Officer, MACAD, June 8 & 9, 1918, File 4201, Corr. 1917-22, RG 392, NA.

88. Commanding Officer, MACAD, to Harris, June 13, 1918, File 4201, Corr. 1917-22, RG 392, NA.

men were stricken. The total number of victims was 369, but mortality was low, with only 25 patients dying of pneumonia.

Fort Hancock thus fared much better than most military posts. The average strength of the force on the reservation during the five-week epidemic was as follows:

Coast Defenses of Sandy Hook	3,322
Ordnance Detachment	423
Ordnance Supply Depot	245
United States Guards	425
Civilians and hired laborers	762
TOTAL	5,177

In combatting the Spanish influenza all available space in the hospital and verandahs was utilized. The exposed sides of the verandahs were covered with canvas to shield the patients from wind and rain. "Free ventilation" was maintained.

A strict quarantine was enforced. There was free ventilation of the barracks during the day and night, while the troops were required to air their bedding daily. The Liberty Theatre was closed, and compulsory lectures were given by the medical staff on the dangers of "sneezing, coughing, and spitting."

Because it was necessary to continue testing and proofing activities at the proving ground, about 600 civilians were permitted to leave the post by special coaches in the evenings and return the following mornings.

All patients having fevers were placed in bed, laxatives were prescribed, and aspirin was given for headaches and muscular pains. Those with pneumonia were segregated and given

strychnine sulphate and digitalin hypodermically. However, these shots gave little relief.[89]

8. A September Tragedy

On Sunday, September 22, 1918, Pvts. John P. Mahoney, John J. O'Connor, and Edward W. Sullivan of the ordnance detachment were locked up in the post guardhouse, charged with being drunk on duty. About 5:45 p.m. the sergeant-of-the-guard telephoned the post hospital and asked a doctor to have a look at one of the drunks. 1st Lt. John F. Rutherford, who had the duty, hurried over to the guardhouse. He examined Mahoney, who was sprawled on a bunk in a semiconscious condition. Mahoney was aroused and answered several questions. Finding his pulse full and regular and his respiration normal, Rutherford returned to the hospital, after telling the sergeant-of-the-guard to let Mahoney sleep it off and to give him a dose of salts in the morning. Rutherford did not examine the other drunks.

The next morning the officer-of-the-day asked 1st Lt. Otto Pfaff of the Medical Corps to look at the trio. He found Mahoney lying on his bunk; Mahoney had vomited extensively, but his pulse was normal. He answered Pfaff's questions, and his breath indicated that he had been drinking some type of alcoholic beverage. Privates O'Connor and Sullivan had similar symptoms. Before returning to the hospital, Pfaff told the officer-of-the-day that they were suffering from some form of alcholic intoxication.

That evening, while Lieutenant Pfaff was dining at the bachelor officers' quarters, he received a call that Privates

89. Norman to Surgeon General, Nov. 24, 1918, Corr. 1917-22, RG 392, NA.

Mahoney and O'Connor had been taken violently ill and were en route to the hospital in the ambulance. Pfaff rushed to the hospital to learn that Mahoney was dead on arrival. O'Connor was wheeled into the dressing room, where he was given "cardiac stimulants and supportive treatments" by Lieutenant Pfaff. He failed to respond, and lapsing into a coma, died.

Rutherford and Pfaff, satisfied that the two privates had died from the effects of drinking wood alcohol, had Private Sullivan transferred from the guardhouse to the hospital, and he soon recovered.

On being questioned, he told Lieutenant Rutherford that while on fatigue detail at the proving ground on the 21st and 22d, the trio had procured and consumed large quantities of what they had mistakenly assumed to be grain alcohol.[90]

F. Construction and Defense of Sandy Hook Ordnance Depot

a. Depot Site Selected

On January 28, 1918, the Ordnance Department directed the army's construction division to proceed with clearance of 270 acres, north and south of the Spermaceti Cove Coast Guard Station, previously selected for an ordnance storage depot. This would be followed by the construction of 15,600 linear feet of nonclimbable fencing illuminated at night by floodlights, 3.34 miles of standard gauge railroad track with necessary grading, 32 standard type 26' by 42' high explosive magazines, and installation

90. Statements of Lts. John F. Rutherford & Otto Pfaff regarding the deaths of Pvts. John P. Mahoney and John J. O'Connor, Sept. 28, 1918, Corr. 1917-22, RG 392, NA.

of all necessary electrical work, with new engine generators in the proving ground powerhouse.[91]

On February 19 the contract for construction of the Sandy Hook Ordnance Depot was awarded to Amsterdam Building Co. of New York City. The builders reached Sandy Hook the next day. There was snow on the ground and ice in Spermaceti Cove and the Horse Shoe, but the snow and ice soon disappeared.

Construction was slowed from time to time because of various factors, the most aggravating being delays in delivery of materials. On April 13 work was stopped for about five days due to a wild storm, which washed out the road and railroad on the narrow neck between the ocean and Shrewsbury River. Repair of the railroad was given priority and it was back in operation within three days. The road, however, was closed to through-traffic for three weeks.[92]

After the ground was cleared of undergrowth, first priority was given to railroad construction. The spur tracks were completed from north to south, with spur "A" handling its first rolling stock on March 19. The spur tracks at the northern end of the depot crossed several freshwater ponds. Where the tracks crossed the ponds, a heavy corduroy of timber was put down and a fill was then made. The track was Russian 67½-pound rail, which

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91. Wheeler to Officer in Charge of Cantonment Construction, Jan. 28, 1918, File 3517, Corr. 1917-22, RG 392, NA. The floors of the magazines, to facilitate handling of the explosives, were to be not less than 9 inches nor more than 3 3/4 feet above the top of the rail.

92. Completion Report, Sandy Hook Ordnance Depot, RG 77, WNRC.

had become available following the Treaty of Brest Litovski. A sandpile bumper was positioned at the end of each spur.

A switch yard, having a 37-car capacity and consisting of two sidings parallel to the ladder track, was constructed at the northern end of the depot. Additional sidings were constructed of Russian rail at the proving ground.

A 1½-mile-long wagon road, parallel to the depot, was relocated farther west and straightened.[93] While work was underway, a change order increased the number of 26' by 42' magazines to be built from 32 to 50. Of these, 48 were type 12. They had asbestos siding on the outside frame walls, and the interior walls were lined with tongue-and-groove flooring. No nails were exposed that might cause a spark and an explosion, and each magazine had an elaborate lightning protective system. The two type 13 magazines had walls of hollow tile filled with sand and were presumably bulletproof. The roofs were composed of gypsum block.

The magazines, which were at least 400 feet apart to prevent the explosion of one from detonating the neighbors, were camouflaged with a striking paint scheme.

Sentry boxes, connected by a telephone system, were positioned at strategic points along the nonclimable fence. Temporary structures (offices, stables, etc.) erected by Amsterdam Building Co. were remodeled as guardhouses, stables, and a garage.

The electrical work at the depot was subcontracted to Peet & Powers. Thirty-nine floodlights, about 500 feet apart,

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93. Ibid.

were sited along the fence. A generator was installed in the proving ground powerhouse to supply current for the lights. To maintain these lights in the event of a power failure, an auxiliary powerhouse was constructed at the depot. Its generator was driven by a large Bessemer gas engine.

During the construction phase, a temporary water supply was secured from shallow wells. The permanent supply was obtained from a 400' deep, 8" diameter well. A large 50,000-gallon tank was positioned for supplying water to the locomotives.

The Amsterdam Building Co. also constructed an addition to the proving ground roundhouse to house two 40-ton locomotives assigned to the depot. A coal platform for the locomotives was erected at the ordnance depot alongside the track. A gallows frame, with a spark arrestor, was positioned over the ladder track at spur "A" just outside the entrance to the magazine area.[94]

2. Ordnance Depot Cantonment Is Constructed

Quarters for the ordnance troops detailed to man and guard the depot were erected during the summer. The cantonment was sited on Sandy Hook Bay, between the frame ordnance barracks (building 32) and the ordnance laboratory (building 23). Included in the cantonment were nine 66-man barracks, two 154-foot mess halls, two 20- by-49-foot lavatories; one 20- by-140-foot officers' quarters, and a storehouse. These structures were of frame and tar paper construction.

Because of the severe climate, the cantonment buildings were painted in the spring of 1919. Two coats of lead

94. Ibid.

and oil were applied, and then a battleship gray paint with white trimming for doors and windows was applied.

A sewage system, with a discharge directly into the bay, was constructed. Water for the cantonment was obtained from a 360-foot deep, 8-inch diameter well. The water, which had to be treated, was pumped from a sedimentation tank through a mechanical filter into an elevated, 25,000-gallon storage tank.

Electric power for lighting the buildings and driving the motars was secured from a generator in the proving ground powerhouse.[95]

3. Quartermaster Wharf Enlarged and Repaired

With explosives being shipped directly overseas from the depot, it was determined to enlarge the quartermaster wharf. The 130-foot-wide wharf was extended 150 feet and repairs, consisting of new piles, bents, and flooring, were made to the original fabric.[96]

4. Depot Completed and Cantonment Occupied

On March 13, 1918, the first shipment of powder was received at the depot. By April five magazines along the spur "C" track had been completed, and powder was stored in them. Thereafter, as soon as a magazine was finished, it was used for powder storage. The cantonment was occupied by the troops on October 1, less than three months after ground was broken.[97]

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95. Ibid.

96. Ibid.

97. Ibid.

5. Mercury Fulminate Magazines Constructed

On January 9, 1919, orders were received to construct storage facilities for mercury fulminate. The project was sited between spur tracks "N" and "G", 850 feet east of the ladder track. It consisted of a loading platform opposite spur track "N", a sawdust storage house, eight magazines, and a water system. Boardwalks connected all the magazines with the loading platform.

The magazines were underground and were positioned 150 feet apart. Each one included six "large wine casks," with two sets of double doors over each cask. The one-story sawdust storage house was built of wood and was covered with corrugated asbestos sheathing. The storage facilities for mercury fulminate were completed on April 18, 1919.[98]

6. Sandy Hook Ordnance Depot Defended

In the summer of 1918, German U-boats crossed the Atlantic and singed Uncle Sam's beard by raiding coastal sea-lanes. The 13,680-ton cruiser San Diego was sunk on July 19 by a mine laid by a U-156 10 miles off Fire Island.

Taking cognizance of these attacks, Colonel Phillips, of the proving ground, expressed fears that one of the Kaiser's submarines might surface and shell the vital ordnance depot. This would be quite a coup for the Germans because Sandy Hook was one of the nation's 22 general ordnance depots.

With thousands of pounds of high explosives stored in 50 magazines, the mission of the defense forces was to keep the U-boats from surfacing and opening fire with their deck guns. It

98. Ibid.

was not sufficient to have the means of destroying the foe after the bombardment began; the submarine must be intercepted by airplanes or naval patrol boats before she opened fire.

To strengthen the shore defenses, Colonel Phillips urged that a railroad spur be built paralleling the beach east of the depot. Fort Hancock's armored train, mounting a 3-inch gun, a searchlight, and a machine gun, could be switched onto this spur.

The elements available to defend the depot against such an attack were--Battery Gunnison, searchlights 1 and 2, the mortar batteries, two 3.2-inch field guns in a light emplacement near the two searchlights, and a 4.5-inch siege gun.[99]

G. The First Months of Peace

1. Demobilization of Troops at Fort Hancock

The shooting war ended with Germany on Armistice Day, November 11, 1918. The news was celebrated at Sandy Hook. Demobilization of the nation's armed forces would be rapid. On November 1, there had been 52 officers and 2,172 men assigned to Fort Hancock, exclusive of the proving ground and ordnance depot personnel. Of these, 15 officers and 981 enlisted men were attached to the coast defenses. The unit breakdowns were as follows:

Unit	Officers	Enlisted Men
Commanding Officer and Staff	7	19
17th Band	0	28
1st Company	0	43
2d Company	1	48

99. Phillips to Commanding Officer, Ordnance Supply Depot, Aug. 16, 1918, File 4972, Corr. 1917-1922, RG 392, NA.

Unit	Officers	Enlisted Men
3d Company	1	105
4th Company (Mine)	0	85
5th Company (Mine)	0	73
6th Company	0	148
7th Company	0	51
8th Company (Headquarters)	1	37
9th Company	0	2
10th Company	0	2
11th Company	0	1
12th Company	0	2
13th Company	0	14
14th Company	0	11
15th Company	1	40
16th Company	0	14
17th Company	0	26
18th Company	0	32
19th Company	1	26
20th Company	0	41
21st Company	1	41
22d Company (manning 7-inch naval gun)	1	41
23d Company	0	28
24th Company	1	13
Subtotal	15	981

Detachments assigned to Fort Hancock

Unit	Officers	Enlisted Men
Adjutant General	1	0
Medical Corps	5	148
Dental Corps	2	0
Quartermaster Corps	5	126
Ordnance Department	0	19
Signal Corps	0	3
Casuals (prisoners)	0	13
Subtotal	13	309

Organizations awaiting overseas assignment

Unit	Officers	Enlisted Men
Headquarters, 31st Coast Artillery Regiment	8	12

Unit	Officers	Enlisted Men
Supply Company, 31st Regiment	1	16
Battery A, 31st Regiment	1	13
Battery B, 31st Regiment	1	15
Battery C, 31st Regiment	1	16
Battery D, 31st Regiment	1	17
Battery E, 31st Regiment	1	9
Battery F, 31st Regiment	1	15
Unassigned recruits	0	745
26th Antiaircraft Battery	1	2
27th Antiaircraft Battery	0	2
28th Antiaircraft Battery	1	2
29th Antiaircraft Battery	1	2
30th Antiaircraft Battery	1	2
Subtotal	19	868

Other detachments, not assigned to the coast artillery

Unit	Officers	Enlisted Men
Medical Corps	3	15
Ordnance Department	1	0
Subtotal	4	15
TOTAL	51	2,172[100]

The 31st Artillery Regiment departed Sandy Hook by rail for Camp Eustis, Virginia, on November 5. The armistice also found the 37th Regiment, CAC, which had left Sandy Hook on October 1, at Camp Eustis. By November 19 the 37th Regiment had moved to the Norfolk Port of Embarkation. Orders sending the regiment overseas were now cancelled, and the 37th Regiment was directed to return to Fort Hancock for demobilization. The 37th Regiment was back at Sandy Hook by the 24th. On that date Col. H. L. Steele requested that his command--53 officers and 1,770

100. Post Returns, Fort Hancock, Nov. 1, 1918, Corr. 1917-22, RG 392, NA.

enlisted men--be assigned suitable quarters. The quarters that were now occupied were "inadequate and no provision" could be made where additional men might be placed and the required amounts of air space per person might be obtained.[101]

The officers and men of the 37th Regiment were quartered at Cantonment Low and the Nine-Gun Battery Cantonment from November 25 until mid-December. During this period, the regiment was disbanded. On December 9, 500 artillerists boarded a 13-car train and were sent to Fort Horatio G. Wright. During the week ending on December 14, 420 enlisted men were discharged, and more than 600 men were transferred by rail to Camps Dodge and Funston. By December 15 all the regimental personnel, except for 68 enlisted men, had been either mustered out or transferred.

As soon as the 37th Regiment had been demobilized, the 31st Regiment returned from Virginia to Sandy Hook. By December 20 the 31st had likewise been disbanded--the personnel had been discharged or reassigned.[102] The five antiaircraft batteries (the 26th through 30th) were demobilized at this time.

From late January through mid-March 1919, Fort Hancock processed discharges for personnel from several coast artillery units on their return from France. The 57th Regiment, on landing, was sent to Camp Mills. Men slated for discharge were ordered to Fort Hancock, while the regiment, which was to be retained in service, prepared to board trains to carry it to Fort

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101. Steele to Commanding Officer, Sandy Hook Defenses, Nov. 24, 1918, File 4798, Corr. 1917-22, RG 392, NA.

102. Records of Coast Artillery Corps Regiments, 1916-34, the 31st and 37th Regiments, RG 391, NA.

Lewis, Washington. The troops sent to Sandy Hook were soon out of the army and on the way to their homes.[103]

The 67th Regiment, CAC, sailed from Bordeaux to the United States in late February. Landing in Hoboken, the regiment was at Camp Mills by March 3. From there a number of officers and men were transferred to Fort Hancock for processing incident to discharge.[104]

2. Reduction of Manpower Assigned to Coast Defenses

There was an inspection of the Sandy Hook Defenses in the first week of December 1918. At this time there were 24 officers and 1,535 enlisted men stationed at the post. Battery assignments were as follows:

Battery	Company	Officers	Enlisted Men
Morris			
Urmston	24th	1	81
Gunnison	20th	0	85
Peck	15th	0	81
Richardson	1st	0	88
Bloomfield	16th	0	106
Halleck	19th	0	87
Alexander	17th	1	83
McCook	2d	1	93
Reynolds	3d	0	86
Railroad	22d	1	80
TOTALS		4	870

103. Wheeler to Commanding Officer, Sandy Hook Defenses, Feb. 2, 1919, File 5252, Corr. 1917-22, RG 392, NA. Col. James M. Wheeler was the commanding officer of the 57th Coast Artillery.

104. Adjutant General to Commanding General, Hoboken Port of Embarkation, Feb. 14, 1919, File 5252, Corr. 1917-22, RG 392, NA.

Although most of the enlisted men had been in service only a short time, their military appearance was excellent. Their "physiques and set up" were good, their uniforms were neat and well fitting, and their packs were neatly assembled. They knew how to pitch shelter tents, but their bayonet, signal, and artillery drills left much to be desired.

The general condition of the quarters and barracks was very good. The permanent buildings had been recently painted and were in good repair. The constant firing from the proof battery made it impossible to keep all the glass in the windows of the Nine-Gun Battery Cantonment.

Certain cantonment mess halls were poorly constructed. The concrete in several of the kitchens was poorly laid and broken. Wooden flooring in the mess halls had shrunk, leaving ½-inch interstices between the boards, which permitted food to fall through and thereby created unsanitary conditions. The small-arms range, constructed at the end of the Hook to replace the Camp Low facility, was poorly located and unsatisfactory.[105]

On January 7, 1919, orders were received to half-mast all colors until further notice in honor of Theodore Roosevelt, who had died the previous day.

By February 28, 1919, the force assigned to the Sandy Hook Defenses had been reduced to 30 officers and 656 men. Many units had been disbanded and stricken from the returns. On this date, the following officers and enlisted men were assigned to the post:

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105. Willougby to Adjutant General, Dec. 19, 1918, File 5149, Corr. 1917-22, RG 392, NA.

Unit	Officers	Enlisted Men
Commanding Officer and Staff	10	19
17th Band	0	28
1st Company	3	48
2d Company	2	102
3d Company	0	1
4th Company (Mine)	0	1
5th Company	1	96
6th Company	2	106
7th Company	0	1
Subtotal	18	402

Detachments assigned to Fort Hancock

Unit	Officers	Enlisted Men
Adjutant General	1	0
Medical Corps	5	56
Dental Corps	2	0
Quartermaster Corps	3	117
Ordnance Department	0	11
Signal Corps	0	2
Motor Transport	1	8
Subtotal	12	194
TOTAL	30	656[106]

During the next 60 days, the strength of the garrison was pared to 24 officers and 525 enlisted men. The morning report on April 30 listed the following units for the Sandy Hook Defenses:

Unit	Officers	Enlisted Men
Commanding Officer and Staff	8	19
17th Band	0	29
1st Company	3	91
2d Company	0	86

106. Post Returns, Fort Hancock, February 28, 1919, Corr. 1917-22, RG 392, NA.

Unit	Officers	Enlisted Men
3d Company	0	1
4th Company	0	1
5th Company	2	86
6th Company	2	72
7th Company	0	1
Subtotal	15	386

Detachments assigned to Fort Hancock

Unit	Officers	Enlisted Men
Adjutant General's Office	1	1
Medical Corps	5	33
Dental Corps	1	0
Quartermaster Corps	1	85
Motor Transport Corps	0	4
Signal Corps	0	1
Ordnance Department	0	16
Field Artillery	1	0
Subtotal	9	139
TOTAL	24	525[107]

By June 7 the demobilization had reached the point where the command was reduced to "caretaker status." Discounting the detachments, the only units posted at Fort Hancock were the 1st, 2d, 5th, and 6th Companies, Coast Defenses of Sandy Hook.[108]

3. Army Air Service at Sandy Hook

Meanwhile, on May 20, 1919, an Army Air Service command--the 22d Balloon Company--had reached Sandy Hook and

107. Post Returns, Ft. Hancock, April 30, 1919, Corr. 1917-22, RG 392, NA.

108. Bracy to Commanding General, Eastern Department, June 7, 1919, File 5800, Corr. 1917-22, RG 392, NA.

occupied the balloon hanger. The air service people commanded by Capt. Ross C. Hoyt had left the Balloon School at Lee Hall, Virginia, on the 19th. After erecting two balloon beds and a similar number of windshields, Captain Hoyt and his men took two balloons to the Rockaway Naval Air Station and filled them with hydrogen. The balloons were towed back to the Hook.

The 22d Balloon Company, during the next eight weeks, served as observers for the Long Range Fire Control Board which was encountering a series of problems. On July 22 the exercises were completed, and Captan Hoyt and his company returned to Lee Hall.[109]

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109. World War I Organization Records, 22d Balloon Company, RG 18, NA.

X. FORT HANCOCK BETWEEN THE WARS

A. Garrisoning the Post: 1920-40

1. Coast Artillery's Role in the Post-War Army

The American people in the years immediately following the Great War quickly became disenchanted with their role as a world power and a force for collective security. The Senate, after a bitter debate, rejected membership in the League of Nations. With an isolationist mentality, the country's military policy was focused on a small army and a reserve force. This did not preclude the use of the military in defense of the country and western hemisphere. If the United States went to war, its navy would spearhead the attack.

The offensive power of the navy was dependent on an effective coastal defense system on the North American continent and the Caribbean and Pacific islands. Inasmuch as the army was concerned, the principal agencies of seacoast defense were the coast artillery and its new partner, the air service. Although the air service increased the efficiency of the coast artillery, it did not limit the need for effective seacoast and antiaircraft armament and a sufficient number of trained personnel.

War Department spokesmen argued that, although the Washington Naval Treaty of 1922 limited the number of capital ships, it increased the importance of coast defenses and fortified naval bases. This had been recognized by the British and Japanese. The British were moving to develop a powerful fortified naval base at Singapore, while the Japanese, despite treaty obligations, were establishing bases in their scattered islands in the western Pacific. The United States, at the same time, had surrendered its right to fortify Guam.[1]

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1. Robert R. Wilshimer, "The Importance of Coast Artillery in Our National Defense," Coast Artillery Journal, vol. 59, no. 1, pp. 56-7.

Despite the importance of the coast artillery in the nation's defense posture, the coast artillery was circumscribed by lack of manpower in the early 1920s. Moreover, recent joint army-navy maneuvers at Monterey, California, had failed to include coast artillery personnel and matériel. A situation that especially vexed the coast artillery because the Monterey area was well adapted to the deployment of railway and tractor-drawn artillery. These weapons were deemed to be the best defense against enemy warships. The correct way to repel an amphibious attack, coast artillery spokesmen warned, was to destroy the aggressor's troops before they reached shore. We do not want to have a "Port Arthur" recorded in our history, they warned, referring to the suprise attack on that Russian naval base in 1904 by Japanese torpedo boats.

Although the 1922 army had more manpower than in 1914, the Coast Artillery Corps, in accordance with the National Defense Act of June 4, 1920, was restricted to 1,200 officers, the warrant officers of the army mine planter service as then authorized, and 30,000 enlisted men organized into such coast artillery units as the President might direct. This gave it less personnel than in the prewar years. Simultaneously, the responsibility of the coast artillery had been increased by its being charged with antiaircraft defense. This condition had been recognized in part by the War Department, which had assigned a large number of national guard and army reserve units to the Coast Artillery Corps. But these commands would not be immediately available in event of a surprise attack by one of the world's naval powers.[2]

Caretaker detachments were not, it was pointed out, "skeletonized" organizations that in an emergency could be quickly

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2. Ibid., pp. 57-9.

expended into effective units, nor could detachments from other branches manning the sophisticated fire control material and batteries make an effective defense against a hostile fleet. The public should know that the nation's security dictated that the navy and coast artillery should be ready for war at the onset, not some months later. Given the necessary manpower, the coast defenses could provide necessary time for the other arms of the army to mobilize and train, and for the navy to take the offensive as dictated by Alfred T. Mahan.

Coast Artillery spokesmen chided those who contended that fixed defenses were obsolete. This fallacy had been accentuated by the abandonment of a number of coastal forts because of lack of coast artillery personnel and the transfer of them to other branches to be garrisoned. These defenses, if properly manned, could be made battle-ready in short order. The older batteries were not as vulnerable to air attack as some authorities had argued. Given sufficient personnel, the coast artillery could be quickly rendered as efficient as it had been in 1914 when the nation's harbor defenses were rated the best in the world.

Their present condition resulted from the emphasis given trench warfare as fought in France and Belguim during the Great War while Great Britain ruled the seas. But, the coast artillerists contended, that the "war in no way upset the fundamental principles which for our country dictate an efficient coast defense system."[3]

In his annual report for 1922, Chief of Coast Artillery, Frank W. Coe had warned that, because of personnel limitations, fortified harbors were strong points in name only. A recent experience of Secretary of War John W. Weeks underscored this

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3. Ibid., pp. 59-61.

issue. On a visit to Fort Rosecrans, the guardian of San Diego, Secretary Weeks had been "humiliated," when he was greeted by a guard of 13 men.[4]

Consequently, although seven companies of coast artillery were assigned to Sandy Hook, only four of them--the 1st, 2d, 5th, and 6th--were on active status. As to be expected during the immediate post-war period, with its drastic cut-back in the military services (especially the army), there was a rapid shift in personnel at Fort Hancock. For example, between July 1919 and September 1923, there were 15 changes in the position of post commander, whereas in the 21 previous years there had been 28. The following people were post commanders during these four years:

Col. Alfred M. Hunter, CAC, July 16-August 11, 1919
Col. James F. Brady, CAC, August 12, 1919-July 9, 1920
Lt. Col. G. E. Stoffard, CAC, July 10-October 23, 1920
Maj. John B. Williams, CAC, October 24-November 15, 1920
Maj. William R. McCleary, CAC, November 16-18, 1920
Col. Elison L. Gilmore, CAC, November 19-December 8, 1920
Maj. William R. McCleary, CAC, December 9-14, 1920
Lt. Col. George F. Connolly, CAC, December 15, 1920-February 3, 1921
Col. J. B. Douglas, CAC, February 4-August 15, 1921
Lt. Col. George F. Connolly, CAC, August 16-December 4, 1921
Col. J. B. Douglas, CAC, December 5, 1921-March 25, 1922
Lt. Col. Robert F. Woods, CAC, March 26-September 10, 1922
Lt. Harry J. Watson, CAC, September 11-November 23, 1922
Col. James F. Brady, CAC, November 24, 1922-August 31, 1923
Lt. Col. Lynn S. Edwards, CAC, September 1-30, 1923[5]

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4. Ibid., p. 61.

5. Post Diary, Fort Hancock, RG 392, NA.

In 1922, the War Department turned the clock back six years. The 1st Company, Coast Defenses of Sandy Hook, again became the 48th Company, Coast Artillery Corps; the 2d Company, Coast Defenses of Sandy Hook, the 76th Company, Coast Artillery Corps; the 3d Company, Coast Defenses of Sandy Hook, the 113th Company, Coast Artillery Corps; the 4th Company, Coast Defenses of Sandy Hook, the 136th Company, Coast Artillery Corps; the 5th Company, Coast Defenses of Sandy Hook, the 137th Company, Coast Artillery Corps; the 6th Company, Coast Defenses of Sandy Hook, the 56th Company, Coast Artillery Corps, and the 7th Company, Coast Defenses of Sandy Hook, the 178th Company, Coast Artillery Corps.[6]

2. Vocational Training School Opens

On April 1, 1920, the Eastern Department opened a vocational training school for selected enlisted personnel at Fort Hancock in several former proving ground buildings. There were eight instructors and 50 students in the first class. Plans called for a gradual increase of the enrollment to 200 and the instructors to 20, half of whom would be civilians.[7]

The school was shortlived. Budgetary limitations caused the financially strapped War Department to discontinue the school on May 31, 1921, and the students and instructors had to be reassigned to their former duty stations.

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6. U.S. War Department, General Orders 21, War Department 1922, Center of Military History (hereinafter cited as CMH).

7. Brady to Headquarters, Eastern Dept., Mar. 17, 1920, General Corr., 1915-41, RG 256, NA.

3. Organization of the Coast Artillery Coast Defenses into Regiments

a. Case for Regimental Organization

When the United States went to war in April 1917, there was a cry from Europe for heavy railway and tractor-drawn artillery and personnel to man them. There was also a demand for antiaircraft guns and trench mortar battalions. The War Department was determined to draw this manpower from the Coast Artillery Corps. To accomplish these missions, it was necessary to organize battalions and regiments employing the separate companies, such as those at Sandy Hook, as a nucleus to affect such organizations. This was done, and the coast artillery regiments and battalions rendered valuable services in the American Expeditionary Force and French armies in 1918.

At the conclusion of the Great War, the responsibility for further development and operation of railway, antiaircraft, tractor, and heavy trench mortar artillery was placed on the coast artillery corps. Certain units, which had served in these categories during the war, were retained, when the army was pared to a peacetime establishment. This resulted in the corps consisting of a number of separate companies assigned to the coastal defenses, a regiment and three battalions of antiaircraft artillery, a regiment and a battalion of railway artillery, and three regiments of tractor-drawn artillery. Such a conglomeration was undesirable. Moreover, it was observed that the personnel in the regiments and battalions had a better esprit than those in the independent companies.[8]

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8. H. C. Barnes, "A Regimental Organization for the Coast Artillery Corps," Coast Artillery Journal, vol. 60, no. 4, pp. 293-95.

Because the desirability of a regimental organization for all units of the coast artillery had become apparent, Chief of Coast Artillery Coe and his staff were faced with the difficulty of effecting it. A major problem would be to make it accommodate the varying defense capabilities present in the harbor defenses.

After much study, a plan was evolved and approved by Secretary of War Weeks. The plan was announced in General Order 8, February 27, 1924. This order provided for the organization of 18 regiments of coast artillery, including two composed of Filipinos, and one additional regiment of antiaircraft artillery for duty in the Panama Canal Zone. These were in addition to the extant regiments and battalions. The designation of companies of the Coast Artillery Corps by numbers was discontinued and they would hereinafter be designated as batteries.

The 16 newly constituted regiments of U.S. Coast Artillery were assigned numbers 1 to 16, the new antiaircraft regiment organized for duty in the canal zone would be the 65th Coast Artillery, and the two Filipino regiments would become the 91st and 92d Coast Artillery (Philippine Scouts).

Each harbor defense regiment organized in the continental United States would be constituted into a headquarters battery and either seven or ten lettered batteries. In regiments having seven lettered batteries, Batteries A and B would constitute the lst Battalion, C and D the 2d, and E, F, and G, the 3d.[9]

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9. U.S. War Department, General Orders 8, War Dept., Feb. 27, 1924, CMH.

This organization was adapted to facilitate the conversion from a harbor defense regiment into railway and either heavy tractor or antiaircraft regiments, should the coast artillery be faced again with a 1917 situation. In that event the units to be converted into railway artillery regiments could be drawn from those having seven companies, while the ten-company regiments could easily be converted into antiaircraft or tractor regiments.[10]

Where possible, in the interest of esprit, the old artillery regiments, as they existed before the 1901 reorganization, were reconstituted. The 1st to 7th Coast Artillery regiments were to consist of units that had been batteries in regiments having similar designations prior to 1901. The 1st Coast Artillery, under the new system, would be composed of a headquarters company and seven lettered batteries. The numbered companies assigned to this regiment would be the 2d, 3d, 4th, 5th, 7th, 8th, 10th, and 11th. Before 1901 these companies had been Batteries B, C, D, F, H, I, M, and N, 1st U.S. Artillery. In many cases the batteries would be given lettered designations different from those they had in the pre-1901 artillery. The regiment, however, would be reconstituted by having certain of the original elements brought together in a unit assigned the same number as in the past. This would enable the personnel to claim their own battle honors, dating in some cases to the War of 1812.[11]

b. 7th Regiment, Coast Artillery Corps

The War Department assigned to the 7th Coast Artillery Regiment, the coast defenses of Sandy Hook and those of the Delaware. Regimental headquarters, with three batteries to be

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10. Barnes, "A Regimental Organization," p. 296.

11. Ibid., pp. 296-97.

designated by the regimental commander, were to garrison Fort Hancock, while one company was to be retained on active duty as a caretaker detachment in the coast defenses of the Delaware.[12]

The following units would constitute the 7th Coast Artillery:

78th Company would become Headquarters Battery
72d Company would become Battery A
73d Company would become Battery B
79th Company would become Battery C
74th Company would become Battery D
75th Company would become Battery E
76th Company would become Battery F
81st Company would become Battery G

Headquarters Battery, which in World War I had been known as Battery M, 53d Artillery, CAC, had fired the first shot by a coast artillery unit on the Somme front at Butte du Mesuill on February 11, 1918. Battery C which had been Battery F, 53d Artillery, CAC, had also seen action in France.[13]

In effecting the reconstitution of the old regiments, it was necessary to transfer from one coast defense command, as had been done at Sandy Hook, to another 88 companies. These transfers were merely a bookkeeping operation and were effected without any movement of personnel or matériel.[14]

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12. U.S. War Department General Orders 8, War Dept., Feb. 27, 1924, CMH.

13. Post Diary.

14. Barnes, "A Regimental Organization," pp. 296-97.

As directed by General Order 8, Col. Elijah B. Martindale on July 1, 1924, activated and assumed command of the 7th Coast Artillery Regiment. Headquarters Battery consisted of 156 officers and men formerly assigned to the 56th Company and post headquarters, Battery A consisted of 72 officers and men reassigned from the 76th Company, Battery B consisted of 72 officers and men from the 136th Company, and Battery D consisted of 77 men reassigned from the 137th Company. These four units were stationed at Sandy Hook. Company E, 3d Battalion, 7th Coast Artillery, would man Fort DuPont, Defenses of the Delaware, and Companies D, F, and G would be inactive.[15]

In the 1924 reorganization, the 48th Company was redesignated Headquarters Battery, 4th Coast Artillery Regiment; the 76th Company was redesignated Battery F, 7th Coast Artillery Regiment; the 113th Company became Battery B, 9th Coast Artillery Regiment; the 136th Company became Battery D, 9th Coast Artillery Regiment; the 137th Company was redesignated Battery E, 9th Coast Artillery Regiment; the 56th Company became Battery D, 5th Coast Artillery Regiment; and the 178th Company became Battery G, 9th Coast Artillery Regiment.[16]

4. Reinforcing the Defenses of Sandy Hook

The garrison was reinforced in September 1925. On September 16, Company B, 1st Engineer Regiment (1 officer and 56 enlisted men) landed at the Fort Hancock wharf and took up quarters in barracks 22. Ten days later, Company A, 1st

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15. General Orders 1, 7th Coast Artillery, July 1, 1924. Colonel Martindale had relieved Colonel Edwards as post commander on Oct. 1, 1923.

16. U.S. War Department, General Orders 8, War Dept. Feb. 27, 1924, CMH.

Engineer Regiment (1 officer and 76 enlisted men), reported to Colonel Martindale. These two companies, formerly posted at Fort Totten, had been assigned to the Sandy Hook Defenses.[17]

5. Garrison's Strength Fluctuates

In November 1925, the authorized strength of the units of the 7th Coast Artillery assigned to the Sandy Hook Defenses was increased to 522 officers and men. Headquarters Battery was authorized 270 slots, including 67 specialists--artillery mechanics, bandsmen, cooks, deckhands, enginemen, clerks, oilers, radio operators, stewards, typists, and telephone switchboard operators. Batteries A and B were each allotted three officers and 73 enlisted men, and Battery D was allotted three officers and 85 enlisted men. Each battery was allowed four specialists--two artillery mechanics and two cooks.[18]

In August 1926, the post was garrisoned by Headquarters; Headquarters and Service Battery; Batteries A, B, and D, 7th Coast Artillery; Companies A and B, 1st Engineers; Motor Transport Section No. 1; and detachments from various staff departments. These units aggregated 35 officers, 12 warrant officers, and 699 enlisted men, including crews of the army mine planters and personnel from the Motor Transport Overhaul Parts and Spare Parts Department. The post transport included 17 horses and mules, two officers' horses, six cargo trucks, one fire truck, two ambulances, three passenger cars, and one motorcycle with sidecar.[19]

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17. Post Diary.

18. General Orders 2, Nov. 30, 1925; Post Diary.

19. Taylor to Inspector General, Aug. 18, 1926, File 111.3, Fort Hancock, 1922-35, RG 92, WNRC.

Eleven months later, on July 1, 1927, the 7th Coast Artillery Band was organized by transfer of personnel from the band section, Headquarters Battery. The regimental adjutant was designated band commander.[20]

In December 1928, a cutback in the army's authorized force resulted in a paring of the strength of the 7th Regiment units assigned to Fort Hancock to an aggregate of 350 officers and men. Field and staff were allotted seven commissioned officers; the band was allotted 34 bandsmen, including one warrant officer; Headquarters aBttery was assigned three officers and 117 enlisted men, including three specialists; Batteries A and B were each assigned three officers and 62 enlisted men, including two specialists; and Battery D was assigned three officers and 72 enlisted men, including three specialists. In addition, eight typists, 17 cooks, and five mechanics were allotted to the regiment for assignment to Fort Hancock.[21]

6. Departure of Engineers

Companies A and B, lst Engineers, having been relieved of assignment to Fort Hancock, departed the post on September 27, 1929, for Fort DuPont, New Jersey, their new duty station.[22]

7. Reduction of the 7th Artillery

A 1930 reorganization of the Coast Artillery Corps resulted in a reduction of the 7th Artillery to two caretaker

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20. General Orders 3, Harbor Defenses of Sandy Hook, July 1, 1927, Post Diary.

21. General Orders 6, Dec. 14, 1928, Fort Hancock, Post Diary.

22. General Order 218, Hdqrs., II Corps Area, Sept. 18, 1929, Post Diary.

detachments, one for the Harbor Defenses of Sandy Hook and the other for the defenses of the Delaware. The Sandy Hook detachment would number 49 enlisted men--nine electrician sergeants, one sergeant-major, one master gunner, one first sergeant, four sergeants, four corporals, ten first class privates, and 19 privates.

Batteries B and D were placed on inactive status at midnight on February 28, and Battery A was placed on inactive status at midnight March 31. Headquarters Battery was designated as the "active associate" of each of the three batteries declared inactive.[23]

8. Arrival of the 52d Coast Artillery (Railway) at Sandy Hook

On April 2, 1930, the caretaker detachment was reinforced by arrival of the 52d Coast Artillery (Railway) which had been transferred from Fort Eustis. The 52d Coast Artillery included the regimental headquarters, Headquarters Battery, the band (less personnel), and the 2d Battalion--headquarters and Batteries C and E. The 7th Artillery bandsmen were transferred to the 52d's band.[24]

The 52d's motor transport convoy made the march from Virginia in three days, traveling from Fort Eustis to Fort Humphreys the first day, moving to the Aberdeen Proving Ground on the second day, and arriving at Fort Hancock at 4:30 p.m. on the third day. The column's speed was limited to that of the slowest vehicle, and the drive was made without resort to towing.

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23. Post Diary.

