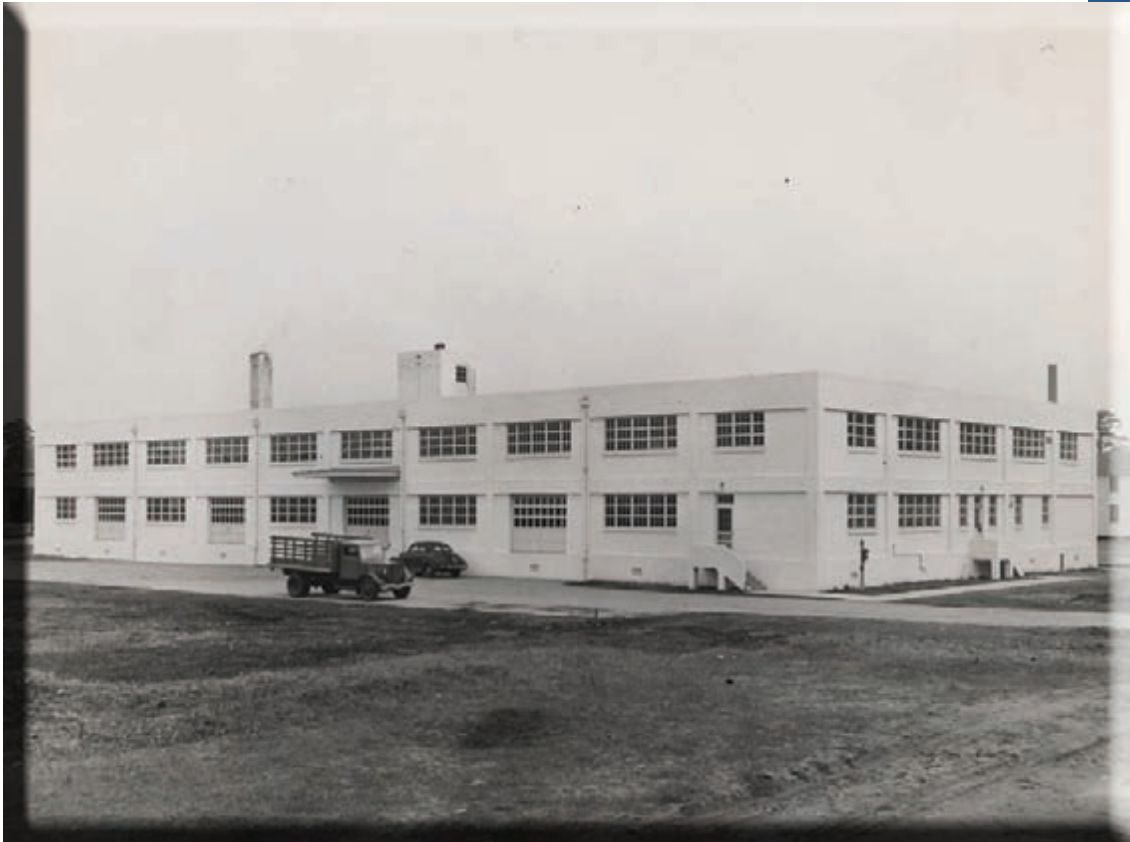


To Meet a Great Need: Building NH68 at the Charleston Naval Hospital

Charleston County, South Carolina



NEW SOUTH ASSOCIATES

PROVIDING PERSPECTIVES ON THE PAST

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Charleston County, South Carolina

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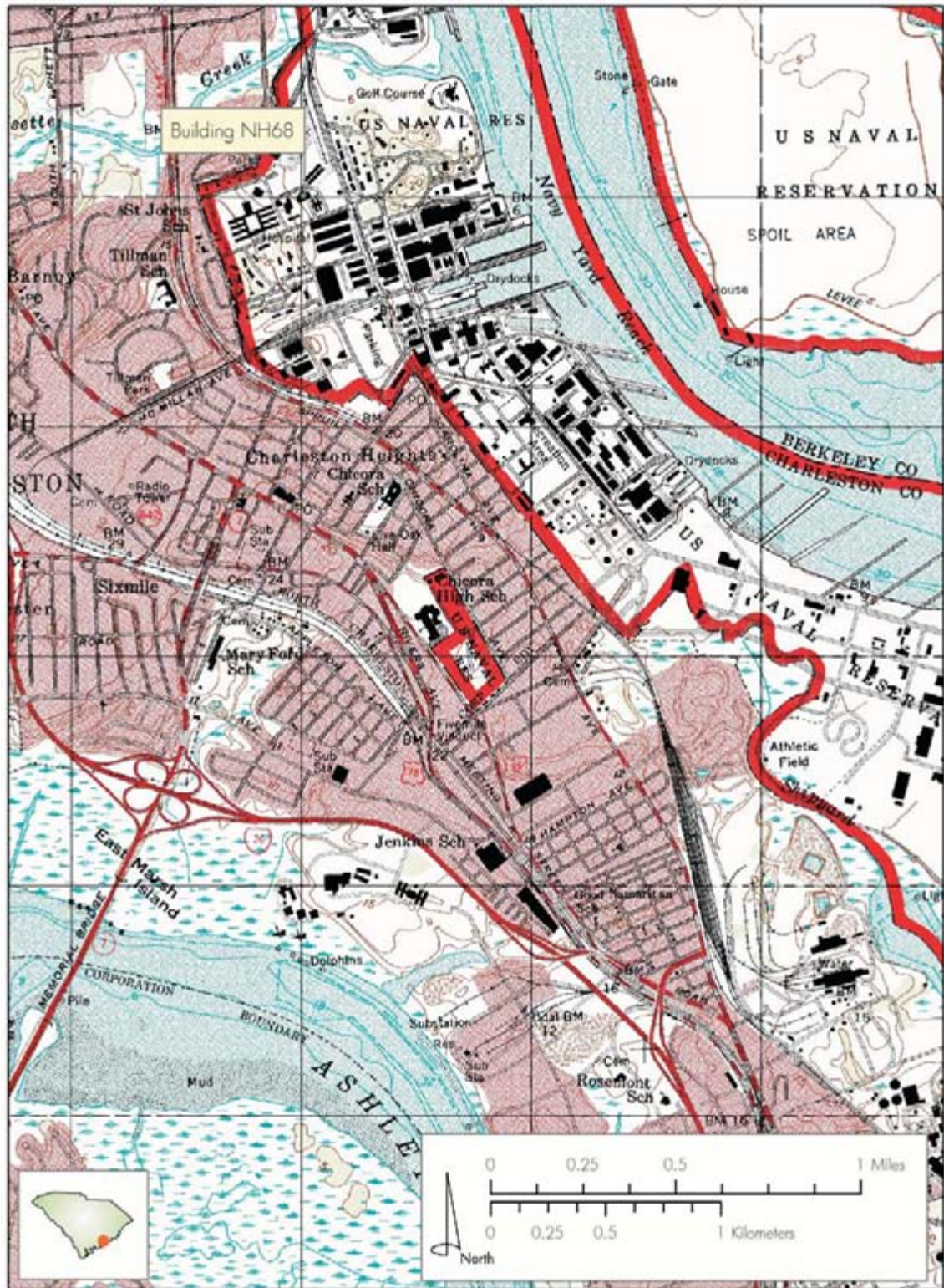
I. INTRODUCTION

