Department of Defense
Legacy Resource Management Program

06-296

MILITARY HOSPITALS HISTORIC CONTEXT

ADAM SMITH AND SUNNY STONE

JUNE 2008

ERDC/CERL SR-08-10

Construction Engineering
Research Laboratory

US Army Corps
of Engineers®
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Development Center

Military Hospitals Historic Context

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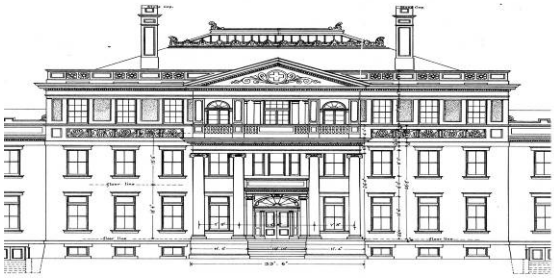

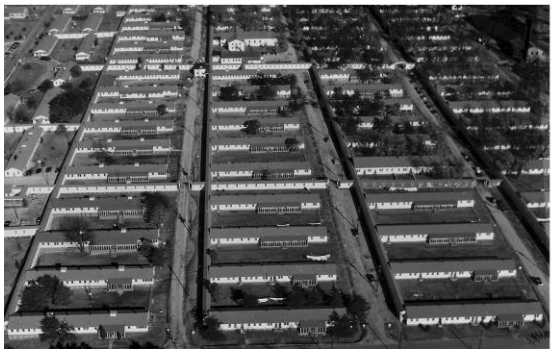


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Military Hospitals Historic Context

Legacy Project # 06-296

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Final report

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Cultural Resources Management
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Washington, DC 20301

Abstract: This document is a historic context of military hospital buildings for the Department of Defense.

In May 2006, the Legacy Resource Management Program funded a proposal submitted by the Engineer Research Development Center-Construction Engineering Research Laboratory to write a historic context for military support buildings. This historic context satisfies a portion of Section 110 of the National Historic Preservation Act of 1966 as amended (NHPA). Cultural resources personnel at the installation level and their contractors will utilize this historic context in determining whether or not these buildings are eligible for the National Register of Historic Places (NRHP), and whether an adverse effect will take place.

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PREFACE

This study was conducted for the Legacy Resource Management Program, Cultural Resources Management, part of the Office of the Secretary of Defense under project "MIPR TO ERDC 132787." Funding was provided by Military Interdepartmental Purchase Request 97/0100/708/A/W31RYO60597455/PROJECT ORDER, dated 2 March 2006. The technical monitors were Legacy Resource Management Program Hillori Schenker, Cultural Resources Specialist and Brian Lione, Deputy Federal Preservation Officer, DoD.

The work was performed by the Land and Heritage Conservation Branch (CN-C) of the Installations Division (CN), Construction Engineering Research Laboratory (CERL). The CERL Project Manager was Adam Smith. Michael Denight was Acting Chief, CN-C, and Dr. John T. Bandy was Chief, CN. The Director of CERL was Dr. Ilker R. Adiguzel.

CERL is an element of the U.S. Army Engineer Research and Development Center (ERDC), U.S. Army Corps of Engineers. The Commander and Executive Director of ERDC is COL James R. Rowan and the Director of ERDC is Dr. James R. Houston.

UNIT CONVERSION FACTORS

Multiply	By	To Obtain
acres	4,046.873	square meters
degrees Fahrenheit	(5/9) x (°F – 32)	degrees Celsius
feet	0.3048	meters
gallons (U.S. liquid)	0.003785412	cubic meters
horsepower (550 ft lb force per second)	745.6999	watts
inches	0.0254	meters
miles (U.S. statute)	1.609347	kilometers
pounds (mass)	0.4535924	kilograms
square feet	0.09290304	square meters
tons (2,000 pounds, mass)	907.1847	kilograms
yards	0.9144	meters

1 METHODOLOGY

BACKGROUND

Through the years, laws have been enacted to preserve our national cultural heritage. Beginning with the enactment of the Antiquities Act of 1906, the first major federal preservation legislation was put into place. This Act was instrumental in securing protection for archeological resources on federal property. The benefits derived from this act and subsequent legislation precipitated an expanded and broader need for the preservation of historic cultural resources. This growing awareness was codified in the most sweeping legislation to date, the National Historic Preservation Act of 1966 (NHPA).

The NHPA was created to provide guidelines and requirements aimed at preserving tangible elements of our past primarily through the creation of the National Register of Historic Places (NRHP). Contained within this piece of legislation (Sections 110 and 106) are requirements for federal agencies to address their cultural resources, defined as any prehistoric or historic district, site, building, structure, or object. Section 110 requires federal agencies to inventory and evaluate their cultural resources. Section 106 requires the determination of effect of federal undertakings on properties listed on, deemed eligible for, or potentially eligible for the NRHP, and requires federal agencies to take into account the effect of a project on a property and afford the State Historic Preservation Officer/Tribal Historic Preservation Officer (SHPO/THPO) a reasonable opportunity to comment on the undertaking.

OBJECTIVE

The objective of this report was to develop a historic context for the development of military hospitals from the Revolutionary War period to the present-day.

For a building, structure, object, or a district to be eligible for the National Register it must "represent a significant part of the history, architecture, archeology, engineering, or culture of an area, and it must have the characteristics that make it a good representative of properties associated with that aspect of the past" (NRB #15). "The significance of a historic property can be judged and explained only when it is evaluated within its historic context" (NRB #15). The *National Register Bulletin #15: How to Apply the National Register of Criteria for Evaluation* and *National Register Bulletin #16a: How to Complete the National Register Registration Form* define historic contexts.

"Historic contexts are those patterns or trends in history by which a specific occurrence, property, or site is understood and its meaning (and ultimately its significance) within history or prehistory is made clear" (NRB #15).

And finally, a historic context is necessary to help researchers and persons inventorying buildings for eligibility to the National Register to address these five factors:

- The facet of prehistory or history of the local area, State, or the nation that the property represents;
- Whether that facet of prehistory or history is significant;
- Whether it is a type of property that has relevance and importance in illustrating the historic context;
- How the property illustrates that history; and finally
- Whether the property possesses the physical features necessary to convey the aspect of prehistory or history with which it is associated (NRB #15).

APPROACH

The approach for this report consisted of three parts: 1) a literature review of hospital history, design, and development; 2) the gathering of original photographs and architectural plans of hospitals from a variety of archival centers; and 3) site visits where necessary, to photograph extant hospitals (this was accomplished either by the researchers visiting these locales or asking people associated with these locales to take photographs).

LITERATURE REVIEW

The research team used secondary literature to determine the general history of hospitals throughout the development of the United States, and then the history of hospitals utilized and developed by the War Department and Navy Department (and subsequently the Air Force). The military literature review consisted of reading the various medical department histories developed by the appropriate surgeon generals' offices. The researchers also looked at histories of hospital architecture and design.

ARCHIVAL RESEARCH

The research team then located primary research materials and additional secondary materials to establish a strategy to best utilize these resources. The research team conducted 5 visits to the National Archives at College Park, Maryland. They occurred during 22–26 May 2006, 18–22 September 2006, 11–15 December 2006, 26 February to 2 March 2007, and 16–20 April 2007. Other archival depositaries visited were the National Archives in Washington, DC; the Library of Congress; the Naval Academy Library; and the History

Office at the Corps of Engineers, Alexandria, VA, and a variety of installation museums, cultural resources offices, and archives across the country.

SITE VISITS

The research team, to the best extent possible, conducted site visits to a variety of installation museums, cultural resources offices, and archives. An example of this type of site visit was to the Presidio of San Francisco and Mare Island Naval Shipyard in California during temporary duty (TDY) for training. Another example was a visit to both Fort Leavenworth and Fort Riley in Kansas during a TDY on another research project. The research team also utilized contacts at a variety of installations to obtain present-day photographs and archival material that was not readily available to the research team. Examples of this type of site visit were a CERL researcher photographing appropriate buildings at West Point, a cultural resources specialist at Fort Benning photographing extant buildings and emailing historic photographs to the team, and a museum curator at the Museum of North Idaho emailing historic photographs to the team.

ANALYSIS

HOSPITAL DEVELOPMENT PERIODS

After the initial research was complete, the team analyzed the gathered information. The researchers outlined the historical context for hospitals, identified changes in design and use over time, identified important chronological periods, established a geographical context, and identified historical themes. The analysis resulted in an outline of military hospitals divided into ten significant periods:

Early Hospitals (pre-1840)
Square-plan Hospitals (1840-1860)
Hospitals of Other Designs (1855-1870)
Civil War Hospitals (1861-1865)
Army Standard Hospitals (1865-1890)
The New Standard (1890-1916)
World War I Hospitals (1917-1920)
Interwar Hospitals (1921-1940)
World War II Hospitals (1941-1945)
Cold War Hospitals (1946-1989)

TYPOLOGY

There are five types of military hospitals.

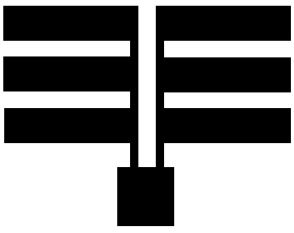
HOUSE

The house hospital type is one that was either originally constructed as house or was derived from residential plans. They tend to be only one room deep, although smaller rooms can be formed within the larger space. Generally, this type was only utilized during the Early Hospital Period. Good examples of these are Fort Monroe, Virginia; and Fort Mackinac, Michigan.

SQUARE

The square hospital type is a two-story building designed as a hospital. It is a symmetrical plan with administrative space, kitchens, and mess facilities on the first floor. The second and sometimes a third (attic) floor contain the wards. This type has a hipped roof, and the roof will have dormers if the attic contained wards. The type has either two or four chimneys depending on the ward arrangement. A two-story veranda is typical but not necessary for this type. Good examples of these are Fort Columbus, New York; and Fort Leavenworth, Kansas.

PAVILION



The pavilion hospital type is probably the most well known of the five hospital types. It is a direct derivative of the Royal Naval Hospital in Plymouth, England; and the rebuilt *Hôtel Dieu* in Paris, France. The pavilion type consists of separate wards in either a one-story or two-story configuration that are connected together by some type of walkway. The walkway can be covered and open or totally enclosed. This hospital type was mostly used for general hospitals during the Civil War, World War I, and World War II.

PAVILION-MODIFIED

The pavilion-modified type is the most common of the military hospital types. It consists of a central administrative block directly connected to ward wings. Examples of the pavilion-modified type are the Naval Hospital

Portsmouth, Virginia; the Army's Circular #10 plan; and the second hospital at Fort Knox, Kentucky.

TOWER

The tower hospital type breaks away from all previous types by having wards arrayed around an elevator system. Naval Hospital Bethesda and the Army's Cold War hospitals are examples of this type.

BUILDING PLANS

Throughout this report, floor plans have been color coded for ease of identifying the various uses inside the hospitals.

Figure 1. Key to color coding on hospital floor plans.

RESEARCHERS

The researchers utilized on this project were Adam Smith, M. Arch. as project manager and lead architectural historian and Sunny Stone, M. Arch. as assistant architectural historian. Jacqueline Wolke, research assistant, prepared the periodic atlas (Chapter 2, pp 7-28).

ACKNOWLEDGEMENTS

People that assisted with the development of this historic context were Holly Reed, Teresa Roy, and Donna Larker in the Still Pictures Room at the National Archives in College Park, Maryland; Andrew Knight, Priscilla Dyson, and Ivy Yarbough in the Cartographic and Architectural Record Room at the National Archives in College Park, Maryland; Pat Lacey, ERDC-CERL Librarian; Michelle Michael at Fort Bragg, NC; Laurie Rush at Fort Drum, NY; Ed Hooker at Fort Riley, KS; Ruth Lewis at Fort Gordon, GA; Pam Anderson at Naval Base, Norfolk, Virginia; Jim Dolph at Portsmouth Navy Yard; Dorothy Dahlgren at the Museum of North Idaho; Stacey Griffin at Panamerican Consultants; and Brian Lione, Deputy Federal Preservation Officer, Office of the Secretary of Defense.

2 PERIODIC HISTORIC ATLAS OF MILITARY INSTALLATIONS

The following pages consist of a sequence of twenty-one cartographic snapshots showing the history of military installations in the United States. These snapshots describe which military installations existed at the end of each decade from 1800 to 2000. Only the military installations discussed in the historic context are displayed on the periodic historic atlas.

The information for this periodic atlas was derived from a variety of sources, but especially *Military Reservations, National Military Parks, and National Cemeteries: Title and Jurisdiction*, 1898; *Historical Register and Dictionary of the United States Army*, 1903; and *Military Reservations*, 1938. Many web sources were also utilized for the atlas, but the one constantly referred to was the *American Forts Network: a Network of Related Websites on Historic Fortifications and Historic Naval Vessels*.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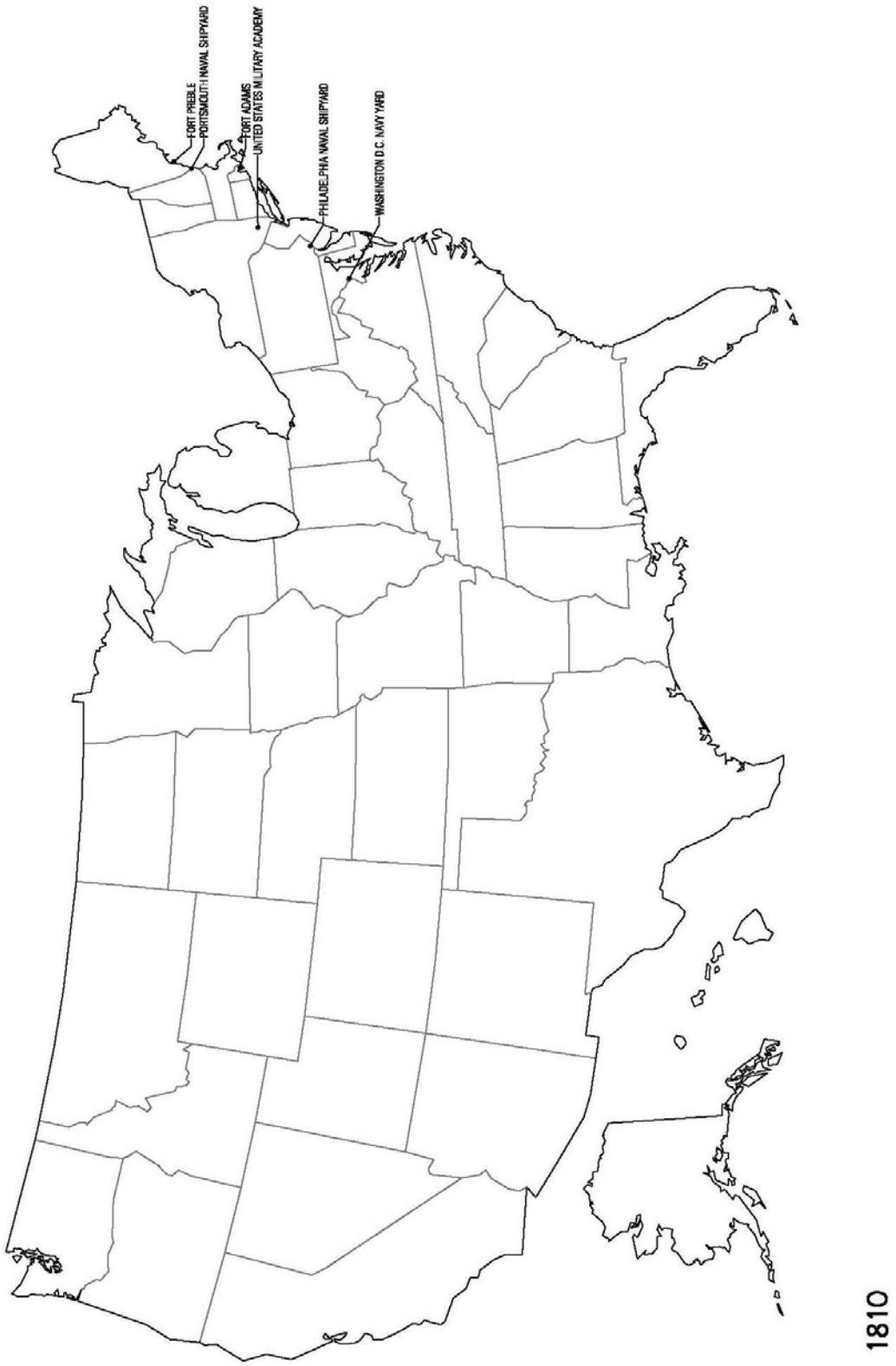
FORT ADAMS
WASHINGTON D.C. NAVY YARD
1800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1810


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WASHINGTON D.C. NAVY YARD
FORT MONROE
MADISON BARRACKS
FORT SNELLING

1820


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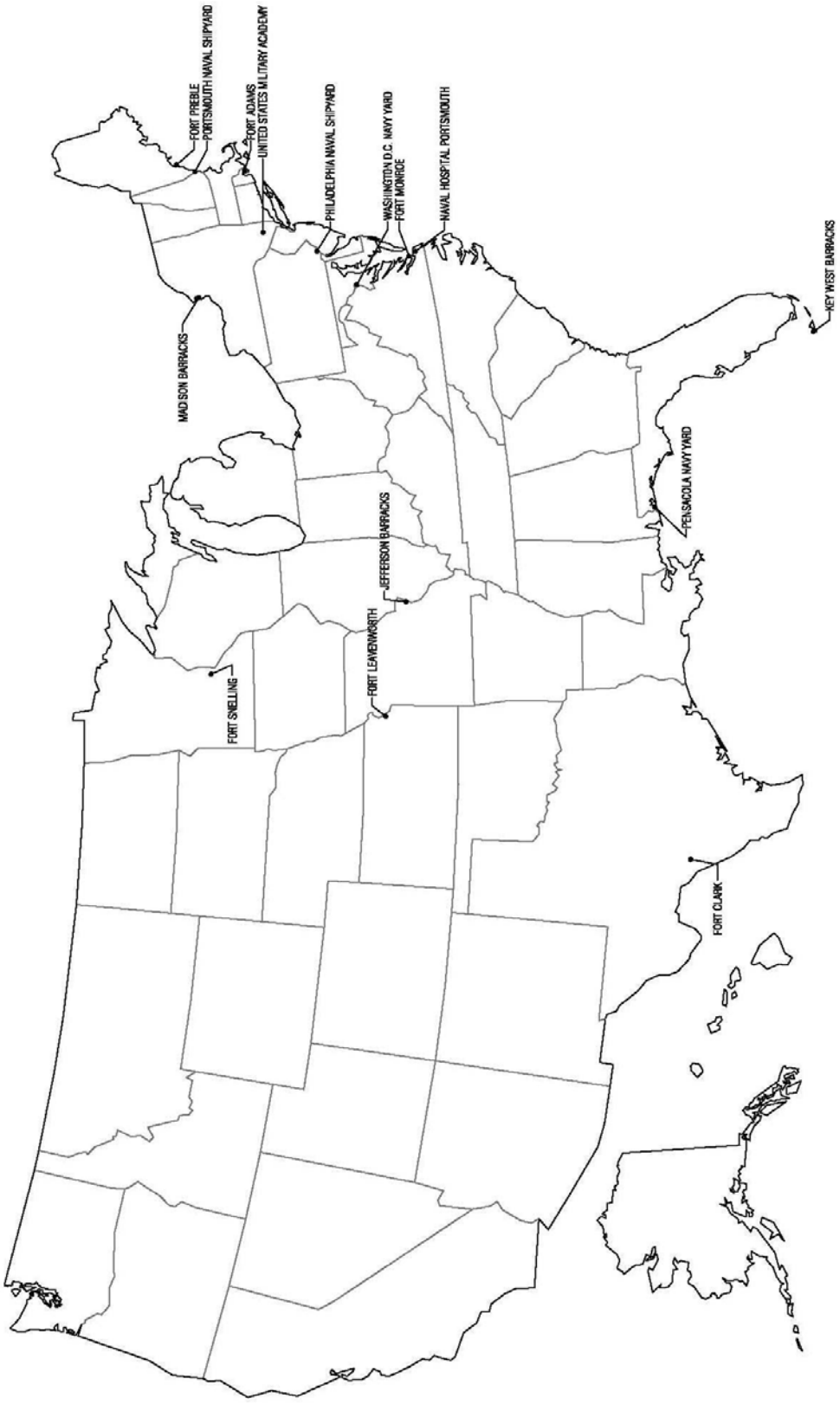
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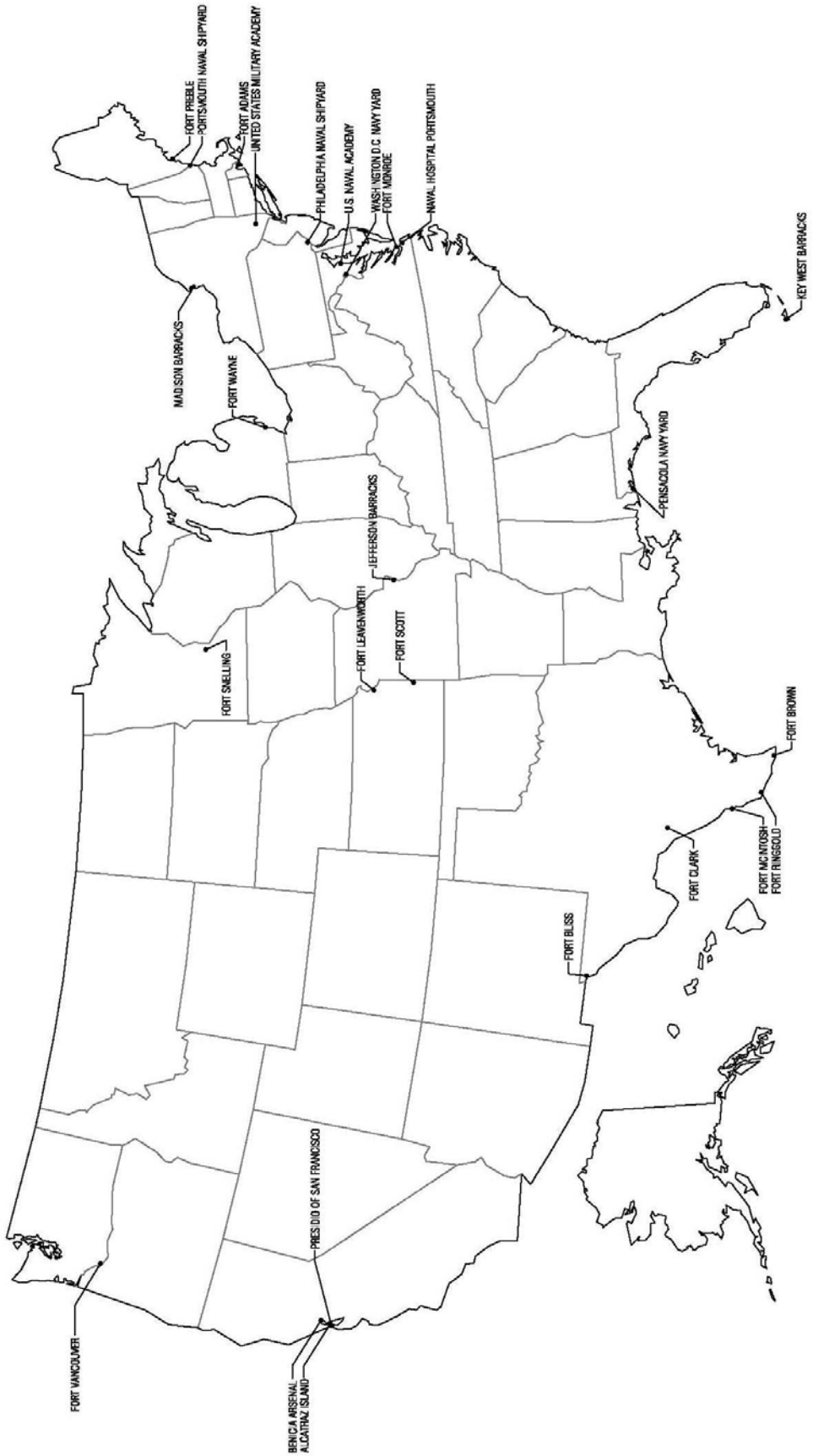
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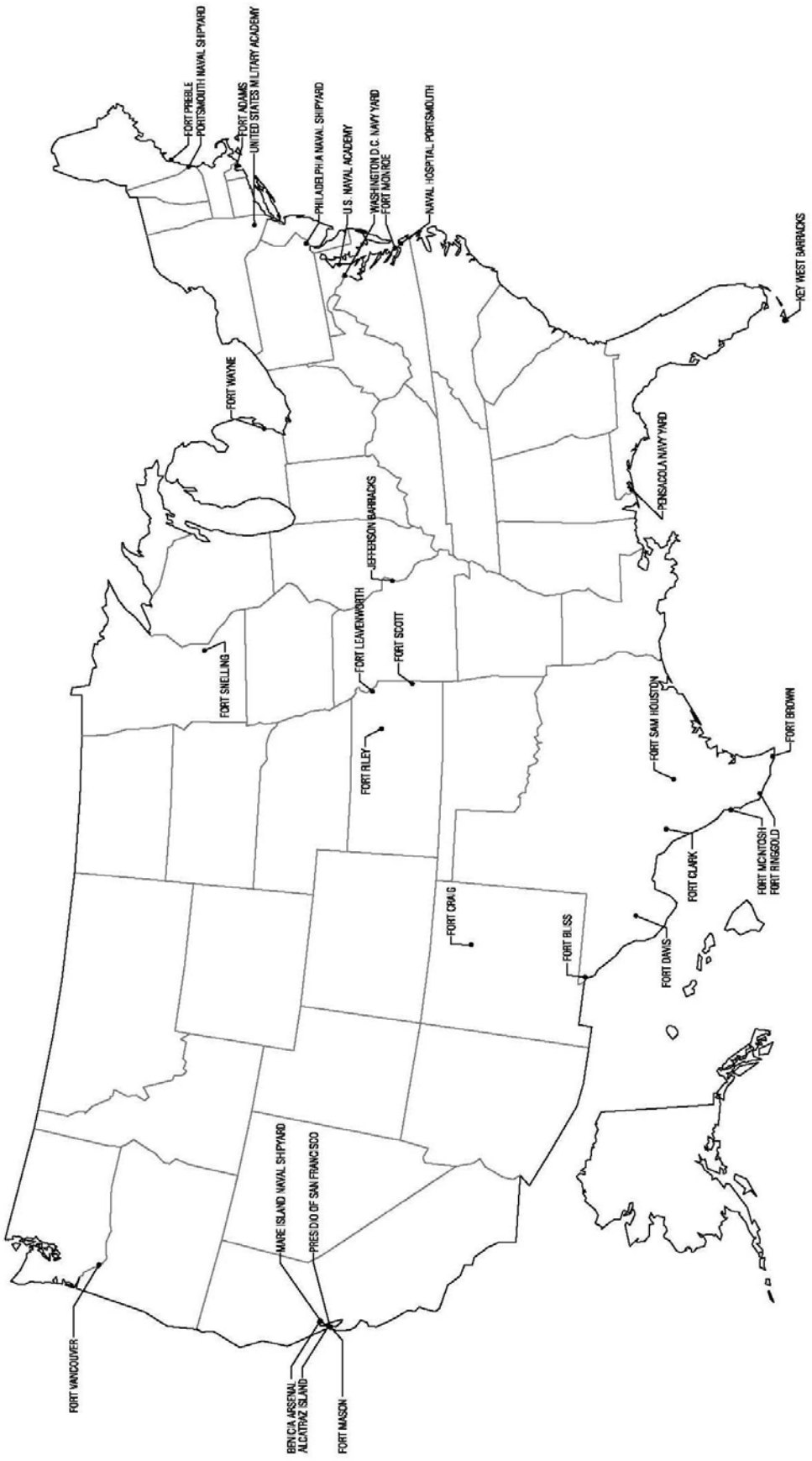
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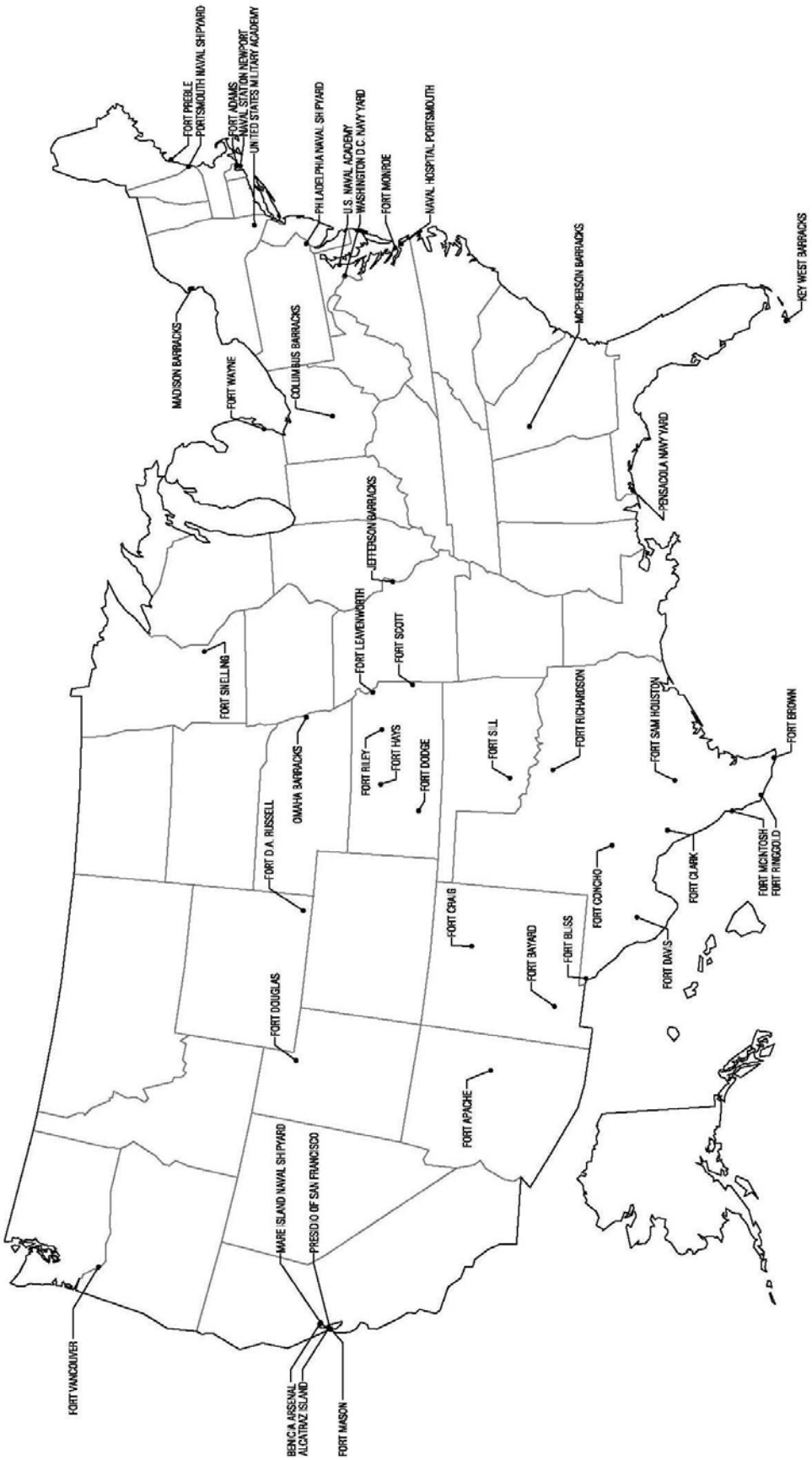
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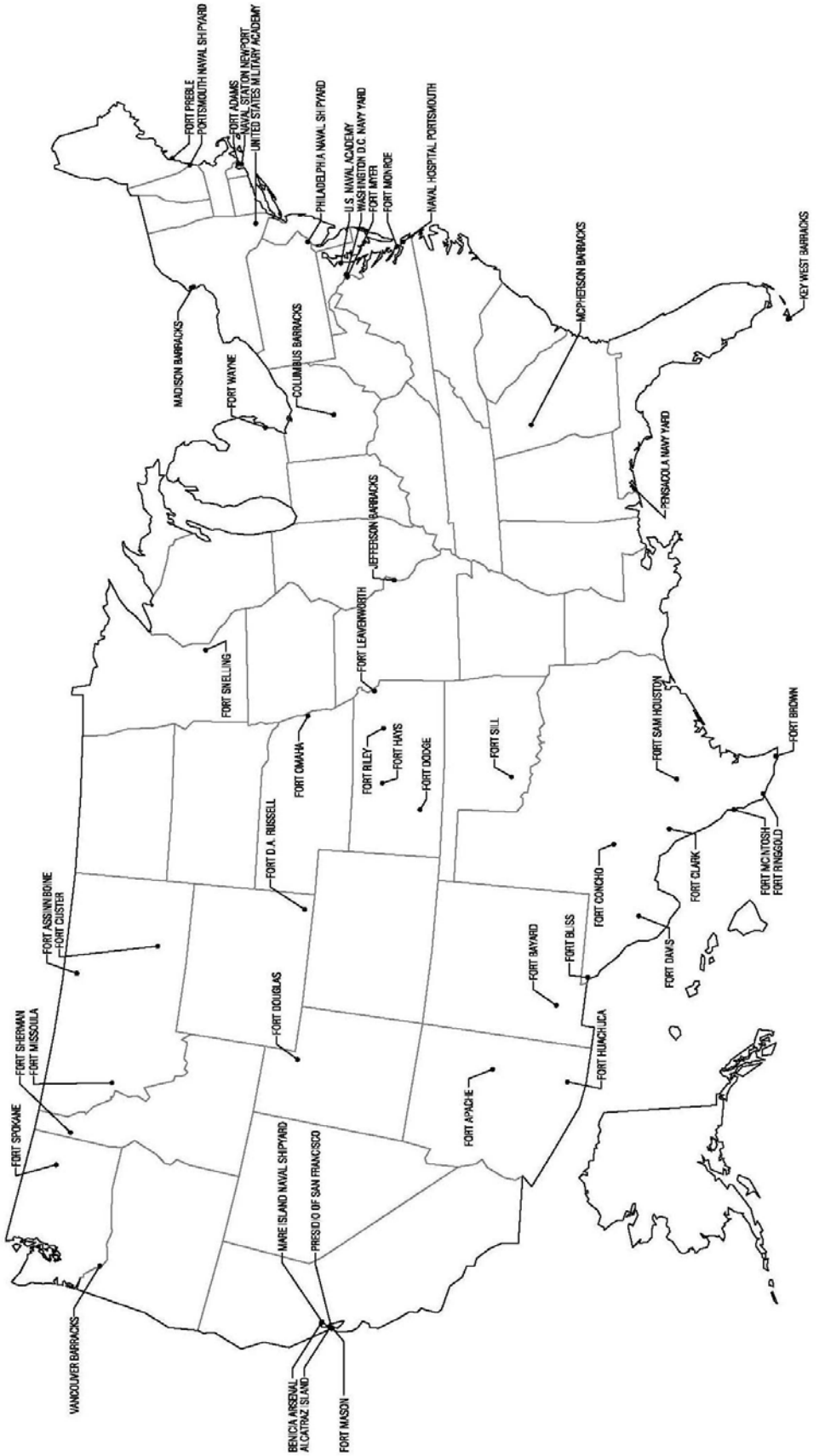
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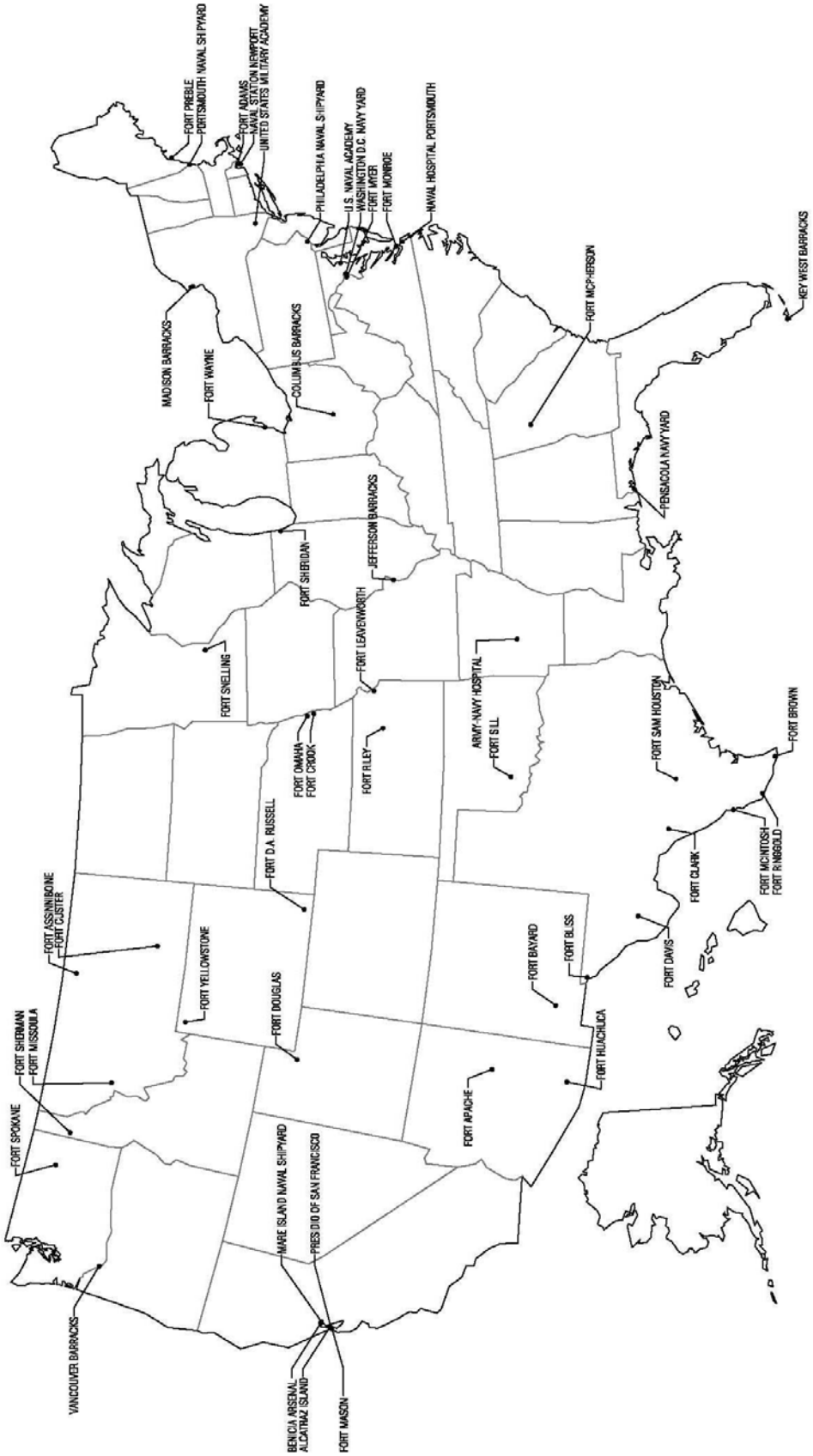
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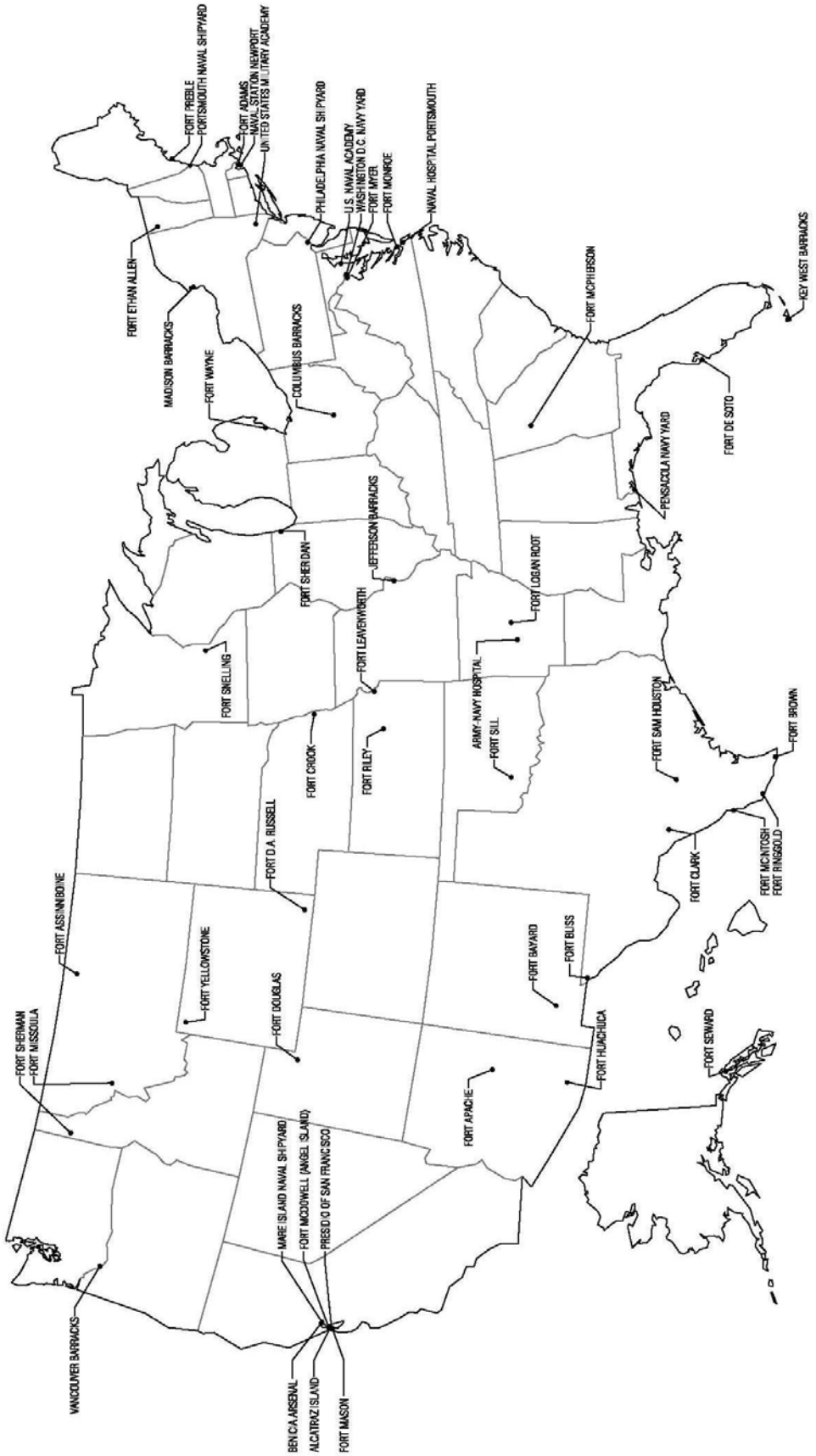
1890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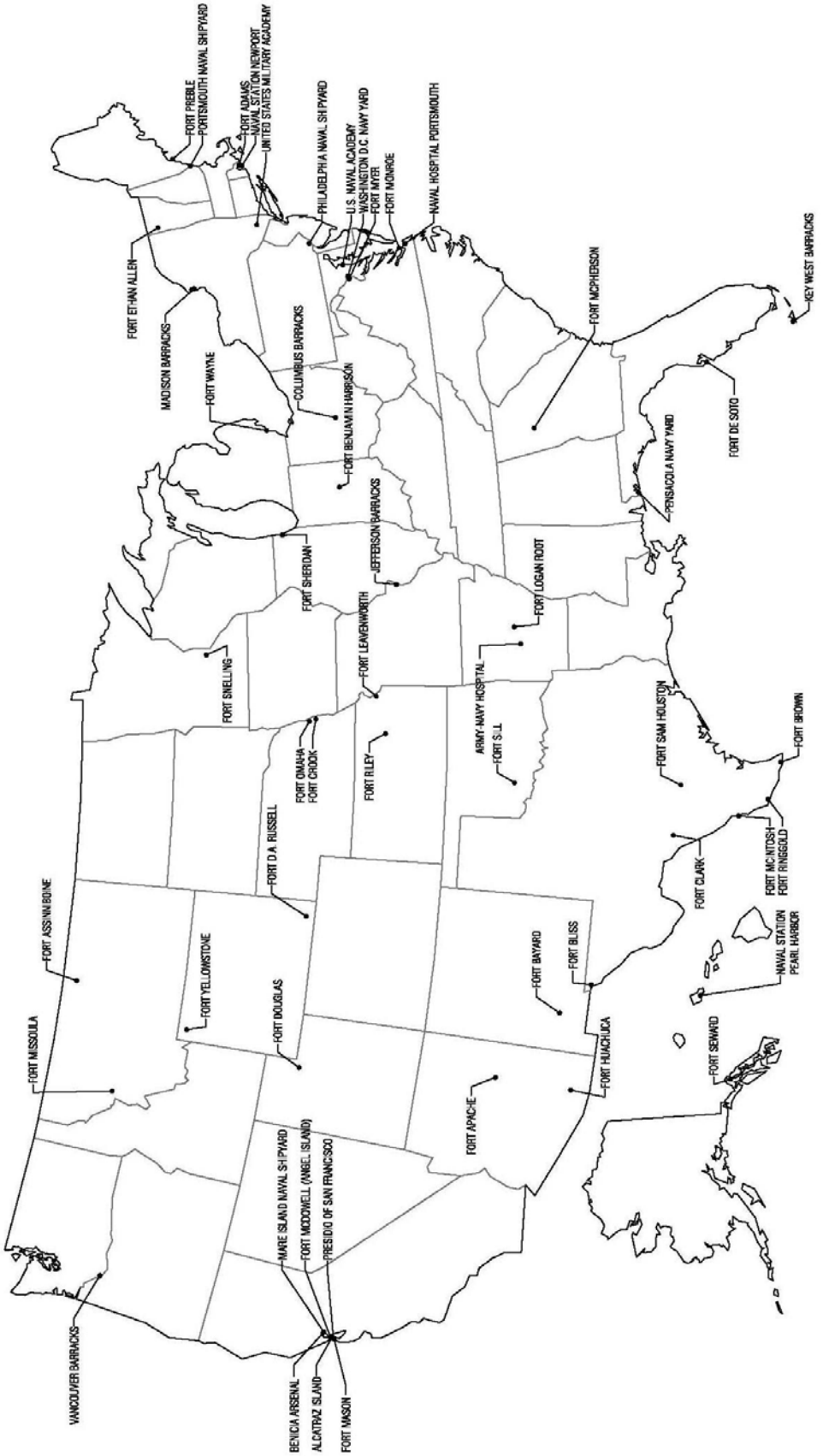
1900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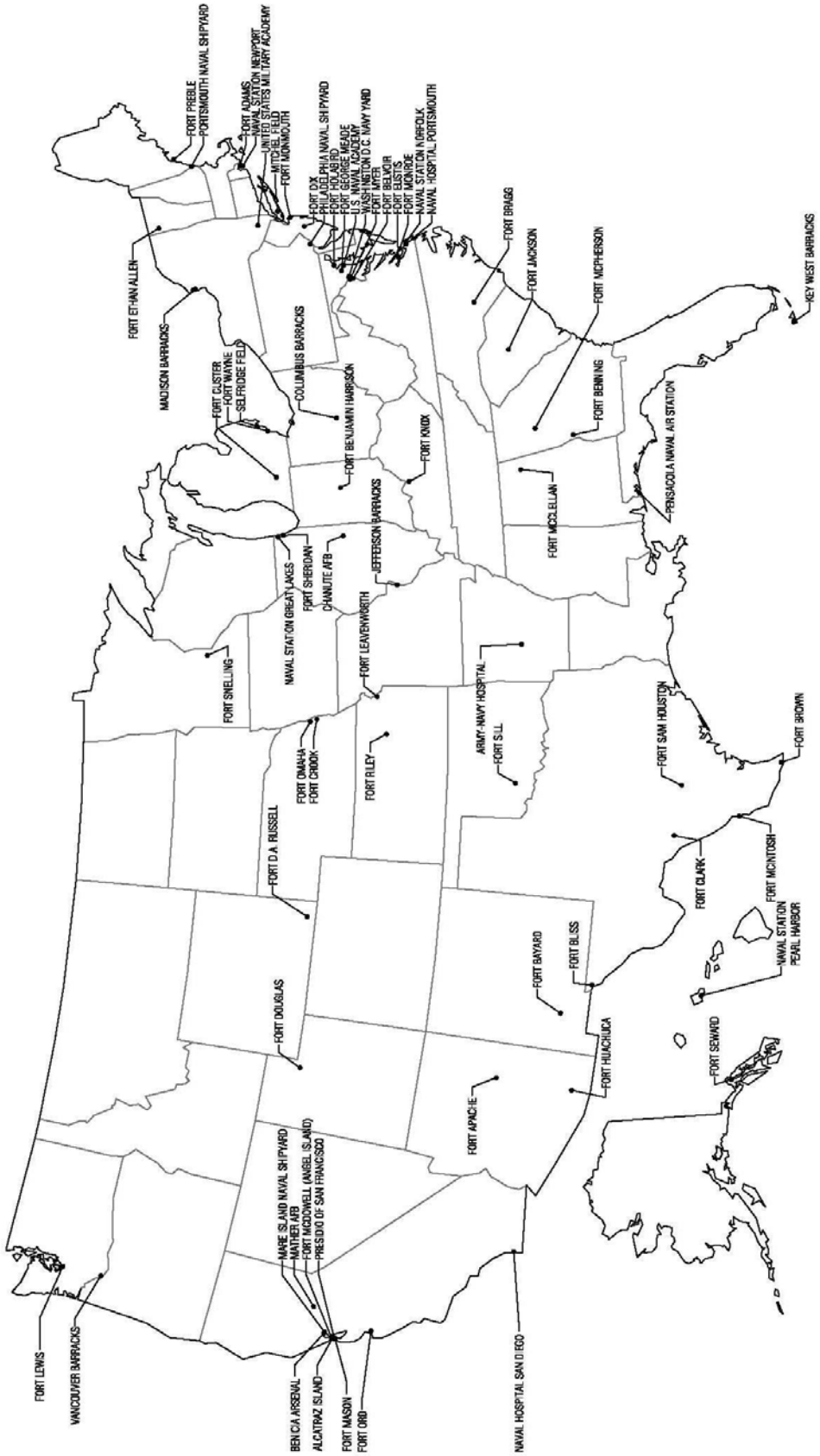
1910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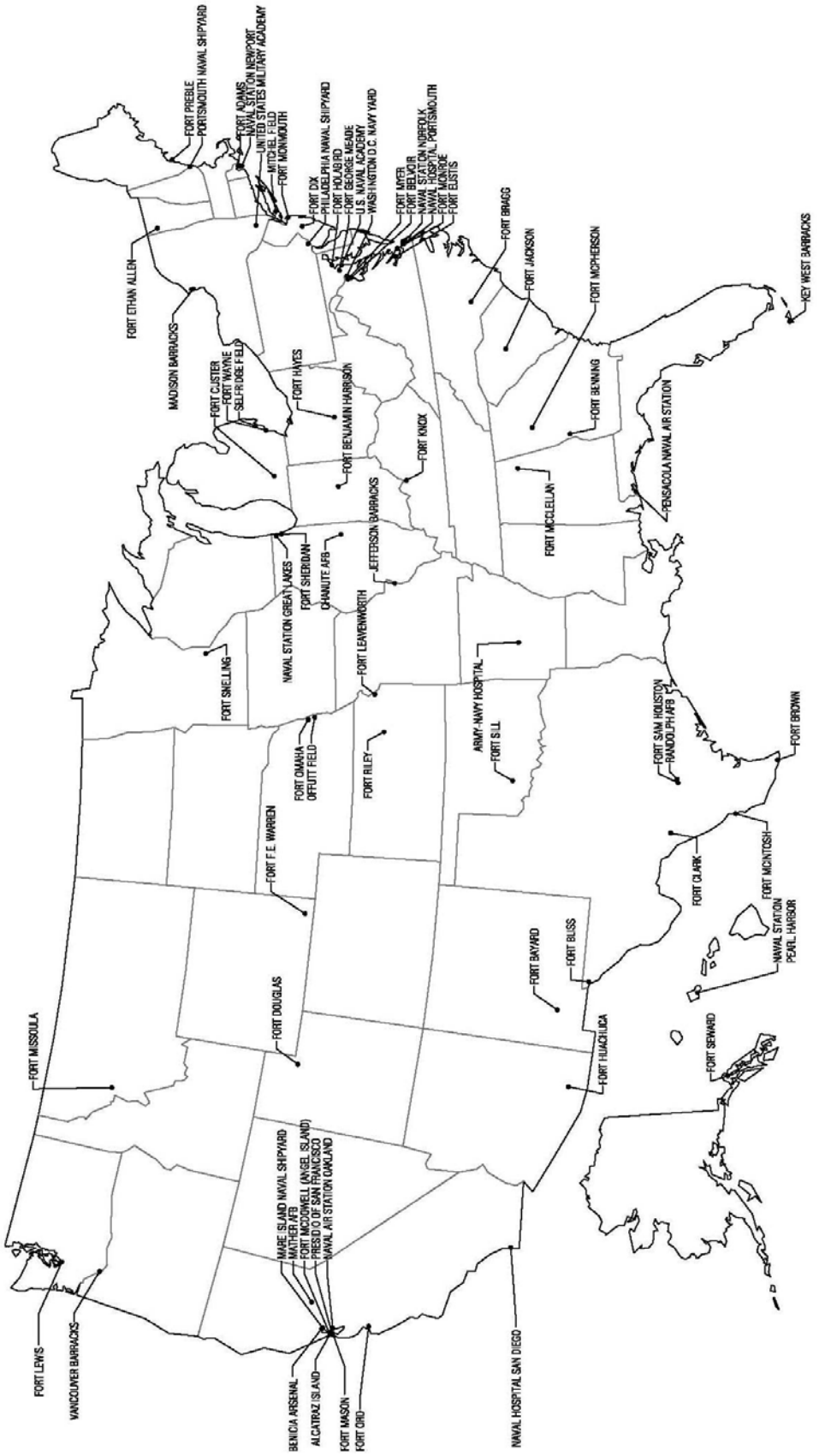
1920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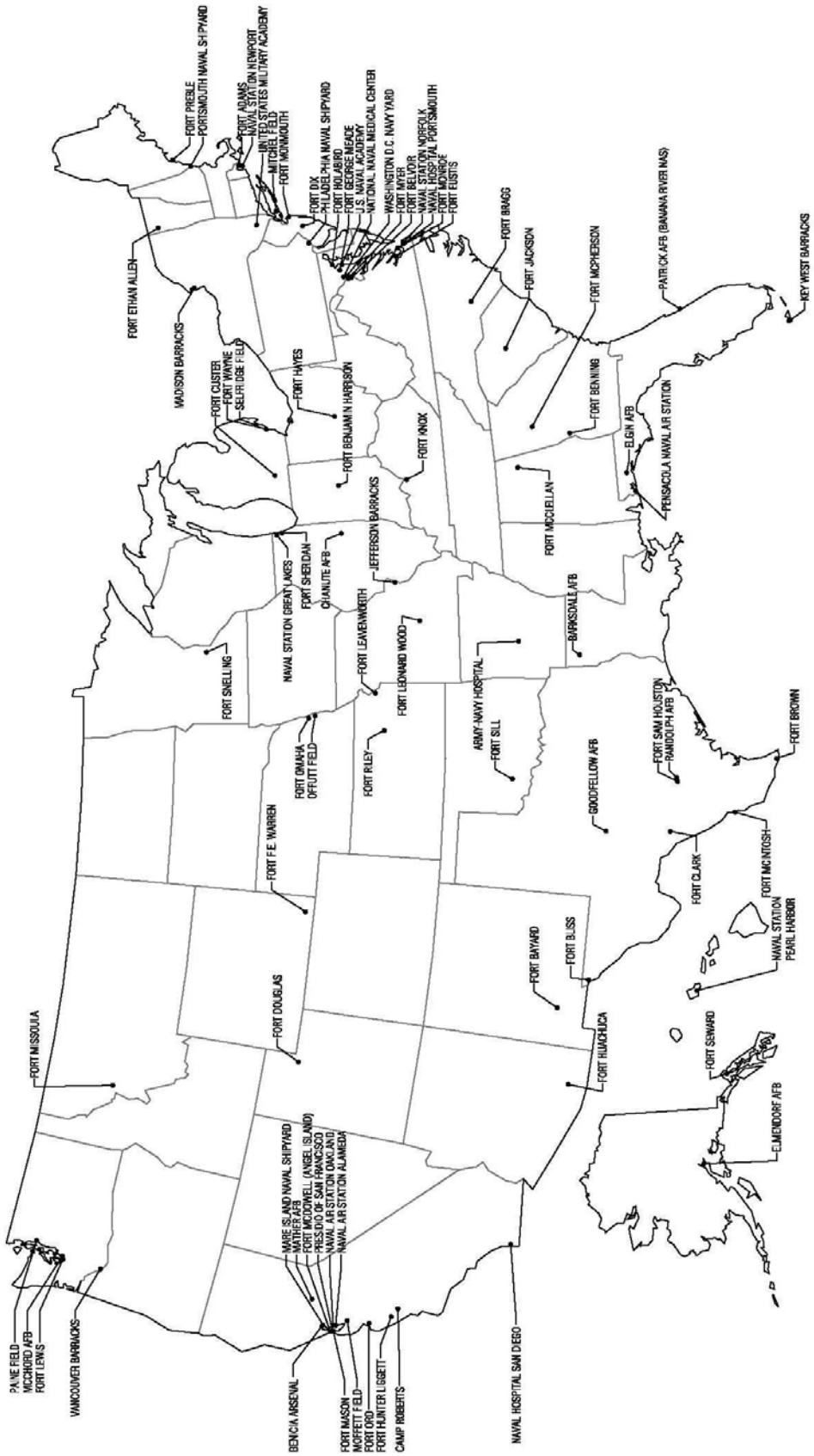
1930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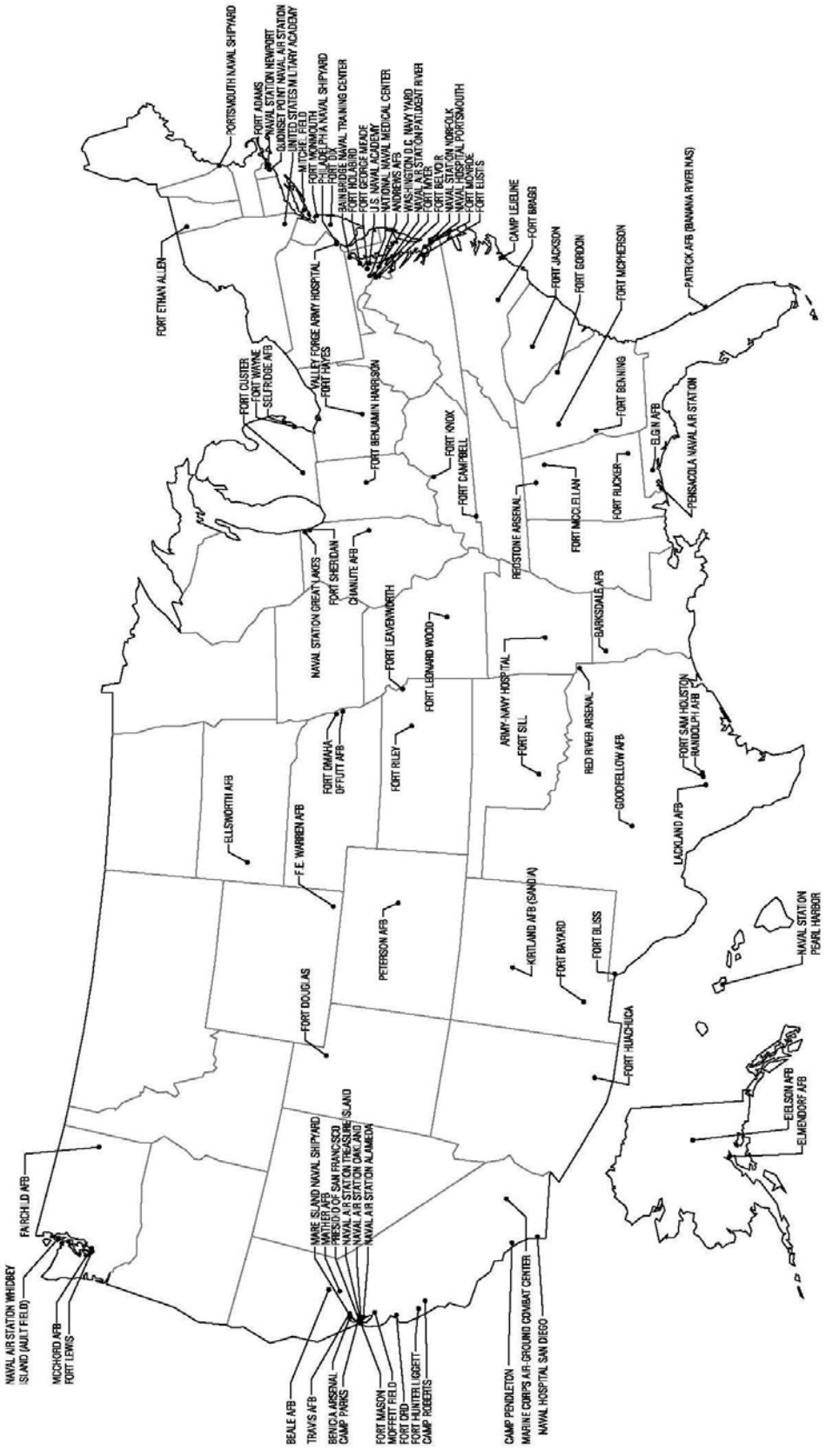
1940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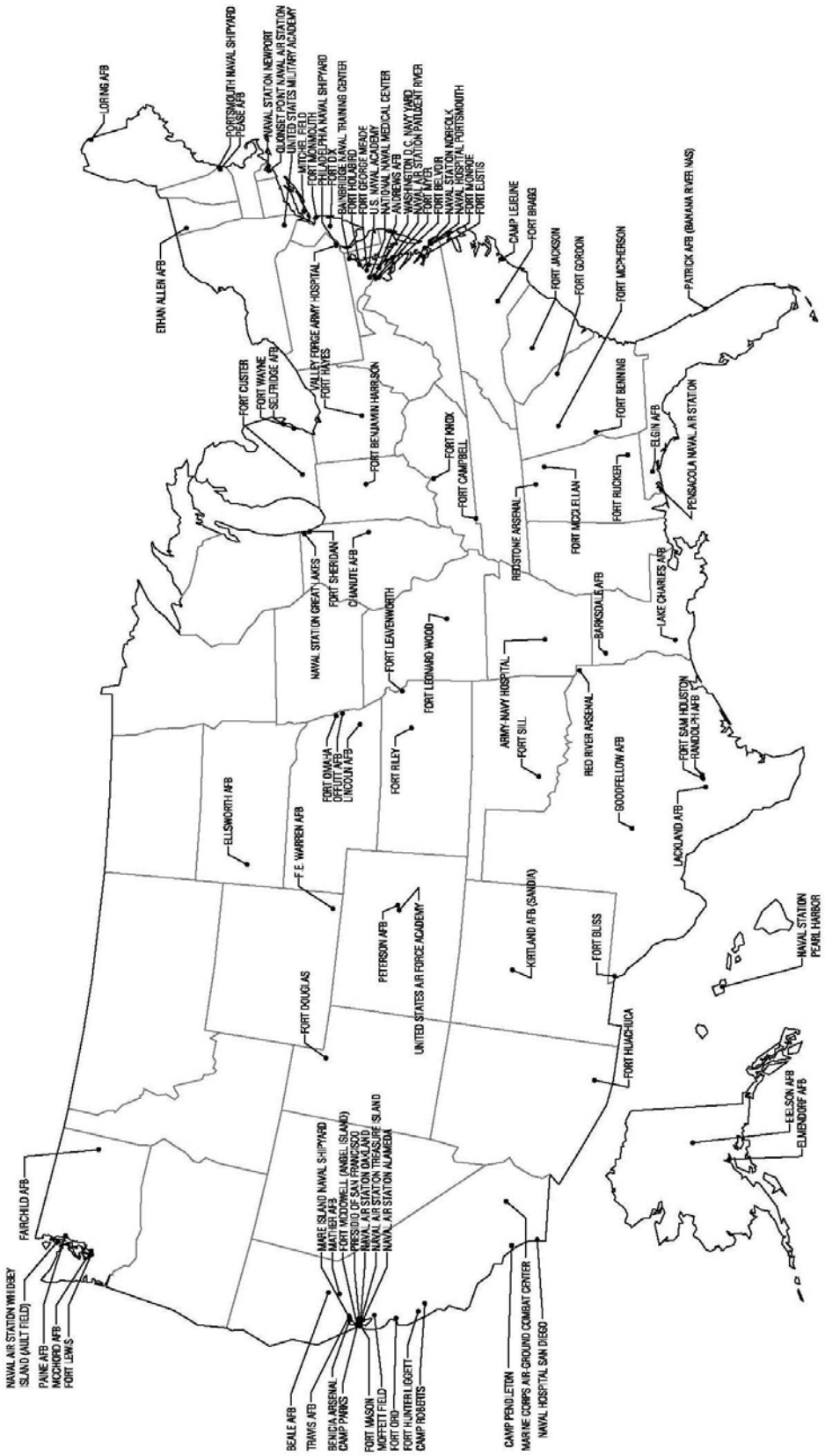
1950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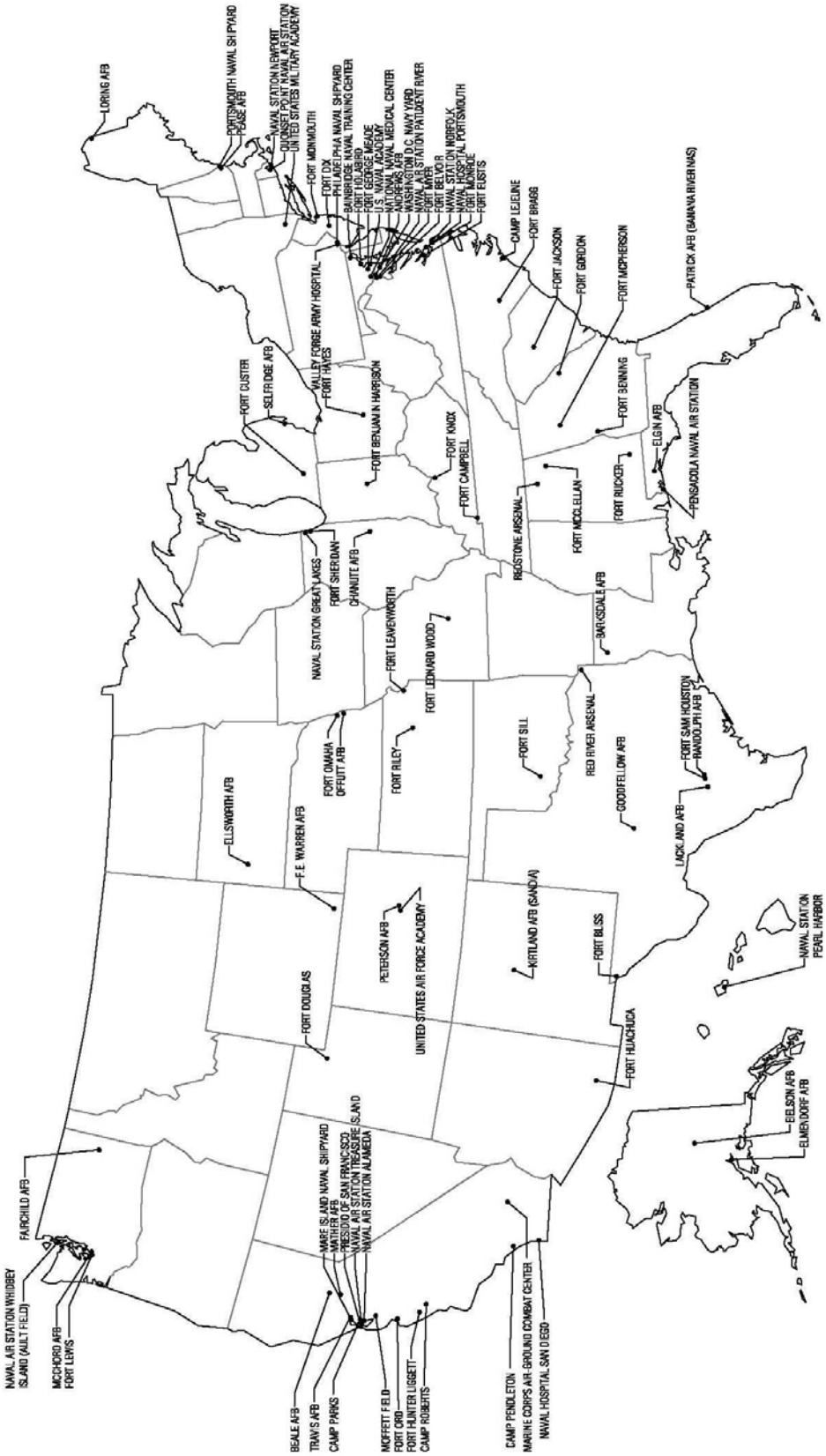
1960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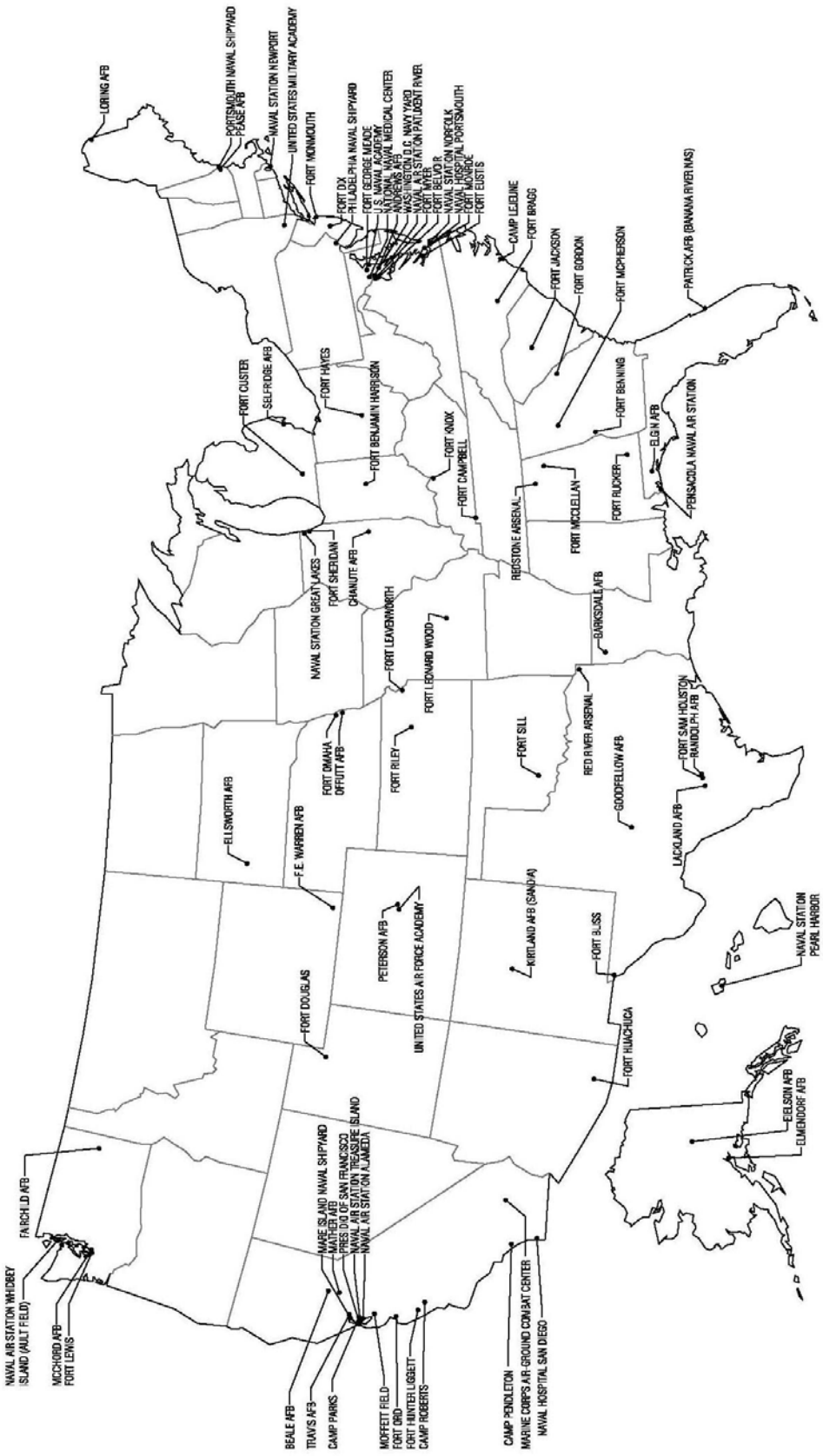
1970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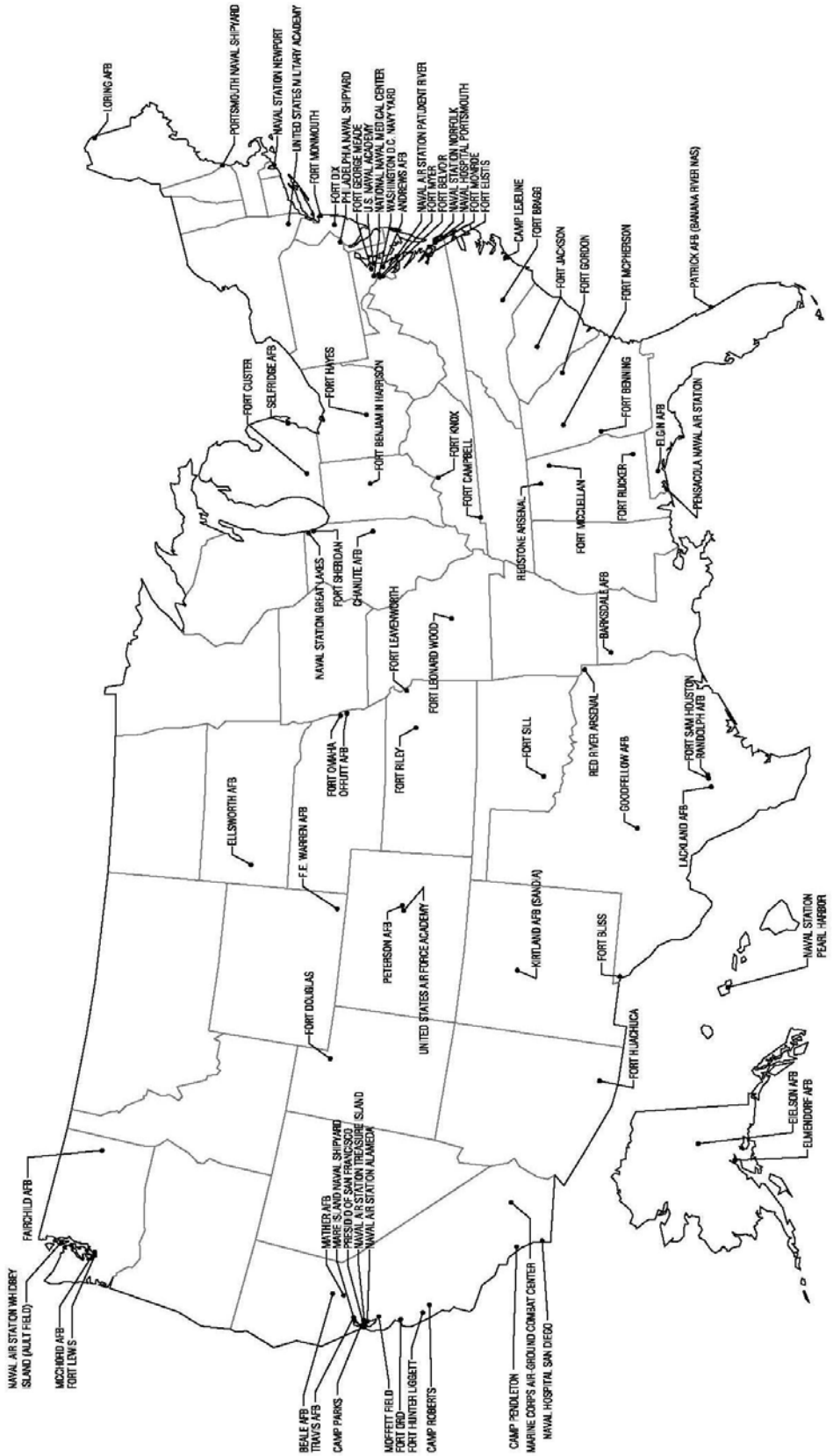
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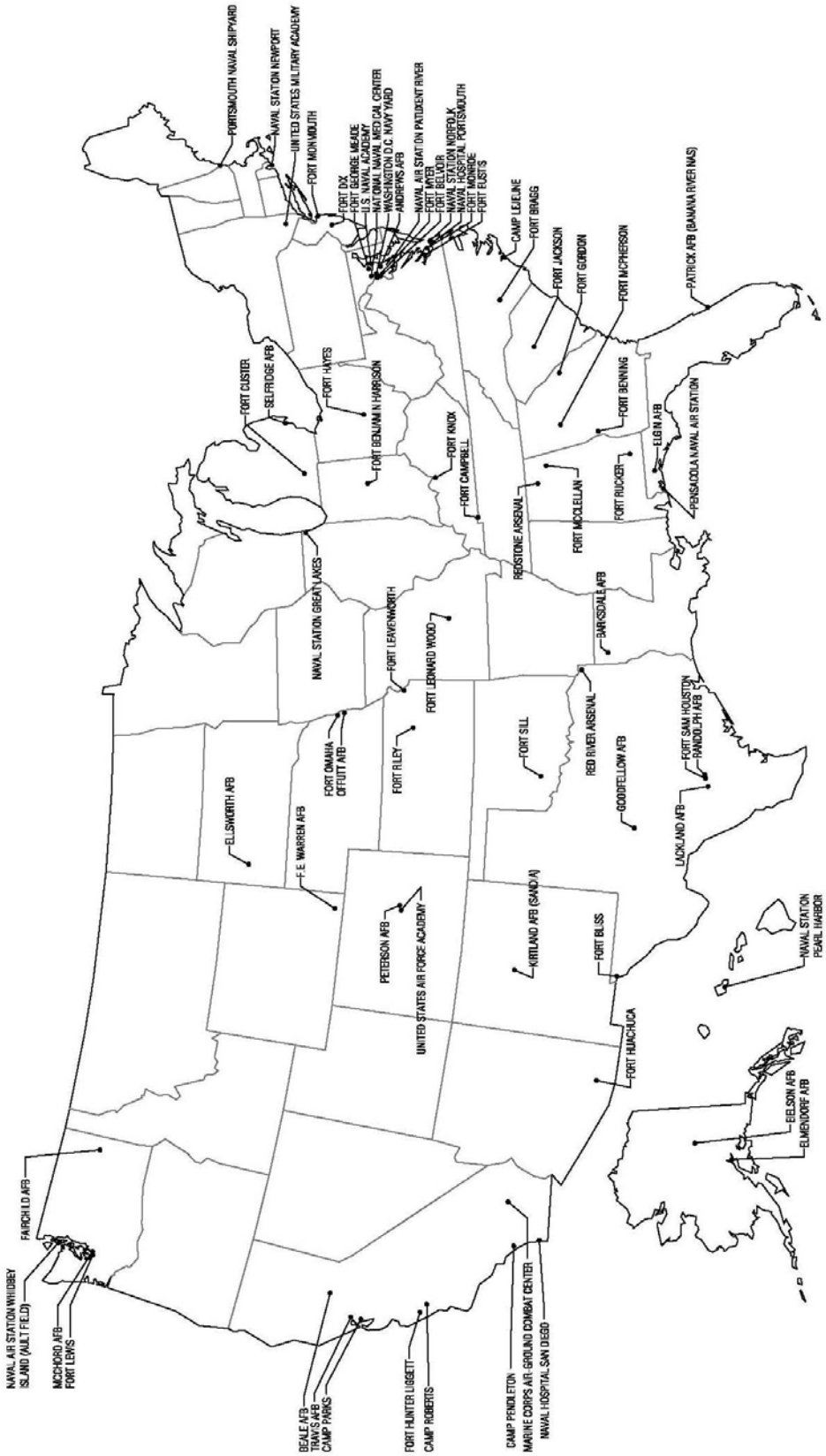
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2000

3 THE FIRST HOSPITALS (PRE-1840)

INTRODUCTION

Hospitals as an identifiable form go back to at least Hippocrates and his Asklepeion above the city of Kos in the late 5th century BC. The *asklepeion* as a form was derived from the *stoa,* which was the basic building block of the center of Greek towns and cities. The asklepion *stoa* were utilized for the ill. A temple dedicated to the god Asklepios was generally at the center of the complex.