24. Ibid.

This made it worthy of notice and earned a commendation for participating officers and enlisted men. Most of the personnel had arrived by troop train on the first day, while the armament train arrived the next day. Although the latter traveled at speeds as great as 55 miles per hour, no equipment was damaged.[25]

The newcomers had the distinction of belonging to the only active railway artillery regiment in the army. Their mission was twofold--to engage enemy naval forces and to fire on land targets. The regiment's wartime table of organization called for its lst Battalion to be armed with two batteries of long-range 14-inch guns; the 2d Battalion to have two batteries, each armed with four 12-inch mortars; and the 3d Battalion to have two batteries, each manning four 8-inch guns.

The 2d Battalion brought to Fort Hancock their four 12-inch railway mortars and the 3d Battalion's four 8-inch guns. Regimental headquarters brought three railway cars: a fire control car, a power car, and a kitchen car. The first car was a mobile command post and message center; the second car housed an SCR radio set; and the third car housed a water tank, icebox, storeroom, and a field range.

In 1930, the regiment had a well-managed motor transport section consisting of a Dodge touring car, White reconnaissance car, three motorcycles, four GMC trucks, and three Ford trucks. Regimental headquarters maintained a garage with motor mechanics, and a Dodge repair truck provided road service by the mechanics.[26]

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25. J. C. Johnson, "Harbor Defenses of Sandy Hook, Fort Hancock" Coast Artillery Journal, 74(1931):65.

26. P. H. Ottosen, "Organization and Equipment of the 52nd Coast Artillery (Ry)," Coast Artillery Journal, 68 (June 1928):502-08.

In March 1932, garrison personnel had the following assignments:

Headquarters Detachment, 7th Coast Artillery	57
Detachment, Quartermaster Corps	49
Detachment, Ordnance Department	13
Detachment, Finance Department	1
Detachment, Medical Corps	17
1st Motor Repair Section	19
II Corps Area Motor Repair Shop	20
52d Coast Artillery (Railway)	280
TOTAL	456

9. Reactivating Batteries A, B, and C, 7th Coast Artillery

On July 7, 1939, nine months after the Munich agreement and seven weeks before Adolph Hitler launched his blitzkrieg against Poland, Batteries A and B, 7th Coast Artillery, were reactivated. Coincidentally, Headquarters and Headquarters Battery, 7th Coast Artillery, and the 52d Coast Artillery (Railway) were reorganized. The authorized enlisted strength of these units was established as follows: Headquarters and Headquarters Battery, 7th Artillery, was assigned 80 noncommissioned officers and privates; Batteries A and B, 7th Coast Artillery, were each assigned 104 noncommissioned officers and privates; Headquarters and Headquarters Battery, 52d Coast Artillery, was assigned 80 noncommissioned officers and privates; 52d Artillery Band was assigned 28 noncommissioned officers and privates; and Batteries C and E, 52d Artillery, were each assigned 154 noncommissioned officers and privates.

To effect this reorganization, a number of enlisted men were transferred from Headquarters and Headquarters Battery, 7th Artillery, and the 52d Artillery was to constitute an experienced cadre for the two newly activated units. Recruits were received to beef up their strength to that authorized by the Tables of Organization.[27]

On July 24, housing for the reorganized command was apportioned as follows:

Unit	Strength	Housing
7th Artillery		
Headquarters Battery	80	47 in Barracks 25 and 33 at Fort Tilden
Battery A	104	Barracks 102
Battery B	104	Barracks 24
TOTAL	288	
52d Artillery		
Headquarters Battery	80	Barracks 22
Battery C	154	Barracks 74B and Overflow in Barracks 23
Battery E	154	barracks 74A and Overflow in Barracks 23
Band	28	Kitchen and Mess Hall 56
TOTAL	416	

27. General Orders 15, Harbor Defenses of Sandy Hook, July 7, 1939, Post Diary.

Boats

U.S.M.P. Ord	28	Boat
U.S.M.P. Henry	31	Boat
TOTAL	59	

Services

Medical	25	Hospital
Quartermaster	46	Barracks 25
Finance	2	Barracks 25
Ordnance	9	Barracks 25
TOTAL	82[28]	

On September 1, the day World War II began, the units were given these battery assignments:

Installation	Class	Organization
Harbor Defense Command Post		Hq. Bat., 7th CA
Searchlights 5-8		Hq. Bat., 7th CA
Battery Kingman	A	Bat. B, 7th CA
Battery Mills	B	Bat. B, 7th CA

28. Ibid.

Battery Richardson	B	Bat. E, 52d CA
Battery Bloomfield	B	Bat. C, 52d CA
Antiaircraft Battery 1	B	Bat. B, 7th CA
Antiaircraft Battery 2	B	Bat. C, 52d CA
Mines	A	Bat. A, 7th CA
Battery Gunnison	A	Bat. A, 7th CA
Battery Peck	B	Bat. A, 7th CA
Battery Morris	B	Bat. A, 7th CA
Antiaircraft Battery 3	B	Bat. A, 7th CA
Battery Harris	B	Tilden Det.
Battery West	B	Tilden Det.
Battery East	B	Tilden Det.
Searchlights 9 and 10		Tilden Det.
Battery Alexander	C	Bat. B, 7th CA
Battery Halleck	C	Bat. A, 52d CA
Battery Granger	C	Bat. A, 7th CA
Four 155-mm guns		Bat. E, 52d CA
Four 8-inch guns	A	Bat. E, 52d CA
Four 12-inch railway mortars	A	Bat. C, 52d CA
Two surplus 12-inch mortars		Bat. C, 52d CA
Searchlight No. 3	Training	Hq. Bat. 52d CA[29]

Eleven months later, on August 1, 1940, with France crushed and the Battle of Britain about to burst in all its fury, orders were issued activating Battery C, 7th Coast Artillery. It was August 13 before the personnel reported for duty, and the company was organized.[30]

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29. Training Circular 49, Harbor Defenses of Sandy Hook, Aug. 29, 1939, Post Diary.

30. General Orders 17, Hdqrs., II Corps Area, July 20, 1940, Post Diary.

B. Day-to-Day Activities of a Soldier

1. Peacetime Army

In the months following the end of the Great War, while the 4,555,000-man armed forces were being rapidly demobilized and cut back to their peacetime strength, there were hot arguments within the army over how best to meet its manpower needs in the event of another war. One side of the army wanted the largest possible cadre of professional soldiers in skeletonized units into which wartime recruits could be absorbed. This group was opposed by the champions of the citizen soldier, who urged that the regular army be a small force in readiness, while citizen soldiers received peacetime training to prepare them for rapid mobilization of new combat units in time of war or national emergency.

The National Defense Act of June 3, 1916, provided that the United States Army consist of the regular army, the officers reserve corps, the enlisted reserve corps, and the national guard while in federal service. For its citizen soldiers, the nation was to look to the organized reserve corps and the national guard. The officers reserve corps was to be consituted by giving commissions to civilians who had qualified by examination. The enlisted reserve corps was to be built-up by soldiers furloughed to the reserve--the enlistment of the regular soldier was to be for three years on active duty and for four years in the reserve.

The National Defense Act of 1916 also provided for organization of the reserve officers training corps (ROTC) to provide personnel for the newly constituted officers reserve corps. That autumn, units were organized at 37 colleges and at nine military schools. In the fall of 1918, the War Department suspended the ROTC in favor of the students' army training corps (SATC), which trained enlisted men for special assignments but not for commissions. Meanwhile, thousands of men who had undergone

ROTC or earlier military training in the corps of cadets at land grant colleges were commissioned through the World War I "Plattsburg Plan" camps. Soon after Armistice Day, the SATC was disbanded.

On June 4, 1920, President Wilson signed into law another National Defense Act reaffirming the components of the 1916 act. It reestablished the ROTC and provided federal aid in the form of uniforms, equipment, and instructors. The ROTC was reorganized in the nation's secondary and collegiate institution, and a comprehensive program was undertaken for the training of candidates for commissions in the officers reserve corps.[31]

The act also provided that reserve officers could be commissioned by the President for a five-year term. If, during this period, Congress declared a national emergency, these reserve officers could be called to duty for six months or less after the end of the emergency. To prevent the accumulation of "deadwood" in the officers reserve corps, the law provided that reserve commissions would be for five years. Renewal of commissions or advancement in rank was dependent upon interest and progress demonstrated.

During the early days of the reserve program, it was necessary for the War Department to deal, to a considerable extent, with reserve officers individually. With development of reserve organizations, it became feasible to administer them as units, thereby promoting organization, esprit, and teamwork within the corps.

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31. The Army Almanac: A Book of Facts Concerning the Army of the United States (Washington, 1950), p. 324.

The National Defense Act of June 4, 1920, reflected the ideas of those advocating a citizen army. Fort Hancock played a role in training an army of citizen soldiers to back up in time of crises a small regular army organized into skeleton units which could be quickly expanded when required.[32]

Under the amended act, the organized militia of the several states and territories were reestablished as the national guard. Its organization conformed to that of the regular army. Thus the national guard became a component of the organized peacetime establishment. Although in practice, esprit, methods, and training, the national guard was a component of the regular army; it was, unless federalized, under control of the chief executives of the states and territories. For its citizen soldiers, the nation would look to the organized reserve corps and the national guard.

During the first 4 years after World War I, the national guard was reorganized in the states and territories at the rate of about 40,000 men per year. An economy era followed which prevented the national guard from attaining its target strength of 435,000, the national guard numbered about 185,000 for the next 15 years.[33]

Section 47 of the National Defense Act of 1920 authorized the Citizens Military Training Camps (CMTC). Although the primary objective of these camps was to instruct and train selected warrant officers, enlisted men, and civilians with a view of

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32. Russell F. Wiegley, The American Way of War: A History of United States Military Strategy and Policy (New York, 1973), pp. 221-22.

33. The Army Almanac, pp. 324-26.

their appointment as reserve officers or noncommissioned officers, there was a secondary mission. The secondary object was to bring together young men of diverse economic backgrounds from various regions on a basis of equality and under favorable conditions of outdoor life, to stimulate good citizenship by fulfilling a national obligation. At the camps the enrollees received instructions in the elementary duties of a soldier, in the civic responsibilities of citizenship, in hygiene and physical training, and in practical leadership and character building.

Four courses of instruction--Basic, Red, White, and Blue--were established. The Blue course was for officers, the White course for noncommissioned officers, the Red course for privates, and the Basic course for beginners. Forenoons were assigned to military instruction and afternoons were reserved for recreation, athletics, and additional military instruction for advanced candidates, with a view to prepare them for the responsibilities of noncommissioned officers.

The first camps were organized in 1921. Between then and 1924, 160,390 applications were received for enrollment. But, because of financial limitations, only 90,624 were enrolled. Commissions were given to 501 graduates of the Blue course in the summer of 1924. By June 30, 1925, more than 50,000 applications had been received in the various corps areas for camps to be held that summer. To cope with the influx, 11 additional posts were utilized, making a total of 40 camps.[34]

On June 30, 1940, the Organized Reserve Corps consisted of 104,228 officers and 3,233 enlisted men. Many of the

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34. Ibid., p. 327.

units to which these people were assigned were "paper" organizations.[35]

2. Harbor Defense Days

May 19 and June 23 1923, were designated Harbor Defense Days at Fort Hancock in an effort to familiarize the reserve army and national guard officers, their wives, and friends from New Jersey and New York with the mission of the coast artillery and its training methods.

On the 19th, the Sandy Hook officers scheduled a series of demonstrations. The 385 guests arrived from New York City aboard the quartermaster steamer Gen. J. E. Johnston at 1:30 p.m. Their first stop was the Liberty Theater, where they were welcomed to Sandy Hook by the coast artillery district commander, Brig. Gen. Hugh Drum, and the coast defense commander, Col. James J. Brady. Next, Lt. Col. Harry L. Watson delivered "a forceful lecture on 'Positive Methods of Coast Defense' as exemplified by present War Department policies."

The guests were then escorted to the parade ground, where they watched the troops present the colors while being reviewed by General Drum. Next, they toured the barracks occupied by the 76th Company. This allowed the troops time to man their battle stations. The guests then separated--the ladies were taken to the officers' club, which was housed in the Brick House, while the officers boarded trucks to carry them to the demonstration sites.[36]

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35. Ibid., p. 310.

36. Frank C. McConnell, "Harbor Defense Days at Fort Hancock," Coast Artillery Journal, vol. 59, no. 2, p. 186.

The first stop was at Antiaircraft Battery B, manned by the 136th Company, where they watched the men fire at air bursts. They then traveled to the mining casemate. Capt. Napoleon Boudreau had set up a problem, calling for destruction of a target towed across the minefield. Mines had been planted the previous day. Soon after the guests arrived, a tug towed a target into the field, and exploding mines "tilted the target in the water." Instantaneously, a battery of 155-mm GPFs. (Grande Puissance Filloux), manned by the 76th Company, roared into action with subcaliber ammunition. Proceeding to Battery Peck, the visitors watched as the 137th Company demonstrated "the bracketing method of fire adjustment executed with . . . subcaliber ammunition."

The next stop was at the old mortar battery, where the officers toured the coast defense commander's station, message center, and fort command station. For the group's benefit, a problem was solved involving the defense of New York Harbor against an enemy fleet, supporting an amphibious attack across the New Jersey and Long Island beaches. Colonels Brady and Watson promised that the problem would be worked out in the field on the guests' June 23 visit, weather permitting.

Before returning to the Brick House for dinner, the officers were driven south to Battery Kingman to watch the 136th Company subcaliber fire their 12-inch rifles.

A buffet supper was served at the Brick House at a cost of 75 cents each. After supper the guests returned to the parade ground and watched massed calisthenics by the garrison. This exercise completed the day's demonstrations, and the remainder of the evening was spent at the reception and dance at

the Brick House. The party ended at 11 p.m., and the visitors returned to New York City by government boat.[37]

On June 23, the second Harbor Defense Day, a series of subcaliber firings were to be featured to "demonstrate the end attained by . . . preliminary training." However, during the first three weeks of June, a succession of mists, fogs, and hazy weather blanketed the New Jersey coast. The planners accordingly viewed, with apprehension, the weather as June 23 dawned. But the day broke fair, with visibility much better than it had been during the preceding week, so the planners decided to continue with the demonstration.

At 11:30 a.m. on June 23, 185 visiting officers landed at Fort Hancock. Once again, they assembled in the Liberty Theater, where they were greeted by General Drum and Colonel Brady. Lt. Col. Lynn S. Edwards, the post commander, then briefed them on the afternoon's firing problems. Maj. Gen. Robert L. Bullard, commanding the II Corps Area, now arrived. After he had made a few well chosen remarks, the assembly adjourned for lunch at the Brick House.

After eating, the guests were driven to Antiaircraft Battery B. They watched the men of the 137th Company bang away at an air sock towed overhead by an airplance. They then watched the 76th Company fire the 155-mm GPFs at a towed target 6,000 yards to the seaward. This was the first service practice with these guns since they had been received at Fort Hancock earlier in the year.

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37. Ibid., pp. 187-88.

The day's concluding event was to be a combined coast defense and fire command program as explained on May 19. It was to be executed by Batteries Peck and Kingman. Two towed targets had been sent to sea to represent the enemy fleet. The weather, however, changed rapidly, and visibility became so poor that Battery Kingman could not be fired. By the time the visitors gathered at Battery Peck, a squall roared in. The target was hidden from the viewers, and, after three rounds, the practice was suspended.

The guests ended the day with a tour of the mine casemate, torpedo store houses, loading room, and boathouse. Having assembled at the dock, the visitors reboarded their boat at 5 p.m. and returned to New York City.[38]

The success of the Harbor Defense Days encouraged the army to again schedule the events for May 24 and June 21, 1924. A similar format was followed. On the first day, the mine planters Ord and Henry departed Pier A, North River, at 12:30 p.m. and stopped at Fort Hamilton to pick up additional passengers. On their arrival at Fort Hancock, the visitors were shuttled to Liberty Theatre in trucks and private automobiles. There they were welcomed by Col. G. G. Heiner, commanding the 2d Coast Artillery District, and Col. Elijah B. Martindale, commanding the Coast Defenses of Sandy Hook. Next, Capt. Clare H. Armstrong gave a short lecture on "Recent Developments in Harbor Defense, Railway and Tractor Artillery," and Colonel Watson gave a lecture on "Tactical Employment of Harbor Defense, Railway and Tractor Coast Artillery in War."[39]

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38. Ibid., p. 188.

39. "Program for Harbor Defense Days at Fort Hancock, New Jersey, May 24, 1924, and June 21, 1924," Post Diary.

The first day's schedule was practically a carbon copy of the previous year's program. Soldiers of the garrison passed in review, after which the guests inspected the quarters, mess hall, and kitchen of the 76th Company. They then watched as the 136th Company shot down balloons with 3-inch antiaircraft guns. The visitors spent 20 minutes touring the coast defense command post, observation tower, message center, and meterorological and primary stations. There was a demonstration of the submarine mine defense system by the 137th Company, subcaliber firing from the 6-inch guns of Battery Peck by the 137th Company, drill on the 155-mm GPFs by the 76th Company; and drill and subcaliber firing from Battery Kingman's guns by the 136th Company. Before the officers and their families and friends were driven to the Brick House, they viewed a 12-inch railway mortar in firing position.

After a buffet supper at the officers' mess, there was dancing until 9:45 p.m., and 15 minutes later, the visitors were driven to the wharf to board the boats which took them back to Fort Hamilton and New York City.[40]

Some four weeks later, these same reserve corps and national guard officers, having left their families at home, boarded the mine planter Ord. The vessel pulled away from pier A at 9:30 a.m. A brief stop was made at Fort Hamilton to pick up other officers. They reached Sandy Hook at 11:30 a.m. After being greeted by the district and post commanders, the visitors were briefed on the day's firing problem.

Following lunch at the Brick House, the officers were transported to a vantage point. From there, they watched the

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40. Ibid.

coast defense guns of batteries Kingman and Peck and the 155-mm GPFs shell towed targets far out to sea. The demonstration ended at 4:30 p.m., and 30 minutes later the visitors were aboard Gen. J. E. Johnston en route back to Fort Hamilton and New York City.[41]

3. Citizens Military Training Camp (CMTC)

Typical of the CMTC encampments was the one held in the summer of 1923. On August 1, qualified candidates from the II Corps Area arrived at Fort Hancock by either government boat from New York City or by railroad from New Jersey. As soon as they reported, the 86 young men were given a thorough physical examination. They were pronounced in excellent condition by the post surgeon. Next, they were issued clothing and equipment, and organized into companies. There were 29 in the advanced blue course, 38 in the intermediate white course, and 19 in the primary red course. They were then assigned quarters in the tent city on the bay shore near the Liberty Theatre.[42] Part of the theatre had been set aside for a service club and canteen. Here there was space for boxing matches, dances, and movies. The trainees would eat in the nearby cantonment mess hall.

On August 2, the candidates were sworn in and addressed by District Commander Drum and Defense Commander Brady. A tour of the post followed and the batteries were identified.

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41. Ibid.

42. Raymond D. Spaun, "Coast Artillery Summer Camps," Coast Artillery Journal, vol. 59, no. 5, pp. 397-98. In the camp there were showers, latrines, and individual wash basins. Drinking fountains were sited near the head of the company streets. All tents were floored and equipped with electric lights and mosquito bars.

An intensive four-week training program began on August 3. Company A was assigned to Battery Richardson, and Company B was assigned to Battery Peck. The routine called for close order drill in the morning, followed by a 30-minute lecture, and then two and a half hours of artillery instruction on the big guns. Afternoons were devoted to lectures, calisthenics, swimming, and other activities, which were followed by a parade.

At each emplacement a candidate acted as battery commander. It was determined to fire Battery Richardson on August 15 and Battery Peck two days later. The instructors saw that the men were schooled in their duties. On the 15th, with candidate Lester M. Friedman acting as battery commander, the men of Company A took their battle stations at Battery Richardson. Although visibility was good, small boats crossing the field of fire caused the gunners to cease fire after firing eight rounds. On the 17th, 25 rounds were fired at a moving target from Battery Peck.

Company A was then assigned to an antiaircraft battery, and Company B was assigned to the 155-mm GPF tractor battery. There were daily practices, Sundays excepted, until August 27. The antiaircraft people fired at bursts and the GPF gunners employed indirect fire at moving targets.[43]

The men's recreational needs were not overlooked. There were tug-of-wars, baseball, volley ball, tennis, boxing, and other sports. Two baseball games were played between the CMTC candidates from Fort Hancock and those representing Camp Alfred Vail (today's Fort Monmouth). Each sported a victory. Boxing matches were held in the Liberty Theatre on August 11, and movies

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43. Ibid., pp. 398-400.

were shown at the theatre three times a week. A trip to the Long Branch Mardi Gras was made on Saturday, the 4th, and on Sunday, the 19th, the mine planter Ord transported the candidates to Coney Island. There were several dances with the young ladies coming from nearby towns on the Jersey shore.

Their spiritual needs were served by Catholic Chaplain W. R. Arnold and Protestant Chaplain S. C. Ramsden. The former utilized St. Mary's Chapel for mass, while the latter held services at the Liberty Theatre. There were also services several times during the week at the YMCA.[44]

Graduation exercises were held on the afternoon of August 29, which was also visitors' day. Because of the rain, the exercises were held in the Liberty Theatre. The companies were inspected by General Drum, with speeches by Colonel Brady, Capt. Nathan H. Lord of the organized reserve corps, and Ruford Franklin representing the governor of New Jersey. Prizes were awarded for excellence in various activities. Sigmund Eisner of Red Bank, New Jersey, was presented an Elgin watch as the best athlete, and gold fountain pen and pencil sets were given to the candidate in each class standing first. The eight men in the squad winning the close order drill contest were each presented a set of gold cuff links. A. G. Spaulding Co. presented watch fobs to the candidates making the baseball team. The Walter Scott Cup was won by Company A, as the unit displaying the best all-around military efficiency. This company also was awarded the coveted 3-inch shell trophy for scoring highest in artillery drill and target practice. Company B earned the cup for being the best drilled unit.

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44. Ibid., pp. 400-01.

Certificates were awarded by General Drum to all participants in the program. Of the 29 candidates who took the Blue course, 16 were recommended for commissions as second lieutenants, and three were recommended for further training. Of the 38 participants in the White course, 31 were recommended for next year's Blue course. Of the 29 participants in the Red course, 27 were recommended by the instructors for training in the White course; one was to be dropped as undesirable, and one was to receive no further training in the CMTC because he held a commission in the organized reserve corps.[45]

On August 30, 1923, the candidates turned in their gear. Buses drove a number to the Highlands railroad station, while a boat had been chartered to take the New Yorkers to Brooklyn and The Battery. The post band was at the dock. As the boat pulled away, the band played and the candidates cheered.[46]

In 1924, there was increased interest in the CMTC program, and 122 candidates reported on August 1. There were 23 Blue, 18 White, and 81 Red course candidates. The additional personnel enabled the instructors to organize a three-company battalion. These were attached to the three batteries of the garrison. Since the previous year, two courses had been added to the curriculum--all candidates were instructed in lifesaving, and the Red candidates were schooled in first aid.[47]

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45. Ibid., pp. 401-02.

46. Ibid.

47. E. T. Conway, "The CMT Camp at Ft. Hancock, New Jersey," Coast Artillery Journal, vol. 61, no. 5, pp. 415-16.

By 1929, the number of II Corps Area CMTC Coast Artillery candidates participating in the annual Fort Hancock encampment had increased to 286. In addition to the annual trip to Coney Island's Luna Park, the candidates traveled to the Polo Grounds to watch the New York Giants play the Chicago Cubs. There was an intercamp field and track meet with the Fort Monmouth CMTC. The training schedule had been beefed up and now included a forced march, with the candidates spending one night bivouacked on the beach.[48]

4. Training the Citizen Soldiers

During the 1920s and 1930s Fort Hancock hosted the annual summer encampments of various organized officer reserve units and national guard commands.

In July 1929, 150 reserve officers from the quartermaster corps spent two weeks in camp at Sandy Hook. Battery A, 261st Coast Artillery Battalion, Delaware National Guard, traveled to Fort Hancock in late July for its annual encampment.[49]

The 245th Coast Artillery Harbor Defense (HD), New York National Guard, was at Sandy Hook from July 12-27, 1929. This was the New Yorkers' first summer camp at Fort Hancock, as they usually spent their two weeks on active duty at Fort Horatio G. Wright.[50]

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48. "Coast Artillery Activities: 7th Coast Artillery (HD) Fort Hancock," Coast Artillery Journal 71(1929):318-19.

49. Ibid., p. 244. Battery A was reorganized in 1924 as the 161st Separate Coast Artillery Battalion (HD), with Battery A stationed at Laurel. Dan Devine, The Delaware National Guard: A Historical Sketch (Wilmington, 1968), p. 30.

50. Annual Report of the New York Adjutant General for the Year 1929 (Albany, 1929).

From June 13 through August 31, 1936, the garrison was called on to handle an unusually heavy summer training schedule for the national guard and the civilian components. With a number of officers under orders for a change of station, there was a shortage of regular officers to oversee the vital program. The Fort Hancock officers, however, met the challenge without any curtailment of training schedules. There were many expressions of approval concerning the arrangements and the efficient manner in which all details were handled.

First to arrive, coming on June 13, was Battery A, 261st Coast Artillery (HD), Delaware National Guard. The Delaware unit remained in camp for two weeks. The next unit to report was New York's 619th Coast Artillery (HD), which was on the reservation from July 19 to August 1.

As an innovation, 40 newly commissioned second lieutenants, in the Coast Artillery Corps reserve, reported to Fort Hancock for two weeks active duty. ROTC units from the University of Delaware and Fordham University were encamped on the post for six weeks. Majs. D. L. Dutton and Joseph Kohn oversaw their training program. The ROTC fired the 6-inch guns, 155-mm guns, 3-inch antiaircraft guns, and 50-caliber machine guns. They established a good record and attested to the quality of the instruction.

Personnel from the 514th Coast Artillery Reserve Corps were in charge of the CMTC encampment during the four weeks, beginning July 30. The 197 enrollees demonstrated the skills of the citizen soldiers and the efficient instruction by the officers in charge of the program.

The experience gained by the Fort Hancock commander, Col. Lloyd D. Magruder, and his people satisfied their superiors that in future summers they could conduct an expanded program. Plans were prepared for development of a new camp site.[51]

The summer training season for 1937 began on June 12, with the arrival at Sandy Hook of the 261st Separate Battalion (HD), Coast Artillery Corps, Delaware National Guard. Battery A fired the first practice with the two 10-inch guns of Battery Granger on June 22, making an outstanding score. Battery B followed two days later from the same emplacement. This was the unit's first experience with the big guns, as it had been constituted and organized the previous July. Having no armory, Battery B had drilled and stored its equipment in the auditorium of the Georgetown High School. This had not been too great a handicap, because the battery destroyed the towed target with its last shot.[52]

From June 20 to July 3, 30 newly commissioned second lieutenants of the Coast Artillery Corps reserve were on post. They were given special training under supervision of Lt. Col. Stewart S. Griffin. On July 1, they fired a service practice from the 12-inch railway mortars.

The ROTC encampment lasted from June 18 through July 29. Composed of students from Fordham University and the

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51. E. B. Dennis, "Notes from the Harbor Defenses of Sandy Hook," Coast Artillery Journal 79(1936):224 and 379.

52. Dennis, "Fort Hancock," Coast Artillery Journal 80(1937):345.

University of Delaware, they fired the 3-inch antiaircraft guns on July 1, 50-caliber machine guns on the 2d, 155-mm guns on the 22d, and the 6-inch disappearing guns of Battery Gunnison on the 22d.

Officers of the 620th and 621st Regiments, Coast Artillery Organized Reserve, were at Fort Hancock from July 18 to 31. While at the Hook, they fired 50-caliber machine guns, 12-inch railway mortars, and 155-mm GPFs.[53]

To assist with instruction of the CMTC enrollees, Maj. William H. Warren and the officers of the 1st Battalion, 502d Coast Artillery were ordered to Fort Hancock in June. On their arrival at the Hook, the CMTC candidates were surprised to learn that instead of the usual training on the fixed seacoast guns and 155-mm guns, they would be drilled on 3-inch antiaircraft guns. The man responsible for initiating this change was Col. C. H. E. Scheer of the 502d. Colonel Scheer had argued that training the CMTC in antiaircraft defense would not only stimulate their interest, but would be beneficial to the officers of his regiment, since they would be given an added opportunity to perfect themselves in the work they would be called upon to do in the event of war.

There were no mobile antiaircraft guns at Fort Hancock, so a detachment of the 62d Coast Artillery (AA), led by Capt. Lathrop R. Bullene, was sent from Fort Totten with a battery of 3-inch guns, a platoon of searchlights, and 50-caliber antiaircraft machine guns.

On July 6, the CMTC battalion was organized and presented with its colors. The battalion was marched onto the

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53. Ibid.

parade ground by Major Warren. Judge Thomas Brown and former U.S. Senator W.W. Barbour of New Jersey presented the colors to the unit.[54]

World War II had been raging in Europe and at sea for nine months, when the 1940 summer training season opened at Fort Hancock on June 6. This was only four days after the miracle of Dunkirk and 24 hours after the German Wehrmacht had begun the offensive along the Somme, which within 17 days was to force the French government to sign a humiliating armistice at Compiègne.

The summer training season continued until September 2. First to arrive and depart from Sandy Hook were 83 ROTC candidates and 189 reserve officers. On July 6, Batteries A and C, 62d Coast Artillery (AA) were transported over from Fort Totten to instruct the CMTC candidates and th West Point cadets in antiaircraft warfare. The successes of Reichsmarschall Hermann Goring's Luftwaffe in Poland, Norway, the Low Countries, and France, particularly the destruction of Rotterdam, had focused the nation's and army's attention on defense against air attack.

The CMTC battalion in 1940 numbered 227. On July 8, the West Point detachment (two officers and 35 enlisted men) arrived at Fort Hancock to establish a camp for the first class of cadets. The first section of cadets reported nine days later.

While personnel of the 62d Coast Artillery looked on and gave instructions, the future officers were given practical experience in firing 3-inch antiaircraft guns and 155-mm guns and operating searchlights. While the West Pointers were being

54. Ibid.

instructed, Lt. Gen. Hugh A. Drum, who now commanded the II Corps Area, visited the post. On the 20th, the cadets returned to the military academy, and Batteries A and C, 62d Coast Artillery, returned to Fort Totten.

The second section of the first class (and Batteries A, B, C, and F, 62d Coast Artillery [AA]) reported at Fort Hancock on July 29. After familiarizing themselves with antiaircraft weaponry and the 155-mm guns, the cadets and the West Point detachment boarded the boat for the academy on August 3. Meanwhile, the four batteries from the 62d had returned to Fort Totten.

On August 11, the 245th Coast Artillery (HD), New York National Guard, debarked at Sandy Hook for three weeks intensive training. Because all available camp areas were occupied, considerable difficulty was experienced in providing the guardsmen with satisfactory housing.[55]

The last year the regiment had trained at Fort Hancock was 1929. Since then it had been returning to Fort Horatio G. Wright for its annual encampment. Henceforth, the 245th was programmed to take its summer training at Fort Hancock, because in the War Department's mobilization plan it had been assigned to the Defenses of Sandy Hook.[56]

5. Soldiering at Sandy Hook

During the 1920s and 1930s, the garrison was called on to participate in war games and maneuvers. On May 31, 1928,

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55. Post Diary.

56. Annual Report of the New York Adjutant General for the Year 1940 (Albany, 1940).

the battalion of the 7th Artillery, CAC, was turned out to take part in joint army-navy war games designed to test the defenses of the Long Island Sound approach to New York Harbor. The troops assembled on the wharf in heavy marching order. There they boarded boats for Fort Michie and returned to Fort Hancock on the evening of June 15.[57]

In the spring of 1929, with joint army-navy maneuvers scheduled to be hosted by the Harbor Defenses of Sandy Hook, two large temporary latrines were erected at the Nine-Gun Battery and at Battery Granger during the period from July 13-26. A washroom and showers were built at Battery Mills.

By mid-July, the Fort Hancock garrison had been reinforced by the 245th Coast Artillery (HD), New York National Guard (50 officers and 800 men); 75 officers of the 513th and 514th Coast Artillery Regiments (AA) Organized Reserves, 619th Coast Artillery Regiment (HD) Organized Reserves, 620th Coast Artillery Battalion (HD) Organized Reserves the 621st Coast Artillery Regiment (HD) Organized Reserves; and detachments of the 5th Coast Artillery and 1st Battalion, 62d Coast Artillery (AA). A detachment of the 9th Coast Artillery Regiment (HD) was rushed down from the I Corps Area in Boston Harbor to man the guns of Fort Tilden. Col. Jacob C. Johnson of the Sandy Hook Defenses commanded this formidable force.

On July 23, Colonel Johnson sent his troops to their battle stations, as reports were received that the "black fleet" consisting of the battleships New York and Wyoming; the cruisers Richmond, Cincinnati, and Milwaukee; the submarines S2 and S4; and 12 destroyers had been sighted. This powerful task

57. Post Diary.

force commanded by Rear Adm. William C. Cole had been given the mission of fighting its way past Forts Hancock and Tilden into New York Harbor.

The batteries, because of limited visibility, were unable to open fire. As one of the participants reported, it was another war game, with both sides claiming victory. But for the participants it was "a valuable experience and an opportunity which does not present itself often enough."

Chief of Coast Artillery, Maj. Gen. Andrew Hero, who traveled up from Washington to observe the exercises, was impressed. He reported that these games provided the corps with

> an opportunity to . . . analyze the tactics of an enemy fleet in attacking fortifications. Such exercises . . . [were] particularly beneficial in giving senior officers and their staffs needed training in functioning in war.[58]

The reorganization of the 7th Coast Artillery into caretaker detachments and the transfer of the 52d Coast Artillery (Railway) to Sandy Hook in April 1930 introduced a new element into the post's training program. It involved training of a mobile unit with large caliber guns assigned to harbor defense missions, in addition to the other assignments. For this purpose Colonel Johnson (who commanded the Sandy Hook defenses from February 1929 to July 1932) established a new command post, with areas and

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58. "Coast Artillery Activities: Artillery Navy Exercises in Southern New York Harbor," Coast Artillery Journal 71(1929):234-36 and 244. Other interested observers were II Corps Area Commander, Maj. Gen. H. E. Ely, and Col. Frank K. Fergusson, the commander of the 2d Coast Artillery District.

subareas assigned to the 52d as an additional group of the harbor defense command.

Preparation of firing positions for the mobile railway guns and mortars involved construction of additional trackage and repair of other spurs. The 1930 summer training season for the civilian components arrived before all these projects were completed. Consequently, the autumn target practice was conducted with mixed results. It was, however, very instructive due in part to errors and mistakes made. The experience of the 52d Coast Artillery served to accentuate the "care required in orientation of base lines and in location of guns and observation posts to meet the precision demanded in firing heavy mobile guns at naval targets."[59]

The Fort Hancock garrison in September and October 1930 participated in joint army-navy communication exercises. Their goal was to coordinate and practice radio communication between navy amphibious forces and army land and air commands. A naval tug, the 3d Naval District, airplanes of the 9th Observation Group, air service personnel from Mitchell Field, and the coast defenses of Sandy Hook were involved in the communication exercise.

Problems were outlined for each exercise to maximize involvement of all elements. The tug and planes were employed initially for reconnissance. As the problem progressed and the enemy fleet closed to bombard the beach, the tug and planes were released to Fort Hancock. The former was employed in connection with the minefield and the latter to observe gunfire. Two

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59. Johnson, "Harbor Defenses of Sandy Hook," Coast Artillery Journal 74(1931):65-6.

frequencies were employed in these exercises to facilitate the exchange of messages and to limit interference.[60]

On March 1, 1932, the 52d Coast Artillery removed its armament from storage and commenced intensive preparations for the forthcoming Wildwood, New Jersey maneuvers. Five mornings a week there was a "dry run" (weather permitting), with occasional "jaunts away from the gun parks to sundry places along" the Hook and down the railroad for practice in emplacement and for subcaliber firing. Senior officers made several trips down the coast to Wildwood to reconnoiter camp sites, locate spotting stations, and establish contact with civilian agencies.[61]

On June 2, the 52d Coast Artillery traveled south by rail to Wildwood and the next day opened fire. The regiment was back at Fort Hancock on the 11th, when it again emplaced and fired its guns. This firing attracted considerable newspaper and newsreel coverage and focused much public attention on the coast artillery and its railway guns. Battery E's practice with two 8-inch guns and Battery C's with two 12-inch mortars was outstanding.

When interviewed the battery commanders claimed "no 'secret processes' or particular knowledge of mysterious methods patented by themselves." They admitted that they had made every effort to prepare both their materiel and personnel to "fire a practice employing the established and usual method."[62]

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60. Ibid., p. 65.

61. "Coast Artillery Activities: Fort Hancock, New Jersey," Coast Artillery Journal 75(1932):223-24.

62. "Coast Artillery Activities: The 52d Coast Artillery (Ry)," Coast Artillery Journal 75(1932):308. Capt. Colburn L. Berry commanded Battery E and Lt. Frederick B. Dodge, Jr., Battery C.

Maj. Gen. D. E. Nolan, commander of the II Corps Area, who witnessed the Fort Hancock practice, commended the work of the 52d Coast Artillery. It demonstrated, he said, that the officers and men of the regiment were well trained, interested, and zealous.[63]

In the spring of 1936, the 650-ton mine planter General E.O.C. Ord entered dry dock for extensive repair. This resulted in curtailing water transportation between Sandy Hook and New York City. Motor transport was used to bring over supplies from the Brooklyn Army Base. The sinking of the harbor boat Barnett made it necessary to employ Ordnance on the Fort Slocum run.[64]

On Ord's return from dry dock, she was turned over to Headquarters Battery, 7th Coast Artillery, for a service mine practice on August 6. The training period necessitated daily planting and picking up a group of mines until a satisfactory proficiency was atained. The program culminated in the positioning of a group of loaded mines, several of which would be fired from the mining casemate, as a target was towed across the minefield.

The battery was commanded by Capt. William C. McFadden, a veteran of 16 years' service and several seasons of submarine mine warfare. 1st Lt. F. C. Peterson, the executive officer, was in charge of the loading room; 2d Lt. William R. Murrin was range and casemate officer; and Staff Sgt. Hiram W. Smith was casemate electrician. Sergeant Smith's battle station was in the mining casemate "among electric generators and motors, storage

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63. Ibid.

64. Dennis, "Notes from the Harbor Defenses," p. 224.

batteries and a maze of instruments and wires." At the flash of a light, he threw a switch, followed by an explosion and geyser of water out in the bay, and a "little pyramidal target" was sundered. Although many of the participants were recruits, with less than one year's service, the company scored 99 percent. The mines were planted in "the excellent time of 101 minutes."

Some ten weeks earlier, on May 26, Battery C, 52d Coast Artillery, Capt. Richard C. Lowry commanding, had fired its annual service practice, employing its 12-inch railway mortars. One hundred and fifty rounds of subcaliber ammunition were allotted. Battery E, 52d Coast Artillery, Capt. Webester F. Putnam commanding, fired its service practice from 8-inch railway guns. Fourteen rounds of 200-pound projectiles were discharged at a battleship mock up, laying 2,000 yards offshore. Three hundred rounds of subcaliber ammunition had been previously expended for preliminary training. Battery personnel also constructed a firing spur and had occupied the position under simulated wartime conditions.

In addition to its own weapons, Battery E personnel, during the summer encampment of the civilian soldiers, drilled the citizens in use of the 155s and the big disappearing rifles.[65]

During the year a number of enlisted men took the preliminary examination for admission to the West Point preparatory school. The large number of high school graduates among the post's rank and file led to the belief that it would be well represented.