The Department of the Navy closed the Charleston Naval Base, located in North Charleston, South Carolina, in 1995. Since then, private businesses have pursued tenants and conducted renovations on some of the buildings throughout the site. Generating an entirely new community from a former military base has provided some opportunities for creative adaptive reuse for several historic buildings, including Building NH68, part of the former United States Naval Hospital at the Charleston Navy Yard (or Charleston Naval Hospital) (Figure 1). This narrative places Building NH68 within its larger context of the Charleston Naval Hospital, the naval yard, and the nation during the early 1940s.

Building NH68 was constructed in the midst of World War II, an era of rapid expansion and excitement at the Charleston Naval Yard. Built with sturdy concrete framing instead of steel, which was needed for the war effort, Building NH68 served as a supply warehouse for the hospital, dispersing medical supplies, and storing stocks of blood donated by yard workers. Serving in the background of a bustling, thriving shipyard and hospital, Building NH68 met a great need of the war effort, efficiently supplying the immediate demands of wounded workers and soldiers in a joint effort towards victory.

Historian Staci Richey conducted research for this project at the South Carolina Department of Archives and History, the Richland County Library, the South Carolina Historical Society and the Charleston County Public Library.

Figure 1.
Location of Building NH68, Charleston Naval Hospital



Source: USGS Quadrangle Charleston, South Carolina

II. HISTORIC CONTEXT

NATIONAL NAVAL HISTORY

The Charleston Navy Yard opened in 1902 and closed in 1995. As its name suggests, it is located near Charleston, South Carolina. Until its closure, it proudly served the U.S. Navy through two world wars and into the Cold War. The national context of the Navy's history is discussed below, followed by a history of the Charleston Navy Yard and finally the Naval Hospital and Building NH68, which was constructed during World War II. This progression from a national to a local history places the Naval Hospital within the larger story of the nation's foray into World War II and its rapid expansion to serve an influx of civilian and military workers. These men and women united on the home front to combat the terrible threats overseas.

EARLY TWENTIETH-CENTURY NAVAL HISTORY

The U.S. Navy had a far-reaching goal at the turn of the twentieth century – to increase its standing among other nations as a formidable naval power. Recoiling from an estimated ranking by the Secretary of the Navy as twelfth in the world in 1889 as a naval power, below both Turkey and China, the Navy engaged in a ship building campaign. By 1907, the white painted battleships of the Navy were known as the "Great White Fleet," able to be dispatched by President Theodore Roosevelt to anywhere around the world where American interests may be threatened. Roosevelt sent the fleet of 16 new white battleships on a global cruise during 1907 and 1908 to help deter such threats, demonstrating the naval power of the United States to the world, and especially to Japan. The U.S. Navy was the world's third-ranking naval force in tonnage by 1910, and second to only Great Britain in the number of capital ships. Some of the incentive for the increased navy was the acquisition of far-flung territories overseas and the opening of the Panama Canal by 1914, which allowed the American fleet to respond quickly to hazards on either the Atlantic or Pacific oceans. The U.S. Navy evolved into the nation's first line of defense, advancing to potential threats long before they could reach America's shores (Cannan et al. 2006; Palmer 1994).

American military forces had not been tested on a worldwide stage until their engagement in World War I, and this conflict required the rapid build up and mobilization of the United States Navy. At first the United States and President Woodrow Wilson pursued neutrality in what was essentially a European conflict, but increasing and indiscriminate attacks from German submarines on both Allied and neutral shipping combined with failed attempts at peace talks, frustrated Wilson. He went to Congress on April 2, 1917 and asked for a declaration of war against Germany. Wilson then sent the U.S. Navy and the American Expeditionary Forces to Europe, helping to secure Allied victory (Palmer 1994).

In spite of the success, the U.S. Navy faced some serious lessons learned during World War I. Those who had the fleets no longer held an assured victory on the seas. New instruments of warfare such as airplanes and submarines raised grave concerns about the utility of the battleship and of existing naval programs. Large and expensive battleships proved useless against German submarines; the Allies needed to pursue small warships such as the destroyer. The Navy rapidly

adopted new technology to enhance its effectiveness, including the use of heavily armored steel ships instead of wooden ones, the development of wireless telegraphs and radio, and new weaponry. Despite these wartime advances, realizations about ship size and battle strategies preceded a widespread desire in the 1920s to reduce military expenditures. Believing they had just experienced the war to end all wars, American and other world naval powers reduced the size of their navies and planned naval disarmament. While struggling to maintain themselves as the nation's first line of defense, the U.S. Navy successfully adopted the new airplane technology by creating the aircraft carrier and reaped knowledge from captured U-boats to improve submarine designs (Palmer 1994; Cannan et al. 2006).