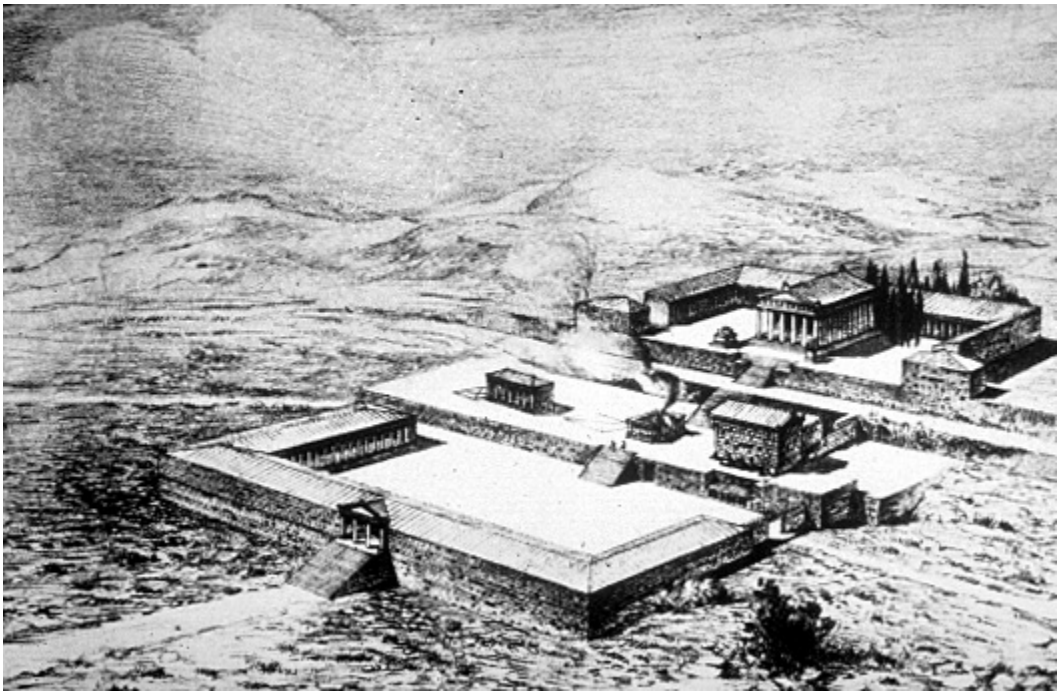


Figure 2. Sanctuary of Asklepios on Kos, 2nd century BC (courtesy USC School of Fine Arts).

The Romans adapted the *asklepeion* form for their *valetudinarium.* The *valetudinarium,* or military hospital, was an integral element to the Roman military *castrum* and usually was placed directly off the Via Principalis. The *valetudinarium* form was also derived other Roman types of buildings such as barracks and baths (Gechter).

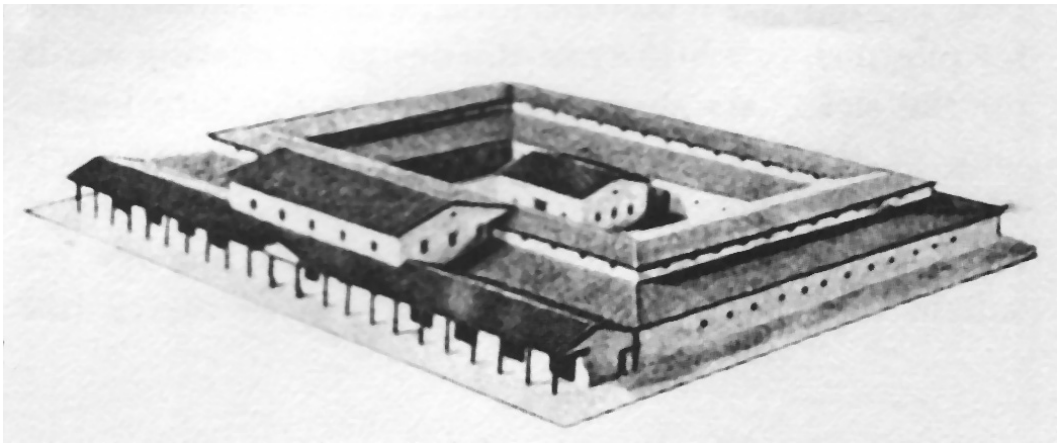


Figure 3. A *valetudinarium*, 1st century AD (courtesy USC School of Fine Arts).

Hospitals as a derived form continued on through the Middle Ages; however, these were concentrated in monasteries and abbeys. By the fourteenth century, city- funded hospitals were becoming prevalent, starting in Italy; the trend moved through the rest of Europe. However, these buildings were still a derived form and not designed as hospitals. It was not until King Louis XIV in France where a government established public hospitals, and in that case one for almost every need such as convalescents, incurables, and invalids (Ackerknechtz). Conditions at the large, medieval hospital for the poor, the *Hôtel Dieu,* instigated the first overall planning for what would become the modern, designed, pavilion hospital form. The British originated the pavilion hospital plan at the Royal Navy's Plymouth Royal Naval Hospital constructed in 1760. It consisted of separate wards connected together by an arcade that surrounded a courtyard.

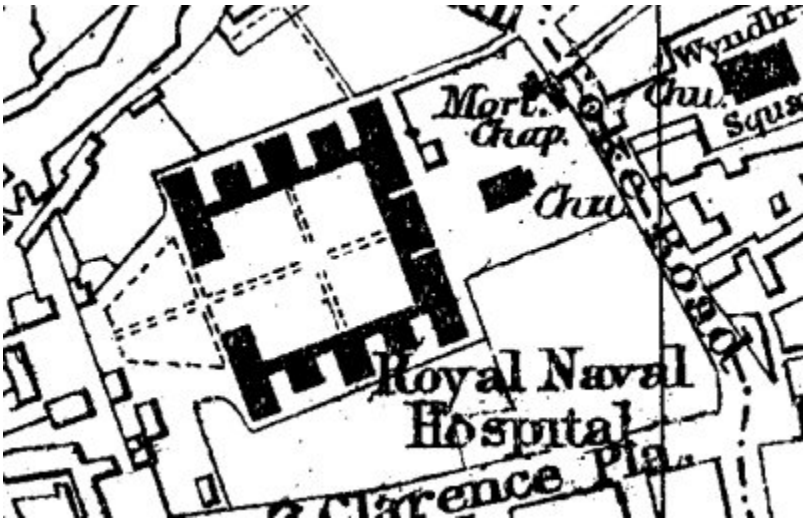


Figure 4. Site plan of the Royal Naval Hospital in Plymouth, England, 1760s (courtesy USC School of Fine Arts).

At about the same time as the Plymouth hospital was under construction, John Aitken, a Scottish chemist, theorized that diseases of the hospitals were due to stagnating air. With the conditions at the old *Hôtel Dieu* deteriorating, King Louis XVI authorized a royal commission to study how to rebuild it. The principal recommendation contained in the

1788 report was the adoption of the pavilion plan as utilized at the Plymouth Royal Naval Hospital (Thompson and Goldin 1975).

Figure 5. Aerial of the *Hôtel Dieu* showing the pavilion plan.

EARLY PERIOD (1776 TO 1820)

Thomas Bond and Benjamin Franklin in 1751 founded the first hospital in the United States. The Pennsylvania Hospital in Philadelphia housed wards in one building, with each floor consisting of one ward. Philadelphia was also the location of the first medical school in the American Colonies at the College of Philadelphia (now the University of Pennsylvania).

Probably the father of military hospitals is James Tilton of Delaware. He was in the first graduating class from the College of Philadelphia in 1768. He was a lieutenant in the local militia, and was appointed regimental surgeon on January 16, 1776. During his appoint to the Continental Army "he visited the military hospitals at Bethlehem, Reading, and Lancaster, and elsewhere studying conditions which later formed the basis for the sharpest criticism of military hospital management and of the system that made these conditions possible….During the campaigns of 1775-80 he was in charge of hospitals at Morristown and Trenton, N. J., and at New Windsor, N. Y., at which places he was able to give trial, with considerable success, to his pet scheme of small well-ventilated log huts capable of holding but six or eight patients each" (AMEDD Tilton). He wrote that

more men were "lost by death and otherwise wasted, at general hospitals, than by all other contingencies that have hitherto affected the army, not excepting the weapons of the enemy."[1]

Benjamin Rush, a Philadelphia doctor, is the father of military medicine. There is a statue of him at the Naval Bureau of Medicine and Surgery in Washington, DC. He wrote that a "greater proportion of men have perished with sickness in our armies than have fallen by the sword."[2]

Only two buildings were specifically constructed as hospitals during the Revolutionary War. The first was commissioned by George Washington at Yellow Springs, Pennsylvania. It was a three-story building, 106 feet by 36 feet. A kitchen, dining room, and storage rooms were on the first floor, two large wards were on the second floor, and small recuperation rooms were on the third floor (CMH).

Figure 6. Yellow Springs Hospital (courtesy Yellow Springs Archives).

The other building was designed by James Tilton. It was constructed outside of Morristown, New Jersey in the winter of 1779-80. It was one building constructed out of logs, but had three separate wards. In cold weather a "fire was built in the midst of the ward, without any chimney, and the smoke circulating about, passed off through an opening about 4 inches wide in the ridge of the roof." The patients lay with their heads to the wall

[1] James Tilton, *Economical Observations on Military Hospitals: And the Prevention and Care of Diseases Incident to an Army* (Wilmington, Del., 1813), p. 15.

[2] Benjamin Rush, *Medical Inquiries and Observations,* 5 vols., 2d ed. (Philadelphia, 1784), 1:262.

and their feet turned to the fire. The smoke, Tilton wrote, combated "infection, without giving the least offense to the patient, for it always rose above their heads, before it spread abroad in the ward"[1] (CMH).

Figure 7. Reconstruction of Tilton hospital at Morristown, New Jersey (courtesy National Park Service).

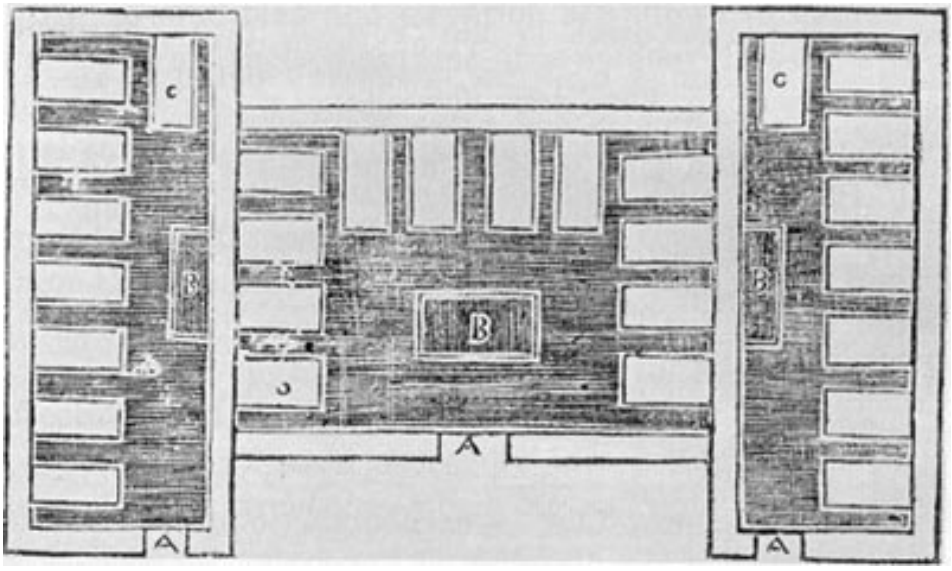


Figure 8. Plan of hospital at Morristown, New Jersey (courtesy National Park Service).

FORT MONROE, VIRGINIA (1826)

The hospital at Fort Monroe was built circa 1826. It was located within the fortress walls on the northwest side near the bridge. This hospital followed the house-type plan, and was a two-and-a-half-story structure with a two-story porch facing out onto the parade

[1] Tilton, *Economical Observations on Military Hospitals*, pp. 49-50.

ground. This porch was the first instance of a hospital being designed for specific health purposes rather than derived from some other building type. The porch was instrumental in allowing the wards having access to the outside. The surgeon's office and a dispensary utilized the first floor while the second and third floors were for the wards. A side addition shown in the plan was constructed at an unknown date to house stewards' quarters on the first floor and an additional ward on the second floor. A kitchen and mess were located in a separate building behind the hospital, and its second story had the cook's living quarters and storerooms.

John Billings, an assistant surgeon general, was tasked by the Surgeon General of the Army, to compile sanitary reports from every Army post. Billings reported his findings in Report on Barracks and Hospitals in 1870; this later was published as Army Surgeon General Circular #4. Billings updated this report in 1875 and titled it Hygiene of the United States Army. This was later also transformed into an Army Surgeon General Circular (#8). Billings' report considered the Fort Monroe hospital deficient; reasons were due to "no operating room, no post mortem room, no wash-room, and no bath-room". This hospital was demolished at an unknown date.

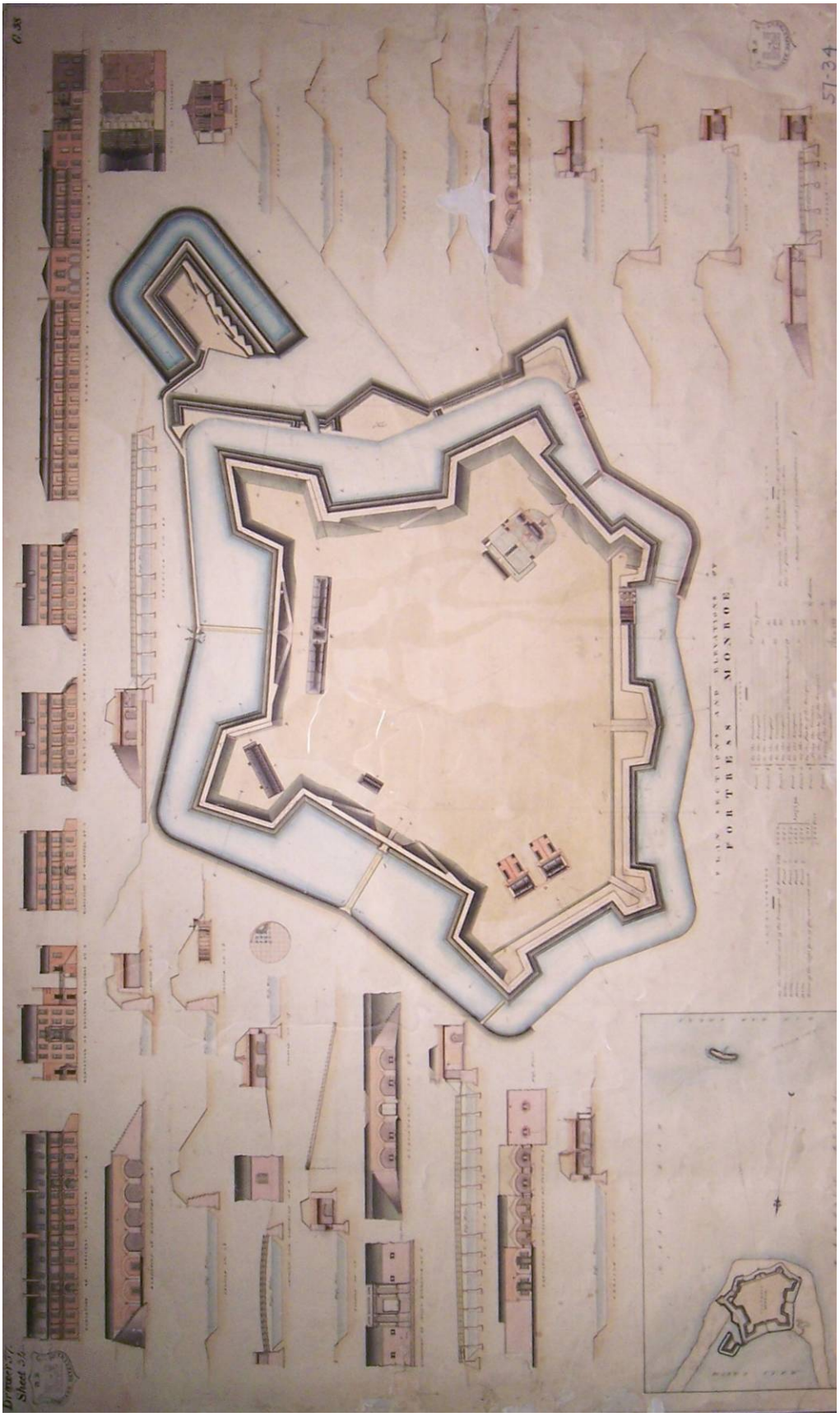


Figure 9. Plan of Fortress Monroe, Virginia, 1826 (NARA College Park, RG 77 DR.57 sheet 34).

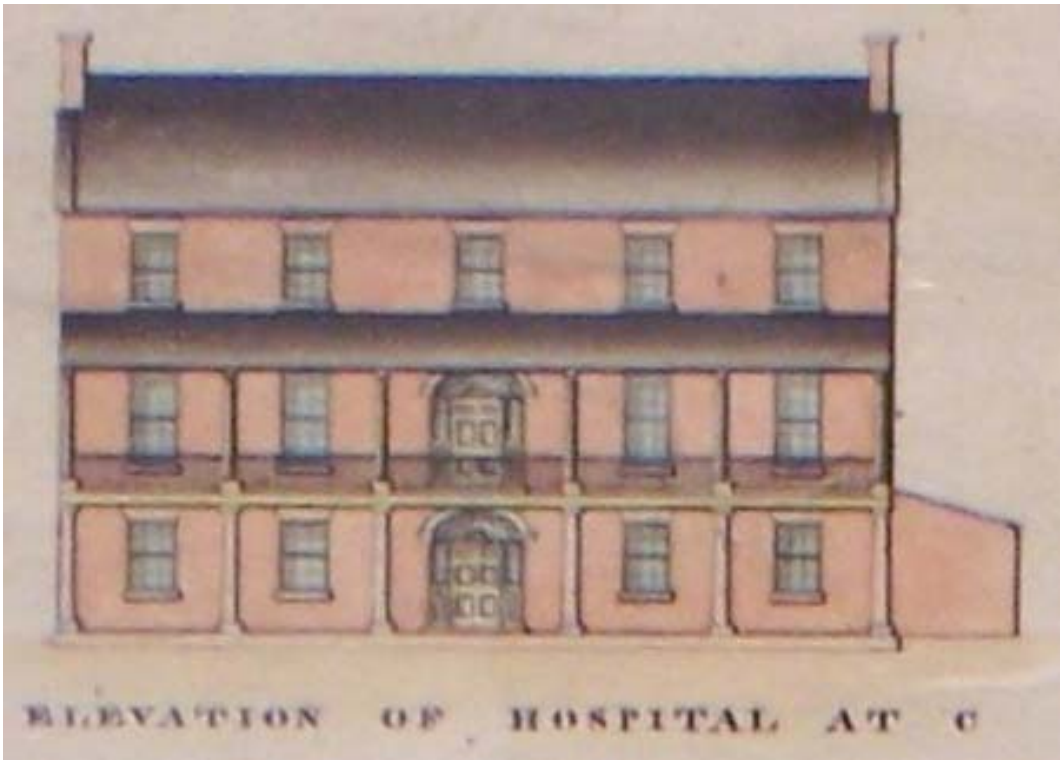


Figure 10. Point Comfort Hospital elevation, Fortress Monroe, Virginia, 1826 (NARA College Park, RG 77 DR.57 sht.45).

Figure 11. Hospital at Fortress Monroe, Virginia, circa 1850s (courtesy NMHM Otis Archives, CP 3156).

Figure 12. Fort Monroe, Virginia hospital floor plan 1875 (Circular #8).

NAVAL HOSPITAL PORTSMOUTH, VIRGINIA (1827)

The Navy Department had no permanent hospitals until 1827. Up to that point, the Navy Department rented houses to be utilized as hospitals. According to a letter from the Secretary of the Navy to Congress dated January 20, 1818, the Navy Department rented houses in New Orleans, Charleston, Washington, Philadelphia, New York, and Charlestown. These "house hospitals" proved to have inadequate layouts, ventilation, and access. To alleviate this situation, Congress authorized a Naval Hospital Fund that levied a tax on the salary of seamen, officers, and marines for the purposes of building naval hospitals, which followed a British naval practice. This Navy practice was quite different from the manner in which the War Department appropriated money directly from Congress for the construction of their hospitals.

17th CONGRESS.] No. 227. [2d SESSION.

NAVAL HOSPITAL FUND.

COMMUNICATED TO THE HOUSE OF REPRESENTATIVES, FEBRUARY 3, 1823.

Mr. FULLER, from the Committee on Naval Affairs, to whom was committed a report of the Commissioners of Naval Hospitals, made on the 9th of January last,* reported:

By an act of Congress passed on the 26th of February, 1811, a deduction of twenty cents a month from the pay of the officers and seamen of the navy of the United States, and of the marines, for the purpose of erecting navy hospitals; and, by a report of the commissioners before mentioned, and their report on the 21st December, 1821, it appears that of the whole amount of the deductions made in pursuance of that act, being $168,946 57, only $43,335 87 has been placed at the disposal of the commissioners for the purposes provided by the act, and that the balance of the amount first mentioned, being $125,610 70, has been absorbed in the pay of the navy, and has consequently never been placed at the disposal of the commissioners.

As the contributions of the officers and seamen and of the marines, by virtue of the act before mentioned, have been regularly made, and have been employed by the Government in so far reducing the annual appropriations, justice seems to require that the balance so absorbed should be reimbursed, and that the purposes of its original destination should be no longer frustrated or delayed.

It appears by the commissioners' report that they are taking the necessary measures to erect navy hospitals, as the act provides, and that the funds arising from the contributions before stated are indispensably necessary, and are deemed sufficient to accomplish the object.

The committee therefore report a bill for that purpose.

Figure 13. Naval Hospital Fund, February 1823 (17th Congress, 2nd Session, page 877).

By 1827, the Naval Hospital Fund had purchased land in Chelsea, Massachusetts; Brooklyn, New York; Philadelphia, Pennsylvania, and had transferred Fort Nelson, Virginia from the War Department to the Navy Department.

John Haviland, a Philadelphia architect noted for his book *The Builder's Assistant* (probably the first American book describing both Greek and Roman orders), designed the new naval hospital to be located at Fort Nelson. It was four stories in height constructed out of brick and stone, but faced with dressed stone. The front of the hospital faced out onto the river with stone steps leading up to a large pedimented porch supported by ten Doric columns. Behind the main building were two wings that housed the wards; a back wing housing bathing facilities and water closets enclosed the courtyard. The wards wings had wooden porches that faced out onto the grounds. This hospital follows the pavilion-modified type of plan.

The ground floor contained storerooms, kitchens, mess rooms, and a laundry. The first and second floors were for wards, while the third was utilized for staff quarters.

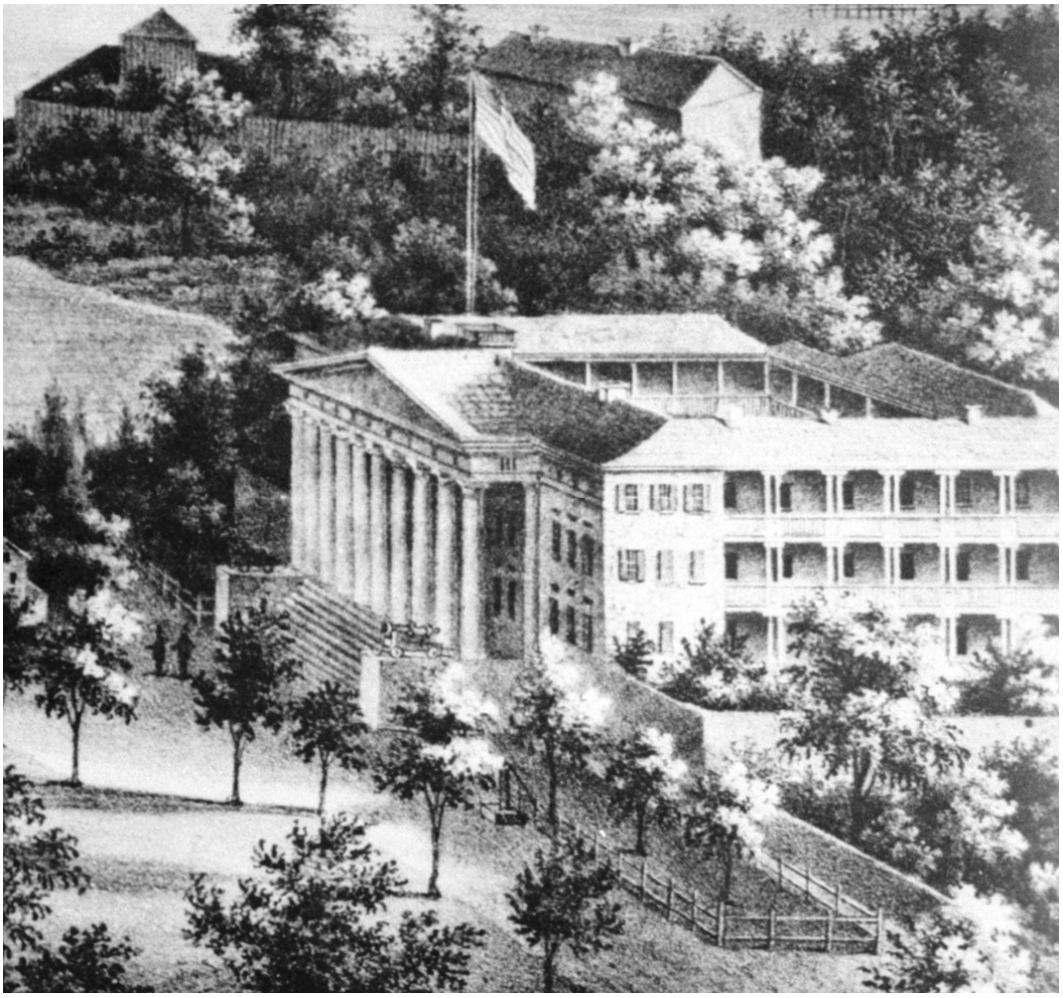


Figure 14. Drawing of Naval Hospital Portsmouth, Virginia, 1851 (Library of Congress, HABS VA 65-PORTM, 2-32).

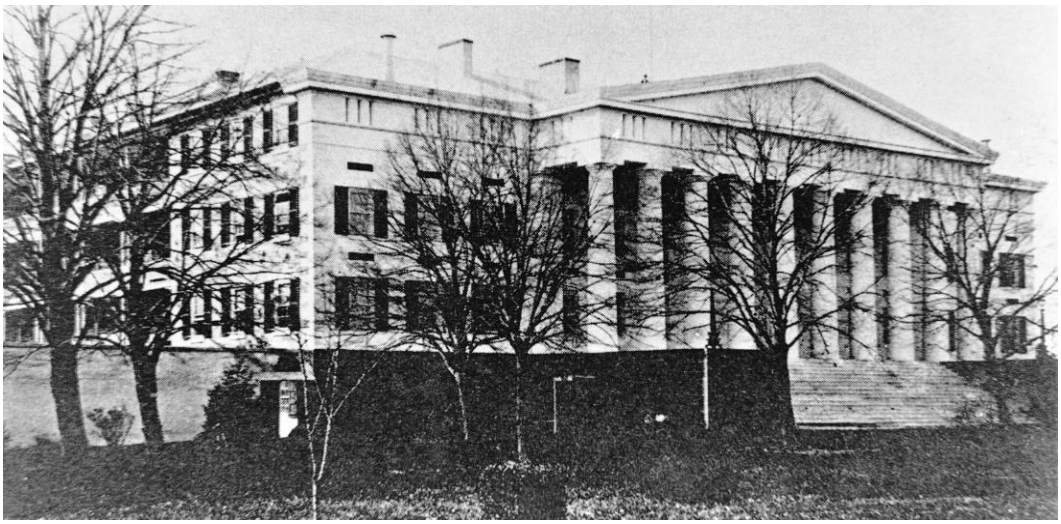


Figure 15. View of Naval Hospital Portsmouth, Virginia, circa 1875 (Library of Congress, HABS VA 65-PORTM, 2-13).

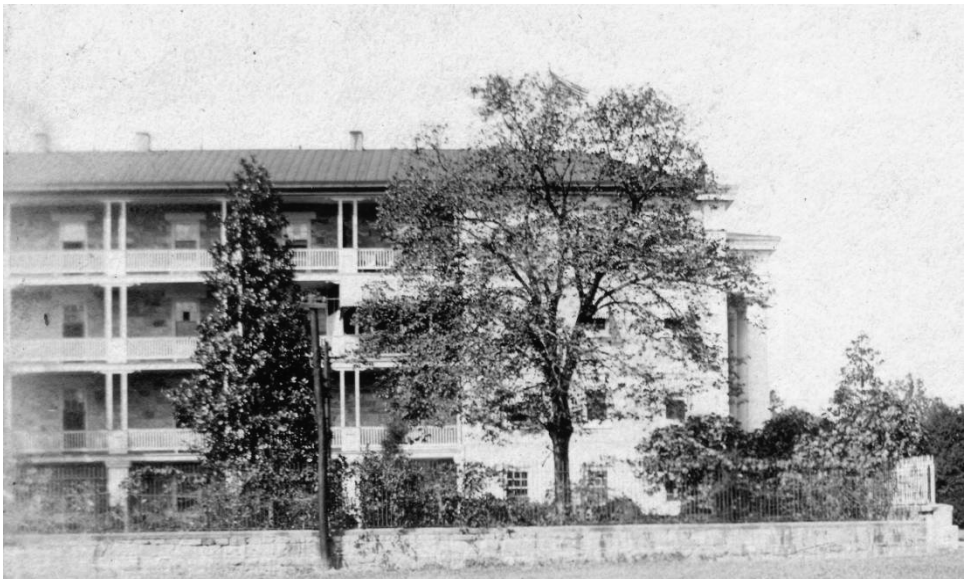


Figure 16. View of porches on side of Naval Hospital Portsmouth, Virginia, circa 1900 (NARA College Park, RG 52-C Box 1 Photo 4).

The original Naval Hospital Portsmouth had several flaws from the beginning. Surgical facilities were non-existent. The location of the kitchens and laundry on the ground floor allowed for heat and moisture to travel up through the ward floors. Ventilation, even with the open porches, was virtually non-existent. By 1900, it was necessary to rehabilitate and expand the original hospital. Two large ward wings were added to either side of the Doric-columned portico, and a large dome housing an operating room was constructed to balance out the longer width of the front of the hospital.

This hospital is still extant and is owned by the Navy, and utilized as administration space at the Naval Hospital Portsmouth complex.

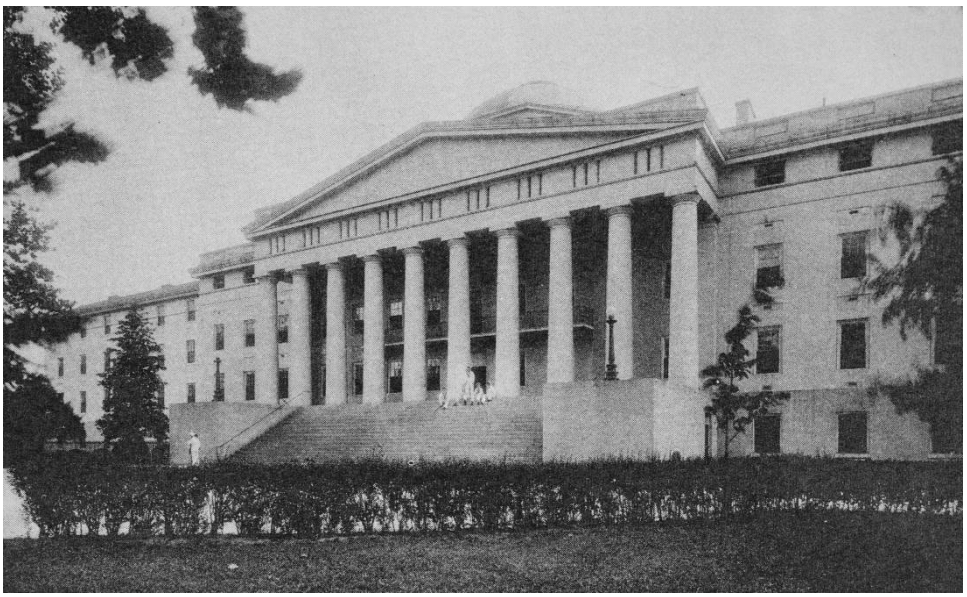


Figure 17. View of Naval Hospital Portsmouth, Virginia after wing and dome additions, 1916 (Library of Congress, HABS VA 65-PORTM, 2-20).

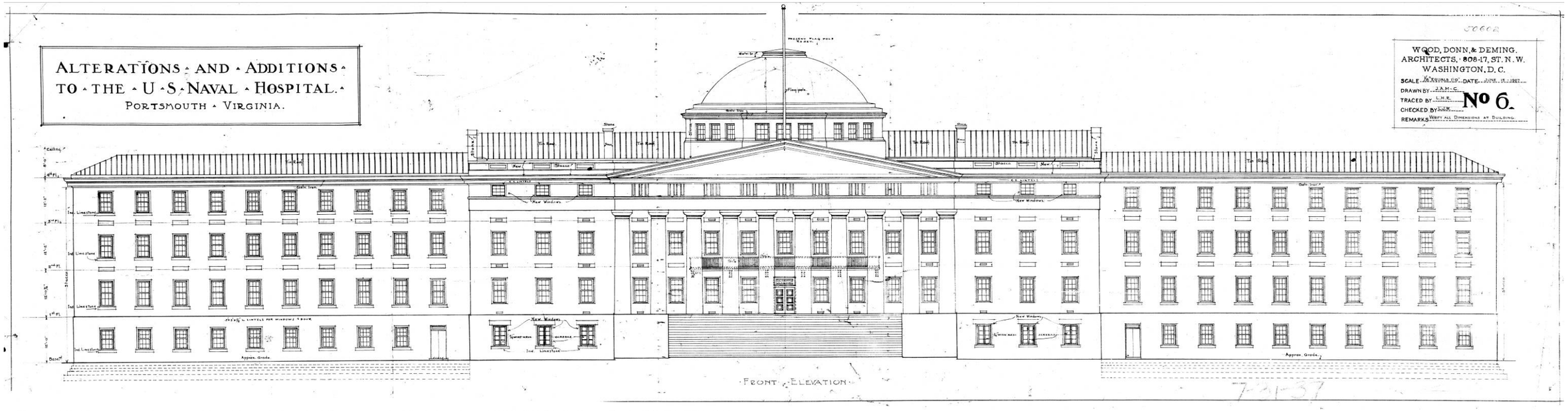


Figure 18. View of porches on side of Naval Hospital Portsmouth, Virginia, circa 1900 (NARA College Park, RG 71-551-31).

Figure 19. First floor plan of Naval Hospital Portsmouth, Virginia, circa 1927 (NARA College Park, RG 71-551-31).

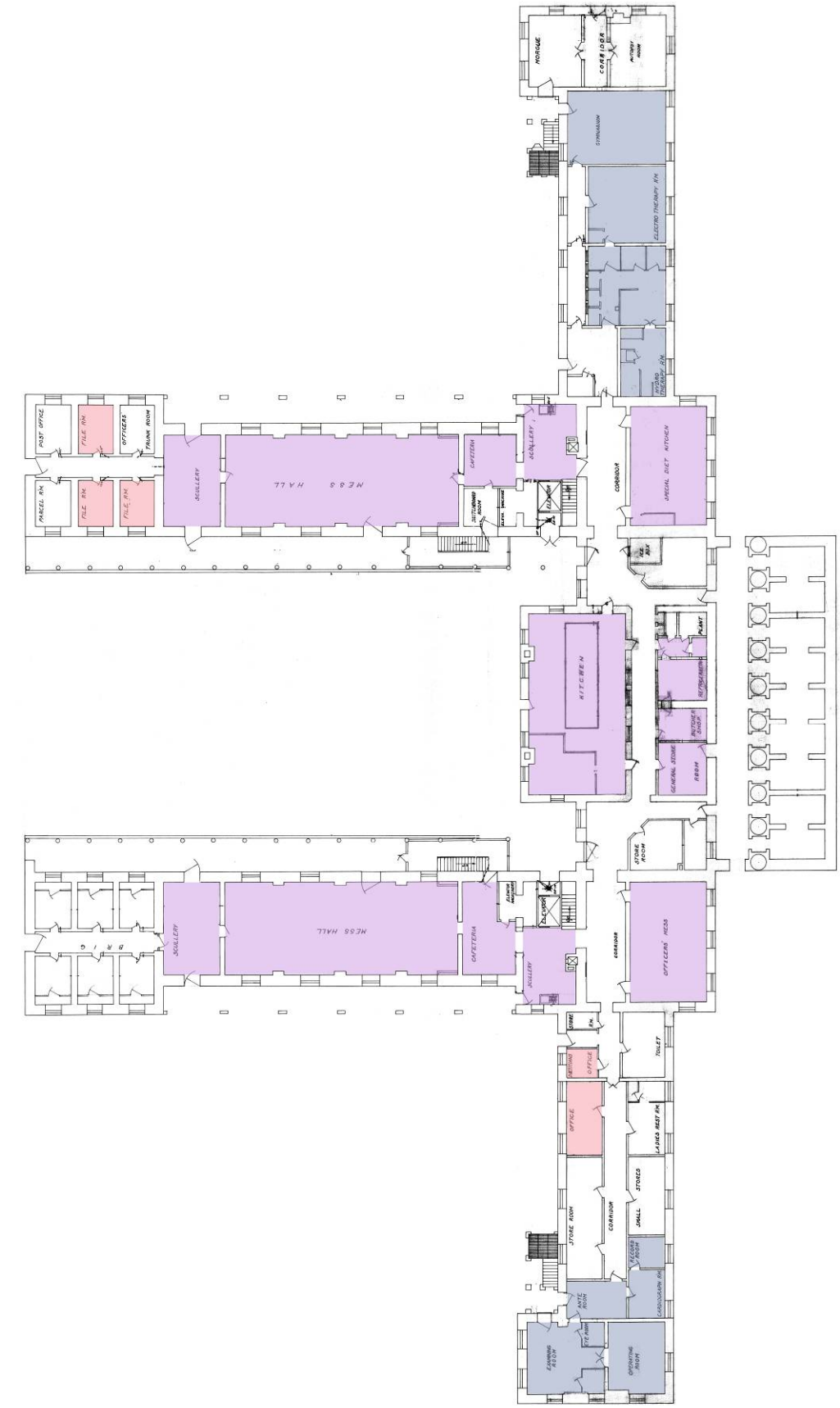


Figure 20. Ground floor plan of Naval Hospital Portsmouth, Virginia, circa 1927 (NARA College Park, RG 71-551-31).

FORT MACKINAC, MICHIGAN (1827)

Congress authorized the first Fort Mackinac hospital in January 1827 for a cost of $6,000 (this included the cost of building barracks).[1] It was constructed out of wood, and was one story. The surgeon's quarters and office were located on one side and one large ward on the other. This hospital was superseded by a new Surgeon's Hospital in 1860. This hospital followed the house type of plan. This hospital is still extant at Fort Mackinac.

Figure 21. 1827 Hospital, Fort Mackinac, Michigan 1930s (Library of Congress, HABS MI-27).

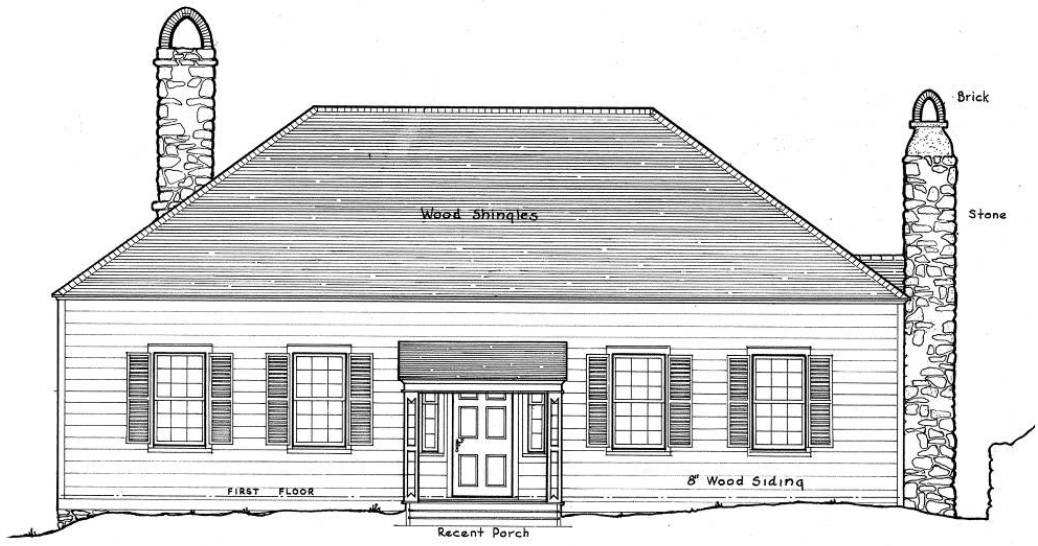


Figure 22. 1827 Hospital Elevation, Fort Mackinac, Michigan 1930s (Library of Congress, HABS MI-27).

[1] This hospital was built after William Beaumont was stationed at Fort Mackinac where he tended and experimented with Alexis St. Martin's famous stomach.

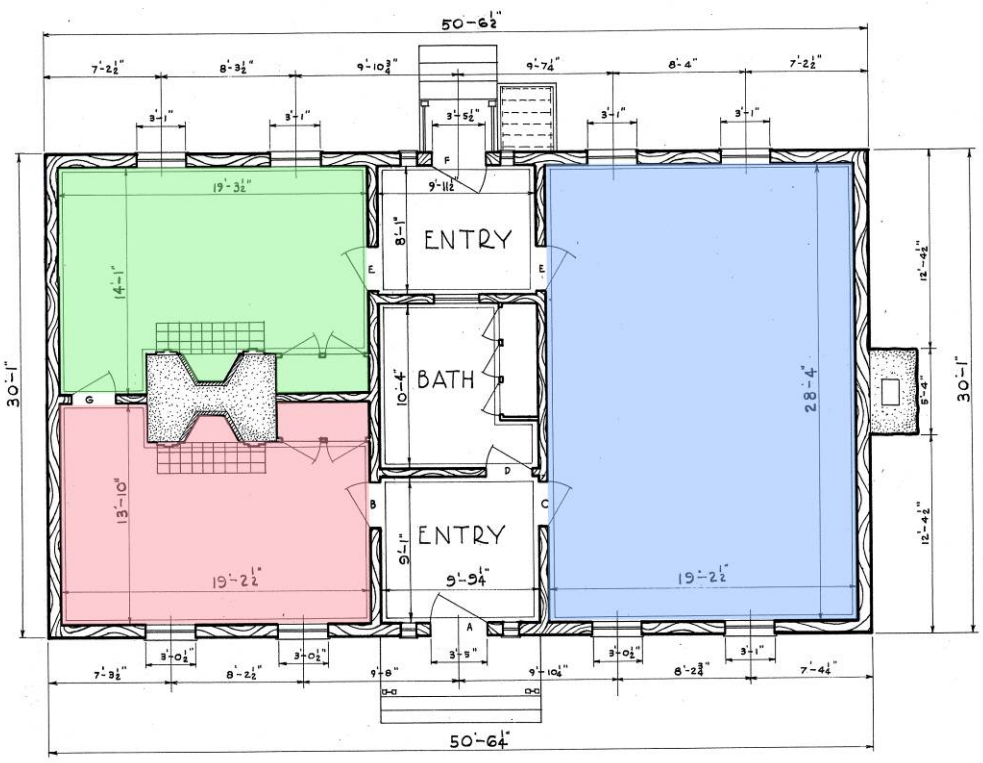


Figure 23. 1827 Hospital Floor plan, Fort Mackinac, Michigan 1930s (Library of Congress, HABS MI-27).

NAVAL HOSPITAL PENSACOLA, FLORIDA (1830)

The first naval hospital at Pensacola, like many of the early hospitals for the Navy Department, was in a leased house in Pensacola. Congress authorized the Naval Hospital Pensacola in 1831. A letter from John Branch to the House of Representatives dated 11 February 1831 detailed the expenses for the construction of the new hospital, Branch writes:

> At Pensacola a large building will be required, because that place is the chief resort of the invalids of the West India squadron, and in consequence also of the greater sickliness of the crews of the vessels engaged in service on that station. It may be added, that at this place there are at this time no houses near the site of the building proposed to be erected, which can serve for the residence of any part of the officers or attendants of the hospital. ... The expenses of building at Pensacola, also, may be expected to be greater than at the other two places referred to [Chelsea and New York]; and it is presumed, from every consideration of the subject, that a building at Pensacola, of durable materials, (brick, &c.,) and large enough to contain seventy-five or a hundred sick, will cost a sum not less than $30,000 (HofR, 21st Congress, 2nd Session, Naval Affairs: Vol 3, p. 897).

The location of the hospital was on a bluff outside the walls of the Pensacola Navy Yard. The height of this bluff allowed for more ventilation throughout the proposed hospital, yet Santa Rosa Island provided some protection from southern storms. The layout of the

hospital compound was based upon Classical symmetry. An axis was created from the wharf on Pensacola Bay to the cemetery. A cart and footpath led from the wharf to the front gate of the wall. This wall enclosed the entire compound; however, only the portion facing the wharf was constructed of brick while the rest was constructed of pickets. The main hospital faced out to Pensacola Bay with a large veranda that surrounded the hospital building. The hospital was flanked by a surgeon's quarters and an assistant surgeon's quarters. Behind the main hospital were more ward buildings and dormitories. At the northern edge of the compound were a dead house and a privy. Stables and the hospital cemetery were located outside the compound wall. The main hospital had nurses' and stewards' quarters on the first floor, wards on the second floor, and an operating room on the third floor. Portions of the hospital compound were completed by 1834 with the rest following by 1840. This was probably one of the most elaborate hospital site plans until the Civil War. The main building followed the pavilion-modified type of plan.

It is unknown how this hospital was destroyed; Confederate soldiers occupying the Navy Yard set fire to most buildings at the Yard, but it is not clear if that included the hospital. However, after the Civil War a temporary hospital (The Octagon—Building 16) was utilized until a new permanent hospital was constructed within the bounds of the old hospital walls in 1875 (HHM). Portions of this brick wall still survive.

Figure 24. Naval Hospital Pensacola, Florida, circa 1860s (NARA College Park).

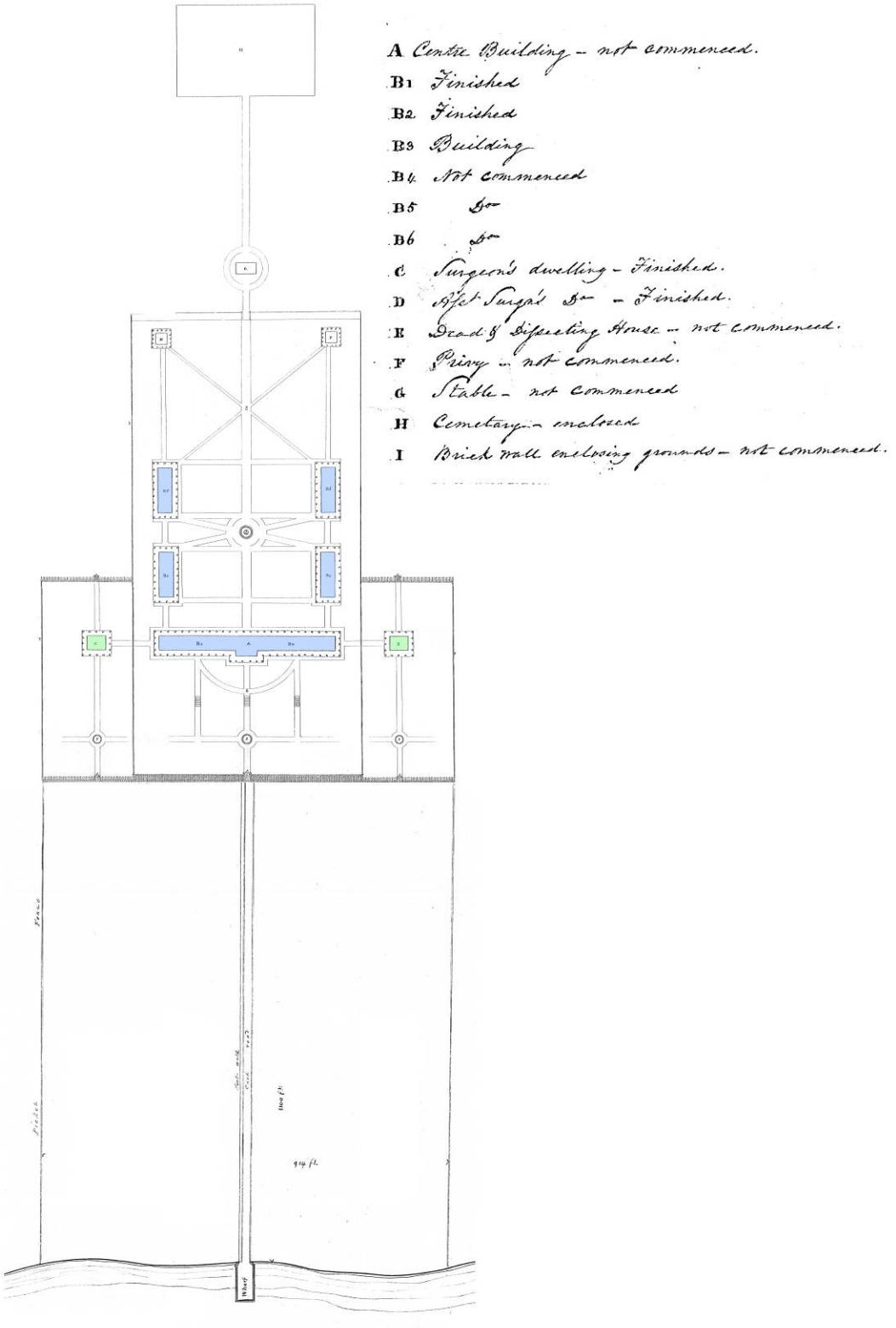


Figure 25. Site plan of Naval Hospital Pensacola with wharf [bottom], hospital and other wards [middle], and cemetery [top], Virginia, 1833 (NARA College Park, RG 71-800-31-23).

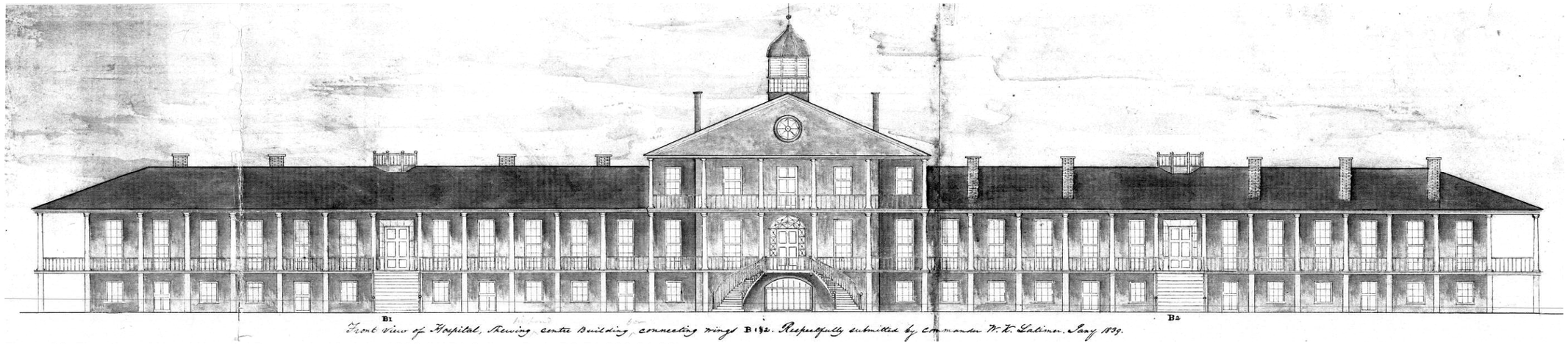


Figure 26. Elevation of Naval Hospital Pensacola, Virginia, 1833 (NARA College Park, RG 71-800-31-23).

Figure 27. Third floor plan [left], second floor plan [middle], and first floor plan [right] of Naval Hospital Pensacola, Virginia, 1833 (NARA College Park, RG 71-800-31-23).

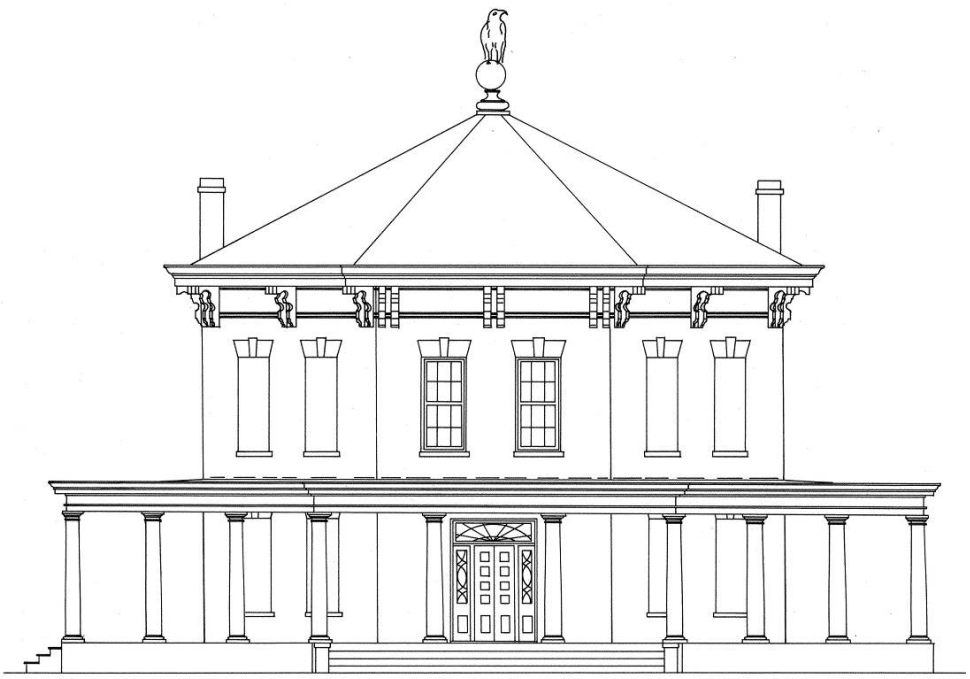


Figure 28. A redrawing of the Octagon utilized as a hospital from the 1860s to 1875, Pensacola Navy Yard, Florida, April 1915 (Library of Congress, HABS FLA 17-PENSA-61).

NAVAL HOSPITAL PHILADELPHIA, PENNSYLVANIA (1834)

As with the other naval hospitals on the East Coast, the Philadelphia hospital began in a leased house. In 1826, the Navy purchased the Pemberton family summer home "The Plantations" located out in the countryside of West Philadelphia on the Schuylkill River.

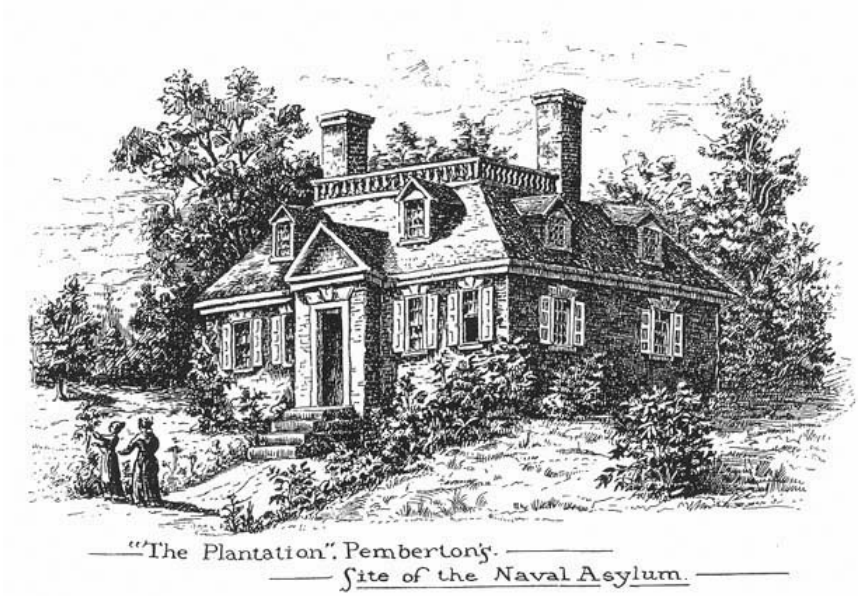


Figure 29. The Pemberton family summer home "The Plantations" utilized for the Naval Hospital Philadelphia, Pennsylvania, circa 1820s (courtesy Philadelphia Area Consortium of Special Collections Libraries).

The Navy contracted with architect William Strickland to design a combination naval hospital and asylum on the site of The Plantations. Strickland had already designed the Second Bank of the United States in Philadelphia and was a student of Benjamin Latrobe. The cornerstone was laid in 1827; however, the hospital (Biddle Hall) was not finished until 1834. The design of the hospital can be classified as Greek Revival. The hospital layout was similar to Naval Hospital Portsmouth except that the wings were to either side of the portico with porches facing out onto the front lawn. A large domed chapel was behind the administration area. The northern wing was devoted to the asylum, while the southern wing was devoted to the hospital. The original site layout of the naval hospital and asylum was similar to Naval Hospital Pensacola with the surgeon's quarters and a governor's quarters flanking the hospital building. It is a pavilion-modified type plan.

From 1840 to 1845, the Naval Academy was located in the northern wing before it found a permanent home at Fort Severn in Annapolis, Maryland. The hospital left this building in 1868 after the new naval hospital building (Laning Hall) was completed in the same compound. The Navy closed what had become the Naval Home in 1976; it was bought at auction in 1982, but sat vacant until 2006. The Biddle Hall hospital is still extant and is on the National Register and a National Historic Landmark. It was adaptively reused into condominiums in 2006 and renamed Naval Square.

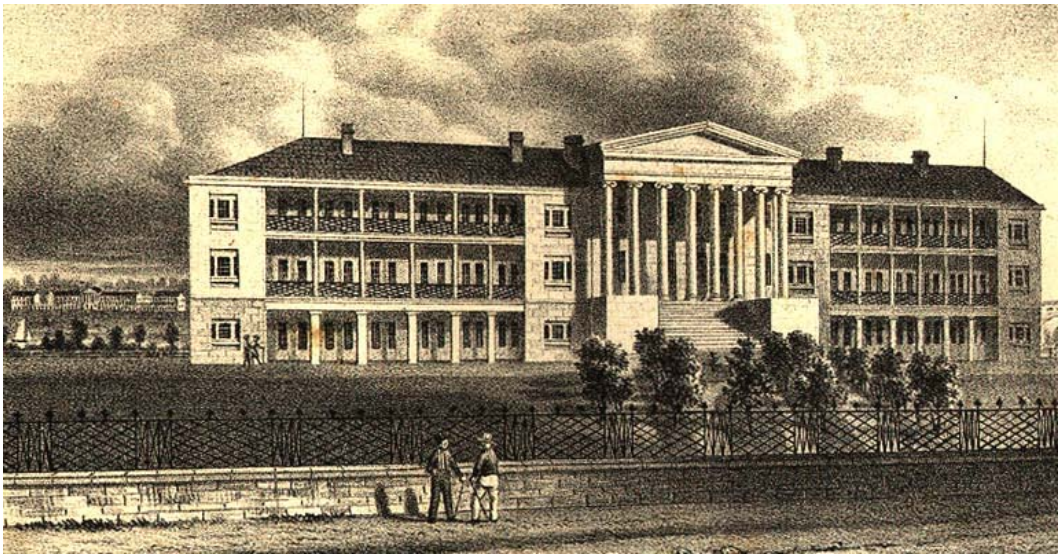


Figure 30. Naval Asylum and Hospital, Philadelphia, Pennsylvania, 1838 (courtesy Bryn Mawr College).

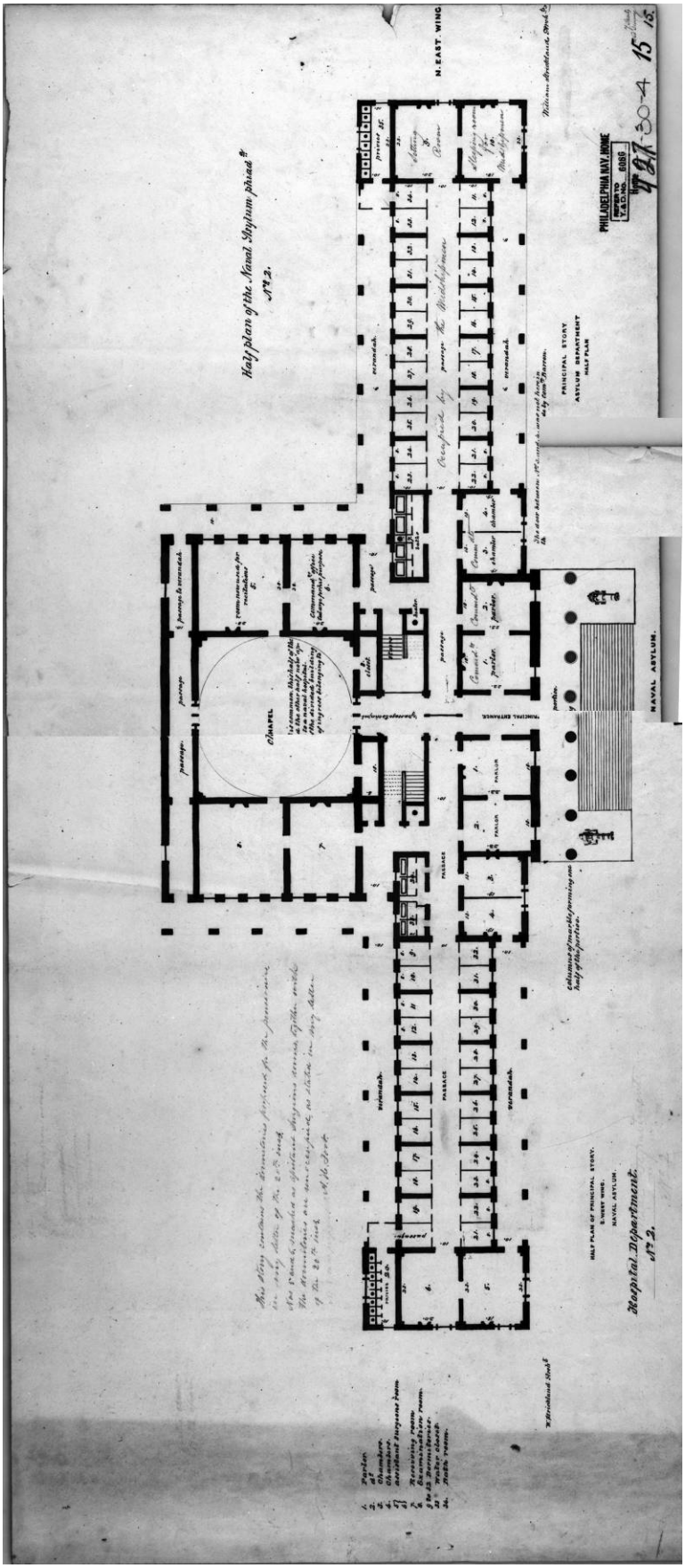


Figure 31. Strickland floor plans for the Naval Asylum, Hospital and Academy, Philadelphia, Pennsylvania, 1826 (Library of Congress, HABS PA 51-PHILA, 577A [adapted by ERDC-CERL]).

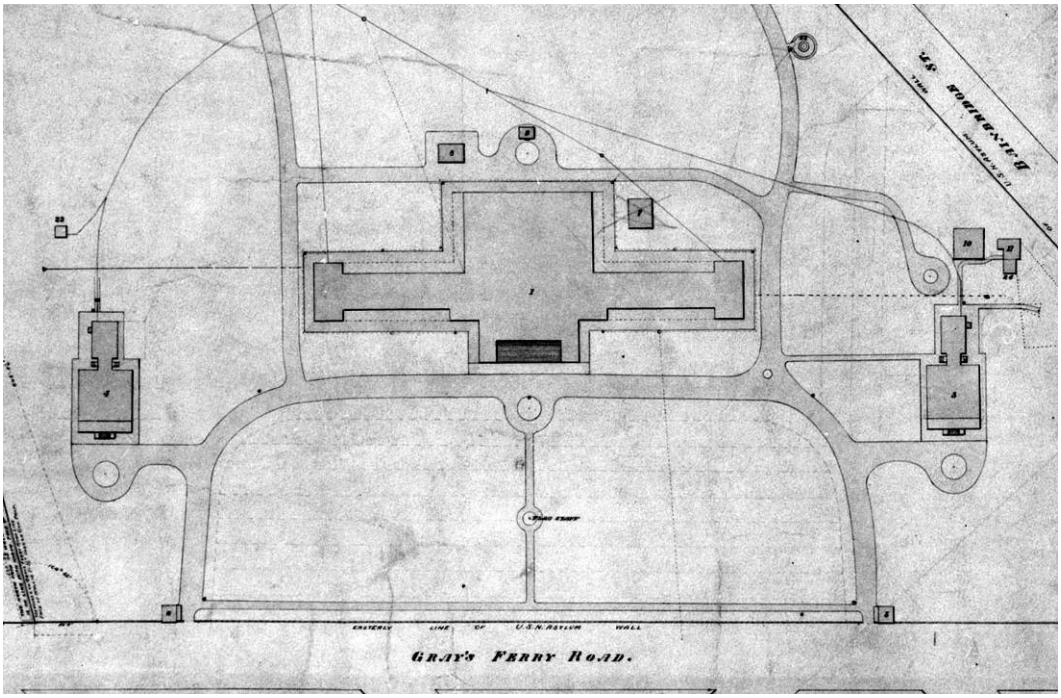


Figure 32. Site plan for the Naval Asylum, Hospital and Academy, Philadelphia, Pennsylvania, 1878 (Library of Congress, HABS PA, 51-PHILA, 577A).

Figure 33. Naval Asylum, Philadelphia, Pennsylvania, 1965 (Library of Congress, HABS PA 51-PHILA, 577A).

Figure 34. Interior of the chapel at the Naval Asylum, Philadelphia, Pennsylvania, 1965 (Library of Congress, HABS PA, 51-PHILA, 577A).

JEFFERSON BARRACKS, MISSOURI (1840)

Congress authorized the first Jefferson Barracks hospital in 1827. The second hospital was located to the north of the parade ground. The hospital was located to the north of the parade ground in the northeast portion of the cantonment on the road to St. Louis. It is the two-and-a-half-story building with a surrounding two-story veranda and dormers on the far right side of Figure 36 (Also, see Figure 37). The Army built it circa 1840. It was constructed of brick with 2½ stories and a walkout basement also constructed of brick. The basement contained the kitchen, mess, storerooms, and matron's quarters. The first and second floors contained the wards with a dispensary on the first floor. The attic was utilized primarily for attendant quarters and storerooms. The Billings report considered this hospital as adequate, although it did not have excellent ventilation. Although, this hospital was very large, it still fits in the house type of hospital plan.

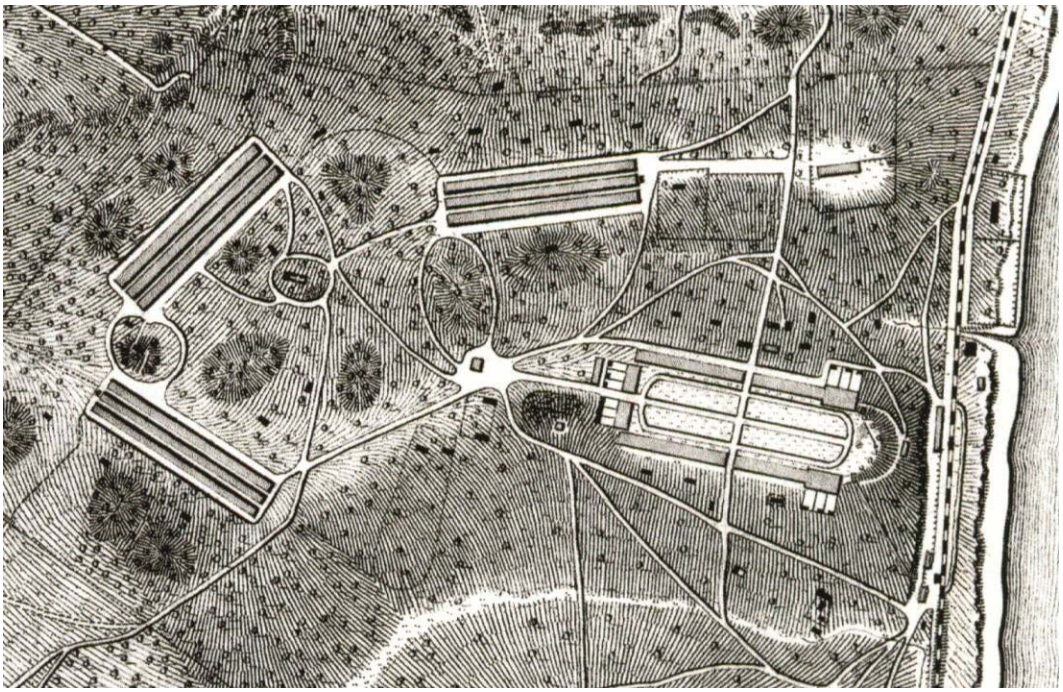


Figure 35. Jefferson Barracks, Missouri 1830s (NARA College Park, RG 77 MISC Forts File Jefferson Barracks, MO).

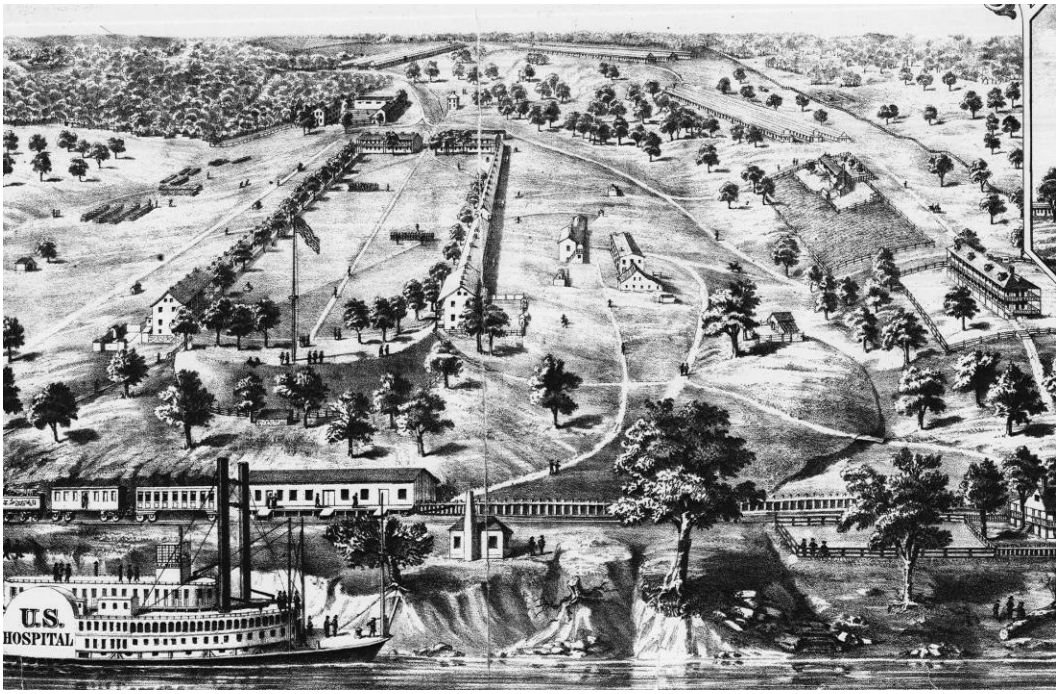


Figure 36. Jefferson Barracks, Missouri 1864 (NARA College Park, RG 77 MISC Forts File Jefferson Barracks, MO #10 US General Hospital).

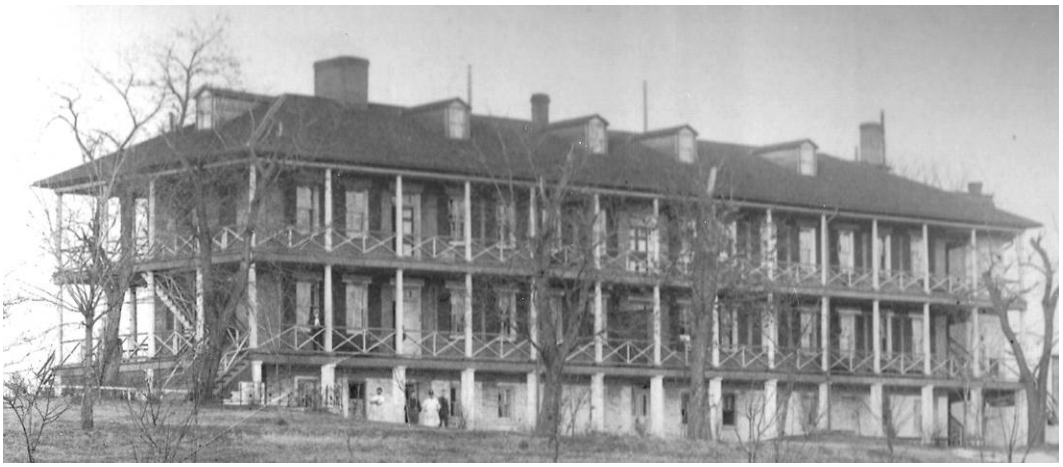


Figure 37. Hospital, Jefferson Barracks, Missouri 1890s (NARA College Park, RG 92-F-30-10).