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65. Dennis, "Harbor Defenses of Sandy Hook," p. 379; Asbury Park Press, June 11, 1936.

With a number of empty billets in the 52d Coast Artillery to be filled, recruiting was resumed.[66] Annual service practice began on May 17, 1937. First to fire was Battery E, 52d Coast Artillery, which employed its 8-inch railway guns.[67] Battery C followed on the 27th, with its 12-inch railway mortars. Poor visibility to the seaward delayed and interferred with the firing on both occasions. On July 12, 16, and 26, Headquarters Battery, 7th Coast Artillery, positioned mines from the mine planter Ord.[68]

In August 1939, as Europe edged toward war and Adolf Hitler and Joseph Stalin stunned the world with their pact, the United States Army held its Plattsburg maneuvers. A number of officers and men from Fort Hancock were participants. Some were assigned to duty with the umpire group, and others were assigned to Headquarters Company, First Army; Headquarters Company, II Corps; and as truck drivers. Battery C, 52d Coast Artillery, relieved the battalion of the 18th Infantry at Fort Jay, so it could take part in the war games.[69]

In January 1940, after Poland had been crushed and while the "phoney war" dragged on, a 100-man casual company was organized at Fort Hancock. On January 30 the company was sent to the Brooklyn Army Base, preparatory to transfer to the Hawaiian Department. A second group of casuals reached Sandy Hook on April 22 and were sent to the Brooklyn Army Base on May 27, from

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66. Dennis, "Harbor Defenses of Sandy Hook," p. 379.

67. Dennis, "Harbor Defenses of Sandy Hook Notes," Coast Artillery Journal 80(1937):265.

68. Dennis, "Fort Hancock," p. 345.

69. Post Diary.

where they were likewise provided with transportation to the Hawaiian Islands.[70]

A number of units from the garrison participated in the First Army maneuvers at DeKalb, New York, during the summer. On July 15 Provisional Battery A, Panama Coast Artillery Detachment (PCAD), 7th Coast Artillery, was organized as Provisional Company F, Quartermaster Truck, II Corps, and started for the maneuver area. Two weeks later, the following Sandy Hook units were temporarily reorganized: Battery E, 52d Coast Artillery, as Provisional Company C, Quartermaster Truck, II Corps; Battery C, 52 Coast Artillery, as Provisional Military Police Company, II Corps; 56 enlisted men of Battery B, 7th Coast Artillery, as flagmen for the umpire group; and 90 men from Batteries A and B, PCAD, 7th Coast Artillery, and Headquarters Battery and Battery C, 52d Coast Artillery, as telephone operators for the umpire group.

These units left Fort Hancock for the upstate New York war games on August 1. They and Provisional Company F returned to Sandy Hook in late August. The provisional units were disbanded, and the officers and men rejoined their commands.[71]

In July new 1940 two cadre groups left Fort Hancock to form a nucleus for units being organized at Fort Banks, Massachusetts, and Fort Story, Virginia.[72] The organization of

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70. Ibid.

71. Ibid. Provisional Companies A and B, Panama Coast Artillery Detachments (PCAD), each mustering 100 enlisted men, had been organized at Sandy Hook in January 1940.

72. Ibid. The Fort Banks cadre mustered 23 enlisted men, and the one destined for Fort Story was comprised of 68 noncommissioned officers and privates.

cadres and provisional companies at Fort Hancock and other posts reflected a decision by President Franklin D. Roosevelt, following his proclamation of a limited national emergency in September 1939, and to authorize an expansion of the regular army to 227,000 and the national guard to 235,000.

6. Reviews and Ceremonies

An important facet of soldiering during the decades following World War I was the formal reviews and ceremonies incident to visits to the area by ranking military officers and national leaders.

On April 25, 1932, Colonel Johnson called on his men to "spruce up" the post, preparatory for a visit the next day by the II Corps Area Commander, General Nolan and his staff, District Commander Frank K. Fergusson, and Brig. Gen. Lucius R. Holbrook.

Soon after their arrival, the three senior officers and their staffs took position on the parade ground, and the garrison passed in review. Following an inspection of the barracks, a luncheon was given for the visiting officers in the Brick House. "Judging by the amount of victuals consumed and the conversational noise the affair was a huge success." The general officers spent the afternoon touring the fixed and mobile batteries.

General Nolan, upon returning to his headquarters at Governors Island, commended the garrison. Both at the review and inspection of installations, it had been evident that the rank and file were "keenly interested in their work," which spoke well for morale. The "high state of efficiency and superior condition of

the guns and fixed defenses," along with the motor repair shops, had been particularly noticeable.[73]

On November 1, 1935, Col. Lloyd B. Magruder relieved Lt. Col. Richard Dodson as commander of the Sandy Hook Defenses. Three weeks later, on November 21, Brig. Gen. William E. Cole, the district commander, made his annual inspection. General Cole was received with full military honors as the garrison passed in review.[74] On April 7, 1936, there was a review for Maj. Gen. Stanley H. Ford, who was on post to inspect the motor repair shops and the CCC camp.[75]

On Saturday, May 29, 1937, the New York Society, Military and Naval Officers of the World War, led by Maj. Gen. John J. Byrne, traveled to Fort Hancock to present the trophy awarded to the II Corps Area unit judged best for general efficiency during the period from November 1, 1935, to October 31, 1936. General Byrne and his party left New York City on the mine planter Ord. They were met at Fort Hancock by Colonel Magruder and a guard of honor. After a salute, the customary honors were extended by General Byrne, and the party proceeded to the Brick House for refreshments.

During the afternoon a review was held, and General Byrne presented the trophy to Headquarters Battery, 7th Coast Artillery. The trophy was received by Capt. W. C. McFadden, the

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73. "Coast Artillery Activities: Fort Hancock, New Jersey," p. 225.

74. Dennis, "Doings at Fort Hancock," pp. 60-1.

75. Dennis, "Notes from the Harbor Defenses of Fort Hancock," p. 224.

battery commander, who had a gold medal pinned on his chest, commemorating the activities of his unit.

The rest of the afternoon was spent visiting points of interest. General Byrne recalled personal experiences at the post during the Great War. After a reception and dance at the Brick House, the visitors reboarded Ord for their return trip to New York City.[76]

There were several important visitors to Fort Hancock in 1939. On June 10 His Britainnic Majesty King George VI and his wife, Queen Elizabeth, detrained at Red Bank, while the Fort Hancock band played "God Save the King." The royal couple, after an appropriate welcome by Governor A. Harry Moore and other dignitaries, got into cars. The motor convoy started for Sandy Hook. An estimated 200,000 people lined the roadway. Crossing the Shrewsbury bridge, the cars sped through the south gate of the reservation, passed within sight of the Hallyburton Memorial, and proceded to the wharf, where they boarded U.S.S. Warrington.

In honor of the occasion, a 21-gun salute was fired when the royal visitors arrived and a similar gun salute was fired when they departed. From Sandy Hook, King George and Queen Elizabeth were taken into New York Harbor. They landed at The Battery, while thousands cheered.[77]

On August 24, with the Polish crisis threatening daily to explode into World War II, President Roosevelt made a

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76. Dennis, "Fort Hancock," p. 345.

77. New York Times, June 11, 1939; Post Diary.

dramatic gesture for peace. Cutting short a vacation cruise aboard the cruiser Tuscaloosa, he landed at the Sandy Hook wharf. A guard of honor from the coast artillery was formed and presented arms when the president came ashore to be welcomed by a 21-gun salute. As he was in a hurry to return to the nation's capital, the presidential party did not tarry. When they left the reservation, a second 21-gun salute was fired.

On reaching Washington later in the day, President Roosevelt addressed letters to Chancellor Adolf Hitler, President Ignacy Mościcki of Poland, and King Victor Emmanuel III of Italy, appealing for them to compromise their differences and keep the peace. The nonaggression pact signed by the Soviet Union and Germany the previous day, however, had doomed Roosevelt's efforts and made war inevitable.[78]

On April 22, 1940, three ranking Air Corps officers (Maj. Gens. Delos C. Emmons and Frank M. Andrews, and Brig. Gen. James E. Chaney), accompanied by Chief of Coast Artillery James A. Green, spent the day at the Hook inspecting the defenses.[79] Four months later, on August 29, Hugh Drum, now a lieutenant general commanding the First Army, spent the day at Fort Hancock.[80]

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78. New York Times, Aug. 25, 1939. Unfortunately, the historic wharf from which King George VI and Queen Elizabeth embarked and at which President Roosevelt disembarked in 1939 was demolished by the U.S. Coast Guard in the summer of 1976 without going through 106 procedures.

79. Post Diary.

80. Ibid.

7. Assignment of Troops to the Hindenburg Disaster and New York World's Fair

On the evening of May 6, 1937, the German zeppelin Hindenburg, as she was preparing to dock at the naval air station in Lakehurst, New Jersey, exploded and burned. There was heavy loss of life. The fire had barely burned itself out before Colonel Magruder received a call for assistance. Capt. W. B. Merritt of Battery C, 52d Artillery, was rushed to the disaster scene. The troops arrived early on May 7. Captain Merritt ringed the wreckage with his men, deployed at 10-yard intervals. Their task was to keep unauthorized persons at a distance. The battery remained at Lakehurst until May 10 when it returned to Sandy Hook.[81]

In 1939 one Fort Hancock officer and 80 enlisted men from the 52d Coast Artillery were ordered to Camp George Washington, at Flushing Meadows, Long Island. There, they joined the force that the U.S. Army had assigned to its New York World's Fair detail.[82]

C. Off-Duty Hours at Sandy Hook

1. Social Life Officers' and Noncommissioned Officers' Clubs

The Sandy Hook officers and their families enjoyed a social life that revolved around the Brick House and other post recreational centers. There was a post bridge club which met on alternate weeks at the Brick House. The officers and their families had a league which bowled on Monday evenings, with refreshments served afterwards in the officers' club.[83] Life at this important

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81. Dennis, "Harbor Defenses of Sandy Hook Notes," p. 265.

82. Post Diary.

83. Dennis, "Doings at Fort Hancock," pp. 60-1.

garrison, one of the officers noted, "is far from being dull or monotonous."

In November 1935, soon after he assumed command of the post, Colonel Magruder and his wife were honored at a reception and dinner dance given by the officers and ladies of the post. The Brick House was beautifully decorated for the occasion.

Thirty-six officers and senior noncommissioned officers attended the coast artillery reception given by General and Mrs. Cole at Fort Totten on December 27. Those in attendance congratulated the district commander on his recent promotion to major general.[84]

A noncommissioned officers' club, its membership limited to those in the first four pay grades, was organized in the autumn of 1936. The club, whose president was M. Sgt. Charles F. Ayres, was housed in a frame building northwest of the Brick House.[85] At the same time, a monthly game night was inaugurated at the Brick House, in addition to the regular dances.[86]

In the winter of 1936 Lt. Paul A. Roy completed a survey for a 9-hole golf course. Care was taken to ensure that the 1st and 9th holes were easily accessible from the Brick House.[87]

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84. Ibid.

85. Dennis, "Harbor Defenses of Sandy Hook Notes," p. 74.

86. Ibid.

87. Dennis, "Harbor Defenses of Sandy Hook," p. 148.

2. Athletic Teams and Competition

In the 1930s the post fielded baseball, boxing, and football teams. In 1935 the football team got off to a slow start but made creditable progress under the coaching of Lt. Robert Morris.[88]

3. Special Activities

In the winter of 1935-36 a Fort Hancock Boy Scout Troop was organized for the sons of military and civilian base personnel. The reservation afforded many opportunities for outdoor sports and participation in those activities which appealed to those in scouting.[89]

On February 22 and 29, 1936, the garrison turned out to listen to a broadcast of the massed coast artillery bands of the Hawaiian Separate Coast Artillery Brigade from Schofield Barracks.[90]

On Christmas Eve 1936 the annual tree party was held in the post theatre. There were more than 150 children in attendance. Positioned on midstage was a gaily lighted tree. Christmas Day was ushered in with appropriate music by the 52d Coast Artillery Band marching about the area. It was unseasonably warm, and overcoats were left in the barracks. On New Year's Eve there was a dance at the Brick House.[91]

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88. Dennis, "Doings at Fort Hancock," pp. 60-1.

89. Dennis, "Harbor Defenses of Sandy Hook," p. 148.

90. Ibid.

91. Dennis, "Harbor Defenses of Sandy Hook Notes," p. 74.

4. Provision for Hunting and Water-Related Recreation

In October 1936 the New Jersey Game Commission, through the efforts of Adj. T. K. MacNair, 7th Coast Artillery, released 70 pheasants and 60 quail on the reservation.

The deepening and widening of the Shrewsbury River was commenced by the Corps of Engineers in October. The project called for a channel 300 feet wide and 12 feet deep at mean low-water. When this project was completed, it was anticipated that "visiting yachtsmen will appear in thousands instead of in hundreds as they did during the last season and that more boats of the commercial type will be in evidence."[92]

More than 200 fishing permits were issued to civilians in the spring of 1937. Many soldiers also enjoyed this form of recreation, and every unit boasted its champion. Clam diggers were numerous. As of May 31 Sgt. David Trank of the medical detachment held the record. "The delightful fragrance of clam chowder, and boiled sea bass" was potent, and on "the many recent occasions on which they have been served, the crowded messhalls" gave evidence of the popularity of both dishes.[93]

D. Sandy Hook's Role in Development of Radar

1. Testing Program Developed

In the 1930s radar (radio detecting and ranging) was developed independently, and about the same time in the United States, Great Britain, Germany, and France under various names. This should not have been surprising because the basic principles

92. Dennis, "Harbor Defenses of Sandy Hook," p. 74.

93. Dennis, "Harbor Defenses of Sandy Hook Notes," p. 265.

were well known. The two ideas basic to pulse radar were the echo principle and the pulse principle. The echo principle was formulated in the 1880s by Heinrich R. Hertz in his work with electromagnetic waves, while the pulse principle was formulated in 1925 by Gregory Breit and Merle A. Truve in ionospheric work.

A. Hoyt Taylor and Leo C. Young of the Naval Research Laboratory and Col. William R. Blair of the Signal Corps and associated scientists spearheaded development in radio detection in the United States. By 1930 navy technicians had devised an interference type of radio detection. Army scientists first worked on microwave radar in the early 1930s, but the sets were military failures, because they could not attain sufficient range. The output power of microwave oscillator tubes at this time was too weak.

Success came by 1936 when both the army and navy developed pulse radar on longer wave lengths generated by special high-power tubes. The Signal Corps demonstrated a model of the army's first radar in 1937. Army Chief of Staff Malin Craig was impressed with the SCR-268 radar, but he was also worried about what he felt was an inadequate amount of secrecy. After negotiations, the equipment was located at Sandy Hook among the holly and dunes. Capt. Rex V. D. Corput, the project superintendent, and Paul E. Watson, the civilian chief of the section, began work.

Sandy Hook was a natural choice because the coast artillery, for whom the project was being undertaken, was responsible for the reservation. It was also close to the Fort Monmouth Signal Corps School and was athwart heavily used military and commercial air routes. This could facilitate the detection of aircraft by radio pulses. Finally, the curious could be easily

discovered and excluded from the isolated peninsula. There were disadvantages, however. Sandy Hook was only a few feet above sea level. To get the antennae up high enough, the Signal Corps people were compelled to rely on such expedients as employing four 100-foot poles and securing spaces from the coast guard at the Twin Lights Station at Navesink, where the Atlantic Highland rose to 225 feet.

Weather conditions at the Hook were severe, with torrid summers and frigid winters. There were high winds, which reached their apogee in the devastating hurricane of September 1938. In addition to the bad weather, several months were lost because of the transfer from Fort Monmouth. This, much to the impatience of the principal clients--the air corps and coast artillery--added to the research span.

As soon as the move had been consummated, the equipment had to be redesigned. The project engineers knew that much laboratory work was required before the device could be "called an accurate antiaircraft aid." The thermal element had proved disappointing and the step-by-step motor that powered the vertical antenna failed.[94] It was apparent to those in charge that, although "the pulse-and-echo theory was sound, it needed mechanical contriving to make it work."

A growing staff sought to solve this problem. One engineer rebuilt the transmitter, another experimented with a cathaderay oscilloscope receiver, and another redirected the

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94. Dulany Terrell, United States Army in World War II: The Technical Services, The Signal Corps: The Emergency (Washington, 1956), pp. 121-22.

antennae. A detachment from the 62d Coast Artillery (AA) was detailed to Sandy Hook from Fort Totten. These soldiers, besides guarding the site, built equipment. They were representative of the skilled enlisted personnel who would be expected to cope with the new detector when it became operationable. Their commander, 1st Lt. Albert F. Cassevant, built an experimental transmitter that was employed in subsequent service tests.

The project was continued at Sandy Hook in 110- and 240-megacycle models, as well as with the heat-detector unit. These were shunted aside before a third and final type of set was perfected. For the impending service test, scheduled for the close of fiscal year 1938, the availability of tubes dictated use of the 110-megacycle model in preference to the 240-megacycle, which needed a specially designed transmitter tube. To generate the tremendous amount of power needed to send a pulse hard enough so that there would be something left of it when it rebounded, was a subject of prime concern. A series of tests on all available high-frequency tubes was resolved for the moment in favor of the RCA model, despite the fact that it absorbed such excessive voltage that its average life was less than 20 hours.

There was understandably great interest in the project by senior officers. In January 1938 Chief Signal Officer Joseph O. Mauborgne visited the site; in February the General Staff sent another representative; and in March, the chief of coast artillery, Archibald H. Sunderland, was at Sandy Hook. A number of "odd, desolate buildings, half hanger, half barn," had been planned for Fort Hancock. They had to be high because they were antenna shelters and except for nails, they could contain no metal above ground level because of the misleading echoes that metal would introduce into the equipment. Both Western Electric and Westinghouse were to take up positions onsite. The United States

erected eight antenna shelters for the former company and a large trapezoidal structure for the latter.[95]

Experiments were increasingly focused on elimination of the thermal element. A method known as tube switching was introduced. In June 1938 Col. Roger Colton became director. With the beginning of fiscal year 1939, Colton was able to redefine the program to give substance to developments which had become apparent through work at the laboratories and tests at Sandy Hook.

The project was divided four ways, although emphasis continued to focus on what had been officially designated SCR-268. What time and money remained were directed to what was to become SCR-270/271. The radio position-finding section was not yet in a position to accomplish much on the third and fourth segments of the radar program. These two projects would be expanded upon in the future. The first of these was intended to explore the avenue left open by experiments, earlier in the decade, to locate enemy surface ships as they approached the coast. It eventually led to the SCR-296. The fourth was a miscellaneous category from which emerged the range-finder SCR-547.[96]

In the years before World War II the United States lagged behind the British in developing airborne radar. In the United States the work, which was "compartmentalized," dragged. There was no consultation between the agencies involved. Ground pulse radar was surrounded in secrecy at Fort Hancock, airborne beat radar at Wright Field, and airborne pulse radar at the RCA

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95. Ibid., pp. 122-23.

96. Ibid., p. 124.

Laboratories in Camden, New Jersey. RCA, which was in competition with Bell-Western Electric, was as secretive about its work as either of the Signal Corps facilities.[97]

To test its SCR-270, the Aircraft Radio Laboratory in 1940, just before the Battle of Britain opened, mounted antennae on a B-18 and flew to Fort Hancock. A number of flights were made over Sandy Hook enabling the engineers to test antennae which were resonant to the SCR-268 as well as to the SCR-270.[98]

To solve the problem of securing a satisfactory airborne radar, the Air Corps, in the summer of 1941 centered its efforts upon attempts to convert the SCR-268 into an Air Corps set and to provide the SCR-270, which was already an Air Corps set, with height findings.

The conversion of the SCR-268 led to the SCR-516. This was done in the Forts Monmouth and Hancock area, rather than at Wright Field because the equipment had been developed by the Signal Corps Laboratories. To accomplish this, the engineers lowered the pulse rate and increased the power, which resulted in the desired 75-mile range. To improve the set's ability to measure altitude as low as to within 5 degrees of the horizon, they mounted larger antennae upon a low wooden tower. They were pleased with the results, and they were tested in the Carolina maneuvers.[99]

In the summer of 1941 Signal Corps engineers were rushed to Iceland, which had just been taken into the nation's

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97. Ibid., p. 187.

98. Ibid., p. 191.

99. Ibid., p. 267.

North Atlantic defense perimeter, to help place in operation a radar station at Grindavik. Here, they accomplished what they had learned to do at Sandy Hook and Twin Lights.[100]

2. Erection of First Buildings for Radar Testing Facility

In the autumn of 1937 the Quartermaster Department constructed two structures near South Beach for the Signal Corps laboratories. The field house was a one-story and attic bungalow approximately 24 by 20 feet, with a 14' by 10' wing, and a covered 8' porch across the front of the structure. There were three entrances to the frame structure and six rooms--main shop room, guardroom, boiler room, office, measuring instruments room, and bathroom.

The frame garage shed was 60 feet long and 24 feet wide, with a gable roof 12 feet from the ground at the eaves and 18 feet at the ridge. It was enclosed on three sides, and the front, which was open, faced the south.

Water for the bathroom, heating system, and other utilities was drawn from two well points inside the boiler room. Sewage was taken care of by a 300-gallon steel septic tank and a masonry overflow tank. Electrical power was secured from a special overhead line and transformer bank installed by the Jersey Central Power and Light Co.[101] Unfortunately, these structures that supported the first Sandy Hook radar tests were salvaged by the army.

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100. Ibid., p. 279.

101. Completion Report on Erection of Field House and Garage Shed at Fort Hancock, New Jersey, May 17, 1938, Fort Hancock, 1922-39, RG 77, WNRC. Photographs of the field house and garage are on file at the Sandy Hook Unit, Gateway National Recreation Area.

E. Structural History of the Post

1. Equal Emphasis on Maintenance and Training

On October 18, 1930, the War Department notified the defense commanders that hereinafter "the maintenance and repair of post facilities will be considered of equal weight with training in determining the efficiency of commands." To this end, programs for maintenance and repair were to be prepared along with training schedules to ensure coordinated action.

Maintenance and training was to be on a 50-50 basis insomuch as "results and the final judgment to be passed on the efficiency of the commanding officer were concerned."

To meet this challenge, the Fort Hancock commander--Colonel Johnson--instituted a "task system" for the indoor season, with an allotment of three days per week (including Saturday forenoons) for training, two days for maintenance, and one day (Wednesday) and Saturday afternoons for athletics and recreation. Normally, Mondays and Tuesdays were devoted to maintenance, but it could be postponed until later in the week, and training could be substituted, if the weather were unfavorable for outdoor work. If maintenance were postponed, the announcement had to be made by the adjutant at 7:30 a.m.[102]

All regular maintenance work, requiring special details for its execution, was accomplished in accordance with an approved priority schedule of tasks for the post. This list was compiled from individual priorities and was updated as necessary. Projects requiring attention were listed by officers responsible for

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102. Johnson, "Harbor Defenses of Sandy Hook," Coast Artillery Journal 74 (1931):145.

maintenance of buildings, wharves, roads, railroads, emplacements, athletic fields, and other facilities. Only an emergency could justify a departure from this control sheet.

On Thursdays each officer, who had one or more priority tasks due during the succeeding week, would submit in writing to the adjutant a schedule, listing by task, an estimate of the number of noncommissioned officers and privates that could be utilized thereon. The officer assigned to oversee the project would first familiarize himself with what was expected. He was also responsible for securing necessary tools and transportation, and seeing that they were onsite at the hour required.[103]

Routine maintenance was ensured by Colonel Johnson and his staff. Upon their arrival at a storehouse, barracks, emplacement, fire control station, and other buildings, the caretaker presented his record book that listed "the correction and date of same of all defects and irregularities corrected since last inspection." After they had inspected the structure, one of the staff entered any defects noted for corrective action during the coming month. This ensured methodical correction of deficiencies.[104]

The 50-50 system proved to be a success. Battery commanders were delighted to know that on Wednesdays, Thursdays, and Fridays, they would have all their men for gunners' instruction. No wails of the quartermaster, engineer, and others deterred the adjutant from his fixed purpose of "no fatigue."

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103. Ibid., p. 146.

104. Ibid.

Battery commanders, knowing that five days instruction must be compressed into three days, made more efficient use of their time. Classes were now supervised by officers, and "squad-room artillery arguments" were promptly settled. Tests were held, and the troops took great pride in their ability to master various subjects.

On Mondays and Tuesdays everyone able to "sit up and take nourishment" was turned out for fatigue. Before they fell out, the Quartermaster and Engineer departments carefully outlined the tasks for each detail. Selected noncommissioned officers were placed in charge of each project, while an officer supervised. This supervision was not merely a "'Carry on, Sergeant,' it was active and cut to a minimum the lost motion of 'just another fatigue detail.'"[105]

Colonel Johnson changed his 50-50 system as the winter of 1931-32 approached. Mornings were given over to instruction and the afternoons to post maintenance and schools. By March 1, with the end of the instruction season, every eligible man in the 52d Coast Artillery's two firing batteries had been qualified as at least a second class gunner.[106]

2. Disappearance of World War I Cantonments

a. Salvaging Cantonment Navesink

In the years following World War I most of the cantonment structures built by Turner Construction Co. and Amsterdam Building Co. were salvaged or destroyed by fires of undetermined origin. The first structures to go were those

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105. "Harbor Defenses of Sandy Hook," Coast Artillery Journal 74(1931):p. 233.

106. "Coast Artillery Activities: Fort Hancock, New Jersey," p. 224.

constituting Cantonment Navesink, which were salvaged by Glaser Engineering & Construction Co. in the early summer of 1919.

b. Salvaging Structures of the Nine-Gun Battery Cantonment

On January 7, 1923, Colonel Brady requested authority to salvage temporary barracks U, V, and W, and temporary mess halls CCC and DDD.[107] Corps headquarters failed to act, and Colonel Martindale asked permission to raze barracks U and V in October of 1925. These two 30' by 60' structures, vacant since late 1918, were fire hazards. This time the request was approved and the barracks were demolished.[108]

Col. Goodwin Ordway (who had assumed command of the post in March 1926) had mess hall DDD salvaged in 1927 after clearing the subject with corps headquarters.[109]

By May 1932 only 8 of the 20 cantonment buildings were standing. They were officers' quarters N, O, P, Q, R, S, T, and lavatory JJJ. The World War I officers' quarters were now used as housing for noncommissioned officers below the third pay grade and civilians' quarters, and the lavatory was used as an oil house.[110]

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107. Brady to Commanding General, II Corps Area, Jan. 7, 1923, File 600.6, Fort Hancock 1922-35, RG 92, WNRC.

108. Martindale to Commanding General, II Corps Area, Oct. 9, 1925, File 600.6, Fort Hancock 1922-35, RG 92, WNRC.

109. Ordway to Commanding General, II Corps Area, March 16, 1927, File 600.6, Fort Hancock 1922-35, RG 92, WNRC.

110. Woodward to Commanding Officer, Sandy Hook Defenses, June 9, 1931, File 600.1, Fort Hancock 1922-35, RG 92, WNRC.

c. Eliminating Cantonment Reynolds

A fire on February 27, 1924, destroyed buildings Y and Z and slightly damaged lieutenants' quarters AA and captains' quarters BB. Nearly three years later, Colonel Ordway requested and received authority to salvage these two structures.[111]

The next building to go was mess hall BBB, a 100' by 40' structure razed in February 1928.[112] In October 1928, having secured permission, the post commander reported that lavatory HHH, a 21' by 32' structure, had been salvaged.[113]

By the spring of 1936 the remaining four structures (officers' quarters CC, DD, EE, and FF) had been salvaged.[114]

d. Reducing Cantonment Gunnison to Three Structures

During the 1920s Cantonment Gunnison was assigned to the motor pool. Certain of the structures were deemed surplus in the pool's needs and recommended for salvage. In 1926 the 20' by 90' mess hall (EEE) was salvaged, and in 1928

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111. Ordway to Commanding General, II Corps Area, Oct. 7, 1926, File 600.6, Fort Hancock 1922-35, RG 92, WNRC.

112. Ibid, Feb. 8, 1928.

113. Regan to Quartermaster General, Oct. 23, 1928, File 600.6, Fort Hancock 1922-35, RG 92, WNRC.

114. Woodward to Commanding Officer, Sandy Hook Defenses, June 9, 1931, File 600.1, Fort Hancock 1922-35, RG 92, WNRC.

noncommissioned officers' quarters LL and lavatory JJ were demolished.[115]

By May 1932 the Cantonment Gunnison motor pool had been closed down, and all the temporary buildings, except officers' quarters KK, MM, and NN were salvaged. These three structures were used as family housing for noncommissioned officers below the third pay grade.[116]

e. Destroying Most of Camp Low's Structures

During the 1920s most of the temporary structures erected at Camp Low for quartering troops in World War I were salvaged.

On November 30, 1925, Col. John Gulick (who commanded the post from October 1925 to March 1926) requested authority from II Corps Area headquarters to salvage buildings 4-A, 4-B, 5-A, and 5-B. Permission was granted, and the four 30' by 60' barracks were razed.[117] On July 15, 1926, building 5-D, a mess hall, was salvaged.[118]

On June 27, 1927, a fire ignited by sparks from a passing locomotive started a grass fire. Before it could be extinguished, it had destroyed two officers' quarters--buildings 6-E and 6-F.

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115. Ordway to Commanding General, II Corps Area, Oct. 7, 1926, Mar. 26, 1928, File 600.6, Fort Hancock 1922-35, RG 92, WNRC.

116. Woodward to Commanding Officer, Sandy Hook Defenses, June 9, 1931, File 600.1, Fort Hancock 1922-35, RG 92, WNRC.

117. Gulick to Commanding General, II Corps Area, Nov. 30, 1925, File 600.1, Fort Hancock 1922-35, RG 92, WNRC.

118. Ordway to Commanding General, II Corps Area, Apr. 20, 1926, File 600.6, Fort Hancock 1922-35, RG 92, WNRC.

In 1928, having secured the prerequisite clearance, these structures were salvaged: noncommissioned officers' quarters 5-E and 5-F, each 35' by 29' 10"; mess halls 2-D, 3-D, and 4-D, each 20' by 90'; and lavatories 2-C, 3-C, 4-C, and 5-C, each 25' by 35'.[119] By mid-May 1932 only 6 of the 37 Camp Low structures were extant. They were officers' quarters 2-E, 2-F, 3-E, 3-F, 4-E, and 4-F. These structures were used as housing for noncommissioned officers (below the third pay grade) and their families.[120]

f. Cantonment Arrowsmith Disappears and Cantonment Morris Shrinks

By 1931 all the Cantonment Arrowsmith structures had been salvaged and the Camp Low dock abandoned. Four of the ten Cantonment Morris buildings (officers' quarters E, F, G, and H) were on the post inventory in May 1932; they were used as housing for noncommissioned officers below the third pay grade.[121]

g. Supporting the CMTC Program

By 1932, 6 of the 16 structures erected in 1918 to house and support personnel assigned to the Sandy Hook Ordnance Depot were standing. They were barracks 112-A, barracks 112-C, mess hall 112-L, barracks 112-N, lavatory 112-K, and dishwashing room 112-T. Four of these structures (112-K, 112-L, 112-N, and 112-T) were assigned to the CMTC program,

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119. Ibid., Mar. 26, 1929.

120. Woodward to Commanding Officer, Sandy Hook Defenses, June 9, 1931, File 600.1, Fort Hancock 1922-35, RG 92, WNRC.

while barracks 112-A and 112-C were occupied by enlisted men (below the third pay grade) and their families.

Four temporary frame buildings (washroom 112-P, shower 112-Q, washroom 112-R, and latrine 112-S) had been erected between Sandy Hook Bay and the tent city in the early 1920s for the CMTC enrollees.[122]

h. Using Cantonment Buildings Near Parade Ground

By 1932 band barracks MMM had been salvaged. Buildings 27-A (officers' mess) and 28-A (guardhouse) had been redesignated 39 and 38. The officers' mess was being used as a garage, and the guardhouse was being used as a storehouse. Storehouses OOO, ZZ, and YY had been respectively redesignated buildings 146, 147, and 148. The first two served the post as storehouses and the latter as a sawmill.[123]

3. Sandy Hook Ordnance Depot Structures Salvaged

Although the railroad tracks had been removed in 1920, when the Sandy Hook ordnance depot was closed, the magazines and supporting structures, along with the site, had been transferred to the Sandy Hook Defenses. The magazines (28' by 42-1/2' by 9') were of steel truss construction, covered with asbestos-protected corrugated iron on the exterior and sheathed on the interior with wood. The average cost of the magazines in 1918 was $1,607.72.

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121. Ibid.

122. Ibid. Structures 112-B and 112-D were salvaged in January 1932.

123. Ibid.

On February 18, 1925, Colonel Martindale, observing that magazines B-206 had been undermined by the encroaching sea, requested authority to have it salvaged. The commanding general of the II Corps Area reviewed and approved the request.[124] In August, Colonel Martindale requested and received permission to salvage the depot's loading platform.[125]

In October 1926 the commander of the II Corps Area was asked for authority to salvage 34 standard powder magazines--A-201, A-202, B-205, C-211, C-212, C-213, D-214, D-215, E-217, F-221, G-222, G-223, G-224, G-225, H-226, H-227, H-229, I-230, I-231, I-232, J-234, J-235, J-236, J-237, K-240, L-243, L-244, L-245, M-246, M-247, M-248, M-249, and M-250. The six magazines not listed for salvage were being used by the defenses for storage of small-arms ammunition and Chemical Warfare Service matériel.[126]

Consequently, in December 1926, these structures were salvaged--H-226, H-227, H-229, I-230, I-231, I-232, J-234, and J-235. In January 1927 magazines G-222, G-223, and G-224 were removed, and C-211 and G-225 were removed in May. A number of these structures were dismantled and shipped to Madison Barracks, Plattsburg Barracks, and Camp Upon, where they were reassembled.[127] Magazine L-242 burned on October 2, 1927, and magazine M-246 was salvaged in May 1928.

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124. Martindale to Commanding General, II Corps Area, Feb. 18, 1925, File 600.6, Fort Hancock 1922-35, RG 92, WNRC.

125. Ibid.,April 18, 1925.

126. Ordway to Commanding General, II Corps Area, Oct. 1926; Commanding General to Ordway, Nov. 5, 1926, File 600.6, Fort Hancock 1922-35, RG 92, WNRC.

127. Ordway to Commanding General, II Corps Area, Sept. 30, 1927, File 600.6, Fort Hancock 1922-35, RG 92, WNRC.

Authority had been granted in November 1926 to salvage C-208, C-213, and F-221, but in 1931, it was discovered that the roofs had collapsed and the underpinning had given away. Colonel Johnson, in view of the time lapse, resubmitted a request to proceed with their salvage. It was promptly approved and implemented.[128] In the previous month, a fire of undetermined origin had gutted B-205 and C-212.

In August 1932 eight more of the standard powder magazines (A-202, A-203, K-238, K-239, K-240, L-242, L-243, and M-247) were salvaged.[129] In the months between December 1932 and March 1933, the remaining magazines were salvaged: A-201, D-213, D-214, and D-215 in December 1932; E-216 in January 1933; and E-217, E-218, F-219, F-221, H-228, J-236, J-237, K-241, L-233, L-244, L-245, M-248, M-249, and M-250 in February and March 9133.[130]

4. Post Salvage Program: 1922-39

In the years between 1922 and 1935 many of the frame structures that had been transferred from the Sandy Hook Proving Ground to Fort Hancock in 1919 and a number of temporary buildings erected in 1917-18 that were not part of the cantonment program were salvaged. The following structures were included:

Structure 141, a water tank and tower, erected in 1902 by the Ordnance Department to supply water to the Brick House, was salvaged in 1926.

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128. Johnson to Commanding General, II Corps Area, May 22, 1931, File 600.6 Fort Hancock 1922-35, RG 92, WNRC.

129. Cocheu to Commanding General, II Corps Area, Sept. 1, 1932, File 600.6, Fort Hancock 1922-35, RG 92, WNRC.

130. Shearman to Hdqrs., II Corps Area, Jan. 5, 1931, Feb. 2, 1933, Mar. 7 & 31, 1933, File 600.911, Fort Hancock 1922-35, RG 92, WNRC.

Building 146, a quartermaster storehouse (20' by 155') erected in 1917, was demolished in 1928.

Building 89, a shoe repair shop (16' by 40½') erected in 1918, was razed in 1927.

Building 117, an icehouse (16' by 45') built for the proving ground, was salvaged in 1927.

Building 143, a storehouse (83' by 23') built in 1894 for the proving ground, was demolished in 1927.

Building 154, a freight platform and shed, transferred from the proving ground in 1919, was salvaged in 1931.

Building 155, a lavatory, transferred from the proving ground in 1919, was salvaged in 1930.

Building 158, a storehouse (20' by 10' by 9'), transferred from the proving ground in 1919, was demolished in 1931.

Building 161, a storehouse, transferred from the proving ground in 1919, was salvaged in 1931.

Building 163, a storehouse (35' by 29' by 8'), transferred from the proving ground in 1919, was razed in 1931.

Building 166, a quartermaster storehouse (35' by 29' by 9'), transferred from the proving ground in 1919, was demolished in 1931.

Building 86-G, a garage for quarters 86, was salvaged in October 1931.

Building GH-2, a guardhouse, was razed in January 1932.

Building GH-3, a guardhouse, was demolished in January 1932.

Building 137, an E&R frame storehouse, was salvaged in September 1932.

Building 145, a paint storehouse assigned to the motor repair, was razed in September 1932.

Building 88, a one-story frame lumber shed (18' by 40'), built in 1918, was demolished in August 1932.

Building 42, a frame wharf house (20' by 10'), was salvaged in October 1933.

Building 119, a frame carriage shed, built in 1878 for the proving ground, was salvaged in August 1933.

Building 168, a corrugated iron storehouse (waiting room), was demolished in April 1934.

Building 149, a frame locomotive house built for the proving ground in 1908, was razed in April 1934.

Building 122, a frame corral shed, built in 1909 for the proving ground, was salvaged in April 1934.

Building 118, a frame wagon shed, built for the proving ground in 1878, was salvaged in October 1934.

Building 138, a corrugated iron storehouse, built in 1920, and assigned to the coast artillery motor repair stores, was razed in 1934.

Building 116, a frame garage built in 1914 for the proving ground, was demolished in December 1934.

Building 98, a six-car frame garage built in 1917, was salvaged in March 1935.

Building 41, a corrugated iron dynamite magazine built in 1892, was demolished in January 1935.

Building 89, a frame structure erected in 1907 and last used by the engineers, was razed in January 1935.

Building 45, a brick fireproof vault, was salvaged in January 1935.

Building 170, a six-car frame garage, was salvaged in June 1935.

Building 171, a three-car garage, was salvaged in June 1935.

Building 165, a frame bag assembly room, transferred from the proving ground in 1919, was demolished in 1931.

Building 91, a tar paper and frame paint shop built in 1917, was salvaged in November 1935.

Building 128, a frame proving ground barracks erected at the in 1902, was razed in December 1935.

Building 127, a two-car frame garage built for the proving ground in 1895, was demolished in August 1935.

Building 126, a three-car frame garage built for the proving ground in 1895, was demolished in August 1935.

Building 146, a tar paper and frame quartermaster storehouse erected in 1917, was salvaged in December 1935.

Building 129, a frame shelter for a hose cart built in 1912 for the proving ground, was demolished in December 1935.

Building 110-G, a one-car frame garage, was razed in December 1935.

Building 5-C, a garage, was salvaged in December 1935.

Building 158, a storehouse, was demolished in January 1932.