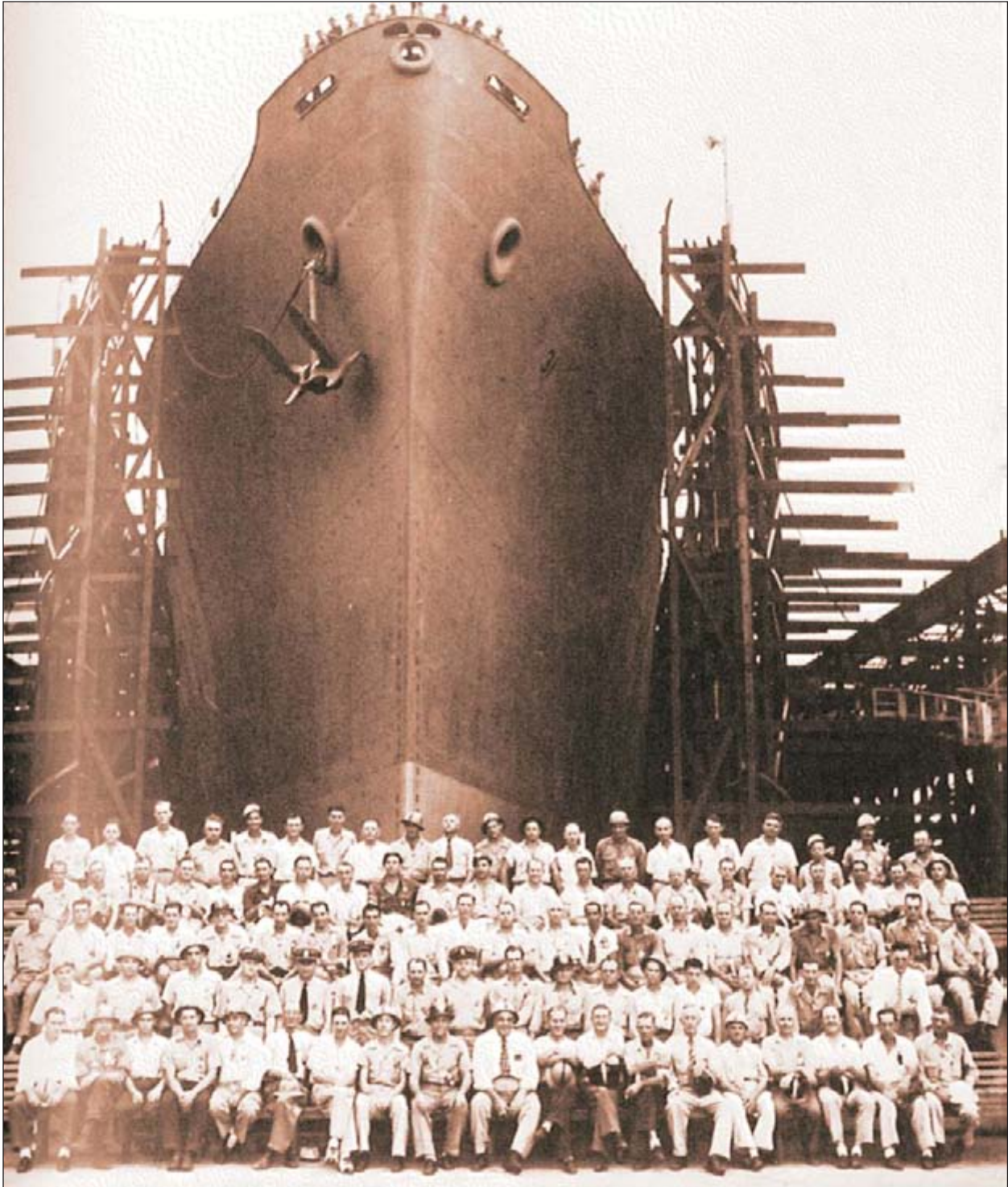
THE GREAT DEPRESSION, WORLD WAR II AND BEYOND

The Great Depression of the 1930s affected nearly every aspect of the United States economy, spreading into political, social, and even military arenas with varying results. The American public seemed to have little interest in military affairs. World War I generated an enormous debt, severely limiting military expenditures, and as the country entered the Great Depression in 1929, there was no perceived need, nor public sentiment, for a large military budget. Global economic weakness, however, undermined the stability of world powers and as Americans grew more concerned about Japanese expansion and the rise to power of German Nazis, they supported more military funding. The Navy grew from the mid to late 1930s, and as President Franklin D. Roosevelt viewed it, allowed both stimulation of the U.S. economy and a means to meet potential international threats. The U.S. Navy began building long-range submarines and aircraft carriers, and Roosevelt tried to use the naval resources to deter war between 1939 and 1941. Much of this attempt included moving part of the fleet from the California coast to the Hawaiian Islands to discourage further Japanese expansion. Meanwhile, the Navy pursued an undeclared war against German U-boats in the North Atlantic (Palmer 1994; Cannan et al. 2006).

On December 7, 1941, Japanese aircraft raided Pearl Harbor, nearly destroying the U.S. Pacific Fleet in one swift attack. Germany declared war on the United States on December 11, 1941, leaving the country to face a two-ocean war. The U.S. Navy was dealt a devastating blow and continued to suffer in the first battles of World War II. German U-boats attacked tankers and freight ships within sight of America's east coast, generating blackouts and alarm among beachside and port cities. To face these watery threats, the U.S. Navy rapidly increased their production in U.S. shipyards and factories, quickly turning out new freighters, escorts, tankers, and patrol aircraft in large numbers. They finally secured the Atlantic shipping lanes from German submarines with these new vessels, and used technological advances and code breaking in a massive effort to divert enemy plans with military intelligence and strategy alongside the might of the naval fleet. The U.S. Navy's efforts allowed the Allies to stage massive amphibious assaults against Adolf Hitler's empire from the Atlantic Ocean (Palmer 1994).

On the Pacific Ocean, the United States waged a primarily naval conflict, and rose to prominence with its success. The U.S. Navy had long been second to the Royal Navy, but its performance in the second World War marked the service's "final coming of age," and secured for itself "the mantle of naval leadership" (Palmer 1994). By 1945 the U.S. Navy successfully devastated the Japanese merchant marine fleet and utilized both submarines and aircraft carriers to seize islands and destroy military targets. While Japan's leaders continued to battle after these defeats, they finally surrendered when the Allies dropped atomic bombs at Hiroshima and Nagasaki (Palmer 1994) (Figure 2).

Figure 2.
The Destroyer Tender *Tidewater*, the Biggest Ship the Yard Ever Built, Completed in 1945



Source: McNeil 1985.