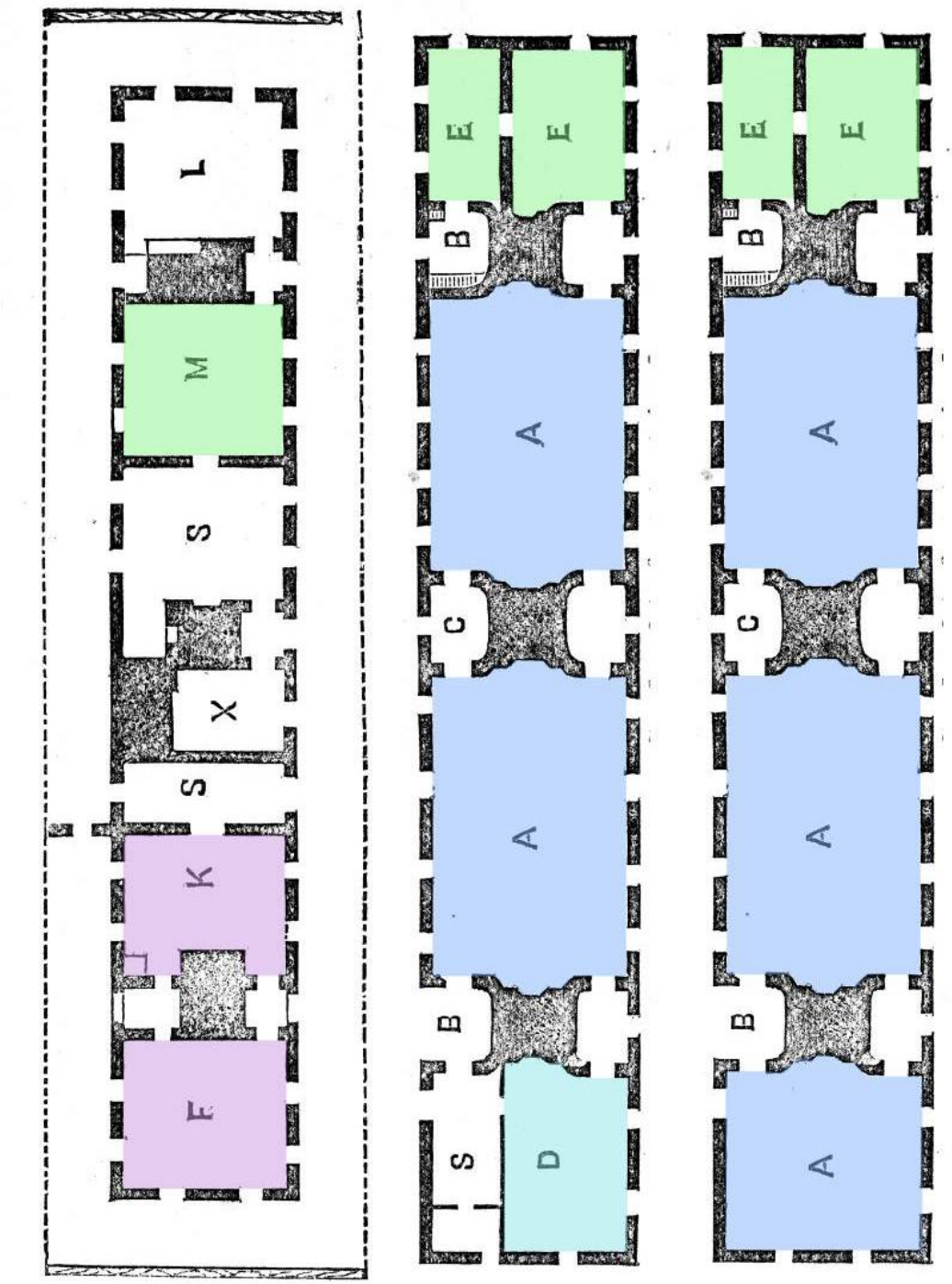


Figure 38. Jefferson Barracks, Missouri hospital floor plan [left basement, middle 1st floor, right 2nd floor] 1875 (Circular #8).

Figure 39. Hospital with smoking rooms addition at Jefferson Barracks, Missouri, circa 1850s (courtesy NMHM Otis Archives, CP 3135).

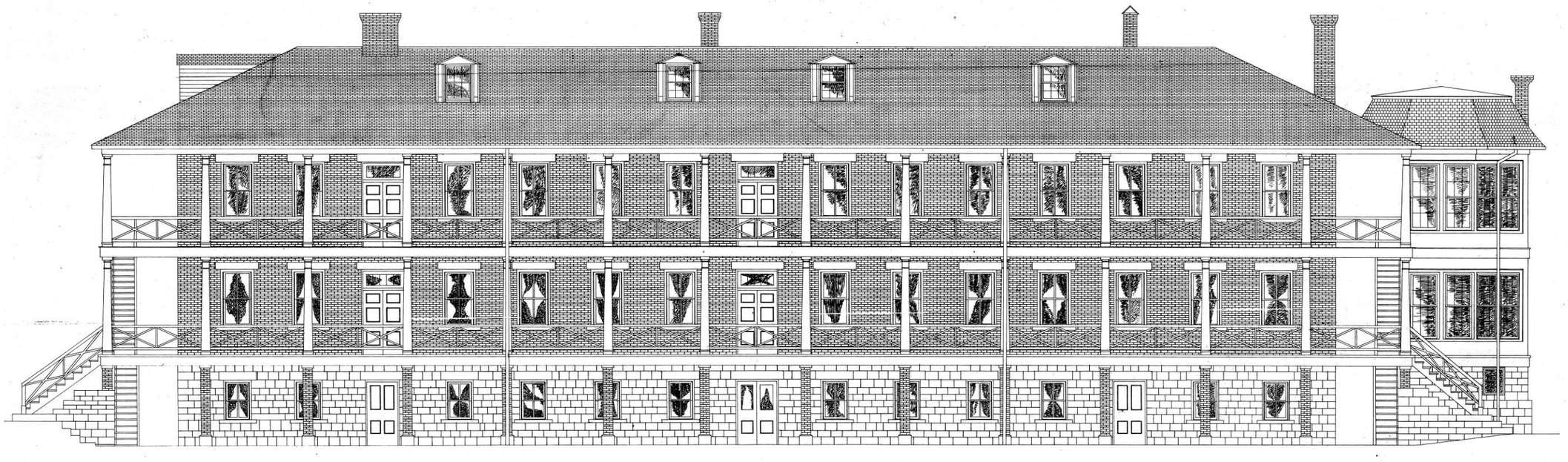


Figure 40. Hospital elevation with smoking rooms addition at Jefferson Barracks, Missouri, circa 1850s (NARA College Park, RG 77 MISC Forts File Jefferson Barracks, MO #80).

4 THE SQUARE-PLAN HOSPITAL (1840 TO 1860)

The square-plan hospital is derived from the residential architecture of the 1830s; however, it is also clearly designed as a hospital.

The architectural elements to look for in this hospital plan type are:

1. square-plan
2. two-stories
3. hipped roof
4. symmetrical window openings surrounding central doors
5. chimneys (either two or four) in a symmetrical arrangement
6. veranda on all sides (this was not an element on all plans).

FORT LEAVENWORTH, KANSAS (1838)

This hospital was one of the oldest buildings at Fort Leavenworth. Although no date could be found for its construction, it does appear on an 1839 map of the post. The hospital was located to the southwest of the parade ground across the street from the guardhouse. On the 1839 plan of Fort Leavenworth (Figure 41), it is the square building with the hipped roof on the bottom right. It was constructed of brick with two full stories 50 feet square. A 12-foot wide veranda surrounded the hospital. The administration rooms are on the first floor and the wards are on the second floor. There appeared to be no basement; however, an attic housed a nurse room and an isolation ward. Billings does not mention the conditions of this hospital.

This hospital was later transformed into transient housing (hotel) when the new hospital was built in approximately 1880. It was demolished at some point prior to 1908.

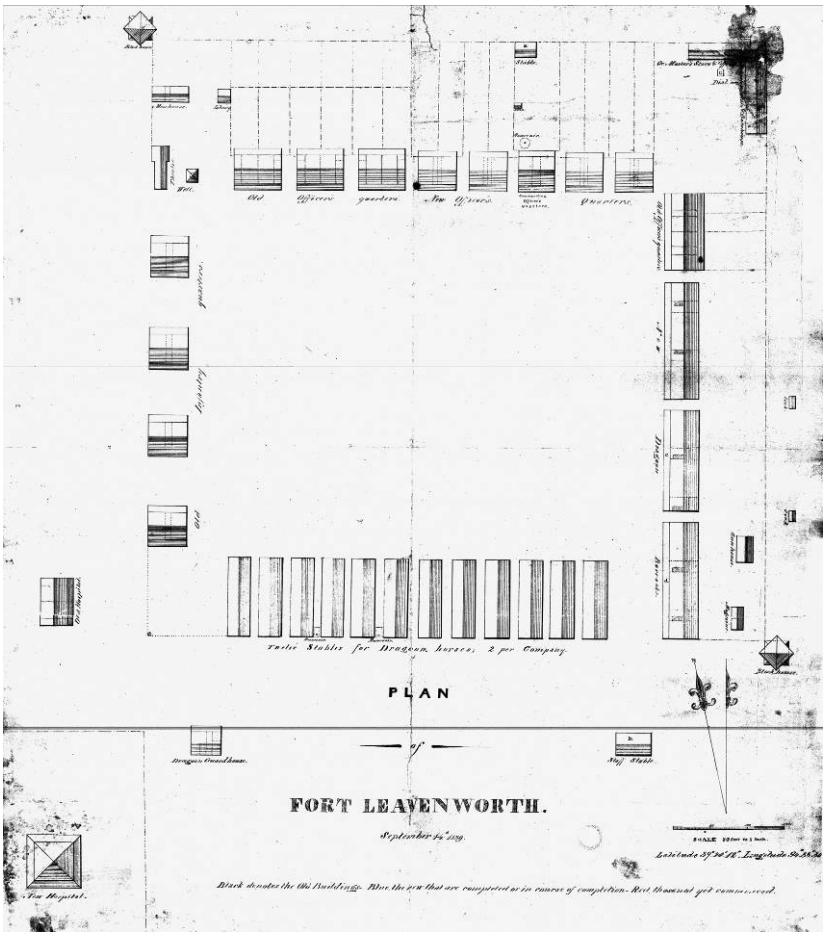


Figure 41. Site plan of Fort Leavenworth, Kansas 1839 (NARA College Park, RG 77 MISC Forts File Fort Leavenworth, KS).

Figure 42. Post Hospital at Fort Leavenworth, Kansas 1881 (NARA College Park, RG 111-SC, box 661, 83555).

Figure 43. Post Hospital at Fort Leavenworth, Kansas 1870s (NARA College Park, RG 111-SC).

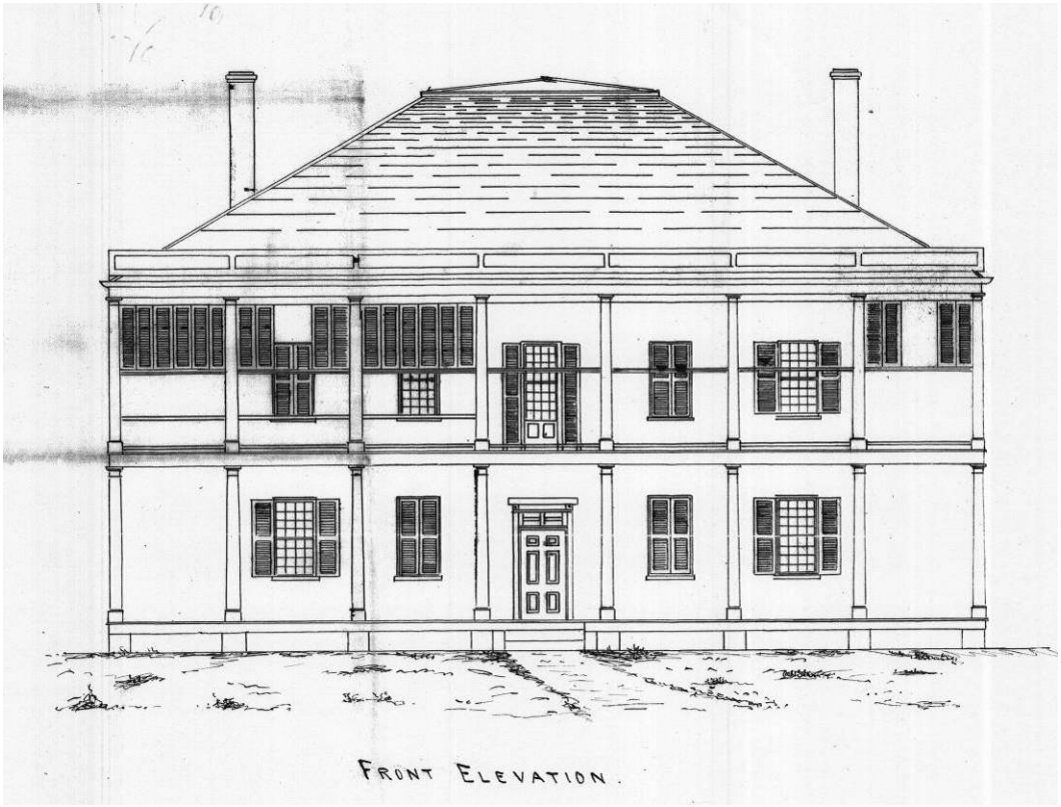


Figure 44. Post Hospital Front Elevation, Fort Leavenworth, 1870 (NARA College Park, RG 77 MISC Fort Files Fort Leavenworth #59).

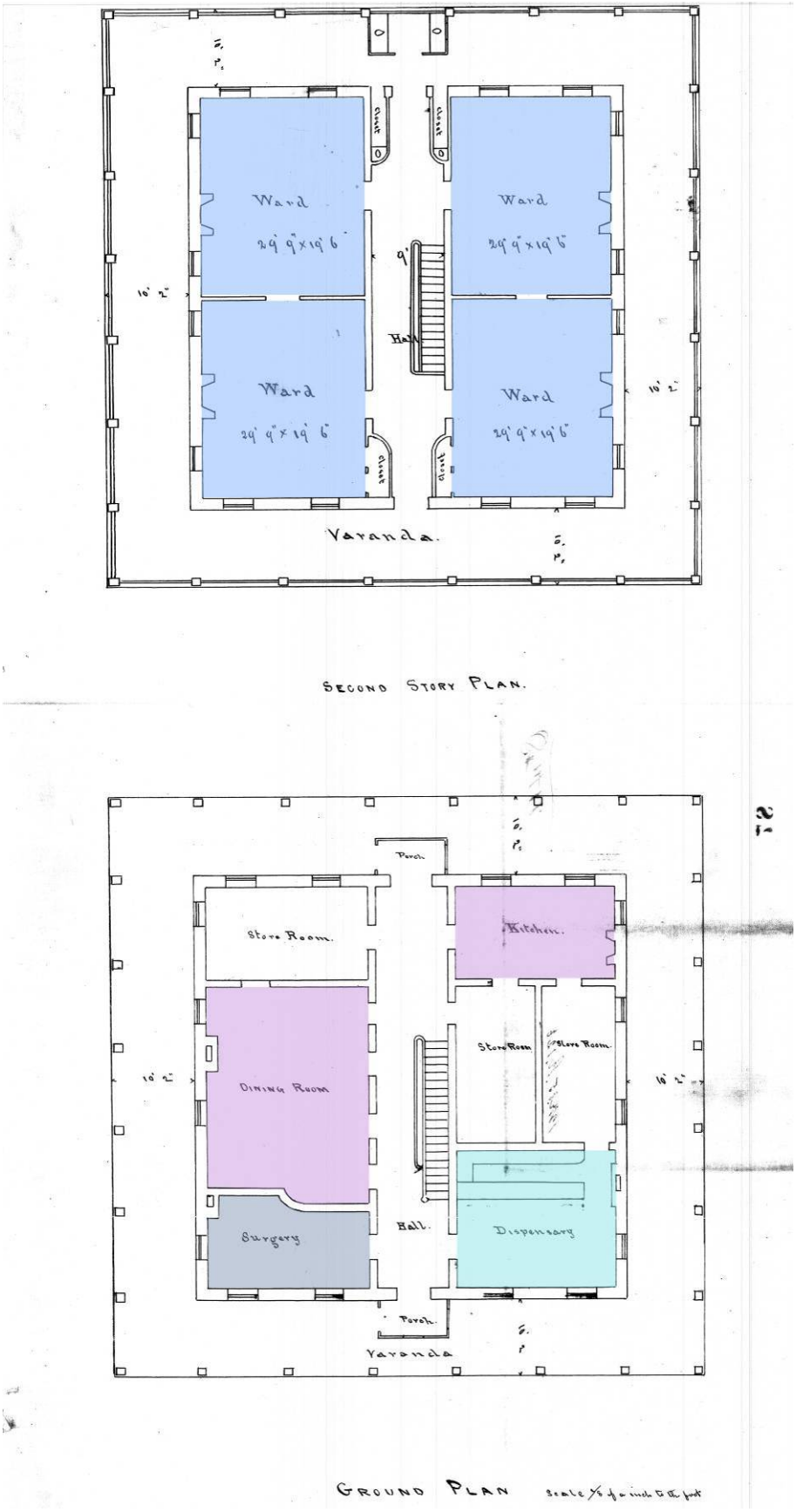


Figure 45. Post Hospital Floor Plans, Fort Leavenworth, 1870 (NARA College Park, RG 77 MISC Fort Files Fort Leavenworth #59).

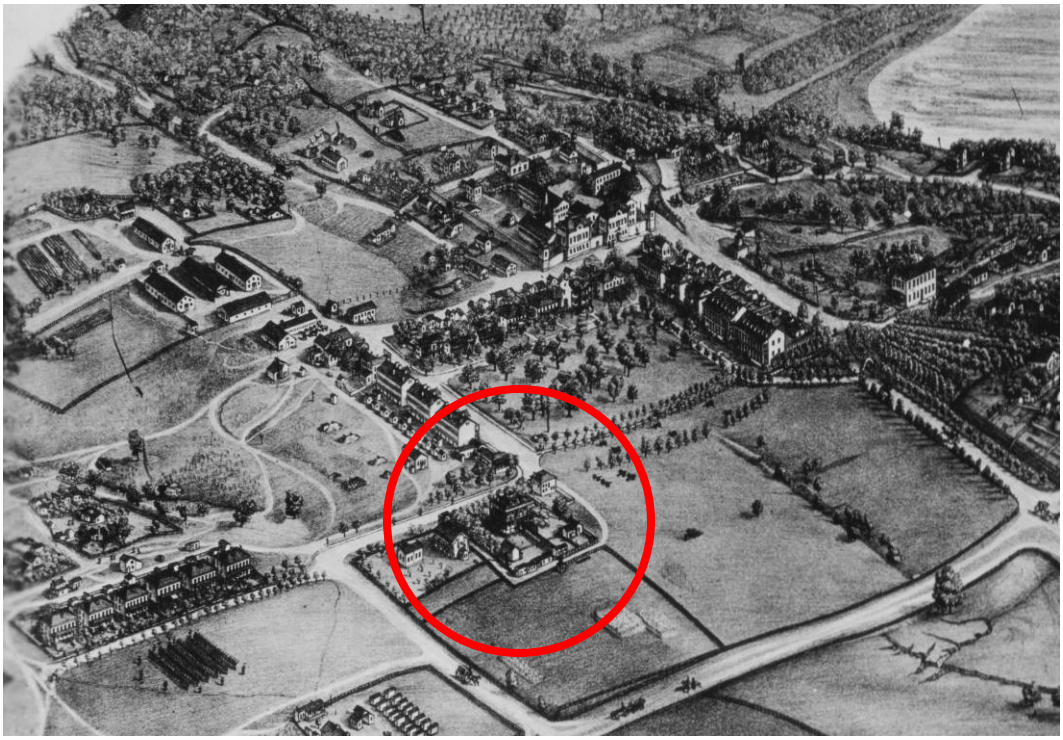


Figure 46. Birdseye view of Fort Leavenworth with hospital compound circled in red, 1881 (NARA College Park, RG 111-SC, box 707, 90826).

FORT COLUMBUS, GOVERNOR'S ISLAND, NEW YORK (1840)

The original hospital at Fort Columbus on Governor's Island was constructed in 1840. It was square in plan with two stories and a basement. The basement housed the surgeon's office, dispensary, kitchen, and mess. The first and second floors housed the hospital wards. The building was constructed of brick. After the Civil War, two wood-framed wards were added to the back of the brick structure and the original structure was transformed into administration space and examination rooms.

The wards in the addition were heated by stoves. They were ventilated by twelve windows and louvered opening in the ceiling that connected to a venting ridge on the roof. Billings considered this hospital as adequate since the two ward additions had adequate light and ventilation.

The entire complex was transformed into the Post Headquarters after the second hospital was constructed in the 1880s. At some point after World War I, the two ward wings were demolished and the administration building was changed into officers' quarters. The building is extant and is part of a National Historic Landmark district.

Figure 47. Hospital, Fort Columbus, New York, 1864 (NARA College Park, RG 165-C-23).

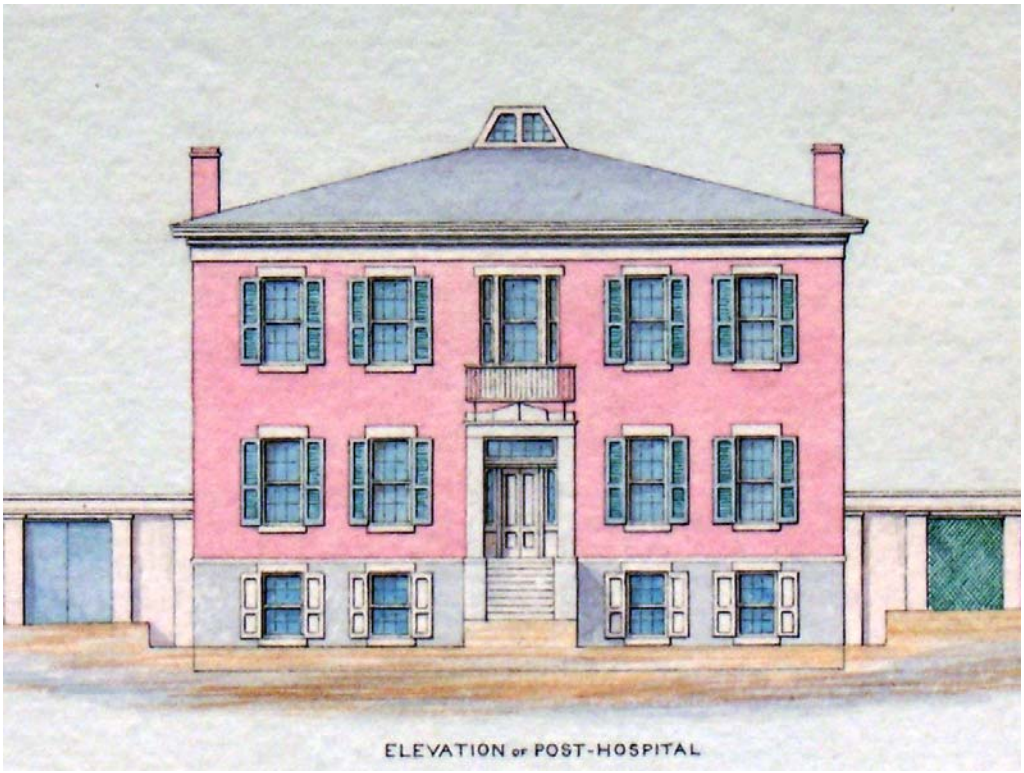


Figure 48. Hospital elevation, Fort Columbus, New York, 1871 (NARA College Park, RG 77 MISC Fort Files Fort Jay, NY).

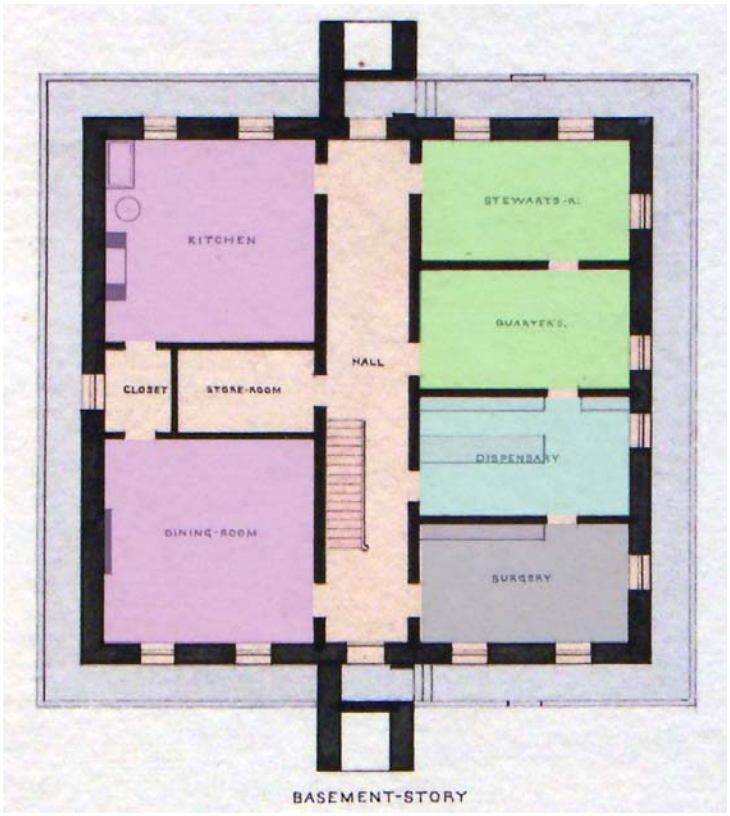


Figure 49. Hospital basement floor plan, Fort Columbus, New York, 1871 (NARA College Park, RG 77 MISC Fort Files Fort Jay, NY).

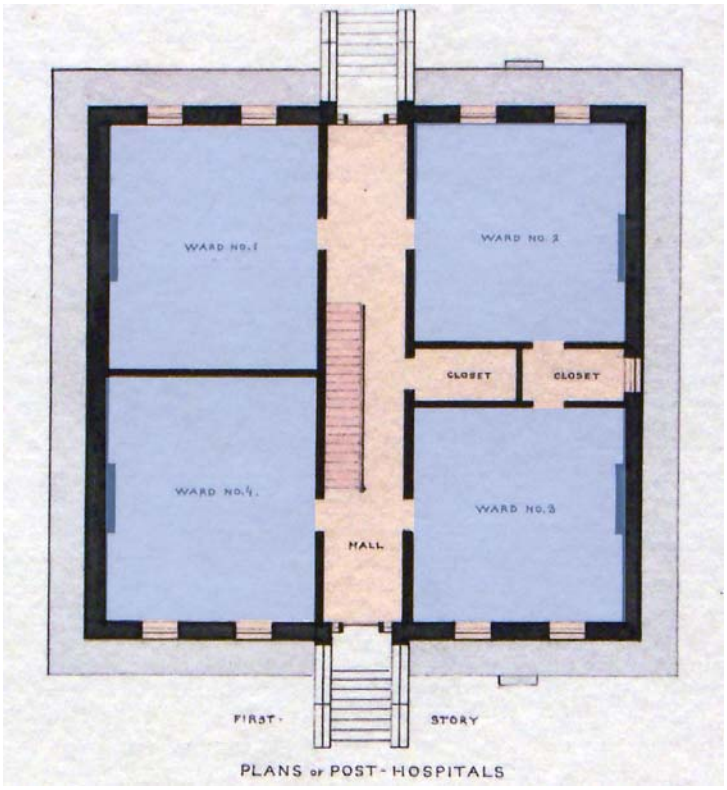


Figure 50. Hospital first floor plan, Fort Columbus, New York, 1871 (NARA College Park, RG 77 MISC Fort Files Fort Jay, NY).

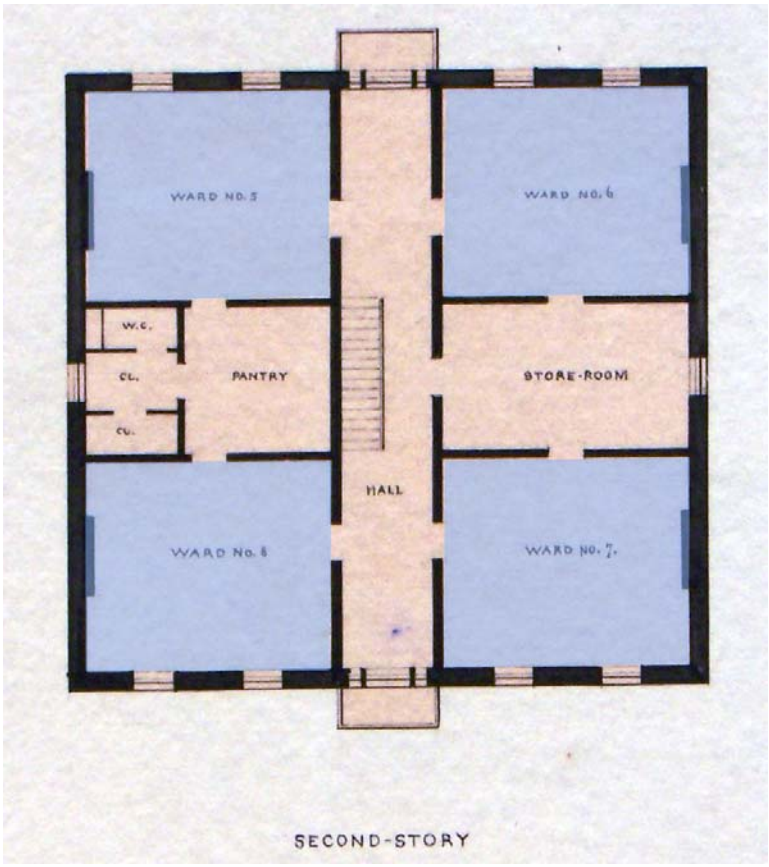


Figure 51. Hospital second floor plan, Fort Columbus, New York, 1871 (NARA College Park, RG 77 MISC Fort Files Fort Jay, NY).

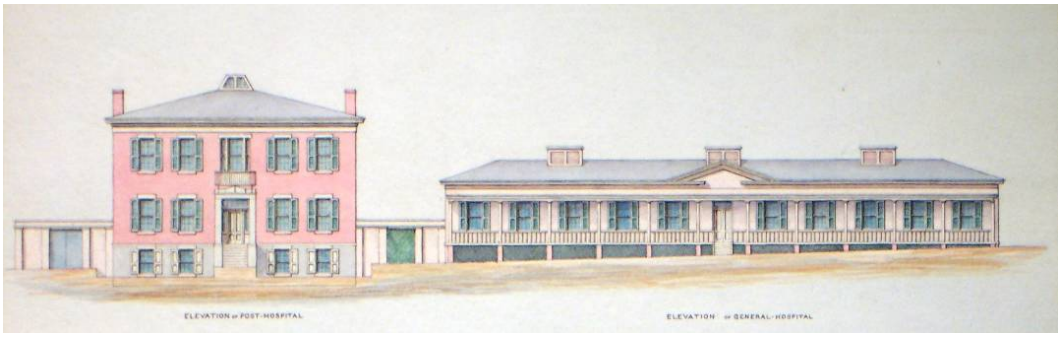


Figure 52. Hospital elevation with Civil War addition, Fort Columbus, New York, 1871 (NARA College Park, RG 77 MISC Fort Files Fort Jay, NY).

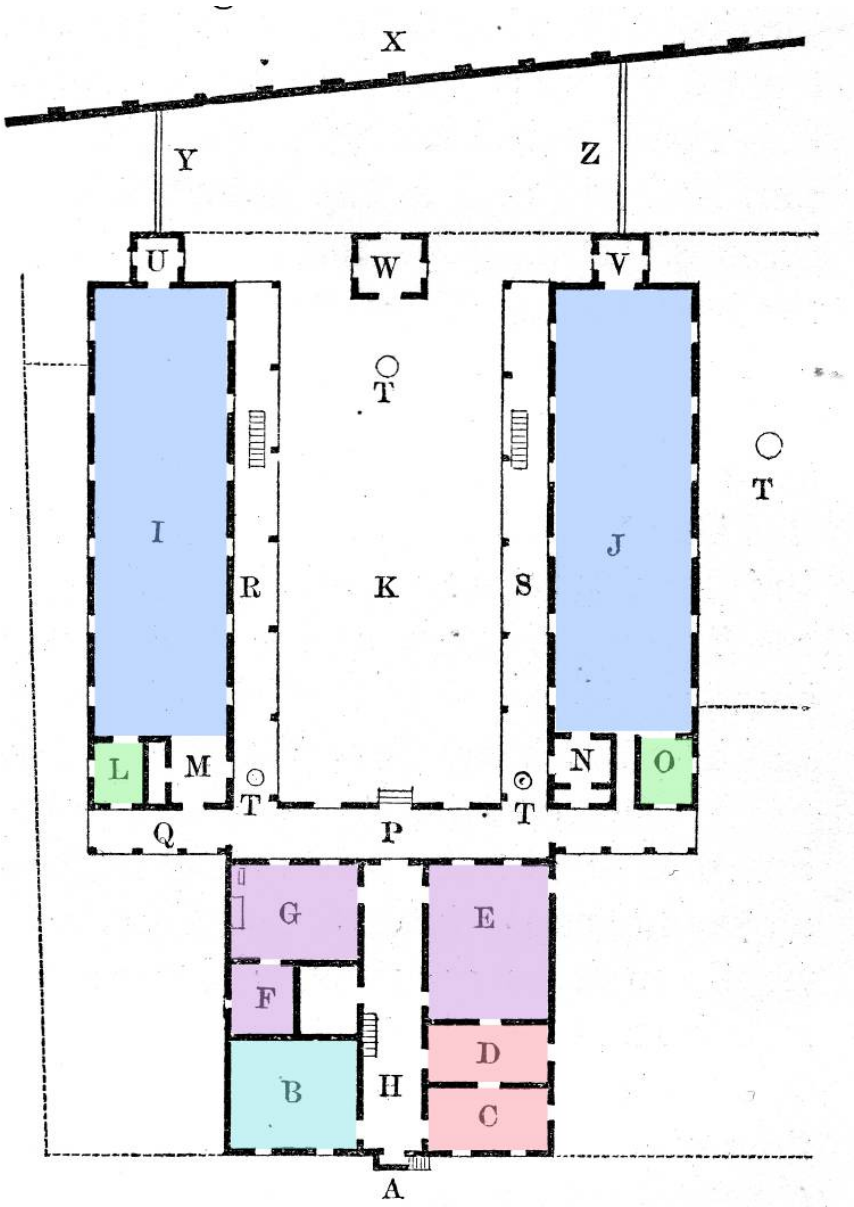


Figure 53. Fort Columbus, New York hospital floor plan 1875 (Circular #8).

The letters on the figure correspond to: A—front entrance; B—Dispensary; C—Surgeon's Office; D—Attendant's Room; E—Mess Room; F—Pantry; G—Kitchen; H—Hall; I—East Ward Room; J—West Ward Room; K—Courtyard; L—Nurse's Room; M—Vestibule; N—Smoking Room; O—Nurse's Room; P—Covered Way; Q,R,S—Veranda; T,T,T—Wells and Cisterns; U,V—Water Closets; and W—Dead House.

The Military Department of the Atlantic along with its Department of the East moved to Governor's Island. A new Circular #10 24-bed hospital had just been completed at the fort, and the old hospital was transformed into the headquarters building for both departments (HABS NY 31-GOVI, 5). It served this purpose until the 1930s when it was transformed into officers' quarters. This hospital is extant.

Figure 54. The Fort Columbus hospital as officers' quarters, Governor's Island, New York 1984 (Library of Congress, HABS NY 31-GOVI, 5).

MADISON BARRACKS, NEW YORK (1840)

The hospital at Madison was square in plan with two stories and a basement. It was constructed out of cut limestone and had a shingled, hipped roof. The basement contained the kitchen, mess, and living quarters. The wards were located on the first and second floors. Stone steps led up to the first floor, while the basement was directly accessible.

Figure 55. Front of hospital at Madison Barracks, New York, circa 1850s (courtesy NMHM Otis Archives, CP 3148).

Figure 56. Rear of hospital at Madison Barracks, New York, circa 1850s (courtesy NMHM Otis Archives, CP 3149).

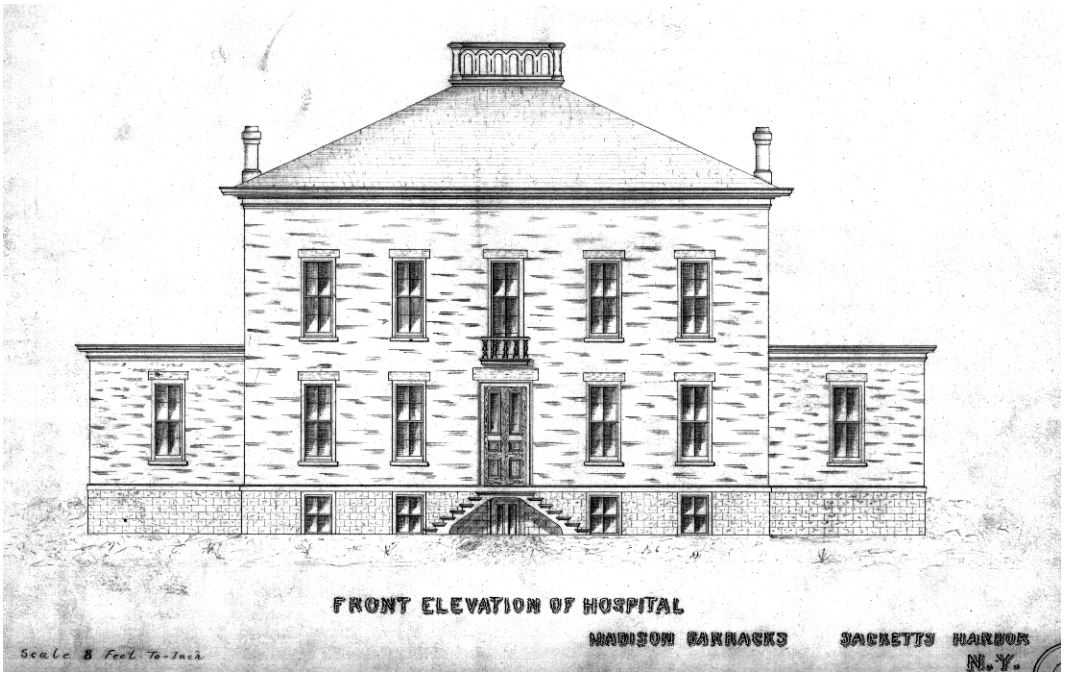


Figure 57. Elevation of hospital, Madison Barracks, New York, 1870 (NARA College Park, RG 77 MISC Fort Files Madison Barracks, NY).

The wings on either side of the hospital housed an operating room and a dead house. Billings was not too fond of this plan type, but he found the conditions at this hospital more than adequate. It had enough light and air, and the skylight behind the widow's walk provided ample light into the stair hall. This hospital is extant.

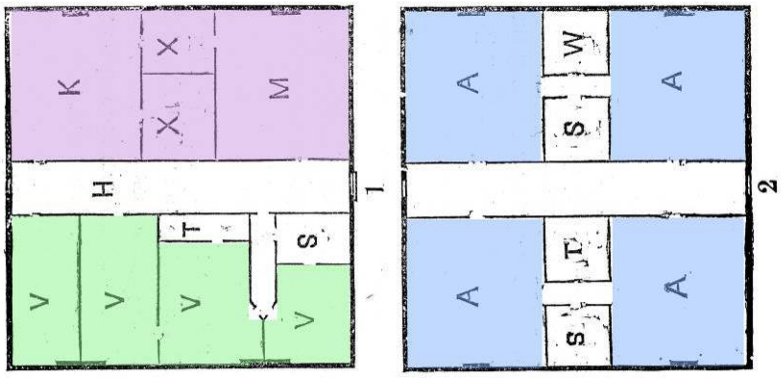


Figure 58. Madison Barracks, New York, hospital floor plan 1875 (Circular #8).

FORT SCOTT, KANSAS (1843)

The buildings and plan of Fort Scott were designed by Captain Thomas Swords in 1842 and were finished by 1845. The hospital was occupied in 1843 (Oliva, 21). It appears from the post plan and from the historic photograph that it followed the design of the other square-type hospitals with administration on the first floor and wards on the second floor. A veranda surrounded the hospital. The hospital was the center building on the southwest side of the parade ground and directly faced the parade ground. The buildings at Fort Scott were auctioned off by the Army in 1855, and a T.F. Whitlock bought the hospital for $400.00 (Oliva 64 and 85). The Army reoccupied the fort during the Civil War; however, the buildings were leased. The buildings were absorbed into the landscape of Fort Scott the town. The parade ground became a park and the former hospital became retail and storage. Eventually the porch was removed. The National Park Service acquired the property in the 1970s and restored the hospital and the fort; it is now a National Historic Site.

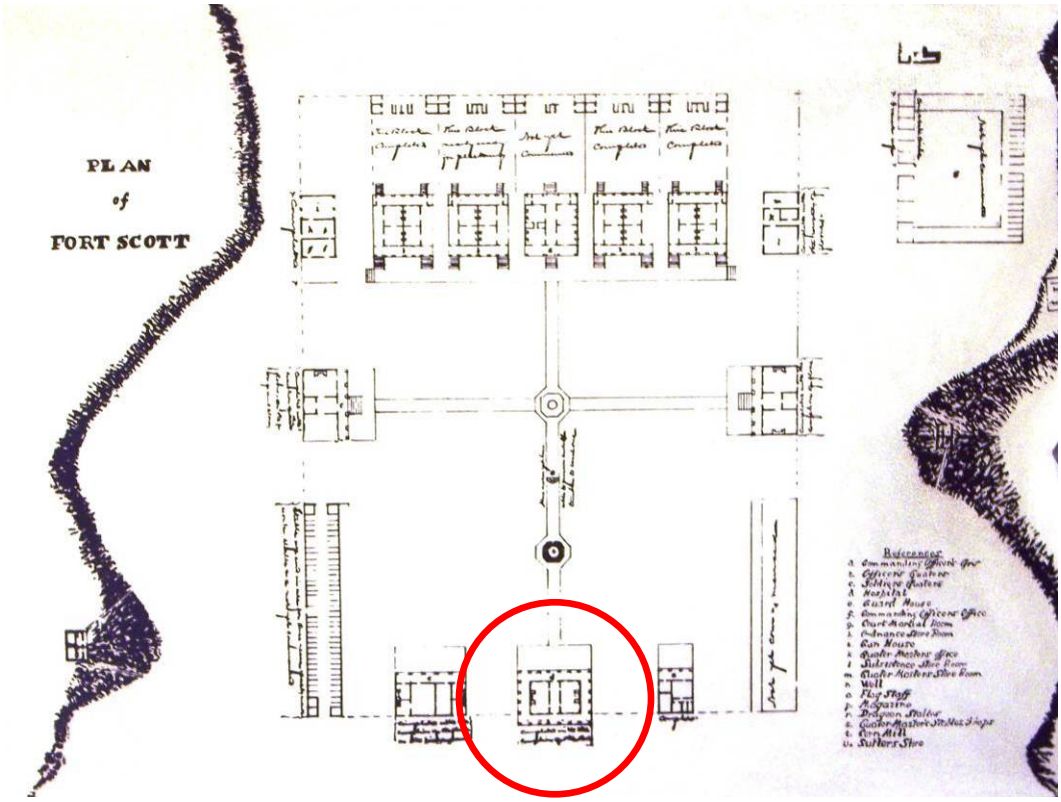


Figure 59. Plan for Fort Scott, Kansas, with hospital bottom center, 1850s (courtesy of the National Park Service).

Figure 60. Hospital, Fort Scott, Kansas, 1850 (courtesy of the National Park Service).

VANCOUVER BARRACKS, WASHINGTON (1849)

The Vancouver Barracks hospital was constructed of wood in 1849. It had two stories with a surrounding veranda. No original plan of this hospital was found. Billings determined this square-plan hospital as adequate. After the Circular #10 hospital was constructed this became the Post Headquarters, and then eventually the Post Library before being demolished after 1937.

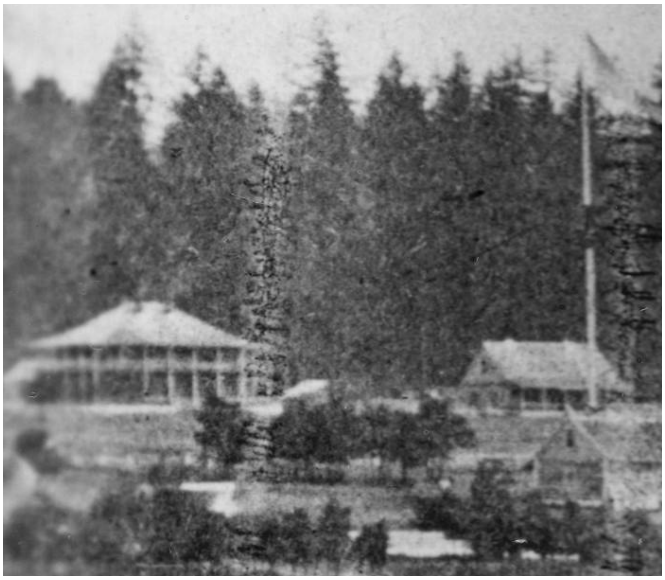


Figure 61. Hospital, Vancouver Barracks, Washington, 1880 (NARA College Park, RG 111-SC, box 700, 89759).

Figure 62. Hospital, Vancouver Barracks, Washington, 1937 (Library of Congress, HABS WA-41-D).

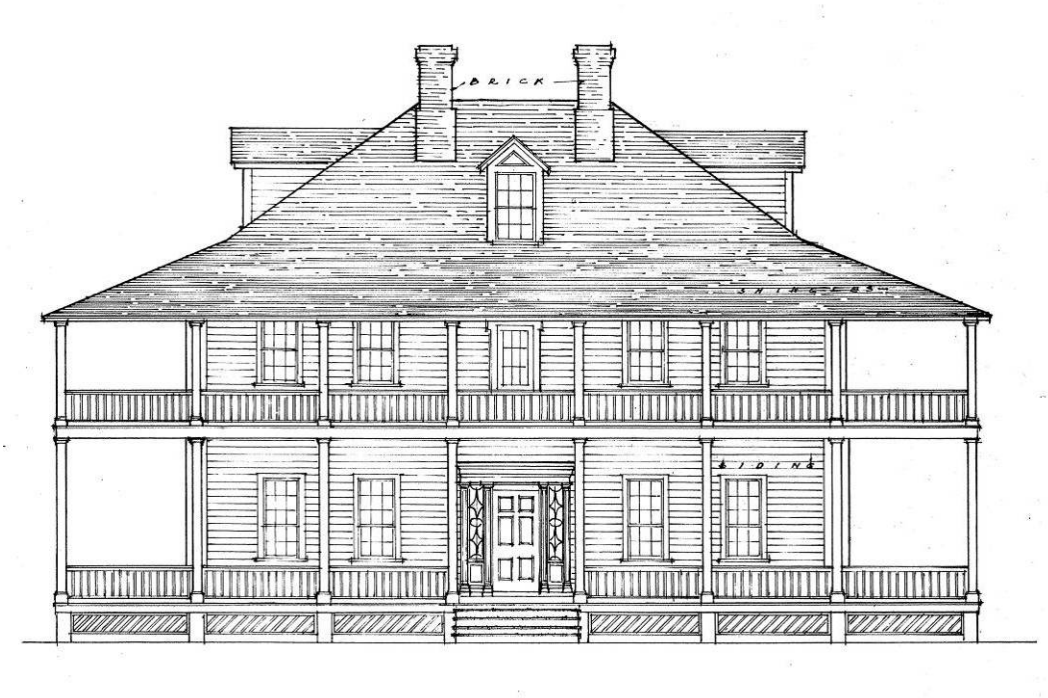


Figure 63. Hospital elevation, Vancouver Barracks, Washington, 1937 (Library of Congress, HABS WA-41-D).

FORT RILEY, KANSAS (1855)

The two-story original portion of the Fort Riley hospital was constructed in 1855 on a variation of the square- plan. The location of the hospital was to the east of the parade ground. A one-story ward was added to the two-story portion in 1873. The one- story ward had lattice ceiling ventilating to a roof vent. This ward originally had separate rooms before 1870, but by 1875 had been converted into one large open ward. The two-story portion had a porch, while an open veranda connected the one-story ward and kitchen/mess to it. Eventually, a veranda surrounded the entire hospital.

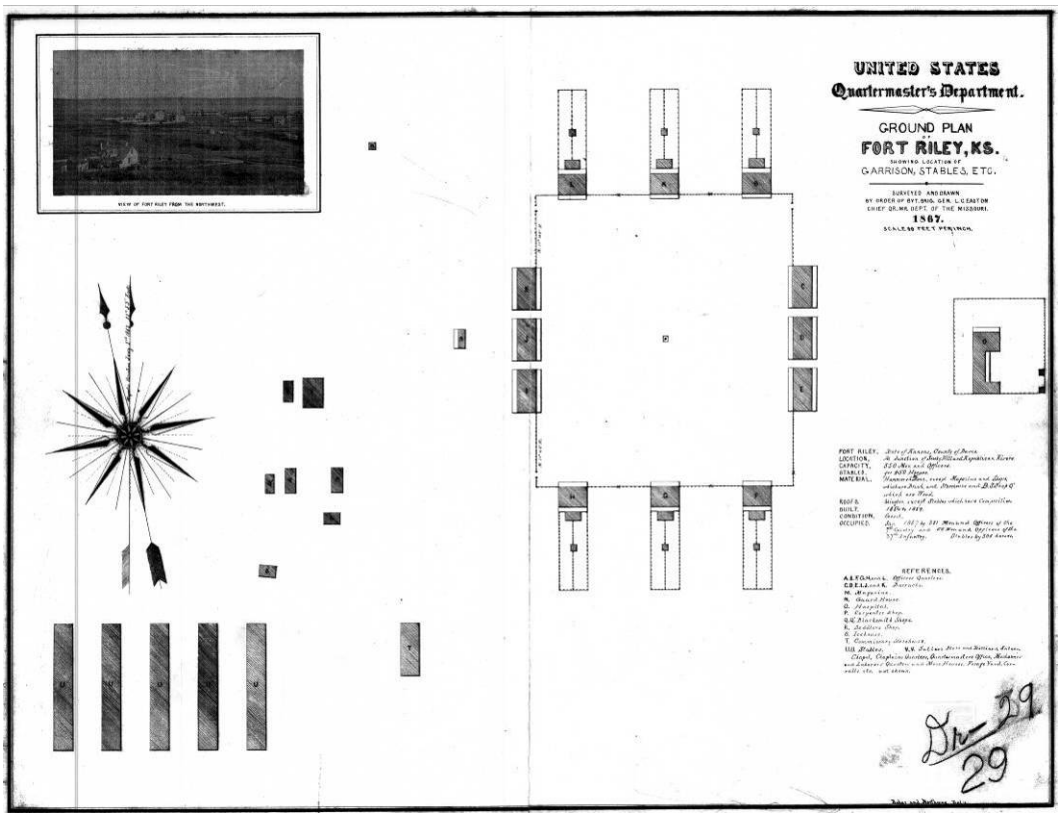


Figure 64. Fort Riley, Kansas, 1867 (NARA College Park, RG 77 MISC Fort Files Fort Riley KS #29).

Figure 65. Hospital, Fort Riley, Kansas, circa 1870s (courtesy NMHM Otis Archives, CP3140).

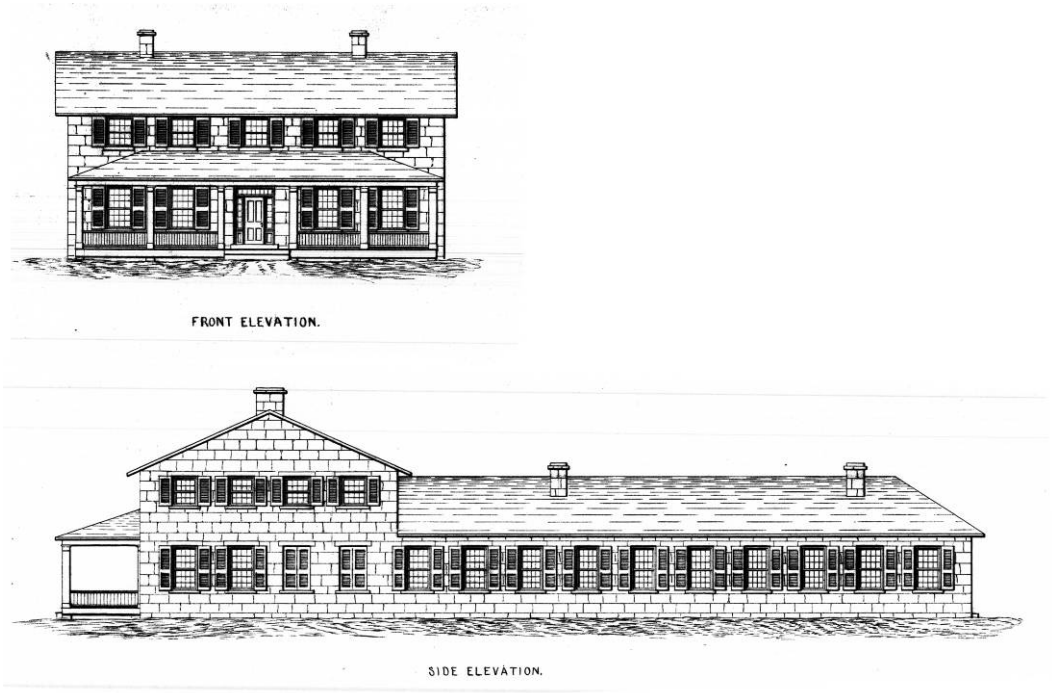


Figure 66. Hospital Elevations, Fort Riley, Kansas, 1867 (NARA College Park, RG 77 MISC Fort Files Fort Riley KS #28).

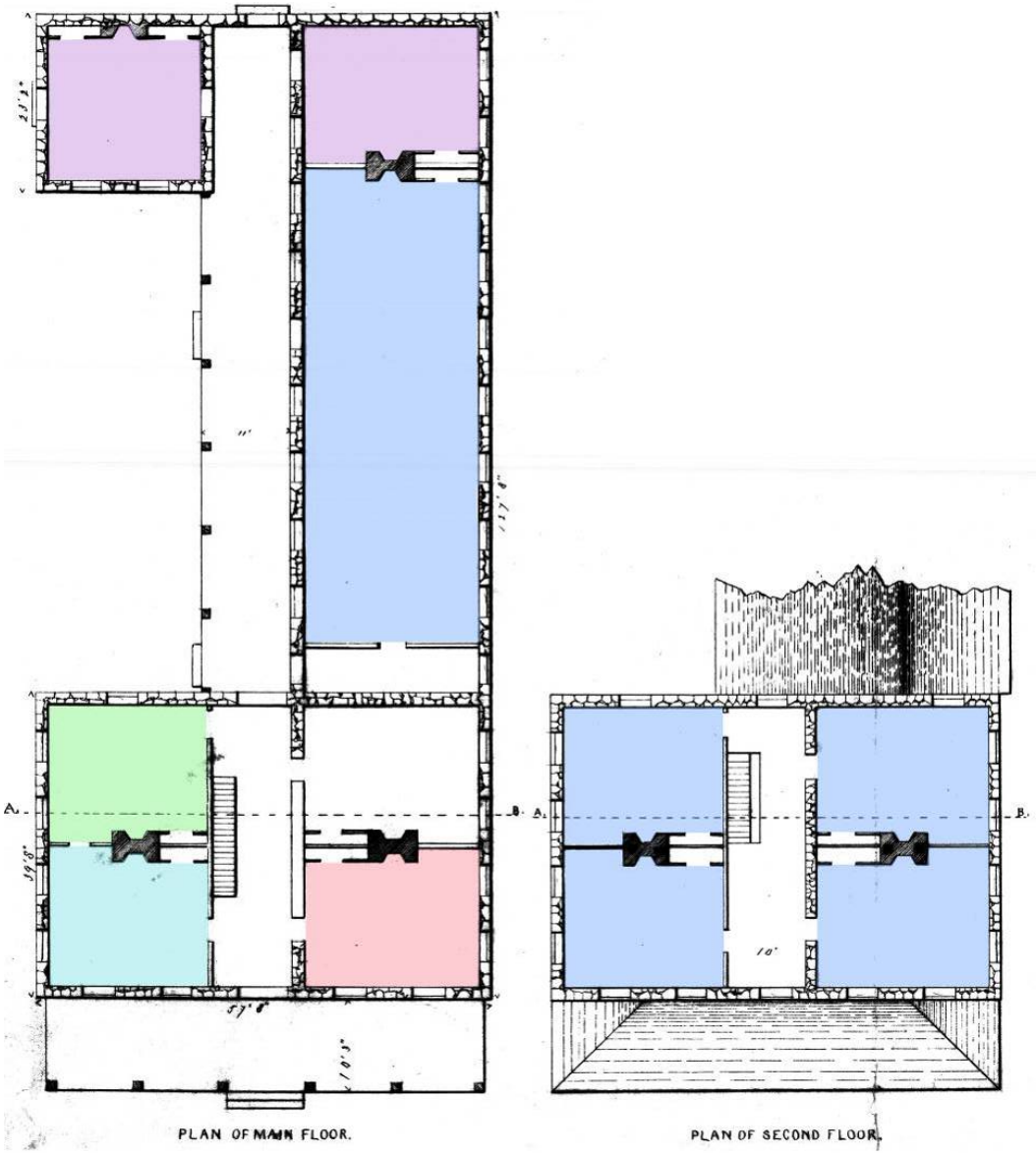


Figure 67. Hospital floor plan, Fort Riley, Kansas, 1873 (NARA College Park, RG 77 MISC Fort Files Fort Riley KS #28).

In 1890, after the new hospital was constructed on the opposite side of the post, a full second story and a bell tower were added to this building and it was transformed into the post headquarters. A new roof was built covering the entire structure, and stone arches replaced the original wood posts of the side veranda.

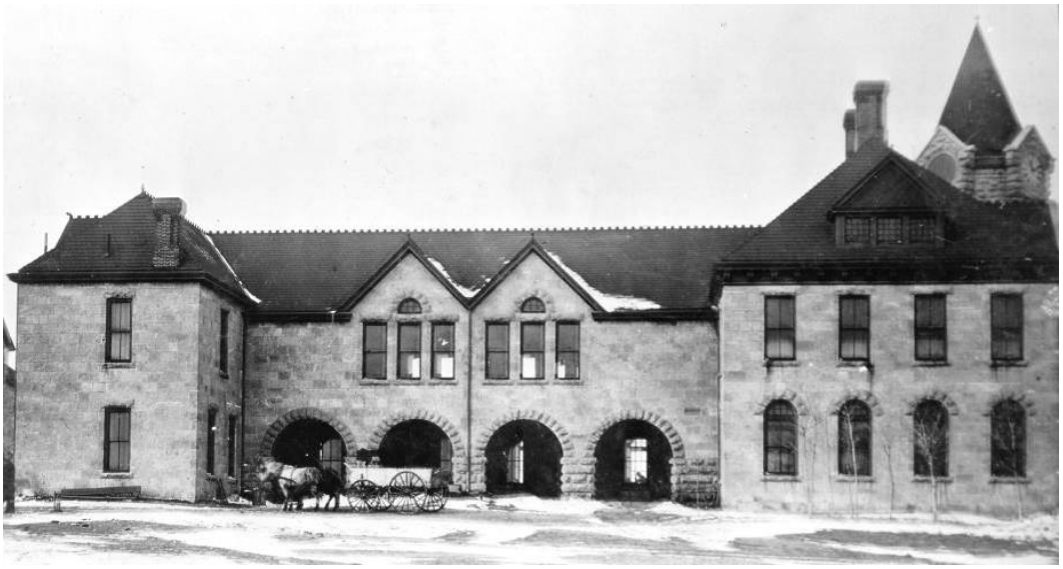


Figure 68. Headquarters, Fort Riley, Kansas, 1873 (NARA College Park, RG 111-SC. Box 689, 87904).

5 HOSPITALS OF OTHER DESIGNS (1855-1870)

The hospitals constructed between 1855 and 1870 followed a myriad of different plans. These plans commonly follow the house type. It is not known why the square-plan was no longer utilized in military hospital planning.

BENICIA BARRACKS, CALIFORNIA (1854)

This hospital was built in 1854 out of sandstone. The front is a 1½-story building with a one-story ell in the back. There is a large porch on the front. The 1½ story section contains two wards on the first floor and two wards in the half story. The kitchen, mess room, surgeon's office, and dispensary were in the ell. The Benicia Barracks hospital was not mentioned in Billings 1870, but is discussed in the 1875 report; however, it only states that the heat is adequate. Currently, the 1854 hospital is the only building extant from the Benicia Barracks, although many buildings are extant from its sister installation the Benicia Arsenal.

Figure 69. Hospital at Benicia Barracks, California, circa 1850s (courtesy NMHM Otis Archives, CP 3093).

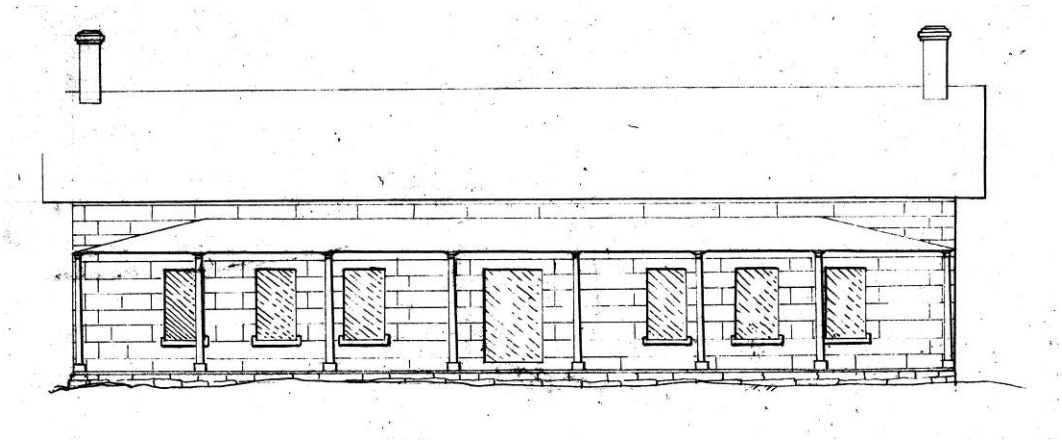


Figure 70. Hospital, Benicia Barracks, California 1854 (NARA College Park, RG 77 MISC Fort Files Benicia Barracks).

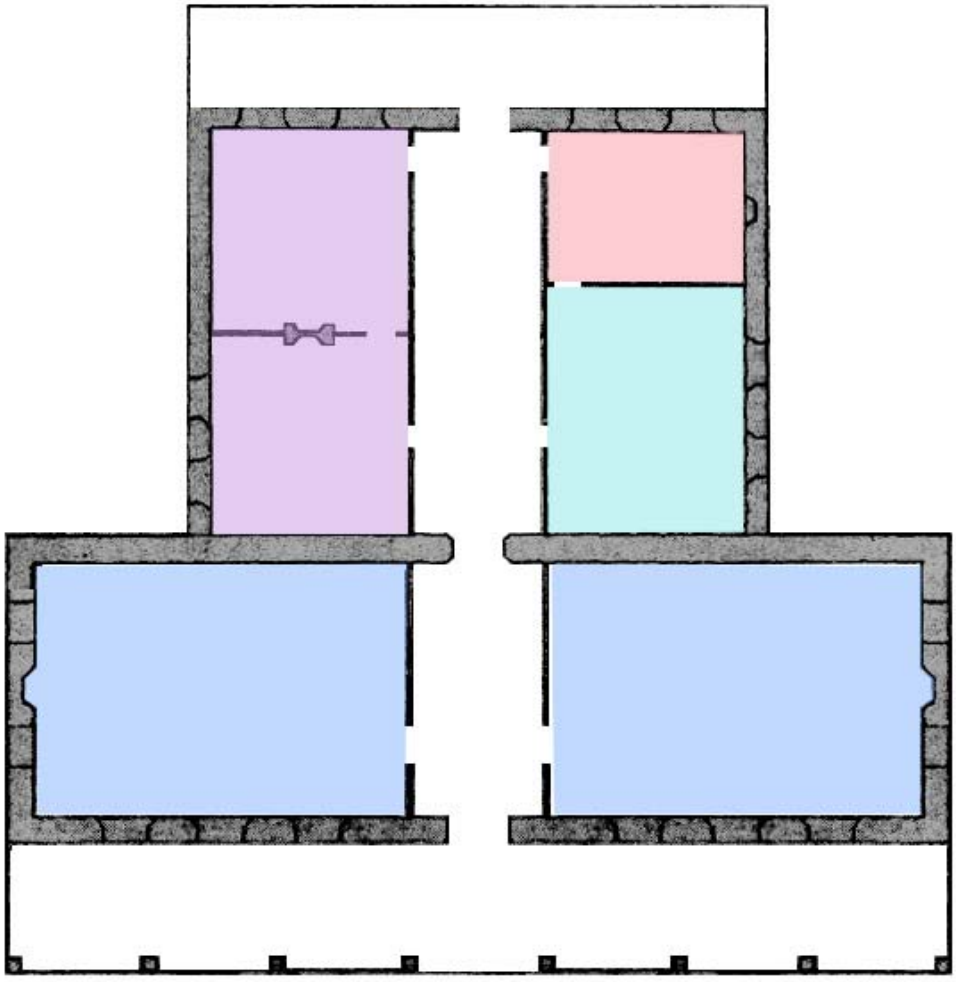


Figure 71. Hospital floor plan, Benicia Barracks, California 1854 (NARA College Park, RG 77 MISC Fort Files Benicia Barracks).

KEY WEST BARRACKS, FLORIDA (1861)

The hospital at Key West was constructed in 1861. It had one main story with a basement. The basement contained the kitchen, mess, steward's quarters, attendant's quarters, and storage. The main floor had two wards, which were surrounded by a large veranda. Billings discussed that this hospital was well ventilated and provided adequate air space. It is unknown what happened to this hospital.

Figure 72. Hospital, Key West Barracks, Florida 1890s (NARA College Park, RG 92-F-32-6).

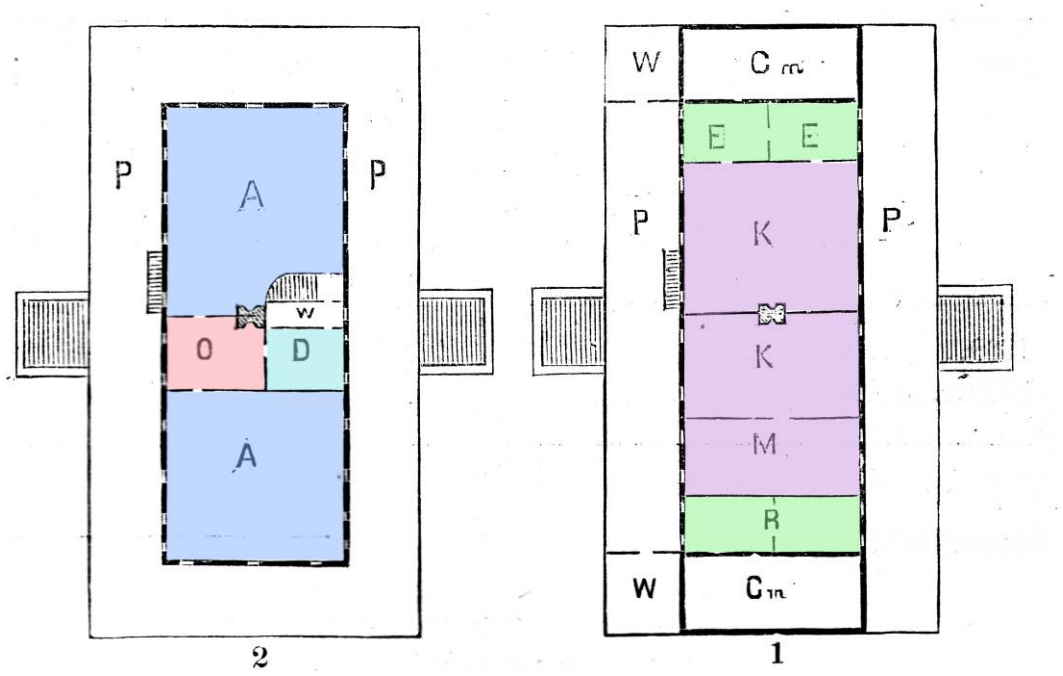


Figure 73. Key West Barracks, Florida hospital floor plan 1875 (Circular #8).

PRESIDIO OF SAN FRANCISCO, CALIFORNIA (1864)

The Army constructed this hospital on the west side of the parade ground in 1857. No floor plans could be found, but more than likely it had an office and dispensary in the front of the first floor with kitchen and mess behind. The wards were likely on the second floor. It was superseded in 1864 by the second hospital (Wright Army Hospital). This hospital possibly became the guardhouse, as the description that Billings gives in his 1870 report closely resembles this drawing.

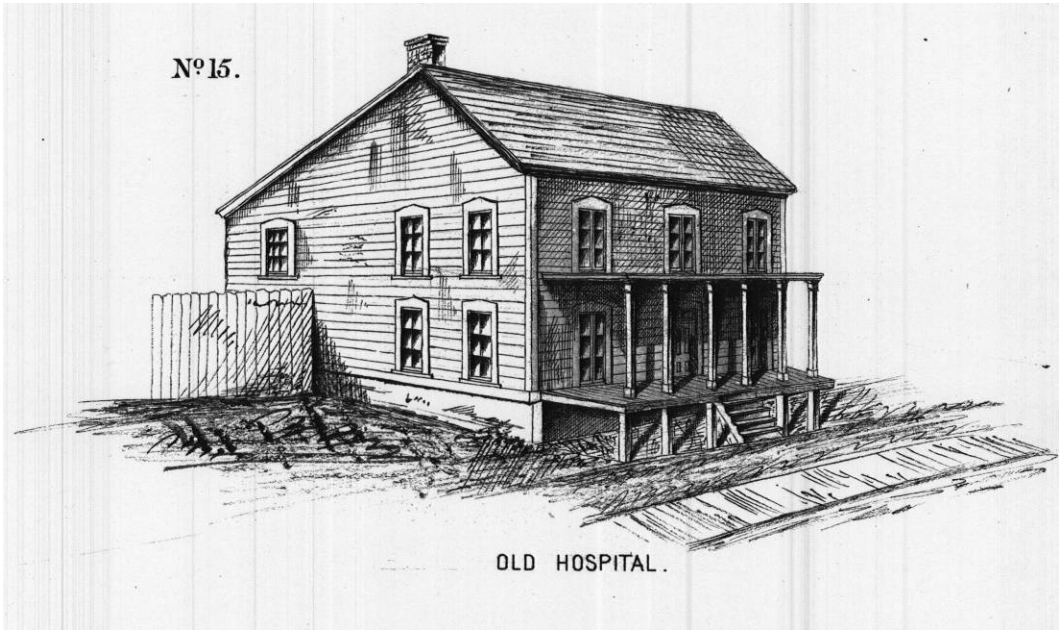


Figure 74. Old Hospital, Presidio, San Francisco, California, 1862 (NARA College Park, RG 77 MISC Fort Files Presidio CA).

Wright Army Hospital was the second hospital at the Presidio. It was built in 1864, and was located at the eastern edge of the parade ground. Its design consisted of a two-story building over a walkout brick basement. Double porches were on both long sides of this hospital. It had four wards, two on each floor, an attendant's room, dispensary, library, and a kitchen in the basement. There was also a mess room, but it is not known on which level this was located; however, it was more than likely on the basement level. This hospital might have been locally designed in San Francisco with its decidedly Italianate influences, and its lack of similarities with other Army hospitals of its era. The Surgeon General's office built additions in 1889 and 1897. After Letterman General Hospital was constructed in 1898, this hospital became a branch clinic. It closed in 1973 and was transformed into the Presidio museum. This building still stands at the Presidio; however, it is not known for what purposed it is utilized. No original plans could be found for this hospital.

Figure 75. Post Hospital, Presidio of San Francisco, California, unknown date (NARA College Park, RG 111-SC, box 655, 87843).

Figure 76. Post Hospital, Presidio of San Francisco, California, unknown date (Library of Congress).

WASHINGTON NAVAL HOSPITAL (1865)

The Navy constructed this hospital on the south side of Pennsylvania Avenue SE in 1865. It served both the Navy Yard and the Marine Barracks south of it. The wards were on the second floor. It was superseded by a new naval hospital in Foggy Bottom (utilizing the former Naval Observatory) in 1906. The Washington Naval Hospital is still extant.

Figure 77. Washington Naval Hospital, Washington, DC, 1870 (NARA College Park).

Figure 78. Washington Naval Hospital, Washington, DC, 1900 (NARA College Park).

FORT DOUGLAS, UTAH (1866)

This was a wood framed building with two large wards. The plan was acknowledged as unsatisfactory in Circular #8 due to the fact the administration was divided between the wards. A Circular #10, 12-bed hospital would supersede this hospital in 1876.

Figure 79. Fort Douglas, Utah Hospital, 1866 (NARA College Park, RG 77 MISC Fort Files Fort Douglas UT #19).

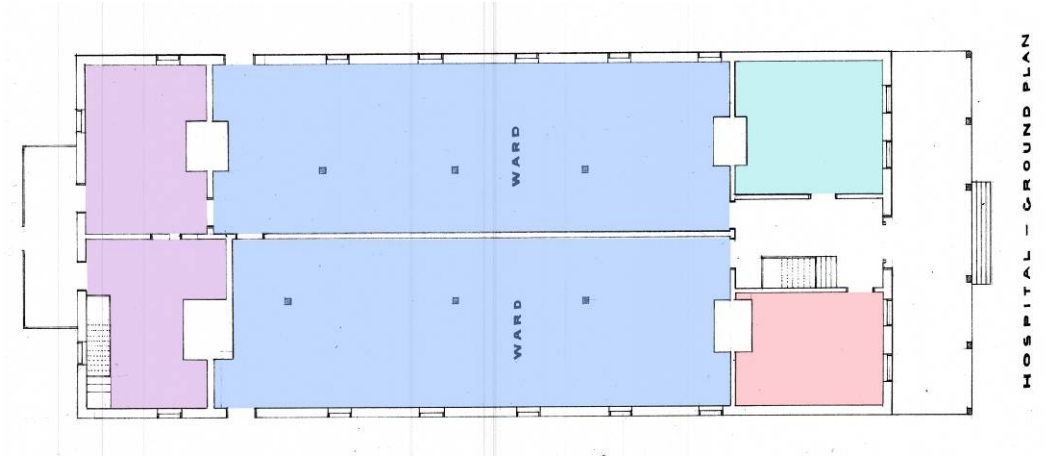


Figure 80. Fort Douglas floor plan, Utah Hospital, 1866 (NARA College Park, RG 77 MISC Fort Files Fort Douglas UT #19).

FORT BLISS (CAMP CONCORDIA), TEXAS (1867)

The hospital at Fort Bliss (Camp Concordia) was once a residence, and was not on the parade ground. It was constructed out of adobe and rough timbers. The Camp Concordia location was abandoned in 1876. In 1879, a new Fort Bliss was built at Hart's Mill. This location was abandoned in 1893 when another new Fort Bliss was built on Lanoria Mesa and occupied in 1893.

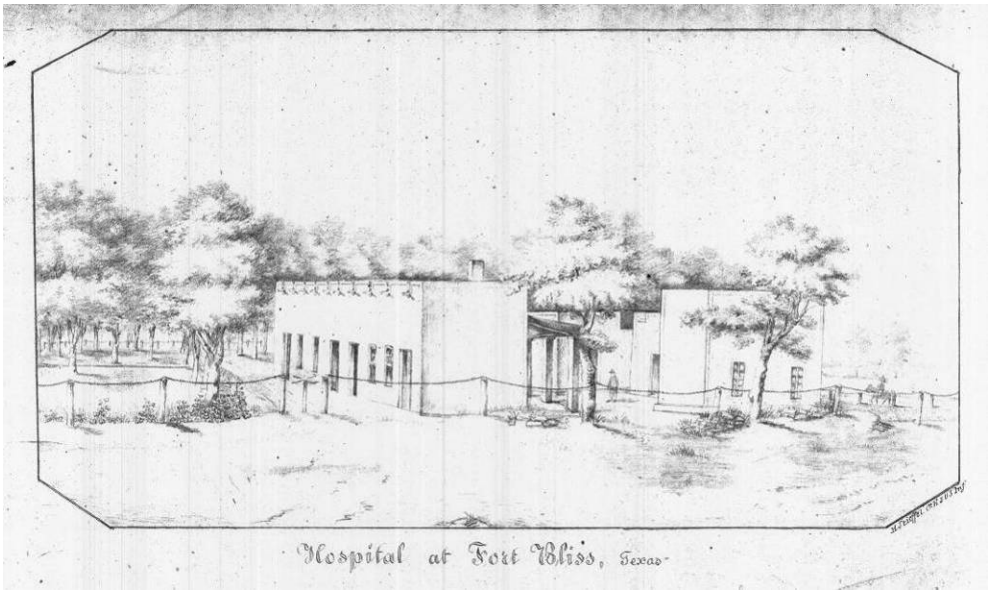


Figure 81. Hospital, Fort Bliss, El Paso, Texas, 1866 (NARA College Park, RG 77 MISC Fort Files Fort Bliss TX).

Figure 82. Hospital, Fort Bliss [Camp Concordia], El Paso, Texas, 1860s (NARA College Park, RG 77 MISC Fort Files Fort Bliss TX).

FORT MCINTOSH, TEXAS (1867)

The Fort McIntosh hospital was constructed out of sandstone. It was a one-story building with office, storerooms, kitchen, mess, and steward's quarters in the front and one large ward to the rear. The front building had a porch, while the ward was surrounded by a veranda. It is not known if this hospital is still extant. Fort McIntosh is owned by the Laredo Community College. The Llaguno Music and Dance Hall is housed in the former Post Hospital but this resembles a modified Circular #10 plan. It is possible that this hospital was expanded at a later point.

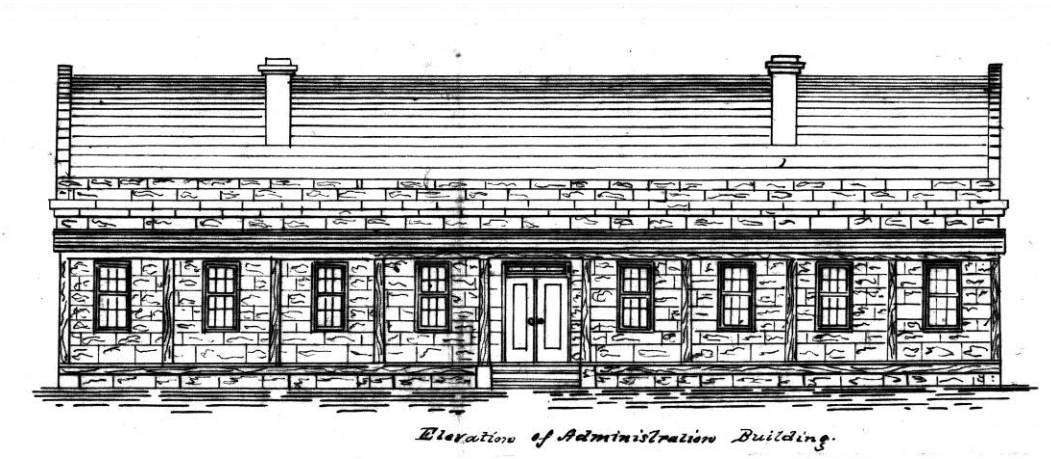


Figure 83. Fort McIntosh, Texas Hospital Elevation, 1867 (NARA College Park, RG 77 MISC Fort Files Fort McIntosh TX #2).