The Liberty Theatre was salvaged in April 1935, one and a half years after the new theatre had been completed and opened.

Building 101, the frame ordnance barracks, was demolished in 1938.

5. Many Structures Damaged and Destroyed by Fire

In the 1920s and 1930s a number of post buildings, including a high percentage of World War I cantonment structures, were destroyed or damaged by fires.

On June 12, 1922, a fire at the former ordnance depot cantonment destroyed eight temporary buildings: 112-E, 112-F, 112-G, 112-H, 112-I, 112-J, 112-M, and 112-O.

Between 1922 and 1935 fires destroyed or damaged the following Fort Hancock structures in addition to the cantonment buildings:

Building 103 (tailor shop) was destroyed on February 5, 1923.

Building 150 (hospital annex) was destroyed on May 16, 1923.

Building 49 (sawmill) was gutted.

Building 36 (quartermaster stable) was damaged by fire on March 6, 1924. This damage was repaired in the following year.

Building 35 (wagon shed) was damaged on November 10, 1924. This structure was repaired at a cost of $600.

A fire on May 15, 1925, destroyed buildings 164 and 167. On June 3, buildings 142 and 169 were gutted by a fire of undetermined origin. While the soldiers were policing the area, sparks set fire to and destroyed building 107. A fourth fire destroyed building 97 on October 15, 1925. Three of these structures had been constructed by the Ordnance Department as part of the proving ground and had been transferred to Fort Hancock in 1919. Building 97 was valued at $1,500, building 107 (tool shed) was valued at $1,800, and building 142 (breechblock shed) was valued at $1,800. Building 164 was valued at $20, 167 at $40, and 169 at $70.

Buildings 133 and 134 (used by the 1st Motor Repair Section as a paint shop) were destroyed on October 24, 1927.

Building 125 (used by II Corps Area Motor Repair Shop) was slightly damaged by fire on November 24, 1928.

On August 30, 1929, a fire at the wharf destroyed an engineer storehouse and the harbor defense tide gauge house. These structures were replaced at a cost of $3,500.

Building 120 (salvage warehouse) was slightly damaged by fire on April 10, 1931.

Building 95 (salvage warehouse) was gutted on April 29, 1931.

Noncommissioned officers' quarters 103 was destroyed on June 9, 1931.

On the evening of January 25, 1934, as Max L. Vidal was putting his father's car in a garage near building 120, he saw the reflection of flames on the garage windows. Wheeling about, he saw practically every window in building 120 "lit up by fire from within." Racing to the guardhouse, he told Cpl. Powell P. Taylor that the old stables were on fire. Corporal Taylor immediately notified the operator at the switchboard, who alerted the man at the fire station. Cranking the truck, he drove to the guardhouse to pick up the guard, then onto the fire. Scrambling out of the truck, the operator attached the pumping apparatus, and members of the guard were soon placing three streamers of water on building 120. The fire was soon brought under control. When a board of survey examined the damage, it was found that the two-story, 1878 frame building was not worth repairing, so it was salvaged.[131]

On the afternoon of March 2, 1934, a fire broke out in the southwest corner of building 132 (motor repair paint shop of the 1st Motor Repair Section). Pvt. Herman M. Duess, who had stepped out of the room, on returning to the building, sought to remove a bucket of varnish remover that he had been using. But as he reached for the bucket, it exploded

131. "Proceedings of a Board of Officers Convened at Fort Hancock, New Jersey," Jan. 26, 1934, in compliance with Special Order 10, File 600.913, Fort Hancock 1922-35, RG 92, WNRC.

into flames burning his face and hands. He tried to escape from the building, but he was unable to open the door. Fortunately, Pvt. Alexander Ludwicowski, hearing the explosion, rushed to his assistance.

He was able to open the door and save Duess from a horrible death. Ludwicowski then reached for a fire extinguisher but burned his hands.

Upon being notified by the headquarters post operator of the fire in building 132, the fire engine driver started the truck and was soon at the scene. Men from the 1st Motor Repair Section employed the engine's three hoses and a number of fire extinguishers to bring the flames under control. A board of survey, on investigating the fire, found that the cost of repairing the structural damage would be $750, and equipment valued at $50 had been destroyed.[132]

On the evening of December 6, 1934, Cpl. Paul J. Marmon built a fire in the furnace of officers' quarters 6, which had been vacant since November 17, when Capt. Leon Dennis had moved out. While he was waiting to bank the fire, Capt. Victor Schmidt's son rushed into the basement, shouting that the front of the house was on fire. The alarm was sounded, and the guard and fire truck turned out. The guard arrived first. The fire was in the outer casing of the northwest dormer window on the west side of the officers' quarters 6. Securing a ladder, Sgt. Arthur Gledhill and several men climbed onto the porch roof. From there, they used a short ladder to reach the roof gutter. To extinguish the fire that

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132. "Proceedings of a Board of Officers Convened at Fort Hancock, New Jersey," Mar. 2, 1934, pursuant to Special Order 22, File 600.913, Fort Hancock 1922-35, RG 92, WNRC.

had been started by sparks from the chimney, which lodged in the dormer's outside casing, Gledhill cut through the casing with an axe. Chemical extinguishers were then employed to snuff out the fire.

Damage to the quarters, which was confined to the dormer and northwest attic bedroom, was repaired at a cost of $50.[133]

On February 24, 1936, the fire alarm sounded. A blaze had broken out in the frame building that housed five coast guard families. Fanned by a 50-mile-an-hour wind, the structure was engulfed in flames by the time the post fire department and personnel of the 288th CCC Company reached the scene. Satisfied that the 20 occupants had escaped, the fire fighters struggled to prevent the spread of fire to adjacent buildings of the coast guard station. In this they were successful, and the chemical extinguishers proved valuable.[134] The coast guard built a new barracks that autumn. With its red roof and white walls, it looked like a Jersey shore beach hotel.[135]

6. Buildings Erected and Rehabilitated

No permanent buildings were added to the post inventory in the 1920s. But in the 1930s, especially after inauguration of the New Deal's Public Works Programs, a number of structures were built and many others rehabilitated. These greatly improved the quality of life at Fort Hancock.

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133. "Proceedings of a Board of Officers Convened at Fort Hancock, New Jersey," Dec., 7, 1934, pursuant to Special Order 174, File 600.913, Fort Hancock 1922-35, RG 92, WNRC.

134. Dennis, "The Harbor Defenses of Sandy Hook," p. 148.

135. Dennis, "Harbor Defenses of Sandy Hook Notes," p. 74.

a. New Post Theatre (Building 95)

On August 8, 1931, Colonel Johnson notified the adjutant general that the Liberty Theatre, built in 1918 with post exchange funds, was structurally unsound. The sills had rotted. Because it was a frame building heated by four stoves in winter, it had always been considered a fire hazard. Restroom facilities were inconvenient--the three mens' water closets and the ladies' room were in "side wings," and were "walled off from the central structure by masonite."

Because the morale of the troops was benefited by the "type of entertainment provided by the theatre," Colonel Johnson urged construction of a modern fireproof building, with seating capacity for 400, similar to the one shown on the enclosed blueprints. He believed a structure of this type could be built by the troops for $20,000. To make it blend with the existing architectural theme, it was to be built of brick and conform in style with the 1896-99 buildings.[136]

Secretary of War Patrick J. Hurley approved construction of the theatre, at a cost not to exceed $20,000. On October 27, 1931, the quartermaster general forwarded, through channels, to the post commander 12 sets of drawings 608-220 to 608-235 and 608-236.3, and 12 sets of specifications 9012-D for a War Department theatre.[137]

The quartermaster general suggested that the theatre be built south of building 26, where it would be near the

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136. Johnson to Adjutant General, Aug. 8, 1931, File 621, Fort Hancock 1922-35, RG 92, WNRC.

137. Quartermaster General to Commanding Officer, Fort Hancock, Oct. 27, 1931, File 621, Fort Hancock 1922-35, RG 92, WNRC.

center of the post and face Sandy Hook Bay. This was objected to, and a site in the angle formed by Kearney and Hartshorne roads, was selected and approved.

By August 29, 1932, the site had been staked, and work was about to begin. Colonel Cocheu, who now commanded the post, became concerned about the high cost of the buff brick. Writing through channels to the quartermaster general, he pointed out that the cost of $27 per thousand made use of the brick prohibitively expensive. He asked authority to employ red brick for the facings.

The site selected, Colonel Cocheu observed, was such that the change in color "would not greatly affect the general appearance of the post." The nearby school (building 102), which was the former ordnance barracks, was red brick.

He also wished authority to employ 8-inch hollow tile for backing in the auditorium area, as well as other walls, "which did not particularly call for carrying strength." Permission was likewise requested to reduce the size of the steel purlins, to install an additional steel purlin under the spans, and to substitute 1¼-inch MD sheathing for 2-inch MD sheathing.[138]

The quartermaster general directed that buff brick be employed unless the cost was truly prohibitive. He approved the change order for use of hollow tile backing, provided the local people were satisfied that it could be made watertight. He disapproved the change orders pertaining to the sheathing and

138. Cocheu to Quartermaster General, Aug. 29, 1932, File 621, Fort Hancock 1922-35, RG 92, WNRC.

purlins.[139] These decisions made, construction proceeded, and the handsome new buff brick theatre was completed in October 1933.[140]

In fiscal year 1937 workmen installed a "winter enclosure" at the entrance to the structure, patched the walks, painted the interior, and installed additional radiators.[141]

b. Officers' Latrine (Building 112-M)

In the last quarter of fiscal year 1933, an officers' latrine was erected for the "concurrent training camp." The 24' by 38' 4" cement block structure had a slate roof and was built with a $2,800 allotment. It housed eight lavatories, six water closets, and six showerheads.[142]

c. Gasoline and Oil House (Building 133)

Workmen in June 1933 completed a 17' 9" by 23' 8" by 9' gasoline and oil house. Concrete foundations and floors were laid, walls of hollow tile were constructed, then stuccoed, and a frame roof covered with tar paper was positioned.[143]

d. CCC Cantonment

In 1935 a cantonment was erected to house the CCC Company that had been stationed at Sandy Hook since the summer of 1933. It was sited south of the post in the triangle

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139. Quartermaster General to Quartermaster, II Corps Area, Sept. 3, 1932, file 621, Fort Hancock 1922-35, RG 92, WNRC.

140. Cocheu to Commanding General, II Corps Area, Oct. 27, 1933, File 621, Fort Hancock 1922-35, RG 92, WNRC.

141. Completion Report, July 12, 1937, Fort Hancock 1922-39, RG 77, WNRC.

142. Ibid., July 26, 1933.

143. Ibid., July 31, 1933.

formed by Magruder and Pennington roads. Cantonment structures included one storehouse (T-41), one office (T-42), one mess hall (T-44), one recreation building (T-45), five dormitories (T-46, T-47, T-48, T-49, and T-50), one latrine (T-51), and one carpenter shop (T-58).

e. Golf Course and Beach Club (Building T-86)

In April 1936 the improved weather enabled the utilities officer, Capt. W. E. Shallene, to accelerate work on a number of construction projects. None of these were more welcomed than the golf course and the combined beach club and bathhouse. It was hoped that the bathhouse would be completed before the outdoor bathing season commenced, because Fort Hancock possessed one of the best bathing beaches on the Atlantic Coast.[144]

General repairs were made in fiscal year 1938 to the officers' beach club. These included new piers, concrete footings, carpentry repairs, a new roof, and painting the interior and exterior.[145]

f. Officers' Quarters 143-45 and Noncommissioned Officers' Quarters 141-42

The Works Projects Administration (WPA) construction program for fiscal year 1939 consisted of erecting three duplex company officers' quarters, two noncommissioned officers' quarters of four apartments each, together with incidental and appurtenant work on sewer, water, and electrical systems.

Before beginning construction, it was necessary to demolish several temporary frame structures and to obliterate one

144. Dennis, "Notes from the Harbor Defenses," p. 224.

145. Completion Report, Sept, 30, 1938, Fort Hancock 1917-41, RG 77, WNRC.

tennis court. Aerial electric lines and poles had to be relocated, along with an 8-inch sewer main. Excavation began July 5, 1938, for one of the noncommissioned officers' quarters and was completed on the five quarters in mid-August. The first concrete for footings was poured on July 15, and the last concrete was poured on September 15. The first foundation was commenced on July 27 and the last on October 20. Bricklaying started on August 16 and was finished on November 30.

Work was suspended from September 21 to 23 because of the great New England hurricane. Although the post electrical system was damaged and roads and walks were flooded, there was no structural damage at the project sites.

After each building was enclosed, heat was maintained around-the-clock to keep the plaster from freezing. The five quarters, costing $142,285, were completed, inspected, and turned over to the post commander on June 30, 1939.[146]

The project also involved a 240-foot extension of the 6-inch bell and sleeve cast-iron water main to supply the officers' quarters and one fire hydrant. Each of the five buildings was connected by a 2-inch copper water service to the post mains.

A new 6-inch sewer main was laid from the intersection of Canfield Road and along South Bragg Drive, a distance of 1,255 feet. Four manholes with cast-iron frames and covers were installed on this line. The new line joined the main sewer system at the intersection of Kearney and Hancock roads.

Roads in the construction area were widened 4 feet by moving the curbing back 2 feet on either side of the road.

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146. Completion Report, Oct. 11, 1939.

Crushed rock and tar were employed to form the new part of the roadway, and service roads were built to each set of quarters. Concrete walks were laid where needed in connection with the new construction.

Underground electrical service lines were laid in conjunction with a state WPA project for modernization of the post electrical system. The electrical switching equipment at the post substation was overhauled and rewired for new circuits as a result of the new construction. Two additional 25-kilowatt transformers were purchased and installed--one near building 141 and the other near building 114. Two 15-kilowatt transformers were removed from a pole at building 114 and relocated, one at building 114 and one at 141.[147]

Following the September 1938 hurricane, to prevent encroachment along the bayfront near the junction of Magruder and Hancock roads, a wash was filled with crushed concrete, stone, and sand.[148]

7. Repair and Maintenance of Structures: 1922-40

a. Maintenance and Repair of Officers' Row

In the late 1920s repairs were made to quarters 1-8 and 16-18. The Quartermaster Department, in 1928, removed the steam heating units from officers' quarters 1-18 and installed horizontal, jacketed Richardson & Boynton steam boilers and automatic Arco temperature regulators. The same year, the department removed 18 army ranges from the kitchens and replaced them with 18 electric S-471110 console ranges and 18 no. 40 coal burning hot water heaters.[149]

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147. Ibid.

148. Ibid.

149. Completion Report, May 2, 1929, Fort Hancock 1922-39, RG 77, WNRC.

In 1930 the Quartermaster Department made repairs to buildings 9, 10, 11, 12, 13, and 14. The work included building 9--interior and exterior painting, new gutters on front porch, repair of windows and screens, and general repair of exterior woodwork; building 10--plastering, repairs to plumbing, general repair of woodwork, and interior painting; building 11--repairs to screens, storm sash, interior and exterior painting, plumbing repair, and general repair of woodwork; building 12--interior painting, general repair of woodwork and repair of plumbing and windows; building 13--interior and exterior painting, repair to plumbing and woodwork, and new window shades; and building 14--interior and exterior painting, replastering, and repair of screens, storm sash, and plumbing.[150]

In 1936-37 the interior and exterior of the buildings on Officers' Row were rehabilitated. This work included patching and plastering walls and ceilings; repair of some woodwork, porches, pillars, and steps; and painting of selected interiors. Where needed, roofs, cornices, gutters, and leaders were repaired.[151] During fiscal year 1937 new lavatory fixtures were installed in the first-floor bathrooms of buildings 1-7, 9, and 18.[152]

In fiscal year 1938 the buildings on officers' Row and the bachelor officers' quarters were repointed, the ceilings and walls were patched, and the woodwork in the rooms and halls on the first and second floors were painted. All water lines were replaced with copper piping, and plumbing fixtures, toilets, and

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150. Ibid., Dec. 2, 1930.

151. Ibid., July 12, 1937.

152. Ibid.

basins were either repaired or replaced. New metal ceilings were installed as needed.[153]

The following year, WPA funds were employed to further repoint the brickwork. The signal system was checked and rewired, as necessary. Doors and windows were refitted, new electric circuit panels installed, cellars cleaned and whitewashed, chimney flues cleaned, and the front porch gutters repaired. A pantry sink was installed and three bedrooms were repainted in building 10.[154]

In fiscal year 1940, garage additions, 13' by 19½', were built at the rear of quarters 5 through 18. The garages had concrete floors, buff brick walls, and a wood roof covered with asphalt. Each garage was entered through overhead doors. Their construction was funded by a WPA grant.[155]

b. Maintenance and Repair of Post Hospital (Building 19)

A two-ambulance frame garage (structure 19-C) was erected behind the hospital annex in 1925. In 1928-29 more than $2,100 was spent on repair of the post hospital. These repairs included replacement of all broken and rotted sash cord, replacement of broken and cracked window and storm sash lights, removal and replacement of loose sash putty, ten new storm windows for medical detachment squad room, tearing down and

153. Completion Report, Sept. 30, 1938, Fort Hancock, 1917-41, RG 77, WNRC.

154. Ibid., July 26, 1939.

155. Completion Report, Apr. 16, 1940, Fort Hancock, 1917-41, RG 77, WNRC.

rebuilding of one chimney, new plumbing fixtures on each of the three floors, repainting of exterior woodwork, installation of three new urinals and one sink, resetting one sink and one bathtub and an iron sheet on new steam table, new flashing and counter-flashing for two chimneys, replacement of 64 feet of ridge roll, replacement of 28 roof slates, repair of 3-inch leaders on east and south sides of building, repair of front porch steps, replacement of rusted sections of metal ceilings in southeast second floor and north room, and replacement of cement in third-floor room.[156]

Two years later, in 1931, $3,269 were expended on the structure. Work on the building included repairs to plumbing; replacement of two lavatories, faucets, piping, and water closet seats; replacement of radiator and air valves; insulation of pipes; screen doors repaired and new window screens purchased and installed; doors repaired and several new locks installed; broken window lights and sash cords replaced; all woodwork on lower floor scraped and varnished; walls and ceilings painted; metal porch roofs painted; new window shades purchased and installed; and metal weather-stripping installed on 92 windows and five doors.[157]

During the summer of 1935, two steel fire escape stairways, each having 24 slat-type iron treads were positioned.[158] At the same time, the old boilers, piping, and foundation were removed. They were replaced with one 40 W10 Weil

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156. Completion Report, July 17, 1929, Fort Hancock 1922-35, RG 77, WNRC.

157. Ibid., Oct. 23, 1931.

158. Completion Report, Nov. 21, 1935, Fort Hancock 1922-39, RG 77, WNRC.

McLean section boiler, (8,900 EDR), 755 feet of 5-tube cameo radiation, and two 3-inch Thrush circulators.[159]

c. Maintenance and Repair of Barracks 22-25

There was an explosion on August 29, 1925, at the intersection of Magruder and Hudson drives. Presumably harmless shells had been positioned for decorative purposes alongside the post roads and walkways and a barrel of burning tar had inadvertently been placed next to one of the shells. The ensuing explosion did $496.89 worth of damage, mostly broken glass, to the post exchange, fire station, mess hall 56, and barracks 25. Needless to say, orders were immediately issued for removal of the decorative shells.[160]

On January 1, 1925, Colonel Martindale had submitted estimates and called for repair of barracks 22-25 and kitchen/mess hall (building 58). To justify repair of the barracks, he pointed out that the "weather now beats through in places and threatens" the buildings structurally. If they were not repaired during fiscal year 1926, he feared that they would no longer be weatherproof. Necessary work included painting and repair of valleys, gutters, downspouts, ridges, and rotted exterior woodwork. Materials called for included: galvanized iron gutters and downspouts, 1½" by 2½" longleaf yellow pine tongue-and-groove flooring, 6-inch crown molding for cornices, 1¼" cove moldings for porches, and paint that conformed to U.S. specificiations.[161]

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159. Ibid.

160. Accident Report, Aug. 29, 1925, File 600.913, Fort Hancock 1922-35, RG 92, WNRC.

161. Fiscal Year 1926, Priority Annual Estimate, Buildings 22-25, Oct. 1, 1925, File 600.1, Fort Hancock 1922-35, RG 92, WNRC.

To justify repair of building 58, Colonel Martindale reminded the quartermaster general that the porches, wooden supports, and other woodwork were "rapidly deteriorating" and must be repaired and protected by painting, or all the woodwork would have to be replaced. Gutters, downspouts, and ridges would have to be attended to where necessary. Materials to be used were similar to those needed for the barracks.[162]

In August the secretary of war approved the allotment of $1,400 for repair of building 22 and $1,355 for repair of building 23. Since January considerable work had been accomplished on these two barracks with annual repair funds. Consequently, only $1,500 of the $2,755 was suballotted to finish rehabilitating the structures by II Corps Area headquarters.[163]

Colonel Ordway, when he filed a completion report for buildings 22 and 23, listed the work accomplished as complete overhaul of plumbing and heating systems and procurement of parts; necessary plastering; repair of cornice molding; procurement of 24 storm sash, 12 for each barracks; repair of downspouts, gutters, and tindecks; purchase of miscellaneous lumber and painting materials; and minor repairs made to woodwork.[164]

To fund the repair of buildings 24, 25, 58, and 82, Secretary of War Weeks approved the allotment of $3,364. By

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162. Fiscal Year 1926, Priority Annual Estimate, Building 58, Oct. 1, 1925, File 600.1, Fort Hancock 1922-35, RG 92, WNRC.

163. Rose to Commanding Officer, Fort Hancock, 1922-35, File 600.1, Fort Hancock 1922-35, RG 92, WNRC.

164. Ordway to Commanding General, II Corps Area, Apr. 21, 1926, File 621, Fort Hancock 1922-35, RG 92, WNRC.

April 21, 1926, all "contemplated repairs" had been made to buildings 24, 25, and 58, except for the painting. Purchase orders had been issued to local tinsmiths for repair or renewal of tindecks, downspouts, and gutters. Repairs to porch flooring and steps, window sash, and cornices were accomplished by the troops. The painters finished their work by mid-May.[165]

Two years later, in 1928, the post commander in submitting estimates for fiscal year 1929, requested $2,106.80 each for making repairs to buildings 22-24. These repairs were to include resurfacing floors in squadrooms and small recreation rooms; fitting the basements with sheetrock or a similar material (these ceilings had not been plastered); repointing the brickwork around door and window openings; procuring and installing missing storm windows (there were only 12 complete storm windows on buildings 22 and 23); repairing and repainting window sash, doors, and exterior woodwork; and replacing the Century Return tubular boiler (no. 26) with a rating of 2,600 to 3,000 square feet.[166]

The following cost estimates included labor and materials for each of the three barracks:

Exterior Materials

8 bags of cement at 90 cents	$ 7.20
7 storm windows--44-3/4 x 87 at $12.50	87.50
12 storm windows--45 x 81-3/4 at $11.90	142.80
25 gallons of paint at $2.75	68.75
Miscellaneous lumber	50.00
Subtotal	$356.25

165. Ordway to Commanding General, II Corps Area, Apr. 21 & May 18, 1926, File 600.1, Fort Hancock 1922-35, RG 92, WNRC.

166. Fiscal Year 1929, Annual Estimate Buildings 22-24, undated, File 625, Fort Hancock 1922-35, RG 92, WNRC. The 59 tubes in the boilers were in "serious condition; repair plugs were numerous, and the facings were cracked." Because of long usage, they were worn out.

Labor

1 mason--5 days at $8/day	$ 40.00
1 carpenter	64.00
Subtotal	$104.00

Interior-Materials

2,000 square feet of longleaf yellow pine flooring 1x3	$ 250.00
25 pounds of nails--8d at $.05	1.25
5,300 square feet of sheetrock at $.41	217.30
Sheetrock filler and nails	20.00
1 complete individual steam heating boiler, rating of 2,600 to 3,000 square feet	950.00
Subtotal	$1,438.55

Labor

1 carpenter--20 days	$ 160.00
1 steam fitter--4 days	48.00
Subtotal	$ 208.00
Total	$2,106.80[167]

Secretary of War Weeks approved the allotment of $2,106.80 for repair of buildings 22-24.[168] By late November 1928, these repairs had been completed.[169]

In fiscal year 1931 more than $8,440 were spent on improvements to the four barracks. Repairs were made to the

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167. Ibid.

168. Sneed to Commanding Officer, Harbor Defenses of Sandy Hook, Sept. 13, 1928, File 621, Fort Hancock 1922-35, RG 92, WNRC.

169. Ordway to Commanding General, II Corps Area, Nov. 26, 1928, File 600.914, Fort Hancock 1922-35, RG 92, WNRC.

metal cornices, gutters, columns, doors, windows, downspouts, light fixtures, urinals, showers, sinks, and wood flooring; porch steps, flooring, cornices, and water closet bowls were replaced; walls and ceilings were plastered; metal weather-stripping was placed on doors and windows (window and door screens replaced as needed); the interiors of buildings 22 and 23 were repainted; and the porches of buildings 24 and 25 were painted.[170]

In fiscal year 1933 new composition flooring with a sanitary cove base was installed in the first-floor hallway leading to the south squadrooms and the first-floor latrine and washroom in buildings 22 and 23. The allotment for this work was $236.50 for each barracks.[171]

At 7:30 p.m., May 20, 1933, a violent storm swept Sandy Hook. The 219th Company (CCC) was occupying building 23, when a loud ripping noise was heard. Upon investigation, it was seen that the tin roof of the upper front porch had been torn loose, the porch had pulled away from the building, and several columns and wooden trim were on the ground.

On May 22, 2d Lt. Arthur R. Thomas, the post utility officer for the 52d Coast Artillery, inspected the damage. He reported that the "entire tin roof and gutters had blown off, all flashings torn out and downspouts broken." The wooden cornice and two columns had blown to the ground. The porch rail on the "second story deck" and the dental blocks on "north end and side"

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170. Completion Report, Apr. 24, 1931, Fort Hancock 1922-35, RG 77, WNRC.

171. Shearman to Historical Record, Mar. 7, 1933, File 611.911, Fort Hancock 1922-35, RG 92, WNRC.

were broken. The porch had pulled away from the main building, because there were too few steel clips to withstand the stress. A girder next to the building, and many rafters had been split. Sheathing under the tin was rotten.

To repair the damage, Lieutenant Thomas called for removal of the old tin sheathings, after which the porch roof was to be jacked up and the fractured girder and rafters replaced. Bricks were to be removed and metal clips secured to the masonry and girder. Columns were to be reset, and trim, cornice, and dental blocks repaired or replaced. New sheathing was to be installed on the upper deck. The second-floor railing was to be repaired, and a new 40-pound "tin roof installed," with new gutters, flashing, and downspouts.

Thomas estimated the cost of materials and labor for repair of the wind damage to be $525. Emergency funds were allotted by the quartermaster general, and the barracks was promptly repaired.[172]

In April 1934 the inspector-general found building 22 occupied by Headquarters Battery, 52d Coast Artillery. The front steps were uneven and needed to be reset. Inside the structure, the floor in the first story showers leaked, and water seeped through to the basement. The kitchen and mess hall floors were also in bad condition and were to be replaced.

Buildings 24 and 25 were vacant, and the floors in some of the rooms needed to be replaced before they were again

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172. Proceedings of a Board of Officers Convened at Fort Hancock, New Jersey, to investigate storm damage to building 23, May 20, 1933, File 600.913, Fort Hancock 1922-35, RG 92, WNRC.

employed as barracks. The back porch roofs also need to be repaired. During the summer of 1934, building 24 was used for processing CMTC enrollees.[173]

In fiscal year 1938 barracks 22, 23, and 25, and guardhouse 28 were rehabilitated. The brickwork was repointed, carpentry repairs made to the exteriors, the exterior woodwork repainted, and the plumbing systems repaired. Three new basins and a new panel switchboard were positioned in barracks 24.[174]

Workmen in fiscal year 1939 repaired the roof, gutters, downspouts, and cornices; the interior of barracks 22 was painted.[175]

d. Maintenance and Repair of Post Headquarters (Building 26)

In fiscal year 1938 the walls were repointed and patched, and the entire interior was repainted. Four metal ceilings and one hall ceiling were replaced. New stair treads were installed on the stairway.[176]

e. Maintenance and Repair of Buildings 55-58

In fiscal year 1929 repairs costing $1,800 were made to kitchen/mess halls 55, 57, and 58. The work included repairs and repainting of downspouts, gutters, tindecks, and ridge

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173. Downer to Commanding General, II Corps Area, Apr. 6, 1934, File 333.1, Fort Hancock 1922-35, RG 92, WNRC.

174. Completion Report, Sept. 30, 1938, Fort Hancock 1917-41, RG 77, WNRC.

175. Ibid., July 26, 1939.

176. Ibid., Sept. 30, 1938.

rolling; repair of electric wiring, flooring, and plumbing; replacement of broken glass; and interior and exterior painting.[177]

During fiscal year 1937 the heating plants in buildings 56 and 57 were relocated nearer the chimneys, and the plumbing and heating fixtures were repaired.

Two years later, in 1939, the metal cornices of buildings 56 and 57 were replaced, and the interior woodwork and trim of building 55 was painted.[178]

f. Maintenance and Repair of Building 104

In fiscal year 1929 the tindecks, downspouts, gutters, and flashings of the warrant officers' quarters were repaired and painted; new flooring laid in kitchen, hall, and lower two rooms; linoleum positioned in kitchen and bathroom; plumbing overhauled; porch screens repaired or replaced; and interior repainted.[179]

In fiscal year 1937 the roof was repaired, and the chimney was repointed and patched.[180]

g. Maintenance and Repair of Buildings 53, (Post Exchange) and 94 (Post Laundry)

During fiscal year 1929 the downspouts, gutters, flashings, decking, plumbing, and window and door screens of the post exchange were repaired; exterior and interior

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177. Completion Report, July 19, 1929, Fort Hancock 1922-39, RG 77, WNRC.

178. Ibid., July 12, 1937, and July 26, 1934.

179. Ibid., July 19, 1929.

180. Ibid., July 12, 1937.

woodwork repainted; interior walls replastered where needed; and broken windows replaced.[181]

The post laundry (building 94) had been discontinued, and the structure was converted into the post exchange tailor shop and garage. In fiscal year 1937 the exterior woodwork was replaced, and a new roof was laid with the "best grade of green," fire-resistant roofing material. Several partitions were closed and new openings made to provide suitable housing for school buses. New concrete floors were laid in two storage spaces. Two sets of garage doors were hung, and the exterior and interior of the building were painted.[182]

In fiscal year 1938 workmen constructed concrete walks in front of the post exchange, repaired porch columns, removed interior office partitions, revamped wood partitions in the market for new refrigerator, and installed new shelving. Two small platforms were erected in rear of the building, a door was installed, and interior woodwork was repaired. The interior of the building was painted.[183]

During the next year, guardrails were installed around the basement steps, and the exterior trim, ceilings, and shelves were painted. Outlets were positioned in the restaurant.[184]

In the 1920s, with more and more troops and civilian employees driving automobiles and motorcycles, the post

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181. Ibid., July 19, 1929.

182. Ibid., July 12, 1937.

183. Completion Report, Sept. 30, 1938, Fort Hancock 1917-41, RG 77, WNRC.

184. Ibid., July 26, 1939.

exchange erected a frame service station with gasoline storage tanks and pumps. It was behind the post exchange, fronting on Mercer Drive.

Workmen in fiscal year 1937 poured new concrete footings and flooring to receive an electric lift at the gas station, while additional flooring was laid to increase the washing area. Two windows on the north and east sides of the station were converted into doorways, a new loading platform was built, and curbing was laid on the southeast side of the post exchange.[185]

h. Maintenance and Repair of Building 70

During fiscal year 1929 the downspouts, gutters, ridge roll, and flashings of the gymnasium were repaired; missing slate replaced, and new tinwork painted. The interior was repainted, and the exterior woodwork, plumbing, and electric fixtures were repaired.[186]

i. Maintenance and Repair of Building 124

In fiscal year 1930 workmen removed the three Samuel Smith & Sons' high pressure steam boilers, including piping and fixtures, from the central heating plant. They then installed two new no. 74-5-47 International Economy smokeless steam boilers, with a rated capacity of 4,841 square feet of radiation and 19.58 square feet of grate area; one Skidmore Corp. vacuum motor feed pump with a H.P. motor manufactured by the Howell Electric Motor Co.; one automatic switch supplied by Industrial Controller Co.;

185. Completion Report, July 12, 1937, Fort Hancock 1922-39, RG 77, WNRC.

186. Ibid., May 19, 1929.

and necessary piping and connections. The old chimney was razed and a new 65-foot stack erected.[187]

Workmen in fiscal year 1937 repaired the structure's exterior brickwork and stonework, the roof and flashing, and window sash. A large trapdoor was built to enable a locomotive crane to drop coal through the roof of the central heating plant.[188]

j. Furnishing and Installing Heating Plants in Numerous Buildings

During fiscal year 1930 heating plants were installed in the following structures:

Building 37 (staff sergeants' quarters)--A cellar was excavated under the kitchen, a coal bin positioned in the cellar, piping installed, and an exterior entrance built, including steps and doorway. The cellar floor was concreted, and an American Radiator Co. boiler no. S-18 was installed. A chimney was extended from the cellar to the first floor.

Building 77 (duplex for two staff sergeants)--A coal bin and new piping were installed, new concrete flooring laid in cellar, the outside entrance and chimney extended from cellar to first floor, and an American Radiator Co. boiler no. 1-S-9 positioned.

Building 101 (quarters for 11 noncommissioned officers and one civilian)--A new concrete floor was laid in the cellar, a coal

187. Ibid., Oct. 9, 1929.

188. Ibid., July 12, 1937.

bin positioned, and an American Radiator boiler no. 3-S-8 installed.

Building 102 (post children's school)--A new coal bin was built, the mains and returns extended, registers in one chimney closed, and an American Radiator boiler no. 3-S-13 installed.

Building 105 (warrant officer's quarters)--A new coal bin, chimney, and an American Radiator boiler no. 2-S-7 were installed.

Building 106 (master sergeant's quarters)--A new coal bin, concrete floor, outside entrance, and an American Radiator boiler no. S-24 were installed.

Building 108 (warrant officer's quarters)--A new coal bin and an American Radiator boiler no. S-20 were positioned.

Building 109 (artillery engineer and ordnance officer)--A new coal bin and an American Radiator boiler no. 1-S-9 were installed and the chimney extended from attic floor through roof to ridge of roof.

Building 110 (master sergeant's quarters)--A cellar, with an outside entrance, was excavated; the cellar floor concreted; the chimney extended; and an American Radiator boiler no. S-20 was installed.

Building 111 (civilian's quarters)--A cellar, with exterior entrance, was dug; the floor concreted; the chimney extended; a coal bin built; and an American Radiator boiler no. S-18 positioned.

Building 112 (warrant officer's quarters)--A new coal bin was built, the chimney extended 15 feet above the roof, and an American Radiator boiler no. 1-S-9 installed.

Building 115 (greenhouse)--New piping for three heating coils and an American Radiator boiler no. W-2910 installed. The cellar was raised 2 feet, and the chimney was raised 10 feet and plastered with cement.[189]

k. Maintenance and Repair of Brick House (Building 114)

In April 1926 Post Commander Ordway notified II Corps Area headquarters that repairs were needed at the Brick House. The tin gutters and decks were rusted and deteriorated to the point where rain and snow were "damaging the interior walls and ceilings on the three stories." The tin roof had been temporarily patched, but this was not enough. The building, both the exterior and interior, needed to be repainted.

The structure, Colonel Ordway reminded headquarters, had "at one time been considered the beauty spot of the reservation, but the lack of sufficient funds and proper care" had caused it to deteriorate and become unsightly.[190]

On February 18, 1927, the II Corps Area commander approved expenditure of funds for rehabilitating the Brick House, and the work was immediately undertaken.

In fiscal year 1930 the old boilers, steam drum, eight radiators, and piping were removed from the Brick House.

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189. Ibid., Oct. 23, 1929.

190. Ordway to Commanding General, II Corps Area, Apr. 21, 1926, File 621, Fort Hancock 1922-35, RG 92, WNRC.

The chimney was then bricked up, three radiators replaced, new piping run to eight radiators, and an American Radiator boiler no. 3-W-11 installed.[191]

During the winter of 1932-33 another chimney was added to the structure. In 1934 the carrying capacity of the quarters section of the Brick House was changed from four families to three.[192]

During fiscal year 1937 a new roof was installed on the main deck of the Brick House; new gutters and leaders hung; the porches, sills, and steps repaired; the brickwork repointed; the chimneys retopped; and the structure's interior and exterior repainted. A new metal ceiling was positioned in one of the rooms, the other ceilings patched and pointed, and all interior walls and ceilings painted. The ladies washroom was changed and remodeled, and linoleum laid in three bathrooms and one kitchen.

A new porte cochere was erected and the roads and parking area enlarged and improved by putting down a cinder base. A mixture of 3/8-inch crushed stone and tar was placed on top of the base, and new curbing was positioned around the parking area.[193]

A fire in the winter of 1937-38 severely damaged the roof and third story of the Brick House. In fiscal year 1938, WPA funds were allotted to repair and replace sections

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191. Completion Report, Oct. 23, 1929, Fort Hancock 1922-39, RG 77, WNRC.

192. Shearman to Quartermaster, II Corps Area, Jan. 23, 1934, File 600.911, Fort Hancock 1922-35, RG 92, WNRC.

193. Completion Reports, Apr. 23, July 12, 1937, Fort Hancock 1922-39, RG 77, WNRC.

of the roof; remodel and repair the recreation room and repair doors and interior of the men's latrine; remove wood flooring in bathroom of apartment 21; remove partitions of the third-floor apartment and swing out all French windows; install new washbowl and drainboards in the third-floor apartment; repair plaster, cornice, patch and point up, and paint walls and ceiling of main hall and third floor; renew all water lines, waste, and traps in apartment 21; lay new flooring in side hall, second-floor rear; repaint all walls and ceilings of first, second, and third floors; install center light fixtures in ceiling of apartment 5; and complete rewiring of electrical fixtures.[194]

1. Improvements and Maintenance of Building 74

In fiscal year 1930 new flush valves were installed on the constant flow urinals in buildings 22-25, 74, and 102.[195] During fiscal year 1931 the interior and exterior of barracks 74 were painted, and 18 flushomatic water closets were installed.[196]

In the spring of 1934, Battery B, 52d Coast Artillery, occupied building 74-B and Battery K, 52d Coast Artillery, occupied building 74-A. The inspector-general, on his annual visit to the post in 1934, complained that the urinals were of old design, unsanitary, and in need of repair.[197]

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194. Completion Report, Sept. 30, 1938, Fort Hancock 1917-41, RG 77, WNRC.

195. Completion Report, Apr. 9, 1930, Fort Hancock 1922-39, RG 77, WNRC.

196. Ibid., Dec. 2, 1930.

197. Downer to Commanding General, Apr. 6, 1934, File 333.1, Fort Hancock 1922-35, RG 92, WNRC.

m. Positioning of New Flagstaff (Structure 78)

In fiscal year 1930 John E. Lingo & Son, Inc., of Camden, New Jersey, removed the parade ground flagpole, guys, and concrete base. A new base was prepared, and a 100-foot wrought iron flagstaff erected.[198]

Workmen in fiscal year 1937 scraped, sanded, and painted the flagstaff.[199] In fiscal year 1938 the flagstaff was repainted, and a new circular cement base with a walkway to Hudson Road was built.[200]

n. Improvements to Fire Station (Building 76)

In 1932 a 15' by 18' sleeping quarters were constructed in the fire station. A water closet and lavatory were installed, a sewer was connected with building 58, and a water line led into the structure.[201]

o. Alteration of Deadhouse (Building 54)

In 1923 the deadhouse, building 54, was repaired, remodeled, and assigned to the Medical Corps as a dental facility. By 1931 the dental personnel had moved out, and the structure was again used as a deadhouse.[202]

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198. Completion Report, Sept. 20, 1930, Fort Hancock 1922-39, RG 77, WNRC.