During the postwar and Cold War eras, the U.S. Navy continued to reinvent itself. The preeminence of aircraft in modern warfare made air power the first line of defense instead of the Navy. Nevertheless, the United States government utilized the Navy in the Korean War and as a major player in the Cold War. Nuclear powered submarines and nuclear weaponry generated new fields of naval warfare from the 1950s through the 1980s, and though the Cold War ended peacefully, new threats in the Middle East called for increased action from the U.S. Navy in the 1990s and today. Over the course of two centuries, the U.S. Navy has grown from a small, limited force to a large and powerful fleet, serving in both war and peace as a stringent line of defense or a fast-moving offense, when necessary. Adapting to the changing needs, technologies, and strategies of the United States government, the Navy has served the nation well (Palmer 1994).

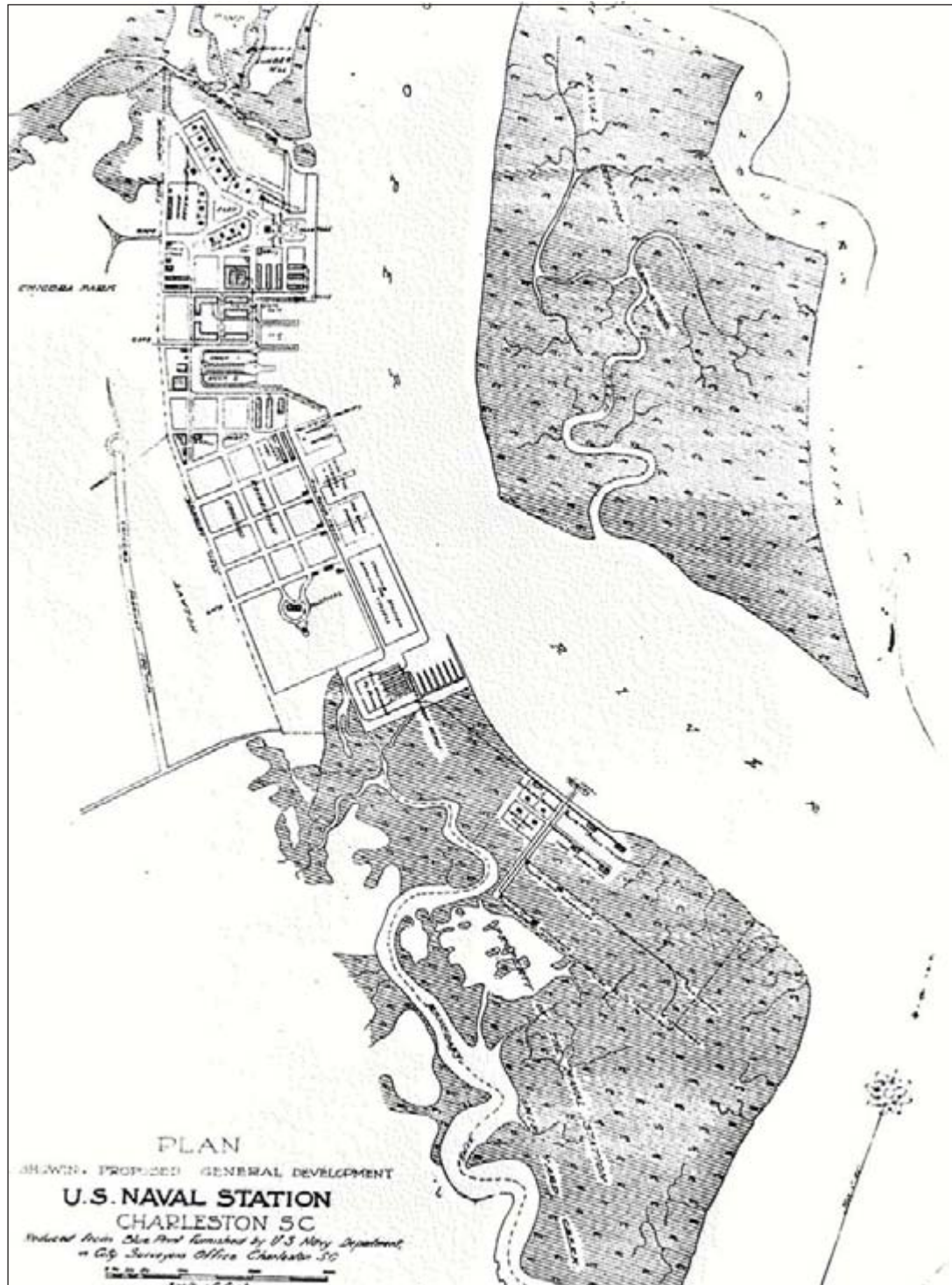
CHARLESTON NAVAL YARD HISTORY

The Charleston Navy Yard, also known as the Charleston Naval Shipyard, was consolidated with other training facilities, administration offices, and commands as part of the newly designated Charleston Naval Base in 1945. However, local terminology often refers to the base as the Charleston Navy Yard, which was its main function throughout the twentieth century, and was its common name through World War II. The yard hosts a myriad of buildings and docks constructed throughout much of the 1900s. Its mission was to build, maintain, and retrofit vessels for the U.S. Navy. The people who worked on these vessels included enlisted men and women as well as civilians. As the shipyard grew, so did the surrounding community of North Charleston. The Naval Hospital complex and Building NH68, within the Charleston Navy Yard, were among the many buildings constructed to serve the base during an exciting and dangerous period of American history, World War II. The historic context of these buildings lies within the larger historic context of the Charleston Naval Yard, a bustling community that constantly faced the threat of closure, struggled through the years of the Depression, sprung to action during periods of war, and constantly adapted to the ever changing needs of the military and its people.

The very name "Charleston" draws a mental image of narrow streets, ornate historic buildings, and water. The peninsula that hosts Charleston is surrounded by the Cooper River on the east side and Ashley River on the west side, meeting on the southeast side to "form the Atlantic Ocean," or so goes a popular saying in South Carolina. This image likely sprang to mind over a century ago, when the United States Navy sought a location here in 1901 for the relocation of their navy base from Beaufort County. They found a series of historic plantations on vast acreage adjacent to the Cooper River. Benjamin Tillman, a United States Senator and former governor of South Carolina, lobbied hard to have the navy base transferred from Beaufort to a "less isolated" location on the Cooper River, approximately 10 miles north of the port of Charleston. Leading men in the Charleston community hoped that this new navy base would stimulate the local economy, which was much needed in the lowcountry (Hamer 2006:154) (Figure 3).