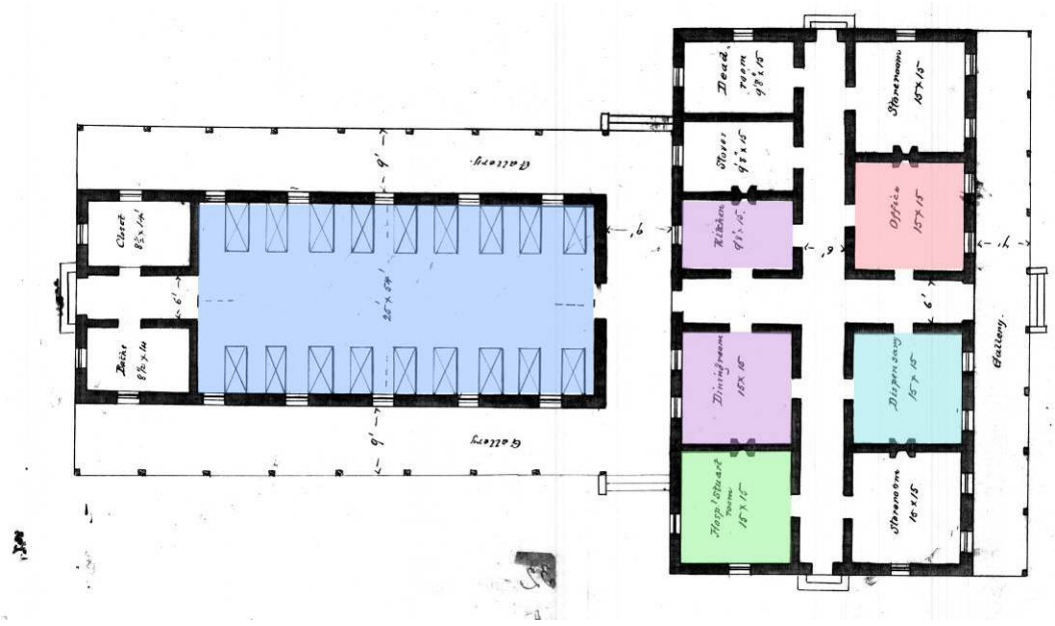


Figure 84. Fort McIntosh, Texas Hospital Floor Plan, 1867 (NARA College Park, RG 77 MISC Fort Files Fort McIntosh TX #2).

FORT DODGE, KANSAS (1868)

This hospital was built of stone with a veranda surrounding it on all sides. It was completed in 1868, but did not follow a Surgeon General Plan. Circular #8 states that the "arrangement of the hospital is bad." This was due to the fact that the administration was separated into two parts with the dispensary, office, and steward's quarters in the front of the hospital, while the kitchen and mess were in the rear. It was necessary to walk through the ward to go between these two sections. There was no indication of a ventilation system although it was noted the upper sashes of the windows did not open. This hospital is extant at the Kansas Soldier's Home, although it has a large addition on the west side.

Figure 85. Fort Dodge, Kansas Hospital, 1868 (Kansas Soldiers Home).

Figure 86. Fort Dodge, Kansas Hospital Floor Plan, 1865 (Circular #8, p. 255).

NAVAL HOSPITAL PHILADELPHIA, PENNSYLVANIA (1868)

Due to the Civil War, the Naval Asylum and Hospital needed to separate the two uses in this one building. Congress appropriated funds in 1864 for a new hospital closer to the Schuylkill River. The Navy chose architect John McArthur for the new hospital; McArthur designed and supervised the construction of many temporary hospitals for the War Department during the Civil War. The Naval Hospital Philadelphia (Laning Hall) design was a precursor to his plans for Philadelphia City Hall with a combination of Italianate and Second Empire styles. Laning Hall was completed in 1868. It was enlarged with temporary buildings during World War I.

This second naval hospital in Philadelphia was vacated as a hospital in the 1930s when the third naval hospital opened in south Philadelphia. Laning Hall was utilized by the Naval Home until the Navy closed the Naval Home in 1976. It sat vacant until it was demolished in the early 1990s.•

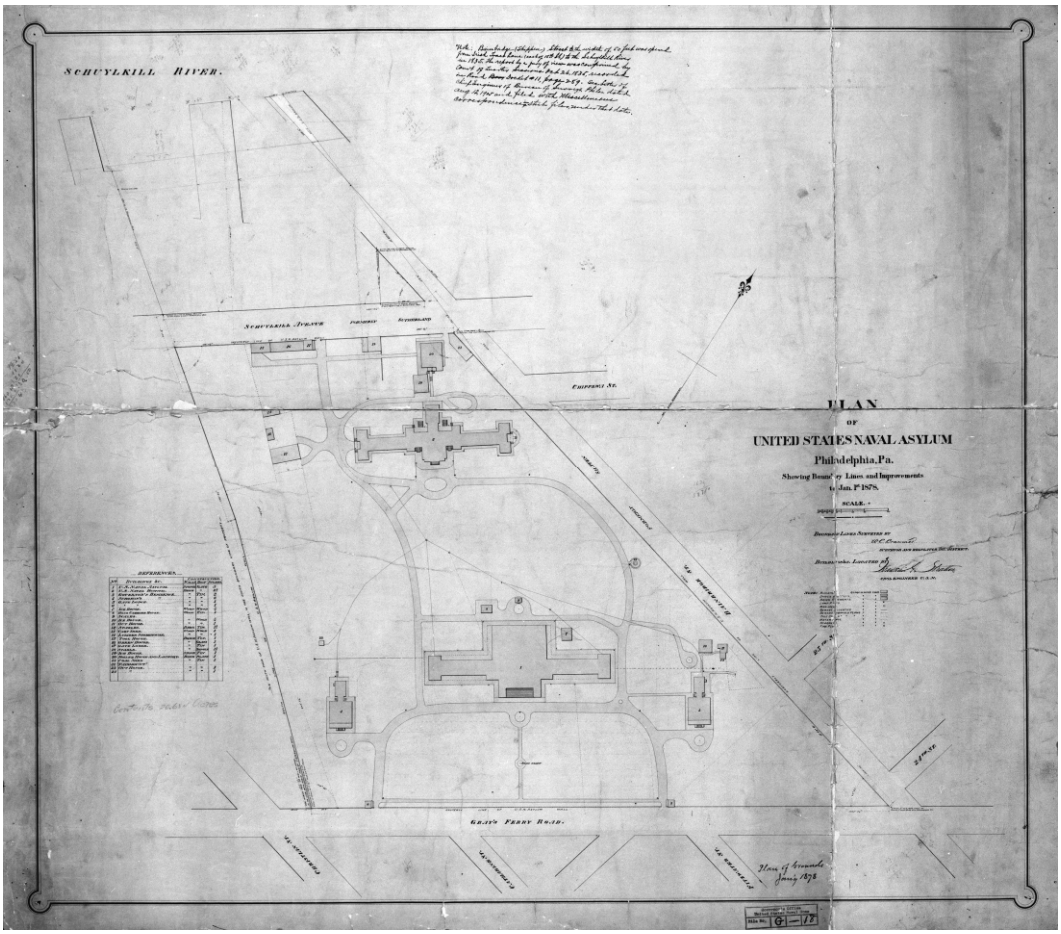


Figure 87. Site plan for the Naval Asylum [Biddle Hall at bottom] and Naval Hospital [Laning Hall at top], Philadelphia, Pennsylvania, 1878 (Library of Congress, HABS PA 51-PHILA, 577A).

• Laning Hall is notable for being one of the few buildings where a preservation agency sued an owner for demolition by neglect under the National Historic Preservation Act.

Figure 88. Front facade of the second Naval Hospital Philadelphia, Pennsylvania, 1930 (NARA College Park, RG 71-CA, box 380, 151-30C).

Figure 89. Entrance to the second Naval Hospital Philadelphia, Pennsylvania, 1965 (Library of Congress, HABS PA, 51-PHILA, 577D).

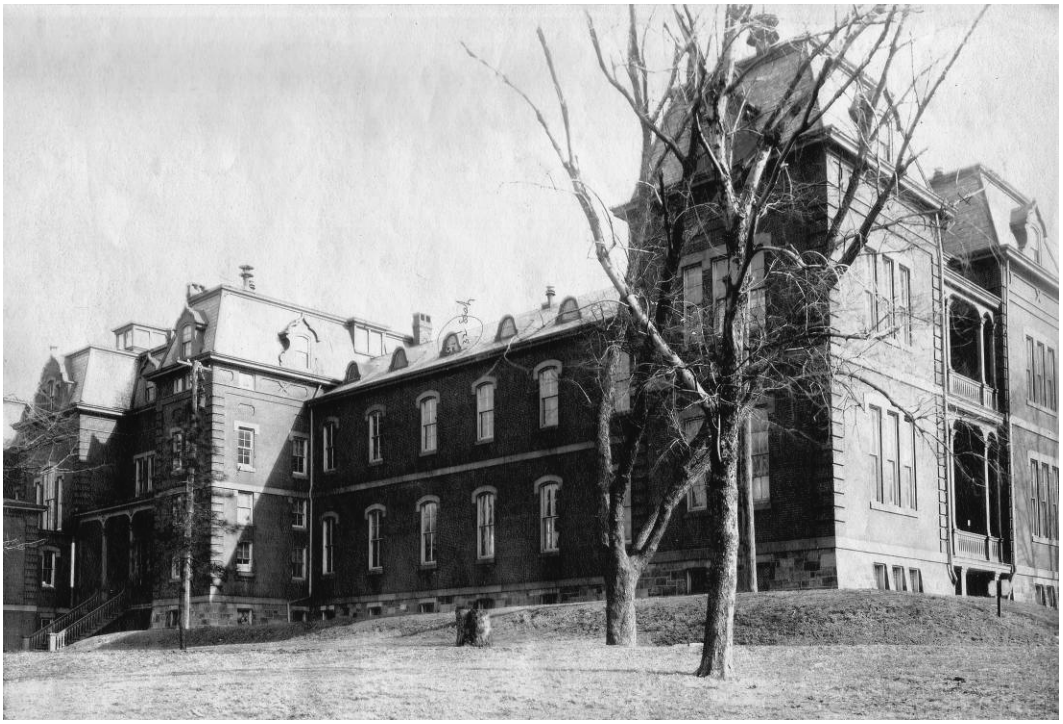


Figure 90. North ward wing of the second Naval Hospital Philadelphia, Pennsylvania, 1965 (Library of Congress, HABS PA 51-PHILA, 577D).

The 1908 elevation depicts the original 1868 ward wing elevation on the right and the proposed changes and additions to the ward wings on the left.

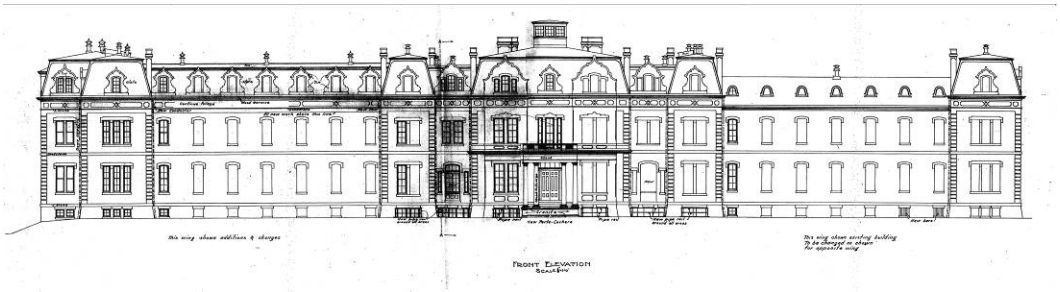


Figure 91. Elevation of the second Naval Hospital Philadelphia, Pennsylvania, 1908 (NARA College Park, RG 71 427-31-6).

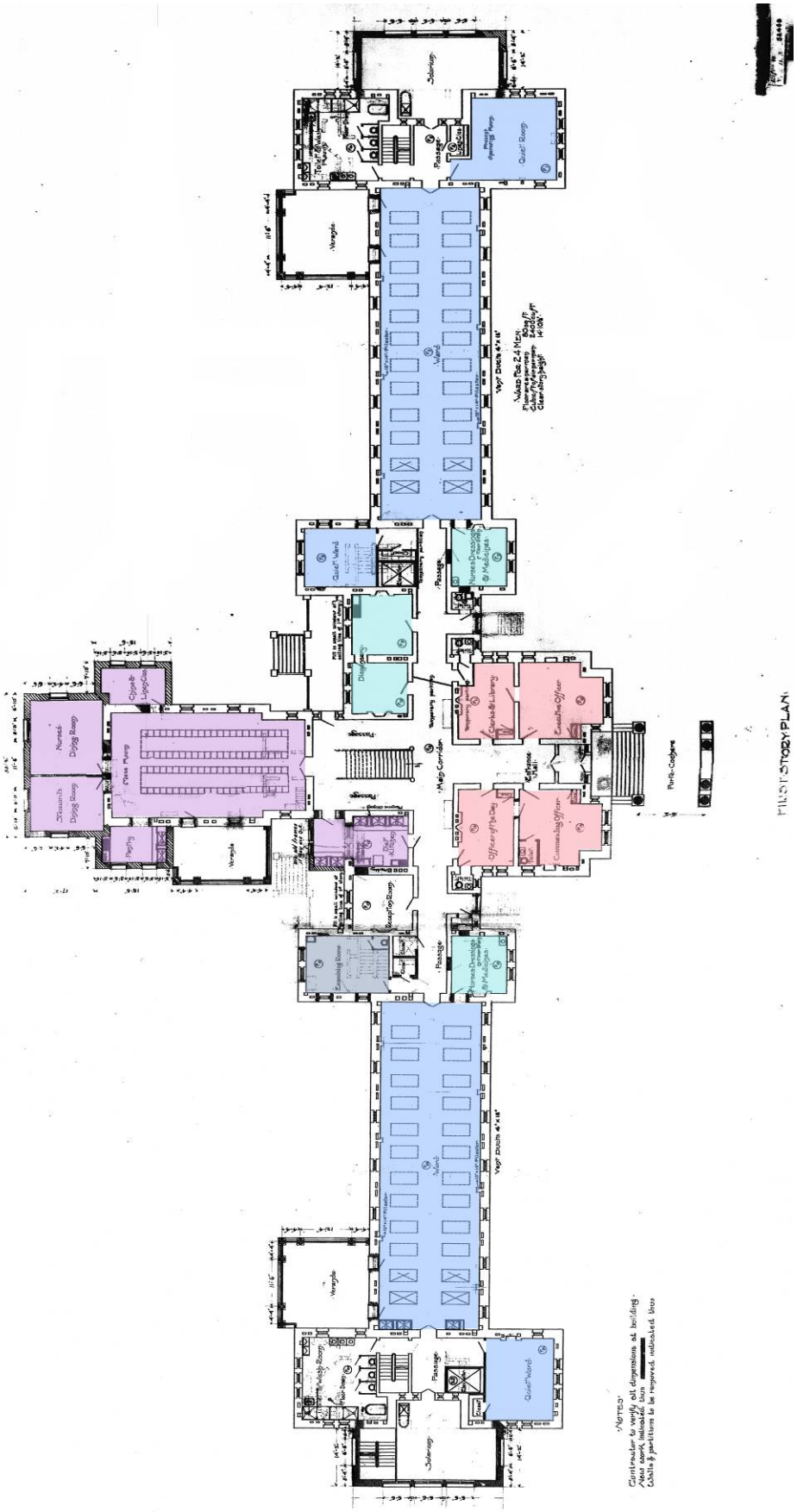


Figure 92. First floor plan of the second Naval Hospital Philadelphia, Pennsylvania, 1908 (NARA College Park, RG 71 427-31-2).

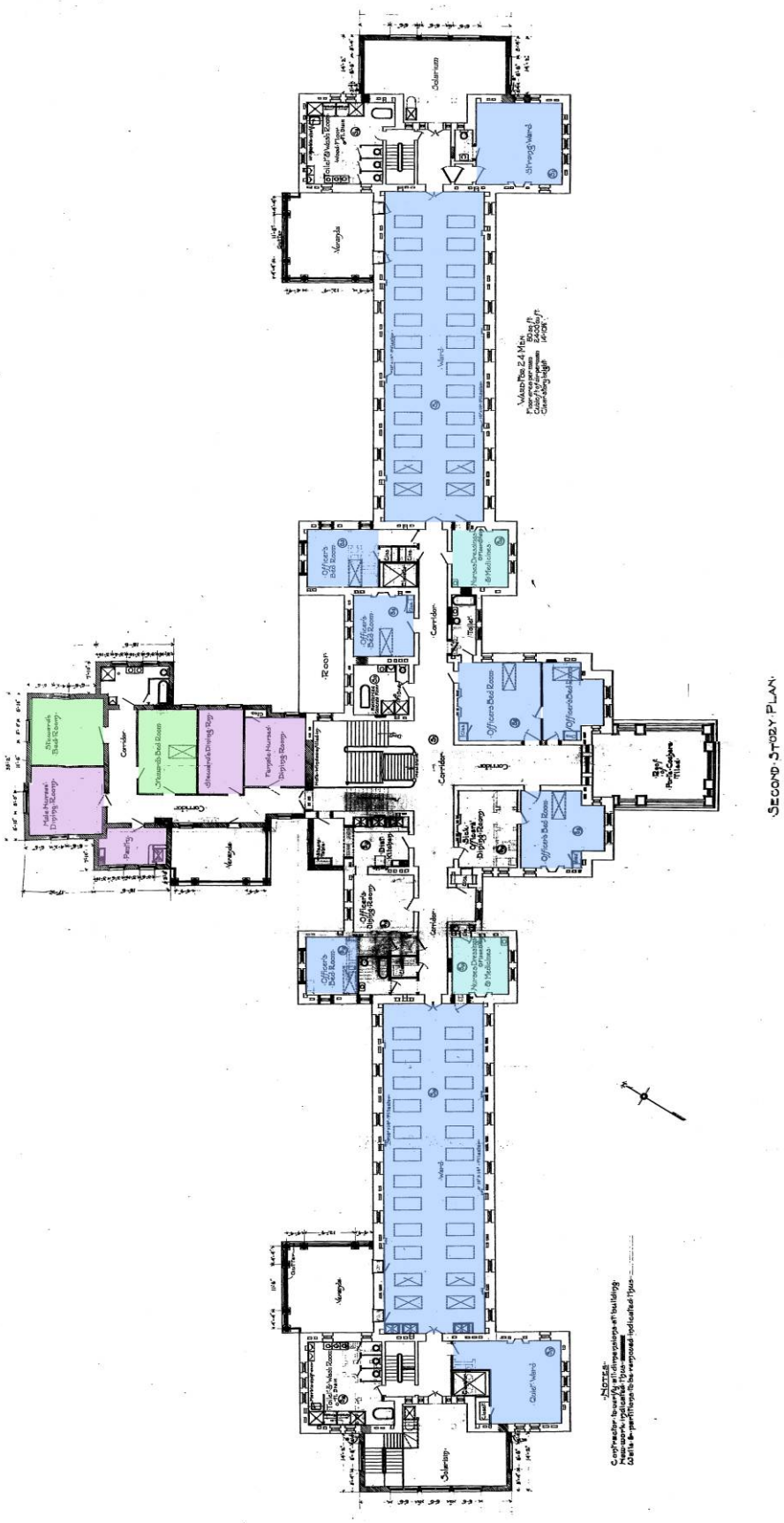


Figure 93. Second floor plan of the second Naval Hospital Philadelphia, Pennsylvania, 1908 (NARA College Park, RG 71 427-31-3).

6 CIVIL WAR HOSPITALS (1861-1865)

At the beginning of the Civil War, both the Federal and Confederate sides had limited hospitals at their disposal to treat the thousands of wounded, and Washington had only 2,000 hospital beds. The wounded from the battles surrounding the city taxed the limited number of hospitals in Washington, Baltimore, and Philadelphia. Hotels, businesses, and large houses were conscripted for the use of hospitalizing the sick and wounded from the battles. Even the halls of the Senate and House at the U.S. Capitol were utilized for hospitals. These conscripted hospitals proved to be less than satisfactory due to inadequate plumbing, ventilation, and the distance between them for care by surgeons and doctors.

Surgeon General William Hammond (1862 to 1864) wrote a *Treatise on Hygiene, with Special Reference to the Military Service* in 1863 and instigated the writing of the *Hospital Steward's Manual* by Joseph Woodward. Hammond knew that the ad hoc hospitals needed to be replaced and instigated a large hospital building program. The *Hôtel Dieu* pavilion plan was chosen and immediately constructed to accommodate the great needs of the soldiers wounded in the war.

One of the first general hospitals to be built was the Armory Square Hospital. It was a 1000-bed pavilion-style hospital constructed in the summer of 1862. It included twelve pavilions, kitchens, mess rooms, officer's quarters, administration building, and a chapel. It was named for the Washington Armory on 6th Street and B Street (current location of the National Air and Space Museum). Each ward had a dining room at one end and a bathroom and water closet at the other end. (*Medical and Surgical History of the Civil War*, VI, 937).

Figure 94. Armory Square Hospital, Washington, DC circa 1862 (Library of Congress, LOT 4180 [item] [P&P], LC-USZ62-56579).

Other hospitals built were Lincoln and Harewood in Washington; Jefferson in Indiana opposite Louisville; and Satterlee, Mower, and McClellan in Philadelphia. The hospitals were built with administration, quarters, dormitories, kitchens, and mess buildings in the center with the pavilion wards radiating out from the center. These pavilion wards were

all connected to each other by enclosed walkways. The pavilions were generally 120 feet, with a width of 14 or 15 feet, with a longitudinal ventilator along the 12- to 14-foot roof. Each pavilion had toilets that usually sat above a trough with running water (Photographic History of the Civil War).

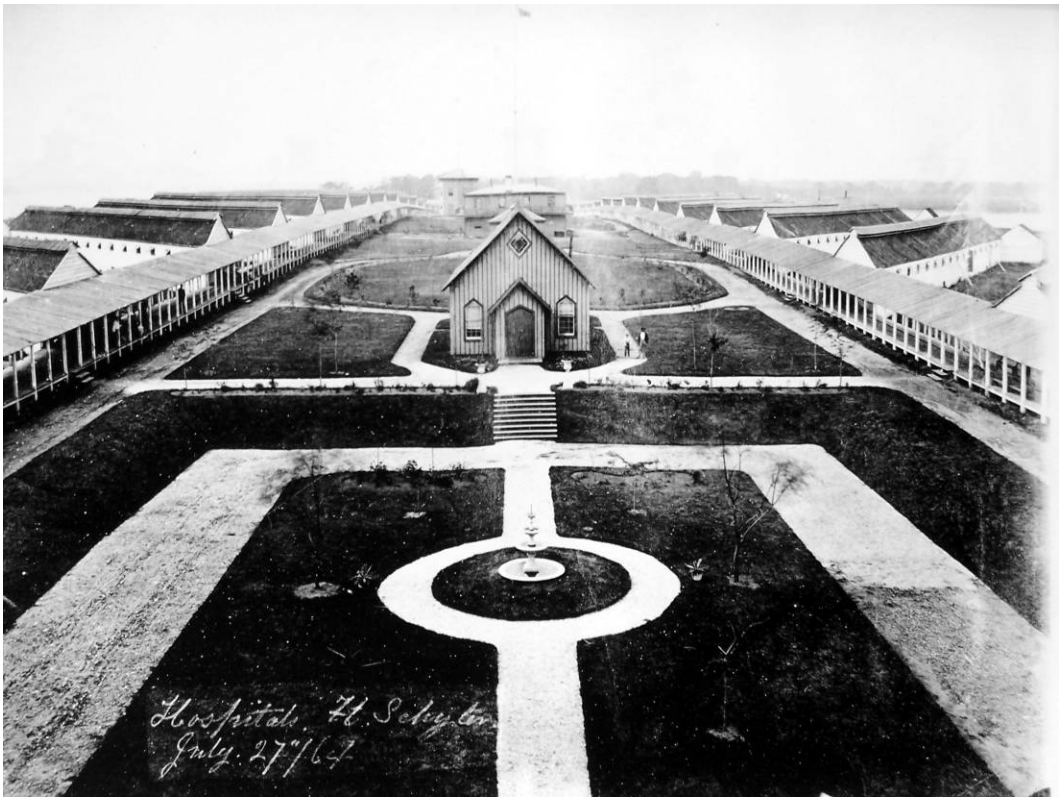


Figure 95. View of wards, corridors, and chapel at Fort Schuyler General Hospital, New York circa 1864 (NARA College Park, RG 165-C-16).

Figure 96. View of wards at Jefferson General Hospital, Indiana circa 1864 (NARA College Park, RG 165-C).

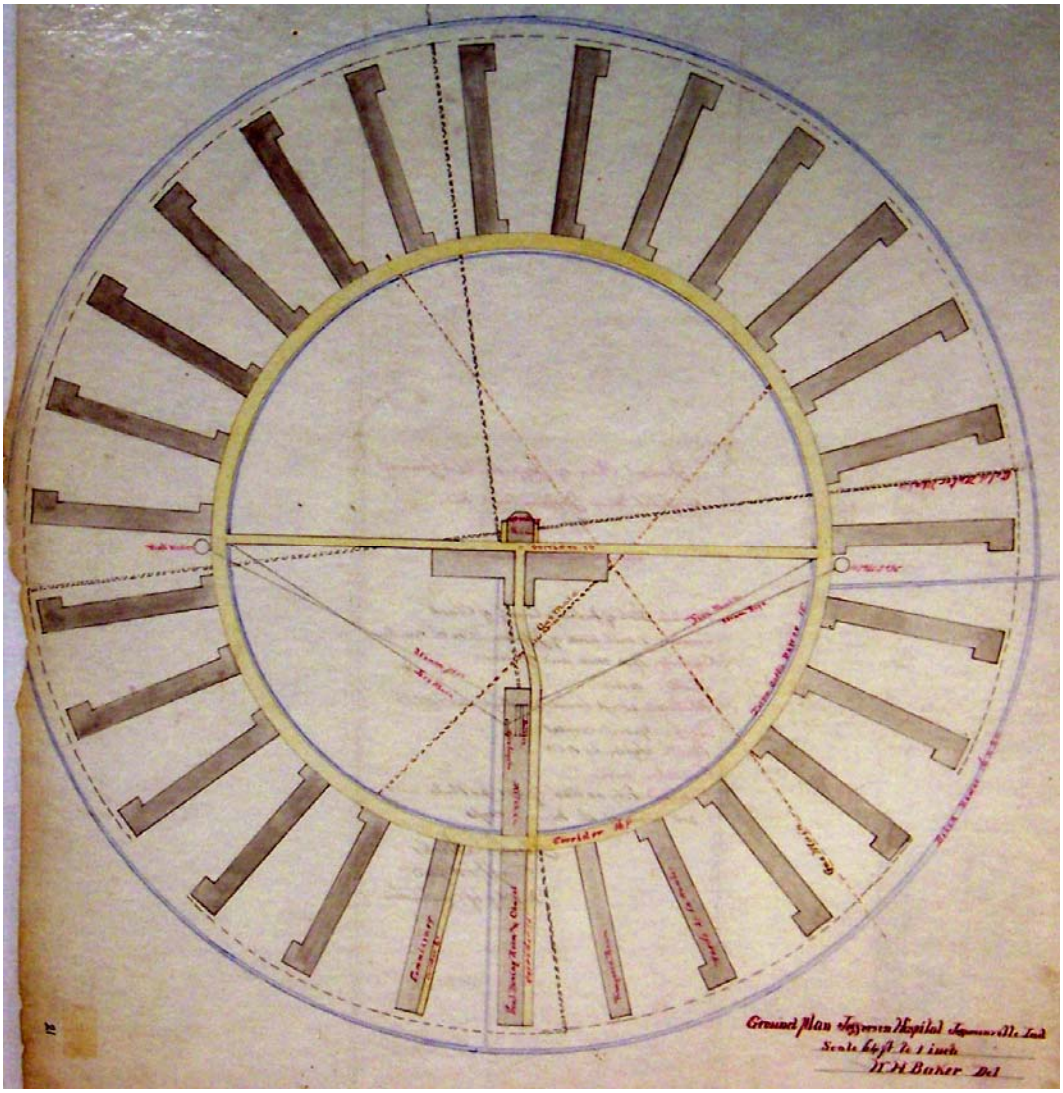


Figure 97. Site plan at Jefferson General Hospital, Indiana circa 1861 (NARA College Park, RG 77 MISC Forts File #21).

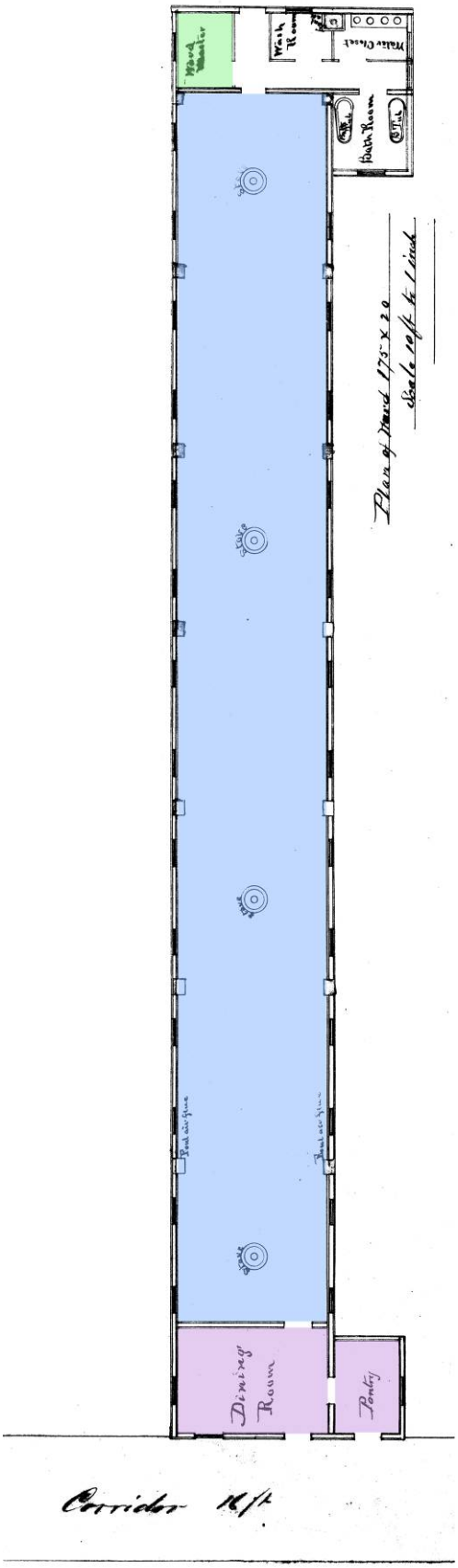


Figure 98. Floor plan of wards at Jefferson General Hospital, Indiana circa 1861 (NARA College Park, RG 77 MISC Forts File #33).

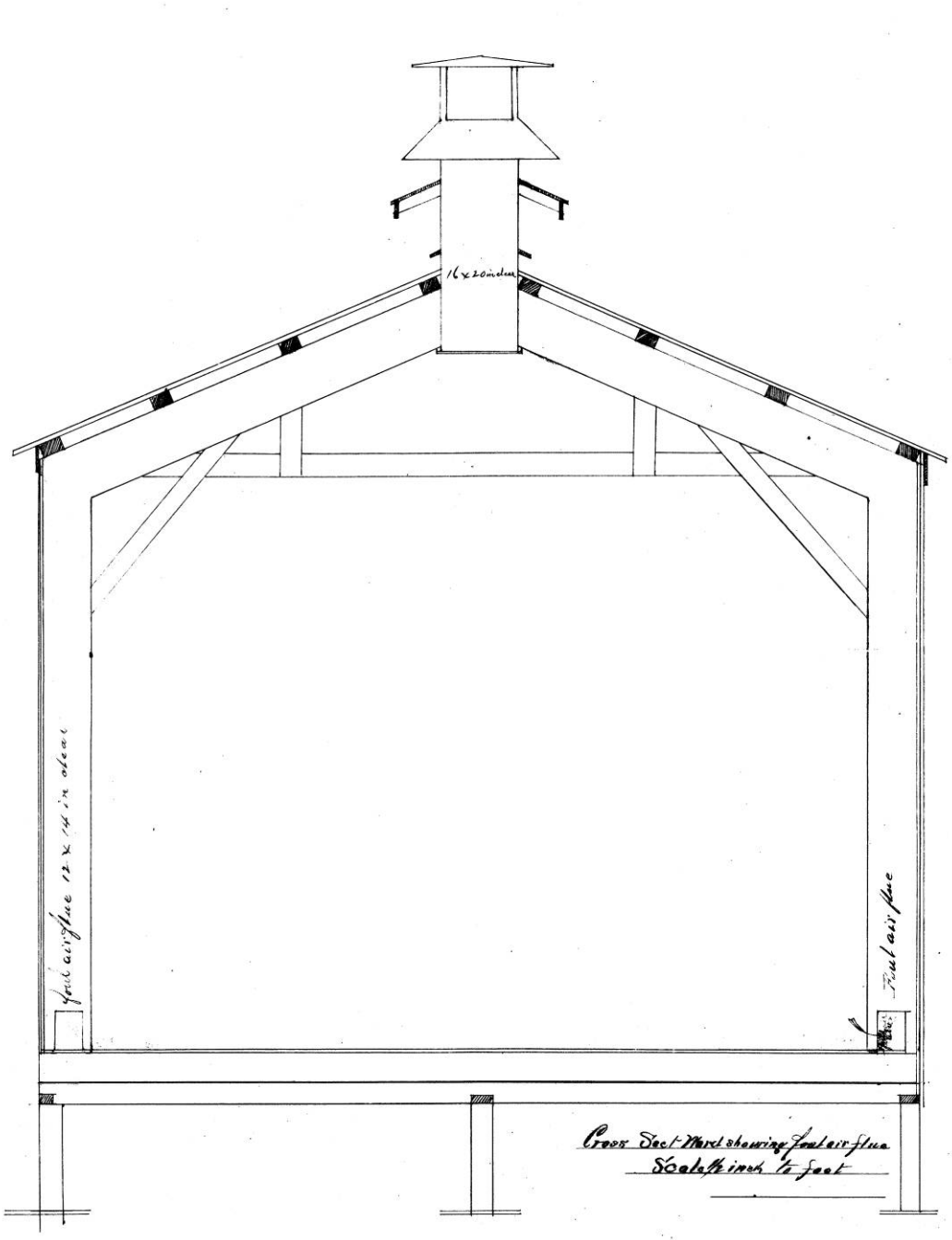


Figure 99. Ventilation section of a typical of wards at Jefferson General Hospital, Indiana circa 1861 (NARA College Park, RG 77 MISC Forts File #33).

The planning for these Civil War general hospitals would have a great impact later on for the planning of temporary World War I and World War II hospitals, which followed the Civil War plan for rectangular wards connected to each other by enclosed walkways.

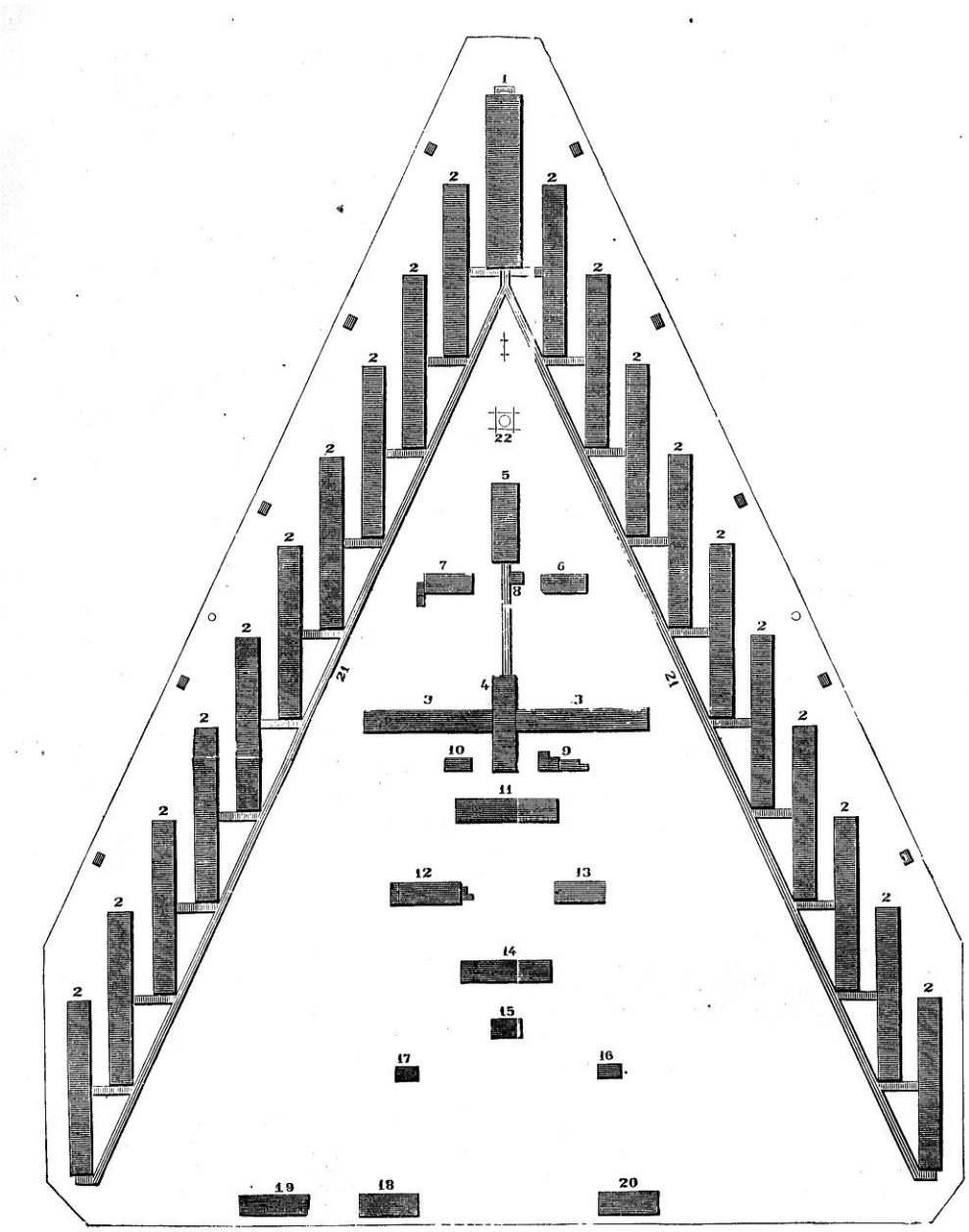


FIG. 8 —GROUND PLAN OF LINCOLN GENERAL HOSPITAL, WASHINGTON, D. C. Scale, 200 feet to the inch. 1, Administration building. 2 2 2 2, Wards. 3 3, Dining-rooms. 4, Kitchen. 5, Laundry. 6, Steward's quarters. 7, Sisters' quarters. 8, Engine-house. 9, Meat-house 10, Coal-house 11, Commissary building. 12, Sutler. 13, Chapel 14, Stable. 15, Freedmen's quarters. 16, Guard-house. 17, Dead-house. 18, Barracks for guard. 19 20, Officers' quarters. 21, Covered way. 22, Tank.

Figure 100. Plan of Lincoln General Hospital, Washington, DC no date (NARA Washington, DC, RG 112, Entry 63, Box 3).

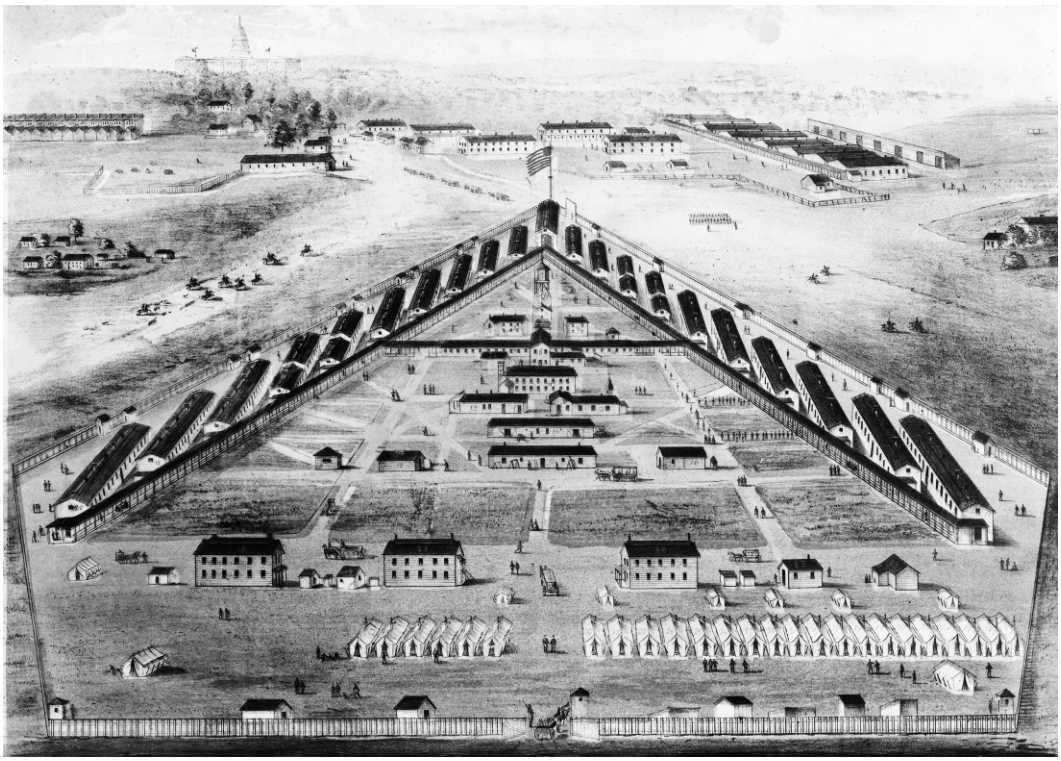


Figure 101. Lincoln General Hospital, Washington, DC no date (Library of Congress, LC-USZ62-52889).

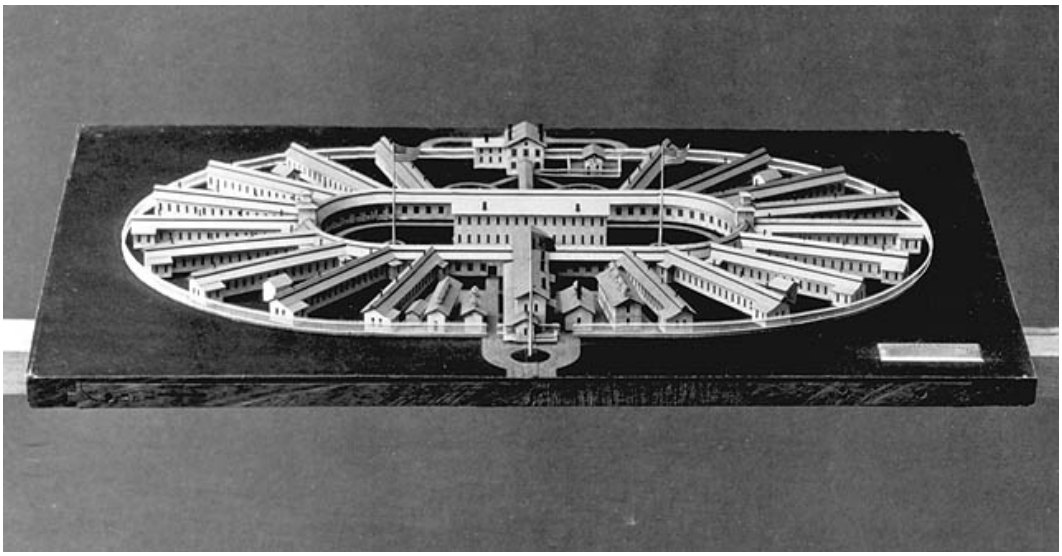


Figure 102. Model of McClellan General Hospital, Philadelphia, PA 1876 (courtesy NMHM Otis Archives, EXPO1876-15).

These Civil War general hospitals were staffed by surgeon's, stewards, recovering soldiers, nurses provided by the U.S. Sanitary Commission, Catholic nuns, and by volunteers. One of the more famous volunteers was Walt Whitman.

While searching for his brother George, injured at the Fredericksburg, Virginia, battle, Walt Whitman first experienced the Civil War hospital. He spent the next three years unofficially tending the sick and wounded in Washington's many Civil War hospitals.

Whitman wrote, “There is a long building appropriated to each ward. Let us go into ward 6. It contains to-day, I should judge, eighty or a hundred patients, half sick, half wounded. The edifice is nothing but boards, well whitewash’d inside, and the usual slender-framed iron bedsteads, narrow and plain. You walk down the central passage, with a row on either side, their feet towards you, and their heads to the wall. There are fires in large stoves, and the prevailing white of the walls is reliev’d by some ornaments, stars, circles, &c., made of evergreens” (Whitman 585).

Figure 103. Interior of Ward K at the Armory Square Hospital, Washington, DC 1865 (Library of Congress, LC-B817- 7822[P&P], LC-B8171-7822).

In his *Leaves of Grass* collection of poems published in 1867, he reflected on his experiences in the hospitals in “The Dresser” with excerpts here:

In nature's reverie sad, with hinged knees returning, I enter the
doors--(while for you up there,
Whoever you are, follow me without noise, and be of strong heart.)

Bearing the bandages, water and sponge,
Straight and swift to my wounded I go,
Where they lie on the ground, after the battle brought in;
Where their priceless blood reddens the grass, the ground;
Or to the rows of the hospital tent, or under the roof'd hospital;

To the long rows of cots, up and down, each side, I return;
To each and all, one after another, I draw near--not one do I miss;
An attendant follows, holding a tray--he carries a refuse pail,
Soon to be fill'd with clotted rags and blood, emptied and fill'd
again.

I onward go, I stop,
With hinged knees and steady hand, to dress wounds;
I am firm with each--the pangs are sharp, yet unavoidable;
One turns to me his appealing eyes--(poor boy! I never knew you,
Yet I think I could not refuse this moment to die for you, if that
would save you.)

On, on I go!--(open doors of time! open hospital doors!)
The crush'd head I dress, (poor crazed hand, tear not the bandage
away);
The neck of the cavalry-man, with the bullet through and through, I
examine;
Hard the breathing rattles, quite glazed already the eye, yet life
struggles hard;
(Come, sweet death! be persuaded, O beautiful death!
In mercy come quickly.)

From the stump of the arm, the amputated hand,
I undo the clotted lint, remove the slough, wash off the matter and
blood;
Back on his pillow the soldier bends, with curv'd neck, and side-
falling head;
His eyes are closed, his face is pale, (he dares not look on the
bloody stump,
And has not yet look'd on it.)

7 ARMY CIRCULAR #4 HOSPITALS (1867)

By the end of the Civil War, many hospitals were in buildings that were quickly deteriorating, quickly constructed, and had inadequate or harmful ventilation. The Office of the Surgeon General believed that permanent hospitals were reservoirs of disease and needed to be completely rebuilt roughly every fifteen years (Billings XXII). The Surgeon General's Office in Circular #4 from 1867 derived a plan for 12-, 24, and 48-bed hospitals. The 12-bed plan was the most popular. The funds for these hospitals were appropriated at large for the War Department. Due to the fact that the hospitals were supposed to be replaced every ten years and that the funds came directly out of the War Department budget, the design of these hospitals were exceeding spare. The failure of the Circular #4 hospitals "seems to be due to the regarding of Circular #4 as a rigid, unvarying rule for all cases" (Billings)."

The architectural elements to look for in this hospital plan type are:

1. T-shaped plan
2. porch
3. central administrative block.

Figure 104. Fort Totten, North Dakota, 1980 (Library of Congress, HABS ND 3-FOTO, 1G-2).

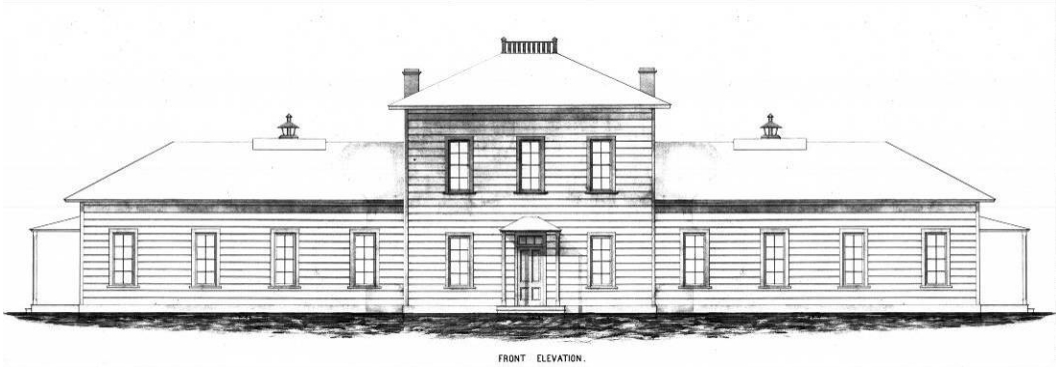


Figure 105. Circular #4 Hospital 2nd elevation, 1867 (NARA College Park, RG 77 MISC Fort Files, Angel Island).

Figure 106. Circular #4 Hospital 2nd floor plan [top] and 1st floor plan [bottom], 1867 (NARA College Park, RG 77 MISC Fort Files, Fort Bliss).

FORT LEAVENWORTH, KANSAS (1867)

Although designed in 1867, following some of the standards in the Surgeon General's Circular #4, it appears this hospital was never built at Fort Leavenworth.

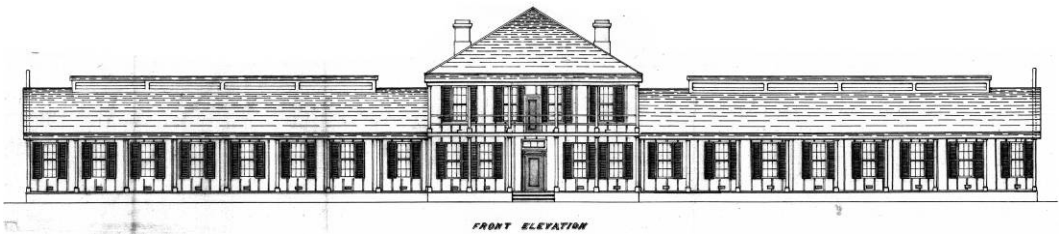


Figure 107. Hospital elevation, Fort Leavenworth, Kansas, 1867 (NARA College Park, RG 77 MISC Fort Files Fort Leavenworth KS #58).

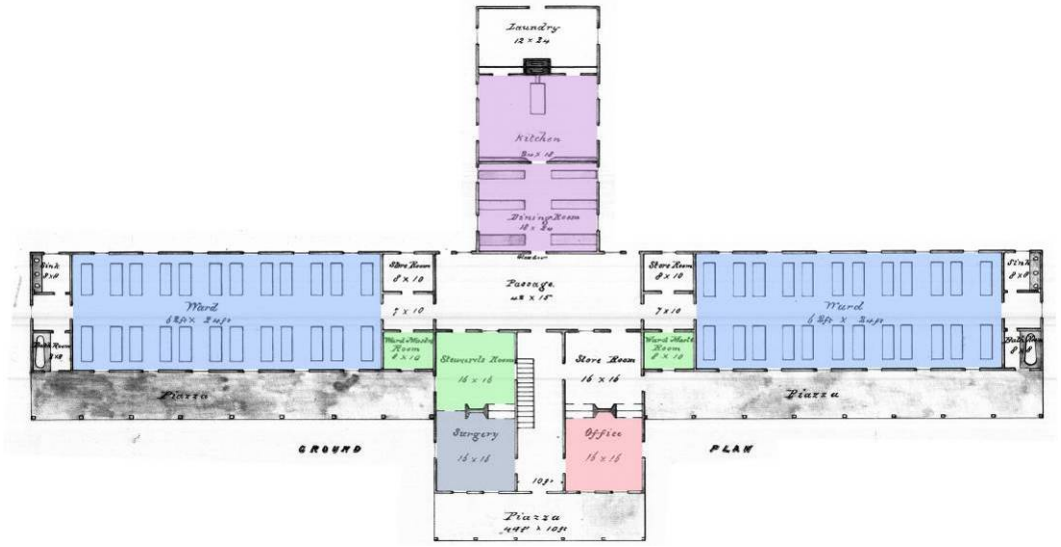


Figure 108. Hospital first floor, Fort Leavenworth, Kansas, 1867 (NARA College Park, RG 77 MISC Fort Files Fort Leavenworth KS #58).

FORT ADAMS, RHODE ISLAND (1869)

The Fort Adams hospital was originally built to the specifications of Circular #4. It had a two-story central administration section with two ward wings to either side and a kitchen to the rear. The second floor contained quarters and storage rooms. As was the case with most Circular #4 hospitals, its plan quickly proved to be inadequate and spare. Roughly, five years after its construction, it was brought up to the standards of Circular #10 with a veranda surrounding the hospital and adequate ventilation.

Figure 109. Hospital, Fort Adams, Rhode Island, 1890s (NARA College Park, RG 92-F-1-10).

FORT BROWN, TEXAS (1869)

Fort Brown followed the guidelines in the 1867 Surgeon General's Circular #4 for the construction of its hospital except it included a veranda. The building was built out of brick, with a central two-story administration building, and one-story wards to either side. The hospital had a veranda due to the climate of south Texas; however, originally the ventilation system only consisted of windows and doors. A system of latticework on the ceilings that vented each ward out to the roof ridge was not added until later.

Fort Brown was deactivated after World War II, and most of the property became the Texas Southmost College and subsequently the University of Texas at Brownsville. This hospital is still extant and utilized as the administration building for the university.

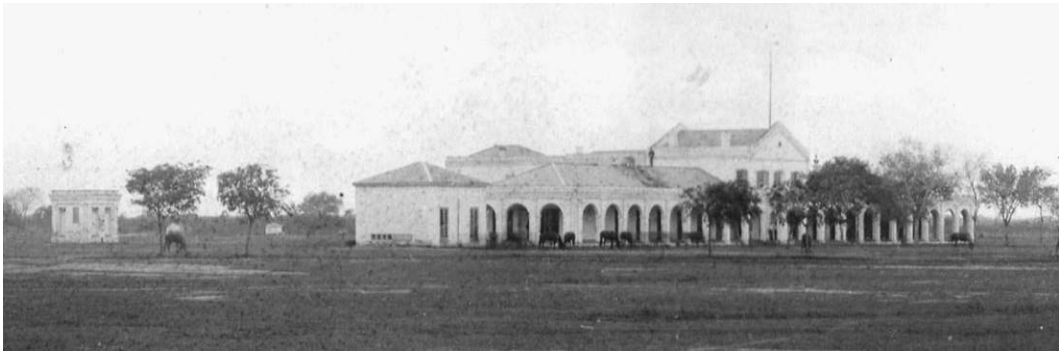


Figure 110. Hospital [right] and dead house [left] before roof ventilation, Fort Brown, Texas, 1890s (NARA College Park, RG 92-F-12-11).

Figure 111. Hospital after roof ventilation was added, Fort Brown, Texas, 1925 (NARA College Park, RG 111-SC, box 658, 88148).

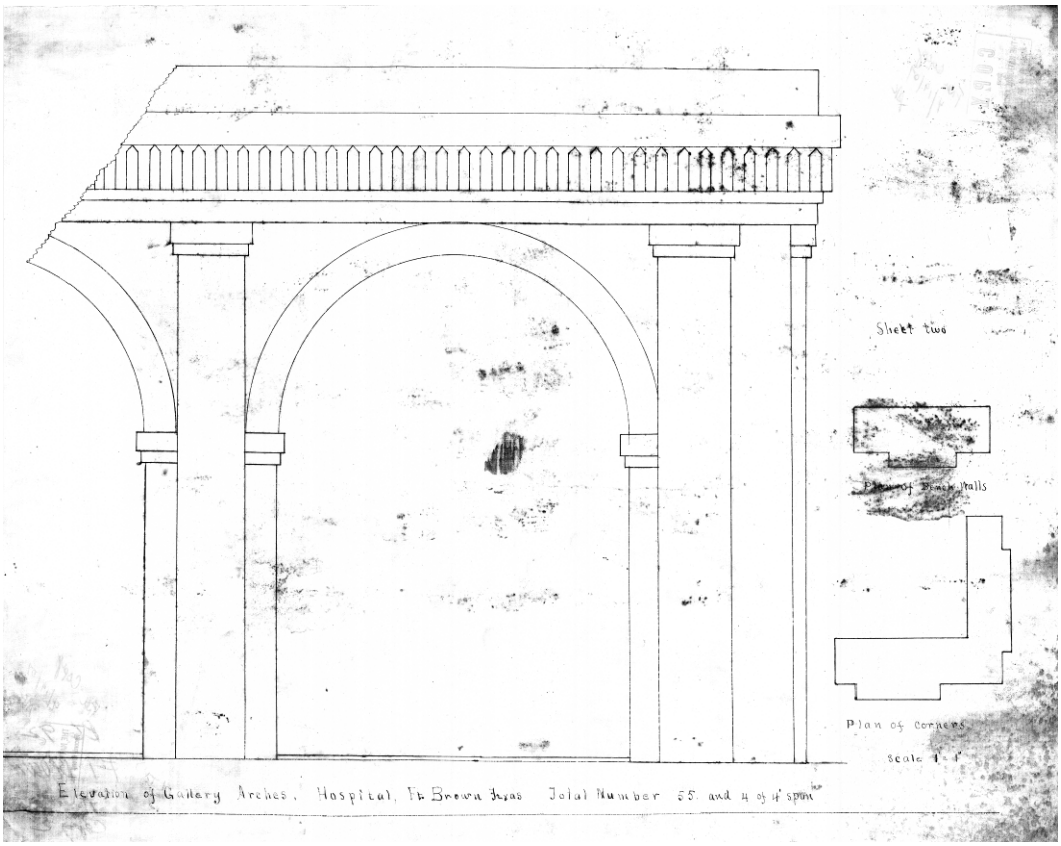


Figure 112. Detail of arch on front elevation of hospital, Fort Brown, Texas, no date (NARA College Park, RG 92 Blueprint Files, Fort Brown, TX).

CAMP REYNOLDS (ANGEL ISLAND), CALIFORNIA (1869)

The Camp Reynolds hospital followed the guidelines in the 1867 Surgeon General's Circular #4. The building was built out of wood. There was a central two-story administration building with one-story wards to either side.

Figure 113. Hospital, Camp Reynolds, California, 1890s (NARA College Park, RG 92-F-3-6).

8 ARMY CIRCULAR #10 HOSPITALS (1870)

The limitations of the Circular #4 hospitals were corrected in Circular #10; however, Congress and subsequently the War Department did not give the Office of the Surgeon General enough funds to keep the hospitals in good repair. By 1874 for new construction, each hospital would be individually appropriated by Congress instead from the general budget of the War Department. Surgeons and hospital stewards were exceedingly involved in redesigning the Circular #4 hospitals. Verandas became a required feature, ventilation from below the floor through the wards out to the roof was added, and slats in the floor could be closed in the winter and opened in the summer. The stove could perform the same ventilation function. A kitchen and mess wing was added to the rear of the administration block.

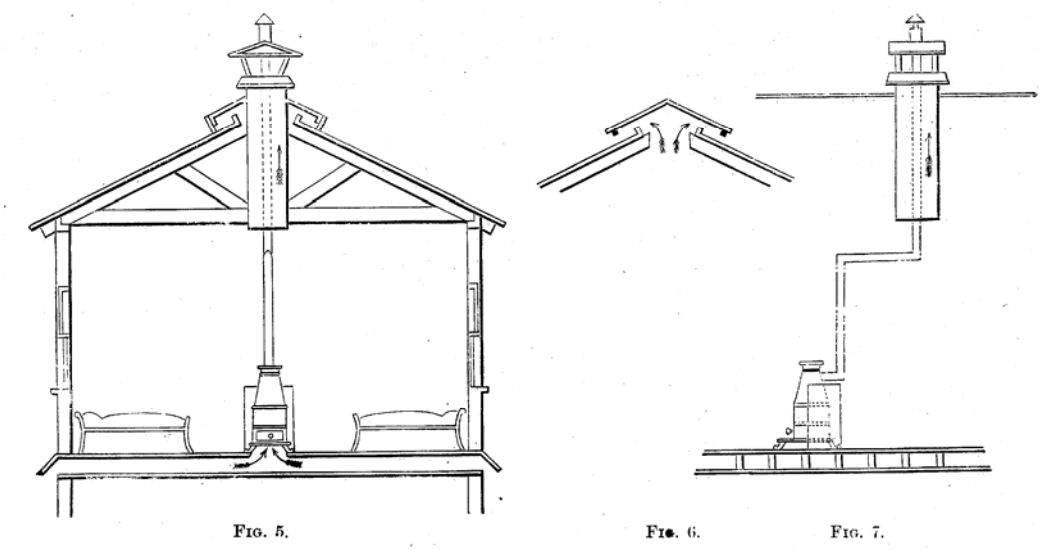


Figure 114. Drawings of ventilation schemes for the Circular #10 hospitals (NARA Washington, DC, RG 112, Entry 63, Box 3).

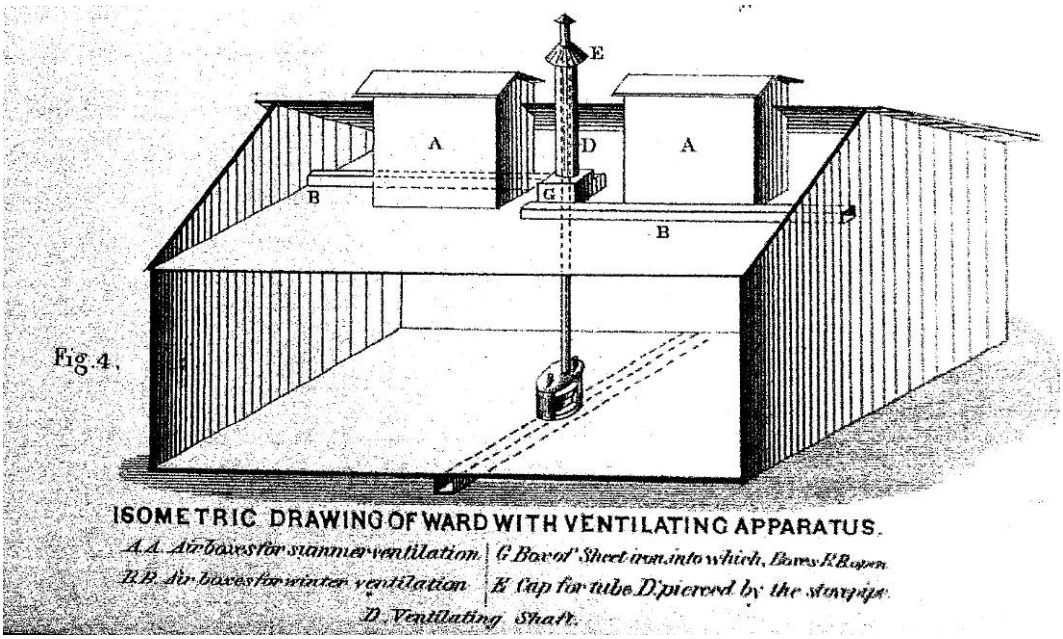


Figure 115. Isometric drawing of a ventilating a typical ward for the Circular #10 hospitals (NARA Washington, DC, RG 112, Entry 63, Box 3).

The War Department and the Office of the Surgeon General were so enamored with the Circular #10 hospital plan that they constructed a model hospital (52-A on the map) at the Philadelphia Exhibition of 1876 outside the United States Government Building (51-A on the map). This hospital contained exhibits of medical technology including models of the Civil War general hospitals. There was also a model hospital tent (53-A on map).

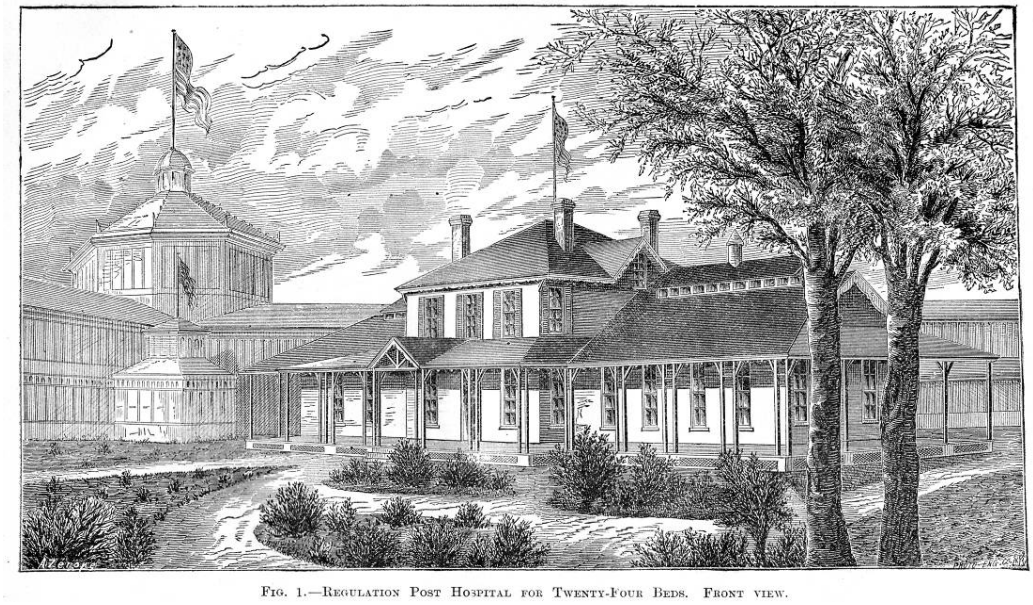


FIG. 1.—REGULATION POST HOSPITAL FOR TWENTY-FOUR BEDS. FRONT VIEW.

Figure 116. Drawing of Post Hospital Exhibit Building with U.S. Government Pavilion in background, Philadelphia, PA, 1876 (NARA Washington, DC, RG 112, Entry 63, Box 3).

Figure 117. Front of the Post Hospital Exhibit Building, Philadelphia, PA 1876 (courtesy NMHM Otis Archives, EXP01876-02).

Figure 118. An exhibit of a typical ward at the Post Hospital Exhibit Building, Philadelphia, PA 1876 (courtesy NMHM Otis Archives, EXP01876-06).

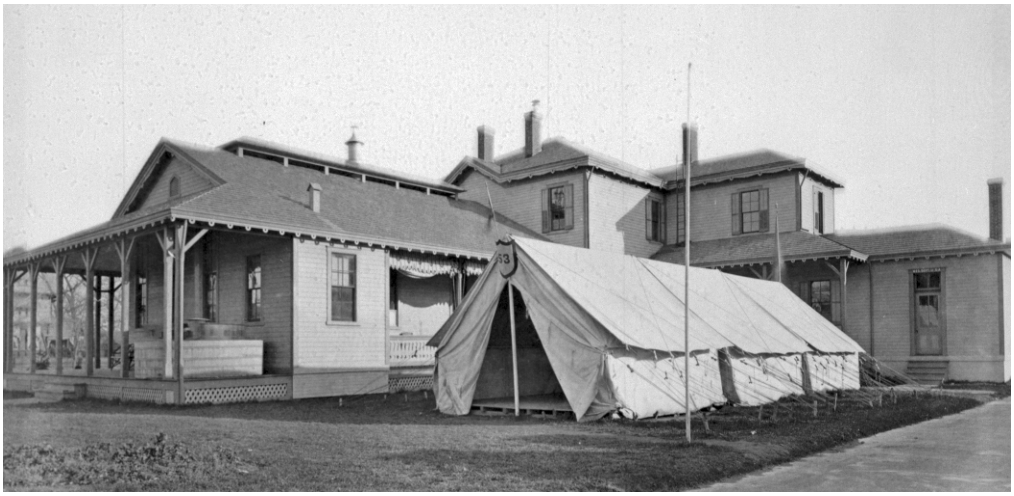


Figure 119. Back of the Post Hospital Exhibit Building with an exhibit of an Army Medical Corps tent, Philadelphia, PA 1876 (courtesy NMHM Otis Archives, EXP01876-03).

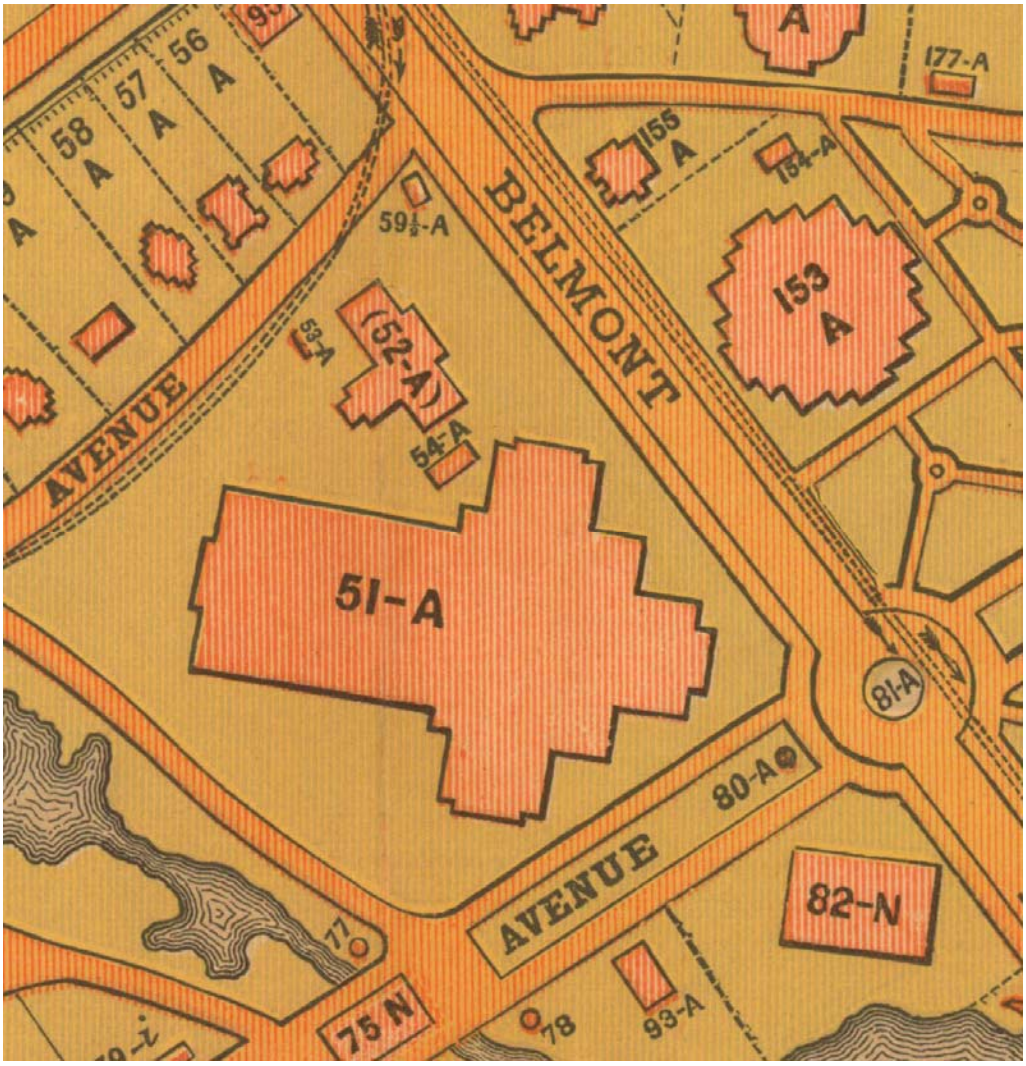


Figure 120. Detail of Philadelphia Exhibition Map, Philadelphia, PA 1876.

The architectural elements to look for in this hospital plan type are:

1. T-shaped plan
2. porch
3. central administrative block.

CIRCULAR #10 12-BED HOSPITALS (1870)

The Office of the Surgeon General constructed many Circular #10 12-bed hospitals throughout the Army since the size of most posts necessitated a 12-bed plan rather than the 24-bed plan.

FORT DOUGLAS, UTAH (1876)

The Surgeon General's Office authorized the replacement of the small, inadequate original hospital at Fort Douglas with a new hospital based upon the guidelines in Circular #10 in 1876. The hospital was two stories with a wraparound veranda. The Circular #10 hospitals could be constructed out of wood, brick, or stone. Fort Douglas utilized a native stone. Stewards and attendants' quarters, kitchen, mess, and surgery were on the first floor, while the wards were on the second floor. Having the wards on the second floor facilitated ventilation through the roof. Later, a brick two-story ward was constructed in the back this giving the hospital a 24-bed capacity.

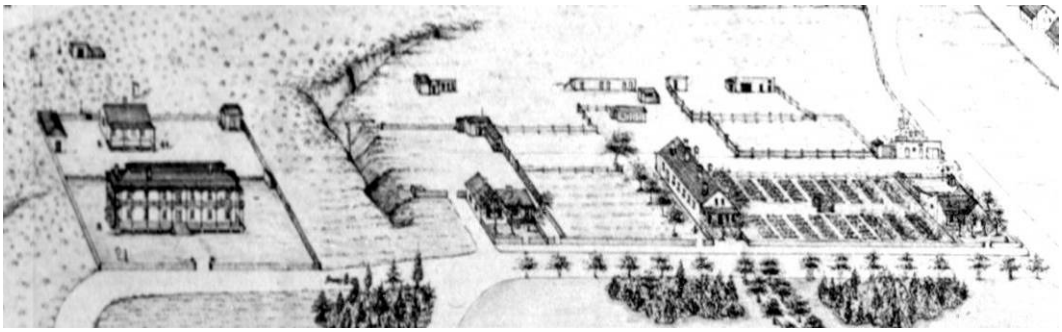


Figure 121. Close-up of old hospital [right] and new hospital [left], Fort Douglas, Utah, 1876 (NARA College Park, RG 111-SC 88069 box 690).

Figure 122. The original 1876 hospital is to the left with an addition to the right, Fort Douglas, Utah, 1890s (NARA College Park, RG 92-F-20-7 Fort Douglas).

Figure 123. Rear of hospital, Fort Douglas, Utah, circa 1890s (courtesy NMHM Otis Archives, CP3123).

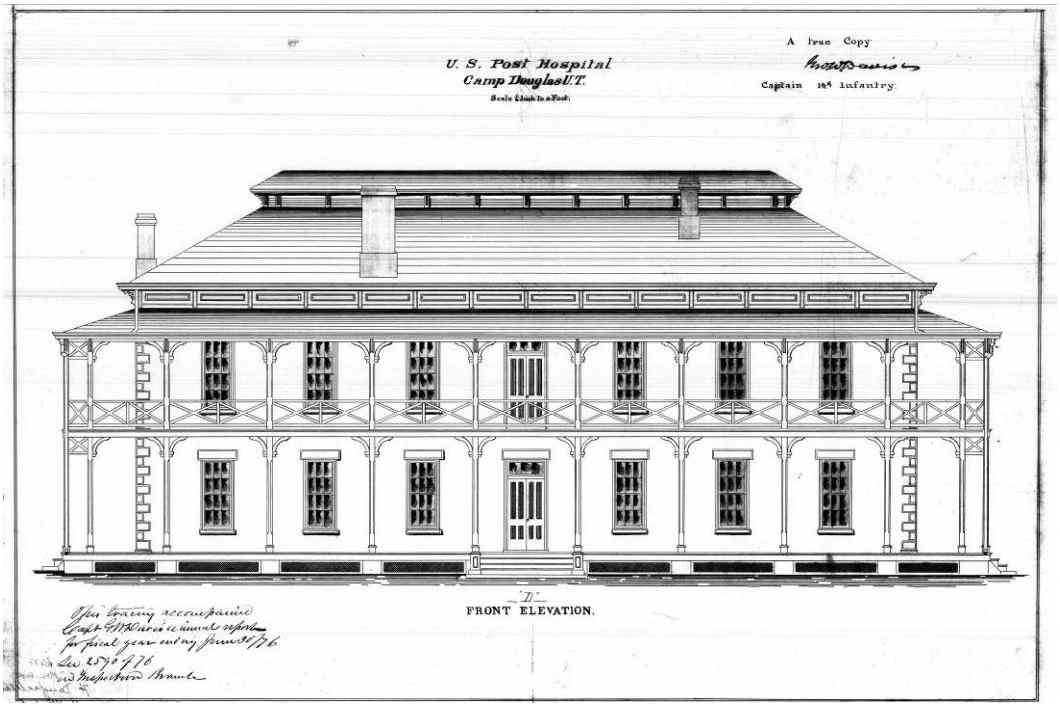


Figure 124. Front elevation of hospital, Fort Douglas, Utah, 1876 (NARA College Park, RG 77 MISC Fort Files Fort Douglas UT #44).