199. Ibid., July 12, 1937.

200. Completion Report, Sept. 30, 1938, Fort Hancock 1917-41, RG 77, WNRC.

201. Shearman to Quartermaster, II Corps Area, Mar. 31, 1933, File 600.911, Fort Hancock 1922-33, RG 92, WNRC.

202. Woodward to Commanding Officer, Sandy Hook, June 9, 1931, File 600.1., Fort Hancock 1922-35, RG 92, WNRC.

p. Maintenance and Repair of Wharf (Structure 69)

In fiscal year 1929 the decking was removed from a 32' by 213' section of the wharf. Forty-seven white oak piles were driven and rotten bearing stringers and caps removed. New 12" by 12" creosoted timbers, caps, decking, and railroad tracks were positioned.[203]

Workmen in fiscal year 1932 repaired the wharf. This involved replacing 7,500 square feet of decayed timber--stringers, beams, joists, deck flooring, guardrails, and fencing of longleaf creosoted yellow pine.[204]

q. Repair of Fire-Damaged Wharf House (Building 42-A)

In the spring of 1937 workmen repaired building 42-A, which had been damaged by fire. A new roof was built, damaged weatherboarding and flooring replaced, interior walls of the waiting room covered with celotex, a door hung, and the exterior of the building painted.[205]

r. Addition to Post School (Building 105)

In 1926 a one-room addition was made to building 105, the post school. The one-story, 33' by 56' frame structure with a 12' by 12' porch had been built by the Ordnance Department in 1880. In 1935 the post school was relocated, and the structure was converted into quarters for noncommissioned officers.[206]

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203. Completion Report, July 15, 1929, Fort Hancock 1922-35, RG 77, WNRC.

204. Completion Report, Sept. 10, 1931, Fort Hancock 1922-39, RG 77, WNRC.

205. Ibid., Sept. 27, 1937.

206. Post Commander to Quartermaster General, undated, File 631, Fort Hancock 1922-35, RG 92, WNRC.

s. Conversion of Building 109 to Post School

In 1935 the artillery engineer vacated building 109 (erected by the Ordnance Department in 1904 as a chemical laboratory). He and his staff moved into the message center building. Building 109 now became the post school, which had been housed in building 105.[207]

In fiscal year 1937 the roof on building 109 was repaired and the chimney repointed and patched. Similar work was accomplished at the same time to structures 50, 68, 82, 101, 104, 124, 125, 130, 131, and 132.[208]

Workmen in fiscal year 1938 installed a new panel box and five electrical fixtures in the post school. New flooring was laid in the hall, and the cellar stairs were repaired. Two sets of doors were rehung to swing outward, and a fire hose was positioned in the hallway.[209]

t. Repairs to Bachelor Officers' Quarters (Building 27)

In fiscal year 1937 workmen hung three new metal ceilings; patched, plastered, and pointed all walls and ceilings; repaired the roof and cornice; and painted the interior and trim of the bachelor officers' quarters.[210]

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207. Magruder to Quartermaster General, Nov. 22, 1935, File 631, Fort Hancock 1922-35, RG 92, WNRC.

208. Completion Report, July 12, 1937, Fort Hancock 1922-39, RG 77, WNRC.

209. Completion Report, Sept. 30, 1938, Fort Hancock 1917-41, RG 77, WNRC.

210. Completion Report, July 12, 1937, Fort Hancock 1922-39, RG 77, WNRC.

u. Conversion of Building 80 into Noncommissioned Officers' Quarters

In fiscal year 1929 the second story of building 80 was remodeled. The squadroom was partitioned into four rooms and a closet. A sash cord was installed in all windows, tin gutters repaired and painted, and new leaders hung. A new army range, 30-gallon boiler and boiler stand, sink, toilet, and stop sink, and trap were also installed. A hot water heater was removed from the second-floor bathroom.[211]

v. Maintenance and Repair of Pumping Station (Building 32)

Workmen in fiscal year 1933 removed the slag roof and replaced all "defective" lumber. They then applied a five-ply slag roof, USA specification 86-82, type 5TWS; replaced all metal flashings, counter-flashings, and gutters with 16-ounce copper; replaced and repointed all coping; and raked and repointed all masonry joints.[212] In 1937 a new well pump, to be used in event of emergencies, was installed.[213]

w. Rehabilitation of Wooden Guard Shanty (Building 88)

In fiscal year 1934 Civil Works Authority (CWA) funds were employed to rehabilitate the World War I guard shanty at the south entrance to the reservation.[214]

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211. Ibid., June 24, 1929.

212. Ibid., Mar. 6, 1933.

213. Ibid., July 12, 1937.

214. Ibid., July 18, 1934.

x. Maintenance and Repair of Post School (Building 102)

In fiscal year 1937 workmen repaired and rehabilitated the electrical fixtures in the post school; installed new shower fixtures and repaired all heating lines; removed a ventilator system and bricked up window openings; and laid a white concrete floor and floor drains in iceboxes, kitchen, and storerooms.[215]

8. Maintenance and Repairs to Reservation Utilities

a. Installing Telephone Cable

In 1920 a 100-pair telephone cable connecting the post and batteries with the new fire control stations and mortar battery on the Navesink Highlands was positioned and buried at Sandy Hook. For much of the way, the cable paralleled the railroad and the "unsightly aerial line" used by the New York Telephone Co. in furnishing commercial telephone service to Fort Hancock. A special use permit was accordingly issued, allowing the telephone company to use 15-pair of the government cable. The New York Telephone Co. then removed its "aerial line" and its supporting poles.[216]

b. Constructing New Sewage Disposal System

In fiscal year 1929 Red Bank Sanitary Sewer Co. was awarded a contract to construct a new post sewage disposal system. Heretofore, raw sewage had been discharged into Sandy Hook Bay. This had been a bane to commercial fishermen, and there had been complaints from health authorities. Studies had been made to determine how the pollution could be mitigated. The

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215. Ibid., July 18, 1937.

216. Chief Engineer to Adjutant General, Sept. 20, 1920, Letters Sent & Received, Fort Hancock, RG 77, WNRC.

best and most economical solution was to pump the sewage into the Atlantic Ocean.

To accomplish this, Red Bank Sanitary Sewer Co. workmen laid an 8-inch intercepting sewer, parallel to the beach, at such an elevation that all sewage lines drained into the ocean and then into the pumping plant sump. The pumping station housed two vertical American Well Works centrifugal pumps. The total cost of the project was $33,000.[217]

One year later, in 1930, the 8-inch cast-iron sewer discharge was extended 72 feet farther into the ocean. This, it was hoped, would keep sand from building up and obstructing the sewer.[218]

In March 1933 the two centrifugal pumps were pulled from the sewage pumping station, dismantled, cleaned, reassembled, and reinstalled by personnel from American Well Works.[219]

CWA funds were utilized in fiscal year 1934 to lay a sewer line for six families from the hospital steward's quarters (no. 20) west to the watercourse emptying into Sandy Hook Bay. Personnel, apart from this allotment, were also employed on emergency plumbing projects caused by extremely cold weather during the winter of 1933-34.[220]

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217. Completion Report, Jan. 25, 1929, Fort Hancock, 1922-39, RG 77, WNRC.

218. Ibid., Aug. 6, 1930.

219. Ibid., undated.

220. Ibid., July 18, 1934.

In fiscal year 1937 workmen installed new sewer and drain lines and a water line to the Camp Low national guard encampment area.[221]

c. Improving the Heating System

In fiscal year 1930 the steam mains and returns between building 124 (central heating plant) and buildings 125, 130, 131, and 132 were replaced.[222]

d. Installing New Electrical Distribution System

Workmen in fiscal year 1929 rehabilitated the post electrical system. The 1902-03 primary cable was removed, and 2,010 feet of lead-covered cable in ducts were installed. Three new transformers (one 10-kilowatt Maloney and two 15-kilowatt Kuhlmans) were positioned. The secondary cable was also pulled, and 6,036 feet of "Park" secondary cable was installed.[223]

In fiscal year 1933 the high tension cable in the rear of Officers' Row, between manholes 2 and 17, was pulled and replaced with 2,200 feet of conductor no. 3 cable. Next, the secondary cable, between the transformers and fuse boxes, was replaced.[224]

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221. Completion Report, July 12, 1937, Fort Hancock 1922-37, RG 77, WNRC.

222. Completion Report, Oct. 9, 1929, Fort Hancock 1922-39, RG 77, WNRC.

223. Ibid., May 2, 1929.

224. Ibid., Mar. 25, 1933.

CWA employees in fiscal year 1934 cut back trees and brush from the main power lines. Twenty percent of the 2,300-volt line was abandoned by "eliminating much doubling back." The post commissary (building 47) and 14 'family services' were rewired."[225]

In fiscal year 1937 workmen installed new transformers between buildings 26 (post headquarters), 27 (bachelor officers' quarters), and 11 (officers' quarters) to handle increased electrical consumption.[226]

e. Repairing and Electrifying Fire System

In fiscal year 1929 the saltwater fire system was repaired and electrified. Three 25-kilowatt transformers, with concrete foundations, were positioned; a Lea-Courtenay centrifugal pump and a 75-horsepower Northwestern Manufacturing motor were installed; and 250 feet of 8-inch water pipe, with necessary wiring and connections, was laid.[227]

f. Improving Post Water System

In fiscal year 1932 a "Spray Pond" aeration system was installed at the waterworks. The existing line was connected to supply the spray nozzles. Four reinforced concrete collars were positioned around the ventilators on top of the water system reservoir. The 90-degree bend was removed and installed in well 3. The inner casings of wells 1 and 2 and the walls in the

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225. Completion Report, July 18, 1934, Fort Hancock 1922-39, RG 77, WNRC.

226. Ibid., July 18, 1937, Fort Hancock 1922-39, RG 77, WNRC.

227. Ibid., May 23, 1929.

pits of these wells were cut. The 12-inch wrought-iron pipe to the dosing chamber was replaced with 6-inch pipe, including one 6-inch gate valve and fittings necessary to connect to the 8-inch cast-iron line outside the lime house. A fence was erected to include an offset in front of the lime house, with a small gate fronting the structure.[228]

In the summer of 1936, McGough & Ellis workmen laid 3,099 feet of 6-inch water mains and 46 feet of 2-inch service lines. Five additional fire hydrants were installed, three hydrants replaced, and 16 hydrants repaired. Nine 6-inch gate valves, two 2-inch gate valves, 15 tees and fittings, and nine valve boxes were installed. A new 3-inch centrifugal pump and 7½-horsepower motor were installed in the pumping plant (building 82). New radius rods and rings were positioned in the water tank, and 12 feet of the 5-inch main between the tank and distribution mains replaced.[229]

9. Maintenance, Repair, and Construction of Roads, Walks, and Railways

In fiscal year 1929, 2½ miles of the post bituminous road network was repaired. Workmen on the road employed Amiesite, Tarvia cold patch materials, and 1½-inch furnace slag. About 1,300 feet of roadway was given a surface treatment of asphalt and stone screenings. Sections of the concrete road south of the post were cut out and replaced, and holes and ruts in all roads were patched.[230]

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228. Ibid., Feb. 16, 1932.

229. Ibid., Aug. 28, 1936.

230. Ibid., July 15, 1929.

Two years later, $3,000 was spent on additional roadwork: 37,800 square feet of road was resurfaced with 2-inch Tarvia macadam; 96,200 square feet of road was resurfaced with Tarvia and stone; 18,000 square feet of road was resurfaced with 3-inch gravel; and 25,600 square feet of roadway had chuck holes filled with stone and slag. All holes and cracks in the 3¼ miles of concrete road south of the post hospital were patched with tar.[231]

In fiscal year 1932, 9,500 feet of macadam roadway was resurfaced with refined tar and covered with 3/8-inch of dustless screenings.[232]

In fiscal year 1934, Civilian Conservation Corps (CCC) enrollees, using CWA funds, rebuilt the road for 600 feet at the reservation entrance, rebuilt 1,500 feet of Magruder Drive in the rear of the mess halls, and built a 40' by 175' water bound macadam parking area next to the new War Department theatre. The dirt road leading from the quartermaster stables (building 36) to the ordnance tile stable (building 121) was scarified, scraped, and covered with stone. Hancock Road from the hospital steward's quarters (building 20) north to the theatre the road from the post hospital to the quartermaster's office (building 32) and passing in rear of Officers' Row; Kearney Road from in front of the YMCA to the base post office (building 101), the road from the commissary (building 47) behind the noncommissioned officers' quarters (nos. 52, 30, 29, and 64) to barracks 25, Canfield Road from the wharf to building 131, the concrete road from the post hospital to the south reservation boundary, and four short sections of crossroads were given a "hot tar penetration and then covered

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231. Ibid., Sept. 1, 1931.

232. Ibid., Aug. 4, 1932.

with a thin layer of small cracked stone." The gravel road from Canfield Road to the point of the Hook was given a stone and tar top.[233]

In fiscal years 1936-37 the concrete road south from the post hospital was graded and widened. A large fill was made north of the south guardhouse and a number of "low areas raised." As safety measures, the railroad tracks at important road crossings were raised, guardrails installed, and crossings improved.[234]

In fiscal year 1938 a concrete walk from Kearney Road to Hancock Road by the tennis court along Kearney Road was built. Connecting walkways were built behind barracks 22-25, a concrete platform was laid at the coal trestle, and the walk in front of Officers' Row repaired. The following year 500 feet of concrete walk was built along South Bragg Drive, and a 400-foot concrete walk was built across the parade ground from Kearney Road to post headquarters.[235]

Workmen in fiscal year 1938 repaired about 5 miles of the post road network by filling all cracks and holes with K.P. Tarvia and sand. Magruder Road was resurfaced with stone and tar, the road at the post exchange was regraded, a new road was opened from the fire station to rear of the YMCA, and South Bragg Drive (between Kearney and Ford roads) was regraded.

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233. Ibid., July 18, 1934.

234. Dennis, "Harbor Defenses of Sandy Hook Notes," p. 74; Completion Report, Apr. 23, 1937, Fort Hancock, 1922-39, RG 77, WNRC.

235. Completion Reports, Sept. 30, 1938, & July 26, 1939, Fort Hancock, 1917-41, RG 77, WNRC.

Because Hancock Road had been redesignated as Hartshorne Drive, road signs were changed, and stop signs were installed at the intersection of Hudson and Kearny roads.[236]

10. Grounds Maintenance and Improvements

Much of the work done with CWA funds and other emergency appropriations in the years 1933-38 was accomplished by CCC enrollees. The CCC company, in the autumn of 1935, greatly improved the natural beauty of the reservation. Much reforestation work-- grading, leveling, and planting shrubs--was done.[237]

After five productive years, the Fort Hancock CCC encampment was phased out in June 1938. During their final 12 months at Sandy Hook, the enrollees filled in and landscaped the swampy area south of the post hospital and between Hartshorne and Magruder drives. Walkways were built and evergreens and shrubs planted.

Two of the four fronts of the disarmed mortar battery's counterscarp were demolished. The Rosendale cement was blasted into fragments and hauled to the bayfront south of officers' quarters 1. There the rubble was used to reinforce the nearly 40-year-old wooden bulkhead fronting Officers' Row. Then, in fiscal year 1941, $15,601 in WPA funds were used to repair the seawall at the southern end of the reservation, where the surf was causing shore erosion. Work accomplished included filling, replacement of sand and topsoil, and landscaping.[238]

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236. Ibid.

237. Dennis, "Doings at Fort Hancock," p. 61.

238. Turner to Commanding General, II Corps Area, May 12, 1938, File 618.35. Fort Hancock 1922-35, RG 92, WNRC; Atlantic Highlands Journal, Aug. 8, 1940.

11. Post Housing Not Owned by the Government

In 1933 there were five frame dwellings on the reservation owned by enlisted personnel or civilian employees. These structures were identified on a plan of the post as A-2, A-5, A-8, A-9, and A-20. A-2 was owned by Cpl. David H. Greer. This house, built more than 25 years before by Sergeant Taylor of the 113th Company, was on the lot between Mercer Drive and an unnamed roadway. The other two enlisted men's houses formerly occupying this lot were gone.

Building A-5, a short distance east of buildings 71 and 72, had been moved to this site by the post exchange to house several women employed by the laundry. On June 17, 1915, the post exchange had sold the frame structure to 1st Sgt. S. H. Emory of the 113th Company for $155. Emory had subsequently disposed of it to Joseph Lipuscek.

Buildings A-8 and A-9, the former erected by Sergeant Scott and the latter by Sergeant Shell, were sited a short distance southeast of building 21. They were now owned and occupied respectively by George L. Martin and M. Duze.

Building A-10 was a portable house which had been moved in 1919 from the former proving ground to a site east of Hancock Road, redesignated as Hartshorne Drive, a short distance north of building 77. It was owned and occupied by Edgar C. Cavert.[239]

239. Cocheu to Commanding General, II Corps Area, Mar. 27, 1933, File 600.91, Fort Hancock 1922-35, RG 92, WNRC.

XI. SANDY HOOK AS KEY TO DEFENSE OF AMERICA'S GREATEST HARBOR

A. The National Emergency and the Coast Artillery

1. Strengthening the Manpower

In September 1940 President Roosevelt, satisfied that the nation's security was endangered by the victorious sweep of the German armies across western Europe, ordered the national guard into federal service and called up a number of reserves. The 245th Coast Artillery, which had just completed its annual encampment, returned to Sandy Hook. Housing was lacking, and the regiment spent an uncomfortable winter in tents, while work was being rushed on temporary quarters and barracks. By early February 1941 the officers moved into their new quarters, and in March the troops moved into their barracks.

Congress, after bitter debate, enacted, and, in September of 1940, President Roosevelt signed a selective service bill into law. The drawing was held in October, and Secretary of War Henry L. Stimson pulled the first number. Selectees were soon reporting at Fort Hancock, where they were to reinforce the various units. Batteries E and F, 7th Coast Artillery, were activited and ordered to Fort Tilden. Col. Charles S. Gleim of the 245th Coast Artillery pushed a vigorous training schedule. Service practice was held throughout the winter months, and by February 1941, the training was in an advanced stage except for the selectees.

The 52d Coast Artillery (Ry) was recruited to about two-thirds its authorized strength, which it was scheduled to reach in June. Officers for the newly activated units had served as reservists in the 602d Coast Artillery.[1]

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1. Charles Crane, "Second Coast Artillery District," Coast Artillery Journal 84 (1941):184.

To further the "broad training program of the First Army," a command post exercise was conducted by the 2d Coast Artillery District on April 17 and 18, 1941. The problem was assigned to District Commander Forrest E. Williford by First Army Commander Hugh Drum early on the 17th.

With umpires representing both the foe and friendly higher authority, a brisk "paper war" ensued. By 10 a.m., on the 18th, the enemy had been repulsed. Following a critique attended by participating officers and noncommissioned officers of the three top pay grades, General Drum commented that the "enthusiasm shown by all the ranks . . . from the oldest in the service to those who have just joined was an expression of the fine spirit of the American Army today." While the exercise was in progress, General Drum inspected the defenses of Forts Hancock, Tilden, Hamilton, and Wadsworth.[2]

In the months since Germany had invaded Poland, the defenses of Sandy Hook had been commanded by 1st Col. Forrest E. Williford, who had relieved Lt. Col. Edward W. Turner on November 11, 1938, and then by Col. Philip S. Gage. Gage assumed command on December 1, 1940, when Williford was promoted and placed in charge of the 2d Coast Artillery District. Like his predecessors, Gage wore two hats--he commanded the defenses of Sandy Hook and Fort Hancock.

A massive review was held at Fort Hancock on April 21 in honor of Philip S. Gage, who had been promoted to brigadier

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2. Charles F. Heasty, "Second Coast Artillery District," Coast Artillery Journal 84 (1941):285.

general three days before. Passing in review were the 7th, 52d, and 245th Coast Artillery Regiments.[3]

2. Activation and Modernization of the Defenses

On June 7, 1941, General Order 8, 2d Coast Artillery District, placed all harbor defenses, except major batteries, on condition 3 and Harbor Entrance Control Posts (HECPs) on a training status. It was realized almost immediately that the operation of a joint HECP in New York Harbor constituted a particular problem. Two harbor defenses-- Sandy Hook and Southern New York--were involved, although both would come under the New York Subsector that had not yet been activated. After a review of several joint problems, the army and navy selected Fort Wadsworth as the site. On June 13 the HECP was established at that point on a part-time basis.

On June 25 the following status of armament in the harbor defenses of Sandy Hook was reported:

Unit	Battery	Gun No.	Rounds Fired	Type
Battery C, 7th CA	Morris	1	557	3"
		2	591	3"
		3	544	3"
		4	596	3"
Battery C, 7th CA	Urmston	3	215	3"
		4	213	3"
Battery C, 7th CA	Halleck	2	201	10"
		3	111	10"
Battery C, 245th CA	Granger	1	406	10"
		2	273	10"
Battery D, 245th CA	Richardson	1	243	12"
		2	216	12"
Battery E, 245th CA	Mills	1	88	12"
		2	87	12"

3. Ibid.

Unit	Battery	Gun No.	Rounds Fired	Type
Battery F, 245th CA	Kingman	1	143	12"
		2	95	12"
Battery C, 245th CA	Harris	1	31	16"
Battery H, 245th CA	Harris	1	24	16"
Battery I, 245th CA	Kessler	1	44	6"
		2	41	6"
Battery D, 7th CA	Fergusson	1	22	6"
		2	21	6"
Battery K, 245th CA	Peck	1	493	6"
		2	333	6"
Battery K, 245th CA	Alexander	1	59	12"
		2	31	12"
Battery L, 245th CA	Gunnison	1	427	6"
		2	421	6"
Battery M, 245th CA	Bloomfield	1	257	12"
		2	260	12"[4]

The training program was intensified in June as news from abroad continued to be grim. In April, Germany and her allies smashed Yugoslavia and Greece. Then, in late May, German airborne and mountain troops, supported by the Luftwaffe, forced the allies to abandon Crete and a battered Royal Navy to retire to Alexandria.

June activities in the 2d Coast Artillery District included mine practices, tactical and field inspections, and joint maneuvers with the navy.

Two new officers, Col. Ralph L. Wilson and Lt. Col. Joseph C. Haw, reported to General Gage at Sandy Hook. Both had been on duty with the ROTC, Colonel Wilson at the University

4. History of the Harbor Defenses of New York, 1941-46, RG 77, WNRC.

of Pittsburgh and Colonel Haw at the University of Miami. The former assumed command of the 7th Coast Artillery and the latter of the 52d Coast Artillery.

On June 18 the first in a series of joint army-navy maneuvers was held on the sea approaches to New York Harbor. Forts Hancock, Tilden, Wadsworth, and Hamilton were placed on a 48-hour war alert. Blacked-out ships, pyrotechnics, searchlights, and all coastal defense guns of the harbor defenses of Sandy Hook and Southern New York were employed. The navy, representing both friendly and enemy sea forces, conducted its phase of the war games about 15 miles at sea. These maneuvers tested the effectiveness of plans for the defense of the Atlantic Ocean approaches by the two services.[5]

While the soldiers trained vigorously and many selectees counted the days until their year's active service was over, the war was given a new and unexpected dimension on June 22, when Hitler hurled the Wehrmacht against the Soviet Union. In the ensuing weeks, the Germans and their allies, advancing on a front extending from the Black Sea to the Arctic, drove rapidly eastward.

On July 1, five months before Pearl Harbor, the group combat posts, fire control switchboards, and fire control stations were combat-ready, though the efficiency of fire control was limited because the towers at Elberon, Shore Beach, and Zach's Bay were still under construction. Radio stations were in operation at Forts Hancock and Tilden, while the Fort Hancock tidal and meteorological stations were ready for service.

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5. Heasty, "Second Coast Artillery District," p. 390.

Batteries Kingman, Mills, Richardson, Bloomfield, Gunnison, Peck, Harris, Kessler, and Fergusson were manned round-the-clock and each was supplied with 400 to 600 rounds of ammunition. Batteries Morris and Urmston were supplied with shells, but they were only manned for drills and during alerts. Also ready for immediate action were three mobile batteries of four 155-mm guns each, two at Fort Hancock and one at Fort Tilden. Each battery had 400 rounds of ammunition.

Among the armament not ready for service were Batteries Alexander, Granger, and Halleck. Alexander and Halleck lacked ammunition and plotting and fire control equipment. Granger had no ammunition. The antiaircraft defense included three 3-inch batteries of three guns each, with nos. 1 and 2 at Fort Hancock and no. 3 at Fort Tilden. They required directors and height finders, but they were prepared for service, with no. 2 "ready to fire." There were two antiaircraft searchlights and two sound locators at Sandy Hook.

Two portable and one mobile (railroad) and four seacoast searchlights were combat-ready at Hancock. At Tilden two portable searchlights were on the beach, and two seacoast lights had been received and were awaiting installation. Mines and cables were in storage, ready to be planted. The mine defense was short a planter, two distribution box boats, and two yawls.

In accordance with the War Department's 1940 plan to spend $100,000,000 on modernization of the nation's coastal defenses, 12-inch Batteries Richardson and Bloomfield had been designated to be abandoned, and the 6-inch Battery Gunnison and Batteries Mills and Kingman (two 12-inch guns each) were to be casemated. Batteries Peck, Morris, and Urmston were scheduled to receive shields for their guns. At Fort Tilden, Battery Harris was

to be casemated, Battery Kessler's two 6-inch guns were to be shielded, and Battery Fergusson was to be replaced by new construction. Other new construction programmed included a battery of two 16-inch guns for Sandy Hook, a similar battery near Fort Tilden (the latter pair was canceled), and a modern 6-inch battery near Sandy Hook.[6]

On July 16 the War Department ordered all batteries to be casemated and to be ready to fire within 24 hours. Two weeks later, 2d Coast Artillery District headquarters, directed that all HECPs be placed in continuous operation. On October 30 the navy ordered all vessels to answer the challenge of the HECPs.[7]

On November 27 negotiations with Japan reached an impasse and war-warning messages having been flashed to the commanders of United States forces in the Far East, Canal Zone, and the Hawaiian Islands, the gate vessels took position at the antimotor torpedo boat boom and submarine barrier. Whereupon, the army and navy began systems of ship identification and control of ship traffic, which was centralized at the Fort Wadsworth HECP.

3. Drills and Practices

On August 11 there was a "simulated" attack on the Sandy Hook Defenses. Two hundred and fifty raiders from Fort Tilden, assisted by fifth columnists, seized the message center and radio station. They were repulsed but only after inflicting considerable damage to military stores and equipment. The "enemy

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6. Harbor Defenses of New York, 1941-46 pp. 12-14.

7. Ibid., p. 14.

fleet" was now sighted, and, despite the damage, wires buzzed with orders from the staff to commands in the sector with vital information about the attackers from both military and civilian sources. Because of damage caused by the raiders and saboteurs, the messages had to be rerouted through other channels. Contact with the Air Corps, however, remained unbroken.

This field problem demonstrated initiative and resourcefulness on the part of the aggressors and the defenders. Use of blank ammunition, flares, and smoke screens added to the realism of the exercise.

On September 26 the entire post spent the day at battle stations. Huge 10- and 12-inch guns, many camouflaged by trees and others mounted on railway cars, were manned. It was the second tactical inspection of the harbor defense in a week. A few days earlier a similar alert had been called at Fort Tilden.[8]

During the summer, Batteries A and B, 21st Coast Artillery (HD), arrived on post from the defenses of the Delaware for mining practice. In July and August, members of the U.S. Military Academy, class of 1942, visited Fort Hancock to undergo training in various phases of coast artillery work. The cadets witnessed demonstration firings, mine laying, and detection of hostile aircraft by radar. The high point of the two-week program was the firing of an 8-inch railway gun, recently received from the Aberdeen Proving Ground.[9]

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8. Heasty, "Second Coast Artillery District," pp. 506 and 629.

9. Heasty, "Second Coast Artillery District," pp. 505-6.

In September two contingents of the Fort Hancock troops, each about 1,700 strong, traveled to West Point for two-day maneuvers. The first contingent, which sailed from the Sandy Hook wharf consisted of eight batteries from the 245th Coast Artillery, four from the 7th Coast Artillery, and a medical detachment. The second group was composed of soldiers from the 52d Coast Artillery and a battalion from the 245th. Routine on both occasions was similar. The trip to and from Bear Mountain was by boat, and the remainder of the distance was by route march. After bivouacking under the stars, the men went sightseeing on the reservation, cooked their meals over campfires, and participated in an infantry problem. After spending a second night in the field, they struck their pup tents and returned to Bear Mountain, where they reboarded the boats for the run down the Hudson to Sandy Hook.[10]

The 245th Coast Artillery celebrated its first year in federal service on Tuesday, September 16, 1941, with a review, field day, baseball game, and party. At the close of the day's festivities, Colonel Gliem told his men, "You are true members of this regiment. To all of you I want to say you've done a man's job. You have upheld the tradition of the 245th."[11] Then quoting the words of Second Army Commander, Lt. Gen. Ben "You Hoo" Lear, Gleim continued, "There are great numbers of people that think of their government only as an institution that will give them a handout. The soldier can entertain no such thought. It is he who must give this country his time, his labor, his endurance and perhaps his life."[11]

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10. Heasty, "Second Coast Artillery District," p. 629.

11. Ibid.; Asbury Park Press, Sept. 18, 1941. In the baseball game, Headquarters Battery, 245th, defeated a team from the 7th Coast Artillery, 7 to 4, behind the 5-hit pitching of Pvt. Owen Kirk, who before being inducted had pitched for the Syracuse Chiefs of the International League.

4. Mine Defense Troops

The mine planter General E.O.C. Ord had been sent into dry dock to ready her for a heavy schedule "to keep up with the training programs of the newly activated mine defenses." The cable ship Joseph Henry was called on to make many work trips necessitated by heavy demands of the various harbor defenses.[12] On June 25 Colonel Wilson of the 7th Coast Artillery held a practice mine drill off Sandy Hook from the mine planter General E.O.C. Ord.[13]

The first perfect score in more than four years was achieved in September 1941, as Battery A, 7th Coast Artillery, completed a "stringent four months training program by registering a total of 150 points out of a possible 150." This accomplishment marked the end of the season's mine-laying program and was witnessed by General Gage. A few days earlier, the laying of "two test phase two mine groups" had been accomplished without error. In both cases close coordination and cooperation of all divisions of the mine battery made it possible to score direct hits on a towed target.[14]

5. The "Spirit of '41" Program

On Sunday afternoon, October 19, 1941, the Columbia Broadcasting System featured Fort Hancock. John Charles Daly and Burgess Meredith traveled to Sandy Hook to present another program in "The Spirit of '41" series, this time focusing on the coast artillery.

Meredith, having taken position beside one of Battery Mills's 12-inch guns, identified the units stationed at the

12. Crane, "Second Coast Artillery District," p. 184.

13. Heasty, "Second Coast Artillery District," p. 390.

14. Heasty, "Second Coast Artillery District," p. 629.

post. He told his radio audience that the 245th Coast Artillery from Brooklyn manned these emplacements. The regiment, he continued, had been organized on March 11, 1776, four months before the Declaration of Independence. The regiment had served in the Revolutionary War as the King's County Militia; in the War of 1812, it had been known as the 64th New York; it had been at Gettysburg; and in World War I, its battle honors included Lorraine, St. Mihiel, and Meuse-Argonne. Since being federalized 13 months earlier, the regiment had been brought up to full strength.

Meredith then described a firing mission. "Listen," he exclaimed:

> You'll hear the gun crew loading the gun. There goes the breech shut--and now it is locked. Listen! Up comes the muzzle . . . slowly . . . slowly . . . slower . . . and it's stopped . . . the gun commander stands beside me with his hand up . . . listen to the firing bell . . . FIRE--and the first shell is on the way! There goes No. 1 gun and here comes the corrections for our gun--they've already sponged out old No. 2.

John Charles Daly broke in with words that enemy ships were steaming toward the narrows. Other batteries now roared into action, as the 52d Coast Artillery brought up two of its 8-inch railway guns. A locomotive chuffed by with whistle screeching and bell clanging. Daly described the emplacement of these guns and the firing routine. The railway guns then opened fire.

Meredith returned to the microphone and explained:

> These people here at Fort Hancock never know when they're going to be routed out by that Call to Arms

siren. When it comes, they'll drop whatever they're doing and hasten to their posts. Let me impress upon you, ladies and gentlemen, that more than seventy-five per cent of the men in these regiments are selectees, many of whom never even saw a picture of a Coast Artillery gun up to a few months ago. And here they are in outfits that are the most technical of all Army establishments, performing like veterans, operating the most complicated machinery and technical equipment imaginable . . . firing great guns and dropping their shells smack into the middle of targets they can't even see, from positions twelve to twenty miles away.[15]

6. Troops Meet Emergency

Early in 1941, Emergency Plan White (EPW-41) was prepared to provide for flying columns in event of internal disturbances, such as serious strikes or other domestic difficulties. In late October, EPW-41 was activated to meet an emergency caused by a strike by the employees of Air Associates, Inc., at Bendix, New Jersey.

At 10 p.m., on the 29th, the post siren sounded a general alert. Upon being mustered at their batteries, the troops were told that they were being called out for strike duty at Air Associates, Inc. A shortage of motor transportation complicated the situation, and it was 3 a.m. before 1,000 soldiers left the post for Bendix.

Upon arrival at the plant, the battalion was formed at the nearby airport. All approach roads were covered by machine guns, interior and exterior guards were detailed and posted, and

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15. Ralph W. Wilson, "Spirit of '41 at Fort Hancock," Coast Artillery Journal 84 (1941):607-8.

gas squads were stationed at strategic points ready for action. Men not on duty pitched tents on the airfield. Some of the units were quartered in hangers. Field kitchens were set up. Although no food arrived for 24 hours, the men subsisted on C rations.

At the end of 72 hours, all Fort Hancock troops except four batteries returned to the post. The 5th Coast Artillery Regiment, which had also been called out, headed back to Forts Wadsworth and Hamilton on November 6. Though the troops were alerted several times while at the plant, the massive show of force cowed the strikers and there was no violence.

On November 13 more Fort Hancock soldiers returned to Sandy Hook, leaving two batteries, one each from the 52d and the 245th Coast Artillery Regiments at Air Associates, Inc. These troops were recalled to Fort Hancock in late December.[16]

B. The First 13 Months of the Shooting War

1. Nation Goes to War

War came to America on Sunday, December 7, 1941. At Fort Hancock, as at other coast defense posts across the nation on receipt of the news of the Japanese attack on Pearl Harbor, all leaves were canceled, and all armament was manned continuously by skeleton crews. Two days later, less than 48 hours before Germany and Italy declared war on the United States, all armament was placed on condition 2. On December 10 the First Army formed a provisional antiaircraft artillery command, manned by the 38th Antiaircraft Brigade, for defense of the greater metropolitan area. On December 11 the New York-Philadelphia Sector was activated,

16. Harbor Defenses of New York, 1941-46, pp. 15 and 19.

the New York Frontier Defense Subsector was established, and Joint Defense Plan-41 was put into effect.

The following forces were available to the New York-Philadelphia Sector in the New York area:

U.S. Army Mine Planter Gen. E.O.C. Ord/U.S. Army Mine Planter Joseph Henry (cable ship)
52d Coast Artillery (Railway)
28th Infantry Division (Pennsylvania National Guard)
Two Battalions, Coast Artillery (155-mm guns), New York Subsector
Harbor Defenses of Eastern New York
Harbor Defenses of Southern New York
    Headquarters and Headquarters Detachment
    5th Coast Artillery Regiment (Harbor Defense)
Harbor Defenses of Sandy Hook
    Headquarters and Headquarters Battery
    7th Coast Artillery (Harbor Defense)
    245th Coast Artillery (Harbor Defense)
38th Coast Artillery Brigade (Antiaircraft);
    Headquarters and Headquarters Battery
67th, 76th, 77th Coast Artillery Regiments (Antiaircraft),
    62d Coast Artillery Regiment (Antiaircraft) attached; the 93d, 94th, 95th, and 96th Antiaircraft Regiments (Semimobile) attached

The navy provided vessels for inshore and offshore patrols and a new boom defense. According to Joint Defense Plan-41, the 28th Division was to organize three combat teams, consisting of an infantry regiment and an artillery battalion, and concentrate at Fort Dix. A battalion of mobile 155-mm guns was to be attached to the New York Subsector and a second battalion, less one battery, was to be attached to the 28th Division. The 52d

Coast Artillery (Ry), less one battery, was to remain at Fort Hancock under sector control in a state of readiness to reinforce the defenses against amphibious landings anywhere in the New York-Philadelphia Sector. Under this plan, the New York Subsector force had the mission of maintaining a close surveillance of all beaches, resisting hostile landings, providing antiaircraft defense, and establishing a liaison between all elements of command--the navy and units in adjacent subsectors.

On December 12 the First Army substituted the 44th Infantry Division for the 28th Infantry Division and ordered the 1st Battalion, 113th Infantry; Battery D, 165th Field Artillery; and Company C, 104th Engineers, to Mitchell Field, Long Island. The 113th Infantry Regiment, less its 1st Battalion, was rushed from Fort Dix to Freehold, New Jersey. On December 23 units of the 113th Infantry (headquarters section, the service company, and the antitank company) arrived at Fort Hancock and set up the regimental command post.[17]

The following battery assignments were made during this period:

Unit	Battery	Armament	Additional Assignments
Battery A, 7th CA		Mines	
Battery B, 7th CA		Mines	
Battery C, 7th CA	Morris	3-inch	3-inch AA
Battery D, 7th CA	Fergusson	6-inch	.30 cal. MG

17. Ibid., pp. 15-17.

Unit	Battery	Armament	Additional Assignments
Battery E, 7th CA	Kessler	6-inch	3-inch AA
Battery F, 7th CA	AA No. 3	3-inch AA	
Battery G, 7th CA		Searchlights	.50 cal. MG
Battery A, 245th CA	AA No. 1	3-inch	3-inch AA
Battery B, 245th CA	AA No. 2	3-inch	3-inch AA
Battery C, 245th CA	Urmston	3-inch	Searchlights
Battery D, 245th CA	Richardson	12-inch	3-inch AA
Battery E, 245th CA	Mills	12-inch	37-mm AA
Battery F, 245th CA	Kingman	12-inch	2-inch
Battery G, 245th CA	Harris	16-inch	2-inch
Battery H, 245th CA	Harris	16-inch	2-inch
Battery I, 245th CA	Kessler	6-inch	.30 cal. MG
Battery K, 245th CA	Peck	6-inch	.30 cal. MG
Battery L, 245th CA	Gunnison	6-inch	.30 cal. MG
Battery M, 245th CA	Bloomfield	12-inch	3-inch AA
Searchlight Battery		Searchlights	.50 cal MG
Battery C, 52d CA	8-inch Ry No. 3	8-inch Ry	.30 cal. MG

At the end of December, the 38th Antiaircraft Brigade began using Sandy Hook as a firing point for all antiaircraft units in the New York City area. These commands thus supplemented the Fort Hancock antiaircraft defenses.[18]

18. Ibid., pp. 18-19.

2. Strengthening and Reorganization of the Defenses

The Germans lost no time in moving against shipping, plying the Atlantic Coast's shipping lanes. In the period between December 16 and 25, five type IX submarines put to sea from the Bay of Biscay U-boat pens. The first attack came on January 12, when the British passenger steamer Cyclops was torpedoed and sunk 300 miles east of Cape Cod by U-123. Two days later enemy submarines invaded the shipping bottleneck off Cape Hatteras. The Panamanian tanker S. S. Norness was sunk on January 14, the British tanker Coimba on the 15th, and the American tanker Allan Jackson on the 18th. But this was only the beginning. Between January and mid-July German submarines claimed a terrible toll in American waters, sinking more than 360 merchant ships, totaling more than 2,250,000 gross tons. It was only after the United States began convoying coastal shipping that losses declined. Then in July, Admiral Karl Doenitz redeployed his U-boats to other areas of the Atlantic.[19]

On January 13, the day after U-123 sent Cyclops to Davey Jones's locker, Eastern theater of operations headquarters issued general order 7 outlining the air defense plan. Responsibilities were pinpointed and policy was formulated. The antiaircraft command became a permanent part of the tactical organization, charged with operational control and training of harbor defense antiaircraft personnel.