The Charleston Naval Yard grew very slowly until 1917, having a workforce of only 1,200 when the United States entered World War I. However, World War I was an instant catalyst for the Navy, and at its wartime peak, the Charleston Naval Yard employed 5,000 civilians, with an additional 1,000 women working in the Navy's only clothing factory, which was located at the Charleston yard. The yard's training center taught 25,000 Navy personnel and completed construction of a 1,000 bed naval hospital in the two years of war, 1917-1918. Workers repaired numerous vessels and constructed one gunboat and eight submarine chasers during the war (Hamer 2006:154). In just a few decades, the "maze of marshlands and creeks" were transformed into a "compact industrial city" (Tyler n.d.:22).

Figure 3.
Plan Showing Proposed Development,
U.S. Naval Station, Charleston, S.C., Undated



Source: McNeil 1985.

During the 1920s and 1930s, the Charleston Navy Yard faced repeated threats of decommissioning and experienced a dramatic reduction in workforce and production. In the immediate post-war period, the yard stopped work at the Naval Clothing Factory, Naval Training Camp, Machinist Mates' School, Naval Ammunition Depot, and the Naval Hospital. These reduced work levels and cuts in military spending after the war led to several attempts at closing the Charleston Navy Yard altogether. Lobbying efforts by local politicians and U.S. Senator "Cotton Ed" Smith successfully saved the yard from its slated decommissioning in 1922. And yet, the yard clearly struggled to maintain its importance. After the frenzied activity of World War I, the yard's workforce shrank considerably to only 479 in 1924. The yard worked with a skeleton crew, and had very few duties during the 1920s, building only five small vessels and repairing only a few others. There were only a few new buildings constructed at the yard between 1918 and 1933 including two storehouses and a service station, which have since been demolished, and the Boiler House, which still stands (Cannan et al. 2006; Hamer 2006:154).

The Charleston Navy Yard saw much more activity in the mid to late 1930s. Like much of the U.S. Navy, the yard benefited from the policies of President Franklin D. Roosevelt, former Assistant Secretary of the Navy under President Woodrow Wilson. He was determined to build up the Navy, both at sea and on shore, and approved funding of nearly \$300 million to accomplish his goal. As a result, money infused into the Charleston Navy Yard stirred a significant increase in shipbuilding and other activities, including repairs to vessels. The most significant construction activity at the yard during the late 1930s was the construction of destroyers. The first one named *Sterret* was completed in 1938 and was followed by the *Roe* and *Jones*, both completed by the end of 1939. All of the shipbuilding required more workers, and the Navy Yard created an apprenticeship program in 1935 to maintain a pool of qualified workers. The success of this program and the increased need for personnel led to a workforce total of 2,100 by the end of 1939. Once almost dormant, the naval yard sprung to life, and by 1941, held a workforce of 9,000 (Cannan et al. 2006; Hamer 2006:154; McNeil 1985:99).

Despite the shock of the Pearl Harbor attacks on December 7, 1941 and the subsequent announcement of war, the Charleston Navy Yard was in a ready state to contribute to the effort and experienced an unprecedented period of activity during World War II. The primary role of the yard was to build and repair destroyers and destroyer escorts, though yard workers also built and repaired a variety of small and medium-sized support vessels. During the early 1940s, the Charleston Navy Yard witnessed its highest employment and shipbuilding rate. To accommodate the growth spurt in activity and workforce, the yard improved its existing shore facilities and built a large number of new buildings. However, the surging workforce placed stress on the facilities at the yard and on the North Charleston city infrastructure, overburdening the housing, transportation, and schools in the area. The U.S. Navy worked with local and federal agencies to improve the conditions, creating new schools, day-care centers, and 20,000 housing units by 1945 (Hamer 2006:154).

The increased need for facilities and day-care centers was directly related to the changing workforce at the Charleston Navy Yard. Throughout World War II, over 4,000 yard workers joined the military. The shops throughout the yard posted honor rolls of their men who had gone to fight, and in early 1944, over 100 workers per week typically joined up. The loss of these men in the workforce opened up a new world for the women who replaced them by entering non-traditional roles for the first time in the navy yard. Women, like Mattie "Grandma" Nettles, worked

in the Shipfitter Shop pressing out steel plates for landing craft and other vessels. She got up at four o'clock in the morning to meet the five-thirty bus to Charleston, and was at work by seven. The yard's constant messages to workers to keep steady at their jobs for the sake of the war effort deeply affected Grandma Nettles. Though she received permission for a day off, she arrived at work anyway, explaining that "I just got to thinking that if all those boys out there needed things, it wasn't going to be me that held them up, as long as I can help it." Living alone in Summerville, Nettles found a purpose in her work at the yard, where her grandson also worked. She was one of thousands of women doing things that women "just didn't do" – before the necessities of war called them to a new frontier (McNeil 1985:100, 136).

These genuine "Rosie Riveters" worked as sail-makers, upholsterers, automobile mechanics, machinists, welders, gas cutters and burners, policewomen, and riggers. Less than a year after the nation declared war, the Charleston Navy Yard went from virtually no female employees to 1,334 in a total workforce of 18,465, or 7 percent. By 1945, there were nearly 5,000 women (20% of the total workforce) working at the Charleston Navy Yard, most of them in non-traditional occupations, and a portion of them found work in the yard's new hospital. Though often performing the same work as men, these women still faced a disparity in wages, earning approximately 63 percent of what their male counterparts garnered. Their work often did not end once they left the yard, as young mothers dressed children for school, cleaned the house, and prepared meals, maintaining traditional roles in the home despite their new employment at the naval yard (McNeil 1985:100, 136; Hamer 2005:76, 79) (Figure 4).