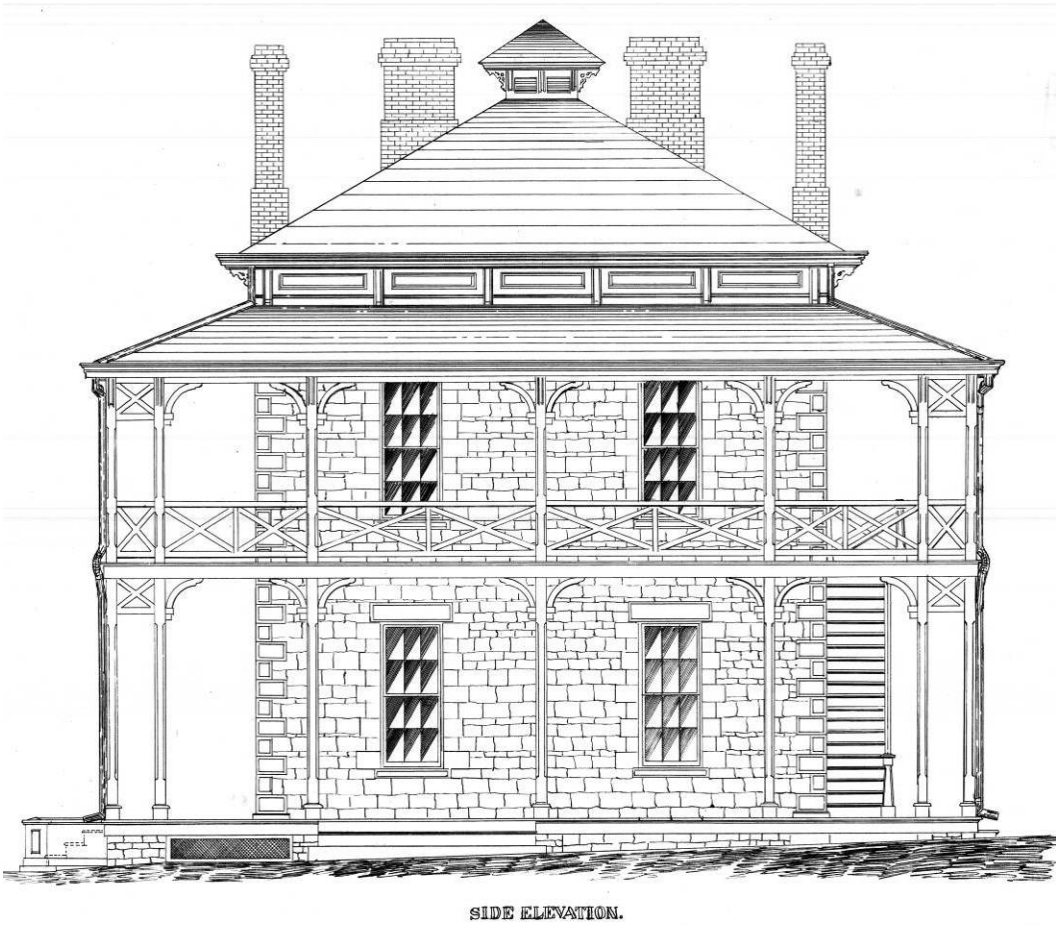


Figure 125. Side elevation of hospital, Fort Douglas, Utah, 1876 (NARA College Park, RG 77 MISC Fort Files Fort Douglas UT #44).

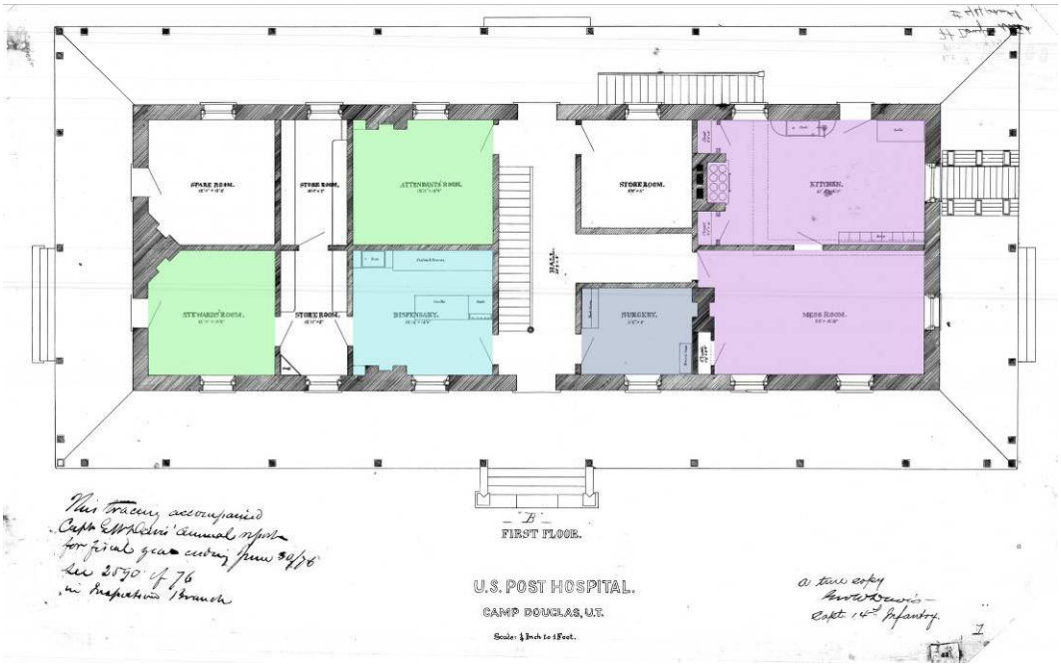


Figure 126. First floor of hospital, Fort Douglas, Utah, 1876 (NARA College Park, RG 77 MISC Fort Files Fort Douglas UT #44).

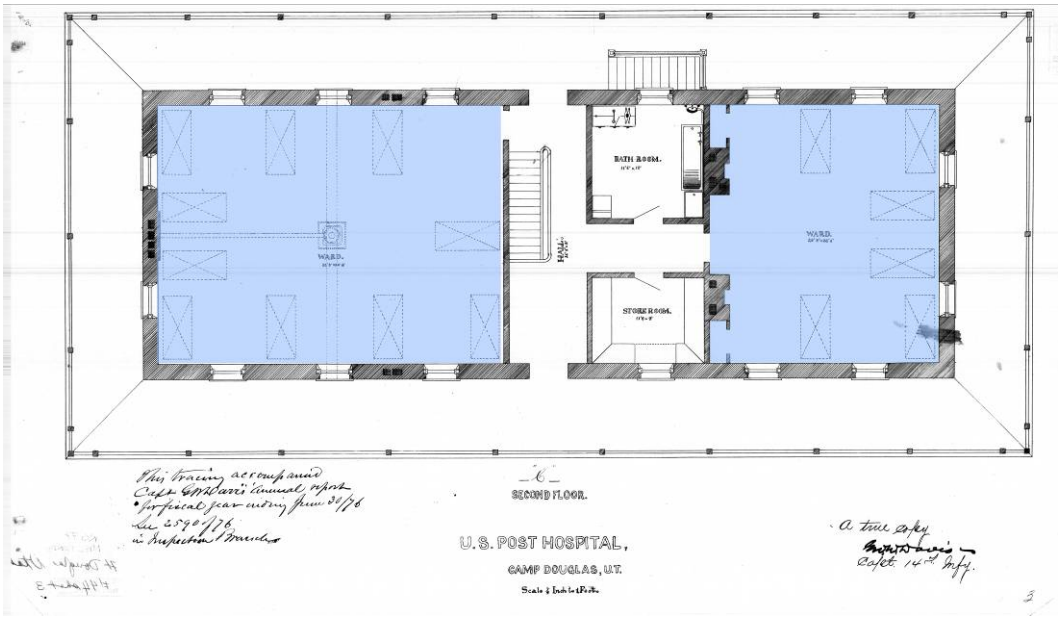


Figure 127. Second floor of hospital, Fort Douglas, Utah, 1876 (NARA College Park, RG 77 MISC Fort Files Fort Douglas UT #44).

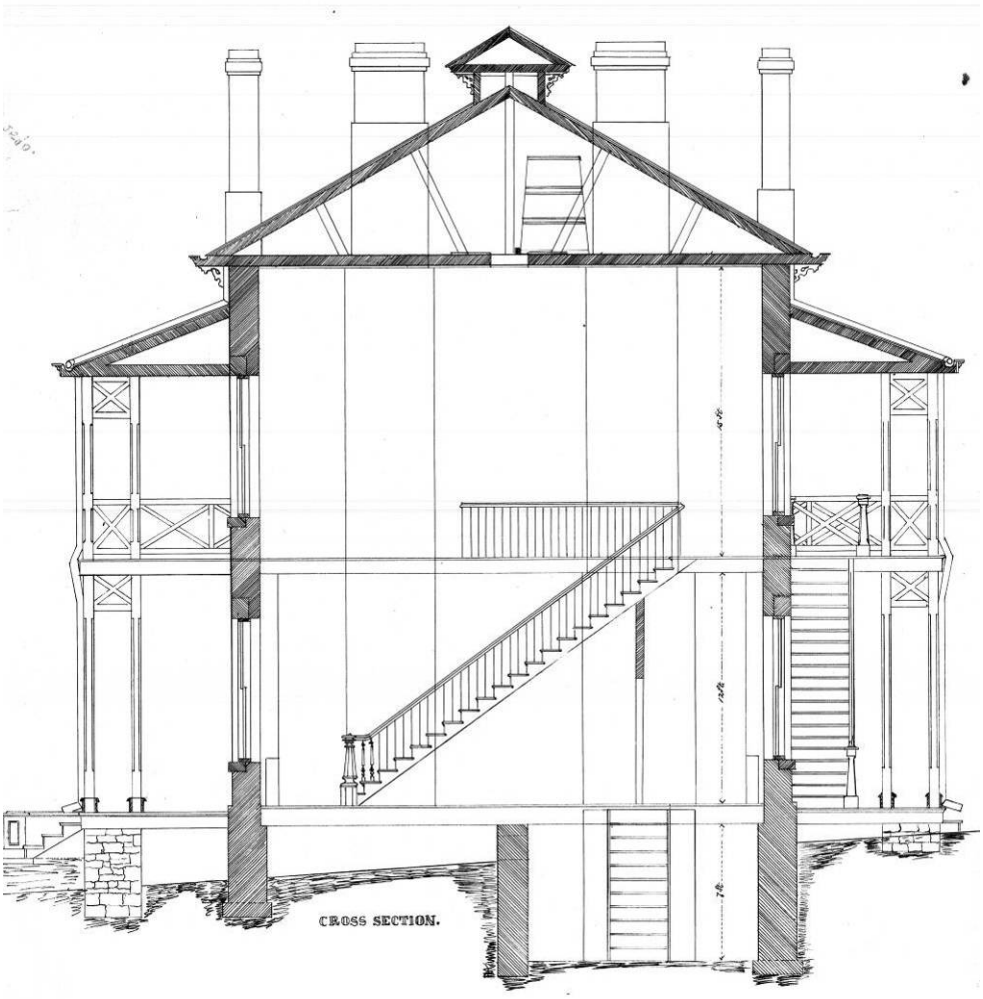


Figure 128. Hospital Section detailing ventilation system, Fort Douglas, Utah, 1876 (NARA College Park, RG 77 MISC Fort Files Fort Douglas UT #44).

OTHER EXAMPLES

The Surgeon General's Office constructed many 12-bed Circular #10 hospitals in the late 1870s and early 1880s. They were consistent with the standardized plan with quarters, offices, kitchen, and mess on the first floor and wards on the second floor. Some had a one-story building in the rear that contained the dead house, as at Fort Logan H. Roots, Arkansas and Fort Bliss, Texas. A continuation of the veranda connected it to the main hospital. An expansion of the 12-bed ward was obtained by adding a two-story wing to the rear as what eventually occurred at Fort Douglas, Utah, and at Fort Sherman, Idaho.

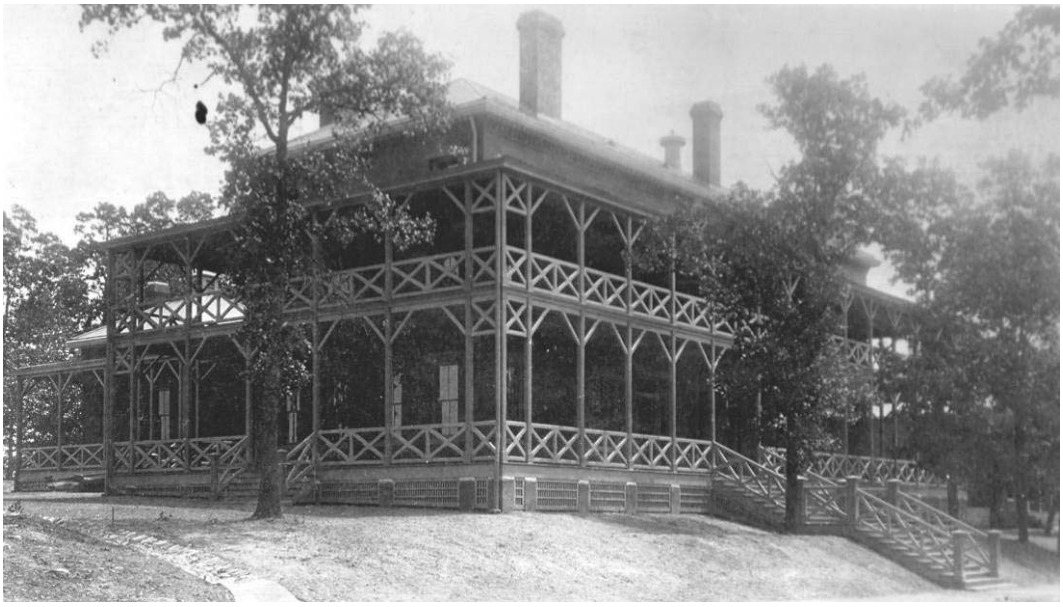


Figure 129. Hospital, Fort Logan H. Roots, Little Rock, Arkansas, 1926 (NARA College Park, RG 111-SC, box 655, 87835).

Figure 130. Hospital, Fort Bliss, Texas, 1890s (NARA College Park, RG 92-F-9-8 Fort Bliss).

Figure 131. Hospital, Alcatraz Island, California, 1890s (NARA College Park, RG 92-F-2-7 Alcatraz Island).

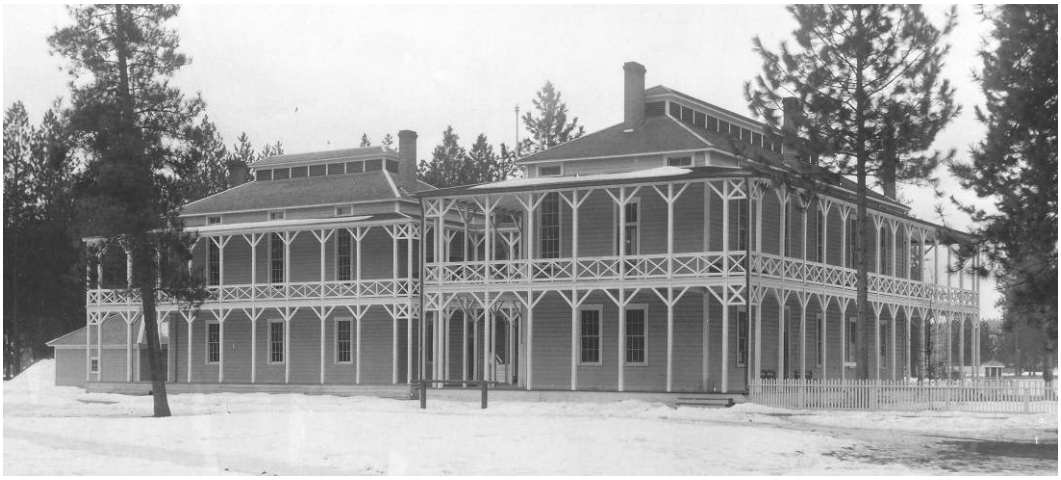


Figure 132. Hospital, Fort Sherman, Coeur d'Alene, Idaho, 1890s (NARA College Park, RG 92-F-63-8 Fort Sherman).

After Fort Sherman closed in 1900 the old post hospital was bought by Academy of the Immaculate Heart of Mary. The Academy relocated it from the location of the fort and into Coeur d'Alene proper, where the two formerly separate ward buildings were connected together. The Academy utilized it for a dormitory for their students. It was eventually demolished in the late 1960s.

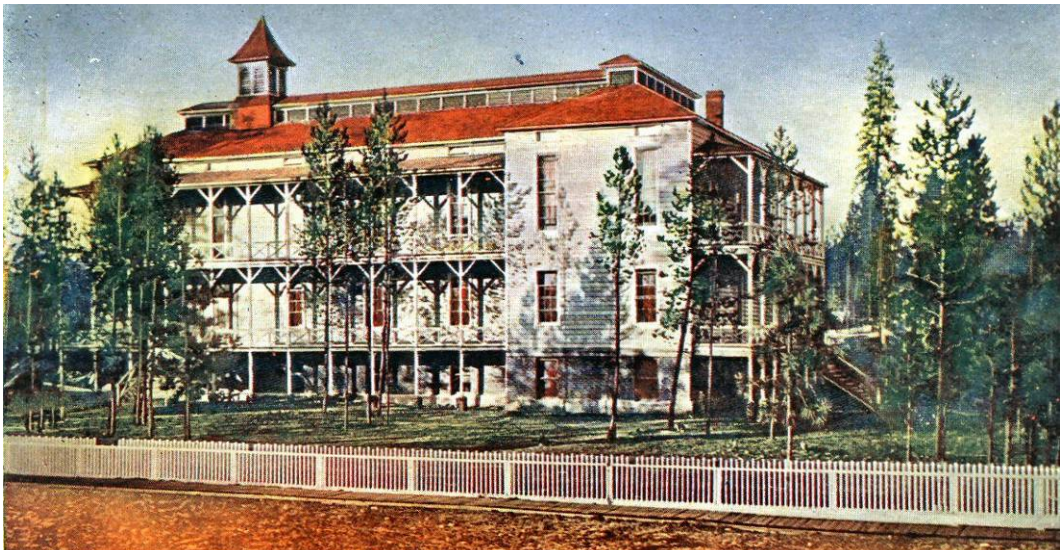


Figure 133. Old Fort Sherman hospital utilized as dormitory for Catholic Academy, Coeur d'Alene, Idaho, 1900s (courtesy Museum of North Idaho).

ARMY CIRCULAR #10 24-BED HOSPITALS (1870)

The 24-bed hospitals were constructed at the larger Army posts across the country.

VANCOUVER BARRACKS (1876)

The constructing quartermaster built the Vancouver Barracks hospital in 1876 and all provisions in Circular #10 were followed. This hospital was constructed of wood on the western side of the parade ground. While it initially followed the Circular #10 plans, it was adapted in the 1890s with a surgery and prep room on the first floor. The old square hospital on the eastern side of the parade ground was transformed into a library. In 1904, a new hospital following the Quartermaster Corps standardized plans was completed and this hospital was transformed into a barracks.

Figure 134. Hospital, Vancouver Barracks, Washington, 1890s (NARA College Park, RG 92-F-71-8 Fort Bliss).

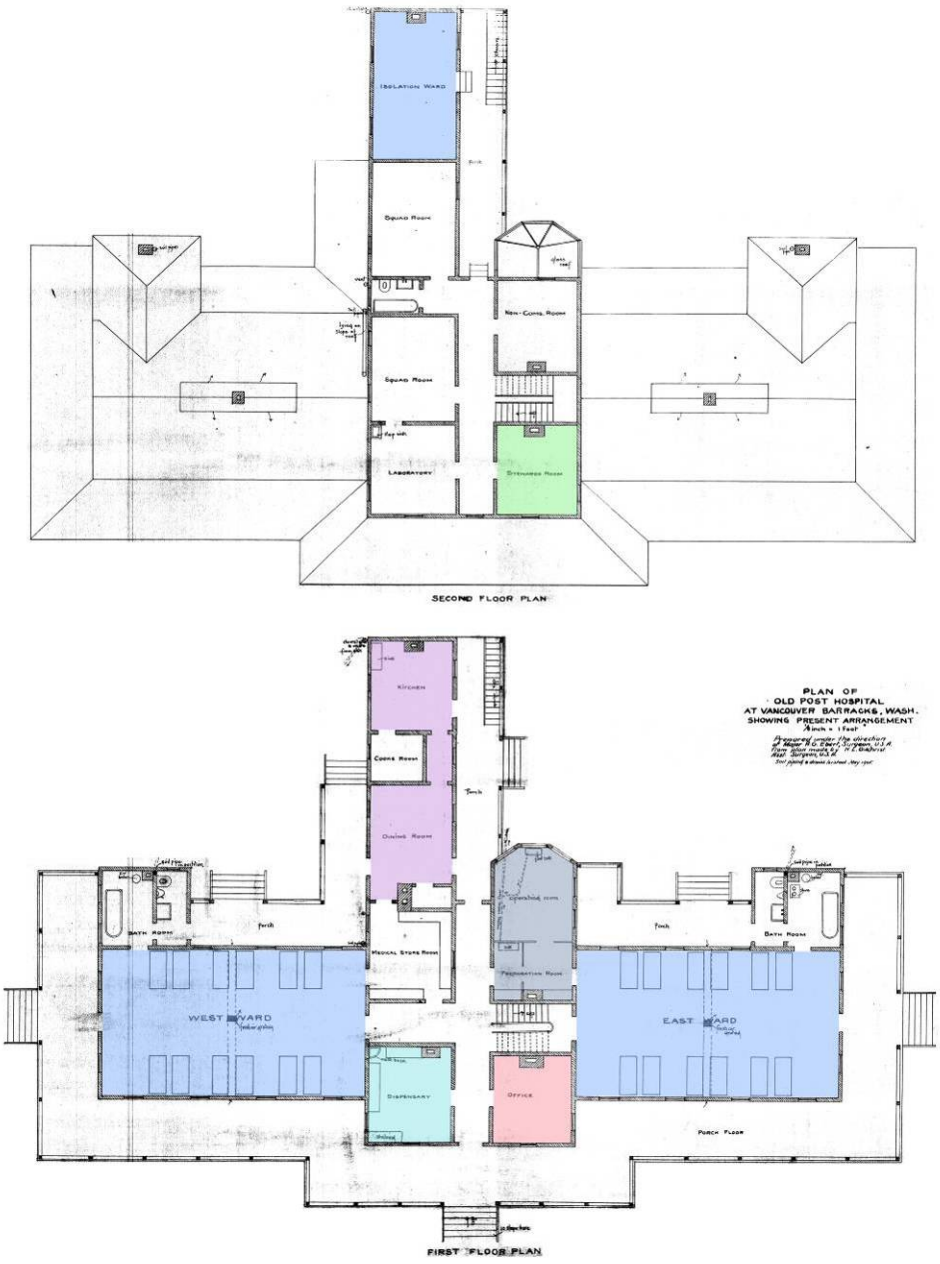


Figure 135. Hospital floor plans, Vancouver Barracks, Washington, 1905 (NARA College Park, RG 77 MISC Fort Files Vancouver Barracks WA).

FORT ASSINNIBOINE, MONTANA (1878)

The Fort Assinniboine hospital followed the standard hospital plan from Circular #10. The constructing quartermaster had it made of brick, and placed the hospital in a prominent position at one end of the parade ground. At some point, they added a second story to each ward wing. It is not known whether the first floor wards were kept after the addition.

Figure 136. Hospital, Fort Assinniboine, Montana, 1890s (NARA College Park, RG 92-F-5-8 Fort Assinniboine).

Figure 137. Hospital elevation, Fort Assinniboine, Montana, 1879 (NARA College Park, RG 77 MISC Fort Files Fort Assinniboine MT #5).

Figure 138. Hospital, Fort Assinniboine, Montana, 1881.

FORT LEAVENWORTH, KANSAS (CIRCA 1880)

It could not be determined when the second hospital at Fort Leavenworth was constructed; however, it does appear in an 1881 photograph with the 1840s square hospital behind it. This hospital follows the basic plan in Circular #10 except for the bay windows on the second floor of the administration block. This building is still extant at Fort Leavenworth, and it was transformed into a Hospital Corps Barracks after the third hospital was completed. The first hotel was transformed into visiting quarters, and then eventually an officers' mess hall, and was demolished at some point before 1908.

Figure 139. Hospital, Fort Leavenworth, Kansas, 1881 (NARA College Park, RG 111-SC, box 661, 83555).

Figure 140. Hospital, Fort Leavenworth, Kansas, 1897 (courtesy Combined Arms Research Library).

Figure 141. Front of hospital, Fort Leavenworth, Kansas, circa 1870s (courtesy NMHM Otis Archives, CP3140).

Figure 142. Rear of hospital, Fort Leavenworth, Kansas, circa 1870s (courtesy NMHM Otis Archives, CP3140).

Figure 143. Second Hospital [square-plan hospital can be seen to the right], Fort Leavenworth, Kansas, 1890s (NARA College Park, RG 92-F-33-11, box 9).

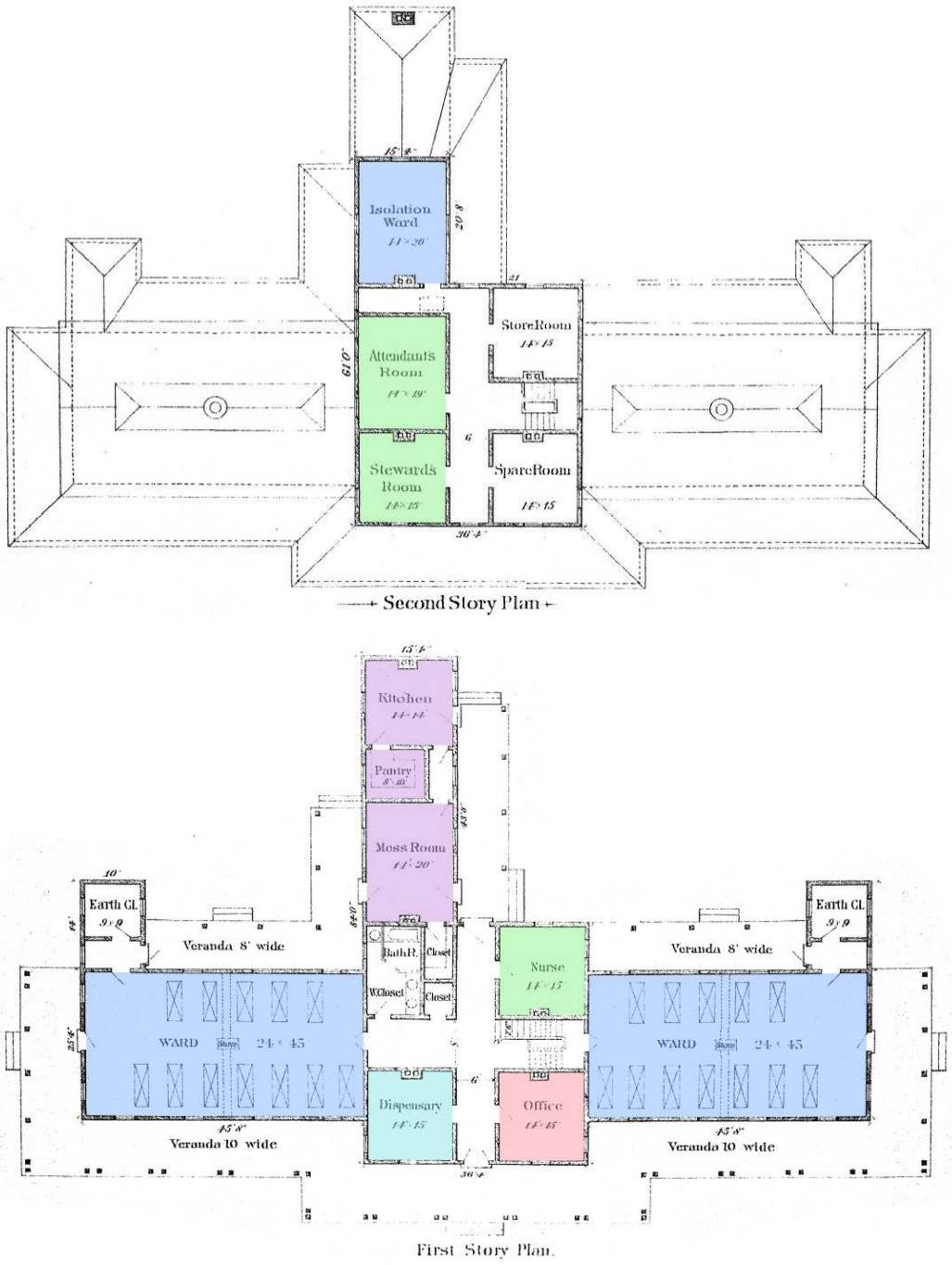


Figure 144. Circular #10 Hospital as used at Fort Leavenworth, Kansas, 1881 (NARA Washington DC, RG 112 Entry 63 Box 1, vol. 2).

OTHER EXAMPLES

The Surgeon General's Office utilized the Circular #10 hospital plan throughout the United States; however, this plan was highly adaptable to local conditions compared to the Circular #4 hospital plan.

Smaller posts had a six-bed hospital option with only ward wing and a one-story administration section.

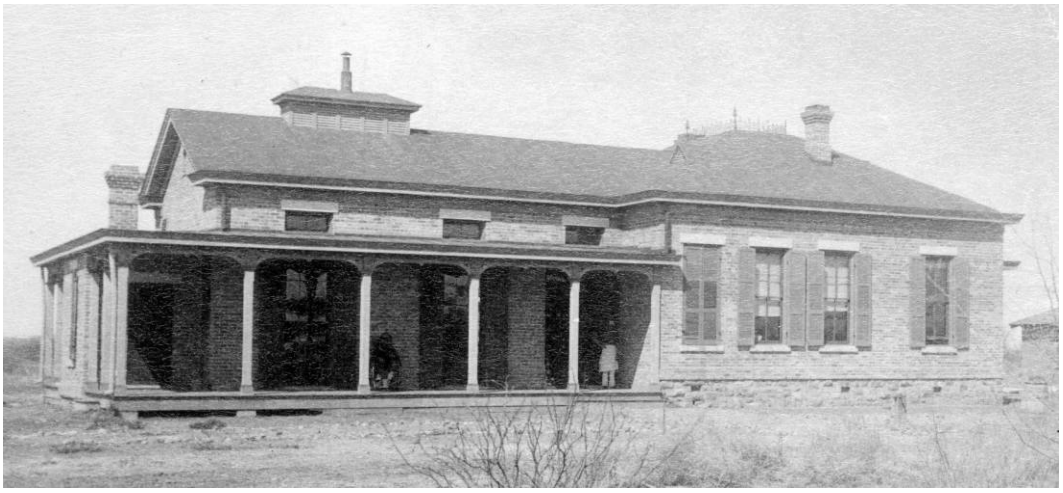


Figure 145. U.S. Army Hospital, Fort Hancock, Texas, circa 1870s (courtesy NMHM Otis Archives, CP3131).

Some posts added ventilating towers and widow's walks.

Figure 146. U.S. Army Hospital, Fort Sill, Oklahoma, circa 1870s (courtesy NMHM Otis Archives, CP3197).

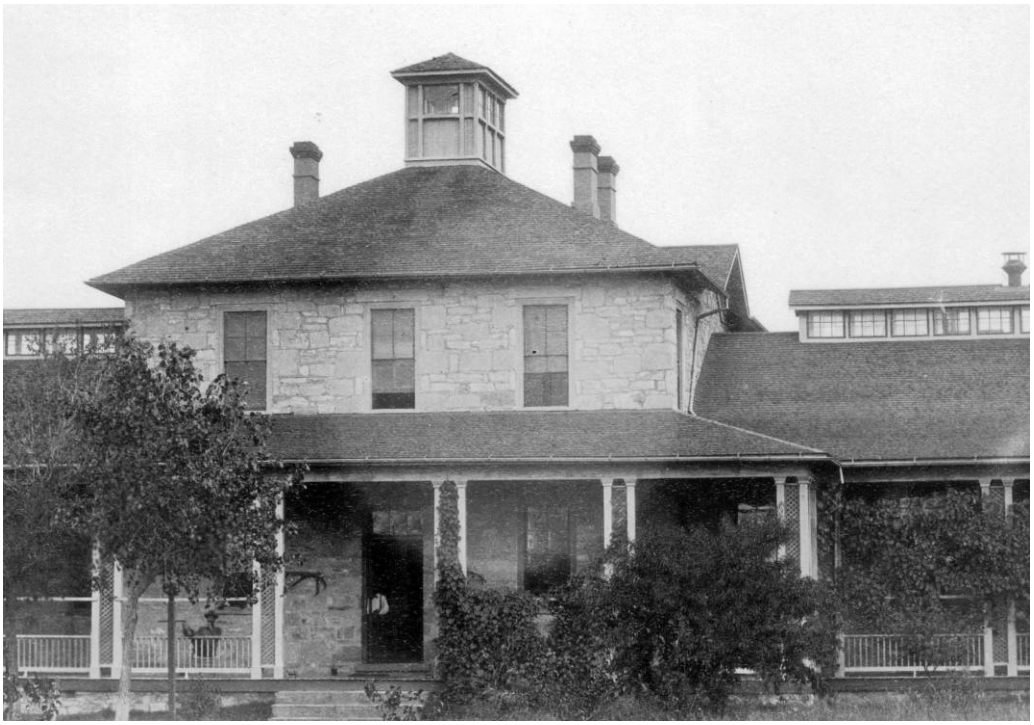


Figure 147. U.S. Army Hospital, Fort Sill, Oklahoma, circa 1870s (courtesy NMHM Otis Archives, CP3197).

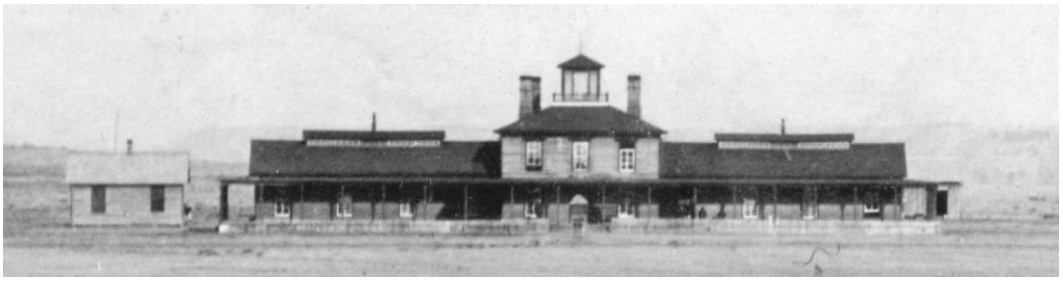


Figure 148. Hospital, Fort Custer, Montana, circa 1880s (NARA College Park, RG 111-SC 83776 box 663).

Some hospitals were more elaborately detailed than others, for example at Fort Bayard, New Mexico; Fort Columbus, New York; and Fort Sam Houston, Texas. The first permanent hospital at Fort Sam Houston, Texas was constructed in 1886. This building is extant and is utilized for temporary lodging of visiting dignitaries.

Figure 149. Hospital, Fort Bayard, New Mexico, 1890s (NARA College Park, RG 92-F-7-9).

Figure 150. Hospital, Fort Columbus, Governor's Island, New York, circa 1890s (NARA College Park, RG 92-F-15-9 box 4).

Figure 151. Hospital, Fort Sam Houston, Texas, circa 1890s (NARA College Park, RG 92-F-56-13 box 16).

FORT RILEY, KANSAS (1888)

The second hospital at Fort Riley was constructed in 1888 out of limestone. Although it has similarities to a Circular #10 hospital, there are differences: the large, square, hipped portions at the end of each ward wind and the lack of a continuous ridge vent. In 1890, a laundry, dead house, and hospital steward quarters were built behind the hospital. This hospital had an entirely new hospital built in front of it in 1906 that followed the Quartermaster standard plans. It is currently part of the Post Headquarters complex.

Figure 152. Post Hospital, Fort Riley, Kansas, 1890s (NARA College Park, RG 111-SC, box 656, 87906).

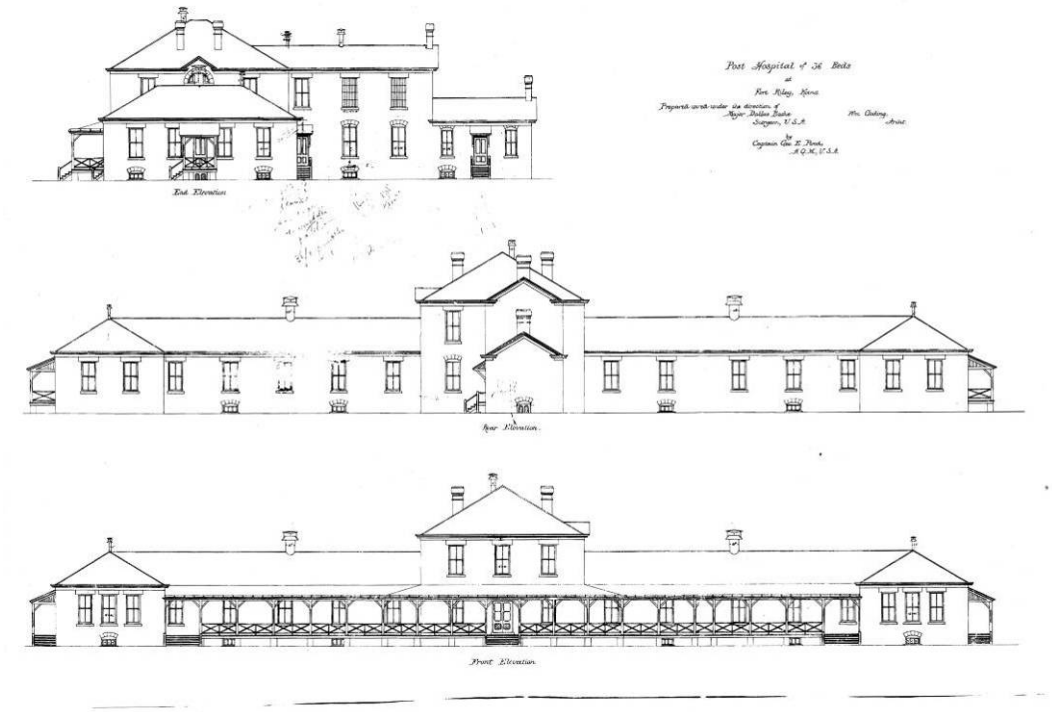


Figure 153. Post Hospital Elevations, Fort Riley, Kansas, 1888 (courtesy of the Fort Riley Cultural Resources Office).

9 A NEW STANDARD

INTRODUCTION

As the 1880s came to an end and new medical processes and technologies were developed, the Departments of the Navy and War re-evaluated their hospital designs. The increasing availability of electricity allowed for the development of larger, multi-story hospitals through the use of fans and ventilating ducts; however, the standard of a large central administrative block with ward wings to the side and a kitchen/mess/dormitory wing to the rear survived. The utilization of large porches also continued throughout the development of the new hospital plans.

The architectural elements to look for in this hospital plan type are:

1. T-shaped plan
2. two-story veranda
3. central administrative block
4. dormers
5. entrance porch
6. individual window openings

MARE ISLAND NAVAL HOSPITAL, CALIFORNIA (1899)

The Navy Surgeon General typically used outside architects to design hospitals, unlike the Army, which utilized their own architects to design and adapt hospitals for Army installations. The Navy hospitals had a large central administrative block and ward wings to either side. The use of a veranda surrounding the entire ward was downplayed to utilizing porches only on certain portions of the ward wings.

The original Mare Island Naval Hospital was built in 1869 of brick. The architect is unknown, but its design was reminiscent of the second Philadelphia Naval Hospital with a combination of Italianate and Second Empire. It was destroyed in the Mare Island earthquake of 1898, although the rest of the complex, which had been completed during the Spanish-American War, remained unscathed.

Figure 154. The first Mare Island Naval Hospital, California, circa 1880 (Library of Congress, HABS CAL 48-MARI, 1-136).

The second hospital was designed on top of the existing 1869 foundation by William Poindexter of Washington, DC. The design for the second hospital in 1899 followed the Beaux Arts tradition. The second Mare Island hospital had a large central administrative block and side ward wings made out of wood rather than brick. Mechanical ventilation ducted the stale air outside through vents on the roof of the ward wings. The hospital had a large porte-cochere on the front. Unlike the Army hospitals of the time, the Mare Island hospital had provisions for long-staying officer patients on the third floor with a parlor/bed alcove room arrangement.

Two large, L-shaped, Spanish Eclectic ward buildings were added to either side of the original hospital in 1926. Like at most military hospitals, the Navy built temporary buildings to enlarge the hospital complex during World Wars I and II. This remained the Mare Island hospital until the Naval Shipyard was closed in 1996. The entire complex is extant but vacant.

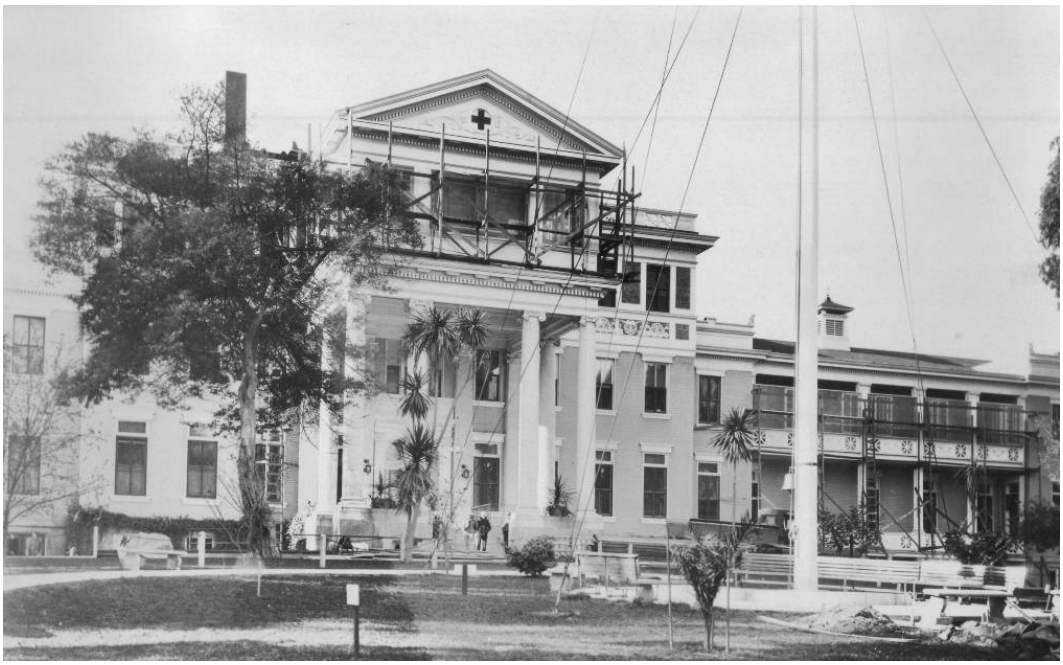


Figure 155. Mare Island Naval Hospital, California, 1918 (NARA College Park, RG 71-CA, box 223, 2600).

Figure 156. Mare Island Naval Hospital, California, circa 1920 (Library of Congress, HABS CAL 48-MARI, 1BX-20).

Figure 157. Administration Building addition to Mare Island Naval Hospital, California, 1938 (NARA College Park, RG 71-CA, box 223, 7726).

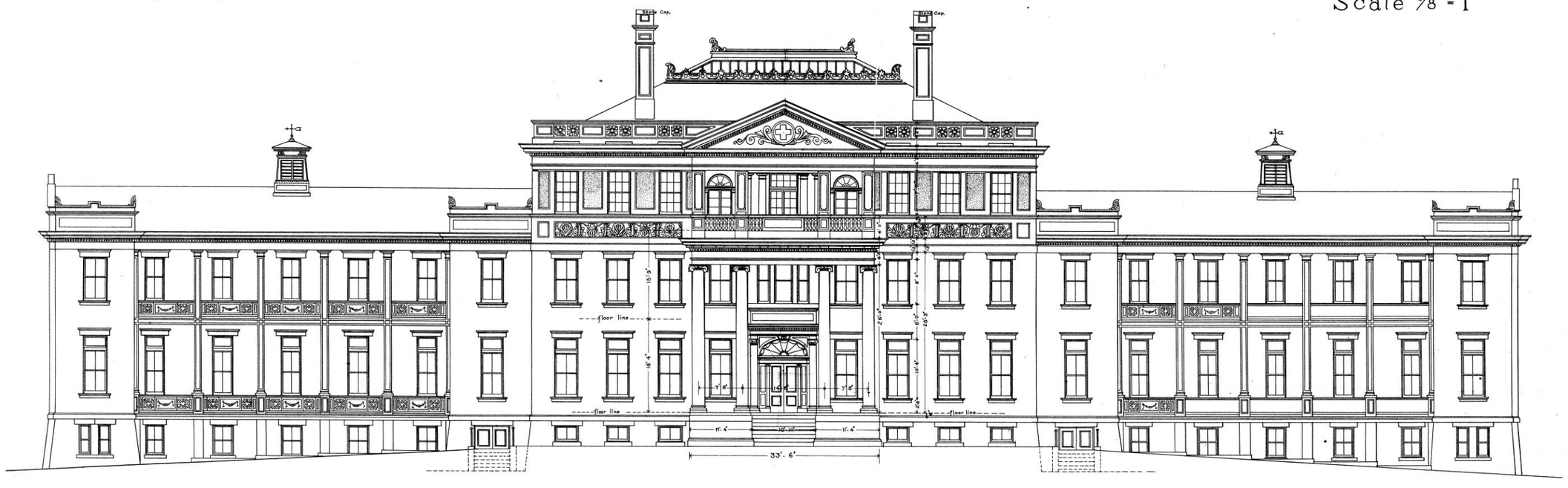
Figure 158. Administration Building addition to Mare Island Naval Hospital, California, 1938 (NARA College Park, RG 71-CA, box 223, 8080).

U.S. NAVAL HOSPITAL AT MARE ISLAND CALIFORNIA

W.M. POINDEXTER, ARCHITECT. WASHINGTON, D.C.

№ 5

Scale ⅛" - 1'



FRONT ELEVATION

Figure 159. Front Elevation of Mare Island Naval Hospital, California, 1898 (NARA College Park, RG 71-1201-31).

Figure 160. Side elevation of the Mare Island Naval Hospital, California, 1898 (NARA College Park, RG 71-1201-31).

Figure 161. The north [one of two] 1926 ward additions to the Mare Island Naval Hospital, California, May 1922 (NARA College Park, RG 71-CA box 223).

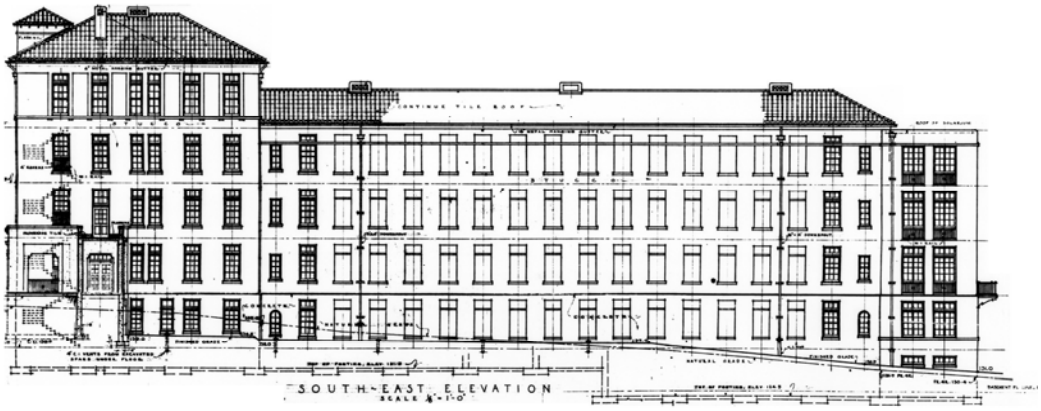


Figure 162. South elevation of the north [one of two] 1926 ward additions to the Mare Island Naval Hospital, California, 1925 (Library of Congress, HABS CAL 48-MARI, 1BW-24).

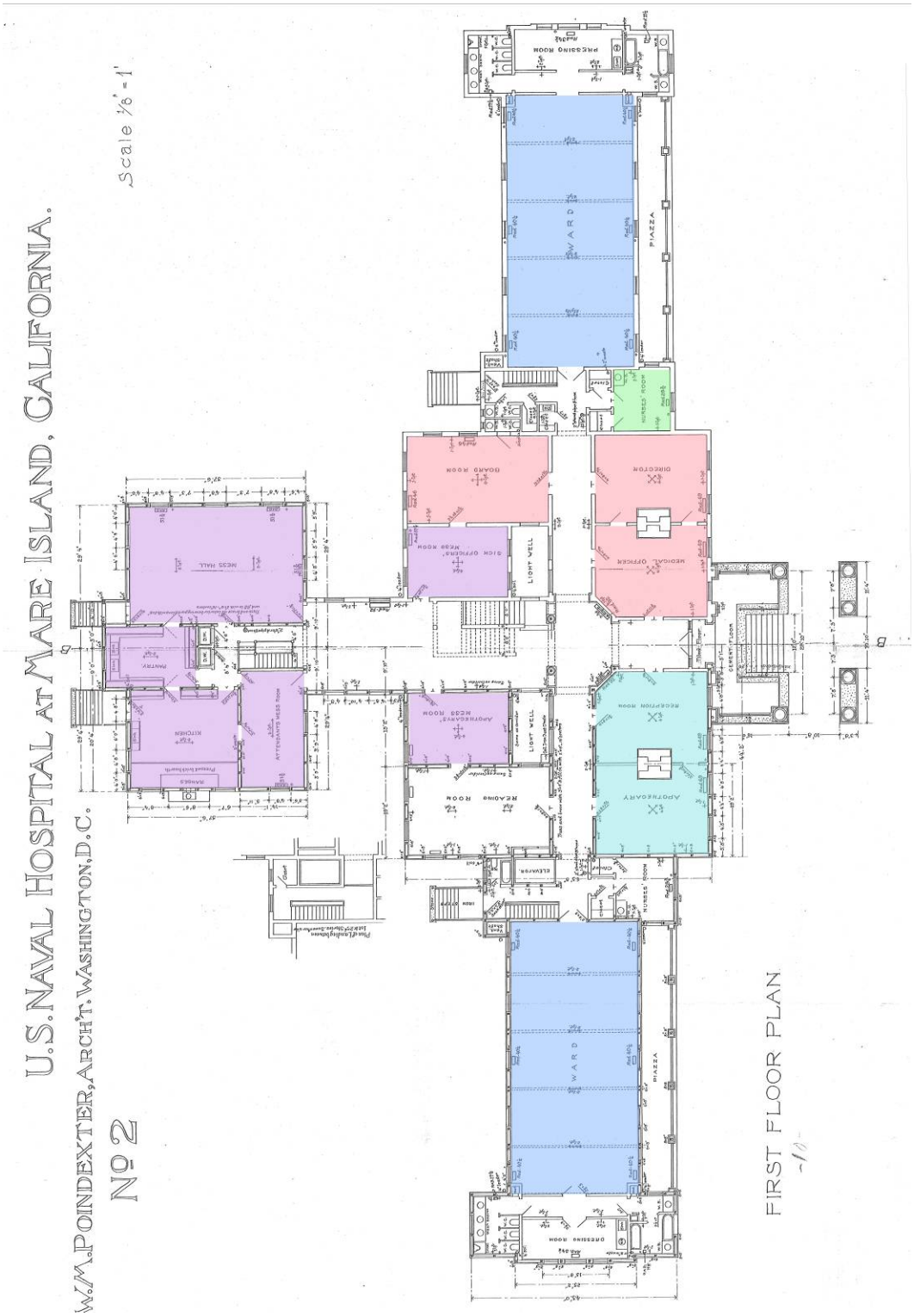


Figure 163. First floor plan of Mare Island Naval Hospital, California, 1898 (NARA College Park, RG 71-1201-31).

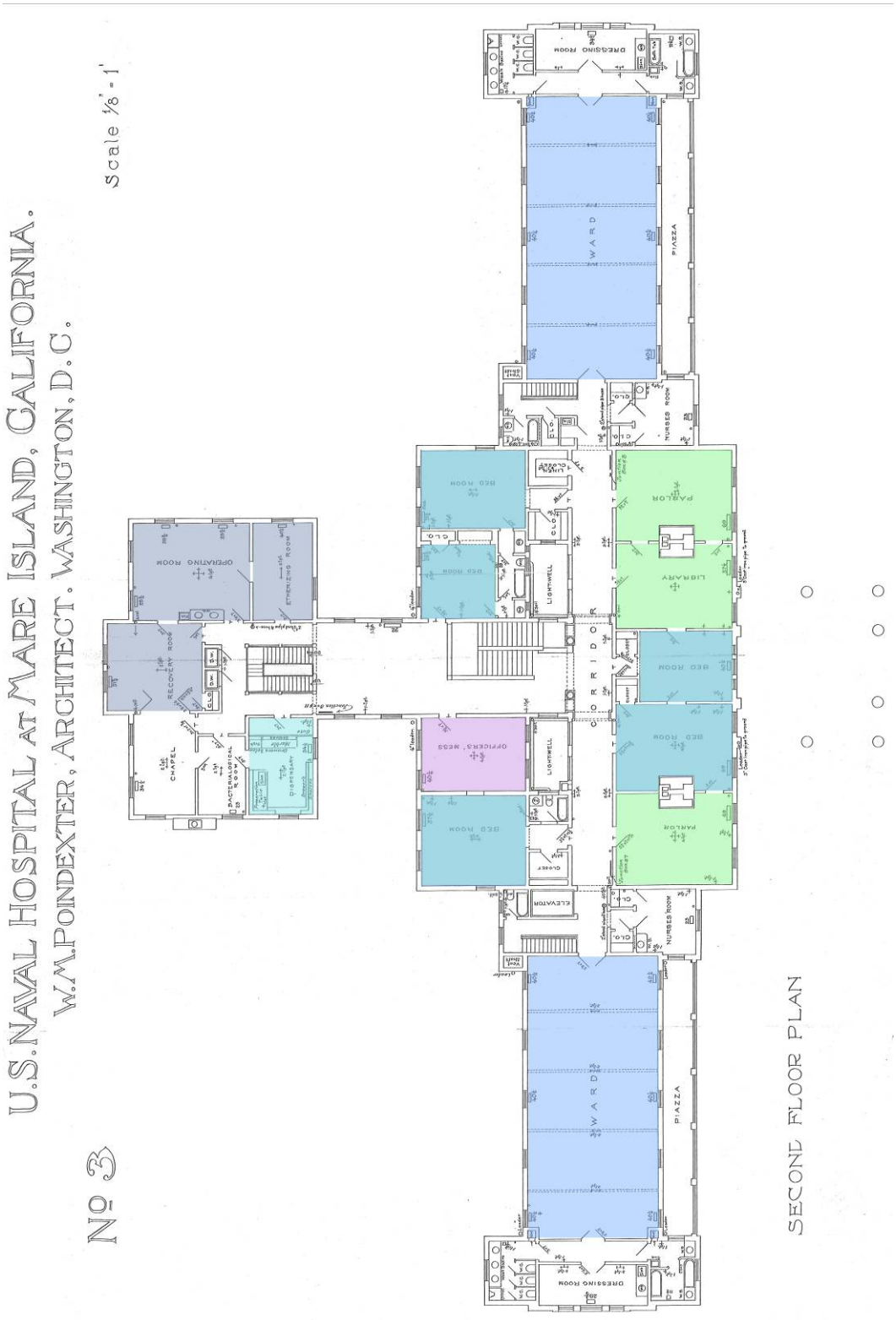


Figure 164. Second floor plan of Mare Island Naval Hospital, California, 1898 (NARA College Park, RG 71-1201-31).

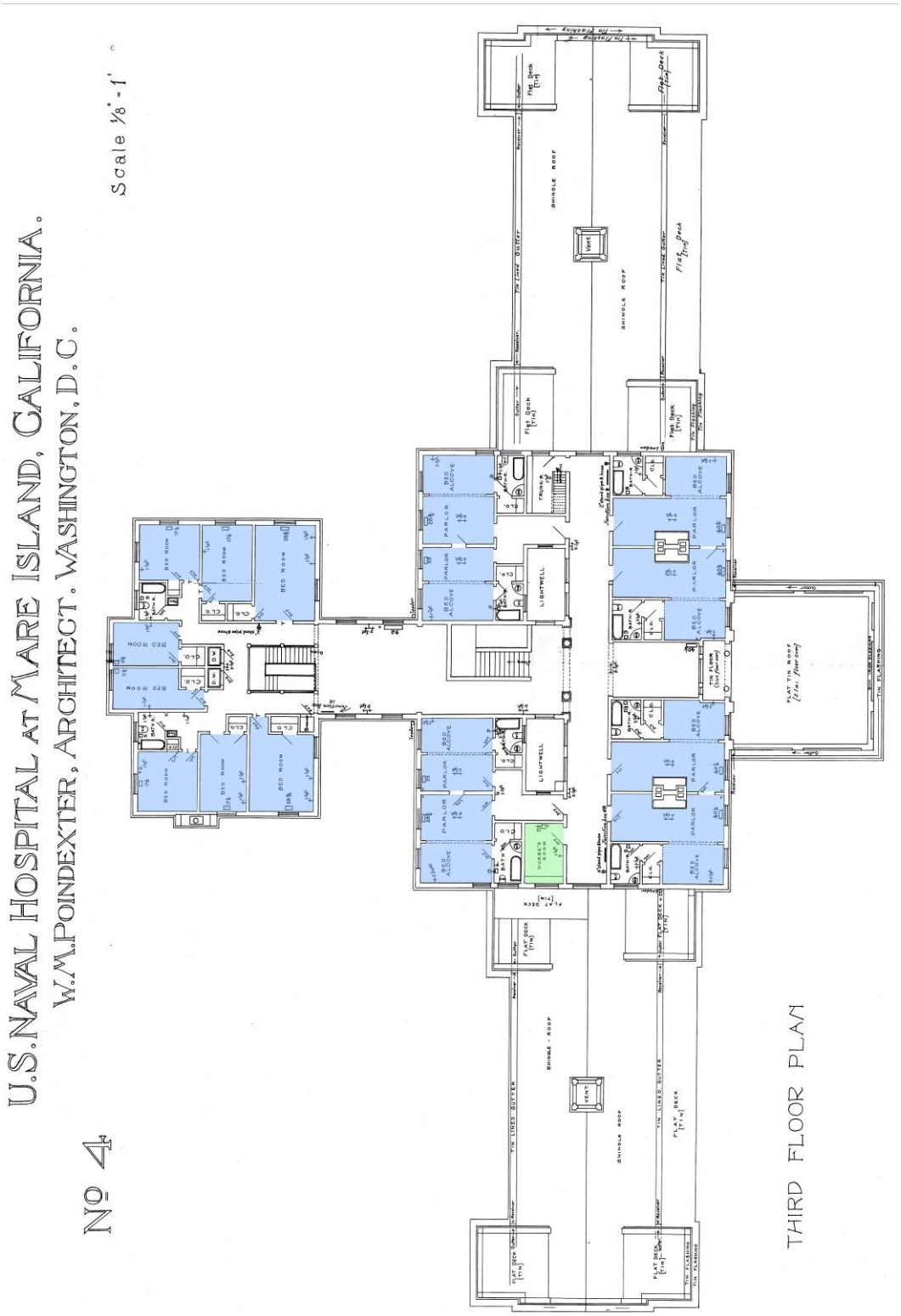


Figure 165. Third floor plan of Mare Island Naval Hospital, California, 1898 (NARA College Park, RG 71-1201-31).

Figure 166. Floor plan of the north [one of two] 1926 ward addition to the Mare Island Naval Hospital, California, 1925 (Library of Congress, HABS CAL 48-MARI, 1BW-24).

ARMY SURGEON GENERAL'S STANDARDIZED HOSPITALS 1ST ROUND

The Army Surgeon General's Office needed to develop a new hospital plan with many of the Circular #4 and Circular #10 hospitals reaching the end of their lifespan. The hospitals in the interim were designed with a larger central administrative block and larger ward wings. The plan still kept the sweeping veranda surrounding the entire hospital. Examples of this interim design can be seen at Fort Logan, Colorado (southwest of Denver) and Fort Sheridan, Illinois (north of Chicago). The hospital at Fort Sheridan, Illinois was designed with a full third story in the central block hidden behind a mansard roof.

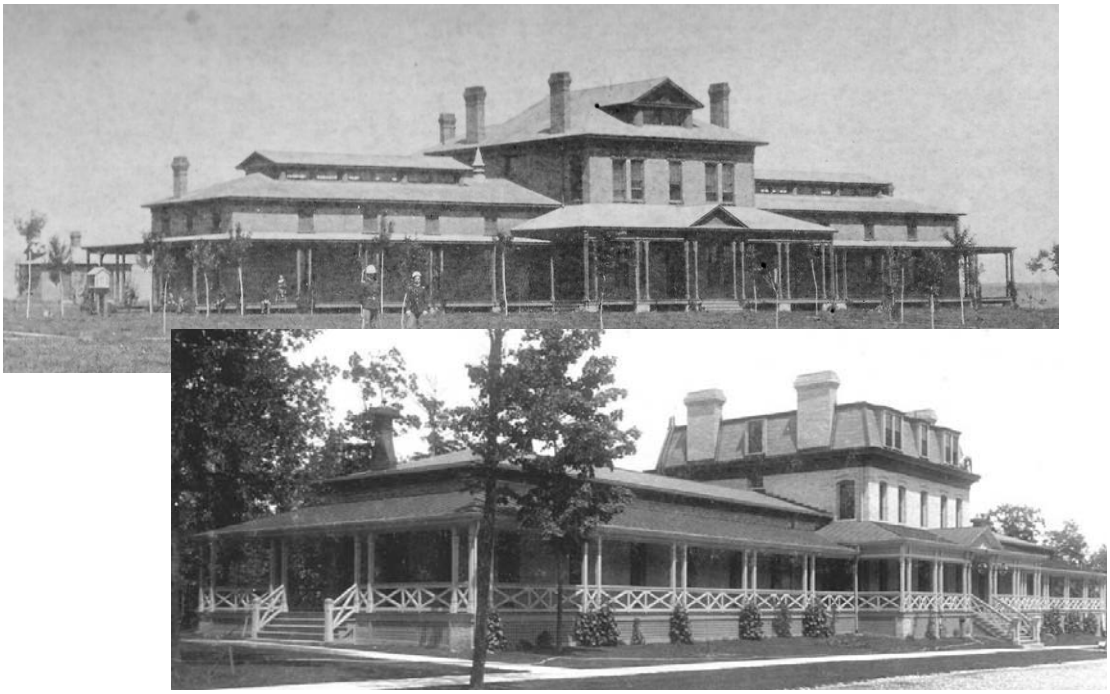


Figure 167. Fort Logan, Colorado Hospital [top] and Fort Sheridan, Illinois [bottom], late 1880s (NARA College Park, RG 111-SC, box 655, 82479 and box 656, 87866).

FORT BLISS, TEXAS (1916)

This is the second post hospital at the Lanoria Mesa site. It was originally constructed with a two-and-a-half-story administrative block and a one-and-a-half-story ward. Eventually, two additional floors were added to the one-and-a-half-story-ward and a two-and-a-half-story wing was added on to the north side of the administrative block. A kitchen, mess, and dormitory building was added to the back of this building, similar to the one constructed at Fort Riley, Kansas. Moving the kitchen, mess, and dormitory out of the central block allowed for an operating room, surgeon's office, and more administration space. This hospital was transformed into the Post Headquarters and it is extant.

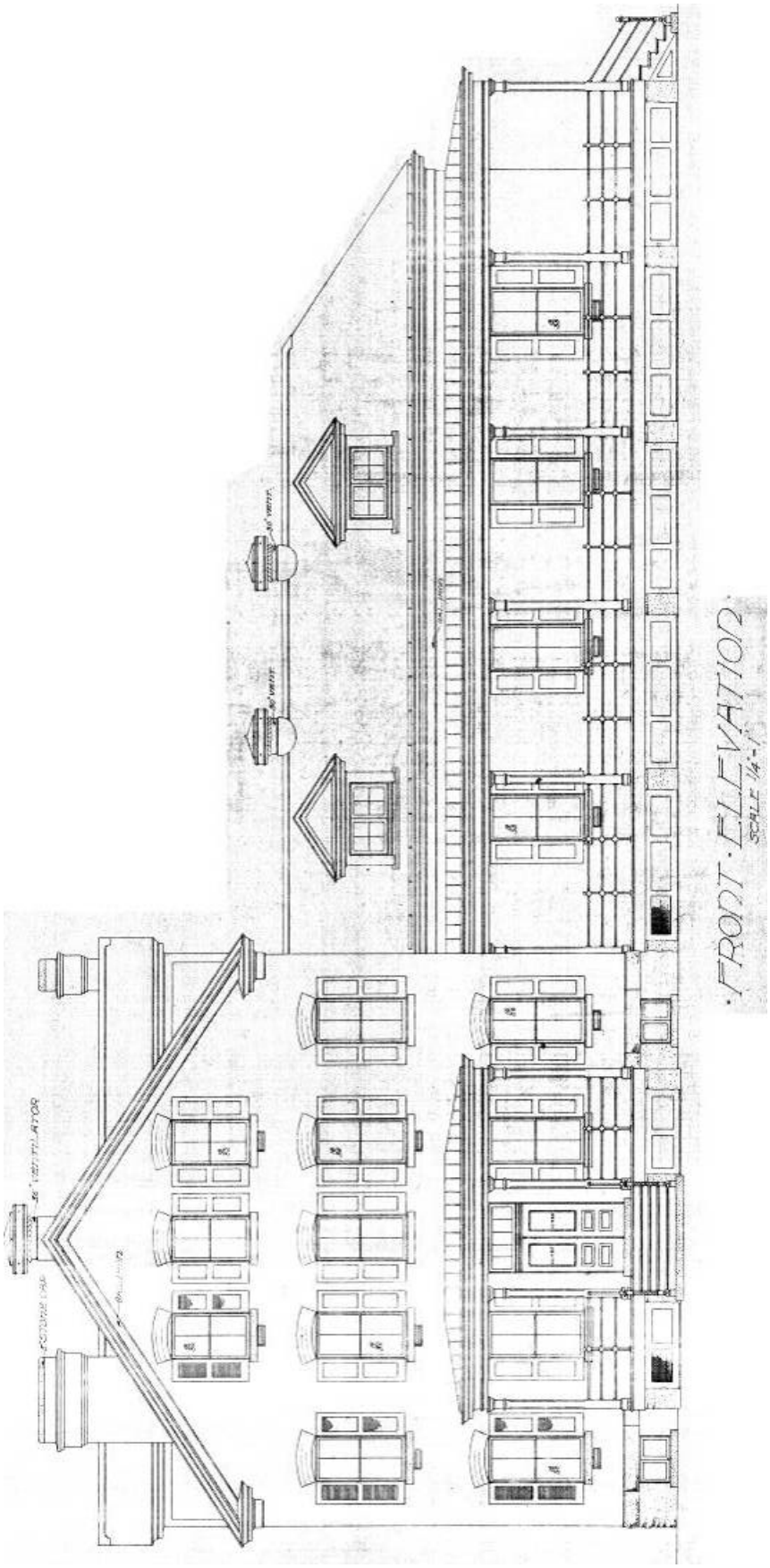


Figure 168. Second Post Hospital, Elevation, Fort Bliss, Texas, circa 1900 (NARA College Park, RG 92 Blueprint Files Fort Bliss, TX).

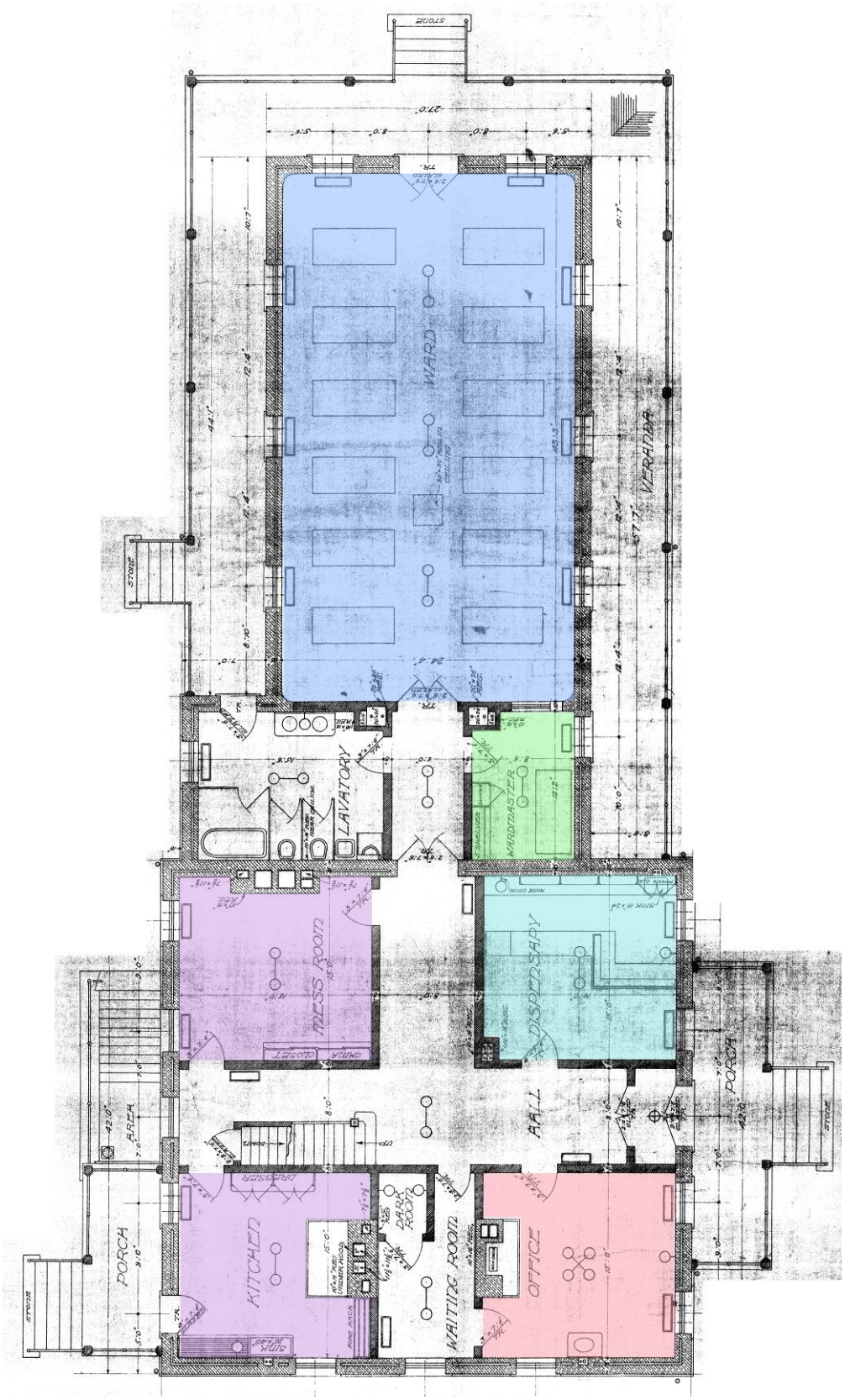


Figure 169. Second Post Hospital, First Floor Plan, Fort Bliss, Texas, circa 1900 (NARA College Park, RG 92 Blueprint Files Fort Bliss, TX).

OTHER ARMY EXAMPLES

The development of the first standard design continued with an even larger central administrative block and a kitchen and mess permanently in a separate building. The hospital at Fort Wayne, Michigan, was a good example of this evolution, although it was also subsequently expanded similar to the one at Fort Bliss, Texas.

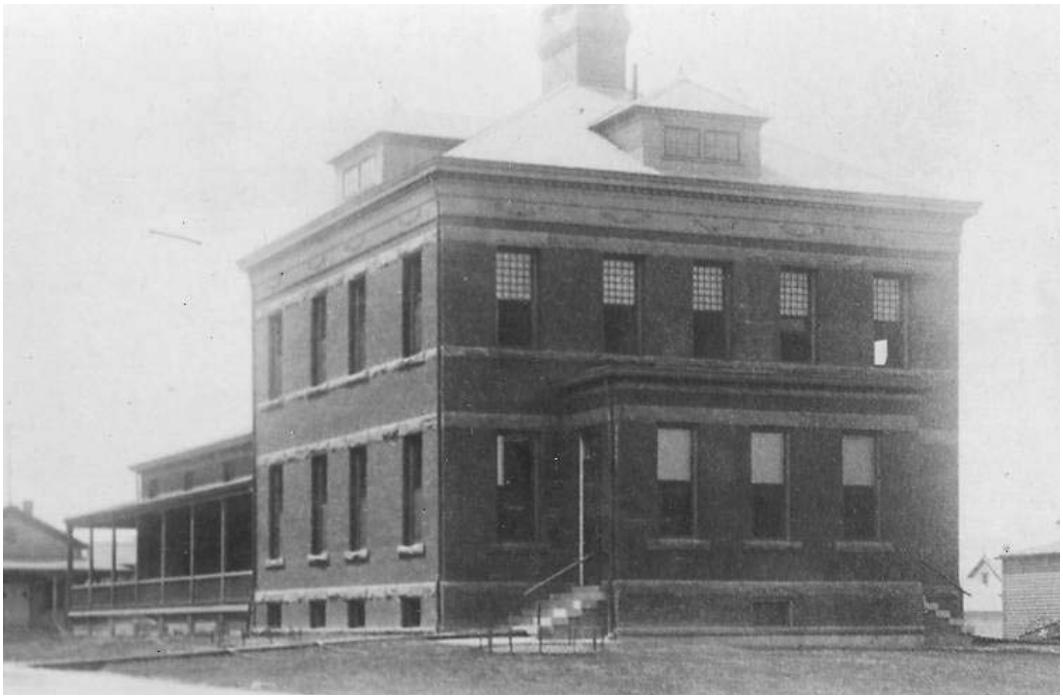


Figure 170. Front of Post Hospital, Fort Wayne, Detroit, Michigan, 1926 (NARA College Park, RG 111-SC, box 656, 87917).

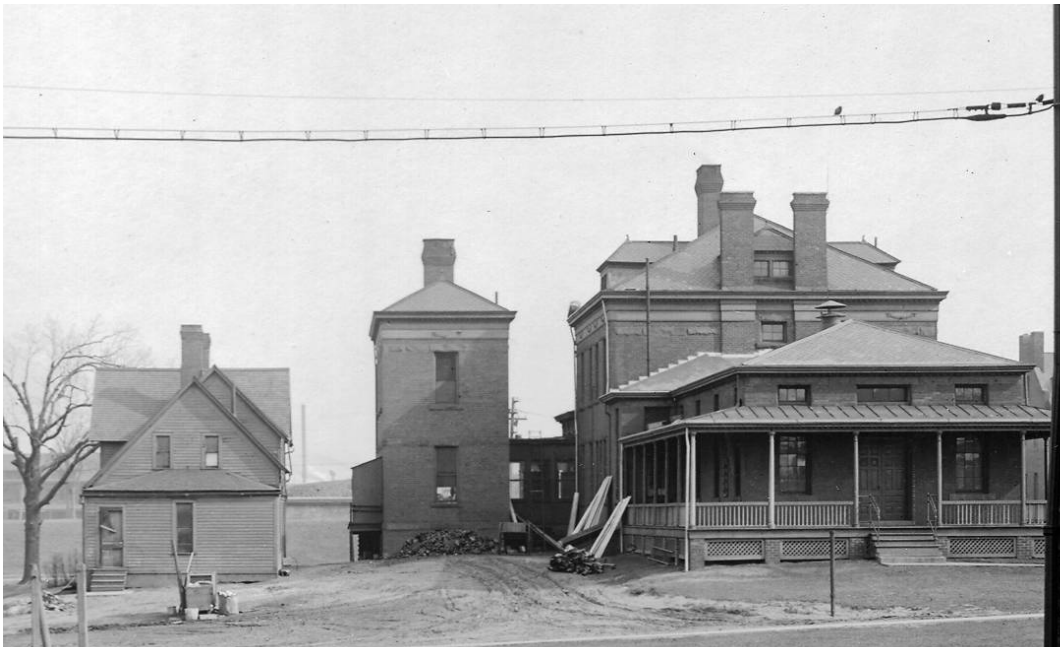


Figure 171. Hospital Steward's Quarters, Dead House, and rear of Post Hospital, Fort Wayne, Detroit, Michigan, April 1919 (NARA College Park, RG 111-SC, 42992).

The need for larger hospitals and more ward space became prevalent after 1900. Mechanical ventilation allowed for two-story ward wings and these were incorporated into the first as it was further modified and adapted.

Figure 172. Post Hospital, Fort Myer, Virginia, January 8, 1943 (NARA College Park, RG 111-SC, box 116, SC 162751).

The new standard design was eventually perfected with a very large two-and-a-half-story central administrative block that included an operating room, surgeon's office, and administration space. The half-story was fully utilizable with dormitories and storage space. On either side of the administrative block were two-and-a-half-story ward wings. Two-story verandas surrounding these wings provided access to fresh air for the patients. This continued the practice of military hospitals with large porches that began with the Fort Monroe, Virginia, hospital.

Figure 173. Hospital, Fort Benjamin Harrison, Indiana, 1952 (NARA College Park, RG 111-SC, box 223, 390517).

Figure 174. Hospital, Fort Benjamin Harrison, Indiana, 1907.

SURGEON GENERAL'S STANDARDIZED HOSPITALS 2ND ROUND

The design of the first standardized plan was perfected and utilized throughout the Army on its larger installations. Generally, the architectural form remained the same, but further architectural design elements were incorporated into the plan, such as the copper-roofed eyebrow windows instead of the typical gabled dormers on the ward wings.

FORT RILEY, KANSAS (1906)

By 1900, Fort Riley, Kansas, needed more hospital space for its increasing number of soldiers. A three-story limestone Army Surgeon General's standardized hospital was added to the south side (in front) of the 1888 hospital in 1906. A kitchen, mess, and dormitory building was added to the 1906 hospital in 1909. A one-story enclosed corridor connected these two buildings. The 1888 hospital was slated for demolition; however, it was renovated to be the kitchen and mess, while the first floor of the 1909 addition was transformed into a dental clinic. All three of these hospitals buildings were then connected by an enclosed corridor. During World War I, this complex was extensively enlarged with wood temporary wards.

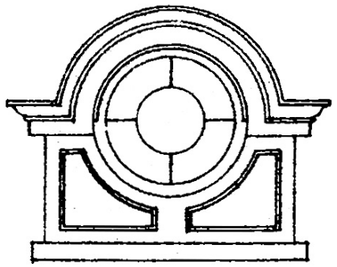
This complex served as the primary post hospital until 1947. A World War II temporary cantonment hospital (Camp Whitside) was constructed to the north of this complex at the outbreak of World War II. After that war, the Medical Department decided to keep the cantonment hospital as the permanent hospital until a new one could be built.

The entire original hospital complex became the new post headquarters in 1947. The 1906 hospital was completely renovated with a full third floor and half-story added to the central block, and all of the porches were removed. The old post headquarters in the renovated 1855 hospital was transformed into a museum. These buildings are all extant at Fort Riley.