By late January Sandy Hook, mine defense personnel had planted 16 of the 23 project groups, while the Harbor Defenses of Southern New York had completed their far less extensive project.

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19. U.S. Department of the Interior, National Park Service Special History Study, Fort Moultrie HECP-HDCP, Fort Sumter National Monument, South Carolina, by Edwin C. Bearss, (Denver, 1974), pp. 53-89.

As of February 3 the following units were assigned to the Harbor Defenses of Sandy Hook:

Headquarters and Headquarters Battery, Harbor Defenses of Sandy Hook
7th Coast Artillery (HD), less 2d Battalion
52d Coast Artillery (Ry), less 1st Battalion and Batteries D, E, and F
245th Coast Artillery (HD), less 3d Battalion
95th Ordnance Company (Maint. Ry. Arty.)
Headquarters and Headquarters Company, 113th Infantry, less detachment
Service Company, 113th Infantry, less detachment
Antitank Company, 113th Infantry, less 3 platoons
1st Battalion, 165th Field Artillery, less Batteries A, B, and C
Headquarters, 2d Battalion, 104th Engineers
Detachment, Company A, 119th Medical Regiment
Detachment, Company E, 119th Medical Regiment
Regimental Medical Section and Band, 113th Infantry
U.S. Army Mine Planter Gen. E.O.C. Ord.[20]

On March 13 the War Department directed the Engineer and Ordnance departments to follow this procedure in modernizing and bombproofing the emplacements. They were to see that one gun in each two-gun battery was always in a state of readiness for immediate service firing. The second gun was to be capable of service firing on a 36-hour notice, through use of "improvised ammunition service but with full electrical power and fire control facilities."

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20. Harbor Defenses of New York, 1941-46, pp. 22-24.

During the second week of April, to combat German U-boats, the 119th and 126th Observation Squadrons began flying patrol missions out over the Atlantic for the New York-Philadelphia Sector.

Meanwhile, a CXAS radar unit, in coordination with the navy signal station, was positioned atop Battery Potter. The naval personnel served as a forward observation post for the Fort Wadsworth HECP. This radar, an SCR-296 unit, was probably the first seacoast radar unit deployed on the Atlantic seaboard.[21]

On May 5 the harbor defenses of Southern New York, Eastern New York, and Sandy Hook were merged, becoming the harbor defenses of New York (HDNY). Fort Hancock became the nerve center of the new command. To administer it, Headquarters and Headquarters Battery, HDNY, was activated at Fort Hancock. This consolidation had its origin in Army Regulations 90-40, October 2, 1937, which designated a harbor defense as "an administrative and tactical command provided for defense of a harbor or other water area." Zeroing in on this, sector people had successfully argued that upon completion of the modernization program, the "interlocking of the three harbor defenses will be achieved to a much greater degree with overlapping fields of fire of seacoast batteries, fire control facilities used in common and joint action with the inshore patrol." Better team work was secured by placing the three defenses under one commander.[22]

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21. Ibid., pp. 25-26.

22. Ibid., pp. 26-28.

3. Refinement and Expansion of Training Methods

With German U-boats operating in the coastal sea-lanes and sinking large numbers of ships, the annual spring target practice had special emphasis. During the months following Pearl Harbor there had been many blackouts, alerts, and an intensive training program. Men on battle alert "with muscles and nerves tense" had strained their eyes in vain peering through haze and fog for some sign of enemy activity. Sinkings off the New Jersey coast caused the coast artillery personnel to look forward to service firing, even if the target were towed by a tug.[23]

Brig. Gen. Ralph E. Haines, commanding the sector, preparatory to service firings pushed training practices designed to reduce personnel errors that heretofore had plagued men firing their first service practice. This practice paid dividends. For example, a notation for one firing read:

> Prior to the service practice all personnel, including officers, were thoroughly acquainted with their duties by firing three full-dress, subcaliber practices under all the requirements of a service practice shoot. As all phases of a practice were covered, all officers and men from Group Commander to gun crew were thoroughly schooled in their duties and accustomed to dealing with the varying conditions that might arise.

After each practice there was a critique. Errors were accounted for and provision was made for their correction. The result of following this procedure for three subcaliber shoots

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23. W. F. Madison, "New York-Philadelphia Sector," Coast Artillery Journal, vol. 85, no. 2, p. 76.

was that when the service practice started, even the rawest recruit appeared at ease and ready for any emergency. Recorded results showed a substantial improvement over 1941.

To ensure that every serviceable coast defense gun was "mechanically perfect and ready to fire" in an emergency, a number of batteries that had been relegated to "caretaker status" were "functionally" fired in 1942. Some of these had not been fired for years. These firings demonstrated that lack of firing had no "deleterious effect upon the operation of such guns."[24]

To improve morale and sharpen skills, General Haines encouraged competition between the subsectors and among units. This was a popular event, with each unit striving to earn the coveted superior rating and competing for top honors against the others. One battery scored 194.7, the best in the sector.[25]

In the late spring of 1942 the efficiency of the units assigned to the New York Subsector was tested by maneuvers held along the New Jersey coast. Civil defense officials in 62 Monmouth County municipalities took advantage of the opportunity to coordinate their activities with those of General Gage's command.

The alert was triggered by the theoretical approach of an enemy task force at 1:30 p.m. on a quiet Sunday afternoon in May. Within eight minutes motorized units of the 113th Regimental Combat Team were in motion. The mobile defense forces were directed toward an area near Asbury Park, where Axis landing craft had bee sighted. Despite repeated dive-bombing by enemy

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24. Ibid., p. 89.

25. Ibid., p. 87.

aircraft, which the umpires ruled caused heavy damage and casualties, the enemy vessels were turned back by the fire of the mobile artillery and automatic weapons.

More surprised than the foe were the Sunday strollers on the beach and boardwalks. The beaches were declared a "dead zone," but the bathers were allowed to remain and watch as the GIs worked.

The invaders, undaunted, made three other attacks on Freehold, one with paratroops, which were likewise repulsed. All civilian traffic in the area was halted until the alert ended at 4 p.m. After it was over, General Gage commended the civilian agencies for their splendid cooperation.[26]

In mid-June, beach patrols tightened up on security following the successful landing from U-boats of four-man teams of German agents. One team came ashore at Amagansett on Long Island and the other at Ponte Verde Beach, Florida. The agents were subsequently apprehended by the FBI and executed after a trial that roused nationwide interest.

4. Rorganization of the Defenses to Meet Global Commitments

A cumbersome command situation affecting the 2d Battalion, 7th Coast Artillery, and the 3d Battalion, 245th Coast Artillery, both stationed at Fort Tilden and responsible to their respective regimental officers at Fort Hancock, was resolved on September 23, 1942. The solution was to concentrate the 7th Coast

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26. Ibid., p. 89.

Artillery at Fort Tilden, a two-battalion post, and the 245th at Fort Hancock. Orders were accordingly issued transferring the 3d Battalion, 245th Coast Artillery, without personnel and equipment, from Fort Tilden to Fort Hancock, and the 1st Battalion, 7th Coast Artillery, less its personnel and equipment, from Fort Hancock to Fort Tilden. Thus the transfer was effected without the movement of any troops or their gear.[27]

During the first week of October 1942, Battery Peck was designated the Examination Battery. To reinforce the defenses against penetration of the harbor by German or Italian motor torpedo boats, the two 3-inch guns were removed from Battery Urmston and relocated northeast of Battery Gunnison.

The harbor defenses were caught in a personnel crunch. Although the nation's armed forces were being rapidly expanded to meet global commitments, the War Department found itself unable to activate additional units to be employed within the continental limits. Consequently, sector headquarters, on November 3, placed several batteries, including Battery Gunnison, in "caretaker status," and others, including Batteries Richardson and Bloomfield, in class B status, for which the active season would extend from April 1 to September 30. Then, on November 12, the armament in a number of emplacements, including Batteries Alexander and Halleck, was transferred to the ordnance officer, 2d Service Command, for salvage.

The War Department, on Armistice Day, ordered that all "General Service Personnel" in the New York Harbor Defenses be

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27. Harbor Defenses of New York, 1941-46, pp. 29-30.

replaced by limited service personnel, except for the 52d Coast Artillery and mine planter personnel.[28]

5. The Tide of War Turns

The tide of war during late October and into November turned dramatically in favor of the Allies on all major fronts. In the Western Desert, British forces under Gen. Bernard L. Montgomery defeated the Afrika Korps and its Italian allies at El Alamein and hurled them back into Libya. On November 8 the United States and British armed forces carried out Operation TORCH by successfully landing in Algeria and French Morocco. To the northwest and southwest of Stalingrad, Red armies attacked and made major breakthroughs. Racing ahead, converging Soviet armored columns linked up at Sovetskiy on November 23, isolating the German Sixth Army in what was to become known as the Stalingrad caldron. Half a world away, on November 12-15, United States naval and air forces defeated the Japanese navy in the battle of Guadacanal. These sweeping victories made it unlikely that the coastal defense forces would be called on to resist amphibious attacks. But they were now called on to cope with a new challenge.

At 11:17 a.m., on November 13, YMS 20, while proceeding in a sweeping formation with YMS 104 and YMS 42, detonated a mine about two miles southeast of Ambrose Lightship. As soon as the alarm was radioed to the HECP, shipping was diverted to other channels. All available minesweepers were called out, and, when the area was swept the next day, a second mine was exploded. All told, five magnetic mines were swept, and the

28. Ibid., pp. 31-32.

in the area were thoroughly covered. This was accomplished without loss or damage to either ships or personnel.

Following V-E Day, a study of German admiralty records disclosed that this was the only minefield laid by U-boats in the approach to New York Harbor. Ten mines had been positioned, but they were fitted with "sterilizers" to render them inactive after about 60 days in the water.[29]

By the end of 1942 the forces in the subsector and the harbor defenses of New York numbered 397 officers, 43 warrant officers, and 9,875 enlisted men. Of these figures, the harbor defenses mustered 242 officers, 37 warrant officers, and 5,732 enlisted men, and the 113th Regimental Combat Team numbered 155 officers, 6 warrant officers, and 4,113 enlisted men.

As of December 1, the following units were assigned to Fort Hancock:

Headquarters and Headquarters Battery, Harbor Defenses of New York (less HECP)
52d Coast Artillery (Ry), less 1st and 2d Battalions and Battery F
245th Coast Artillery (HD), less Battery L
5th Coast Artillery Mine Planter (USAMP Gen. E.O.C. Ord)
19th Coast Artillery Planter Battery
Headquarters and Headquarters Company (less detachment) and Band, 113th Infantry
Service Company, 113th Infantry (less detachment)

29. Ibid., pp. 33 & 114.

119th Field Artillery Battalion (less three batteries and one platoon antiaircraft and antitank)
113th Infantry Recruit Training Center
2d Battalion (less Companies D and F and 1st Platoon, Company E) and Detachment Headquarters & Service Company, 132d Engineers (Combat)
Medical Detachment, 113th Infantry
671st Collecting Company (Sep)

Between Christmas and New Year's Day, the mine planter Story, manned by the 15th Coast Artillery Mine Planter Battery, arrived at Fort Hancock. About this time the mine batteries began replacing the buoyant mines with ground mines.[30]

6. Entertaining the Troops

Personnel stationed at Sandy Hook organized the Fort Hancock Players. During the late winter of 1942, the players made a successful tour of several thousand miles through the II Corps Area, presenting the three-act farce "Room Service" before enthusiastic audiences.[31]

In addition to the regular USO shows, Fort Hancock and other posts in the New York area had a number of radio and screen stars pay them "pop calls." Among the stars and personalities who were at Sandy Hook during the spring of 1942 were Eddie Cantor, Bob Hope, Dinah Shore, Eddie Duchin, Staff Sgt. Ezra Stone (Henry Aldrich), and Cpl. Joe Louis. The cast of two current Broadway plays, "Best Foot Forward" and "Angel

30. Ibid., pp. 34-36.

31. Madison, "New York-Philadelphia Sector," p. 76.

Sheet," presented the plays before a packed house in the post theatre.[32]

Stage and screen star Nancy Carroll spent a week on post in the summer of 1942 rehearsing for the presentation of the Broadway hit, "Mr. and Mrs. North." She was a hit with the troops, and a unit of the 52d Coast Artillery named one of its guns "Nancy Carroll," with the actress christening the piece.[33]

Where there had been Liberty Loan drives in World War I, there were War Bond campaigns in World War II. The soldiers were encouraged to subscribe, and many units reported 100 percent participation. In the weeks following the May 1942 pay raise, sales surged. By September, General Gage was able to report that almost $32,000 was being pledged monthly by his officers and men.[34]

Boxing and basketball were popular winter sports, with team matches between posts and units. These sports created a "spirited zeal of competition," resulting in excellent matches and contests, with wide spectator appeal. Judo lessons were given to selected men from each unit. A hundred soldiers from a half dozen posts in the area had been sent to Fort Hancock for the two-week judo course. The post had been selected as the site of this program because of the interest shown by General Gage. On

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31. Madison, "New York-Philadelphia Sector," p. 76.

32. Ibid., p. 89.

33. Ibid., p. 87.

34. Ibid., pp. 89 & 87.

rejoining their units, these men conducted daily classes in judo for their comrades.[35]

7. Dogs for Defense

Earlier, General Gage had announced plans to train and employ dogs as an extra pair of eyes and ears for sentries. On April 1, 1942, Capt. Frank Jury, post provost marshal, stated that canines (including afghans, German shepherds, and dobermans) provided by Dogs for Defense, Inc., had been in training at Sandy Hook.

Fort Hancock, though the first, would not be the only area where dogs would serve. Dog fanciers were told of plans to provide 200 trained animals for the army's Quartermaster Department and others for the navy and war industries to serve as guards.

On May 2, Mrs. Melton Erlanger of Oakhurst, New Jersey, presented General Gage with eight handsome pedigreed dogs--three standard black poodles, a German shepherd, one dalmatian, an airedale, a doberman, and one afghan. To house its canine recruits, kennels were erected at Fort Hancock in May by WPA workmen, who had recently built a pigeon loft. The kennels were 50 feet long, 11 feet wide, and 7 feet high, and divided into ten compartments, one for each dog. There was a wire-enclosed runway for each compartment.36

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35. George W. Shine, "New York-Philadephia Sector," Coast Artillery Journal, vol. 86, no. 1, p. 79; Freehold Times, Sept. 3, 1942. The troops came from Forts Tilden, Totten, Hamilton, and Wadsworth, and Camp Upton.

36. New York Times, April 2, 1942; Asbury Park Press, May 3, 1942.

8. Schooling and Training the Troops

The coast artillerists also attended numerous schools. During the first year of the war these were conducted near the battery to which the unit was assigned because of the necessity of having the troops near their battle stations at all times. Schools in chemical warfare, camouflage, beach defense, loading and convoy discipline, antitank defense, and other subjects that had formerly been regimental projects were now largely the responsibility of battery commanders.

The chemical warfare school had been especially successful. Units within the subsectors sent officers and noncommissioned officers to these schools for qualification as gas officers, noncommissioned officers, and gas sentries. Organizational instruction was also given for units stationed at the post.

Mobile forces from the 113th Regimental Combat Team and coast artillery units augmented the replacement centers by establishing similar organizations within the sector. These temporary training groups proved more efficient in providing basic training to large groups of men who, in the days following Pearl Harbor, had been rushed to trained units from reception centers. Consequently, replacements did not constitute a "general lag in the advanced training of each unit and key noncommissioned officers" were not diverted from battery duties to give recruits instruction.[37]

With assignment of the 113th Regimental Combat Team to the area for beach defense, training in tactics and movements of mobile forces became an important part of the command's activities. During the fall and winter months, the troops fired the M1 for qualification. There were night operations with searchlights and

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37. Madison, "New York-Philadelphia Sector," pp. 76 & 87.

planes dropping flares to illuminate targets. Field exercises by the combat team demonstrated the men's "ability to withstand the hardships of cold, snow, wind and darkness." The 199th Field Artillery Battalion fired at both anchored and towed water targets over the infantry's positions.[38]

C. The Defenses' Greatest Year: 1943

1. Reinforcement of the Garrison

In 1943, the modernization program being rushed to completion, the New York Subsector and the harbor defenses reached their apogee of strength and efficiency. Battery Lewis, mounting two 16-inch guns, and Battery 219, armed with two 6-inch guns, were completed and manned.

On New Year's Day, 1943, the units assigned to the Harbor Defenses of New York listed their strength:

Unit	Officers	Warrant Officers	Enlisted Men
Headquarters and Headquarters Battery, HDNY	10	0	30
52d Coast Artillery (Ry), less Battery E and 1st Battalion	61	6	951
7th Coast Artillery (HD)	61	4	1,541
5th Coast Artillery (HD)	37	2	785
245th Coast Artillery (HD)	96	7	2,743
5th Coast Artillery Mine Planter Battery	2	10	70
15th Coast Artillery Mine Planter Battery	1	8	41

38. Shine, "New York-Philadelphia Sector," p. 79.

Unit	Officers	Warrant Officers	Enlisted Men
Headquarters and Headquarters Battery (HDD)	8	0	33
Band (HDD)	0	1	29
21st Coast Artillery (HD)	28	3	551
HD Replacement Training Battery (Prov)	0	0	273
12th Coast Artillery Mine Planter Battery	1	6	42
113 Infantry	145	3	2,814
113th Infantry RCT Training Center	0	0	1,027
199th Field Artillery	29	2	478
22d Quartermaster Company (Truck)	11	0	287
671st Collecting Company (Sep)	6	0	94
132d Engineers (Combat)	14	0	357
137th Signal Rd. Inf. Co.	7	1	227

By 1943 the CXAS radar unit on Battery Potter had been recognized as a vital unit in the harbor surveillance system, and a joint army-navy STOP was published. Experience had also demonstrated that a closer liaison was needed between the HECP at Fort Wadsworth, the navy signal station at Battery Potter, and other command units. Accordingly, advance HECPs were established at Forts Hancock and Tilden, and respectively designated no. 1 and no. 2. HECP no. 1 was positioned with the navy signal station at Battery Potter and no. 2 on the Rockaway Peninsula. The three HECPs were operated as "separate stations maintaining local ship plots with full control of shipping in

contiguous waters with general supervision vested in the central HECP at Fort Wadsworth."[39]

In February the 265th Coast Artillery (HD) arrived at Sandy Hook by rail from Fort Jackson, South Carolina, and a battery was assigned to each of these emplacements--Kingman, Mills, Gunnison, Richardson, Bloomfield, and Urmston. The 265th Coast Artillery's searchlight battery was deployed to supplement existing searchlights at, and in the vicinity of, Fort Hancock.[40]

2. Loss of Operational Control by the Subsector

On March 13, 1943, the following commands were divorced from operational control by the New York Subsector:

Headquarters, 113th Infantry
Headquarters Company, 113th Infantry
Antitank Company, 113th Infantry
Service Company, 113th Infantry
Band, 113th Infantry
671st Medical Collecting Company
Headquarters, 199th Field Artillery
Headquarters Battery, 199th Field Artillery
Service Battery, 199th Field Artillery
Headquarters, 2d Battalion, 132d Engineers

All these units, except the 113th Infantry Band, departed Fort Hancock by truck on March 19 for their new duty station at Fort Hamilton. The band left the post the same day for Freehold, New Jersey.[41]

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39. Harbor Defenses of New York, 1941-46, pp. 37-40.

40. Ibid., p. 41.

41. Ibid., pp. 43-44.

In mid-June the War Department rescinded its orders that coast artillery units in defense commands be composed of limited service personnel.[42] During that summer the 1st and 3d battalions, 113th Infantry, completed extensive beach defense plans. By this time the regiment was employing 72 dogs and 115 handlers on its beach patrols.[43] The number of radar units deployed by the harbor defenses had increased by 16, and by August the SCR-268 units were positioned:

Location	No. of Units	Organization	Station No.
Fort Hancock	1	Btry. A, 7th CA	504-R
Fort Hancock	1	Btry. B, 7th CA	505-R
Fort Hancock	5	Btry. C, 7th CA	559-R, 560-R, 564-R, 561-R, and 563-R
Fort Tilden	1	Btry. D, 5th CA	199-R
Fort Wadsworth	3	Btry. N, 245th CA	775-R, 777-R, and 778-R
Fort Wadsworth	1	Btry. I, 245th CA	705-R
Fort Totten	1	Btry. F, 7th CA	707-R
Fort Totten	3	Btry. G, 7th CA	759-R, 761-R, and 763-R
Fort Hamilton	1	Btry. K, 245th CA	704-R

Although the New York Subsector had been operational for two years, it had never been assigned any operating personnel. On August 31 a subsector detachment was activated.

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42. Ibid., p. 48.

43. Ibid., p. 56.

Completion of the 90-mm batteries dictated a reappraisal of policy as to their employment in view of their dual capability. They were accordingly given a primary mission of seacoast fire, and, in event of simultaneous attacks from the air and sea, the harbor defense commander was to determine which targets were to be given priority. When released for employment against aircraft, the 90-mm batteries were to be controlled by the 38th Antiaircraft Brigade.[44]

The following units were posted at Sandy Hook on September 1, 1943:

Headquarters and Headquarters Battery, Harbor Defenses of New York, (less HECP detachment)
7th Coast Artillery (HD) (less band [inactive] and Batteries D, E, G, and antiaircraft platoon)
Battery A, 288th Coast Artillery Battalion (Ry)
245th Coast Artillery (HD), Band, Headquarters Battery, 1st Battalion (Batteries A and B), Headquarters Battery, 2d Battalion (Batteries E and F), and Headquarters, 4th Battalion
265th Coast Artillery (HD) (less 1st Battalion, headquarters section, maintenance section, and a platoon of Battery G)
Battery C, 265th Coast Artillery
Antiaircraft Platoon, Battery G.[45]

In October Batteries Richardson and Bloomfield were ordered salvaged. Thus, in the late autumn and winter of 1943-44,

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44. Ibid., pp. 56-57.

45. U.S. War Department, Station Directories of the Army of the United States for Continental United States, January 1941-January 1948 (Washington: U.S. Government Printing Office, 1943), Sept. 1943.

as in the previous year, there was a salvage campaign in the various forts and posts of the New York-Philadelphia Sector. In addition to the big guns and their carriages, the Fort Hancock people rid themselves of miles of steel rails.[46] During the summer and autumn of 1942, the salvage campaign focused on the 20 miles of unused railroad tracks, the steel from which would be turned over to the scrap drive and "make nearly 2,000 tons of guns and bullets and tanks and planes."

Lt. Cyrus Urmey, post salvage officer, reported that some of the rails had been put down in the early 1890s, and in many instances had not been used since World War I. In some areas, the rails were buried under as much as 5 feet of drifting sand. Others, he continued, now formed the foundation for a roadway. The tracks were yanked out of the ground by caterpillar tractors. So ingenious was "operation salvage" that a heavy search-light battery surrounded by sandbags, which was mounted directly over a railway spur, was not disturbed as the tractor snaked out the rails.

As soon as all the rails were removed, invitations were to be mailed to area salvage firms to bid on the steel. In the event that all firms bid the ceiling price of $20 per ton, the rails were to be sold to the bidder who must haul the metal the shortest distance, thus helping to conserve rubber and gas.

In addition to the rails, the post had accumulated more than 300 tons of other scrap metal, including a huge railway gun that was found buried; and boilers, obsolete mine anchors, and girders. There was 12,000 pounds of tin collected from the roofs of buildings.

By June 1943, Fort Hancock's war on waste, which had also effected savings in gasoline, rubber, and food

consumption, had resulted in the collection of almost 1,500,000 pounds of scrap metal in ten months. There was now a constant cash return from salvage sales from all types of ferrous and nonferrous metals, glass, newspapers, cardboards, magazines, egg crates, timber, meat bones, fats, and greases.

Thus far Fort Hancock's metal salvage program had resulted in the sale of 600,000 pounds of steel rails, 116,300 pounds of cast iron, 80,000 pounds of unprepared scrap iron and steel, 3,579 pounds of galvanized pipe and iron, 115,700 pounds of wrought iron and steel, 5,188 pounds of scrap brass, 20,000 pounds of copper scrap, and 33,000 pounds of gun steel. Recently, 167,096 pounds of wrought iron and steel cannon balls had been removed from the reservation by successful bidders for resmelting.[46]

Then, on November 1, 1943, the 113th U.S. Infantry was relieved from its assignment to the New York Subsector. This made the subsector "merely a harbor defense in actuality, though it remained charged with a mission of supporting the sector mobile forces with artillery and troop reinforcements as the situation dictated."[47]

D. Personnel Reductions and Reorganizations in 1944

1. Destruction of USS Turner

Early on the morning of January 3, 1944, five United States destroyers were riding at anchor 4 miles east of Sandy Hook. At 6:17 a.m. there was a violent internal explosion aboard USS Turner, and she began to drift. At 6:19 a.m. fires were reported aboard by personnel of the Fort Hancock HECP. At 6:50

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46. Shine, "New York-Philadelphia Sector," p. 79; Asbury Park Press, June 9, 1942, & Red Bank Register, Oct. 1, 1942.

47. Harbor Defenses of New York, 1941-46, p. 55.

a.m. the HECP reported that a patrol boat was alongside Turner, and that there were at least 50 badly injured survivors.

Orders were given by the Fort Wadsworth HECP to evacuate the wounded to Fort Hancock. At 7:00 a.m. all available post ambulances were ordered to the wharf. At 7:10 a.m. the Fort Hancock HECP reported that the fires were increasing in fury, and the entire vessel was afire. Personnel at the post hospital prepared 50 beds for emergency patients and 190 beds for ambulatory people. At 7:19 a.m. Turner was seen to be sinking, and one minute later the Fort Hancock HECP sighted four small boats traveling inbound.

By 8:00 a.m. the first survivors were landed by the coast guard. Fifty men of Battery A, 245th Coast Artillery, had been rushed to the wharf to assist the medics in placing badly injured men into the 17 ambulances that had responded to the call for help. At 8:06 there was an explosion, and both Turner and the flames disappeared.

There were 45 survivors at the Sandy Hook Coast Guard Station by 9:00 a.m., and 64 survivors at the Fort Hancock Hospital, of whom 10 were ambulatory. A message was flashed to rush blood plasma and intravenous sets from Tompkinsville. At 9:06 a.m. another coast guard vessel docked at the wharf with 49 survivors, and others were landed on Staten Island. By mid-afternoon it was determined that there were 160 survivors: 62 at the Fort Hancock hospital, 55 at the Sandy Hook Coast Guard Station, 39 at the Staten Island Marine Hospital, and four at the Brooklyn Navy Yard.

The survivors were questioned by post intelligence officers. Several said that their ship had been torpedoed, but doubt was focused on their stories when they reported that the

force of the explosion was felt simultaneously and equally on both sides of the destroyer. Several survivors were positive that the explosion had occurred in the no. 2 handlers room. On the chance that a mine might have destroyed Turner, the Fort Hancock minefield was tested at 8:45 a.m., and the testing showed that all mines were as reported at 6:30 a.m., January 3.[48]

2. Reorganization of the Troops

On Feburary 1, during the final days of the New York Subsector, these units were posted:

New York Subsector
- Headquarters Detachment NYSS . . . . . Fort Hancock

Harbor Defenses of New York, Headquarters and
- Headquarters Battery . . . . . Fort Hancock
- HECP, HDNY . . . . . Fort Wadsworth
  - Advance HECP No. 1 . . . . . Fort Hancock
  - Advance HECP No. 2 . . . . . Fort Tilden

7th Coast Artillery (HD), Headquarters and
- Headquarters Battery . . . . . Fort Hancock
- 1st Battalion, Headquarters Battery . . . . . Fort Hancock
  - Battery A . . . . . Fort Hancock
  - Battery B . . . . . Fort Hancock
  - Battery C . . . . . Fort Hancock
- 2d Battalion, Headquarters Battery . . . . . Fort Hancock
  - Battery D . . . . . Fort Hancock
  - Detachment, Battery D . . . . . Fort Totten
  - Battery E . . . . . Fort Hancock
  - Battery F . . . . . Fort Totten

245th Coast Artillery (HD), Headquarters and
- Headquarters Battery . . . . . Fort Wadsworth
- Band, 245th Coast Artillery . . . . . Fort Hancock

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48. Ibid., pp. 115-19.

1st Battalion, Headquarters Battery . . . . . Fort Hancock
Battery A . . . . . Fort Hancock
Battery B . . . . . Fort Hancock
Battery C . . . . . Fort Wadsworth
2d Battalion, Headquarters Battery . . . . . Fort Hancock
Battery D . . . . . Fort Wadsworth
Battery E . . . . . Fort Hancock
Battery F . . . . . Fort Hanock
3d Battalion, Headquarters Battery . . . . . Fort Tilden
Battery G . . . . . Fort Tilden
Battery H . . . . . Fort Tilden
Battery I . . . . . Fort Tilden
4th Battalion, Headquarters Battery . . . . . Norton's Point
Battery K . . . . . Miller Field
Battery L . . . . . Norton's Point
Battery M . . . . . Rockaway Point
Battery N (less AA Platoon) . . . . . Fort Wadsworth
Antiaircraft Platoon, Battery N . . . . . Fort Tilden
5th Coast Artillery (HD), Headquarters and
Headquarters Battery . . . . . Fort Tilden
Battery A . . . . . Fort Wadsworth
Battery B . . . . . Fort Hancock
Battery D . . . . . Fort Tilden
288th Coast Artillery (Ry) Battalion, Battery A. . . Fort Hancock
5th Coast Artillery Mine Planter Battery, USAMP Gen. E.O.C. Ord -
Brooklyn Army Base
15th Coast Artillery Mine Planter Battery, USAMP Story. Fort Jay
20th Coast Artillery Mine Planter Battery, USAMP Mayback-
Tompkinsville[49]

49. Ibid., pp. 69-70.

On March 1 a reduction of personnel resulted in the abolition of the New York Subsector, and the Harbor Defenses of New York came under the control of the newly constituted Southeastern Subsector. During the early part of the month, the strength of the harbor defenses was slashed. Sixty percent of the personnel were transferred. This resulted in the following reassignments of available units:

Armament	Location	Command
Headquarters and Headquarters Company, Southeastern Subsector	Raleigh, N.C.	Sector Hdqrs. and Hdqrs. Co.
Harbor Defense, Headquarters, 3 HECPs, and 3 Surveillance Radars	Fort Hancock Fort Tilden Fort Wadsworth	Hdqrs. & Hdqrs. Battery, HDNY
Regimental Headquarters	Fort Hancock	Hdqrs. and Hdqrs. Battery, 245th CA
Detachment, Medical and Chaplain	Fort Hancock	
AMTB No. 8	Fort Hancock	Btry. E, 245th
AMTB No. 19	Norton's Point	Btry. G, 245th
AMTB No. 12	Swinburne Island	Btry. D, 245th
Gunnison	Fort Hancock	Btry. C, 245th
Construction No. 220	Fort Tilden	Btry. I, 245th
Searchlights	Fort Hancock Fort Tilden	Btry. N, 245th
Mines	Fort Hancock	Btry. A, 245th
Mines	Fort Hancock	Btry. B, 245th
Mine Planters	Brooklyn Army Base	5th CAMP
	Tompkinsville	20th CAMP
Maintenance	Fort Hancock Fort Tilden Fort Wadsworth	Btrys. E, H, & K, 245th

The numerical strength of the command had been pared to 71 officers, 22 warrant officers, and 1,917 enlisted men. This reduction of personnel resulted in the designation of these facilities as category A--90-mm batteries, HECP, advance HECPs nos. 1 and 2, the mine command, and maintenance. Visual observation posts, searchlights and SCR-268s and SCR-296s, underwater detection, Battery Gunnison and construction no. 220, and radar surveillance were placed on condition 1. All other class A armament was placed on condition 2.[50]

The course the war had taken dictated this policy. First, in North Africa and then in Sicily and Italy, United States and British forces and their Allies had scored a series of spectacular successes. Italy had asked for peace in September 1943, but the Germans had rushed in reinforcements to forestall total victory in that theater. Although the Allies held about one-third of the Italian boot, the Wehrmacht had dug in along the Gustav Line and had stalled the advance of the American 5th and British Eighth armies. The Americans at Anzio in January 1944 had sought to break the Italian stalemate, but they had failed miserably and were compelled to fight desperately to hold their beachhead.

On the eastern front, Soviet armies, since the abortive Kursk offensive in July 1943, had been on the attack along a 2,000-mile front. The Germans and their Allies had been hammered steadily westward, but the Red Army was unable to score a knockout blow. The skies over much of the Third Reich and occupied Europe were ruled by the Royal Air Force by night and the Eighth U.S. Air Force by day. In the British Isles, the British and Americans were massing and training divisions and brigades for Operation Overlord--the invasion of Adolf Hitler's

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50. Ibid., pp. 71-77.

Fortress Europe. The United Nations in the battle of the Atlantic had finally gained the upper hand and were mastering Admiral Doenitz's U-boats.

In the Pacific the Allied offensive was sweeping forward. Admiral Chester Nimitz's Central Pacific forces had captured the Gilberts and had seized key bases in the Marshalls. Gen. Douglas MacArthur's Southwest Pacific Command was leapfrogging along the coast of New Guinea, while in cooperation with the U.S. Navy, it had isolated the great Japanese base at Rabaul. In Burma, the Japanese thrust into India had been turned back.

It was now apparent to the War Department that what was needed to sustain and accelerate the march to victory was manpower to reinforce the combat arms after they had stormed ashore in France and had breached the German's Atlantic Wall. Among the sources of needed replacements was personnel from the coast defenses.

This sweep of victories led the coast guard to suspend its beach patrols on April 1, and on May 17 the removal of all sonobuoys in New York Harbor was authorized.[51]

Concurrently, there was a growing dependence on radar. On June 1, six days before American and British forces stormed ashore in Normandy, the following radar installations were operational in the area:

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51. Ibid., pp. 85-86.

Type	Location	Code No.	Manned by
Experimental SCR-296	Fort Hancock	200	HDNY
SCR-582	Navesink	201	HDNY
SCR-582	Fort Tilden	202	HDNY
SCR-296	Seaside, NY	211	Battery I, 245th CA
SCR-296	Fort Hancock	212	Btry. C, 245th CA
SCR-296	Navesink	217	Btry. E, 245th CA
SCR-298	Fort Hancock	8-R	Btry. F, 245th CA
SCR-298	Fort Tilden	3O-R	Searchlight Platoon
SCR-298	Fort Hancock	12-R	Searchlight Platoon
SCR-298	Norton's Point	19-R	Btry. G, 245th CA[52]

The following coast defense units were posted at Sandy Hook on July 4:

Headquarters, Harbor Defenses of New York
HECP Section 1, Headquarters Battery, Harbor Defenses of New York
245th Coast Artillery (HD), Headquarters and Headquarters Battery, Batteries A, B (less detachment), C, E, F, SCSL Platoon, Battery N, and Medical Detachment.[53]

On August 30 these units of the harbor defenses of New York were assigned:

52. Ibid., p. 87.

53. Station Directories, July 1944.

Designation	Tables of Organization	Armament	Strength
Headquarters Battery, Harbor Defenses of New York	4-260-1	Headquarters	271
Headquarters Battery, 245th Coast Artillery Battalion (HD)	4-66	Headquarters	58
Battery A, 245th Coast Artillery Bn.	4-69	Mines	184
Battery B, 245th Coast Artillery Bn.	4-69	Mines	199
Battery C, 245th Coast Artillery Bn.	4-67	Battery Gunnison	109
Battery D, 245th Coast Artillery Bn.	4-67	Maintenance	142
Battery E, 245th Coast Artillery Bn.	4-77	AMTB Fort Hancock	138
Battery F, 245th Coast	4-68	Searchlights	103
Headquarters & Headquarters Det., 192d Coast Artillery Bn. (HD)	4-66	Headquarters	58
Battery A, 192d Coast Artillery Bn.	4-77	AMTB Swinburne Is.	138
Battery B, 192d Coast Artillery Bn.	4-77	AMTB Norton's Pt.	138
Battery C, 192d Coast Artillery Bn.	4-67	Maintenance	142
Battery D, 192d Coast Artillery Bn.	4-67	Battery Kessler	105

Designation	Tables of Organization	Armament	Strength
Battery E, 192d Coast Artillery Bn.	4-67	Battery Livingston	109
5th Coast Artillery Mine Planter Btry.	4-104	USAMP Gen. E.O.C. Ord	47
TOTAL			1,945[54]

3. Bomb Threats

On September 18 the coast guard lookout system was discontinued, and on October 1 the strength of the harbor defenses was pared by 7 percent.

Early on the afternoon of November 3, Lt. Gen. George Grunert was called by the War Department G-2 and warned that the German navy had outfitted, in Norwegian ports, several of its latest U-boats with facilities for launching V-1 robot bombs. One of these vessels, it was reported, was scheduled for early departure for waters off New York Harbor. The Supreme Headquarters, Allied Expeditionary Force had called for photoreconnaissance. In the absence of confirmation, G-2 did not want anything done "lest the activity cause general alarm among the public." It was, however, deemed desirable to pass this word to officers responsible for the defense of the New York metropolitan area so they could devise contingency plans.

A similar message was sent by the navy to Admiral Herbert F. Leary, commanding the Eastern Sea Frontier. Later in

54. Harbor Defenses of New York, 1941-46, pp. 88-93.

the day, the Commander in Chief, United States Fleet, directed Leary to institute continuous patrols in an arc 250 miles to the seaward of the harbor and to secure coordination with the army for deployment of aircraft, radar, and antiaircraft guns. This dispatch cautioned that the attack "might occur in the very near future." The facilities available to the navy in taking counteraction were limited. To maintain any "considerable reconnaissance and defense," it was necessary to utilize army resources.

For the army, the alert came at a critical period--the 35th Antiaircraft Brigade had been disbanded, and the only antiaircraft units left in the Eastern Defense Command were those organic to the harbor defenses. Most of these were in storage or on maintenance status. Ammunition reserves were limited. The First U.S. Air Force had an antiaircraft artillery brigade on Long Island in training status, but that unit was without ammunition and was not tactically deployed. Moreover, the First U.S. Air Force, at this stage of the conflict, was a training organization not a tactical unit. But they did have some airplanes at Mitchell Field.

The next morning, November 4, Maj. Gen. Frank O.D. Hunter of the First U.S. Air Force was empowered by the War Department to assist Admiral Leary with all his capabilities, because the army deemed the situation critical. The navy instituted its patrols--the First U.S. Air Force secured additional planes and deployed its antiaircraft brigade along the south shore of Long Island. All available harbor defense antiaircraft armament was prepared for firing missions and manned with whatever personnel could be assembled. The Eastern Defense Command arranged for an emergency supply of ammunition for its own armament and for the air force's antiaircraft guns.