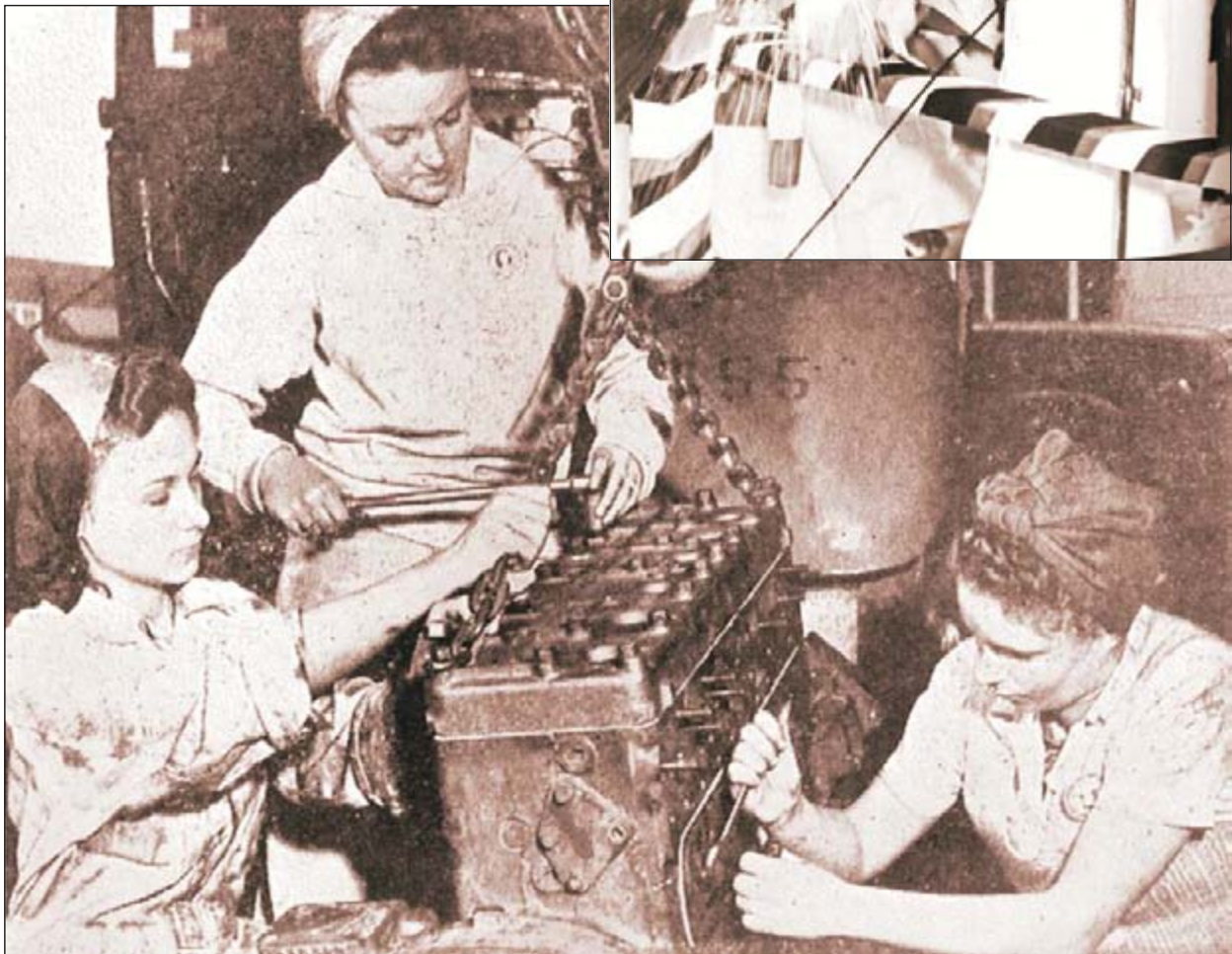
Women were not the only new labor source at the Charleston Naval Yard. As the demand for workers intensified during World War II, the Navy increasingly recruited African Americans, mostly men. Often restricted to unskilled jobs and facing prejudice from white co-workers and managers, African Americans made up 179 of the 1,288-person workforce in 1936 (almost 14%), and approximately 2,000 of the 14,000 person workforce in 1941, also around 14 percent. Projections for the necessary new workers for 1943 included 3,530 more African Americans out of a total of 9,917 people, or around 35 percent. Only 530 of those African Americans (15%) were to be employed in skilled positions, and none would be in supervisory roles. Their wages also remained low, partly due to the belief of white managers that a higher wage would encourage them to only work a few days a week. African-American laborer Oliver Perry came to the yard with a sixth-grade education but proved his worth to his white supervisors, who promoted him after only a few months. Despite quickly learning his duties and knowing as much or more than his supervisors, Perry had no hope of further promotion as a black man. He finally received one nearly 20 years later, in a different era, and much later than he deserved (Hamer 2005:88-90).

The hard-working women and African Americans joined with the yard's employees during World War II to create a workforce of over 26,000 people by 1944, the highest ever in the yard's history. Each worker had expanded hours, and in 1942, the yard went to a schedule of nine-hour days, six days a week, with Sunday's off for the duration of the war. The shipbuilding continued nearly non-stop, as the employees worked in three different shifts. During this hectic period, one observer described the yard at night as similar to "a giant amusement park lit up by neon lights, welders' arcs, the glow of forges, and the sparks of molten metal as work continued around the clock" (Hopkins 1984:16; McNeil 1985:100-101; Hamer 2006:154).

Figure 4.
Genuine "Rosie Riveters"

A.
Miss Jean Corry Christening the
Corry in July of 1941
at the Charleston Navy Yard

Source:
Jim McNeil 1985.



B.
The First Women Auto Mechanics at the Yard,
February of 1944

Source: McNeil, 1985.

The yard itself also expanded with massive new building programs to include the \$3 million Dry Dock 2, completed in 1942, which was used for repair and conversion work. Four new shop buildings, two new piers (F and G), new roads, and the purchase of 196 acres of land to the north and west of the yard, known as the Noisette Creek Area, were significant improvements during the war years. New contracts to build 20 destroyer escort ships at the Charleston Naval Yard met a stumbling block, as the yard had no facilities or equipment to build these new vessels, and the existing docks were already in use for other ship building programs. In response, they forged ahead with construction of a completely new shipyard, known as the South Yard located south of the torpedo warehouse, or Building 101. New shop buildings built with elaborate wood trusses to save the precious steel for ships, a new pier and new railroad and crane tracks highlighted the South Yard. This flurry of building activity was not restricted to the new yard, however, as the new Naval Hospital complex was built in the northwest corner of the property in 1942 (Hamer 2006:154; McNeil 1985:100-101, 126; Anonymous 1990:50; Hopkins 1984:16) (Figure 5).