Figure 175. Third Post Hospital, Fort Riley, Kansas, 1906 (courtesy Fort Riley Cultural Resources Office).

Figure 176. Third Post Hospital, Fort Riley, Kansas, circa 1930s (NARA College Park, RG 111-SC, box 734, 103939).

Figure 177. Kitchen, mess, dormitory addition between second and third Post Hospitals, Fort Riley, Kansas, 1909 (courtesy Fort Riley Cultural Resources Office).



Dormer Window Close-up

Figure 178. Third Post Hospital Elevation, Fort Riley, Kansas, 1906 (NARA College Park, RG 92 Blueprint Files, Fort Riley).

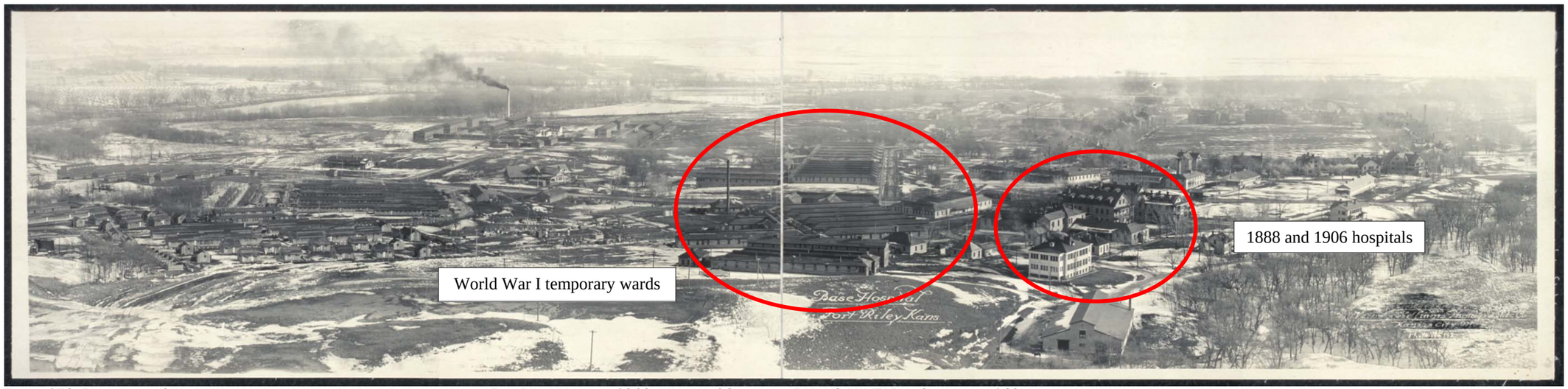


Figure 179. Panorama of World War I extension to the hospital complex at Fort Riley, Kansas, 1919 (Library of Congress, PAN US MILITARY - Camps no. 142).

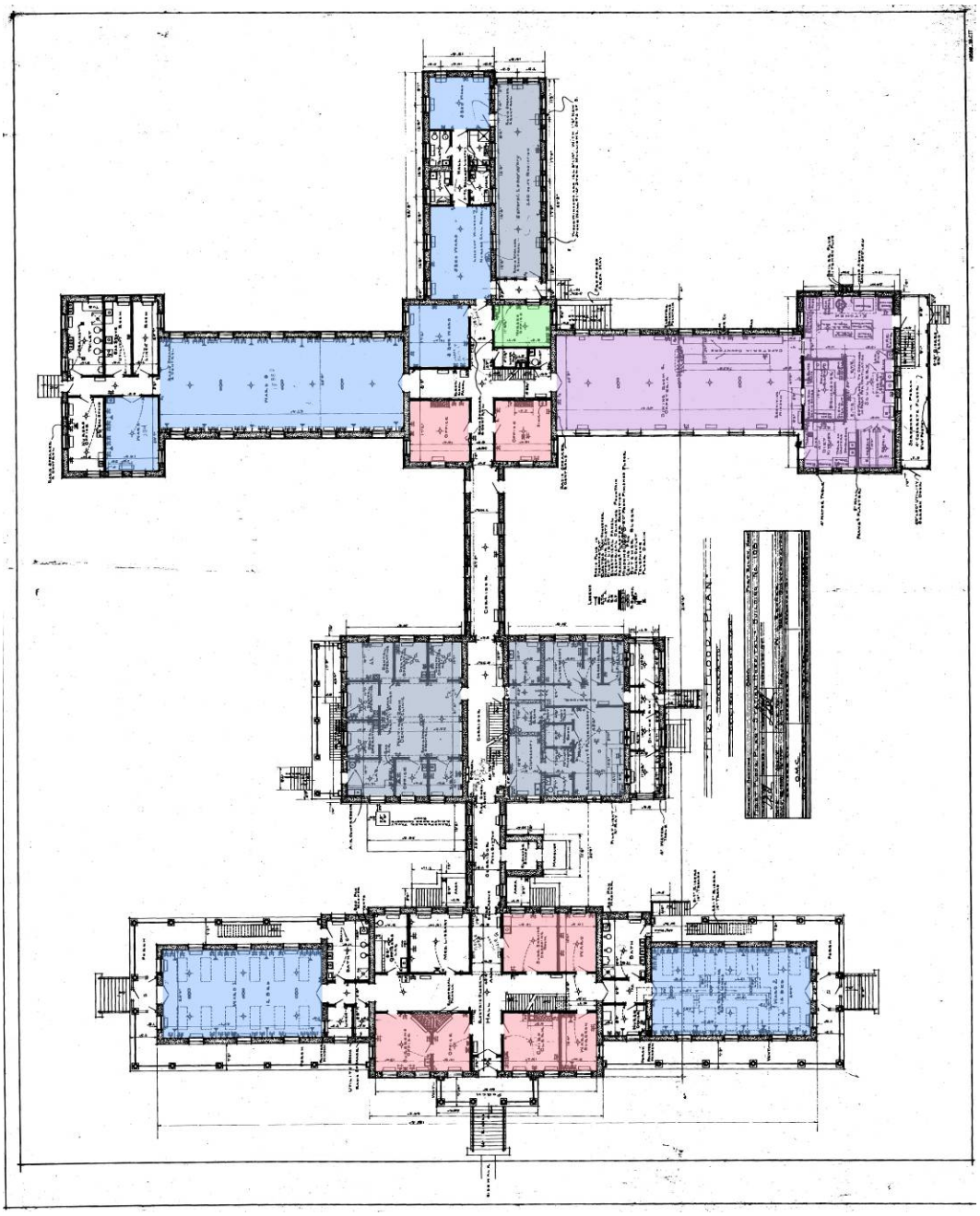


Figure 180. Third Post Hospital First Floor Plan, Fort Riley, Kansas, 1920s (courtesy of Fort Riley Cultural Resources Office).

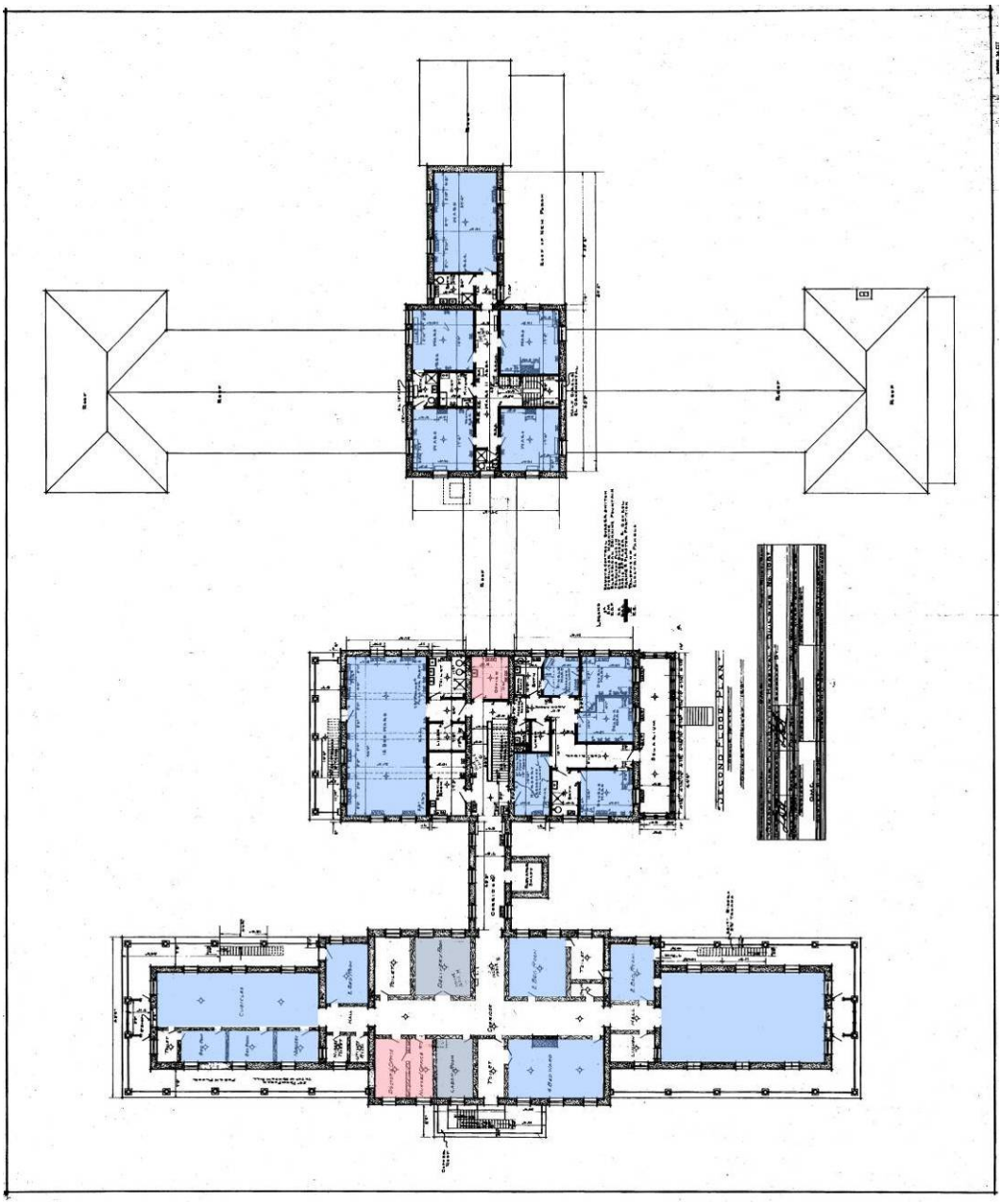


Figure 181. Third Post Hospital Second Floor Plan, Fort Riley, Kansas, 1920s (courtesy of Fort Riley Cultural Resources Office).

OTHER EXAMPLES

The plan of the second standardized plan could be easily modified to suit the needs of the specific installation. More administration space or other medical needs could be added in a small block placed at the ends of the wards.

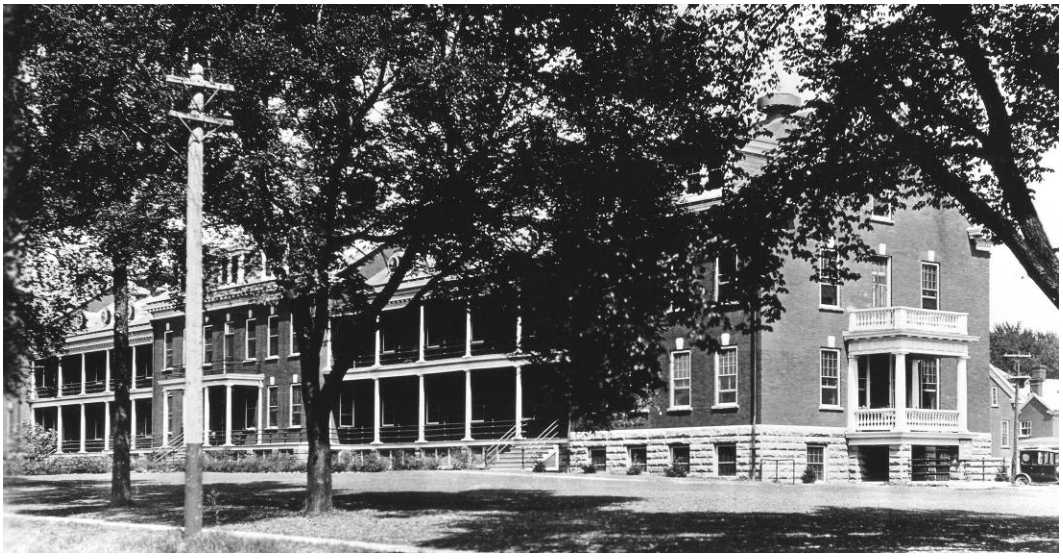


Figure 182. Post Hospital, Fort Leavenworth, Kansas, August 1925 (NARA College Park, RG 111-SC, box 723, 93488).

The wards could also be made larger by increasing their length with an addition of bays onto the ward, as at Fort Sam Houston, Texas, built in 1907.

Figure 183. Front view of the Old Station Hospital at Fort Sam Houston, Texas, July 1967 (NARA College Park, RG 111-SC, box 408, 641051).

THE 2ND NAVAL HOSPITAL WASHINGTON, DC (1906)

The Navy had vacated quite a bit of land at the old Naval Observatory located on E and 23rd Streets, NW in Washington, DC, when the observatory moved to their new quarters on Observatory Circle, off of Massachusetts Avenue, NW in 1893. The old Naval Observatory sat vacant for thirteen months until the Navy Department transferred the land over to the Bureau of Medicine and Surgery for a Naval Museum of Hygiene. The museum utilized the old Naval Hospital building for the museum; however, the museum as an independent entity lasted less than ten years when the newly created Naval Medical School was combined with the Naval Museum of Hygiene (Herman).

Figure 184. Naval Medical School [Old Naval Observatory], Washington, DC, 2000 (courtesy Robinson and Associates).

By 1900, the Washington Naval Hospital, built in 1865 on Pennsylvania Avenue in Washington, DC, had become quite old and ill- suited for serving the needs of the current Navy in the Capital. It was quite clear that the Navy needed a new hospital in the Washington area. Congress appropriated $125,000 for construction of a new Washington Naval Hospital at the Naval Medical School. Ernest Flagg of New York designed the new hospital (Also designed portions of the Naval Academy in Annapolis, Maryland). The design for the new hospital followed the current Navy standard for a central administrative block flanked by ward wings.

Figure 185. Naval Hospital Washington, DC, 1941 (courtesy NARA College Park, RG 112-AH-34-3).

The Washington Naval Hospital wards did not have porches but solariums connecting each ward to the main block. An enclosed corridor connected an operating room block to the central administration block. Two more wards were located to either side of the operating room block. The basement below the operating room block contained a kitchen and mess. As typical for the New Standard hospitals, mechanical ventilation was utilized to expel stale and contaminated air.

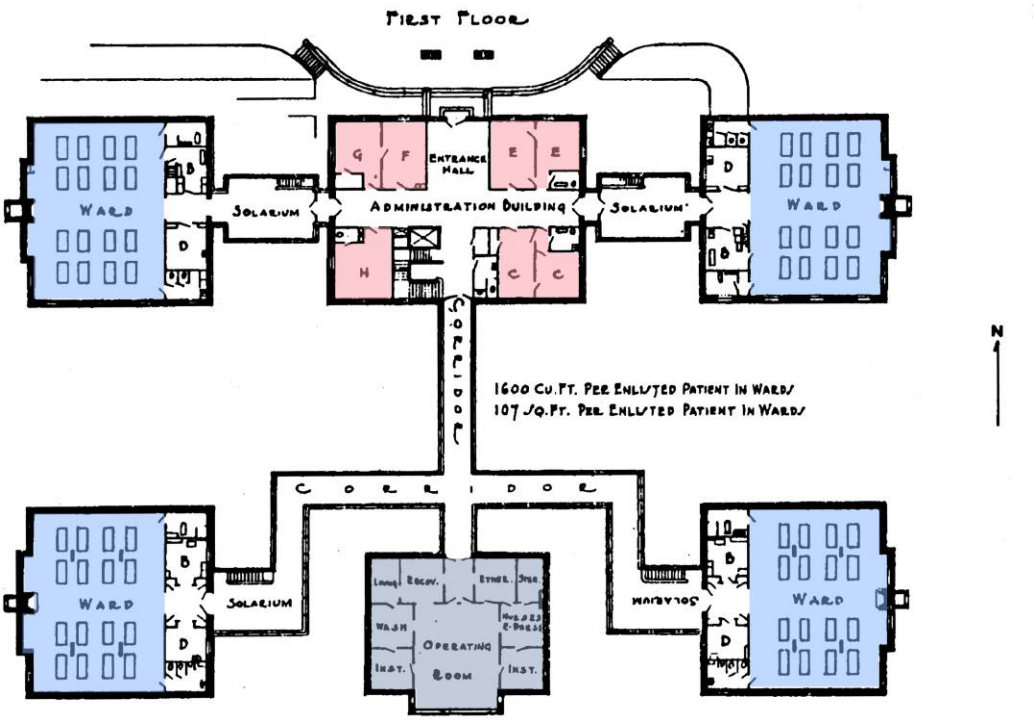


Figure 186. First floor plan for Naval Hospital Washington, DC, circa 1910s (courtesy BUMED).

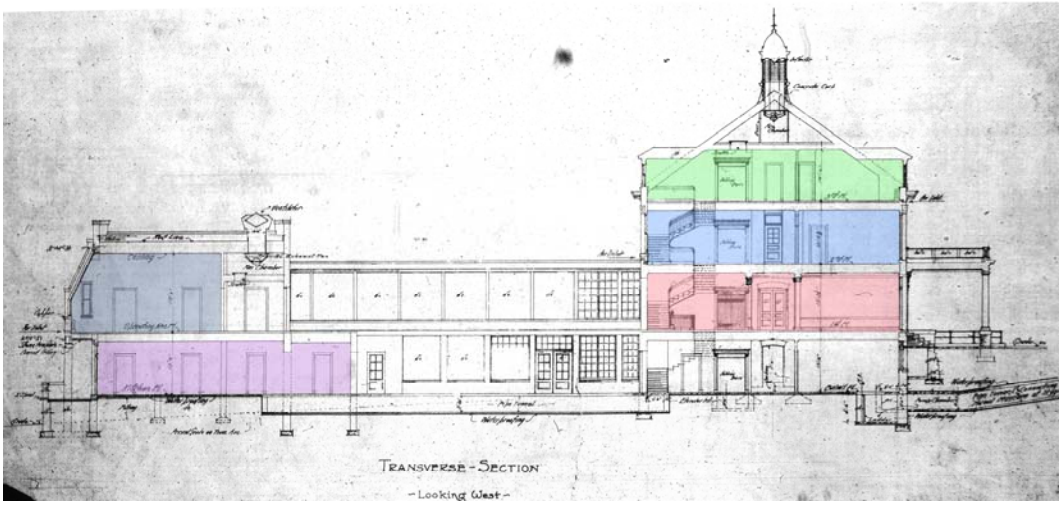


Figure 187. Transverse section, Naval Hospital Washington, Washington, DC, 1903 (NARA College Park, RG 71 521-31).

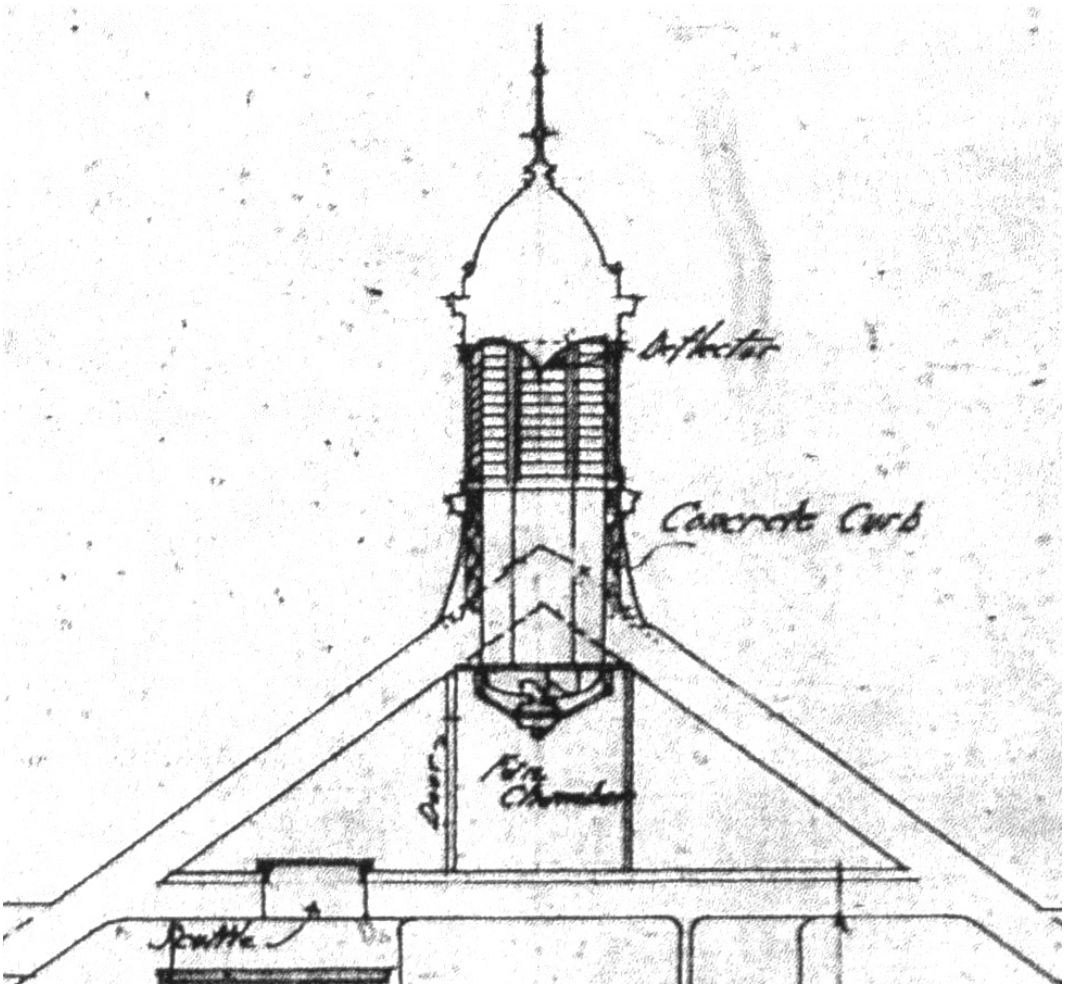


Figure 188. Detail of mechanical fan, Naval Hospital Washington, Washington, DC, 1903 (NARA College Park, RG 71 521-31).

The Bureau of Yards and Docks designed the other buildings at the hospital including the contagious disease ward, sick officers' quarters, corpsmen quarters, nurses' quarters, and Junior and Senior Officers' quarters.

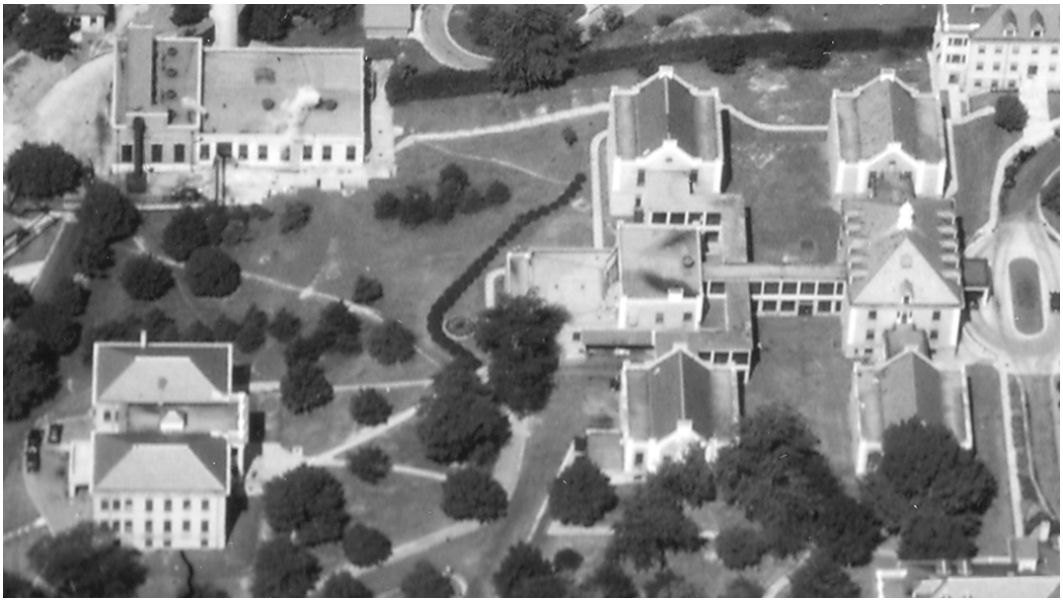


Figure 189. Naval Hospital [right] with Contagious Ward [bottom left], Washington, DC, circa 1920s (NARA College Park, RG 80-G, box 1998, 466372).

The Bureau of Yards and Docks also added a power plant, laundry, conservatory, and stables to the complex.

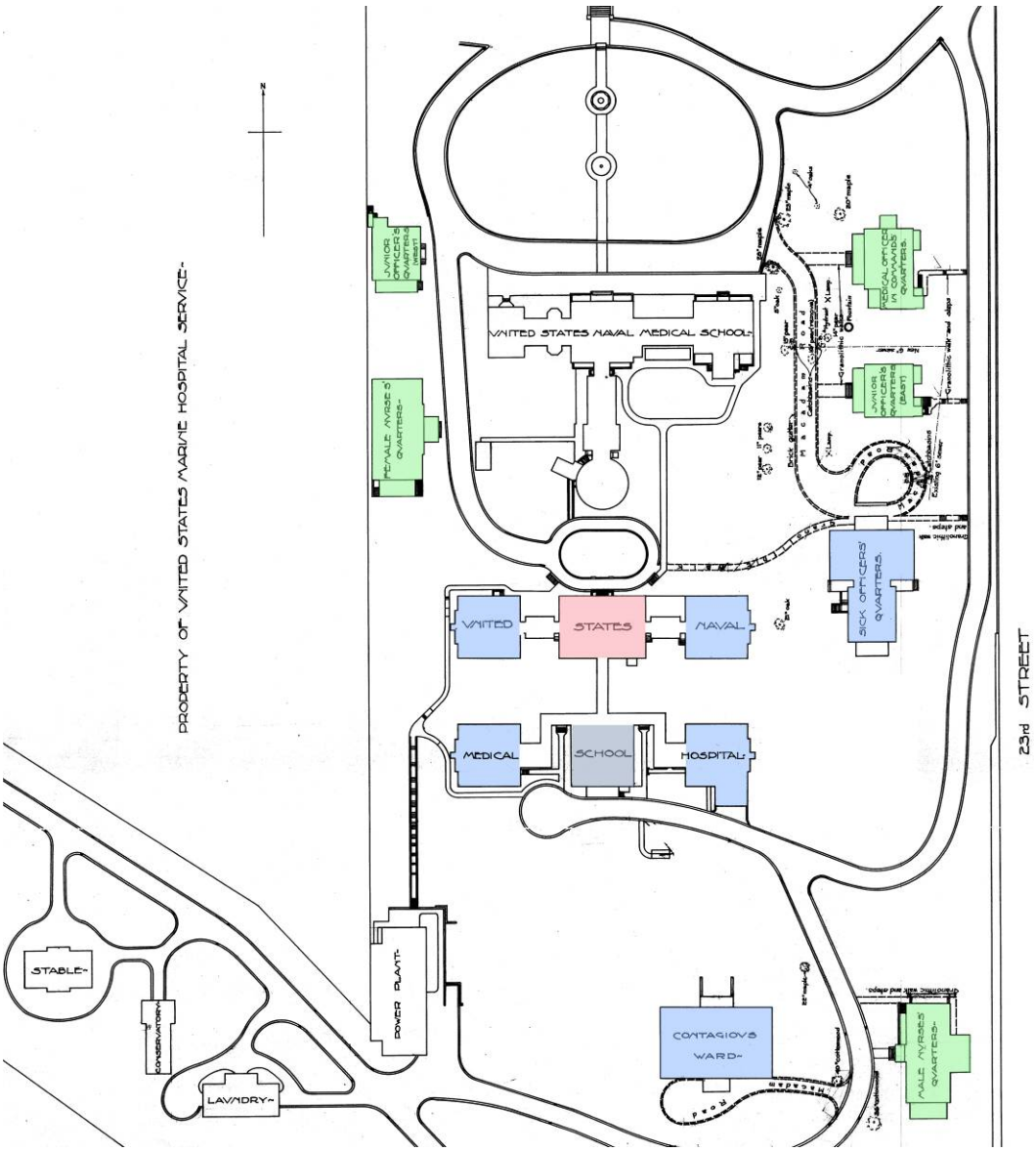


Figure 190. Site plan for Naval Hospital Washington, DC, circa 1910s (NARA College Park, RG 71-531).

Most of these buildings are extant except for the power plant, laundry, conservatory, and stables.

NAVAL HOSPITAL GREAT LAKES, ILLINOIS (1911)

Jarvis Hunt of Chicago designed the Naval Hospital Great Lakes, located north of Chicago, Illinois, in 1911. Hunt was the architect for the entire Naval Training Center, Great Lakes (He also designed Kansas City Union Station and Bamberger's Department Store in Newark, New Jersey.). Hunt designed the hospital in Italian Renaissance, and the layout followed other naval hospitals, with a central administration block, ward wings on either side, and operating rooms in a wing to the back. The ward wings each had solariums located on their front facing south towards the hospital parade grounds. The hospital parade grounds looked out onto Lake Michigan. This building still stands at the Naval

Training Center Great Lakes, and is utilized as a dental clinic. A new hospital was built across the parade grounds in the 1950s.

Figure 191. Front view of Naval Hospital Great Lakes, Illinois, no date (NARA College Park, RG 71-CA, box 143).

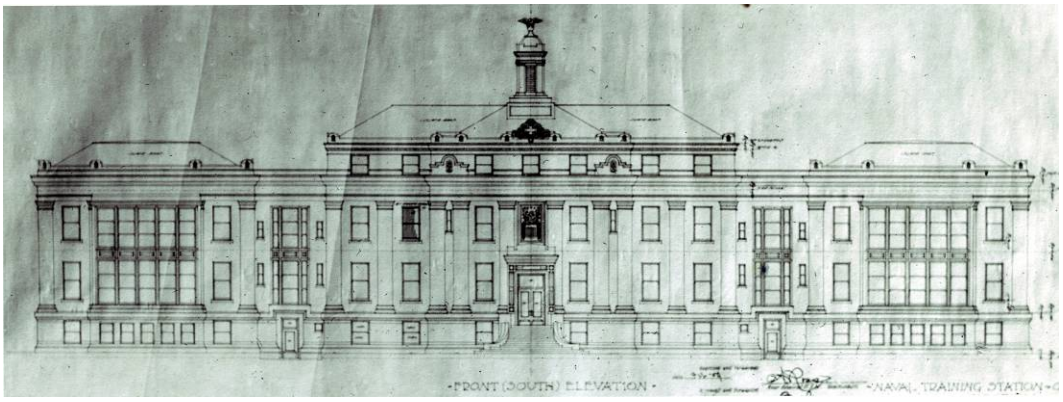


Figure 192. Elevation of Naval Hospital Great Lakes, Illinois, no date (NARA College Park, RG 71-CA, box 143).

OTHER NAVAL HOSPITALS

Figure 193. Front view of Naval Hospital Portsmouth, Maine, January 1956 (NARA College Park, RG 80-G, box 2533, 686957).

Figure 194. Close-up of administration block at Naval Hospital Portsmouth, Maine, January 1956 (NARA College Park, RG 80-G, box 2533, 686958).

Figure 195. Looking west, Naval Hospital Pearl Harbor, Hawaii, March 1, 1921 (NARA College Park).

10 GENERAL HOSPITALS

Wars produced many seriously wounded soldiers who needed to recover and recuperate in hospitals other than post hospitals. The Surgeon General had initiated the general hospital system during the Civil War so that wounded soldiers would quickly be evacuated from the battle scene. The general hospital system was reestablished during the Spanish-American War. After the closure of that war, the Surgeon General maintained a large general hospital on each coast. One was located at Washington Barracks (Fort McNair) in Washington, DC, and the other located at the Presidio of San Francisco.

There were two types of general hospital plans: 1) the pavilion type and 2) the central hospital type (although these were usually quickly expanded into the pavilion type).

The architectural elements to look for in the pavilion hospital plan type are:

1. Headquarters building
2. Pavilion plan
3. Covered/enclosed corridors

LETTERMAN GENERAL HOSPITAL (1898)

Architect W.H. Wilcox designed Letterman General Hospital in 1898. It was a 300-bed pavilion-type hospital similar in planning to the general hospitals from the Civil War. It had an administration building and barracks in front, ten wards in the middle that surround a courtyard, and support buildings in the rear such as kitchens, mess facilities, and a laundry. All of these buildings were connected together by enclosed walkways.

Figure 196. Letterman Hospital administration building [center] and male nurse barracks [right], Presidio, San Francisco, California (NARA College Park).

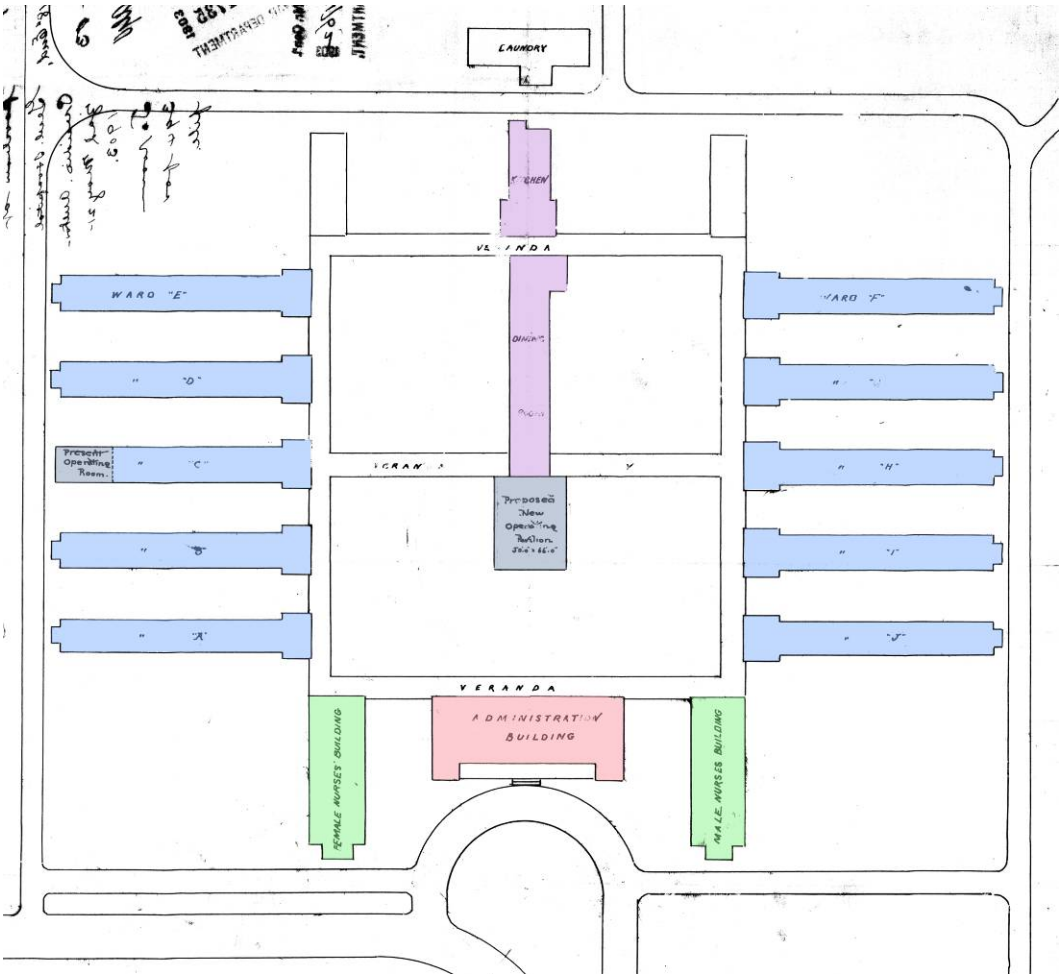


Figure 197. Plan view of Letterman Army Hospital, San Francisco, California, 1903 (NARA College Park, RG 77 MISC Fort Files Presidio CA #132).

The architecture of the administration building and the barracks was Mediterranean Revival; however, the wards, walkways, and support buildings had little style or ornament. In 1903, the hospital expanded with more barracks in the front and an operating pavilion in the center. Letterman was the largest Army hospital in the United States. All of these buildings, although constructed out of wood, were considered permanent.

Figure 198. Aerial view of Letterman Army Hospital, San Francisco, California, February 4, 1952 (NARA College Park, RG 111-SC, box 222, SC 389514).

During World War I, a large addition to east was built on an old parade ground. It consisted of World War I temporary wood buildings. There were fourteen ward buildings, and support buildings that consisted of barracks, kitchens, and mess. This area was known as the East Hospital. By 1921, the entire Letterman General Hospital complex had 56 permanent buildings and 29 temporary buildings.

Figure 199. Aerial view of Letterman Army Hospital with the original hospital [left] and the WWI East Hospital [right], San Francisco, California, February 1959 (NARA College Park, RG 111-SC, box 344, 548169).

During World War II, both Letterman and the East Hospital gained a few temporary buildings; however, it remained remarkably unchanged. In the 1960s, planning started for a new Letterman to be built where the East Hospital was located. That hospital was com-

pleted in 1974, but demolished in 2002. Presently, only the administration building, barracks, and three ward buildings are extant.

WALTER REED GENERAL HOSPITAL, WASHINGTON, DC

The Washington Barracks hospital quickly proved to be inadequate and was replaced with Walter Reed General Hospital in 1909. Congress authorized the purchase of land in the northeast portion of Washington to construct a new general hospital, barracks, an Army Medical Museum, and the Surgeon General's Library.

The main building was constructed in 1908 with a rectangular footprint and three-stories of variegated Flemish bond brick terminating in intersecting hipped roofs clad with standing seam metal over original slate. The Renaissance facade arrangement has a rusticated raised stone basement; first-story arched windows; second story flat arched windows; and small “attic” story windows.

Figure 200. Front of Administration Building, Walter Reed General Hospital, Washington, DC, 1919 (NARA College Park, RG 111-SC, box 370, 590038).

The main building was expanded upon in 1914 and again in 1928. During World War I and World War II many pavilion style wards were added on to the main building.

Figure 201. Close-up of front of Administration Building, Walter Reed General Hospital, Washington, DC, 1919 (NARA College Park, RG 111-SC, box 371, 590913).

Figure 202. Rear of Administration Building, Walter Reed General Hospital, Washington, DC, 1919 (NARA College Park, RG 111-SC, box 370, 590039).

Figure 203. Aerial showing WWI temporary wards at Walter Reed General Hospital, Washington, DC, 1919 (NARA College Park, RG 111-SC, box 370, 590013).

Figure 204. Interior of ward at Walter Reed General Hospital, Washington, DC, 1924 (NARA College Park, RG 111-SC, box 370, 590188).

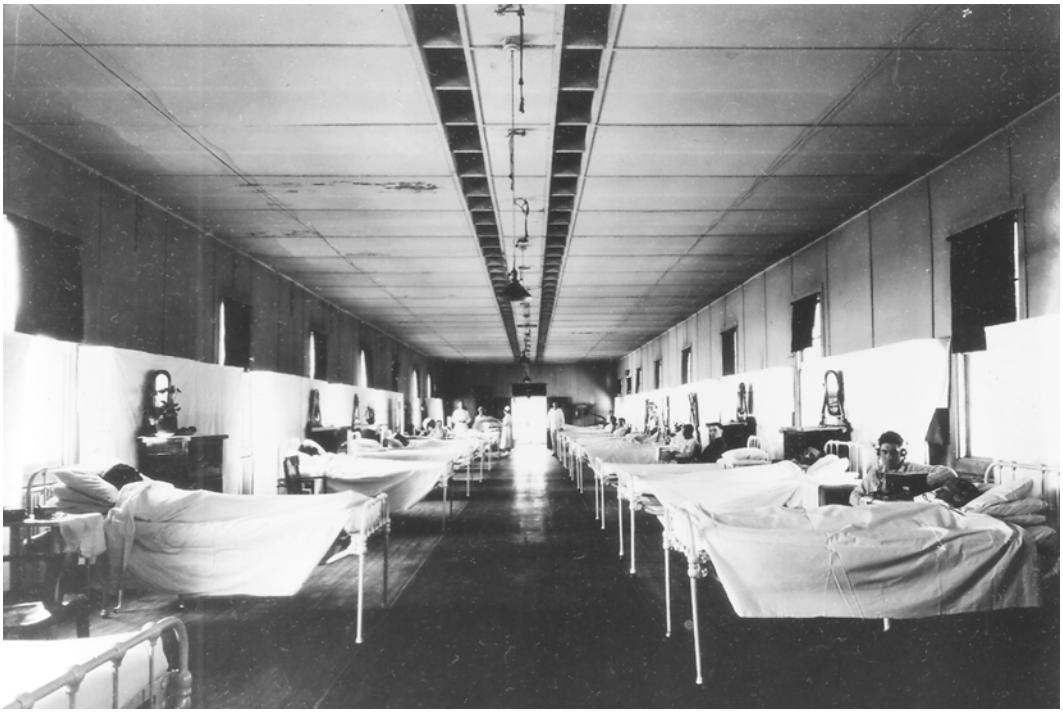


Figure 205. Interior of WWI temporary ward at Walter Reed General Hospital, Washington, DC, 1924 (NARA College Park, RG 111-SC, box 370, 590187).

Figure 206. Screened porch on exterior of a WWI temporary ward at Walter Reed General Hospital, Washington, DC, 1922 (NARA College Park, RG 111-SC, box 370, 590071).

Figure 207. Airing porch on exterior of a WWI temporary ward at Walter Reed General Hospital, Washington, DC, 1922 (NARA College Park, RG 111-SC, box 370, 590186).

OTHER GENERAL HOSPITALS

There were two other specialized general hospitals—the first Army-Navy General Hospital in Hot Springs, Arkansas, so located to be near the restorative springs, and the second at Fort Bayard, New Mexico, dedicated to those suffering from tuberculosis.

The Army-Navy Hospital in Hot Springs, Arkansas, opened in 1887, serving both the War and Navy Departments. It supplemented the post and naval hospitals for those servicemen that no longer could serve in the Army or Navy. The hospital was so located so that patients could benefit from medicinal values of the hot mineral waters of the area. The first hospital was a multi-winged and storied building on one of the hills of Hot Springs. It was replaced in 1943 by a new hospital on the same site. It was closed in 1960 and turned over to the state of Arkansas as a rehabilitation center.

Figure 208. First Army and Navy Hospital, Hot Springs, Arkansas, circa 1905 (Library of Congress, LC-D4-34357).

Figure 209. 2nd Army and Navy Hospital, Hot Springs, Arkansas, no date (NARA College Park, RG 111-SC, box 223, SC 390745).

After World War I, tuberculosis patients were treated at Fitzsimons General Hospital in Denver, Colorado.

Figure 210. Fitzsimons General Hospital, Denver, Colorado, circa 1990s (Library of Congress, HABS COLO 1-AUR, 2DM).

11 WORLD WAR I HOSPITALS

The War Department and Navy Department constructed all of their World War I temporary hospitals out of wood. They followed the pavilion plan of the old Civil War general hospitals except that they did not have a large parade ground surrounded by the individual hospital wards. These temporary hospitals were mostly built in one-story configurations; however, there were some built in two-story configurations. In both cases, enclosed walkways connected the different areas of the hospital together. The general layout of the hospitals had administration, surgery, kitchens, and mess buildings in the center of the plan. On one end of the hospital would be the barracks and officers' quarters; while on the other end would be the hospital wards. The two military departments also added these temporary buildings to existing hospitals to increase their capacity.

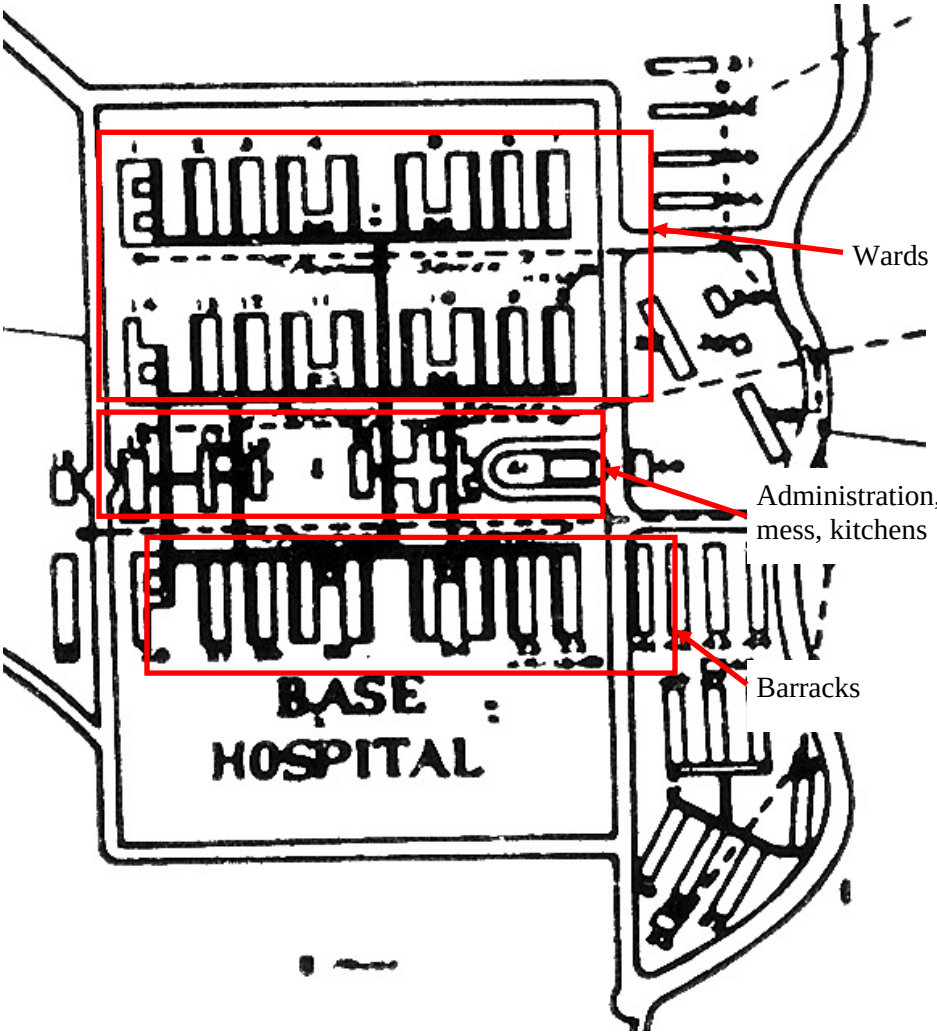


Figure 211. Plan of a one-story WWI camp hospital, circa 1918, Camp Hancock, Augusta, Georgia (National Army Cantonments).

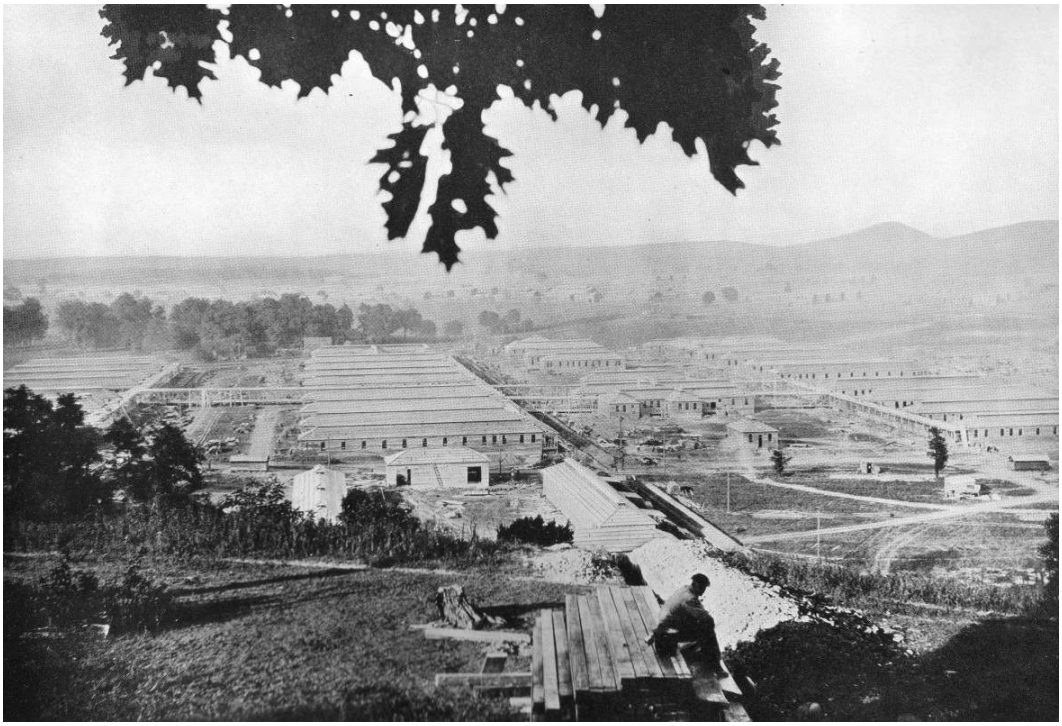


Figure 212. View of one-story hospital, circa 1918, Camp Sherman, Chillicothe, Ohio (National Army Cantonments).

Figure 213. One-story hospital ward buildings, circa 1918, Camp Custer, Battle Creek, Michigan (National Guard).

The architectural elements to look for in the WWI plan type are:

1. Headquarters building
2. Pavilion plan
3. Covered/enclosed corridors
4. Support buildings in the center of the complex

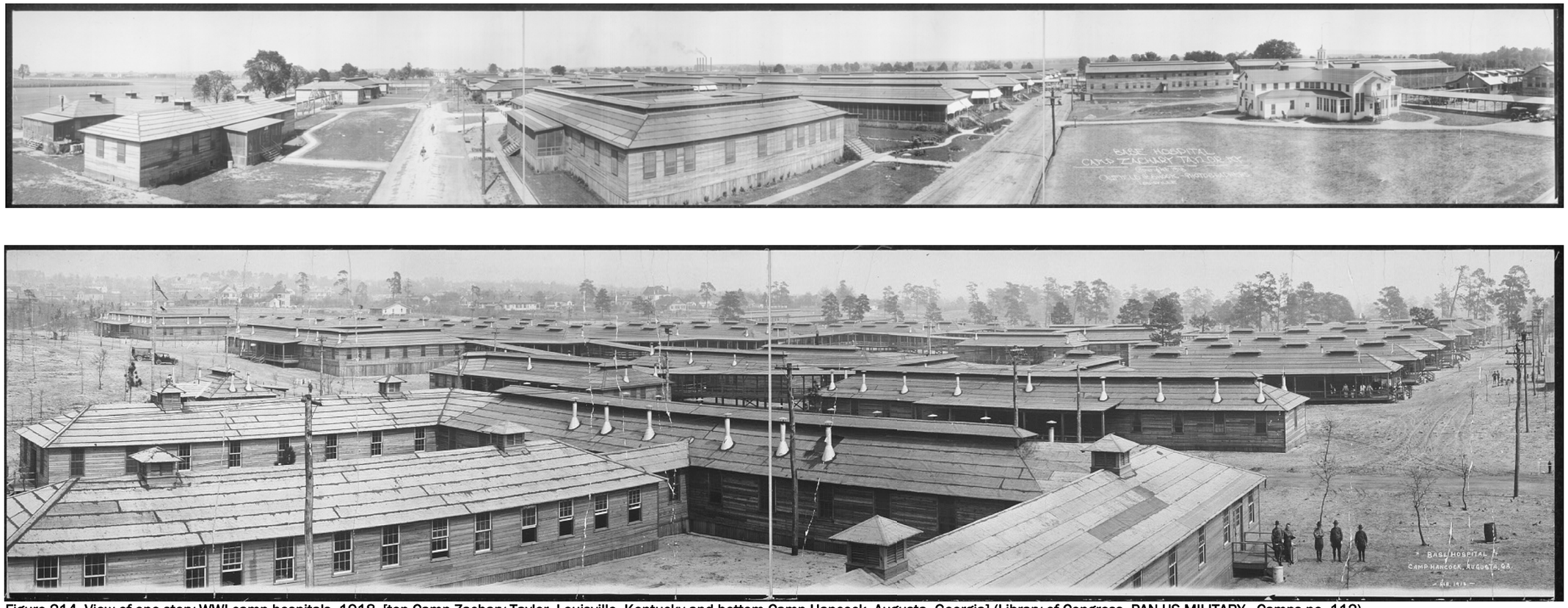


Figure 214. View of one-story WWI camp hospitals, 1918, [top Camp Zachary Taylor, Louisville, Kentucky and bottom Camp Hancock, Augusta, Georgia] (Library of Congress, PAN US MILITARY - Camps no. 112).

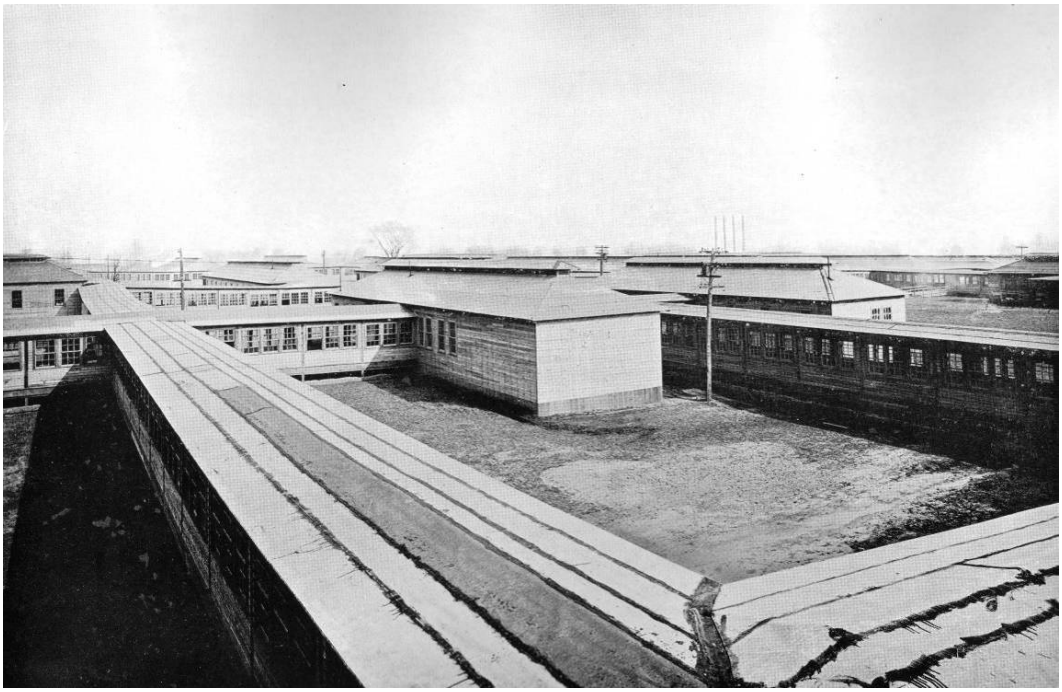


Figure 215. Corridors connecting one-story WWI hospital, circa 1918, Camp Taylor, Louisville, Kentucky (National Army Cantonments).

Figure 216. Interior of connecting corridors at a WWI hospital under construction, circa 1918, Camp Upton, Yaphank, Long Island, New York (National Army Cantonments).

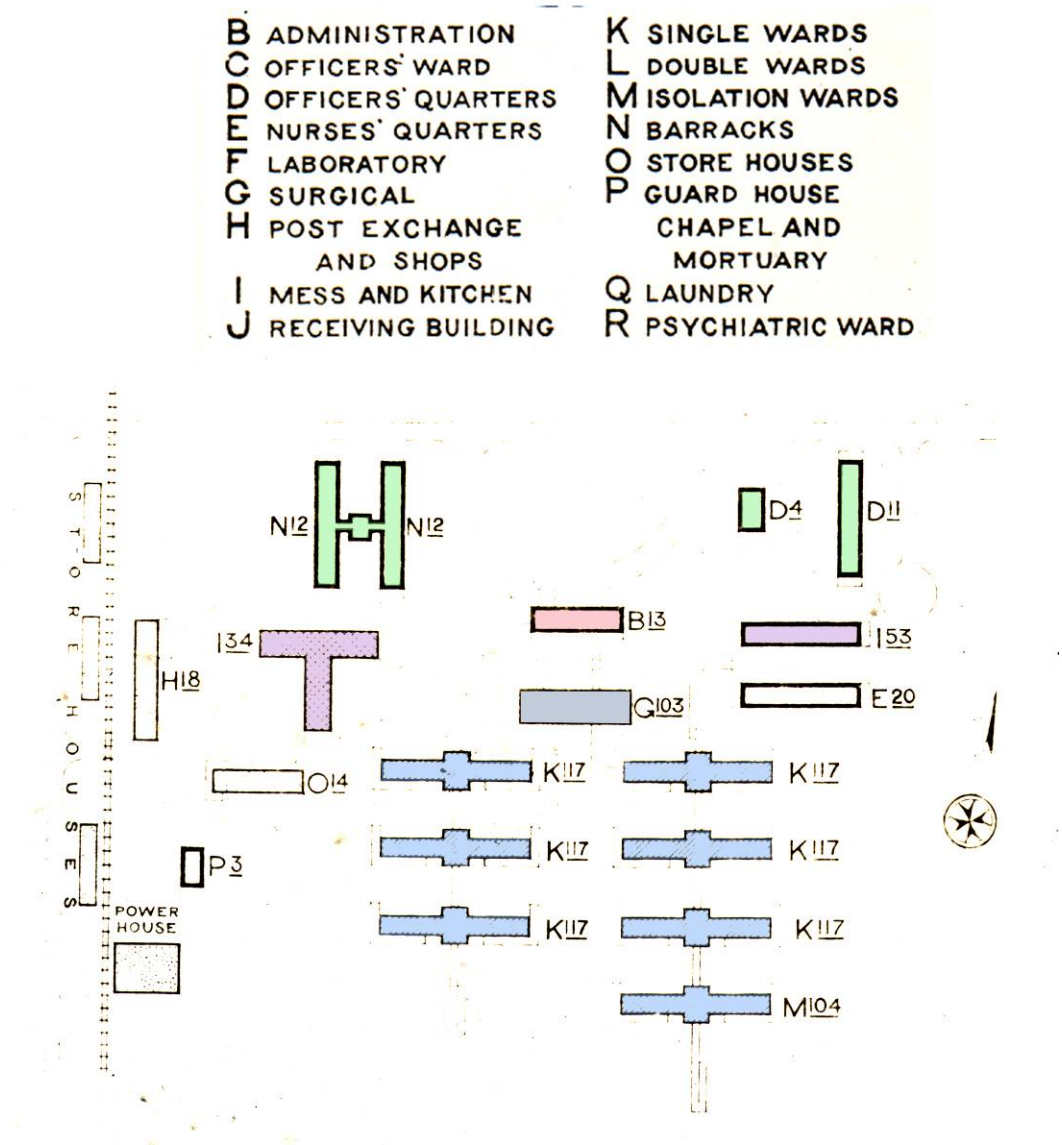


Figure 217. Plan of a two-story WWI camp hospital, Camp Bragg, North Carolina, 1919 (courtesy NMHM Otis Archives, MS3107).

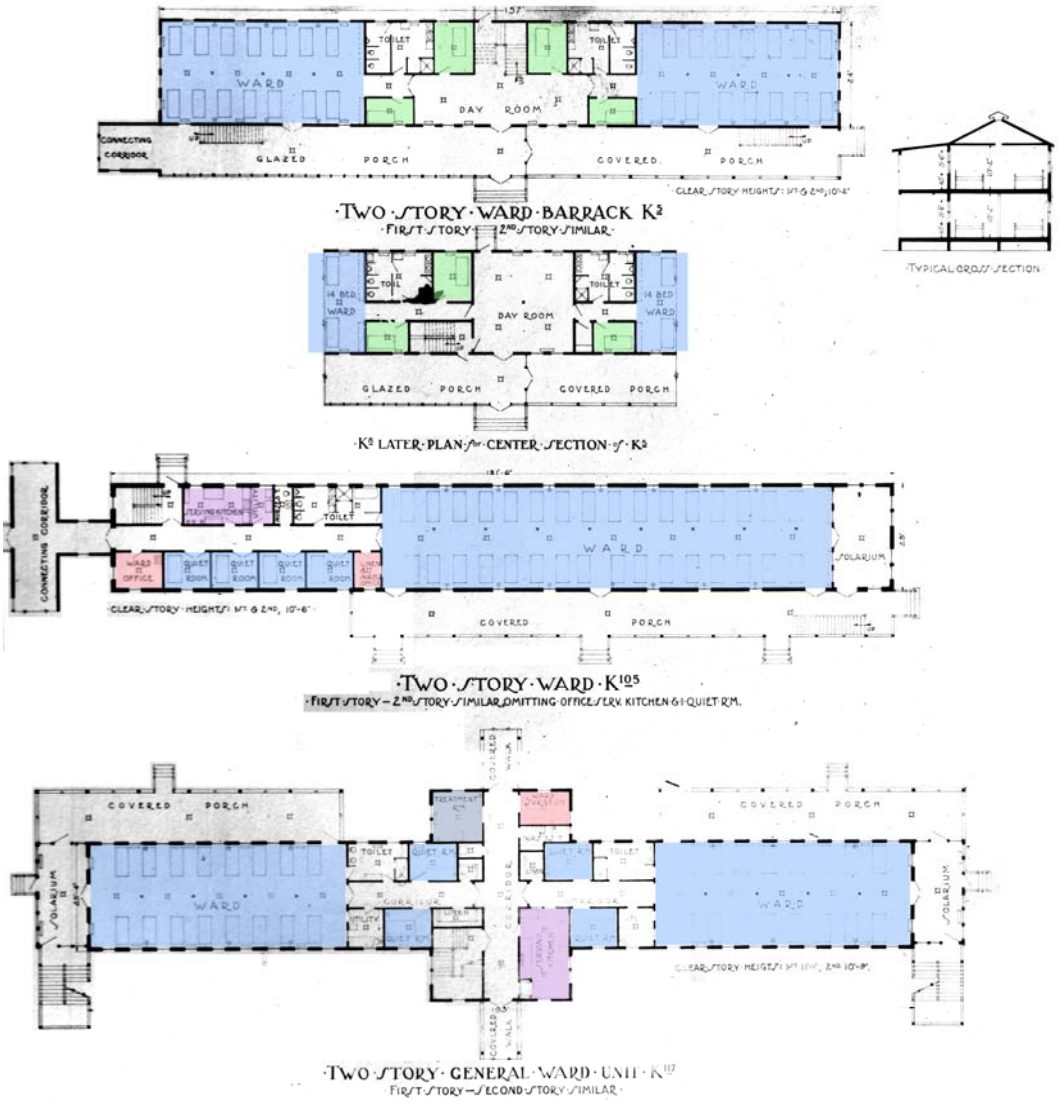


Figure 218. Typical WWI two-story wards, 1917 (courtesy NMHM Otis Archives, MS3107).

Figure 219. Aerial of WWI Base Hospital, Camp Bragg, North Carolina, 1919 (NARA College Park, RG 342-FH, box 1060, B17536).

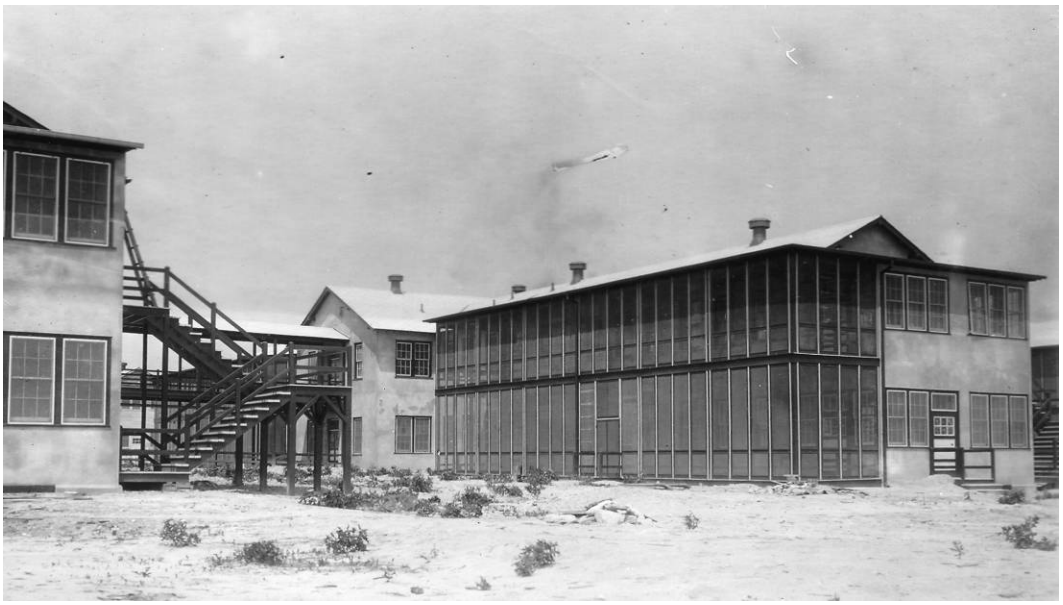


Figure 220. Base Hospital, Camp Bragg, North Carolina, court between wards showing fire-stairs, August 8, 1919 (NARA College Park, RG 111-SC, box 468, 61844).

Figure 221. Base Hospital, Camp Bragg, North Carolina, rear view of ward showing ramp, August 8, 1919 (NARA College Park, RG 111-SC, box 469, 61853).

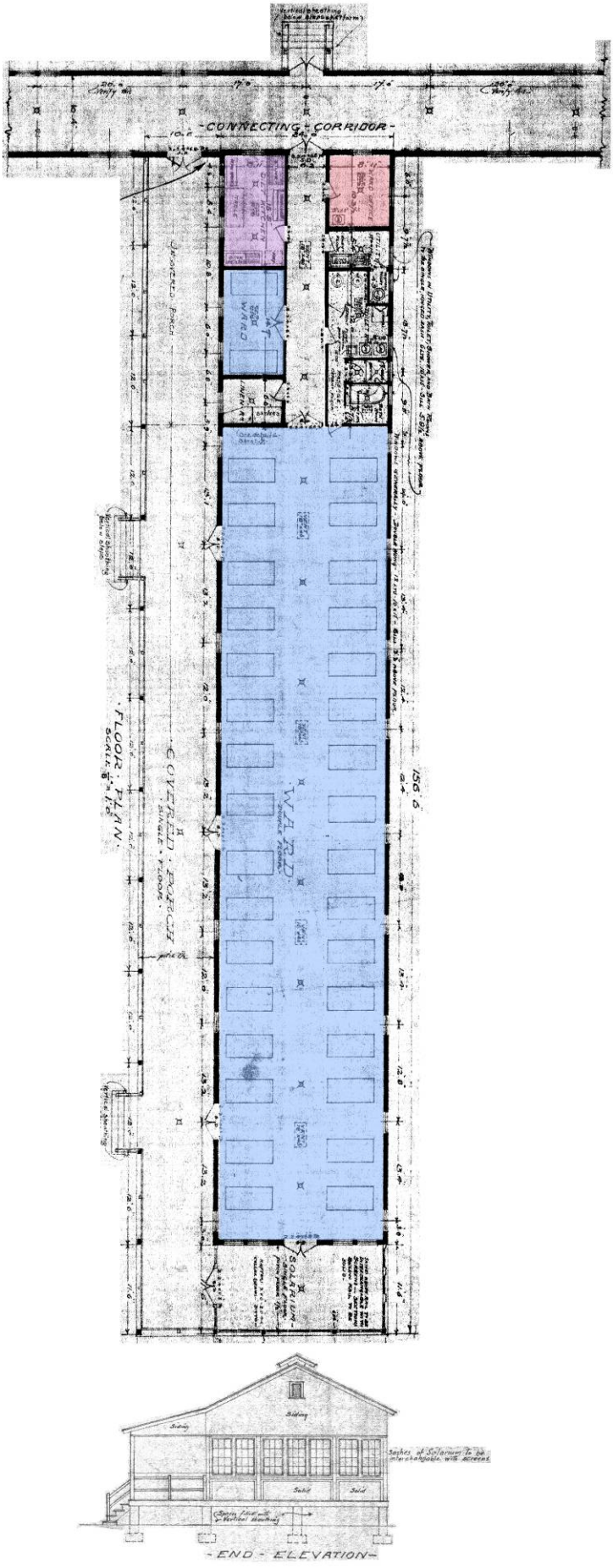


Figure 222. Floor plan and end elevation of a WWI hospital ward, circa 1918, (NARA College Park, RG 77 MISC Fort Files Jefferson Barracks).

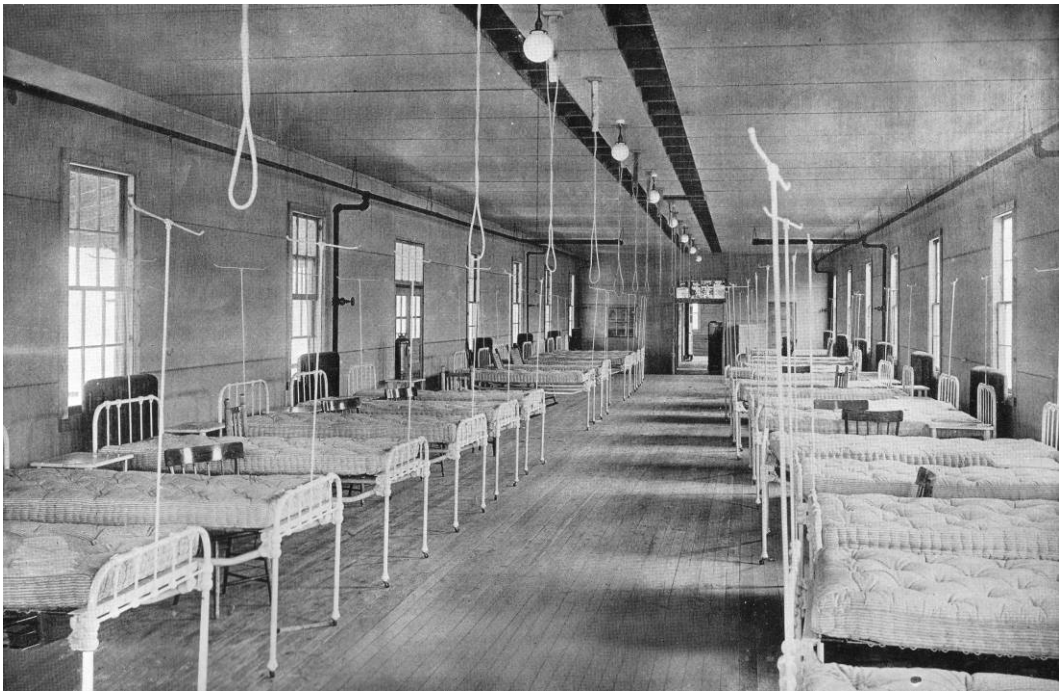


Figure 223. Hospital ward building interior, circa 1918, Camp Upton, Yaphank, Long Island, New York (National Army Cantonments).

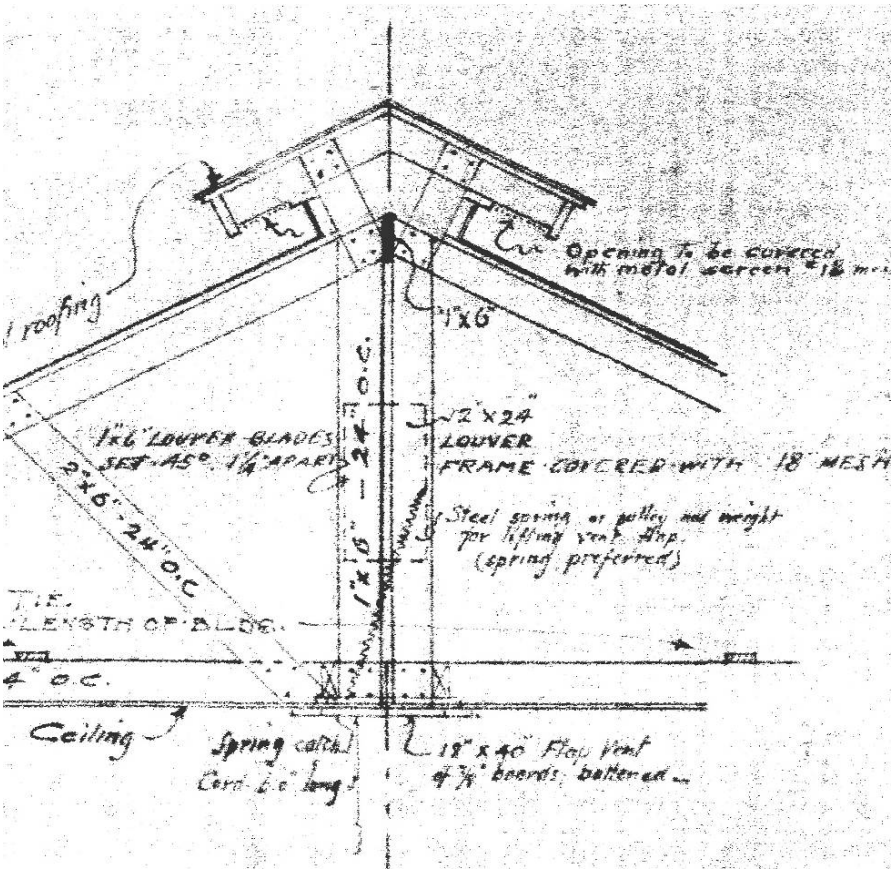


Figure 224. Close-up of ventilation in a WWI hospital ward, circa 1918, (NARA College Park, RG 77 MISC Fort Files Jefferson Barracks).

Most of these World War I camp hospitals were quickly dismantled, demolished, or the structures sold at auction following World War I. For example, the hospital at Camp Hancock at Augusta, Georgia, became the United States Government Public Health Hospital and then was transformed into a veteran's hospital in 1922. Although no World War I buildings are extant there, the location is still used as a hospital.

The Camp Bragg hospital was utilized until the Interwar Hospital was constructed in the 1930s. The World War I hospital was demolished to make way for NCO housing.

NAVAL HOSPITALS

The Navy Department constructed similar temporary hospitals across the department during World War I. Generally, these buildings were added to existing naval hospitals. Such was the case at Portsmouth where the temporary buildings were added to west of the original hospital, at Great Lakes they were also added to the west, and at Philadelphia where they were added to the south. There were a few entirely new temporary naval hospitals built during this period such as at Pensacola, Florida, and at the Philadelphia Navy Yard.

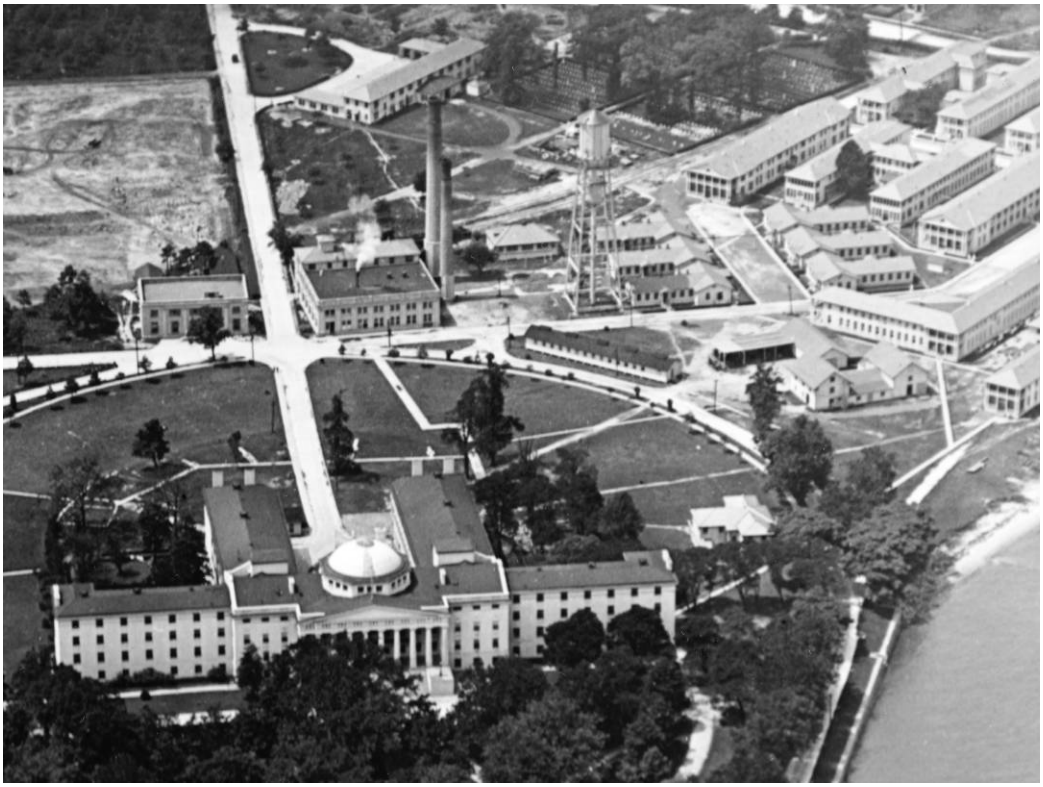


Figure 225. Portsmouth Naval Hospital, Virginia, August 1923 (NARA College Park, RG 80-G, box 1913, 454067).

Figure 226. Naval Hospital Great Lakes, Illinois, January 1931 (NARA College Park, RG 80-G, box 1970, 462626).

New temporary buildings were added to the south and west of the existing 1868 Philadelphia Naval Hospital during World War I. The existing hospital is in the top center of the 1918 site plan. The additional buildings consisted of a hospital corps barracks, nurses' barracks, subsistence building, observation ward, isolation ward, and two U-shaped wards.