A continuous alert was maintained until November 10, when orders were received from the Pentagon to resume normal operations in the "absence of any further confirmation of the original report."[55]

E. End of War and Return to Peacetime Status

1. Reorganization and Further Reductions in Personnel

By late September 1944 Allied armies in the West had liberated most of France, Luxembourg, Belgium, and the southern Netherlands. Before their eastward rush had been slowed by the inability to keep their armored spearheads supplied with fuel, Allied columns had felt their way onto German soil and had pressed up against the Siegfried Line. The Wehrmacht used this opportunity to bring up reserves and to partially make good its losses suffered in the battles of Normandy and the Allied surge across the Seine and beyond. The war in the West again became one of attrition. Then on December 16 the Germans struck back and seized the initiative along a 60-mile sector of the front. The Battle of the Bulge resulted. Although the German breakthrough was contained and their gains eliminated by late January, it had been done at heavy cost.

While the Battle of the Bulge raged, the coast defenses of Sandy Hook were manned by the following troops on January 1, 1945:

Headquarters and Headquarters Battery, Harbor Defenses of New York

245th Coast Artillery (HD), Headquarters and Headquarters Detachment, and Batteries A, B, C, D, E, and F (less one platoon).[56]

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55. Ibid., pp. 96 and 120-22.

56. Station Directories, December 31, 1944.

On March 18, 1945, with the First Army across the Rhine at Remagen, orders were issued assigning the following units to the sundry armaments and prescribing the class of maintenance:

Organization	Armament	Tactical No.	Class
Hdqrs. Btry., NYHD	HDCP		A
	HECP		A
	HECP no. 1		A
	HECP no. 2		A
	SCR-682	Location 203	A
	SCR-582	Location 201	A
	SCR-582	Location 202	A
5th CAMP Btry.	USAMP Gen. E.O.C. Ord		A
Hdqrs. Btry., 245th CA Bn. (HD)	Battalion Command Post		A
Btry. A, 245th CA Bn. (HD)	Mines (Groups 5-10)	Btry. 10	A
	(Groups 17-24)		
	Morris (four 3" BC)	Btry. 9	C
Btry. B, 245th CA Bn. (HD)	Mines (Groups 1-4)	Btry. 25	A
	(Groups 11-16)		A
	(Groups 25-29)	Btry. 15	A
Btry. C, 245th CA Bn. (HD)	Gunnison (two 6" BC)	Btry. 5	A
	(two 40-mm guns)		A
	(two .50 cal. MG)		A
	(two .30 cal. MG)		A
	(SCR-296)	Location 212	A
	Urmston (two 3" BC)	Btry. 6	C

Organization	Armament	Tactical No.	Class
Btry. D, 245th CA Bn. (HD)	Construction 219 (two 6" BC)	Btry. 1	C
	Lewis (two 16" BC)	Btry. 2	C
	Mills (two 12" BC)	Btry. 3	C
	Kingman (two 12" BC)	Btry.4	C
	AA no. 1 (three 3" AA fixed)	AA no. 1	C
	AA no. 2 (three 3" AA fixed)	AA no. 2	C
Btry. E, 245th CA Bn. (HD)	Btry. no. 8 (two 90-mm fixed)		A
	(two 90-mm mobile)		C
	(two 40-mm)		A
	(four .30 cal. MG)		A
	(one SCR-268)	Location 16-R	A
	(one SCR-547)	Location 197	A
	(Slt. 16)	Slt. 16	A
	Btry. 7 (two 90-mm fixed)		C
	(two 90-mm mobile)		C
	(four .50 cal. MG)		C
	Btry. 11 (two 90-mm mobile)		C
Btry. F, 245th CA Bn. (HD)	Slt. 11	Slt. 11	A
	Slt. 12	Slt. 12	A
	Slt. 14	Slt. 14	A
	Slt. 15	Slt. 15	A
	Slt. 17	Slt. 17	A

Organization	Armament	Tactical No.	Class
	Slt. 21	Slt. 21	A
	Stl. 27	Slt. 27	A
	Slt. 29	Slt. 29	A
	SCR-268	Location 12-R	A
	SCR-268	Location 29-R	A
Hdqrs. Btry. 192d CA Bn. (HD)	Battalion Command Post		A
Btry. A, 192d CA Bn. (HD)	Btry. 12 (two 90-mm fixed)		A
	(two 40-mm)		A
	(two .50 cal. MG)		A
	(one SCR-547)		A
	(Slt. 20)	Slt. 20	A
Btry. B, 192d CA Bn. (HD)	Btry. 19 (two 90-mm fixed)		A
	(two 40-mm)		A
	(four .50 cal. MG)		A
	(one SCR-268)	Location 25-R	A
	(one SCR-547)	Location 199	A
	(Slt. 25)	Slt. 25	A
	Catlin (four-3" BC)	Btry. 18	C
Btry. C, 192d CA Bn. (HD)	Btry. 20 (two 3" BC)		C
	Btry. 21 (two 90-mm fixed)		C
	(two 90-mm mobile)		C
	Harris (two 16" BC)	Btry. 23	C

Organization	Armament	Tactical No.	Class
	Fergusson (two 6" BC)		C
	Construction 220 (two 6" BC)	Btry. 24	C
	AA no. 5 (three 3" AA fixed)	AA no. 5	C
	AA no. 6 (three 3" AA fixed)	AA no. 6	C
	Baker (two 3" BC)	Btry. 26	C
	Burnes (two 3" BC)	Btry. 27	C
Btry. D, 192d CA Bn. (HD)	Kessler (two 6" BC)	Btry. 22	A
	(two 40-mm AA)		A
	(two .50 cal. MG)		A
	(two .30 cal. MG)		A
	(one SCR-296)	Location 211	A
Btry. E, 192d CA Bn. (HD)	Btry. 11 (two 90-mm fixed)	Btry 11	C
	Construction 218 (two 6" BC)	Btry. 13	C
	Turnbull (four 3" BC)	Btry. 14	C
	Griffin (two 3" BC)	Btry. 16	C
	Livingston (two 6" BC)	Btry. 17	C
	AA 3 (three 3" AA fixed)	AA no. 3	C

Organization	Armament	Tactical No.	Class
	AA 4 (three 3" AA fixed)	AA no. 4	C
	Btry. 19 (two 90-mm mobile)	Btry. 19	C[57]

2. Elimination of Mine Defenses

On March 21, with the submarine menace mastered and the Allied and Red armies converging, the long and arduous task of "picking-up" the harbor defense minefields began. By August 13 all the mines, except 12 ground and 4 buoyant, had been pinpointed, removed, and stored. Three months later, there were 11 unlocated ground and 3 buoyant mines. Efforts by navy divers and harbor defense people to find these machines of destruction in December were unsuccessful.[58]

On March 29, 1945, the following harbor defense units were reorganized and resdesignated:

Battery A, 245th Coast Artillery Battalion, became Battery A, Harbor Defenses of New York
Battery B, 192d Coast Artillery Battalion, became Battery B, Harbor Defenses of New York
Battery C, 245th Coast Artillery Battalion, became Battery C, Harbor Defenses of New York
Battery D, 245th Coast Artillery Battalion, became Battery D, Harbor Defenses of New York

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57. Harbor Defenses of New York, 1941-46, pp. 98-101.

58. Ibid., pp. 102 & 107.

Battery E, 245th Coast Artillery Battalion, became Battery E, Harbor Defenses of New York

Battery F, 245th Coast Artillery Battalion, became Battery F, Harbor Defenses of New York

Headquarters, Harbor Defenses of New York and the 5th U.S. Army Mine Planter Battery retained their designations

Batteries A, D, C, and E, and Headquarters Battery were assigned to Fort Hancock; Battery B to Fort Tilden; and Battery F to various searchlights.[59]

3. Demobilization of Troops

On April 14, two days after the death of President Roosevelt and with American armies on the Elbe, harbor defense headquarters authorized the removal of harbor defense guns and allied equipment from Miller Field, Swinburne Island, and Norton's Point, and on May 15, seven days after V-E Day, the Third Naval District directed removal of the harbor nets and booms and the return of the lightships to their stations. Then, on June 8, the Eastern Defense Command called for all armaments to be reduced from category A to C, and ten days later the HECPs were closed. The latter's functions were assumed by the coast guard ship reporting service headquartered at Fort Wadsworth.

During 1945, harbor defense personnel, working with the Signal Corps Laboratories at Belmar and with the Massachusetts Institute of Technology, conducted numerous tests with a new type of radar--AN/MGP. Sets were installed at the HECP and Battery 8.

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59. Ibid., pp. 103-4.

By December 31, four months after V-J Day had ended the struggle in the Pacific, the harbor defenses had been cut back to a peacetime status. There had been a constant attrition from discharges beginning soon after V-E Day. Large numbers of trained personnel had been lost, to be replaced by men who would soon be eligible for discharge under the point system. At the end of the year, 46 officers, 9 warrant officers, and 769 enlisted men were assigned to the command.[60]

F. Unit Assignments

1. Fort Hancock's Role in World War II

During World War II, Fort Hancock, in addition to its vital role in the coastal and antiaircraft defense of America's most important port and metropolitan area, had several other missions. It served as a training base and staging area for a large number of units being readied for service overseas. The number of men and women stationed there, including harbor defense personnel, varied from 7,000 to more than 12,000. In the months following V-E and V-J days, when the "Magic Carpet" operation was at its apogee, these figures soared to more than 18,000. During these months, Fort Hancock was one of the Atlantic Coast's major reception centers for troops returning from the European theatre of operations.

Fort Hancock also served the army as a staging area for prisoners being returned to the United States who had been convicted of breaches of discipline and other crimes by military courts-martial. These people were quartered in the Camp Low disciplinary barracks. A breakdown of the units posted at Fort Hancock during World War II and the immediate postwar years

60. Ibid., pp. 105-8.

documents the importance of Sandy Hook to the nation's war effort.

2. Headquarters and Area Service Units

The Headquarters and Headquarters Battery, Harbor Defenses of New York, was at Fort Hancock. The Harbor Defense Command Post (HDCP) was in the bombproof casemates of the McCook and Reynolds batteries.

The following commanders were assigned to Fort Hancock during these years:

Brig. Gen. Philip S. Gage,
USA, ... Dec. 1, 1940-Nov. 7, 1942
Col. J. C. Haw, CAC . . . . . Nov. 8, 1942-Aug. 19, 1943
Col. P. L. Wall, CAC . . . . Aug. 20, 1943-Jan. 10, 1944
Lt. Col. S. E. Willard, CAC . . Jan. 11, 1944-Mar. 1, 1944
Col. J. C. Haw, CAC. . . . . March 2, 1944-Nov. 10, 1944
Lt. Col. Lyman L. Parks, CAC . . Nov. 11, 1944-June 1, 1946

Commanding the harbor defenses during these years were Brig. Gen. Philip S. Gage, USA, Dec. 4, 1940-March 18, 1944 and Brig. Gen. Charles D. Y. Ostrom, CAC, March 19, 1944-- April 30, 1950.[61]

The 1225th Army Service Unit was organized at Sandy Hook in 1941 as an administrative and logistical unit to support the tactical commands. It was a tables of distribution and

61. In March 1944, General Gage was transferred to command the Harbor Defenses of Boston.

allowance unit and as such was a provisional organization. The 1225th continued to function in this capacity until the late 1940s.

From January 1943 to February 1944, headquarters for the New York Subsector was at Sandy Hook. Stationed at Fort Hancock during this period were these nontables of organization units: the post ordnance shop during the winter of 1942-43; the post photographic laboratory from the autumn of 1942 until the summer of 1944; the 3d echelon motor repair shop from the late summer of 1943 until 1945; the 4th echelon armament repair shop from the summer of 1945 to the summer of 1948; the Signal Corps repair shop no. 2 from the summer of 1945 to the winter of 1945-46; and the army experimental station from the autumn of 1943 to the winter of 1943-44.[62]

A Women's Army Auxiliary Corps detachment was assigned to the 1225th in 1943. The women arrived on post in late June as members of the Women's Army Auxiliary Corps. (WAAC), but became WACs early in July when President Roosevelt signed a bill establishing the Women's Army Corps, which granted them equal rights with the GIs. Among these rights were the same rank nomenclature, government insurance, and free franking privileges. As a member of the WAC, 2d Officer Frances S. Hardin, commanding officer of the detachment, became a first lieutenant in the Army of the United States, and 3d Officer Katherine L. Stroud, a second lieutenant. Noncommissioned personnel, heretofore known as junior leaders, would become sergeants or corporals.

Post Commander Haw hailed the signing of the bill as a further step toward "extending the valuable service the auxiliary

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62. Station Directories, July 1941-July 1948.

corps has performed for the Army in releasing men for combat duty." Although the detachment had not yet reached its full strength, the members "already have demonstrated how effectively they can serve as adjuncts to the complement of the post."

By mid-October, the women in uniform, in addition to clerical and hospital duties, were driving the motor pool's big 2-1/2-ton trucks and ambulances.[63]

3. Coast Artillery and Antiaircraft Units

In the autumn of 1940 there were three coast artillery regiments stationed at Fort Hancock--the 7th, 52d, and 245th. The first two were regular army, while the 245th had belonged to the New York National Guard before being federalized.

a. 7th Coast Artillery Regiment (Harbor Defense)

On January 11, 1941, these additional units of the 7th Coast Artillery were activated: Headquarters and Headquarters Battery, 1st Battalion, and Batteries E and F and the Medical Detachment at Fort Hancock; and Headquarters and Headquarters Battery, 2d Battalion, and Battery D at Fort Tilden.

The regiment was stationed at Forts Hancock and Tilden during the winter and spring of 1942, while the German U-boat offensive against coastal shipping was at its height. On September 9, 1942, Battery D was ordered to Fort Hamilton, and, in September, Regimental Headquarters, and Headquarters Battery and the 1st Battalion took position at Fort Tilden. In November 1942 the regiment, except Battery E, was concentrated at Fort Tilden. Battery E was posted at Fort Totten.

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63. Ibid; Red Bank Resgister, July 8, 1943 & Asbury Park Press, October 10, 1943.

The spring of 1943 found the regiment (less Headquarters and Headquarters Batteries of the 1st and 2d battalions) still at Fort Tilden. The battalion headquarters were at Fort Hancock. Then in August the regiment (less Batteries D and F and the antiaircraft platoon of Battery G posted at Fort Tilden) was moved to Fort Hancock.

Early in March 1944 Regimental Headquarters, Headquarters and Headquarters Battery, and the 1st Battalion entrained at Fort Hancock for Fort Leonard Wood, Missouri. The 2d Battalion was transferred at the same time to Camp Chaffee, Arkansas. "New Battery" G was sent to Fort Jackson, South Carolina. In April 1944 the 7th Coast Artillery was inactivated at its new stations.[64]

b. 52d Coast Artillery Regiment (Railway)

Headquarters and Headquarters Battery, 1st Battalion, and Batteries A and B, 52d Coast Artillery, left Fort Hancock by rail 20 days after the attack on Pearl Harbor for the San Francisco Port of Embarkation. There, they boarded a ship for the Hawaiian Islands. The unit's stay in the islands was brief, and the battalion (less personnel and equipment) was returned to Fort Hancock in March. It remained at Sandy Hook until autumn, when it was sent to Fort John Curtis, Virginia.

Battery D was overseas on December 7, 1941, that unit having departed Fort Hancock for St. John's, Newfoundland, on April 23, 1941. The battery (less personnel and equipment) returned to Sandy Hook from Newfoundland in February 1942. In the early summer of that year Battery C was transferred to Fort Miles, Delaware, where it was joined by the remainder of

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64. U.S. War Department, Unit Jacket, 7th Coast Artillery, Organizational History Branch, Center of Military History (CMH).

the 2d Battalion (Headquarters and Headquarters Battery and Battery D) in September.

Battery F, 3d Battalion, was also overseas when war came to the United States. The battery had left Fort Hancock for Bermuda in January 1941, where it remained until February 1942, when it was returned (less personnel and equipment) to Sandy Hook. Immediately after Pearl Harbor, Battery E was rushed from Fort Hancock to the Pacific Coast, taking position at Manhattan Beach, California.

On May 1, 1943, Headquarters and Headquarters Battery, 52d Coast Artillery (Ry), was disbanded, and the regimental band was redesignated the 31st Coast Artillery Band and ordered to Key West. The 1st Battalion, 52d Coast Artillery (Headquarters and Headquarters Battery, and Batteries A and B), stationed at Fort John Curtis, was redesignated the 286th Coast Artillery Battalion (Ry).

Coincidentally, the 2d Battalion, 52d Coast Artillery (Headquarters and Headquarters Battery, and Batteries C and D) was redesignated the 287th Coast Artillery Battalion (Ry).

Headquarters and Headquarters Battery, 3d Battalion, 52d Coast Artillery, was redesignated Headquarters and Headquarters Company, 286th Coast Artillery Battalion (Ry) and inactivated; Battery E was redesignated Battery A, 285th Coast Artillery Battalion, and transferred from Fort MacArthur, California, to Camp Breckinridge, Kentucky; and Battery F was redesignated Battery A, 288th Coast Artillery Battalion, and transferred from Fort Hancock to Camp Shelby, Mississippi.

Company G (Searchlight), activated at Fort Hancock in January 1943, was disbanded at Sandy Hook in May 1943.[65]

c. 245th Coast Artillery (Harbor Defense)

The 245th Coast Artillery Regiment (HD) was organized into four battalions. Regimental Headquarters and Headquarters Battery was stationed at Fort Hancock from September 16, 1940, until May 20, 1943, when it was transferred to Fort Wadsworth, where it remained until March 1, 1944, when it returned to Fort Hancock.

Three of the four units constituting the 1st Battalion, 245th Coast Artillery (Headquarters and Headquarters Battery, and Batteries A and B), served at Sandy Hook from September 16, 1940, until March 13, 1944. Battery C, however, spent eight months of this period, from May 20, 1943, to February 22, 1944, at Fort Wadsworth.

Three of the four units constituting the 2d Battalion, 245th Coast Artillery (Headquarters and Headquarters Battery, and Batteries E and F), likewise were at Fort Hancock from September 1940 to March 1944. Battery E was sent to Swinburne Island on August 2, 1943.

During the 41 months between September 1940 and March 1944, the 3d Battalion was stationed at the following New York Harbor Defenses:

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65. Unit Jacket, 52d Coast Artillery; Asbury Park Press, April 24, 1941. Battery D had sailed for St. John aboard the army transport Leonard Wood.

Headquarters and Headquarters Battery

Fort Hancock	September 16 to December 20, 1940
Fort Tilden	December 20, 1940 to September 23, 1942
Fort Hancock	September 23, 1942 to May 20, 1943
Fort Wadsworth	May 20 to November 23, 1943
Norton's Point	November 23 to December 2, 1943
Fort Tilden	December 2, 1943 to March 1, 1944
Fort Hancock	March 1, 1944

Battery G

Fort Hancock	September 1940 to May 20, 1943
Miller Field	May 20 to December 2, 1943
Fort Tilden	December 2, 1943 to February 22, 1944
Norton's Point	February 22, 1944

Battery H

Sandy Hook	September 1940 to May 20, 1943
Fort Tilden	May 20 to September 1, 1943
Fort Wadsworth	September 1 to December 2, 1943
Fort Tilden	December 2, 1943 to March 1, 1944

Battery I

Fort Hancock	September 1940 to May 20, 1943
Fort Wadsworth	May 20 to October 1, 1943
Fort Hancock	October 1, to December 2, 1943
Fort Tilden	December 2, 1943 to March 1, 1944

The 4th Battalion, 245th Coast Artillery, was stationed at the following New York Harbor Defenses:

Headquarters and Headquarters Battery

Fort Hancock	September 1940 to March 22, 1943
Fort Wadsworth	March 22 to May 20, 1943
Fort Hancock	May 20 to December 2, 1943
Norton's Point	December 2, 1943 to February 28, 1944
Fort Hancock	February 28, 1944

Battery K

Fort Hancock	September 1940 to May 20, 1943
Fort Hamilton	May 20 to October 10, 1943
Fort Hancock	October 10 to December 2, 1943
Miller Field	December 2, 1943 to March 1, 1944
Fort Wadsworth	March 1, 1944

Battery L

Fort Hancock	September 1940 to November 23, 1942
Norton's Point	November 23, 1942 to February 22, 1944
Fort Wadsworth	February 22 to March 1, 1944
Fort Hancock	March 1, 1944

Battery M

Fort Hancock	September 1940 to February 22, 1943
Miller Field	February 22, 1943 to May 20, 1943
Rockaway Point	February 22 to March 1, 1944
Sandy Hook	March 1, 1944

The Searchlight Battery was redesignated Battery N on May 17, 1943. On July 1, 1943, the battery, less the antiaircraft platoon, was ordered to Fort Tilden; on December 6, 1943, the antiaircraft platoon joined the battery at Fort Tilden; and on March 1, 1944, the battery returned to Fort Hancock. The regiment's medical detachment was transferred to Fort Wadsworth on May 20, 1943, and returned to Fort Hancock on March 1, 1944.

On March 13, 1944, the following units of the 245th Coast Artillery departed Fort Hancock by rail for Camp Chaffee, Arkansas: Headquarters and Headquarters Batteries, 2d, 3d, and 4th battalions; Batteries L, M, and N (less searchlight platoon); the medical detachment; and the regimental band. Seven weeks later, on May 3, these units were disbanded.

On October 7, 1944, the units of the 245th Coast Artillery Regiment that had remained in the Harbor Defenses

of New York were redesignated: Headquarters, Harbor Defenses of New York became Headquarters and Headquarters Battery, Harbor Defenses of New York; Headquarters and Headquarters Battery, 245th Coast Artillery Regiment, became Headquarters & Headquarters Detachment, 245th Coast Artillery Battalion (HD); Batteries A, B, C, E, F, and N (less searchlight platoon), 245th Coast Artillery Regiment, became respectively Batteries A, B, C, D, E and F, 245th Coast Artillery Battalion (HD).

Batteries D, G, H, I, and K, 245th Coast Artillery Regiment, became respectively Batteries A, B, C, D, and E, 192d Coast Artillery Battalion (HD). The 192d was activated at Fort Tilden on October 7, 1944, and inactivated there on April 1, 1945.

On April 1, 1945, with V-E Day less than five weeks away, Headquarters and Headquarters Detachment and Battery B, 245th Coast Artillery Battalion, were inactivated. Concurrently, these units were redesignated:

Battery A, 245th Coast Artillery Battalion, to Battery A (Mine), Harbor Defenses of New York
Battery B, 192d Coast Artillery Battalion, to Battery B, Harbor Defenses of New York
Battery C, 245th Coast Artillery Battalion, to Battery C (6-inch gun), Harbor Defenses of New York
Battery D, 245th Coast Artillery Battalion, to Battery D (6-inch gun), Harbor Defenses of New York
Battery E, 245th Coast Artillery Battalion, to Battery E (AMTB), Harbor Defenses of New York
Battery F, 245th Coast Artillery Battalion, to Battery F (searchlight), Harbor Defenses of New York.

On June 30, 1946, Companies A, C, D, E, and F, Harbor Defenses of New York, were inactivated at Fort Hancock.[66]

d. 25th Separate Coast Artillery Battalion (Harbor Defense)

On January 22, 1942, the 25th Separate Coast Artillery Battalion (HD) was activated at Fort Hancock. The battalion remained at Sandy Hook until April 29, when it was transferred to the New York Port of Embarkation, from where it proceeded by ship to Iceland.[67]

e. 701st Coast Artillery Regiment (Antiaircraft)

The 701st Coast Artillery Regiment (Antiaircraft) was activated at Fort Totten on October 1, 1942. During the autumn and early winter of 1942-43 several units of the 701st trained at Fort Hancock. On January 7, 1943, the regiment was transferred from Fort Totten to Camp Pendleton, Virginia.[68]

On September 1, 1943, the 701st Coast Artillery Regiment was broken up. Headquarters and Headquarters Battery was redesignated Headquarters and Headquarters Battery, 701st Antiaircraft Artillery Group; the 1st Battalion became the 701st Antiaircraft Artillery Gun Battalion; the 2d Battalion the 540th Antiaircraft Automatic Weapons Battalion; and the 3d Battalion the 368th Antiaircraft Searchlight Battalion.

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66. Unit Jacket, 245th Coast Artillery Regiment.

67. Unit Jacket, 25th Coast Artillery Battalion.

68. Unit Jacket, 701st Antiaircraft Artillery Group.

f. 265th Coast Artillery Regiment (Harbor Defense)

The 265th Coast Artillery Regiment (HD) reached Fort Hancock from Fort Jackson, South Carolina, on February 16, 1943. On June 19 the regiment was relieved from assignment to the XIII Corps and attached to the Eastern Defense Command for administration and training. The assignment of the 265th Regiment to the army ground forces was not changed by this order. Six months later, on December 8, the regiment was relieved from its assignment to the army ground forces. On January 11, 1944, the 265th departed Fort Hancock for Alaska by way of the Seattle Port of Embarkation.[69]

g. Five Coast Artillery Mine Planter Batteries

Five coast artillery mine planter batteries were posted at Sandy Hook during various periods of the war. Activated as Detachment Coast Artillery Corps, one of these units, the mine planter Gen. E.O.C. Ord, was redesignated on November 30, 1942, as the 5th Coast Artillery Mine Planter Battery. It was stationed at Fort Hancock in the autumn of 1942, and it remained at Sandy Hook until the spring of 1944, when it was reassigned to the army base at 58th Street and 1st Avenue, Brooklyn, New York.

On October 8, 1942, the Detachment Coast Artillery Corps, mine planter Gen. John P. Story, was activated at Point Pleasant, West Virginia. The unit was redesignated the 15th Coast Artillery Mine Planter Battery on November 15, 1942, and was transferred to Fort Hancock in late December. In the winter of 1943-44 the vessel and battery were ordered to Fort Jay.

The 19th Coast Artillery Mine Planter Battery was activated at Fort Hancock on November 28, 1942, and in the

69. Unit Jacket, 265th Coast Artillery.

spring of 1943 ordered to Point Pleasant. The 20th Coast Artillery Mine Planter Battery and the mine planter Maybank arrived at Fort Hancock on May 13, 1943.

The 22d Coast Artillery Mine Planter Battery was activated at Fort Hancock on January 9, 1943, and was transferred to the mine planter Bundy at Point Pleasant, West Virginia, on February 22, 1943.[70]

h. 25th Coast Artillery Junior Mine Planter Battery

In September 1944 the 25th Coast Artillery Junior Mine Planter Battery was activated at Fort Hancock. The battery was transferred to Fort Constitution, New Hampshire, in December 1944.[71]

4. Medical Units

a. Fort Hancock Medical Detachment

In the autumn of 1940 the Fort Hancock medical detachment became a part of the 1225th Army Service Unit. During the winter of 1940-41, with a rapid expansion of the army, the medical detachment lost its quarters in the hospital annex and moved into a tent city behind the hospital and west of Magruder Drive. In the spring of 1941 the unit moved into the newly completed cantonment quarters.[72]

b. 151st Station Hospital

On June 1, 1941, the 151st Station Hospital was activated at Fort Hancock. In June 1942 the officers and men of

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70. Unit Jackets, 5th, 15th, 19th, 20th, and 22d Coast Artillery Mine Planter Batteries; History of the Harbor Defenses of New York, 1941-46, p. 187, RG 77, WNRC.

71. Unit Jacket, 25th Coast Artillery Junior Mine Planter Battery.

72. Fort Hancock File, RG 338, NA.

the hospital said goodbye to their friends at Sandy Hook, as their unit was transferred to Fort Custer, Michigan.[73]

c. 52d Station Hospital

The 52d Station Hospital, a unit in the organized reserves, was ordered to active duty at Fort Hancock on April 21, 1942. It was May 7 before all the officers and men were present and the unit activated. In the autumn of 1942 the unit was transferred overseas.[74]

d. 127th, 176th, 177th, and 178th Station Hospitals

During the winter of 1942-43 four station hospitals were constituted and organized at Fort Hancock. The 127th was activated on December 20 and the 176th, 177th, and 178th on January 25. The 176th was a 200-bed unit, the 177th was a 150-bed unit, and the 178th a 100-bed unit. The four station hospitals remained at Sandy Hook until spring, when they were reassigned--the 127th Station Hospital proceeded to California's Desert Training Center, the 176th to Halloran General Hospital, and the 177th and 178th to Pine Camp, New York.[75]

e. 671st Medical Collection Company

The 671st Medical Collection Company was constituted and organized at Fort Hancock from personnel drawn from Companies A and E, 119th Medical Regiment, on May 25, 1942. It remained at Sandy Hook until the spring of 1943, when it was transferred to Fort Hamilton.[76]

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73. Ibid.; U.S. War Dept., Unit Jacket, 151st Station Hospital.

74. Unit Jacket, 52d Station Hospital.

75. Unit Jackets, 127th, 176th, 177th, and 178th Station Hospitals.

76. Unit Jacket, 671st Medical Collection Company.

5. Military Police Units

a. 709th and 730th Military Police Battalions

In the autumn of 1943 two military police battalions (zone of the interior) were assigned to Fort Hancock; however, the personnel were posted elsewhere--the 709th at 34th Exchange Place, New York City, and the 730th at the Jersey City Armory. These battalions were disbanded in December 1943.[77]

b. 529th, 530th, 531st, and 533d Military Police Escort Guard Companies

Four military police escort guard companies (the 529th, 530th, 531st, and 533d) were stationed at Fort Hancock from April to July 1945. The 529th and 531st were disbanded at Fort Hancock on July 21, 1945; the 530th at Fort Leavenworth, Kansas; and the 533d at Camp Hood, Texas.[78]

c. Atlantic Coast Receiving Branch, U.S. Disciplinary Barracks

The Atlantic Coast Receiving Branch, U.S. Disciplinary Barracks, was organized at Fort Hancock in the autumn of 1945. This command remained at Fort Hancock until the winter of 1949-50.[79]

6. 113th U.S. Infantry (New Jersey National Guard

On September 16, 1940, the 113th U.S. Infantry (New Jersey National Guard) was federalized at its home stations. One week later, the components rendezvoused at Fort Dix, where

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77. Unit Jackets, 709th and 730th Military Police Battalions.

78. Unit Jackets, 529th, 530th, 531st, and 533d Military Police Companies. The four companies were organized at Fort Leonard Wood on March 30, 1945.

79. Station Directories, Sept. 1945-June 1950.

the regiment was assigned to the 44th Infantry Division. While at Fort Dix, the regiment participated in an intensive training schedule, and in the autumn of 1941 traveled to North Carolina for the First Army maneuvers. Here officers and men were introduced to new methods of warfare. Detached from the division, the 113th was called on to form experimental antiairborne and "tank-attacker" units.

On the return trip from North Carolina to New Jersey, the regiment bivouacked in the Gettysburg National Military Park on the night of December 6. There, the soldiers learned of the attack on Pearl Harbor. The regiment, breaking camp, returned to Fort Dix. On December 12 "the first of many movements was started, which brought the regiment to its mission of guarding approximately 300 miles of the eastern coastline, including the shores of Long Island, New Jersey, and Delaware."

The 1st Battalion was ordered to Mitchell Field, Long Island; the 2d Battalion to Georgetown, Delaware; the 3d Battalion to Collingwood Park, New Jersey; and regiment headquarters to Fort Hancock.

To undertake its new mission, the 113th was relieved of its assignment to the 44th Division and became the key unit in a combat team that included the 199th Field Artillery Battalion, the 104th Engineers, the 143d Quartermaster Battalion, and the 671st Medical Collection Company. For the next 27 months, the 113th Regimental Combat Team, though dispersed, functioned as an important element of the Eastern Defense Command, guarding the vital beaches under control of the New York-Philadelphia Sector. The slogan of the New York-Philadelphia Sector, "I am responsible for the safety of twenty million people and the industrial heart of the nation," expressed the importance attached to this task.

Defeat of the Axis forces in North Africa and the conquest of Sicily enabled the United States to reduce its forces assigned to beach defense, preparatory to redeploying them overseas to participate in the buildup for "OVERLORD." The breakup of the 113th Regimental Combat Team (later designated the NYPS Mobile Force and the Northern Mobile Force SES) began on September 9, 1943, upon withdrawal of the 242d Engineers. The 199th Field Artillery Battalion was released next, followed by the 40th Quartermaster Battalion (Mobile) and the 671st Medical Collection Company.

The 113th Infantry Regiment, less these attached units, continued to guard the beaches until March 19, 1944, when it was relieved and the units reassembled at Fort Dix, preparatory to movement overseas.[80]

From February 3, 1942, to March 19, 1943, the following units of the 113th Infantry Regiment were stationed at Fort Hancock: Headquarters and Headquarters Company (less detachment), the 113th Band, the 113th Service Company, and the 113th Regimental Command Training Center.

7. 199th Field Artillery Battalion (New Jersey National Guard)

The 1st Battalion, 165th Field Artillery, New Jersey National Guard, was called into federal service at East Orange, New Jersey, on September 16, 1940. From East Orange, it moved to Fort Dix. On February 20, 1942, the unit was reorganized and redesignated the 199th Field Artillery Battalion. Concurrently, the battalion was assigned to the Eastern Defense Command, and as

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80. Cradle of Fighting Men, 113th Infantry (Camp Pickett, Va., 1944), pp. 16-17.

such was one of the units charged with guarding the beaches under control of the New York-Philadelphia Sector. To carry out this mission, battalion headquarters and one battery were stationed at Sandy Hook from February 1942 to March 16, 1943. In the spring of 1942 the battalion turned in its truck-drawn 75-mm guns for truck-drawn 105-mm guns. On November 23, 1943, the battalion was detached from the Eastern Defense Command and ordered to reassemble at Fort Dix.[81]

8. 132d Combat Engineer Regiment

The 132d Combat Engineer Regiment was activated at Fort Dix in February 1942. On March 23 the regiment was transferred to Fort Hancock. The unit remained at Sandy Hook for two months before leaving for Framingham, Massachusetts, in May. While at the Massachusetts camp, the unit was reorganized and redesignated the 1118th Engineer Combat Group on April 2, 1943.

On April 14, 1943, the 1118th returned to Fort Hancock, where it remained until September 9, when the officers and men entrained. The next day they arrived at Camp Pickett, Virginia.[82]

9. 242d Engineer Combat Battalion

The 2d Battalion, 132d Combat Engineer Regiment, which had remained at Fort Hancock, was redesignated the 242d Engineer Combat Battalion in March 1943. In April the battalion was transferred from Fort Hancock to Fort Tilden.[83]

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81. Unit Jacket, 199th Field Artillery Battalion.

82. Unit Jacket, 1118th Engineer Group.

83. Unit Jacket, 242d Engineer Battalion.

10. Signal Corps Units

On June 22, 1942, the 810th Signal Service Battalion was constituted. It was activated at Fort Hancock on July 6, 1942. The battalion trained at Sandy Hook until the spring of 1943, when it was ordered overseas.[84]

The 479th Signal Radar Maintenance Unit was posted at Sandy Hook in the winter of 1945-46.[85]

The 839th Signal Service Company was stationed at Fort Hancock in the summer of 1942 before being sent overseas.[86]

11. Chemical Warfare Units

The 169th Chemical Smoke Generating Company reached Fort Hancock from Camp Young, California, in June 1943. Six months later, in December, the company was transferred to Camp Siebert, Alabama.[87]

12. 95th Ordnance Company

In July 1941 the 95th Ordnance Company was transferred to Fort Hancock from the Aberdeen Proving Ground. The unit remained at Sandy Hook until March 1944, when it was ordered to Fort Bragg, North Carolina.[88]

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84. Unit Jacket, 810th Signal Service Battalion.

85. Station Directories, Sept. 1945-March 1946.

86. Station Directories, March-Sept. 1942.

87. Station Directories, June-Dec. 1943.

88. Unit Jacket, 95th Ordnance Company.

G. Vital Signal Corps Testing Facility

1. Establishment and Mission

In the summer of 1937, the Signal Corps had been granted authority to conduct its tests for development of equipment for "detecting the location of aircraft and marine surface craft beyond visual range" at Fort Hancock. The area encompassed for this vital mission was the section of the former Sandy Hook Proving Ground east of "Battery Kingman from the swamp in the middle of Sandy Hook eastward to the abandoned pole line approximately 100 feet shoreward from the beach, and extending from the most northerly abandoned railroad spur of the old magazine area for 200 yards north and 200 yards to the south to the next abandoned railroad spur." Within this area the Signal Corps was given permission to extend the road network and utilities and erect temporary frame structures as long as they did not interfere with the defenses.[89]

2. Request for Laboratory Expansion

In September 1940, the value of radar having been demonstrated in the raging Battle of Britain, the Signal Corps expedited plans to test $20,000,000 worth of its secret equipment then on order. All of this radar was to be "assembled, tested, and delivered in the Signal Corps' restricted area at Sandy Hook." To accomplish this, it was necessary for the contractors to install suitable antennae shelters and extensive parking areas to accommodate the large number of vehicles needed for the program. The Signal Corps therefore asked for an expansion of its area: the new northern boundary to be a line parallel to and 1,000 feet north of Upton Road, the western boundary to be Hancock (Hartshorne Drive) Road, the southern boundary to be a line parallel to and

89. Voris to Commanding Officer, Harbor Defenses of Sandy Hook, July 6, 1937, Defenses of Sandy Hook, RG 77, WNRC. Col. Alvin C. Voris was commander of the Signal Corps School at Fort Monmouth.

2,000 feet south of Upton Road, and the eastern boundary to be the ocean.[90]

The harbor defense commander was agreeable to this request provided that safety regulations were relaxed to permit Signal Corps structures to be located within 400 feet of the existing igloo-type magazines for storage of explosives belonging to the mine defense.[91] This eventually resulted in the construction of several new igloo-type magazines south of Batteries Mills and Kingman.

To maintain secrecy in development of radar, all field testing activities were now transferred from Fort Monmouth to Sandy Hook. Western Electric was under contract to provide 418 SCR-268 sets, and Westinghouse was to provide 132 SCR-270 and SCR-271 sets.[92] All these sets, along with hundreds of others purchased on subsequent contracts, were assembled and tested at Fort Hancock. At the height of this program more than 1,200 civilian technicians were employed. They commuted daily between their homes and the test facility.[93] A fire on March 7, 1941, destroyed antenna shelter no. 2 at the facility.

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90. Colton to Commanding General, II Corps Area, Sept. 16, 1940, Defenses of Sandy Hook, RG 77, WNRC. Col. Roger B. Colton was in charge of the project.

91. Williford to Commanding General, II Corps Area, Sept. 17, 1940, Defenses of Sandy Hook, RG 77, WNRC.

92. Eastman to Adjutant General, Nov. 18, 1940, Defenses of Sandy Hook, RG 77, WNRC. Clyde L. Eastman was a senior Signal Corps officer.

93. History of Fort Hancock, Sandy Hook, New Jersey, p. 30.

In 1943 the facilities of the Secret War Department Army Experimental Station were employed on joint undertakings for the armed services "on the projection of sound." On requesting funds for construction of a permanent structure to house the laboratory and its equipment and replace the existing laboratory (a prefabricated hut), it was pointed out that the "empirical projection of sound" gave high promise of ultimate success.[94]

The Pentagon, on reviewing the request for $81,000 to erect and equip the laboratory, turned it down.[95]

H. CCC Returns

In the summer of 1941, CCC Company 2222 was ordered to Fort Hancock to carry out projects in support of the National Defense Program. The company occupied the camp that had been evacuated when the CCC was withdrawn from Sandy Hook in June 1938.

By November the 175-man company had erected or outfitted and occupied several portable buildings--a small education building, a recreation hall that was too small for a full company, an infirmary in one end of the forestry quarters, a latrine, and a bathhouse. Preparations were underway to erect additional housing.