The successful conclusion of World War II in the spring of 1945 led to widespread celebration. By 1945, the Charleston Naval Yard had contributed over 200 ships to the war effort. In the fall of that year, the U.S. Navy created the United States Naval Base, Charleston, South Carolina, to consolidate various naval activities at the military installation. The Navy Yard became the Charleston Naval Shipyard, as one component of the base. The naval hospital, marine barracks, training station and others were among the nine other commands on the base. Instead of building ships, the shipyard's new mission was to repair and overhaul ships, but with a naval fleet of 69,000 vessels, their work turned to undoing much of their wartime work, scrapping incomplete vessels, disposing of vast amounts of raw materials, and decommissioning and "mothballing" ships that were no longer needed. In 1948, the Secretary of the Navy announced that the shipyard would now be designated a submarine overhaul yard, a dramatic and defining shift in the duties for Charleston. Just a year later, threat of closure again forced Charlestonians to fight to save the yard, whose employment was reduced to its post war low of only 4,614 people by late 1949. Congressman L. Mendel Rivers of South Carolina was a particularly powerful and outspoken proponent of the shipyard and spent much of his career securing its future (McNeil 1985:145-148; Hopkins 1984:17).

The subsequent Korean War and the long-lasting Cold War were other factors that helped revive the Charleston Naval Shipyard. Submarine work during the Korean War included the overhauling of 12 subs in 1951 alone, and employment at the yard increased, reaching a post-war high of 9,220 in July of 1952. The 1950s also witnessed a revolutionary change as the Secretary of the Navy ordered the elimination of separate facilities for blacks and whites at the shipyards. Integration of the cafeteria in Charleston was slow, with a three-year white boycott of the facilities. Eventually, commands were followed and the entire shipyard was integrated. Nuclear power engineered a new era in naval warfare in 1955, and became an important component of the Charleston Naval Yard through the outfitting of submarines and the new Polaris missiles, a sophisticated rocket capable of delivering a nuclear warhead 1,375 miles. Nuclear weaponry and submarines defined the Cold War era and the work of the yard throughout the 1970s and into the 1980s. Collapse of the Soviet Union and the subsequent end of the Cold War once again threw into question the purpose of the Charleston Naval Yard, and the facility lost much of its importance after 1990. Congressional delegates and Charlestonians struggled again to stave off a closure, but the base was deactivated in 1995 (McNeil 1985:148, 159, 163; Hamer 2006:155).

Figure 5.
1942 Map of the Charleston Navy Yard



Source: Hamer 2005

CHARLESTON NAVAL HOSPITAL AND BUILDING NH68

Amidst the backdrop of the shipbuilding activities of the Charleston Navy Yard, a genuine community of civilians and naval personnel lived and worked in numerous buildings spread throughout the grounds. A sprawling campus of docks, industrial buildings, historic plantation homes and of course, ships, the Navy Yard also maintained buildings for the social, recreational, and health needs of its workforce. The Charleston Naval Hospital was housed in several buildings from 1902 until the yard's closure in 1995. Its most important historic incarnation was in the midst of World War II, when the hospital and its associated support buildings, including Building NH68, were constructed to reflect prevailing theories of medicine and architectural style.

Understandably, most histories, photographs, news articles and U.S. Navy publications place a great deal of emphasis on their strengths and successes. Newly completed vessels, smiling sheet metal workers and real-life Rosie Riveters are popular images of the Charleston Navy Yard during its peak production years of World War II. Very little of this information recounts the hospital and its buildings. Somewhat secluded from the main activity of the yard and located in the northwest corner of the yard's property in the 1940s, the hospital was an important but rarely promoted facility. Nonetheless, it served a necessary and important function in the life of the shipyard.

NATIONAL CONTEXT

The U.S. Navy began providing hospitals for naval personnel during the early 1800s. These hospitals were often located near shipyards and were built for the medical care of military personnel. They generally used contemporary medical theory and popular architectural style to guide construction. The size of the hospital complex relates directly to the size of the installation it serves. Modern medicine allows for patients to be housed in one large structure, but with their limited understanding of diseases and how they spread, the Navy built their hospitals much differently in the 1800s and early 1900s. These hospitals often followed a plan of several small buildings to divide the wards and prevent the spread of "vapors" commonly believed to cause disease. Typical naval hospitals had a central building with several smaller buildings along each side, with large porches. In the first half of the twentieth century, this "pavilion plan" remained popular, and incorporated both Georgian Colonial Revival or Spanish Colonial Revival architecture, but without the open porches of earlier plans (Goodwin 1995:29; Tucker and Grandine 1993).

To keep up with modern medical changes and the ever-increasing need for more hospital space, the U.S. Navy began extensive renovations or replacements of its older, obsolete hospital buildings between 1893 and 1913. The build-up of the Navy and its shipyards and training stations required even more hospital space to accommodate the subsequent rise in the workforce population. Several hospitals opened in this era including one at Hospital Point, Pearl Harbor, Hawaii (1915); Charleston, South Carolina, built during World War I then rebuilt in World War II; two in California (1922 and 1930s), and one in Florida (1942). Naval hospitals were designed to occupy prominent locations within naval installations and became a major part of the planned yards, illustrating the military's increasing concern in the twentieth century for the medical care of personnel. Naval hospital complexes usually exhibited high-style architectural design, "reflecting its position of importance within the naval community." These characteristics did not necessarily hold true for Charleston's facility, which was somewhat secluded and had a very restrained exterior. In

keeping with the limited availability of supplies in the war years, ornamentation on buildings was kept at a minimum, diminishing the qualities that would hallmark examples of high-style architecture (Goodwin 1995:29-30; Tucker and Grandine 1993).