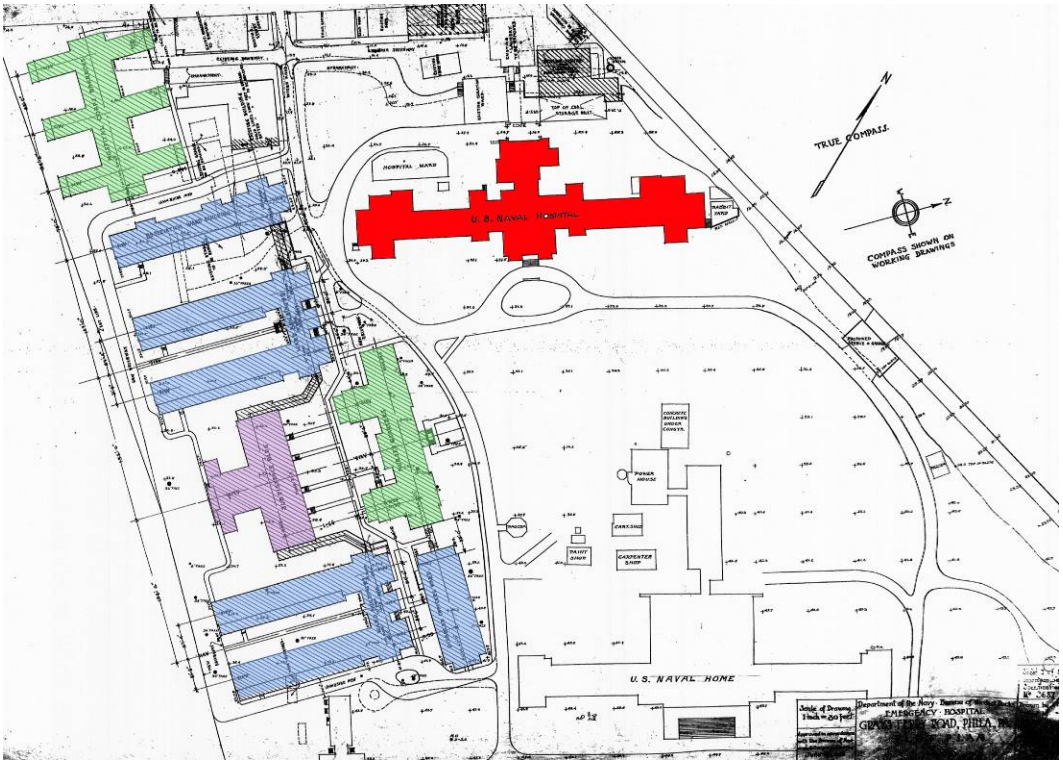


Figure 227. Site plan of the WWI temporary hospital addition to the Naval Hospital Philadelphia, Pennsylvania, June 1918 (NARA College Park, RG 71 427-31).

Figure 228. WWI temporary ward addition to the Naval Hospital Philadelphia, Pennsylvania, June 1919 (NARA College Park, RG 71-CA, box 389, 2926).

Figure 229. Interior courtyard at WWI temporary ward addition to the Naval Hospital Philadelphia, Pennsylvania, April 1919 (NARA College Park, RG 71-CA, box 389, 2769).

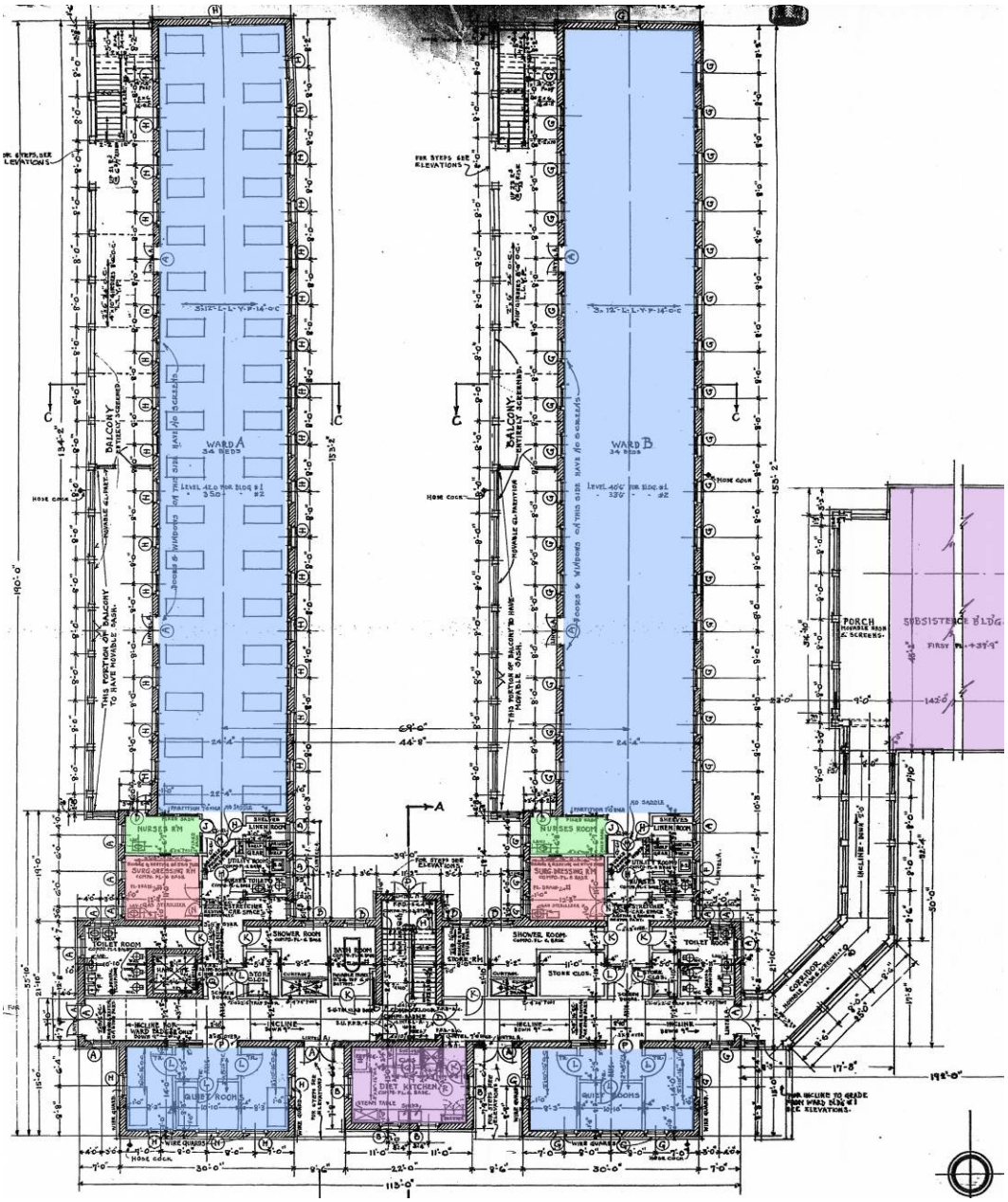


Figure 230. Floor plan of the WWI temporary hospital ward at the Naval Hospital Philadelphia, Pennsylvania, June 1918 (NARA College Park, RG 71 427-31).

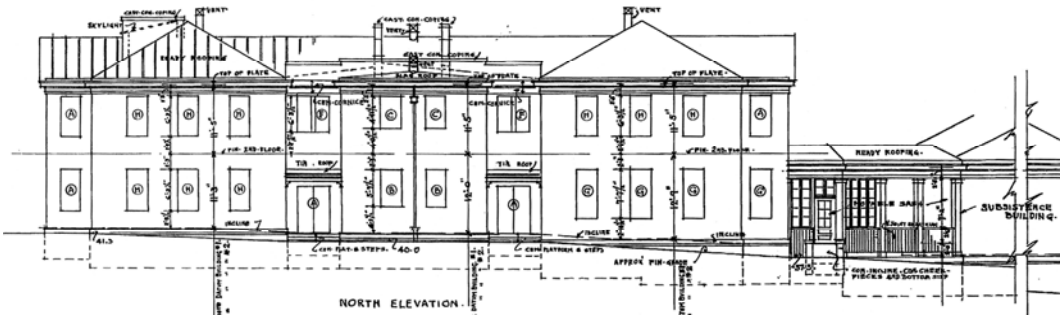


Figure 231. Front elevation of the WWI temporary hospital ward at the Naval Hospital Philadelphia, Pennsylvania, June 1918 (NARA College Park, RG 71 427-31).

At Naval Air Station Pensacola (the naval shipyard was closed in 1911), a World War I temporary hospital was constructed within the walls of the old 1830s hospital. It is not known what happened to the 1830s naval hospital, but the original wall, gate, road to the wharf, and circular pond of the 1830s can be seen in the photograph.

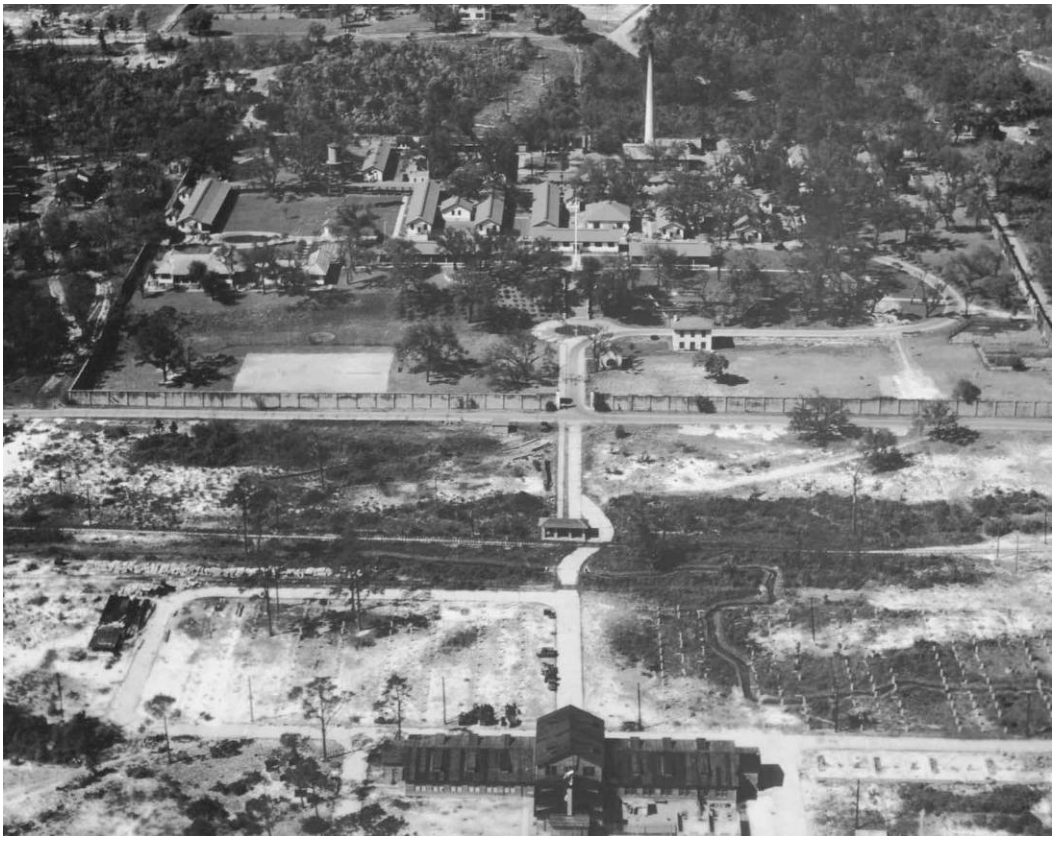


Figure 232. Naval Hospital at NAS Pensacola, Florida, circa 1918 (courtesy of the NASP PAO through HHM).

Figure 233. 1830s naval hospital gate with the WWI administration building at the top of the 1830s steps, Naval Hospital at NAS Pensacola, Florida, 1921 (courtesy of the NASP PAO through HHM).

As was the case at most military installations during World War I, temporary hospital buildings or entire temporary hospitals were added to the installation to satisfy the increased need for health care. The Philadelphia Navy Yard had a dispensary, but most acute care needs were referred to the Philadelphia Naval Hospital six miles away. With an increased number of employees working at the Philadelphia Navy Yard, an emergency hospital was authorized in 1918 and completed in 1919.

Figure 234. Construction photograph showing subsistence building and wards at the Philadelphia Navy Yard Emergency Hospital, Pennsylvania, 1919 (NARA College Park, RG 71-CA, box 389, 2853).

Figure 235. Enclosed porches and open staircases on the wards at the Philadelphia Navy Yard Emergency Hospital, Pennsylvania, June 1919 (NARA College Park, RG 71-CA, box 389, 2854).

Although a few World War I hospital buildings may still exist, no World War I hospitals are entirely extant.

12 INTERWAR HOSPITALS

The Interwar hospitals constructed by the War Department and Navy Department were generally permanent representations of the familiar pavilion type plan. The headquarters building was the main focus with operating room and recovery room wings. To allow as much light and ventilation into the wards, the wards were arrayed either around courtyards or in rows. Enclosed, windowed corridors connected all portions of the complex together. Support buildings such as mess and quarters were moved to the rear of the complex.

The architectural elements to look for in the WWI plan type are:

1. Headquarters building
2. Pavilion plan
3. Covered/enclosed corridors
4. Support buildings at the rear of the complex

FORT BLISS, TEXAS (1921)

William Beaumont General Hospital at Fort Bliss, Texas, opened in July 1921. It was located to the northwest of the main post of Fort Bliss. The hospital plan was based upon the pavilion type design. Each ward had a two-story administrative block with a two-story ward wing to either side. The ward wings had open porches, and the ward buildings were interconnected by covered walkways. William Beaumont was greatly expanded during World War II with additional wards, a psychiatric hospital, and barracks. The 1916 hospital on the parade ground remained open, and a third hospital was located at Biggs Army Airfield. The 1916 hospital on the main post of Fort Bliss remained open until after World War II when all health care was moved to William Beaumont Army Hospital, and the 1916 hospital was transformed into Fort Bliss administrative space. The Medical Department constructed a new modern Cold War-era hospital to the west of the original hospital in 1972. All of the original ward buildings were demolished in the 1980s.

Figure 236. Aerial of William Beaumont Army Hospital with the original 1920s hospital wards center, Fort Bliss, Texas, April 1960 (NARA College Park, RG 111-SC, box 353, 571144).

Figure 237. William Beaumont Army Hospital with hospital wards under construction, Fort Bliss, Texas, 1920 (ERDC-CERL).

Figure 238. Front view of headquarters building at William Beaumont Army Hospital, Fort Bliss, Texas, January 1952 (NARA College Park, RG 111-SC, box 223, 390737).

NAVAL HOSPITAL SAN DIEGO, CALIFORNIA (1922)

The Bureau of Yards and Docks designed the Naval Hospital San Diego in August 1922. It was a Spanish Revival design set around three landscaped courtyards. The site was at the southern edge of Balboa Park and overlooked downtown San Diego. The administrative building had two towers and utilized stucco, terra cotta roofing, and terra cotta detailing. The hospital buildings were connected by open-air walkways. The Navy transferred the 1920s portion of the complex over to the City of San Diego; except for the Administration Building with the two towers and the Chapel, all the 1920s buildings were demolished. The gardens from the former courtyards remain.

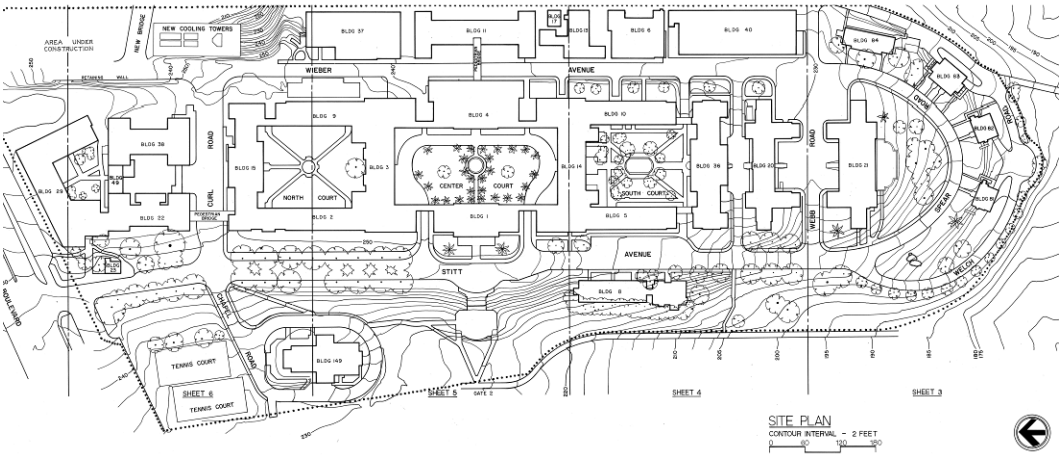


Figure 239. Site Plan of San Diego Naval Hospital, California, 1920s (Library of Congress, HABS CAL 37-SANDI, 27-A).

Figure 240. Front of Administration Building at Naval Hospital San Diego, California, 1958 (courtesy NMHM Otis Archives, OHA 240, box 2).

Figure 241. Front of Building 1 at San Diego Naval Hospital, California, 1980s (Library of Congress, HABS CAL 37-SANDI, 27-A).

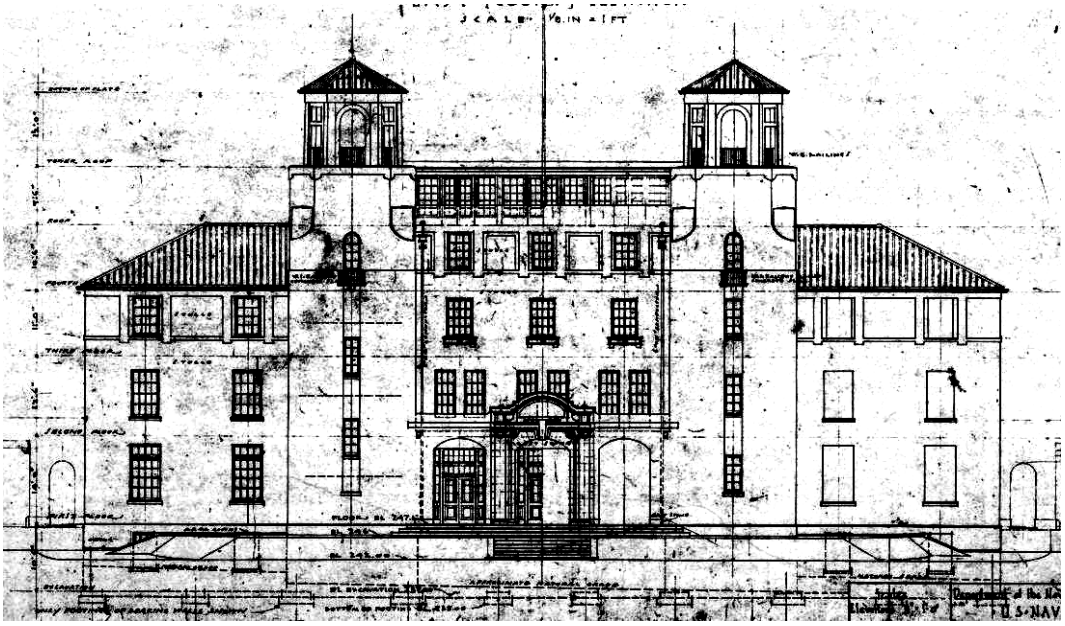


Figure 242. Front of Building 1 at San Diego Naval Hospital, California, 1920s (Library of Congress, HABS CAL 37-SANDI, 27-A).

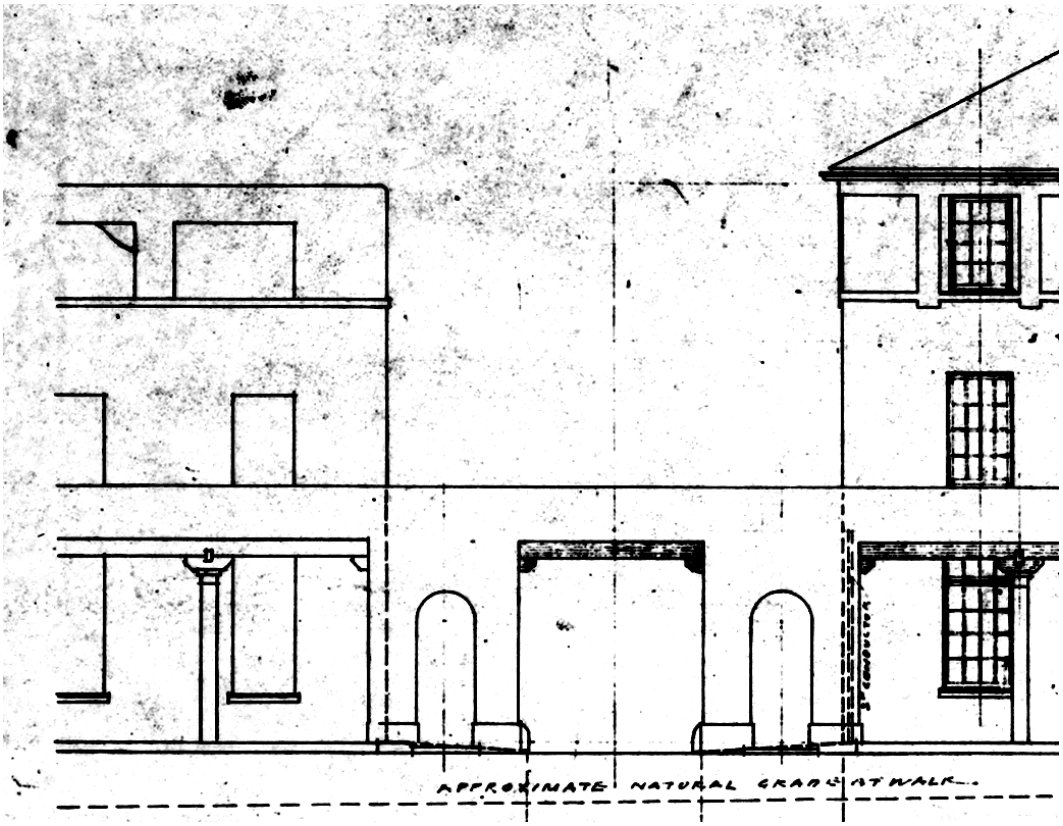


Figure 243. Close-up of walkway between wards at San Diego Naval Hospital, California, 1920s (Library of Congress, HABS CAL, 37-SANDI, 27-A).

NAVAL HOSPITAL PHILADELPHIA, PENNSYLVANIA (1935)

This 15-story Art Deco hospital was designed by Walter Karcher and Livingston Smith in 1933 and opened for patients in 1935. The site plan of the hospital was symmetrical except for three officers' quarters on the east side of the complex. A large driveway led up to the main entrance from Pattison Avenue. The design of the main portion of the hospital incorporated the solarium form that was so prevalent on earlier naval hospitals. In 2001, this hospital was demolished for a parking lot.

Figure 244. Aerial of Naval Hospital Philadelphia, Pennsylvania [Roosevelt Park is in the foreground], 1935 (NARA College Park, RG 71-CA, box 381).

Figure 245. Naval Hospital Philadelphia, Pennsylvania, September 1934 (NARA College Park, RG 71-CA, box 381).

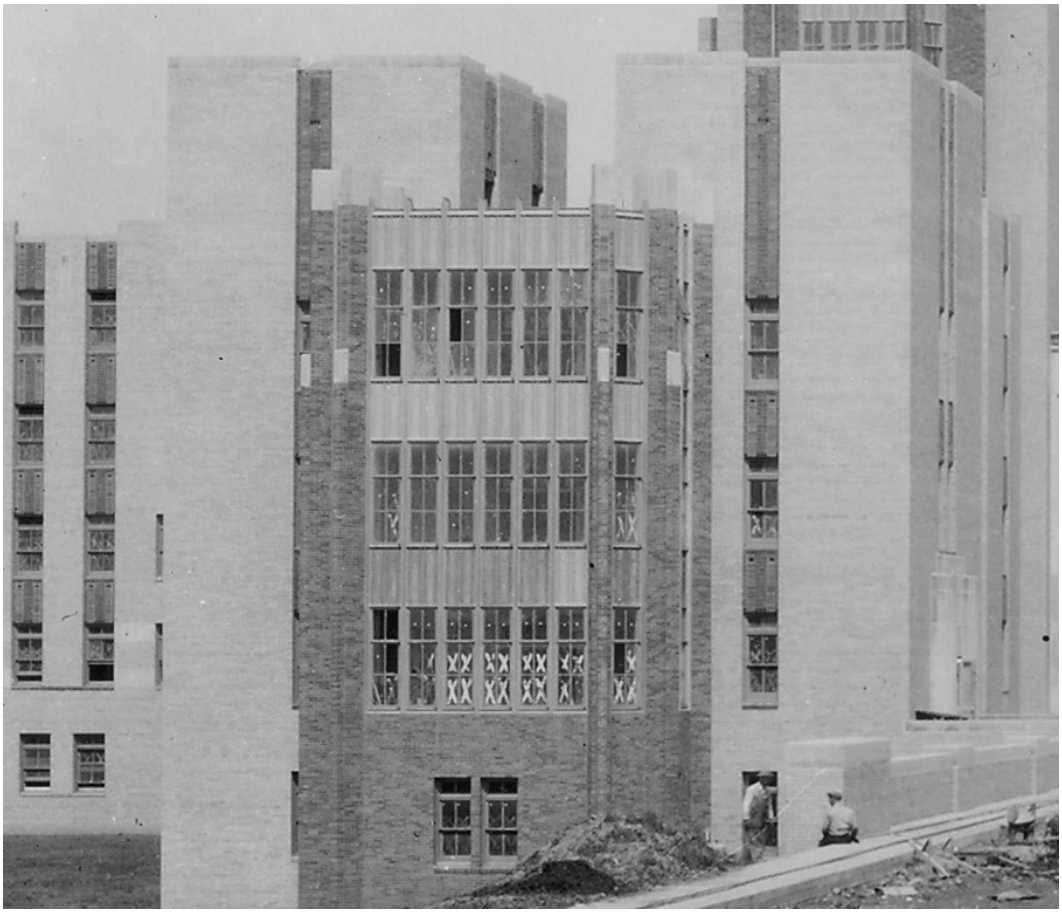


Figure 246. Naval Hospital Philadelphia, Pennsylvania, September 1934 (NARA College Park, RG 71-CA, box 381).

FORT KNOX, KENTUCKY (1939)

The post hospital at Fort Knox was constructed in 1939 at the east end of the parade field. It was designed in the Georgian Revival style as was the rest of the cantonment. It follow the typical Army Interwar hospital plan of a central building that contained headquarters functions, operating rooms, and wards.

Figure 247. Aerial view of construction of new hospital, Fort Knox, Kentucky, June 1939 (Fort Knox Museum Volume 13, photo # 1).

Figure 248. Hospital, Fort Knox, Kentucky, constructed in 1939 (Fort Knox Museum Volume 13, photo # 2).

Figure 249. Hospital, Fort Knox, Kentucky, January 29, 1952 (NARA College Park, RG 111-SC, box 223, SC 390708).

NAVAL HOSPITAL BETHESDA, MARYLAND (1940)

The Washington Naval Hospital located at the old Naval Observatory in Foggy Bottom was in desperate need of updating and expansion during the Interwar period. Several schemes for its complete reconstruction were proffered but it was decided in 1938 to construction a new hospital outside of Washington, DC in Bethesda, Maryland.

Figure 250. A proposed plan for a new US Naval Hospital, Washington DC (NARA College Park).

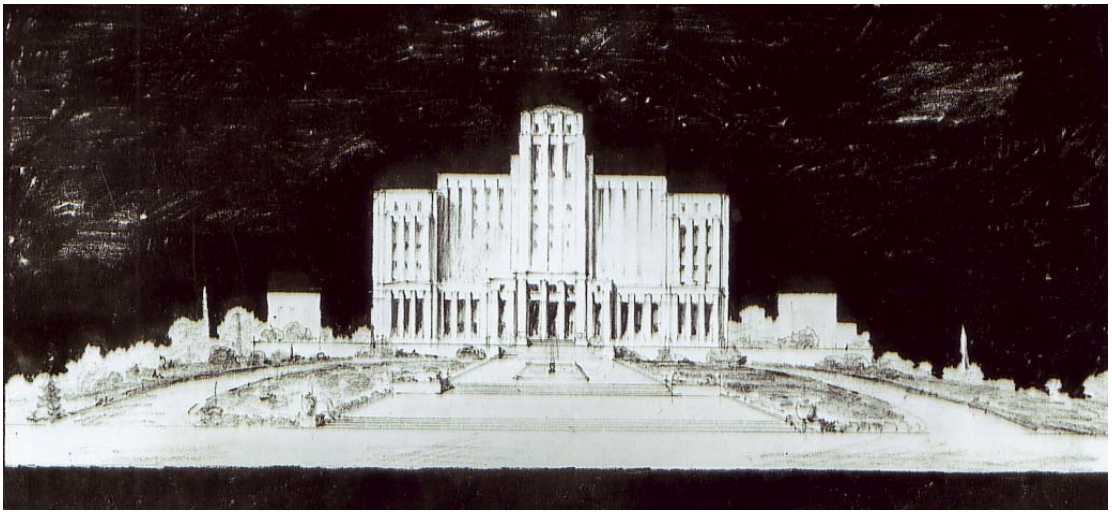


Figure 251. A second proposed plan for a new US Naval Hospital, Washington DC (NARA College Park).

Ground was broken for the new Naval Medical Center in 1938 and President Franklin D. Roosevelt laid the cornerstone for the hospital's distinctive tower on November 11, 1940. The Naval Medical Center was composed of the Naval Hospital, the Naval Medical School, the Naval Dental School, and the Naval Medical Research Institute.

Figure 252. Naval Hospital Bethesda, Maryland, August 1944 (NARA College Park, RG 80-G, box 435, 116437).

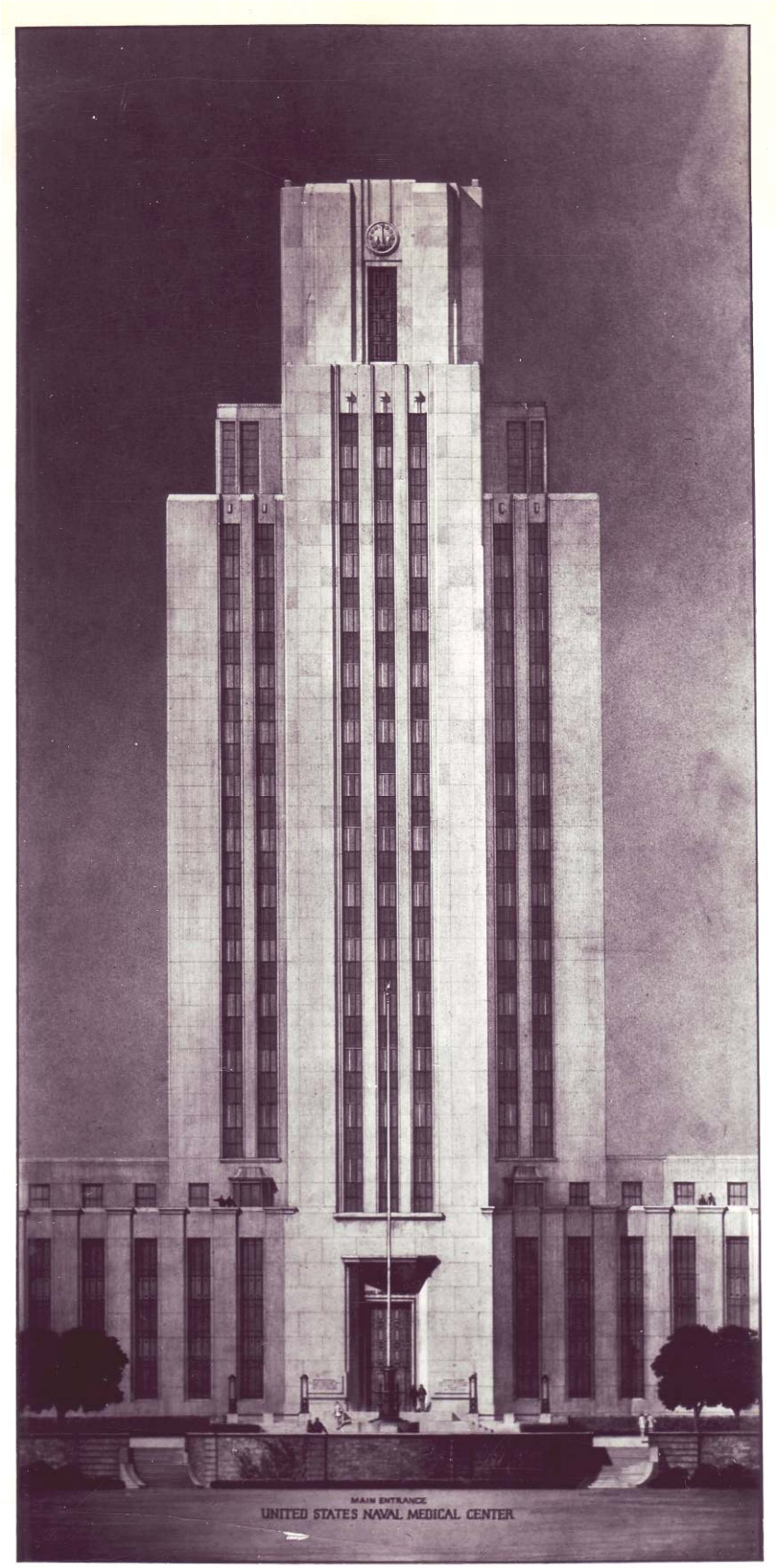


Figure 253. West elevation drawing of Naval Hospital Bethesda, Maryland, no date (NARA College Park, RG 71-CA box 31 folder D).

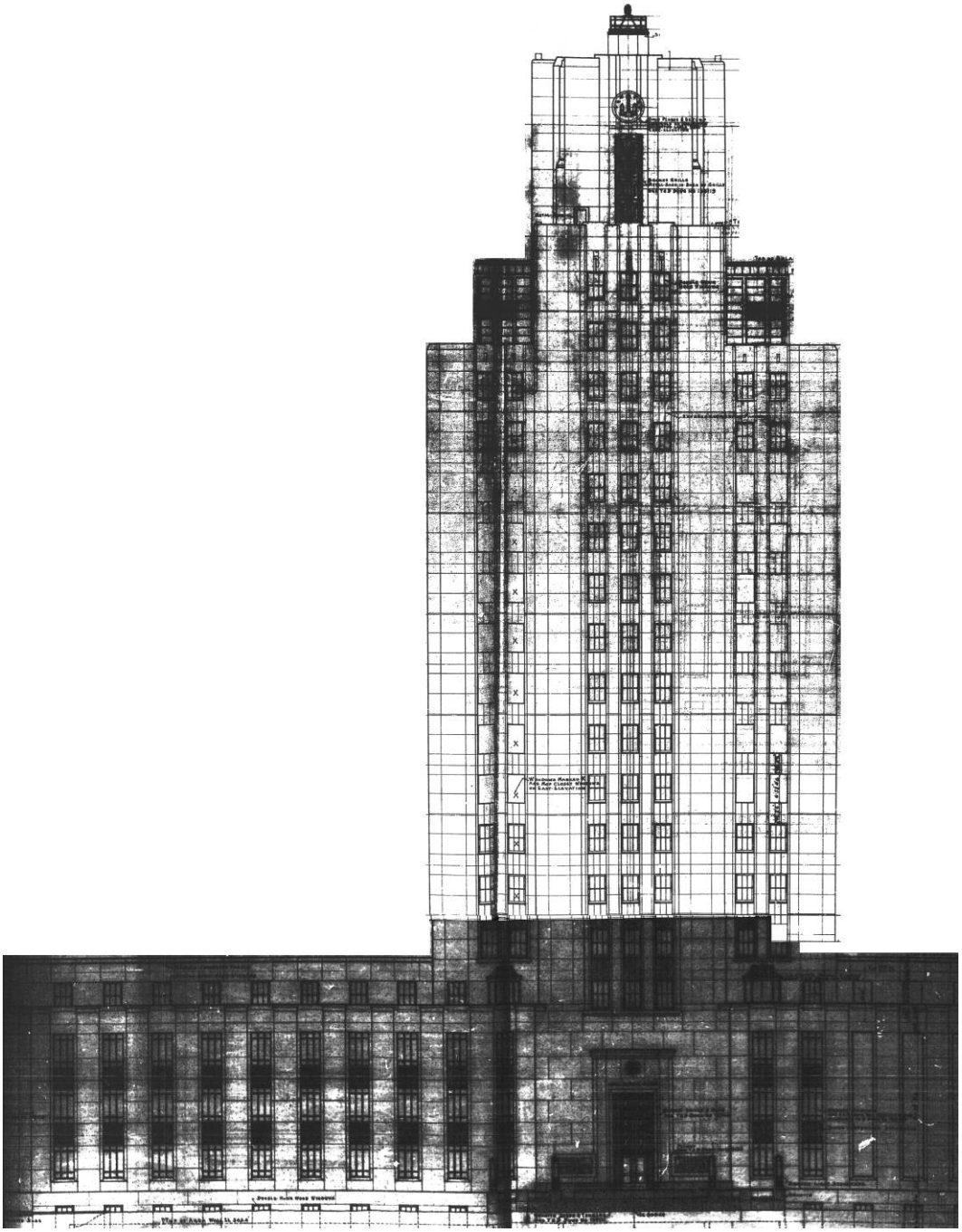


Figure 254. Naval Hospital Bethesda, Maryland, February 1940 (NARA College Park, RG 71 533-31).

Figure 255. Naval Hospital Bethesda, Maryland, October 1948 (NARA College Park, RG 80-G, box 2099, 481062).

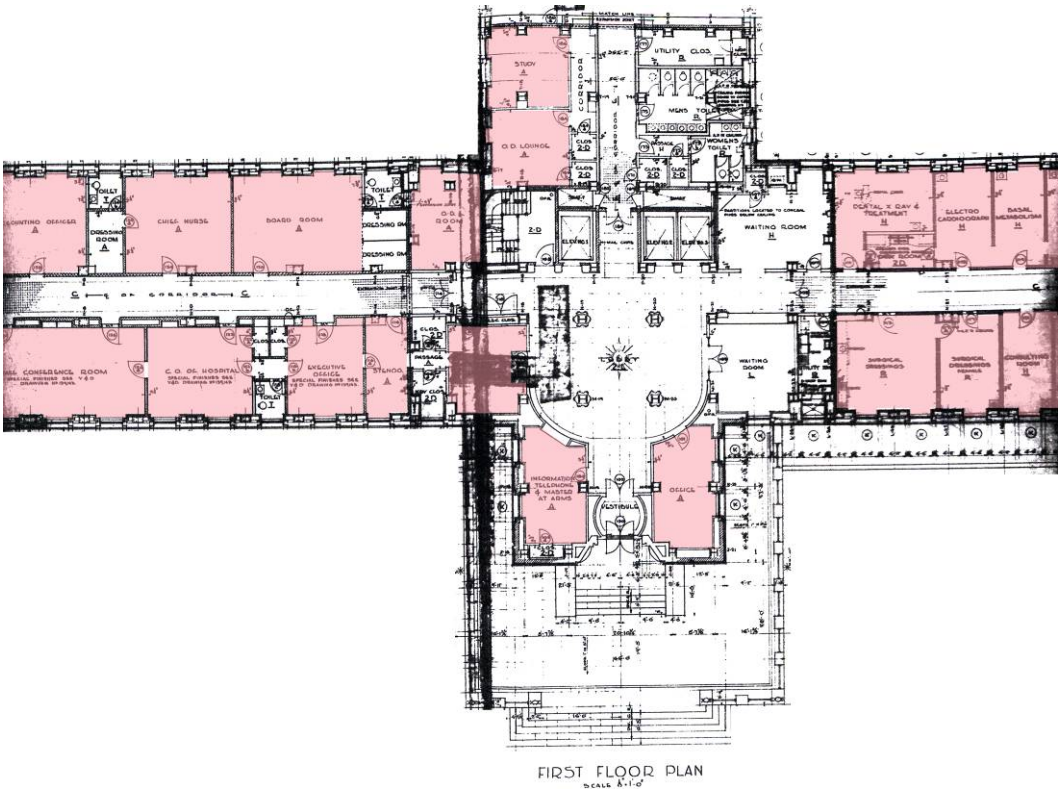


Figure 256. Portion of First Floor Plan of Naval Hospital Bethesda, Maryland, February 1940 (NARA College Park, RG 71 533-31).

NAVAL HOSPITAL KEY WEST, FLORIDA

The Naval Hospital at Key West, Florida followed the general layout of the Naval Medical Center in Bethesda, Maryland with a central administration section and projecting wings containing the wards.

Figure 257. Naval Hospital Key West, Florida, June 1942 (NARA College Park, RG 80-G, box 1360, 358793).

Figure 258. Naval Hospital Key West, Florida, October 1942 (NARA College Park, RG 80-G, box 112, 24366).

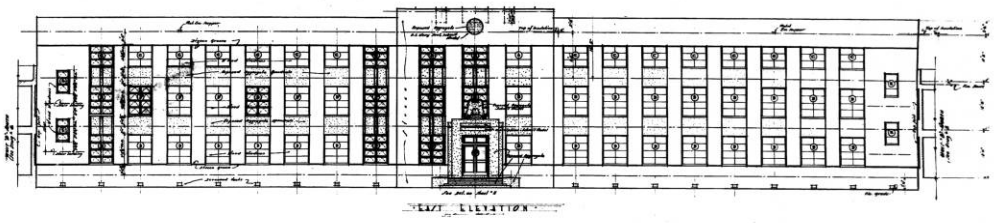


Figure 259. Elevation central of main building at Naval Hospital Key West, Florida, February 1942 (NARA College Park, RG 71 700-31).

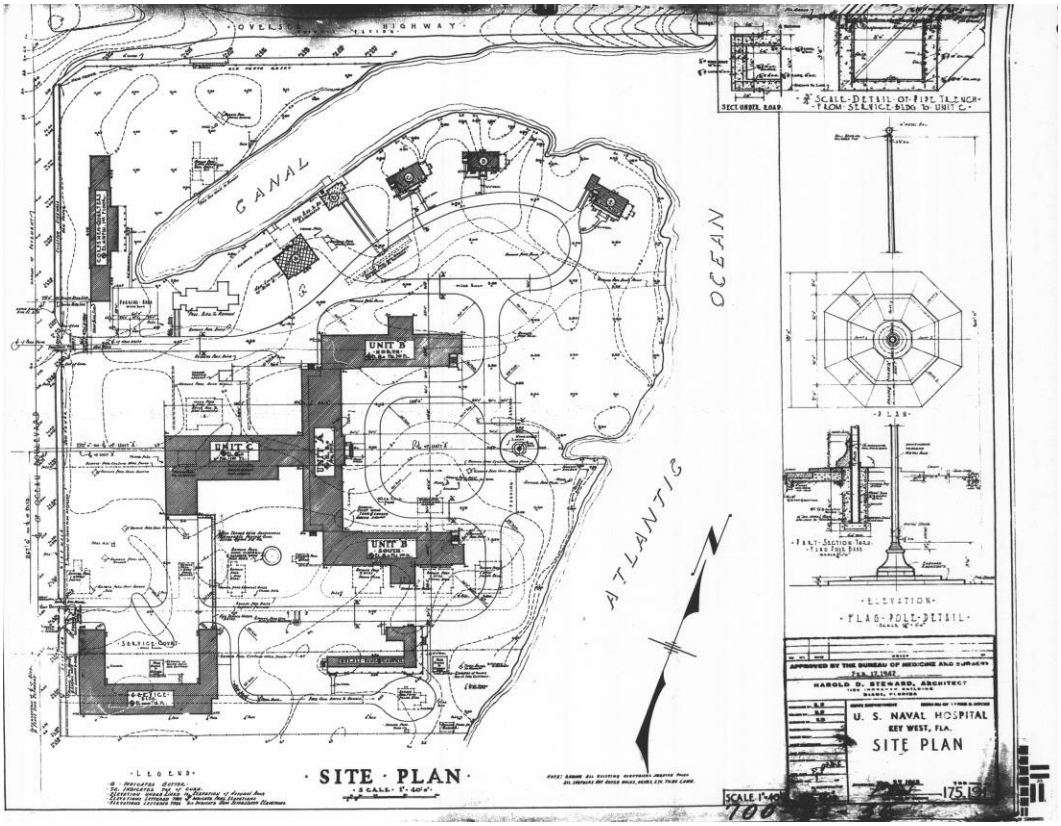


Figure 260. Site plan of Naval Hospital Key West, Florida, February 1942 (NARA College Park, RG 71 700-31).

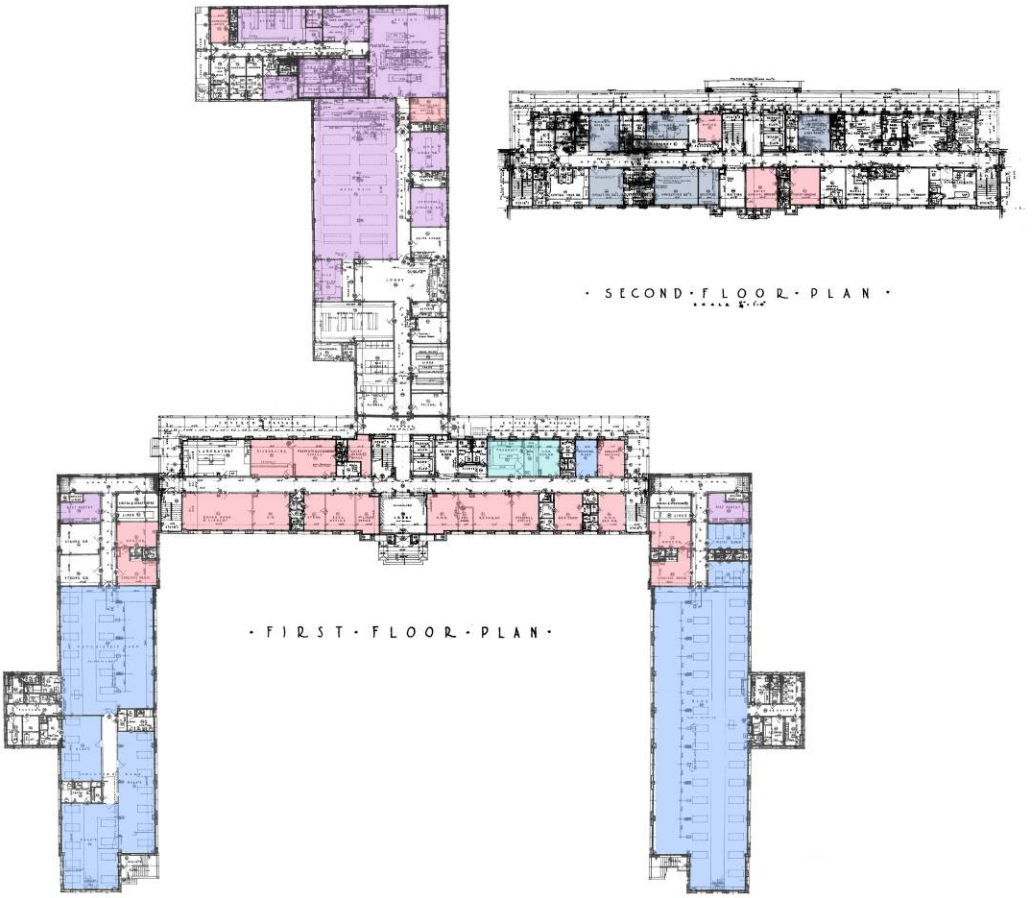


Figure 261. First and second floor plans of Naval Hospital Key West, Florida, February 1942 (NARA College Park, RG 71 700-31).

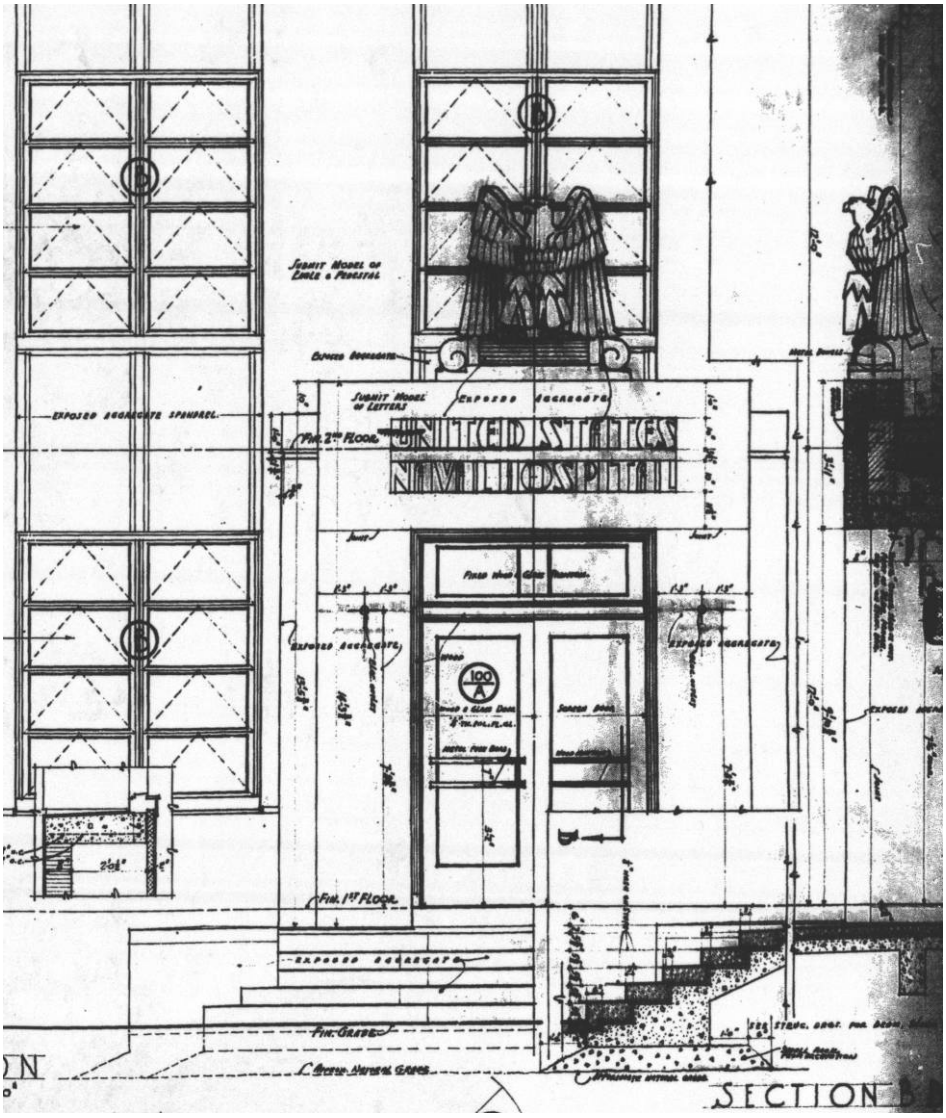


Figure 262. Detail elevation and section of main entrance at Naval Hospital Key West, Florida, February 1942 (NARA College Park, RG 71 700-31).

OTHER EXAMPLES

Most of the military hospitals constructed during the Interwar Period were on Army posts and they were similar to the Fort Knox example. Generally they consisted of a main building for headquarters staff and operating rooms and side wings holding the various wards. Other examples for the Navy followed a similar plan.

Figure 263. Aerial of the U.S. Army Hospital at Fort Bragg, North Carolina, September 1939 (NARA College Park, RG 342-FH, box 1060, B17347).

Figure 264. Front view of the U.S. Army Hospital at Fort Monroe, Virginia, January 18, 1952 (NARA College Park, RG 111-SC, box 223, 390700).

Figure 265. Post Hospital (Main Building), Fort Monmouth, New Jersey, June 10, 1954 (NARA College Park, RG 111-SC, box 279, 460689).

The original 24-bed Circular #10 hospital at Fort Sill can be seen in the rear center of the photograph. It was completed in 1875. It followed the standard plan except that it had an observation tower on the roof of the central block. The first large ward addition was constructed in 1913 and a second in 1925. A larger hospital was constructed in front of the complex in the 1936.

Figure 266. U.S. Army Hospital, Fort Sill, Oklahoma, January 24, 1952 (NARA College Park, RG 111-SC, box 223, SC 390725).

Figure 267. New hospital, Fort Sill, Oklahoma, January 24, 1952 (NARA College Park, RG 111-SC, box 223, 390728).

Figure 268. Aerial view of Station Hospital, Fort Benning, Georgia, January 23, 1952 (NARA College Park, RG 111-SC, box 222, 389234).

Figure 269. Left view of Station Hospital, Fort Benning, Georgia, January 23, 1952 (NARA College Park, RG 111-SC, box 222, 389233).

The third Fort Sam Houston, Texas, hospital was built during this interwar period. It was completed in 1937 on the opposite side of the cantonment from the 1907 Surgeon General standardized plan hospital.

Figure 270. Front view of Brooke Army Hospital, Fort Sam Houston, Texas, September 18, 1942 (NARA College Park, RG 111-SC, box 91, 145947).

Figure 271. Aerial view back of hospital with 1930s addition, Fort Benjamin Harrison, Indiana, 1943 (NARA College Park).

Figure 272. Front of Chanute Air Force Base Hospital, Illinois, circa early 1990s (Library of Congress, HABS ILL 10-RAN.V, 1C-2).

Figure 273. Rear of Chanute Air Force Base Hospital, Illinois, circa early 1990s (Library of Congress, HABS ILL 10-RAN.V, 1C-4).

Figure 274. Oblique of Hospital, Barksdale Air Force Base, Louisiana, June 10, 1954 (NARA College Park, RG 111-SC, 122690).

Figure 275. Air Force Hospital, Randolph Field , Texas (NARA College Park, RG 324–FH, Box 1072 3B-20852).

Figure 276. Aerial view of the Naval Hospital at Marine Corps Base Quantico, VA (NARA College Park).

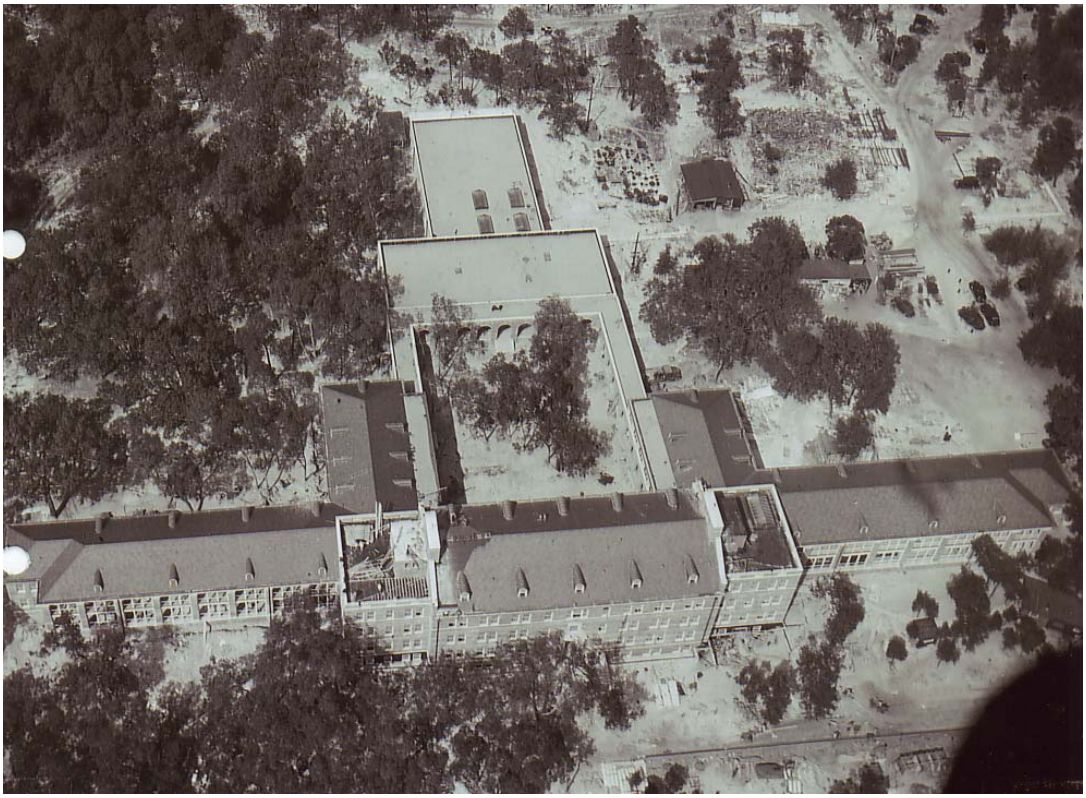


Figure 277. Aerial view of Naval Hospital, Pensacola, Florida (NARA College Park).

13 WORLD WAR II HOSPITALS

The temporary cantonment hospitals built for World War II were remarkably similar to what was constructed for World War I temporary hospitals and the Civil War general hospitals. The World War II cantonment hospitals were built in either one-story or two-story configurations. In both cases, enclosed walkways connected the different areas of the hospital together. The construction material was generally wood, but concrete block, terra cotta block, and brick were also utilized. The War Department hospitals were built following either the 700-plan series or the 800-plan series. The general layouts of the World War II hospitals were different from that of their World War I counterparts. The primary administration building was front-center facing a driveway, and other administration flank it. Barracks and officers' quarters were also located in this area. The surgery, kitchens, and mess buildings were interspersed between the hospital wards. At the rear of the complex, were support buildings such as laundries, storerooms, and a power plant.

Figure 278. Aerial view of WWII cantonment hospital looking at the wards, Fort George G. Meade, Maryland, January 1952 (NARA College Park, RG 111-SC, box 223, 390684).

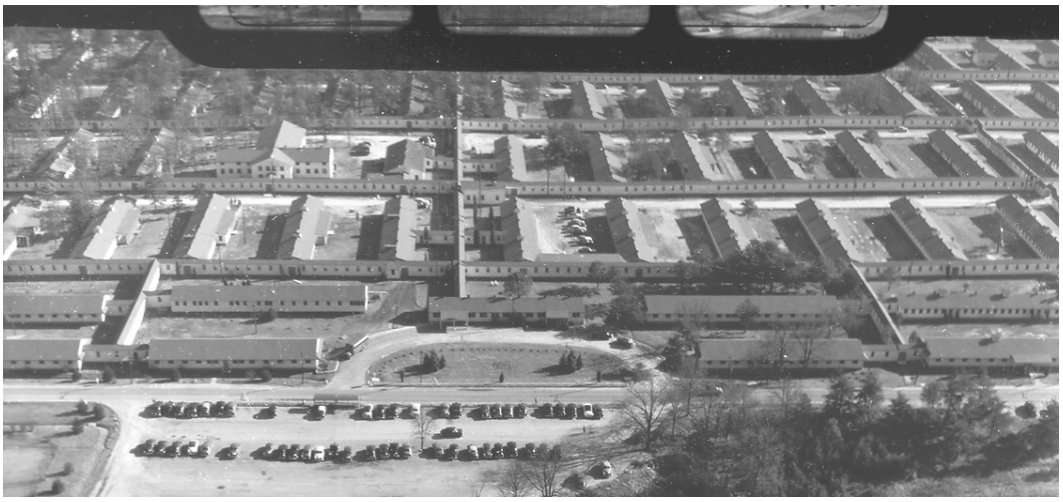


Figure 279. Aerial view of WWII cantonment hospital looking at the administration buildings, Fort George G. Meade, Maryland, January 1952 (NARA College Park, RG 111-SC, box 223, 390685).

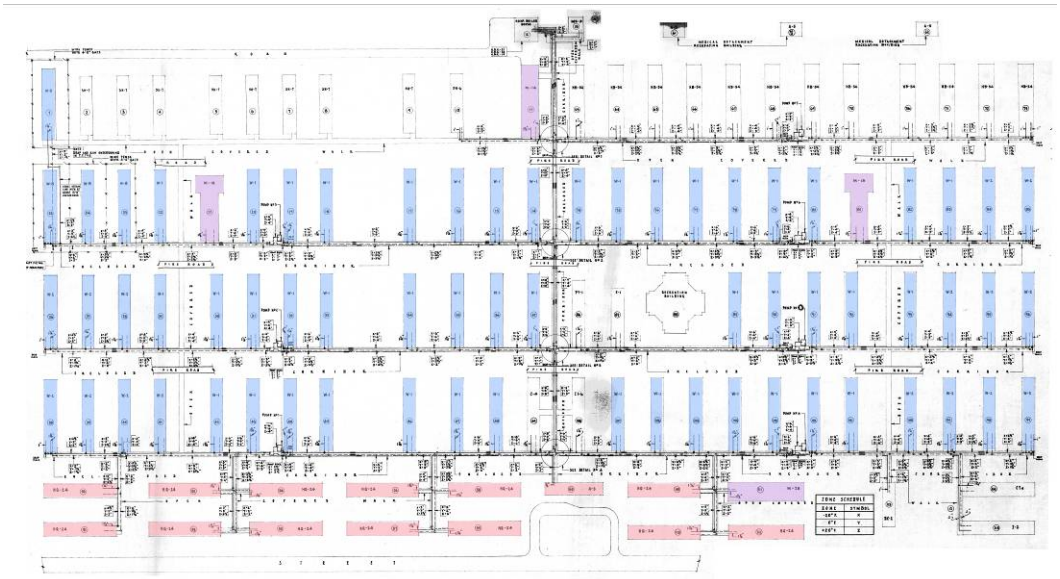


Figure 280. General site plan for a 2000-bed cantonment hospital, 1940 (ERDC-CERL).

Figure 281. Aerial view of WWII cantonment hospital, Camp Roberts, California, February 1952 (NARA College Park, RG 111-SC, box 223, 390762).

The cantonment hospital at Fort Carson, Colorado, was constructed of concrete block rather than wood, giving it a semi-permanent status; however, it followed the 800-plan series for construction.

Figure 282. Cantonment Hospital, Camp Carson, Colorado, 1942 (NARA College Park, RG 111-SC).

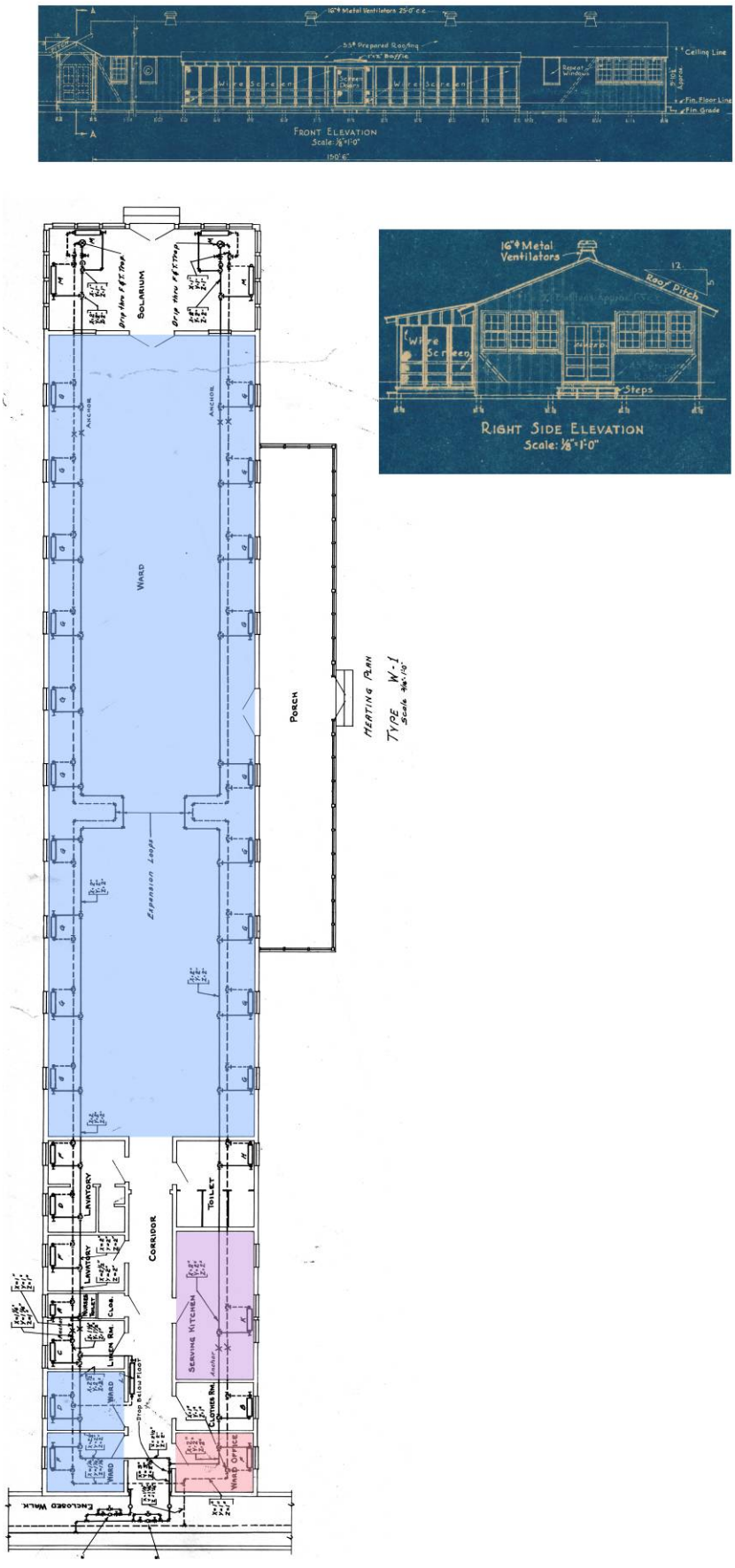


Figure 283. Floor plan and elevations of a typical World War II ward, 1940 (ERDC-CERL).

Figure 284. Two-story wood hospital administration building, Camp Atterbury, Indiana, January 1952 (NARA College Park, RG 111-SC, box 223, 390523).

Figure 285. Two-story brick hospital administration building, Fort Campbell, Kentucky, January 1952 (NARA College Park, RG 111-SC, box 223, 390703).

Many of these World War II temporary hospitals proved to be more than temporary as they were utilized as hospitals well onto the 1960s.

Figure 286. One-story hospital administration building, Red River Arsenal, Texarkana, Texas, January 1952 (NARA College Park, RG 111-SC, box 223, 390735).

Figure 287. One-story hospital administration building, Fort George G. Meade, Maryland, January 1952 (NARA College Park, RG 111-SC, box 223, 390687).

Figure 288. Neon Sign in front of emergency entrance, Fort Belvoir, Virginia, March 1952 (NARA College Park, RG 111-SC, box 279, 460670).

Figure 289. One-story hospital administration building, Camp Gordon, Georgia, January 1952 (NARA College Park, RG 111-SC, box 222, 389239).

Figure 290. Uncompleted Hospital, Fort Dix, New Jersey, January 1941 (NARA College Park, RG 111-SC, box 10, 117483).

Temporary hospital wards were often added to the existing installation hospitals and usually connected to the main complex by enclosed windowed corridors.

Figure 291. Addition to Post Hospital showing enclosed walkway to World War II hospital extension, Fort Leavenworth, Kansas, 1952 (NARA College Park, RG 111-SC, box 223, 390521).

Figure 292. World War II addition to Post Hospital, Fort Leavenworth, Kansas, 1952 (NARA College Park, RG 111-SC, 579503).

Figure 293. Aerial view of Post Hospital with World War II expansion in foreground, Fort Lewis, Washington, February 1968 (NARA College Park, RG 111-SC, box 412, 645063).

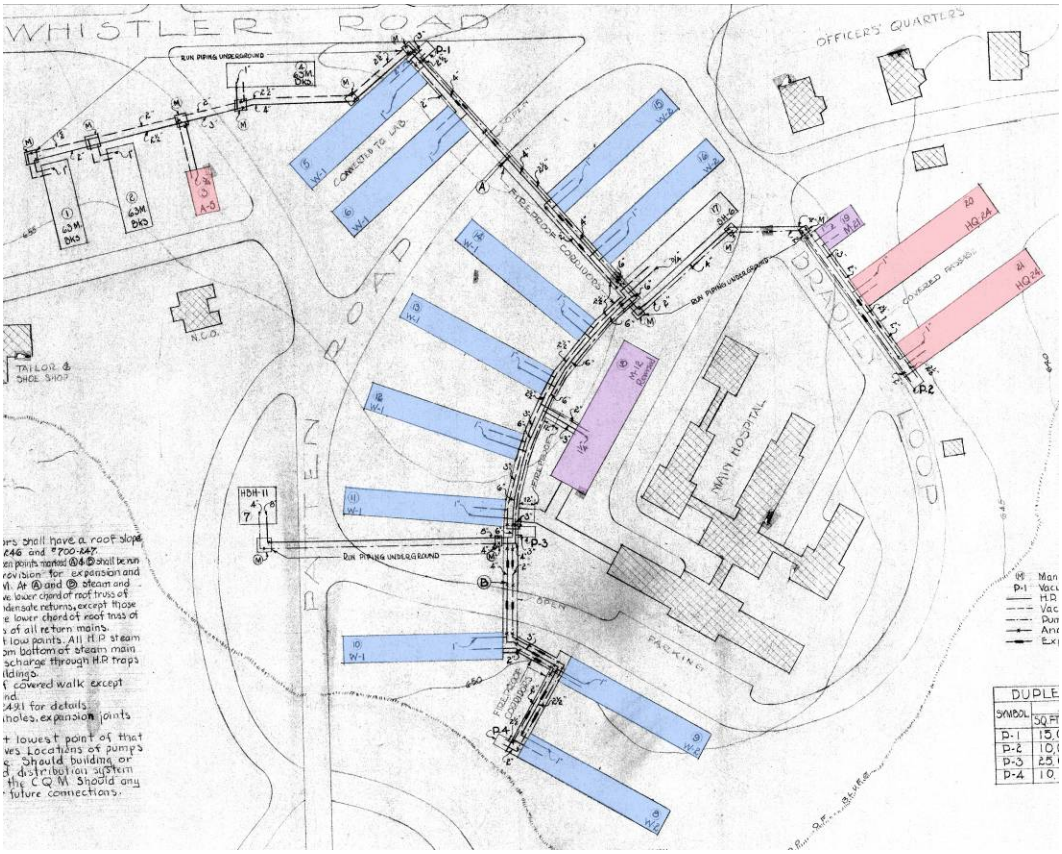


Figure 294. Map of 1880s Post Hospital with a 1910s additions and the World War II temporary buildings surrounding it, Fort Sheridan, Illinois, 1942 (ERDC-CERL).

Figure 295. World War II temporary wards added to the Naval Hospital Great Lakes, Illinois, February 1942 (NARA College Park, RG 71-CA box 143).

Figure 296. Vehicular opening through the enclosed walkways at Fort McCoy, Wisconsin, circa 1990 (Library of Congress, HABS WIS 41-SPAR.V, 1).

WORLD WAR II GENERAL HOSPITALS

The U.S. Army Medical Department constructed 63 general hospitals across the United States during World War II. These hospitals followed the planning of the smaller post hospitals.

Valley Forge General Hospital opened in 1943 in Phoenixville, Pennsylvania. It closed in 1974 and is now the Valley Forge Christian College.

Figure 297. Right front view of headquarters building, Valley Forge Army Hospital, January 21, 1952 (NARA College Park, RG 111-SC, box 223, 390703).

Figure 298. Left front view of headquarters building, Valley Forge Army Hospital, January 21, 1952 (NARA College Park, RG 111-SC, box 223, SC 390704).

O'Reilly General Hospital was on the northeast side of Springfield, Missouri.

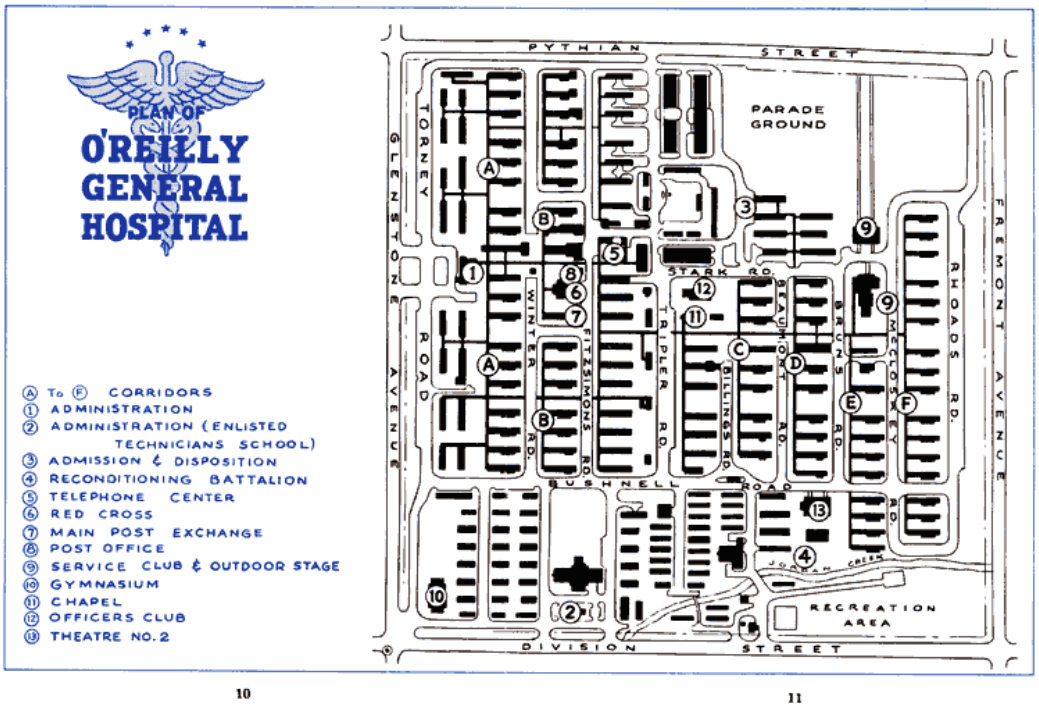


Figure 299. Map of O'Reilly General Hospital, Missouri, circa WWII (courtesy Springfield-Greene County Library).

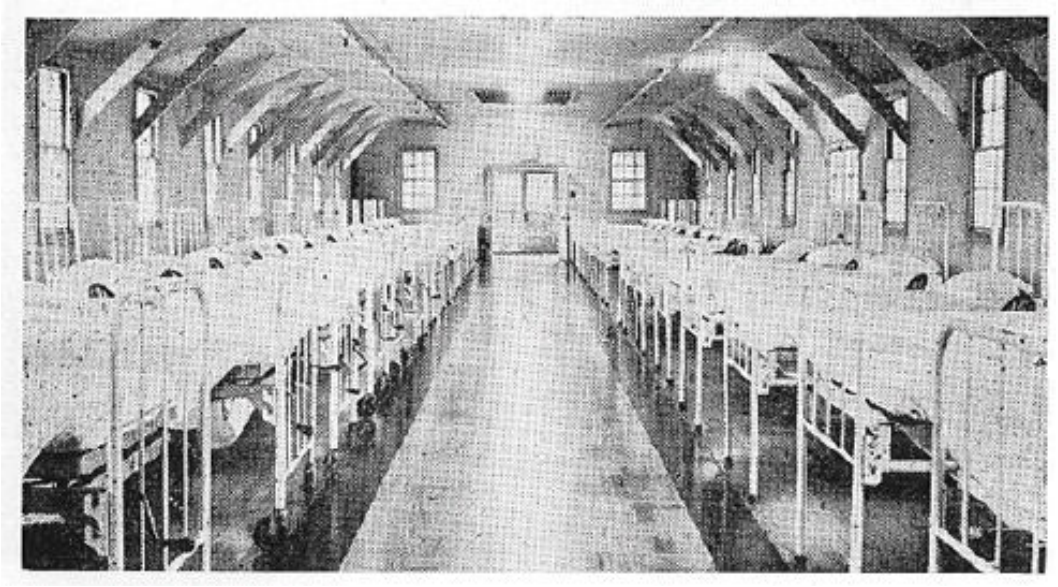


Figure 300. Interior of a ward at O'Reilly General Hospital, Missouri circa WWII (courtesy Springfield-Greene County Library).

Figure 301. Ward corridor opening at street crossing at O'Reilly General Hospital, Missouri circa WWII (courtesy Springfield-Greene County Library).

Figure 302. Chapel connected by corridor to rest of O'Reilly General Hospital, Missouri, circa WWII (courtesy Springfield-Greene County Library).

WORLD WAR II NAVAL HOSPITALS

The naval hospitals constructed during World War II were also of temporary design but followed the same complex design with wards connected to each other by enclosed windowed corridors.

Figure 303. Naval Hospital, NOB Norfolk, Virginia, June 1942 (NARA College Park, RG 80-G, box 114, 24741).

Figure 304. Hospital ward at Naval Hospital, NAS Corpus Christi, Texas, June 1942 (NARA College Park, RG 80-G, box 277, 63494).

Figure 305. Naval Hospital, NAS Jacksonville, Florida, July 1942 (NARA College Park, RG 80-G, box 1125, 24331).