By mid-October the CCC had accomplished the following projects: constructed a 90-tent recreation unit on Island Beach for

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94. Railey to War Department, Liaison Office, Sept. 15, 1943, File 600.12, Fort Hancock, RG 407, WNRC. Lt. Col. H.H. Railey commanded the army experimental station at Fort Hancock.

95. Ulio to Commanding Officer, Army Experimental Station, Oct. 11, 1943, File 600.12, Fort Hancock, RG 407, WNRC. J. A. Ulio was adjutant general of the U.S. Army.

enlisted men from Forts Hancock, Dix, and Monmouth; drained and filled 38 acres in a mosquito control program; constructed and landscaped a 3,256-square yard parking area at the new Service Club; improved the enlisted men's Camp Low beach; planted a number of large trees along Bayside Drive fronting Officers' Row; opened a 1-mile road into a former inaccessible part of the post; removed poison ivy and camouflaged camps near the batteries; erected signs and markers; and remodeled the foghorn house.[96]

The attack on Pearl Harbor spelled the end of the CCC. During the winter of 1941-42, the 2222d Company was phased out, and its cantonment area transferred to the military.

I. World War II Construction Programs

1. Initial Contract for National Emergency Housing and Support Facilities

In the autumn of 1940, to provide quarters for the 245th Coast Artillery and 1225th Service Unit, a cantonment was erected. It consisted of 384 winterized tent platforms, eight enlisted men's kitchen/mess halls, two double and two single enlisted men's latrines, and one officers' latrine. The platforms and floors for the pyramidal tents were constructed with walls of 2" by 4" studs and rafters, sheathed with 1" by 6" N.C. roofers to wall height, and floors of 2" by 4" sleepers on 2" centers covered with 1" by 6" N.C. tongue-and-groove sheathing.

The dimensions of the enlisted men's kitchen/mess halls were:

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96. Abare to Director, Civilian Conservation Corps, Nov. 1, 1941, Inspection Records, Fort Hancock, RG 35, NA.

Building No.	Size of Main Bldg.	Size of Wings	Capacity
TC-173-T	88'4" x 25'3"	29'8" x 25'4"	200
TC-175-T	88'4" x 25'3"	29'8" x 25'4"	200
TC-177-T	106'3" x 25'3"		200
TC-179-T	88'4" x 25'3"	29'8" x 25'4"	200
TC-180-T	88'4" x 25'3"	29'8" x 25'4"	200
TC-182-T	88'4" x 25'3"	29'8" x 25'4"	200
TC-184-T	88'4" x 25'3"	29'8" x 25'4"	200
TC-185-T	88'4" x 25'3"	29'8" x 25'4"	200

These structures had walls of 2" by 4" studding on 3' centers, sheathed with 1" by 10" white pine, with a weather surfacing of asphalt felt to the eaves. The roofs were 2" by 6' fir on 2" centers, with a roof deck of 1" by 6" N.C. roofers, covered with blue-black slats surfaced asphalt composition roofing. The floors in the main buildings were wood on 2" by 8" beams. The wing floors were concrete on sand fill.

In each kitchen/mess hall was 1 pair of Bibbs sinks, two heaters, 18 light units, 20 mess tables with benches, 14 shallow dome reflectors, and two scullery sinks.

The dimensions of the enlisted men's latrines were as follows:

Building No.	Size of Main Building	Capacity
TC-174-T	88'10" x 21'6"	240
TC-178-T	88'10" x 21'6"	240
TC-181-T	88'10" x 21'6"	240
TC-183-T	51' x 21'6"	120
TC-186-T	51' x 21'	120

They had walls of 2" by 4" fir studs on 2' centers, sheathed with 1" by 10" white pine, with weather surfacing of asphalt felt. The roofs were 2- by-6-inch fir rafters, with a roof deck of 1" by 6" N.C. roofers, covered with blue-black slats surfaced asphalt composition roofing. The floors and foundations were concrete.

Installed in the three 240-man latrines were 44 Bibbs sinks, two drinking fountains, two heaters, 13 light units, 20 shower heads, and 36 toilet bowls with seats and Sloan valves. The officers' latrine was assigned structure number TC-176-T.

Also included in the project, which cost $102,055.27, were laying of water mains and sewers, installing an electrical distribution system, and opening 5,025 lineal feet of a 25-foot wide service road surfaced with 6 inches of gravel.[97]

2. Demolition of Seven Temporary Quarters

In September and October 1940, to make way for new construction, seven temporary noncommissioned officers' quarters (T-7, T-9, T-10, T-11, T-12, T-13, and T-15) were demolished.

3. National Emergency and World War II Construction Boom

In 1941 a vast construction program was carried out at the post under the supervision of the constructing quartermaster, his assistants, and civilian personnel. The types of buildings erected embraced nearly every phase of a soldier's life. Aside from barracks, infirmaries, recreation halls, mess halls, nurses' quarters, storehouses, and latrines were built.

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97. Completion Report, Winterized Tent Shelters, Fort Hancock, New Jersey, 1940, Fort Hancock 1917-43, RG 77, WNRC.

Indicative of the fact that recreation and morale were vital factors in the life of the soldier was the construction of a 602-seat theatre and a service club housing a restaurant, library, dance floor, and guest house, where enlisted personnel's guests could spend the night.

A new sewage disposal facility was installed for safeguarding the health of the military and civilian personnel. The drilling of new wells improved materially the post's water supply.

The Fort Hancock hospital was modernized through alterations and additions, among which was a covered passageway between the main building and the auxiliary structures.

The approach road was widened and improved, thus facilitating the flow of traffic on and off the reservation. The proper storage of fuel had not been overlooked; an area for unloading and handling of coal was provided.

The new post chapel was dedicated in an impressive ceremony on Sunday, December 21, two weeks after the Pearl Harbor attack. The program was opened with a selection by the 52d Coast Artillery Band, and the invocation was given by Rabbi Arthur H. Hershon of Red Bank. Capt. Leslie F. Weaver, constructing quartermaster, made the chapel presentation remarks, and the structure was accepted by General Gage. Chaplain John O. Lindquist of the II Corps Area delivered the address and Chaplain William E. Garabedian of Fort Monmouth pronounced the benediction.

The processional followed a band selection, with General Gage entering the chapel after the colors and flag. Then came the corps area and post chaplains, visiting chaplains from other stations, clergy, officers, and soldiers. With the placing of

the colors and standards in the chapel, the hymn "Seek Ye the Lord" was sung, with Mrs. Emily Connett at the organ. The ceremonies were concluded with the singing of "The Star Spangled Banner."

A happy feature of the year's construction program had been the absence of any labor troubles. Coincidentally, the contractors had been required to "measure up very thoroughly to specified plans, an efficient corps of goverment inspectors directing the work". Commenting on this situation, the press noted that it "is axiomatic that Uncle Sam feels the best is none too good for his armed services."[98]

Meanwhile, on December 15, the quartermaster general authorized construction of 20 one-story temporary barracks for the 245th Coast Artillery, at a cost of $50,000. With the nation at war, these structures were rushed to completion and occupied by mid-April 1942.

In addition to these barracks, the following structures were erected during these years.

Structure	Year Erected	Use
438	1942	Highlands Gatehouse
342	1942	Limehouse
343	1942	Aerator
401	1941	Sewage Pumping Station
307	1941	Sewage Pumping Station
310	1941	Sewage Pumping Station
150	1942	Rifle and Pistol Range

98. Asbury Park Press, Dec. 18, 1941; Red Bank Register, Dec. 18 to 25, 1941.

Structure	Year Erected	Use
146	1943	Gasoline Court
147	1943	Gasoline Court
T-32	1942	Tower at Quartermaster Wharf
T-54	1941	Gas Guardhouse
T-58	1941	Sewage Pumphouse
T-59	1941	Garage
T-68	1941	Garage
T-70	1941	Garage
T-75	1941	Bathhouse
T-76	1941	Targethouse
T-80	1941	Garage
T-81	1941	Garage
T-82-A	1941	Storehouse
T-84	1941	Garage
T-86	1941	Officers' Beach Club
T-106	1941	Garage
TC-160	1940	Camp Headquarters
TC-161	1940	Sewage Pumping Plant
TC-162	1940	Officers' Mess Hall
TC-163	1940	Dispensary
TC-164	1940	Officers' Latrine
TC-165	1940	Officers' Latrine
TC-166	1940	Enlisted Men's Mess Hall
TC-167	1940	Post Exchange
TC-168	1940	Enlisted Men's Mess Hall
TC-169	1940	Enlisted Men's Latrine
TC-170	1940	Enlisted Men's Latrine
TC-171	1940	Enlisted Men's Latrine
TC-172	1940	Enlisted Men's Latrine
182	1940	Fuel Storage Tank
T-186	1940	Post Exchange
T-187	1940	Guardhouse

Structure	Year Erected	Use
T-188	1940	Receiving warehouse
T-195	1940	Warehouse
T-196	1940	Warehouse
T-200	1941	Warehouse (insulated)
T-201	1941	Warehouse (noninsulated)
T-202	1941	Barracks
T-203	1941	Barracks
T-204	1941	Barracks
T-205	1941	Storehouse and Adminsitration
T-206	1941	Sewage Pumphouse
T-207	1941	Bat. Rec. Bldg.
T-208	1941	Enlisted Men's Mess
T-209	1941	Bat. Rec. Bldg.
T-210	1941	Enlisted Men's Mess
T-211	1941	Barracks
T-212	1941	Barracks
T-213	1941	Barracks
T-214	1941	Storehouse and Administration
T-215	1941	Barracks
T-216	1941	Barracks
T-217	1941	Enlisted Men's Mess
T-218	1941	Storehouse and Administration
T-219	1941	Bat. Rec. Bldg.
T-220	1941	Barracks
T-221	1941	Barracks
T-222	1941	Barracks
T-223	1941	Barracks
T-224	1941	Enlisted Men's Mess
T-225	1941	Barracks
T-226	1941	Enlisted Men's Mess
T-227	1941	Storehouse and Administration
T-228	1941	Bat. Rec. Bldg.

Structure	Year Erected	Use
T-229	1941	Storehouse and Administration
T-230	1941	Bat. Rec. Bldg.
T-231	1941	Bat. Rec. Bldg.
T-232	1941	Storehouse and Administration
T-233	1941	Barracks
T-234	1941	Enlisted Men's Mess
T-235	1941	Barracks
T-236	1941	Barracks
T-237	1941	Barracks
T-238	1941	Barracks
T-239	1941	Barracks
T-240	1941	Barracks
T-241	1941	Enlisted Men's Mess
T-242	1941	Enlisted Men's Mess
T-243	1941	Storehouse and Administration
T-244	1941	Bat. Rec. Bldg.
T-245	1941	Storehouse and Admistration
T-246	1941	Bat. Rec. Bldg.
T-247	1941	Bat. Rec. Bldg.
T-248	1941	Storehouse and Administration
T-249	1941	Barracks
T-250	1941	Barracks
T-251	1941	Barracks
T-252	1941	Barracks
T-253	1941	Enlisted Men's Mess
T-254	1941	Storehouse and Administration
T-255	1941	Barracks
T-256	1941	Barracks
T-257	1941	Barracks
T-258	1941	Bat. Rec. Bldg.
T-259	1941	Enlisted Men's Mess
T-260	1941	Bat. Rec. Bldg.

Structure	Year Erected	Use
T-261	1941	Enlisted Men's Mess
T-262	1941	Storehouse and Administration
T-263	1941	Barracks
T-264	1941	Barracks
T-265	1941	Regimental Headquarters
T-266	1941	Barracks
T-267	1941	Barracks
T-268	1941	Barracks
T-269	1941	Bat. Rec. Bldg.
T-270	1941	Storehouse and Administration
T-271	1941	Enlisted Men's Mess
T-272	1941	Barracks
T-273	1941	Barracks
T-274	1941	Bat. Rec. Bldg.
T-275	1941	Storehouse and Administration
T-276	1941	Enlisted Men's Mess
T-277	1941	Storehouse and Administration
T-278	1941	Enlisted Men's Mess
T-279	1941	Barracks
T-280	1941	Barracks
T-281	1941	Bat. Rec. Bldg.
T-282	1941	Barracks
T-283	1941	Barracks
T-284	1941	Enlisted Men's Mess
T-285	1941	Barracks
T-286	1941	Bat. Rec. Bldg.
T-287	1941	Storehouse and Administration
T-288	1941	Officers' Quarters
T-289	1941	Officers' Quarters
T-290	1941	Officers' Quarters
T-291	1941	Officers' Quarters
T-292	1941	Officers' Mess

Structure	Year Erected	Use
T-293	1941	Officers' Mess
T-294	1941	Regimental Rec. Hall
T-295	1941	Officers' Quarters
T-296	1941	Officers' Quarters
T-297	1941	Infirmary
T-298	1941	Theater
T-299	1941	Storehouse and Administration
T-300	1941	Storehouse and Administration
T-301	1941	Barracks
T-302	1941	Barracks
T-303	1941	Barracks
T-304	1941	Barracks
T-305	1941	Enlisted Men's Mess
T-306	1941	Bat. Rec. Bldg.
T-307	1941	Barracks
T-308	1941	Enlisted Men's Mess
T-309	1941	Bat. Rec. Bldg.
T-310	1941	Post Office
T-311	1941	Barracks
T-312	1941	Enlisted Men's Mess
T-313	1941	Bat. Rec. Bldg.
T-314	1941	Storehouse and Administration
T-315	1941	Bat. Rec. Bldg.
T-316	1941	Enlisted Men's Mess
T-317	1941	Enlisted Men's Mess
T-318	1941	Bat. Rec. Bldg.
T-319	1941	Storehouse and Administration
T-320	1941	Storehouse and Administration
T-321	1941	Barracks
T-322	1941	Barracks
T-323	1941	Barracks
T-324	1941	Barracks

Structure	Year Erected	Use
T-325	1941	Barracks
T-326	1941	Barracks
T-327	1941	Barracks
T-328	1941	Barracks
T-329	1941	Enlisted Men's Mess
T-330	1941	Storehouse and Administration
T-331	1941	Barracks
T-332	1941	Bat. Rec. Bldg.
T-333	1941	Nurses' Quarters
T-334	1941	Nurses' Quarters
T-335	1941	Hospital Administration
T-335-A	1941	Boiler Room
T-335-B	1941	Covered Way
T-336	1941	Guesthouse
T-337	1941	Service Club
T-338	1941	Barracks
T-339	1941	Barracks
T-340	1941	Barracks
T-341	1941	Barracks
T-342	1941	Enlisted Men's Mess
T-343	1941	Enlisted Men's Mess
T-344	1941	Bat. Rec. Bldg.
T-345	1941	Bat. Rec. Bldg.
T-346	1941	Storehouse and Administration
T-347	1941	Storehouse and Administration
T-348	1941	Bat. Rec. Bldg.
T-349	1941	Storehouse and Administration
T-350	1941	Barracks
T-351	1941	Barracks
T-352	1941	Barracks
T-353	1941	Barracks
T-354	1941	Enlisted Men's Mess

Structure	Year Erected	Use
T-355	1941	Barracks
T-356	1941	Barracks
T-357	1941	Barracks
T-358	1941	Enlisted Men's Mess
T-359	1941	Storehouse and Administration
T-360	1941	Bat. Rec. Bldg.
T-361	1941	Bat. Rec. Bldg.
T-362	1941	Storehouse and Administration
T-363	1941	Barracks
T-364	1941	Barracks
T-365	1941	Barracks
T-366	1941	Enlisted Men's Mess
T-367	1941	Guardhouse
T-368	1941	Message Center
T-369	1941	Provost Marshal's Office (Library)
T-370	1941	WPA Administration
T-371	1941	Area Engineer's Office
T-372	1941	Chapel
T-373	1941	Radio Shack
T-374	1941	Finance Building
T-375	1941	Utilities Administration Bldg.
T-376	1941	Infirmary
T-377	1942	Packing and Crating Bldg.
T-378	1942	Kennels
T-379	1942	Veterinary-Dispensary
T-380	1942	Post Engineer Warehouse
T-381	1942	Quatermaster Storehouse
T-382	1942	Paper Pressing Bldg.
T-383	1942	Mine Boathouse
T-384	1942	Garbage Transfer Sta.
T-387	1940	CCC Area

Structure	Year Erected	Use
T-388	1942	Car Wash
T-389	1942	Dental Clinic
T-390	1942	Medical Barracks
T-519	1942	Searchlight Shelter
T-522	1942	Storage Bldg.[99]

Then, in late November 1943, the War Department contracted with H.L. Fischer, Inc., of New York City, for construction of 25 temporary barracks to house an additional 1,575 men. A firm spokesman said the work, which would start immediately, should be completed by February 1. Each frame single-story structure would house 63 soldiers. These barracks would not be grouped but would be used at various places throughout the reservation.

The H.L. Fischer contract also called for construction of several mess halls, recreation buildings, and warehouses.[100]

4. Redesignation of Structures

Many of the structues were assigned new numbers during 1940-1943 by the post quartermaster. The new numbers were:

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99. Historical Record Book, Fort Hancock, Sandy Hook Unit, Gateway National Recreation Area. Personnel reconnaissance by Bearss, Oct. 7, 1976. Telephone interviews, Tom Hoffman with Bearss, Apr. 28 and May 3, 1977.

100. Asbury Park Press, Nov. 19, 1943.

Old Designation	Extant Buildings	New Designation
Building 21	X	Building 335
Building 37	X	Building 340
Building 54	X	Building 326
Building 62	X	Building 259
Building 68		Building 309
Building 77	X	Building 338
Building 78		Building 61
Building 82	X	Building 341
Building 83	X	Building 524
Building 86	X	Building 528
Building 88		Building 439
Building 94	X	Building 77
Building 95	X	Building 67
Building 97	X	Building 526
Building 97-G	X	Building 525
Building 100	X	Building 344
Building 105	X	Building 123
Building 107	X	Building 37
Building 116	X	Building 342
Building 117	X	Building 343
Building 118	X	Building 401
Building 119	X	Building 307
Building 120	X	Building 310
Building 121		Building 265
Building 143	X	Building 21
Building 152	X	Building 173
Building 157	X	Building 174
Building 159		Building 175
Building T-20	X	Building S-322
Building T-53	X	Building S-327
Building T-54	X	Building S-328
Building T-310	X	Building S-41

Old Designation	Extant Buildings	New Designation
Building T-80	X	Building S-339
Building T-81	X	Building S-336
Building T-86	X	Building S-179
Building TC-160	X	Building 302
Building TC-161	X	Building 306
Building TC-162	X	Building 301
Building TC-163	X	Building 305
Building TC-164	X	Building 300
Building TC-165	X	Building 304
Building TC-166	X	Building 317
Building TC-167	X	Building 316
Building TC-168	X	Building 315
Building TC-169	X	Building 318
Building TC-170	X	Building 319
Building TC-171	X	Building 320
Building TC-172	X	Building 321
Building T-188	X	Building S-54
Building T-195	X	Building S-187
Building T-196	X	Building S-303
Building T-200		Building S-200
Building T-201		Building S-201
Building S-234	X	Building S-148
Building T-333	X	Building S-332
Building T-334	X	Building S-331
Building T-335	X	Building S-69
Building T-335 B	X	Building S-62
Building T-336	X	Building S-333
Building T-337		Building S-334
Building T-367		Building S-38
Building T-369	X	Building S-46
Building T-372	X	Building S-35
Building T-373		Building CG-531

Old Designation	Extant Buildings	New Designation
Building T-374	X	Building S-103
Building T-375	X	Building S-155
Building T-377		Building S-163
Building T-379		Buildng S-42
Building T-380	X	Building S-156
Building T-381	X	Building S-49
Building T-383		Building CG-520
Building T-384		Building S-308
Building T-389	X	Building S-329
Building T-390		Building T-386
Building T-265		Building S-151
Building T-288	X	Building S-167
Building T-289	X	Building S-166
Building T-290	X	Building S-165
Building T-291	X	Building S-164
Building T-295	X	Building S-171
Building T-292	X	Building S-169
Building T-293	X	Building S-168
Building T-294	X	Building S-170
Building T-297	X	Building S-172
Building T-310	X	Building S-41[101]

5. Repair of the Interior of Quarters 7

On the night of April 6-7, 1942, a sentry saw a smoke cloud rising from one of the officers' quarters and gave the alarm. The fire company rushed to the scene and found quarters 7, which was unoccupied, in flames. It took the firemen about thirty minutes to bring the flames under control, but only after the quarters' interior had been gutted. An investigation disclosed that

101. Historical Record Book, Fort Hancock, Sandy Hook Unit, Gateway National Recreation Area.

the fire had originated under the ground floor of the front hall and was caused by the accidental grounding of the electrical circuit.

When no immediate action was taken to repair the fire-gutted interior, General Gage told the post quartermaster to either repair or raze the structure. When it was agreed to allot $8,000 to repair the building, Mrs. Gage prepared the new floor layout.[102]

J. Immediate Postwar Years: 1946-48

During the immediate postwar years, from the summer of 1946 to July 1948, the nation drastically reduced its spending for defense. Fort Hancock, in the summer of 1947, was designated a post surplus to the country's needs. At that time it was garrisoned by Headquarters & Headquarters Detachment, Harbor Defenses of New York; 1225th Army Service Unit; 4th Echelon, Armament Repair Shop; and Branch, U.S. Army Disciplinary Barracks.

During the autumn of 1947 the War Department determined to retain the post, and it was removed from the list of surplus installations.[103] The United States, following World War II, gave priority in its defense spending to the navy and air force. As in the prewar years, the army would form a cadre backed by the citizen soldiers of the national guard and the organized and unorganized reserves. Once again, Fort Hancock was given a mission in this program.

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102. "Proceedings of a Board of Officers at Fort Hancock, New Jersey," May 15, 1942, File 600.913, Fort Hancock, RG 407, WNRC; interview, Hoffman with General and Mrs. Gage, Apr. 8, 1977. Tom Hoffman is park technician (historian) at the Sandy Hook Unit, Gateway National Recreation Area.

On November 1, 1946, the 305th Antiaircraft Brigade was activated to include all organized coast artillery reserve units in the New York metropolitan area. The brigade's training program for the summer of 1947 called for two or three monthly meetings. There would be visits to Fort Hancock to "conduct a simple CPX and inspect the harbor defenses, finishing up with a beach party and social evening." The 313th Coast Artillery (HD) was the first unit to follow this program, visiting Sandy Hook on June 28-29. Other brigade units followed on successive weekends.[104]

During the first two weeks of August 1948, four organized reserve and two national guard harbor defense units were at Fort Hancock. While there, the units were trained in classroom and outdoor exercises. The latter included subcaliber firing of the 6-inch guns of Battery Gunnison and the 90-mm antiaircraft guns. The citizen soldiers also fired the small-arms range, studied seacoast radar coordination of navy-ground action and the latest methods of fire control, and participated in an overnight march and bivouac. There were visits to an army mine planter and the mining casemate.[105]

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103. Station Directories, for Jan. 1946-July 1948.

104. "305th Antiaircraft Artillery Brigade," Coast Artillery Journal, vol. 90, no. 4, p. 69.

105. "Coast Artillery Newsletters," Coast Artillery Journal, vol. 91, no. 3, p. 65; no. 5, p. 27.

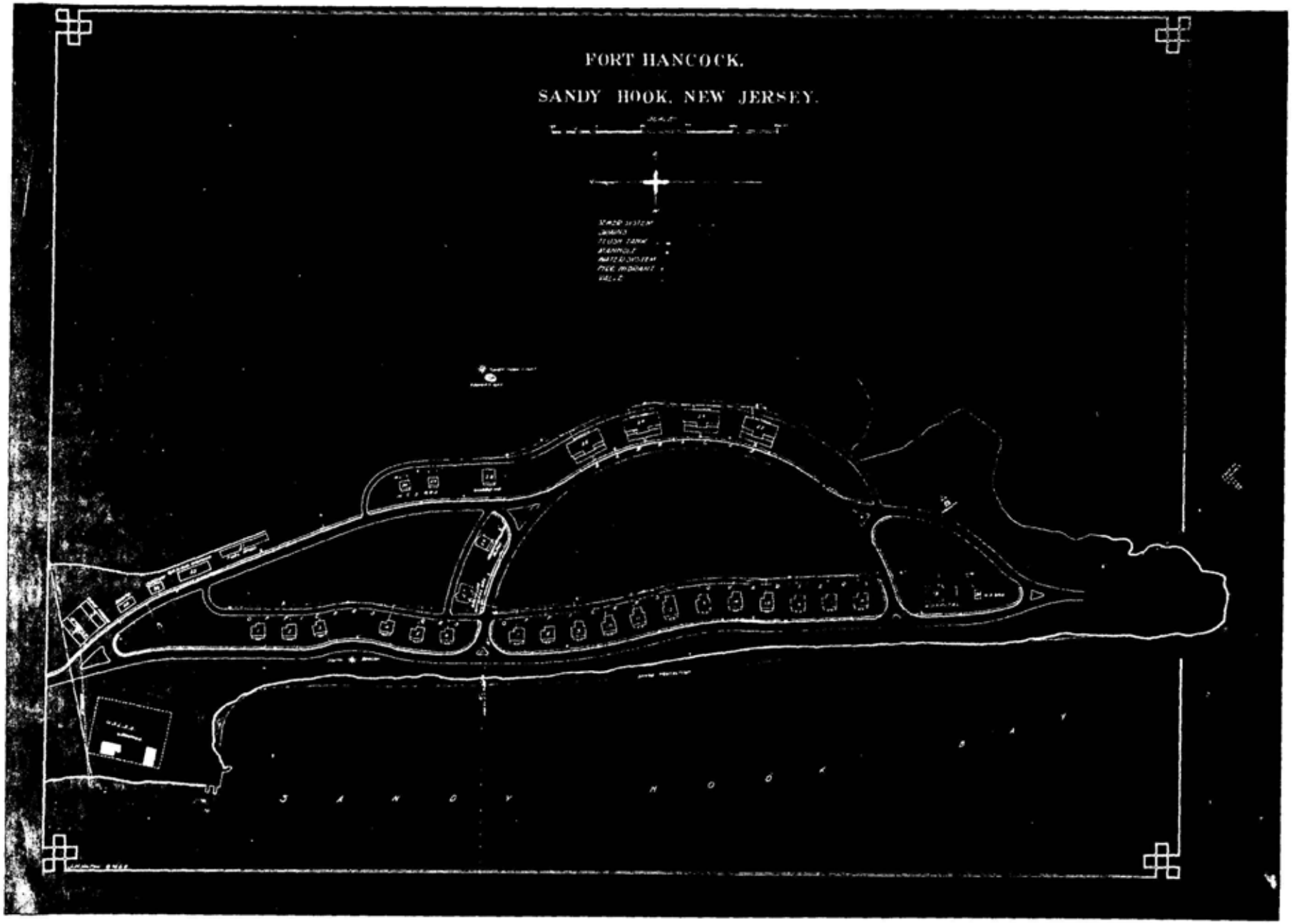
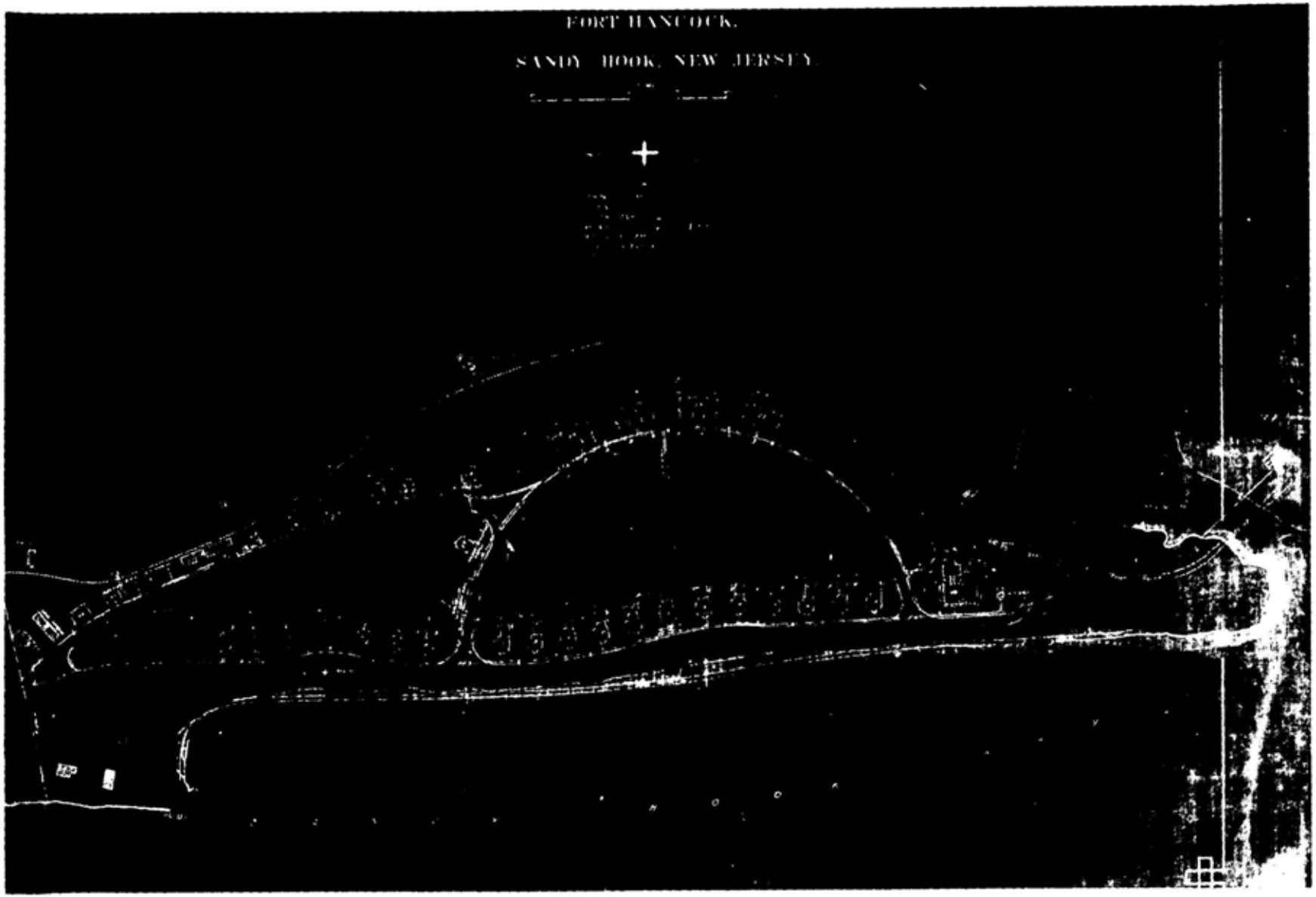
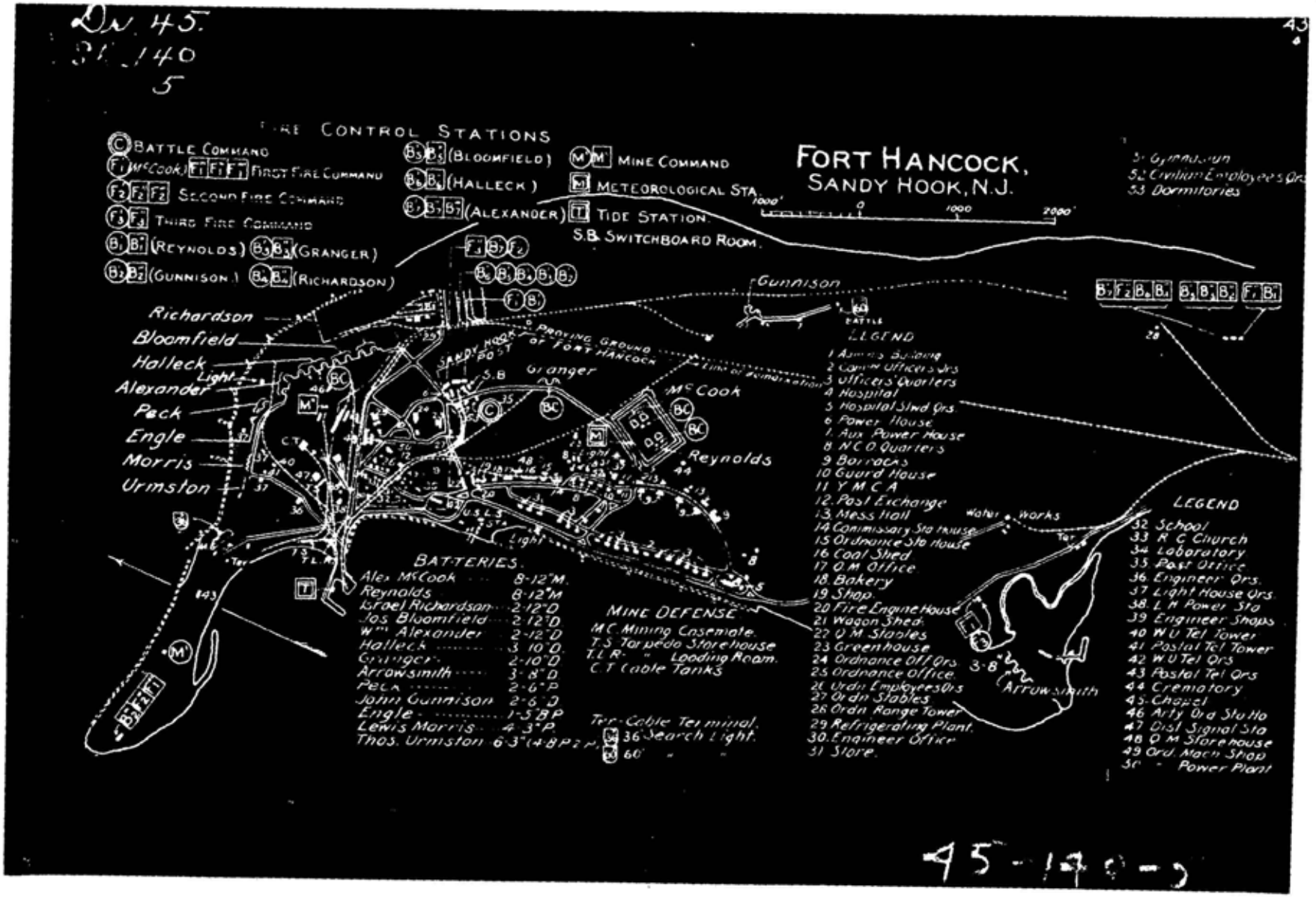


Plate I - Fort Hancock, Sandy Hook, N.J., circa 1900, courtesy of NA, RG 77.



II Fort Hancock, Sandy Hook, N.J., circa 1903, courtesy of NA, RG 77



III Fort Hancock, Sandy Hook, N.J., circa 1910, courtesy of NA, RG 77.



IV First-Sgt. Tom Mix (middle man seated) posing with 48th Coast Artillery Company comrades in front of barracks 23, circa 1902, files at Sandy Hook Unit, Gateway NRA.



V Guardhouse, building 28, Fort Hancock, N.J., circa 1903, files at Sandy Hook Unit, Gateway NRA.



VI Regular soldiers on parade, Fort Hancock, N.J., circa 1907, files at Sandy Hook Unit, Gateway NRA.



VII House of the commanding officer, building 12, circa 1910, photograph by M.V. Smedley, Descheemaeker collection, files at Sandy Hook Unit, Gateway NRA



VIII View of barracks 74, 22-25, and the parade ground, circa 1910, photograph by M.V. Smedley, Descheemaeker collection, files at Sandy Hook Unit, Gateway NRA.



IX "The Corral," quartermaster stables, building 36, circa 1910, photograph by M.V. Smedley, Descheemaeker collection, files at Sandy Hook Unit, Gateway NRA.



X View from roof of proving ground barracks, looking toward officers' quarters 1-6 and buildings 24-36, circa 1905, photograph by M.V. Smedley, Descheemaeker collection, files at Sandy Hook Unit, Gateway NRA.



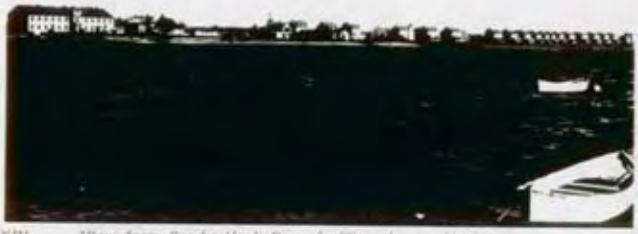
XI Birdseye view from Sandy Hook Lighthouse, Fort Hancock, N.J. looking toward officers' quarters 1-3, circa 1910, M.V. Smedley collection, files at Sandy Hook Unit, Gateway NRA.



XII Birdseye view from Sandy Hook Lighthouse of barracks 23-25, parade ground, and officers' quarters 12-13, circa 1910, M.V. Smedley collection, files at Sandy Hook Unit, Gateway NRA.



XIII Kitchen police, 56th Coast Artillery Company, at rear entrance of building 74, October 1911, photograph by M.V. Smedley, Descheemaeker collection, files at Sandy Hook Unit, Gateway NRA.



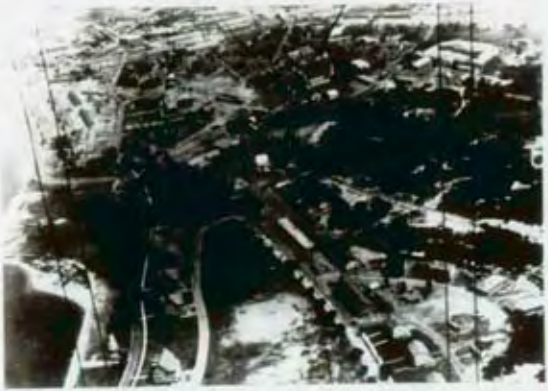
XIV View from Sandy Hook Bay of officers' row, West Beacon, Sandy Hook Lighthouse, small boats, etc., circa 1912, files at Sandy Hook Unit, Gateway NRA.



XV View from area north of the masonry fort's southwest bastion and northwest curtain, looking across the Proving Ground toward Fort Hancock, circa 1912, Aberdeen Proving Ground collection, files at Sandy Hook Unit, Gateway NRA.



XVI Fort Hancock, N.J., May 1, 1913, "General Inspection," officers' row, bachelor officers' quarters, and post headquarters building in background, photograph by M.V. Smedley, Descheemaeker collection, files at Sandy Hook Unit, Gateway NRA.



XVII Aerial view from observation balloon, circa 1919, looking north toward proving ground shops, NA, files at Sandy Hook Unit, Gateway NRA.



XVIII Tent city, between officers' row and Sandy Hook Bay, north of West Beacon, 1928. Sam Lloyd collection, Sandy Hook Unit, Gateway NRA.



XIX Post theatre, building 67, circa 1933, E.F. Bonnett collection, files at Sandy Hook Unit, Gateway NRA.



XX Post headquarters, building 26, circa 1937-40, McNair collection files at Sandy Hook Unit, Gateway NRA.



1937

XXI Brick House (officers' club), building 114, circa 1937, Joseph Wazniak collection, files at Sandy Hook Unit, Gateway NRA.



XXII Company D, 52d Coast Artillery marching in army day parade, circa 1941. Signal Corps photograph, files at Sandy Hook Unit, Gateway NRA.



XXIII Fort Hancock soldiers, 245th Coast Artillery performing calisthenics outside building 40, circa 1941. Signal Corps photographs, files at Sandy Hook Unit, Gateway NRA.

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☆ U.S. GOVERNMENT PRINTING OFFICE:1981—777-054 / 10

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Publication services were provided by the graphics and editorial staffs of the Denver Service Center. NPS 1773