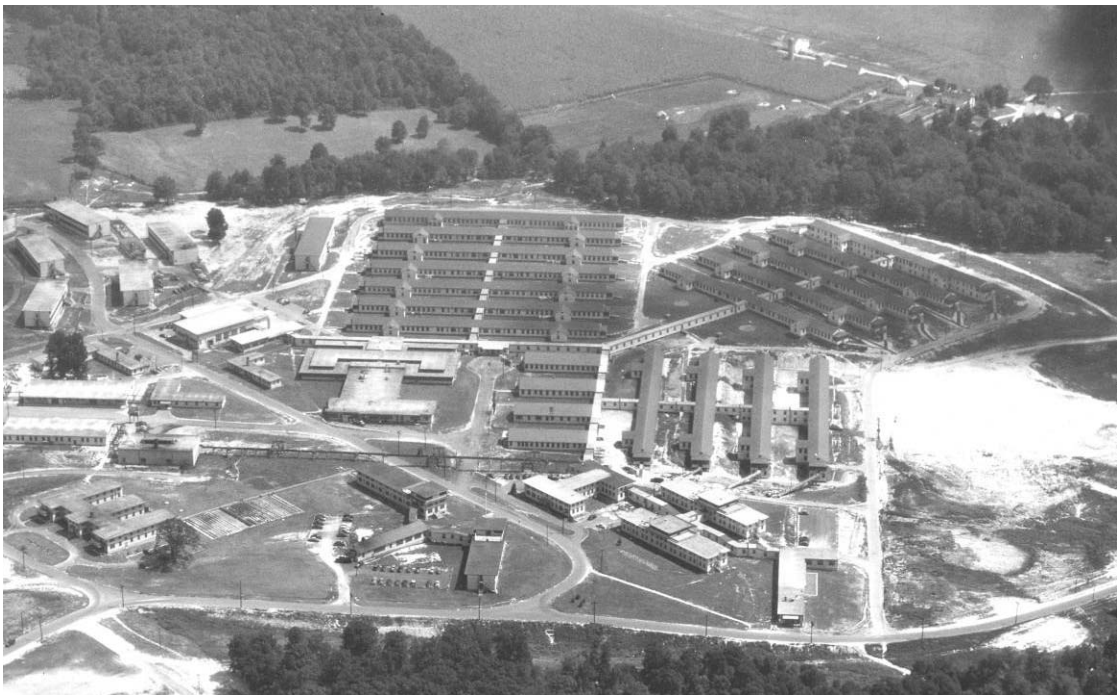


Figure 306. Naval Hospital, USNTS Bainbridge, Maryland, August 1944 (NARA College Park, RG 80-G, box 435, 116436).

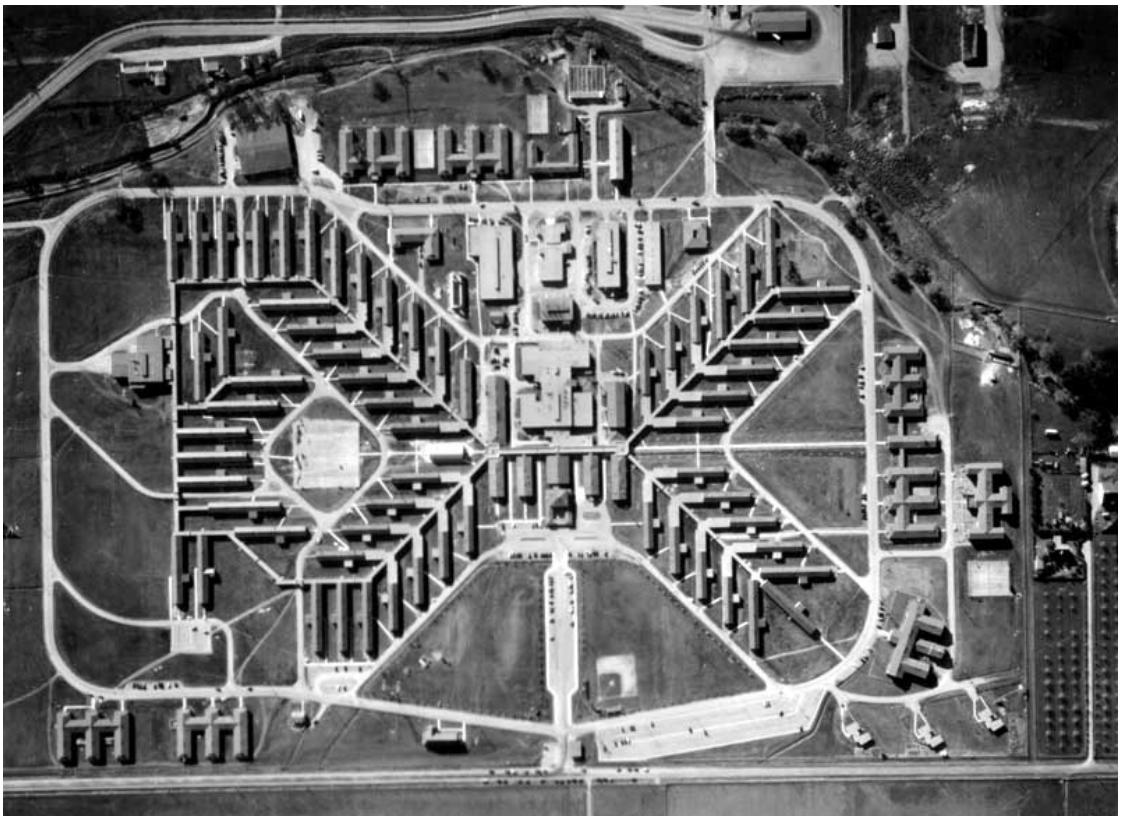


Figure 307. Naval Hospital, Shoemaker, California, 1945 (NARA College Park, RG 80-G).

14 COLD WAR HOSPITALS

Army installations had to deal with a lack of modern hospital facilities from the end of World War II to the end of the Korean War. Congress was loath to appropriate funds for hospital facilities after the construction of so many temporary cantonment hospitals. The new hospitals were much larger and concentrated in one multi-story building as opposed to the single-story layout of the cantonment hospital. These buildings were constructed out of concrete with a sunscreen canopy over certain windows. Interestingly, these canopies mimicked the porches of the pre-World War II hospital.

The architectural elements to look for in this hospital plan type are:

1. Multi-story
2. Horizontal brise-soleil
3. Metal windows
4. Large parking lot

Figure 308. U.S. Army Hospital, Sandia Base, Albuquerque, New Mexico, January 1952 (NARA College Park, RG 111-SC, box 223, SC 390734).

Figure 309. Tripler General Hospital, Hawaii 1950s (courtesy NMHM Otis Archives, OHA 240 Box 2).

ARMY EXAMPLES

In 1953, York & Sawyer of New York, New York submitted to the U.S. Army Corps of Engineers plans for a 500- to 1000-bed hospital. This hospital had a large base to accommodate admitting, offices, supplies, and operating rooms. As the hospital went up in height, the architects stepped the building back to an elevator core and two ward wings. The total height of the building of the hospital was dependent on how many beds the installation needed. It was constructed of concrete with large window canopies. There are known York & Sawyer hospitals at Fort Knox, Kentucky; Fort Bragg, North Carolina; Fort Benning, Georgia; Fort Riley, Kansas; and Scott Air Force Base, Illinois.

FORT KNOX, KENTUCKY (1955)

The York & Sawyer hospital at Fort Knox is located east of the 1930s hospital, which was located on the parade ground. It follows the typical York & Sawyer plan and is nine stories high. It sits on a large parking lot. There are two distinctive entrances: one is the main entrance, and the other is for admitting with an ambulance bay to one side.

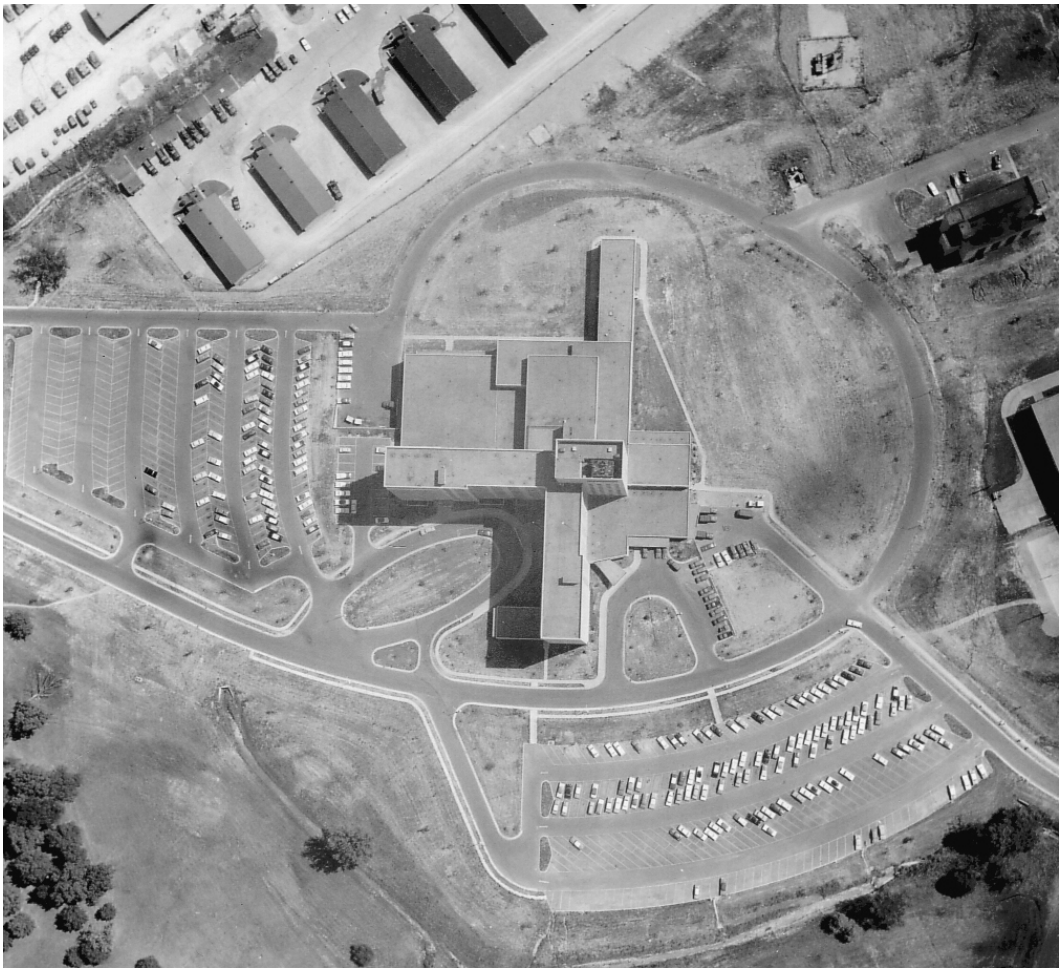


Figure 310. Aerial view of Ireland Army Hospital and grounds, Fort Knox, Kentucky, September 5, 1957 (NARA College Park, RG 111-SC, box 321, SC 515125).

Figure 311. Aerial view of Ireland Army Hospital, Fort Knox, Kentucky, September 12, 1957 (NARA College Park, RG 111-SC, box 321, 515127).

Figure 312. Exterior view of Ireland Army Hospital, Fort Knox, Kentucky, September 18, 1957 (NARA College Park, RG 111-SC, box 321, 515129).

FORT BRAGG, NORTH CAROLINA (1955)

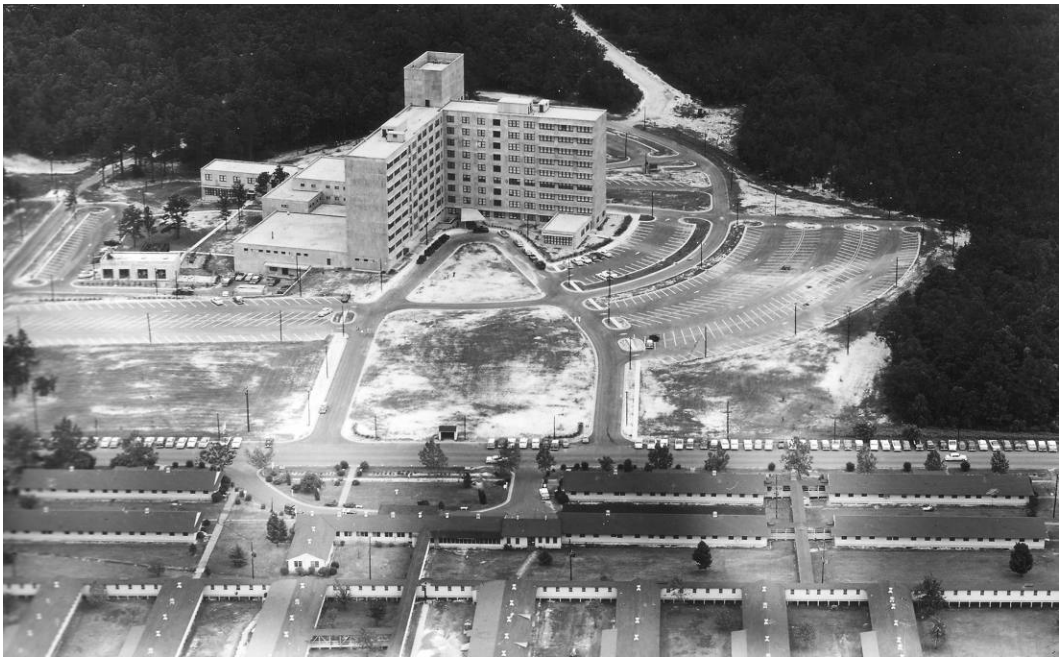


Figure 313. Womack Army Hospital [back] with WWII cantonment hospital [front], Fort Bragg, North Carolina, August 1958 (NARA College Park, RG 111-SC, box 339, 542246).

Figure 314. Womack Army Hospital, Fort Bragg, North Carolina, August 1958 (NARA College Park, RG 111-SC, box 339, 542247).

Figure 315. Womack Army Hospital, Fort Bragg, North Carolina, June 26, 1959 (NARA College Park, RG 111-SC, box 348, SC 566029).

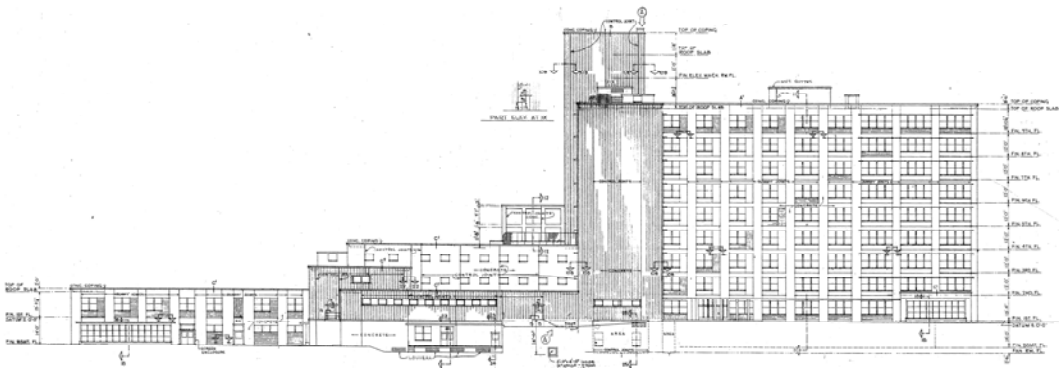


Figure 316. Womack Army Hospital Elevation, Fort Bragg, North Carolina, 1959 (courtesy Fort Bragg Cultural Resources Management Program).

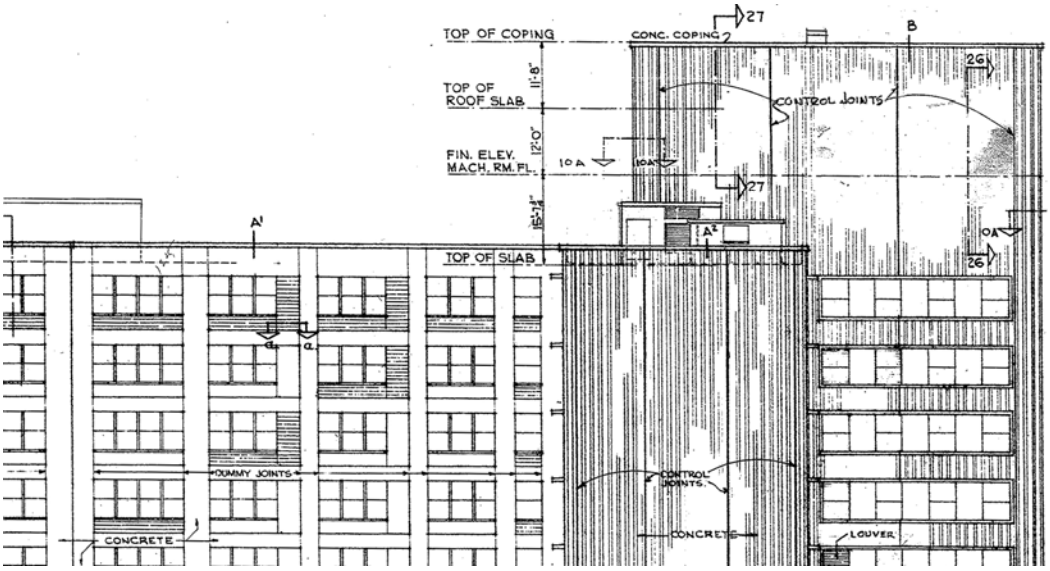


Figure 317. Womack Army Hospital Window Detail, Fort Bragg, North Carolina, 1959 (courtesy Fort Bragg Cultural Resources Management Program).

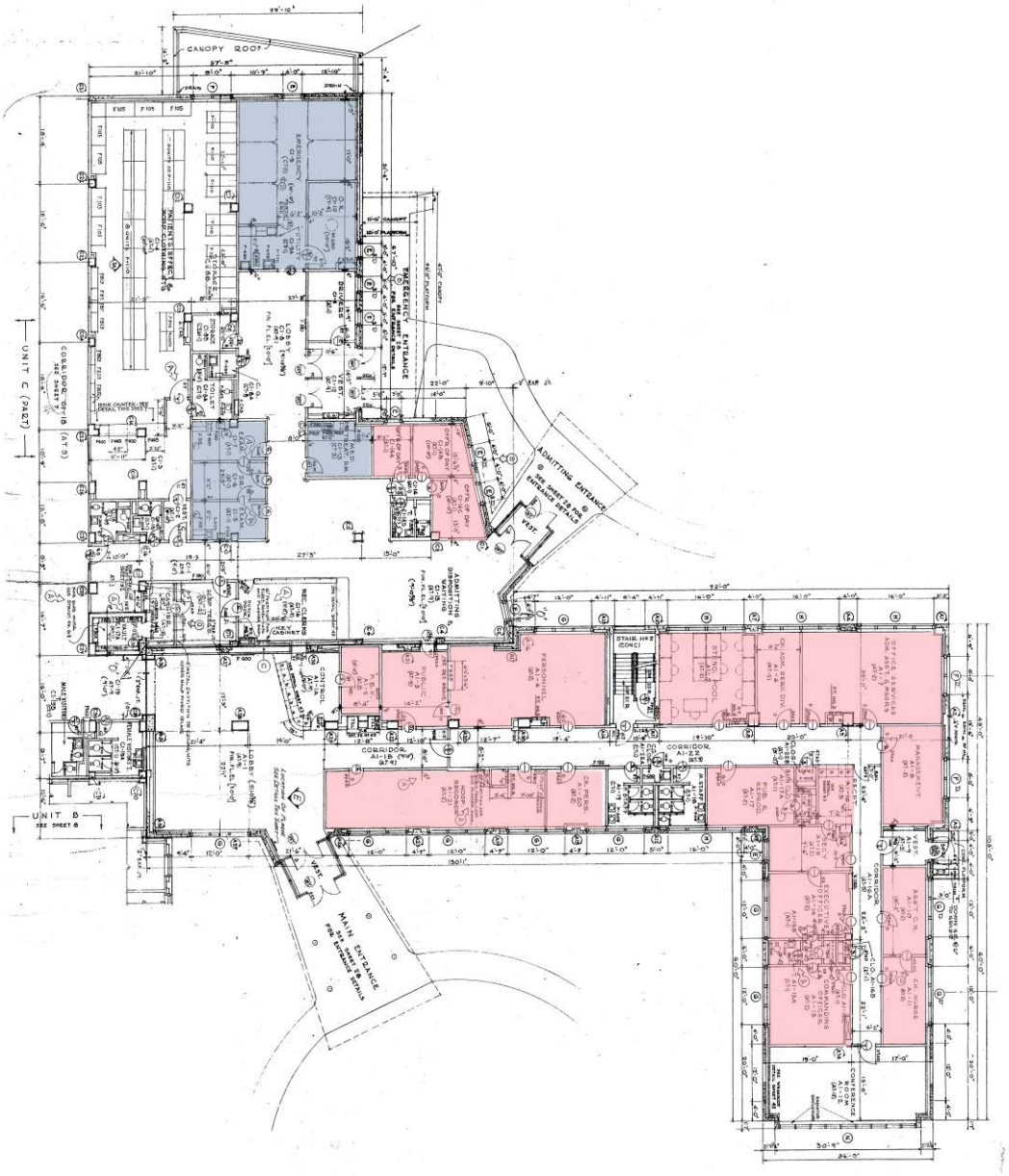


Figure 318. Womack Army Hospital Ground Floor Plan, Fort Bragg, North Carolina, 1959 (courtesy Fort Bragg Cultural Resources Management Program).

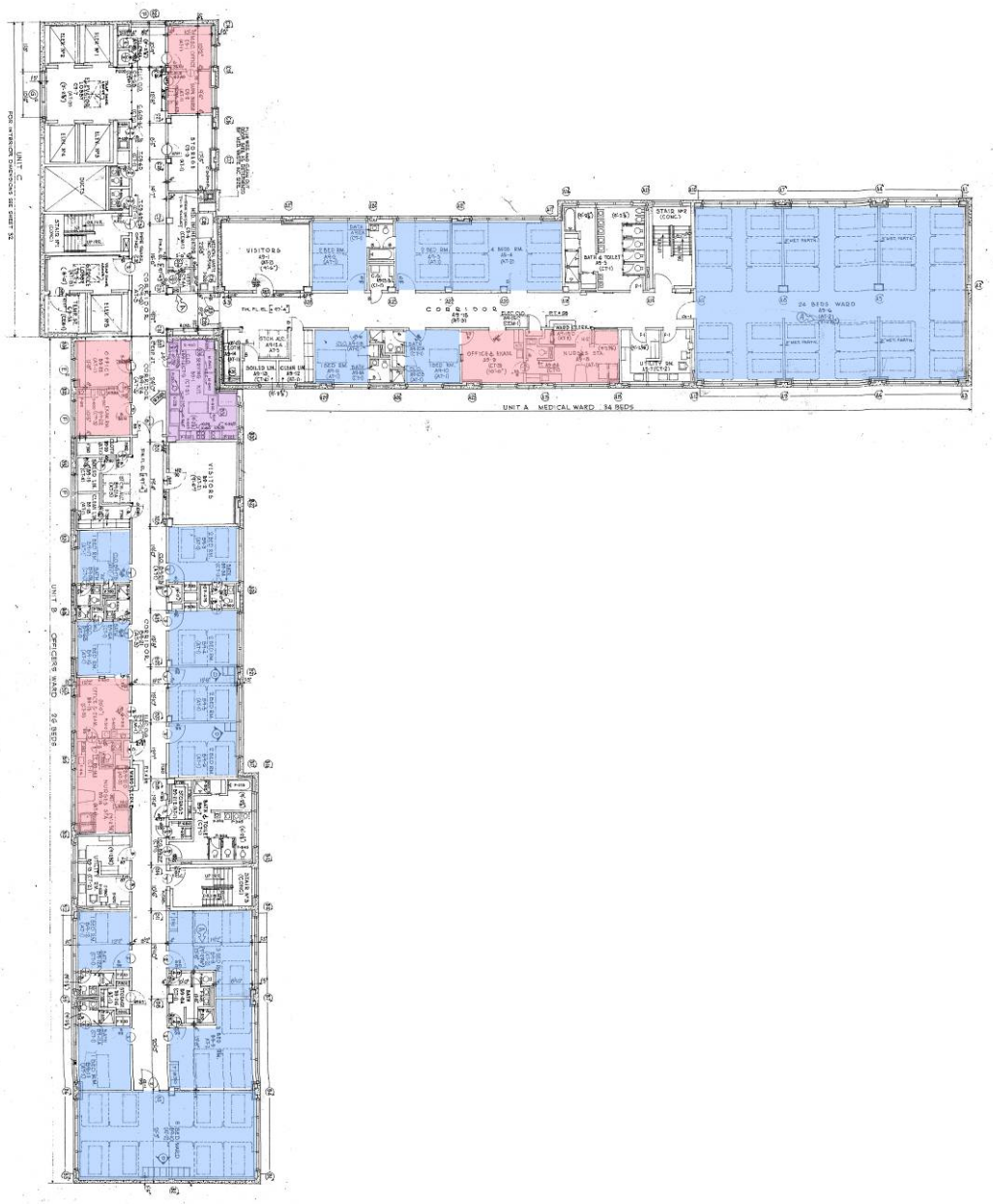


Figure 319. Womack Army Hospital Ward Floor Plan, Fort Bragg, North Carolina, 1959 (courtesy Fort Bragg Cultural Resources Management Program).

FORT RILEY, KANSAS (1958)

Construction of the new Irwin Army Community Hospital began in 1955 and was completed in February 1958 for a cost of $6 million. It followed the York & Sawyer plan of the 500- to 1000-bed hospitals with a multi-story scheme constructed with concrete, steel windows, and concrete window sunscreens. It is an example of the flexibility of the York & Sawyer hospital plan in that it is a smaller hospital than those at Fort Knox or Fort Bragg.

Figure 320. Full north view of the U.S. Army Hospital (looking south) under construction at Camp Whiteside, Fort Riley, Kansas, February 6, 1957 (NARA College Park, RG 111-SC, box 310, 497823).

Figure 321. Irwin Army Hospital, 1st Infantry Division, Fort Riley, Kansas, October 1960 (NARA College Park, RG 111-SC, box 373, 594057).

OTHER ARMY EXAMPLES

Figure 322. View of Martin Army Hospital, Fort Benning, Georgia, May 1958 (NARA College Park, RG 111-SC, box 338, 540844).

Figure 323. Entrance at Walson Army Hospital, Fort Dix, New Jersey, June 1966 (NARA College Park, RG 111-SC, box 401, 630165).

FORT LEAVENWORTH, KANSAS

Figure 324. New hospital [front] and old hospital [rear], Fort Leavenworth, Kansas, January 1961 (NARA College Park, RG 111-SC, box 360, 579503).

Figure 325. Hospital, Fort Leavenworth, Kansas, January 1961 (NARA College Park, RG 111-SC, box 360, 579503).

Figure 326. Hospital entrance, Fort Leavenworth, Kansas, January 1964 (NARA College Park, RG 111-SC, box 384, 608601).

FORT LEONARD WOOD, MISSOURI

Figure 327. Fort Leonard Wood Army new hospital and old hospital, 18 November 1964 (NARA College Park, RG 319-CF, box 14 SC 617789).

Figure 328. General Leonard Wood Army Hospital under construction, Fort Leonard Wood, Missouri, April 1964 (NARA College Park, RG 111-SC, box 390, SC 616080).

Figure 329. General Leonard Wood Army Hospital, Fort Leonard Wood, Missouri, late 1960s (NARA College Park, RG 111-SC, box 396, 623784).

FORT SILL, OKLAHOMA

Figure 330. Hospital, Fort Sill, Oklahoma, September 1966 (NARA College Park, RG 111-SC, box 404, 634100).

Figure 331. Hospital, Fort Sill, Oklahoma, August 1965 (NARA College Park, RG 111-SC, box 396, 623438).

FORT GORDON, GEORGIA

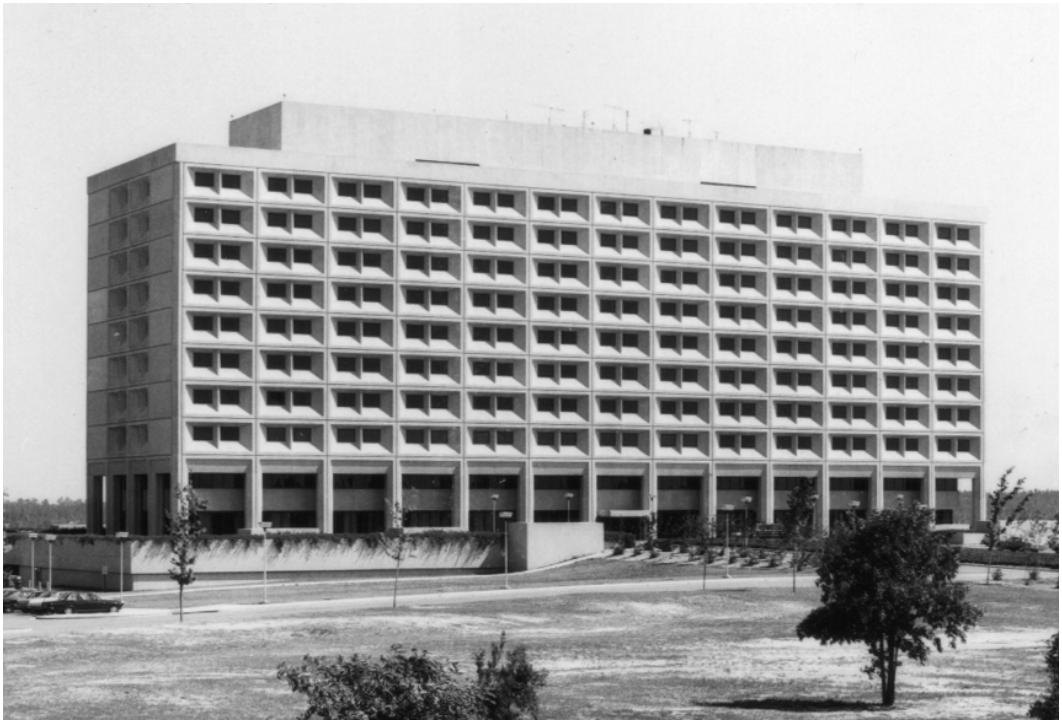


Figure 332. Front of Eisenhower Army Hospital, Fort Gordon, Georgia, April 1978 (NARA College Park, RG 111-SC, 675497).

AIR FORCE EXAMPLES

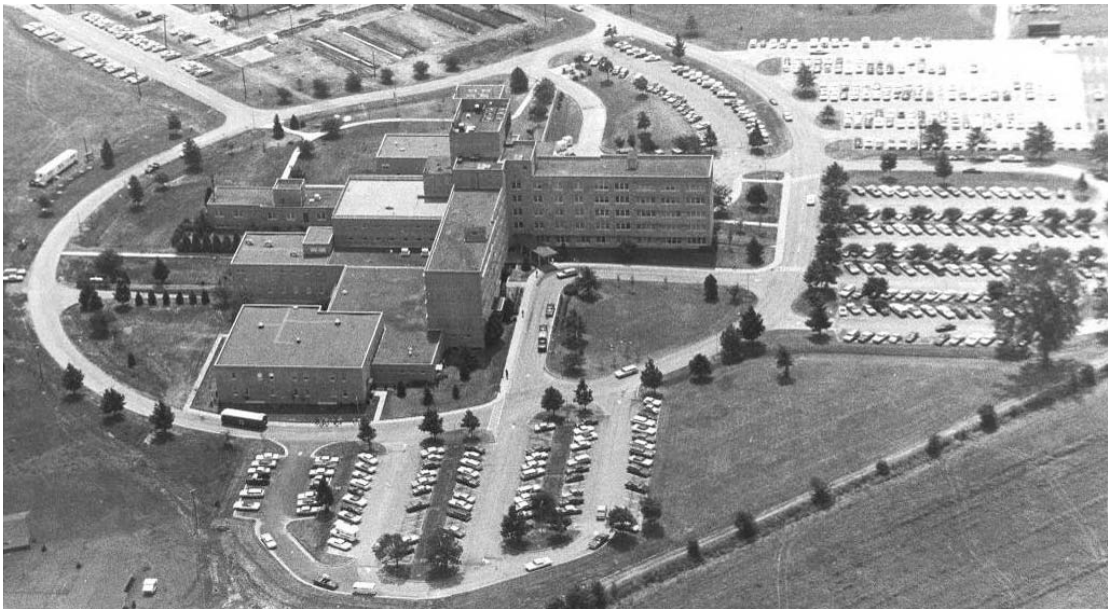


Figure 333. Hospital at Scott Air Force Base, July 1971 (NARA College Park, RG 342-B-06-072, box 301, 113508).

Figure 334. Hospital at Elmendorf Air Force Base, Anchorage, Alaska, September 1955 (NARA College Park, RG 342-B-06-032, box 287, 153434AC).

Figure 335. Hospital at Loring Air Force Base, Limestone, Maine, February 15, 1956 (NARA College Park, RG 342-B-06-050, 153988AC).

Figure 336. Air Force Hospital, Loring Air Force Base, Maine, June 5, 1956 (NARA College Park, RG 342-B-06-050, 154700AC).

Figure 337. Air Force Hospital, Travis Air Force Base, California, February 1957 (NARA College Park, RG 342-B-06-079, box 303, 265AC).

Figure 338. U.S. Air Force Hospital, Travis Air Force Base, Fairfield, California, February 1957 (NARA College Park, RG 342-B-06-079, box 303, 269AC).

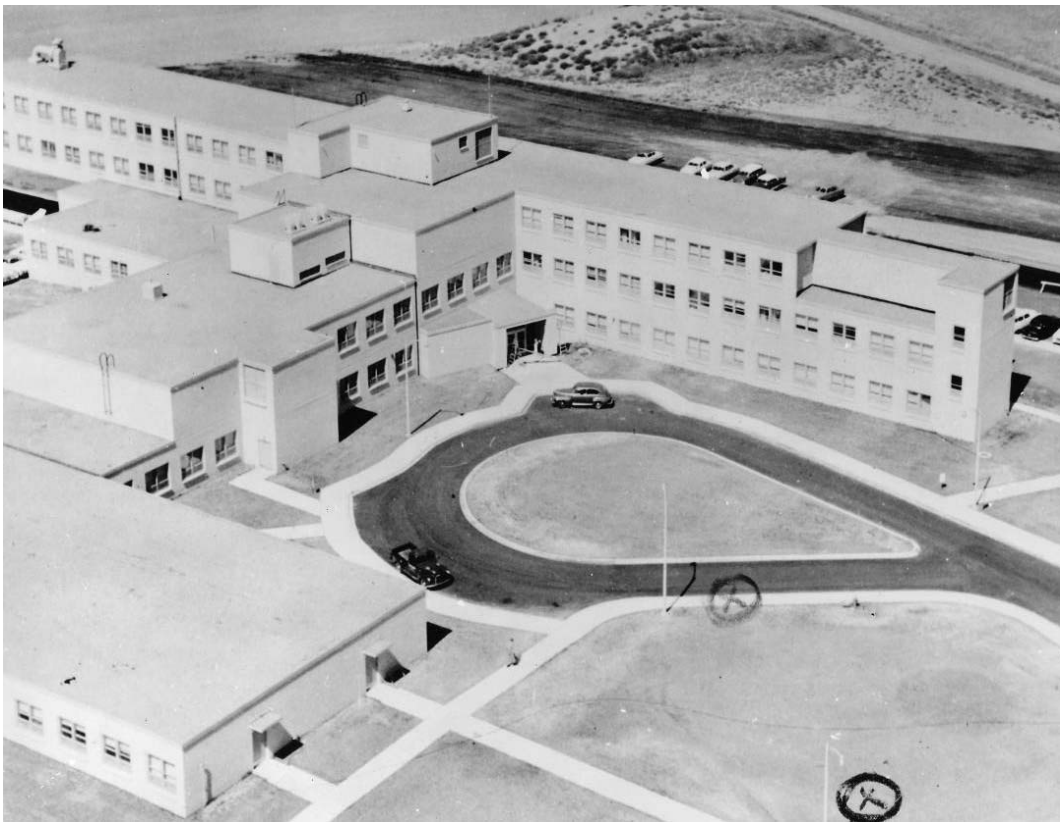


Figure 339. Hospital at Fairchild Air Force Base, Washington, May 1957 (NARA College Park, RG 342-B, 9031AC).

Figure 340. The World War II hospital [top] can be seen behind the new hospital [bottom] at Ellsworth Air Force Base, South Dakota September 1957 (NARA College Park, RG 342-B, 157937AC).

Figure 341. Hospital at Eglin Air Force Base, Florida, August 1969 (NARA College Park, RG 342-B-06, KE 36817).

NAVY EXAMPLES

The Navy typically added the new hospital building to an existing hospital complex keeping the older buildings for office space.

PORTSMOUTH NAVAL HOSPITAL, VIRGINIA

Figure 342. Aerial of the old Portsmouth Naval Hospital [bottom right] and the new building [top left], Virginia, 1960 (Library of Congress, HABS VA 65-PORTM, 2-28).

Figure 343. View of the new Portsmouth Naval Hospital, Virginia, 1960 (Library of Congress, HABS VA 65-PORTM, 2-12).

NAVAL HOSPITAL GREAT LAKES, ILLINOIS

Figure 344. Oblique of the new hospital at Great Lakes Naval Training Station, Illinois, 1960.

NAVAL HOSPITAL SAN DIEGO, CALIFORNIA

The Naval Hospital San Diego was expanded in May 1957 by a large new building to the east of the original 1920s hospital complex. Welton Beckett and Associates of Los Angeles designed the nine-story concrete surgical building.

Figure 345. Aerial [original hospital to the left] of Naval Hospital San Diego, California, 1958 (courtesy NMHM Otis Archives, OHA 240, box 2).

Figure 346. Oblique of Surgical Hospital at San Diego Naval Hospital, California, 1958 (courtesy NMHM Otis Archives, OHA 240, box 2).

COLD WAR SECOND ROUND OF CONSTRUCTION

LETTERMAN GENERAL HOSPITAL, CALIFORNIA

Figure 347. Side of new Letterman General Hospital, Presidio, California, March 1967 (NARA College Park, RG 111-SC, box 406, 63836).

Figure 348. Front of new Letterman General Hospital, Presidio, California, March 1967 (NARA College Park, RG 111-SC, box 406, 638363).

LAST YEARS OF THE COLD WAR

Figure 349. Second Medical Group Clinic, Barksdale AFB, Louisiana, 2006.

Figure 350. William Beaumont Army Hospital, Fort Bliss, Texas, 2006 (ERDC-CERL).

Figure 351. The 1987 Brooke Army Medical Center, Fort Sam Houston, Texas, 2006 (ERDC-CERL).

Figure 352. The 1987 Brooke Army Medical Center, Fort Sam Houston, Texas, 2006.

15 EVALUATING PROPERTIES UNDER THE MILITARY HOSPITAL CONTEXT

CRITERIA FOR EVALUATION

The NRHP Criteria for Evaluation describe how properties and districts are significant for their association with important events or persons (Criterion A and Criterion B), for their importance in design or construction (Criterion C), or for their information potential (Criterion D). The following is a brief description of each of the four NRHP Criteria for Evaluation (excerpted from *National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation*):

> **A. Event**—associated with events that have made a significant contribution to the broad patterns of our history; or
>
> **B. Person**—associated with the lives of persons significant in our past; or
>
> **C. Design/Construction**—embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction; or
>
> **D. Information Potential**—yielded, or is likely to yield, information important in prehistory or history.

SIGNIFICANCE

Generally, most military hospitals might be individually significant for the National Register under Criterion A: Event for association with military medical care and its evolution and/or Criterion C: Design/Construction.

Properties considered under the Military Hospital Context are hospitals that the War Department, Navy Department, and Department of Defense constructed for their personnel and are associated with one of the military hospital periods below.

Ancillary buildings, such as stewards' quarters, dead houses, barracks, kitchens, and mess facilities can also be considered under this context if their associated hospital is still extant. Without the associated hospital, those structures should be considered ineligible for the National Register unless there is a larger military historic district where they would be considered as contributing resources.

Hospitals need to be evaluated for their potential significance as individual buildings. And since hospitals were generally located in important positions on an installation, they need to be evaluated as a contributing element in a military historic district.

CRITERION CONSIDERATION G

Generally, buildings, structures, landscapes, etc. constructed within the last 50 years are not eligible for the National Register unless they can be classified as exceptionally important under Criterion Consideration G in the National Register Bulletin #15. "The National Register Criteria for Evaluation excludes properties that achieved significance within the past fifty years unless they are of exceptional importance. Fifty years is a general estimate of the time needed to develop historical perspective and to evaluate significance. This consideration guards against the listing of prosperities of passing contemporary interest and ensures that the National Register is a list of truly historic places."

Although the National Register Criteria do not explicitly define the term exceptional importance, National Register Consideration G and the National Register Bulletin #22: *Guidelines for Evaluating and Nominating Properties that have Achieved Significance within the Past Fifty Years* offers guidance for identifying and evaluating properties that have achieved significance in the last fifty years. Both of these sources stress that, for such properties, sufficient historical perspective must exist in order to make justifiable determinations of exceptional importance. Proof that sufficient historical perspective exists usually comes in the form of scholarly research and other sources of historical evidence associated with a particular historic context. The significance of Cold War era properties may lie at the national level in association with military themes directly tied to the Cold War, or at the state or local level under other themes.

The Army and Air Force have all issued interim guidelines for managing Cold War resources. The Navy is still working on draft version of guidance. These guidelines are not meant to replace the NHPA and its implementing regulations (Sections 106 and 110). The intent of the guidance is to set up an initial framework for the inventory and evaluation of the Cold War historic properties.

ARMY COLD WAR GUIDELINES AND CONTEXTS

The Army developed its "interim Policy for Cold War Era Properties" in 1995. Applying to Army, Army National Guard, and Army Reserve installations, this policy stated that in applying the criteria of exceptional importance, the Army would "focus on the production and combat subsystems of the Army and their associated Real Property and technology that is of unmistakable and extraordinary importance by virtue of a direct and influential relationship to Cold War tactics, strategy, and events" (Department of the Army Cultural Resources Interim Policy Statements, 1995).

The Interim Policy was set into guidance with *The Thematic Study and Guidelines: Identification and Evaluation of U.S. Army Cold War Era Military-Industrial Historic Properties* in 1997. This guidance is a thematic study on historic properties associated with the military-industrial theme of the Cold War and provides guidelines for the identification and evaluation of Cold War era military-industrial historic properties in the Army. The context focuses in on what the Army did in direct response to the Cold War and directly associated with a major Army mission.

The Cold War context states that only "properties that are directly related to the Cold War military-industrial context" are exceptionally important. They must meet "any or all" of the following conditions:

1. They were specifically constructed or used prior to 1989 to:

   (1) Meet the perceived Soviet/communist military threat;

   (2) Project a force designed to influence Soviet policy; and

   (3) Affect global opinion of the relationship between the superpowers.

2. Through the architectural or engineering design, they clearly reflect one of the Cold War themes:

   a. Basic Scientific Research (Laboratories)

   b. Materiel Development (Research, Development, Engineering Centers, and Proving Grounds)

   c. Wholesale Logistical Operations (Ammunition Production Facilities)

   d. Air Defense, Ballistic Missile Defense, and Army Missiles

   e. Command and Control, Communications, Computer, and Intelligence

   f. Army School System

   g. Operational Forces

   h. Army Medical Activities

   i. Miscellaneous (Nuclear and Aviation).

3. They are directly related to the United States/Soviet relationship through association with a milestone event of the period.

4. They are directly related to the United States/Soviet relationship through association with the life of a person during the Cold War period.

AIR FORCE COLD WAR GUIDELINES AND CONTEXT

The U.S. Air Force recognizes five property type groups in the Interim Guidance that may convey important aspects of the Cold War. These five properties include:

1. Operational and Support Installations
    a. Air Force bases, including Command Centers
    b. Missile Stations
    c. Launch Complexes
2. Combat Weapons Systems and Combat Support Systems
    a. Missiles
    b. Aircraft (Fixed Wing and Rotary)
    c. Ground Vehicles and Equipment
3. Training Facilities
    a. Warfighting, Combat Support, and Intelligence Schools
    b. Launch Complexes
    c. Combat Training Ranges
    d. Impact Areas; Targets
    e. POW (Prisoner of War) Training Camps
4. Materiel Development Facilities
    a. Research Laboratories
    b. Manufacturing Sites
    c. Test Sites
    d. Proving Grounds
5. Intelligence Facilities
    a. Radar Sites
    b. Listening Posts

Utilizing these guidelines military hospitals would only be exceptionally important if they played a direct role in United States/Soviet relations or if they could meet Criterion C and be one of the most important hospital designs of a particular architect (this would exclude any standardized hospital plan).

INTEGRITY

In addition to possessing historical significance, military hospitals must also retain sufficient physical integrity of the features that convey their significance in order to be eligible to the NRHP (NRB #15, 44).

Military hospitals will either retain integrity (that is, convey their significance) or they will not. Within the concept of integrity, the National Register criteria recognize seven aspects or qualities that, in various combinations, define integrity.

To retain historic integrity a property will always possess several, and usually most, of the aspects. The retention of specific aspects of integrity is paramount for military hospitals to convey their significance. Determining which of these aspects are most important to a particular military hospital requires knowing which association is significant.

Although some military hospitals may not meet integrity standards for individual eligibility to the National Register, they may meet a standard as a contributing resource to a larger military historic district. Military hospitals are considered to be significant if they possess a majority of the following Seven Aspects of Integrity (NRB #15, 44-45):

Location

Location is the place where the historic property was constructed or the place where the historic event occurred.

Design

Design is the combination of elements that create the form, plan, space, structure, and style of a property. It results from conscious decisions made during the original conception and planning of a property (or its significant alteration) and applies to activities as diverse as community planning, engineering, architecture, and landscape architecture. Design includes such elements as organization of space, proportion, scale, technology, ornamentation, and materials.

Setting

Setting is the physical environment of a historic property. Setting refers to the character of the place in which the property played its historical role. It involves how, not just where, the property is situated and its relationship to surrounding features and open space.

Materials

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

Workmanship

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

Feeling

Feeling is a property's expression of the aesthetic or historic sense of a particular time period.

Association

Association is the direct link between an important historic event or person and a historic property.

INTEGRITY COMPARISON EXAMPLES

EARLY HOSPITALS (PRE-1840)

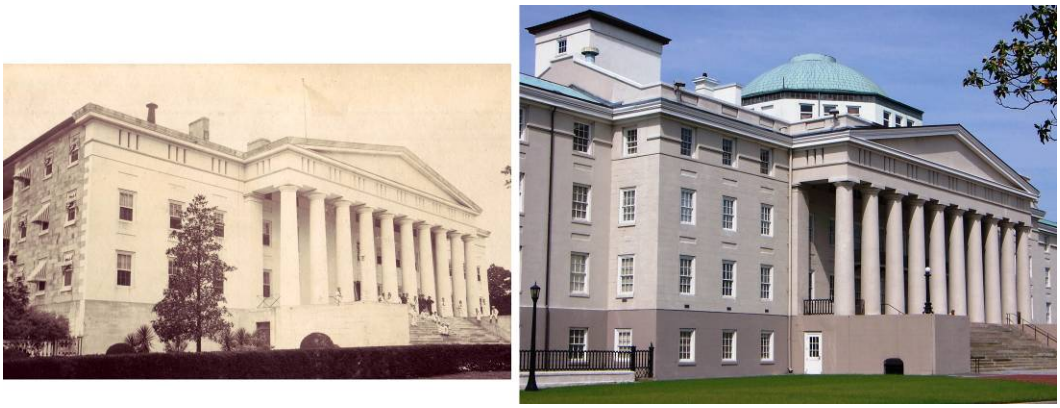


Figure 353. Front oblique of Naval Hospital Portsmouth [1900 left and 2007 right], Portsmouth, Virginia.

Figure 354. Back corner oblique of Naval Hospital Portsmouth [1940 left and 2007 right], Portsmouth, Virginia.

Figure 355. Front of the first Naval Hospital Philadelphia [1960 left and 2007 right], Philadelphia, Pennsylvania.

SQUARE-PLAN HOSPITALS (1840-1860)

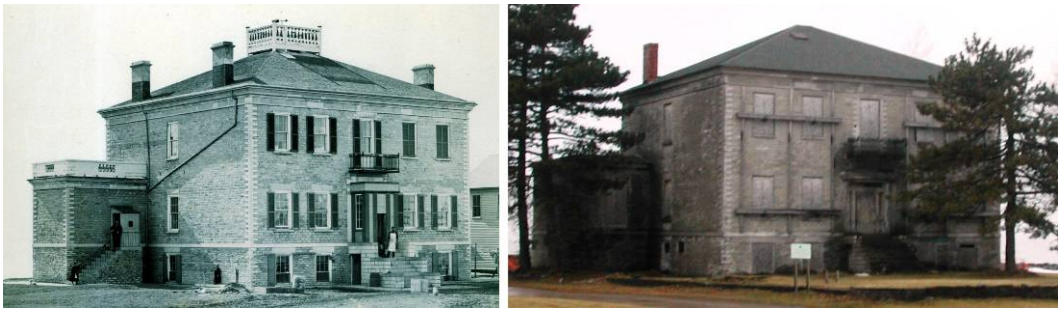


Figure 356. Front oblique of Madison Barracks hospital [1850s left and 2007 right], Sackets Harbor, New York.

Figure 357. Rear oblique of Madison Barracks hospital [1850s left and 2007 right], Sackets Harbor, New York.

The Madison Barracks hospital retains the elements necessary to identify it as a square-plan hospital:

1. square-plan
2. hipped roof
3. symmetrical window opening surrounding central doors

The lack of shutters, widow's walk, and stoop elements does not hinder the identification of the Madison Barracks hospital as a square-plan hospital.

Figure 358. Rear of Fort Scott hospital [1860s left and 2006 right], Fort Scott, Kansas.

By the 1950s, the porch had been torn off the Fort Scott hospital, but the building itself was still extant. The hospital and all of Fort Scott were restored in the 1970s by the National Park Service and are now a National Historic Site. The Fort Scott hospital retains the elements necessary to identify it as a square-plan hospital with a veranda:

1. square-plan
2. hipped roof
3. veranda on all sides
4. symmetrical window opening surrounding central doors

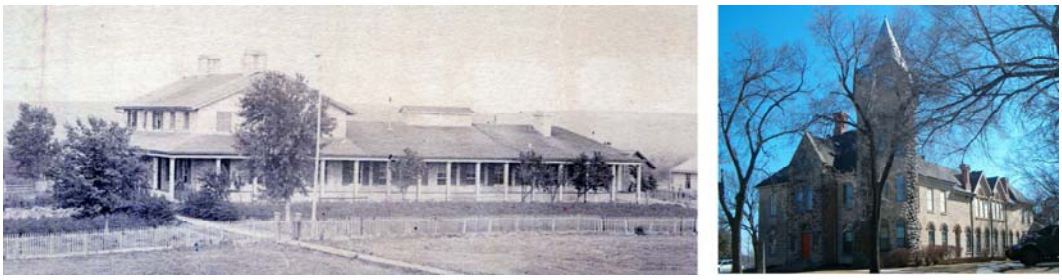


Figure 359. Oblique of first Hospital [1870s left and 2007 right], Fort Riley, Kansas.

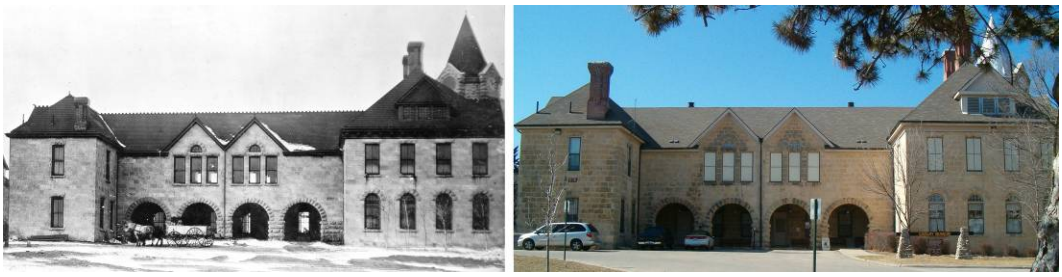


Figure 360. View of first Hospital [1890s left and 2007 right], Fort Riley, Kansas.

Fort Riley's first hospital was transformed into the Post Headquarters in 1890. A second story was added over the ward and kitchen, and new roof onto the two-story portion, and a bell tower. The wooden porch was removed on all sides and a stone arcade replaced the original wood veranda on the east side. Obviously, this hospital does not retain its integrity as a square-plan hospital; however, it does retain its integrity as the 1890 post headquarters and needs to be evaluated as such.

HOSPITALS OF OTHER DESIGNS

Unlike most of the other nine significant periods in military hospital evolution, this period from 1855 to 1870, does not have overarching characteristics belonging to every hospital. Generally, there are three characteristics for this era: a hospital ward, a porch, and symmetry.

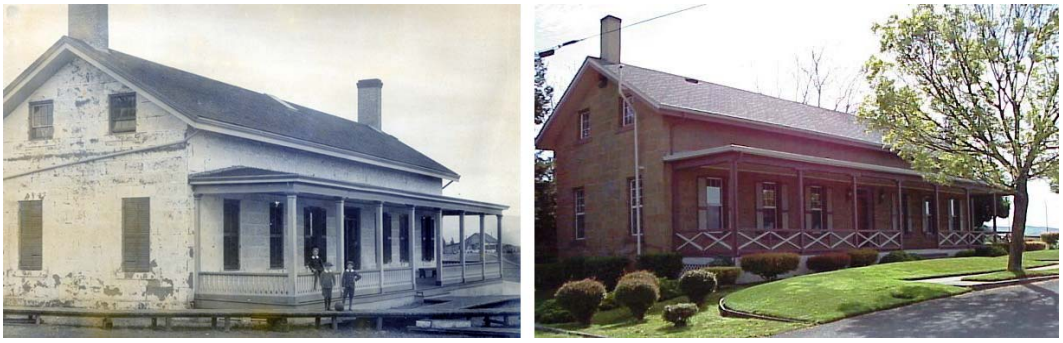


Figure 361. Oblique of Benicia Barracks hospital [1870s left and 2007 right], Benicia, California.

The hospital at Benicia Barracks is still extant. There have been minor changes to the porch, but this hospital still has its integrity intact with its porch, symmetry, and hospital ward.

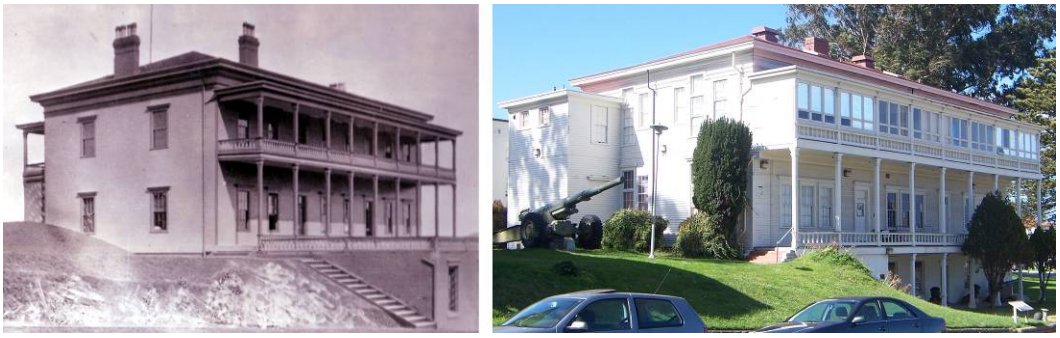


Figure 362. Oblique of Hospital [1860s left and 2006 right], Presidio of San Francisco, California.

Figure 363. Oblique of Hospital [1890s left and 2006 right], Presidio of San Francisco, California.

The second hospital at the Presidio of San Francisco is extant. The second floor porch was enclosed at some point; however, that was performed during the hospital's period of significance. Windows placement has changed, and an operating room was added to the north side, but the basic integrity for this hospital is still intact.

Figure 364. Front of Old Naval Hospital [1900 left and 2007 right], Washington, DC.

The old Washington Naval Hospital is also extant. This naval hospital never had porches opening from its wards. Except for the removal of the white paint, this hospital retains its integrity.

CIVIL WAR HOSPITALS (1861-1865)

There are no known extant Civil War general hospitals.

ARMY STANDARD HOSPITALS (1865-1890)

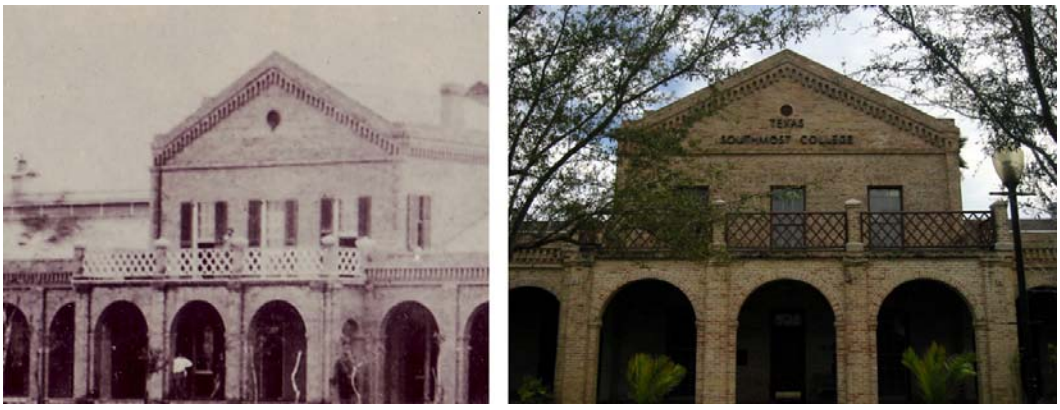


Figure 365. Central portion of Fort Brown hospital [1880s left and 2006 right], Brownsville, TX.

The old Fort Brown hospital (now the administration building for the University of Texas at Brownsville) retains the three elements necessary for the Army Standard Hospitals (1865-1890) type:

1. T-shaped plan

2. veranda
3. central administrative block.

Figure 366. Oblique of 1893 Hospital [1890s left and 1990s right], Fort Bliss, Texas.

The first hospital at Fort Bliss lost its distinctive two-story veranda at some point and also became disconnected from the kitchen building behind it. This building no longer resembles the hospital as it was constructed and would not be individually eligible for the National Register under the military hospital context; however, its use as an administrative office for the Standard Plan hospital built next door allows it to be part of a larger military historic district.

Figure 367. Oblique of 1880s Hospital [1890s left and 1990s right], Fort Sheridan, Illinois.

The 1880s hospital at Fort Sheridan, Illinois, had its distinctive veranda removed at some point. Without the veranda, this hospital had a serious loss in its integrity. At some point in 2004, this hospital was demolished and replaced with a condominium tower. The Fort Sheridan hospital is an excellent example of how a military hospital could not be individually eligible for the National Register due to the loss of its veranda; however, could still be part of a larger military historic district.

Figure 368. Front of 1870s Hospital [1870s left and 2007 right], Fort Leavenworth, Kansas.

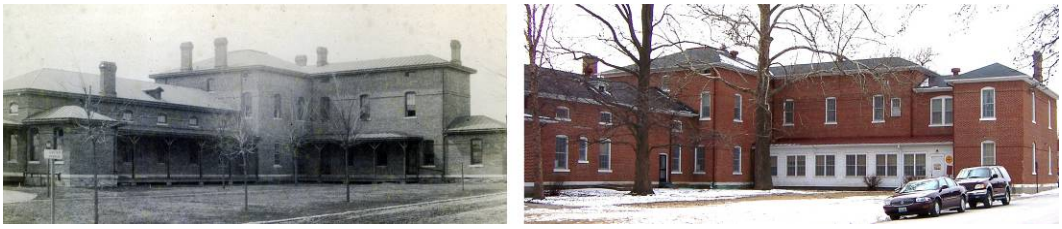


Figure 369. Rear oblique of 1870s Hospital [1870s left and 2007 right], Fort Leavenworth, Kansas.

The second Fort Leavenworth hospital (now an administration building) retains the three elements necessary for the Army Standard Hospitals (1865-1890) type:

1. T-shaped plan
2. veranda
3. central administrative block.

The addition on the northern end of the kitchen wing, the enclosure of the kitchen porch, and the removal of the veranda on the rear of the ward wing does not detract from the overall ability of this building to evoke its military hospital type. This hospital would be individually eligible for the National Register.

THE NEW STANDARD (1890-1916)

Figure 370. Oblique of 1900 hospital [1910s left and 2006 right], Fort Benjamin Harrison, Indiana.

The Fort Benjamin Harrison hospital (now a privately owned events center) retains the six elements necessary for the New Standard Hospitals (1890-1916) type:

1. T-shaped plan
2. two-story veranda
3. central administrative block
4. dormers
5. entrance porch
6. individual window openings

The enclosure of portions of the veranda is within the period of significance and does not impact the overall integrity. This hospital would be individually eligible for the National Register.

Figure 371. Administrative Block of 1900 hospital [1910s left and 2007 right], Fort Riley, Kansas.

The third Fort Riley hospital (now Post Headquarters) does not retain the six elements necessary for the New Standard Hospitals (1890-1916) type. The t-shaped plan is extant (this hospital was placed in front of the second hospital, creating a large hospital compound); however, the two-story verandas were removed, the central administrative block gained a full third-story and a new attic story, and the original dormers were removed. This hospital is not individually eligible for the National Register under the military hospital context, but possibly could be individually eligible as Post Headquarters.

Figure 372. Oblique of 1900 hospital [1910s left and 2007 right], Fort Leavenworth, Kansas.

Unlike the third Fort Riley hospital, the third Fort Leavenworth hospital (also now a Post Headquarters) does retain the six elements necessary for the New Standard Hospitals (1890-1916) type. The t-shaped plan, the verandas, the central administrative block, the dormers, and the entrance porch are all extant. The addition of enclosed wards at the end of the original wards occurred during the period of significance. This hospital could be individually eligible for the National Register under the military hospital context, and also possibly individually eligible as Post Headquarters.

Figure 373. Front of 1900 hospital [1910s left and 2007 right], Jefferson Barracks, Missouri.

The Jefferson Barracks hospital has lost most essential elements of the Standard Hospitals (1890-1916) type. The t-shaped plan is extant; however, the verandas and dormers are missing. In addition, the individual window openings were greatly enlarged.

Figure 374. Front of 1899 hospital [1920s left and 2007 right], Mare Island Naval Shipyard, California.

The Mare Island Naval Shipyard hospital retains all integrity elements of its type. Even though the complex was greatly enlarged with two large ward wings, this hospital would still be individually eligible under Criterion C.

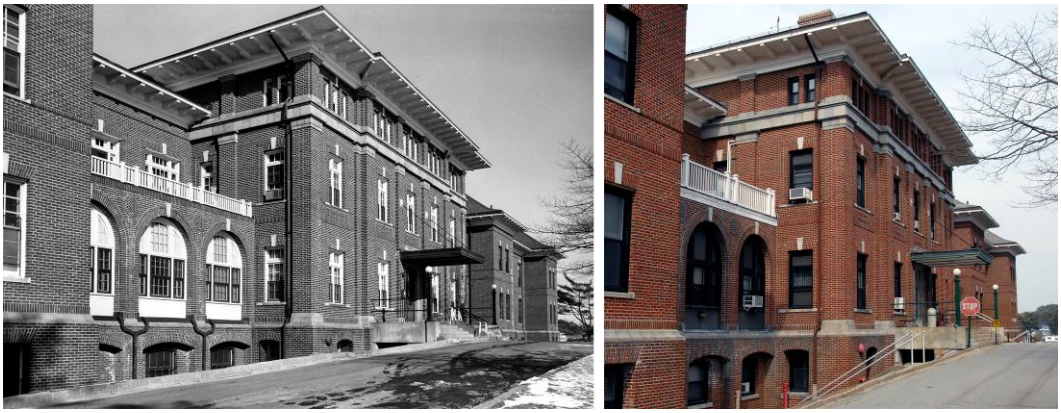


Figure 375. Front of hospital [1950s left and 2007 right], Portsmouth Naval Shipyard, Maine.

The Portsmouth Naval Shipyard hospital also retains all necessary hospital integrity elements; however, in the case of this hospital the window replacements might detract from the other architectural integrity elements needed for buildings to be individually eligible under Criterion C. This hospital currently is a contributing feature of a larger navy yard historic district.

GENERAL HOSPITALS

Figure 376. Front of Administration Building at Letterman General Hospital [1950s left and 2006 right], Presidio of San Francisco, California.

Letterman General Hospital has been greatly changed. All but three of the original ten ward buildings from the original pavilion plan were demolished in the 1970s to make way for medical barracks. The west barracks from the original plan was also demolished. Letterman lacks the context and the integrity to be individually eligible to the National Register.

WORLD WAR I HOSPITALS (1917-1920)

There are no known extant World War I temporary hospitals. It is possible that on certain World War I era installations that an odd ward or two might be extant; however, one or two World War I hospital wards would not be eligible for the National Register since the overall World War I hospital context is non-existent.

INTERWAR HOSPITALS (1921-1940)

Figure 377. Front of 1930s Chanute AFB hospital [1990s left and 2007 right], Rantoul, IL.

Figure 378. Back of 1930s Chanute AFB hospital [1990s left and 2007 right], Rantoul, IL.

Figure 379. Oblique of first Brooke Army Hospital [1930s left and 2007 right], Fort Sam Houston, Texas.

The architectural elements to look for in the WWI plan type are:

1. Headquarters building
2. Pavilion plan
3. Covered/enclosed corridors
4. Support buildings at the rear of the complex

Both the Chanute AFB Hospital and the first Brooke Army Hospital are good examples of the Interwar hospital type of central headquarters building that contained both operating rooms and wards with other hospital support buildings to the rear. Since neither hospital was a large general hospital, they did not follow the pavilion plan like Beaumont General Hospital at Fort Bliss, Texas.

WORLD WAR II HOSPITALS (1941-1945)

There are a few World War II hospital buildings extant across the country; however, there does not appear to be an entire World War II hospital complex intact anywhere. In 1986, the Department of Defense, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers joined in a programmatic agreement to mitigate World War II temporary buildings so that these buildings could be demolished as ordered by Congress. Under the terms of the programmatic agreement, all World War II temporary buildings were to be considered eligible to the National Register, but their Section 106 requirements under the National Historic Preservation Act were to be waived by performing a series of mitigation reports. These reports were completed in the early 1990s. Fort Carson, Colorado, appears to have the most buildings left from a World War II hospital complex. These have been adaptively reused as administration space.

The evaluation process is not clear for the World War II hospital buildings that are no longer owned by the Department of Defense, such as Valley Forge General Hospital, which is now owned by Valley Forge Christian College. If it is necessary to evaluate these hospitals separately, owners will need to use this context and the World War II temporary building context. Generally, enough of the hospital context needs to be intact

to give a sense of how large these cantonment-type hospitals were when they were utilized as hospitals. Buildings and elements necessary to be extant and with the integrity intact are: the administration building, an overwhelming number of the wards, the surgery building, and the enclosed corridors. Other buildings such as mess halls, kitchens, barracks, recreation hall, day room, and laundries are not as necessary to be extant and with their integrity intact.

Figure 380. Valley Forge Army Hospital [1940s left and 2007 right], Phoenixville, Pennsylvania.

The headquarters building at the old Valley Forge Army Hospital is one of the few buildings extant except for a few wards and the chapel.

COLD WAR HOSPITALS (1946-1989)

There are many Cold War era hospitals extant across the Department of Defense. These hospitals followed the multi-story single building construction pattern typical of a post-war hospital.

The architectural elements to look for in the WWI plan type are:

1. Multi-story
2. Horizontal brise-soleil
3. Metal windows
4. Large parking lot

Figure 381. Entrance to 1950s hospital [1950s left and 2007 right], Fort Leavenworth, Kansas.

The Fort Leavenworth hospital gained a fourth floor, replacement windows, and a new entrance.

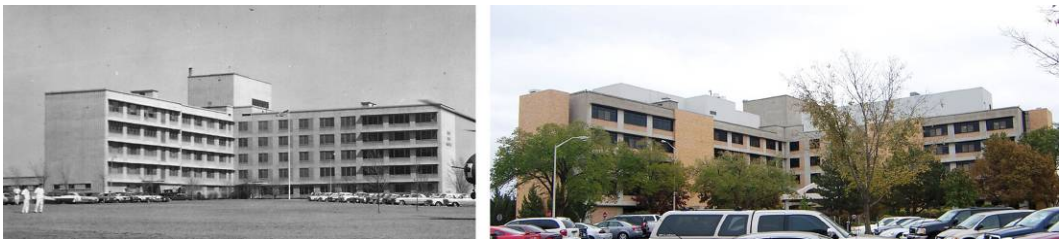


Figure 382. 1950s hospital [1950s left and 2006 right], Fort Riley, Kansas.

The Fort Riley hospital was greatly expanded and also had replacement windows, a new entrance, and new facing brick over the original concrete.

Figure 383. 1950s hospital [1950s left and 2006 right], Fort Bragg, North Carolina.

New stair towers were added to each end of the Fort Bragg hospital and all of the metal windows were replaced. A new entrance was also constructed.

Table 1: LIST OF HOSPITALS.

	Extant	Eligible for the NR	On the NR	In a NR District	NHL	Type	Notes
Alcatraz Island, CA						Circular #10 12-bed hospital	Demolished unknown date
Army-Navy General Hospital, AR (1st)						General Hospital	Demolished 1930s
Army-Navy General Hospital, AR (2nd)	X					General Hospital	Turned over to the state of Arkansas in 1960 and now utilized as a rehabilitation center.
Barksdale AFB, LA (1st)	X			X		Interwar	Adaptively reused into office, owner US Air Force
Barksdale AFB, LA (2nd)	X					Cold War	Owner US Air Force
Benicia Barracks, CA	X		X			Other	Adaptively reused into office, owner private
Camp Reynolds (Angel Island), CA						Circular #4 12-bed hospital	Demolished unknown date
Chanute AFB, IL (1st)	X			X		Interwar	Vacant, owner Village of Rantoul
Chanute AFB, IL (2nd)	X					Cold War	Vacant, owner Village of Rantoul
Fitzsimons General Hospital, CO	X	X				General Hospital	Turned over to the University of Colorado at Denver in the late 1990s, hospital adaptively reused as offices, owner University of Colorado at Denver.
Fort Adams, RI (1st)						Circular #4 12-bed hospital	Demolished after 1900
Fort Adams, RI (2nd)						Standard	Demolished unknown date
Fort Assinniboine, MT						Circular #10 24-bed hospital	Demolished unknown date, site owned by Montana Northern Agricultural Center
Fort Bayard, NM						Circular #10 24-bed hospital	Demolished
Fort Benning, GA (1st)	X			X	X	Interwar	Adaptively reused into a museum, owner US Army
Fort Benning, GA (2nd)	X					Cold War	Owner US Army
Fort Bliss (Camp Concordia), TX (1st)						Other	Demolished at an unknown date
Fort Bliss, TX (2nd)	X			X		Circular #10 12-bed hospital	Adaptively reused for offices, owner US Army
Fort Bliss, TX (3rd)	X			X		Standard	Turned into Post Headquarters, owner US Army
Fort Bliss, TX (4th)	X			X		Interwar	Wards demolished, owner US Army
Fort Bliss, TX (5th)	X					Cold War	
Fort Bragg, NC (1st)	X			X		Interwar	Turned into Post Headquarters, owner US Army
Fort Bragg, NC (2nd)	X					Cold War	Adaptively reused for offices, owner US Army
Fort Brown, TX	X			X	X	Circular #4 12-bed hospital	Adaptively reused for Gorgas Administration Building, owned by the University of Texas at Brownsville
Fort Columbus, NY (1st) [Governor's Island, also known as Fort Jay]	X			X	X	Square	1840 Square Hospital, turned into headquarters then turned into officers' quarters, vacant, owner New York State
Fort Columbus, NY (2nd) [Governor's Island, also known as Fort Jay]						Circular #10 24-bed hospital	Circular #10 24-bed hospital, demolished
Fort Custer, MT						Circular #10 24-bed hospital	Demolished
Fort Dodge, KS	X					Other	Heavily modified, owned by the Kansas Soldiers' Home
Fort Douglas, UT (1st)						Other	Demolished after 1900
Fort Douglas, UT (2nd)						Circular #10 12-bed hospital	Demolished after 1930s for barracks
Fort Douglas, UT (3rd)	X			X		Standard	Adaptively reused for offices, owner University of Utah
Fort Hancock, TX						Circular #10 6-bed hospital	Demolished
Fort Knox, KY (1st)	X			X		Interwar	Adaptively reused as offices, owner US Army

Fort Knox, KY (2nd)	X			Cold War	Owner US Army
Fort Leavenworth, KS (1st)	X			Square	Demolished
Fort Leavenworth, KS (2nd)	X	X	X	Circular #10 24-bed hospital	Adaptively reused into administrative space, owner US Army
Fort Leavenworth, KS (3rd)	X	X	X	Standard	Turned into Post Headquarters, owner US Army
Fort Leavenworth, KS (4th)	X			Cold War	Still utilized as an Army hospital
Fort Leonard Wood, MO	X			Cold War	Owner US Army
Fort Logan H. Roots, AR	X	X		Circular #10 12-bed hospital	Condition unknown, owned by the Veterans Administration
Fort Logan, CO	X			Circular #10 24-bed hospital	Heavily modified, owner unknown
Fort Mackinac, MI	X	X	X	Early	Museum, owner Michigan DNR
Fort McIntosh, TX	X?	X?			It is not known if this hospital is still extant. Fort McIntosh is owned by the Laredo Community College. The Llaguno Music and Dance Hall is housed in the former Post Hospital but this resembles a modified Circular #10 plan.
Fort Monmouth, NJ (1st)	X	X		Interwar	Adaptively reused for offices, owner US Army
Fort Monmouth, NJ (2nd)	X			Cold War	Owner US Army
Fort Monroe, VA (1st)				Early	Demolition date unknown
Fort Monroe, VA (2nd)	X	X?		Interwar	Utilized as an Army Health Clinic
Fort Myer, VA	X	X	X	Standard	Adaptively reused, owner US Army
Fort Richardson, TX	X(Re)	X	X	Circular #4 12-bed hospital	Reconstructed, owned by Texas Parks and Wildlife Department
Fort Riley, KS (1st)	X	X		Square (modified)	Turned into Post Headquarters, now the Calvary Museum, owner US Army
Fort Riley, KS (2nd)	X	X		Circular #10 24-bed hospital	Turned into Post Headquarters, owner US Army
Fort Riley, KS (3rd)	X	X		Standard	Turned into Post Headquarters, owner US Army
Fort Riley, KS (4th)	X			Cold War	Still utilized as an Army hospital
Fort Sam Houston, TX (1st)	X	X	X	Circular #10 24-bed hospital	Adaptively reused for Visiting Quarters, owner US Army
Fort Sam Houston, TX (2nd)	X	X	X	Standard	Vacant, owner US Army
Fort Sam Houston, TX (3rd)	X	X	X	Interwar	Adaptively reused for admin space, owner US Army
Fort Sam Houston, TX (4th)	X	X	X	Post-Cold War	Owner US Army
Fort Scott, KS	X	X	X	Square	Museum, owner National Park Service
Fort Sheridan, IL				Circular #10 24-bed hospital	Demolished for a condominium tower
Fort Sherman, ID				Circular #10 12-bed hospital	Demolished 1960s
Fort Sill, OK (1st)	X	?	?	Circular #10 12-bed hospital	???
Fort Sill, OK (2nd)	X	?	?	Interwar	???
Fort Sill, OK (3rd)	X			Cold War	Adaptively reused for offices for DFAS, owner US Army
Fort Sill, OK (4th)	X			Post-Cold War	
Fort Totten, ND	X	X		Circular #4 12-bed hospital	Museum, owned by the North Dakota State Historical Society
Fort Wayne, MI	X	X	X	Circular #10 24-bed hospital	Abandoned, owned by the City of Detroit
Jefferson Barracks, MO (1st)				Early	Demolished after 1900

Jefferson Barracks, MO (2nd)	X		X		Standard	Heavily modified, owner St. Louis County Schools
Key West Barracks, FL					Other	Demolished at an unknown date
Madison Barracks, NY	X		X		Square	1840 Square Hospital (known as Stone Hospital), vacant, private
Naval Hospital Bethesda, MD	X		X	X	Naval	Owned by the US Navy
Naval Hospital Great Lakes, IL	X		X	X	Naval	Now a dental clinic, owner US Navy
Naval Hospital Key West, FL					Naval	Demolished unknown date
Naval Hospital Mare Island, CA	X		X	X	Naval	Vacant, owned by Touro University
Naval Hospital Pensacola, FL					Naval	Demolished at an unknown date
Naval Hospital Philadelphia, PA (1st) [Naval Asylum]	X	X		X	Naval	Adaptively reused into condominiums
Naval Hospital Philadelphia, PA (2nd)			X		Naval	Demolished early 1990s
Naval Hospital Philadelphia, PA (3rd)			X		Naval	Demolished late 1990s
Naval Hospital Portsmouth, ME	X		X	X	Naval	Now a medical clinic, owner US Navy
Naval Hospital Portsmouth, VA	X	X	X		Naval	Still utilized as a naval hospital, owner US Navy
Naval Hospital San Diego, CA (1st)	X(P)				Naval	Turned over to the City of San Diego in 1988, all buildings but the Administration Building and Chapel were demolished.
Naval Hospital San Diego, CA (2nd)	X				Naval	Owner US Navy
Presidio of San Francisco, CA (1st)					Other	Demolished at an unknown date
Presidio of San Francisco, CA (2nd)	X		X	X	Other	Owned by the Presidio Trust
Presidio of San Francisco, CA (Letterman General Hospital 1st)	X(P)		X	X	General Hospital	Partially demolished by Army when Letterman 2 opened, owned by the Presidio Trust
Presidio of San Francisco, CA (Letterman General Hospital 1st)			X	X	General Hospital	Demolished in 2001, land utilized for Lucas Letterman Digital Arts Center
Vancouver Barracks, WA (2nd)					Circular #10 24-bed hospital	Demolished
Vancouver Barracks, WA (3rd)	X		X		Standard	Vacant, owned by City of Vancouver, WA
Walter Reed General Hospital	X	X			General Hospital	Owned by the US Army
Washington Naval Hospital (1st)	X		X		Naval	Turned into a naval school, then sailor retirement home, now office space, owned by the District of Columbia
Washington Naval Hospital (2nd)	X		X	X	Naval	Turned into administrative space for Naval Bureau of Medicine and Surgery, owner US Navy

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14. ABSTRACT

This document is a historic context of military hospital buildings for the Department of Defense.

In May 2006, the Legacy Resource Management Program funded a proposal submitted by the Engineer Research Development Center-Construction Engineering Research Laboratory to write a historic context for military support buildings. This historic context satisfies a portion of Section 110 of the National Historic Preservation Act of 1966 as amended (NHPA). Cultural resources personnel at the installation level and their contractors will utilize this historic context in determining whether or not these buildings are eligible for the National Register of Historic Places (NRHP), and whether an adverse effect will take place.

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