THE HOSPITAL COMPLEX

The Charleston Navy Yard had a hospital within the complex nearly since its inception. The Bureau of Medicine and Surgery purchased 95.6 acres of land adjoining the northwestern part of the Charleston Navy Yard from the City of Charleston in 1902 for use as a hospital reservation. The first hospital or "dispensary," as it was often called, was completed by 1909. This building held 68 beds by the beginning of World War I. In response to the demands of the war and the accompanying expansion of the shipyard, the Navy expanded the hospital facilities with a temporary, 250-bed hospital. Additional wards increased the capacity to 1,000 beds, and nearby single-family homes constructed for medical officers (buildings #0760 and #0761) created a hospital complex. In 1922, the Charleston Navy Yard abandoned most of the temporary World War I structures, and the only surviving buildings are the four medical officers' quarters (Goodwin 1995:30). In the mid-to-late 1930s, increasing threats overseas and the rise of Hitler in Germany alarmed the United States. The government's response was an unprecedented spurt of growth in the Navy's fleet and its shore establishments, including the Charleston Navy Yard, which reached a level of activity and a workforce the likes of which it had not seen before or since. This fact alone makes buildings constructed during the World War II era especially important.

Amidst the rapid expansion of the Charleston Navy Yard, the Navy completed a large, permanent hospital in place of the outdated World War I facility. Following the trends of hospital construction, the new complex had eight individual wards linked to the principal building (NH45) and the main dining facility (NH46) by enclosed corridors. The complex encloses an open courtyard, defined on the south side by building NH45 and the north side by building NH46. The four detached ward wings along the east and west sides wrap the edges of the courtyard with an enclosed corridor linking the wards. The hospital was a million dollar Work Progress Administration (WPA) project. The WPA played a pivotal role in the growth and development of the yard, providing labor and funds for buildings, roads, and shipbuilding infrastructure. Additional buildings for the hospital complex included quarters for personnel, recreational facilities, storage facilities and support structures. Two barracks buildings completed in 1941 housed bachelor medical officers and nurses (NH55 and NH61). Almost as soon as the hospital was completed, temporary wards were built along the east and west sides of the dining facility, but they were demolished in the 1980s (Tucker and Grandine 1993). The rapid growth adhered to a wartime belief of the Navy's Bureau of Medicine and Surgery that their mission was "to keep as many men as possible at as many guns as possible as many days as possible" (News and Courier, 24 February 1943).

The Naval Hospital at Charleston was probably among the last of its kind built with the expanded ward plan and courtyard. By the late 1930s, the U.S. military began constructing skyscraper hospitals that combined wards into a central tower and offered up-to-date heating, electrical and medical facilities, including laboratories, X-ray and operating rooms. This may represent a larger shift within the military medical community to move from more general nursing and convalescent care to breakthrough scientific and innovative patient care based on the best possible modern methods. Nonetheless, the Charleston Naval Hospital's design, and the similar designs of other contemporary navy hospitals, enabled it to handle extensive expansion of bed capacity in times of

emergency. Waves of incoming sick and wounded navy men from invasions in Anzio and Normandy entered the new hospital during the throes of World War II. Typical of the era, black and white men were segregated at the hospital and were provided separate facilities in other buildings, including separate bathrooms in support building number NH68. The large number of incoming sailors wounded in battle, of both races, generated swift expansion of the hospital during the war years. After the war, the numerous hospital buildings returned to the pre-war hospital status for serving naval personnel and their families (Goodwin 1995:30; News and Courier [N&C], 17 Nov. 1941; Tucker and Grandine 1993; N&C, 24 August 1944; N&C, 13 May 1952; Richard Sidebottom, personal communication, October 12, 2009).

While many buildings throughout the Charleston Navy Yard are utilitarian, industrial, and reflective of various architectural styles, the Naval Hospital complex has a unique appearance. Overall, the buildings use the same materials, size, and scale, to follow the Spanish Colonial Revival architectural style, which offered a clean and antiseptic appearance due to the all-white exteriors. This style was popular for a few decades after 1915 and mimicked European missions built throughout the southwestern U.S. and Mexican lands during the seventeenth and eighteenth centuries. This style lost popularity in the 1940s, but allowed the hospital complex to retain a somewhat simple appearance, with white, masonry or stucco exterior walls and red tile roofs, with little other ornamentation. There are 33 buildings that currently make up the Naval Hospital historic complex. This area evolved over a period of 30 years, with a few surviving structures from World War I, but the majority of its buildings date from the rapid expansion during World War II (Goodwin 1995:31; Tucker and Grandine 1993).

This Spanish Colonial Revival style was also used on the buildings constructed after the completion of the hospital, but which were still within the hospital complex. Four houses built in 1942 have concrete block or stucco walls painted white with red composition roll roofing. The only medical supply/storage facility in the hospital complex is Building NH68, completed in 1943. Located in the northeast corner of the hospital complex and facing northwest on Turnbull Avenue, the large warehouse was responsible for maintaining a constant supply for the hospital nearby. It also held the blood storage for the hospital (Tucker and Grandine 1993; Goodwin 1995) (Figure 6).

A year after its completion, the hospital was featured in the Charleston newspaper *News and Courier*. The 1943 article's title hints at the relationship between civilians and the Charleston Naval Yard: *Do you Know Your Charleston?* Described as one of the "most modern buildings in a modern navy yard," with the "latest technical equipment known to medical science," it also held quarters for hospital corpsmen and enlisted WAVES (Women Accepted for Voluntary Emergency Services) technicians. The hospital occupied a "quiet corner of the bustling Charleston navy yard," sitting "high on a knoll amid towering long-leaf pines." Like many journalists of the era, the author waxed eloquent, describing the rambling, white buildings of the hospital as whispering "the atmosphere of a haven from care and worry, from a world at war." His eloquent description may not have been too far off the mark. Segregated somewhat from the industrial buildings and large docks of the shipyard, the hospital and its surrounding structures, such as Building NH68, stood apart. Even in 1943, the hospital was "perhaps the least known activity in the yard, either to the average civilian war worker or to the average service man or woman on duty there" (N&C, 4 Oct. 1993). Its supply building, NH68, must have seemed an even bigger mystery, as it would not have been visited by even the most frequent hospital patient.

Figure 6.
Charleston Naval Hospital

Source:
Naval Base
Redevelopment Authority



A. 1952 Aerial View of Hospital, Building NH68 to Left



B. Main Entry of Hospital, Building NH45

Source:
Naval Base Redevelopment Authority

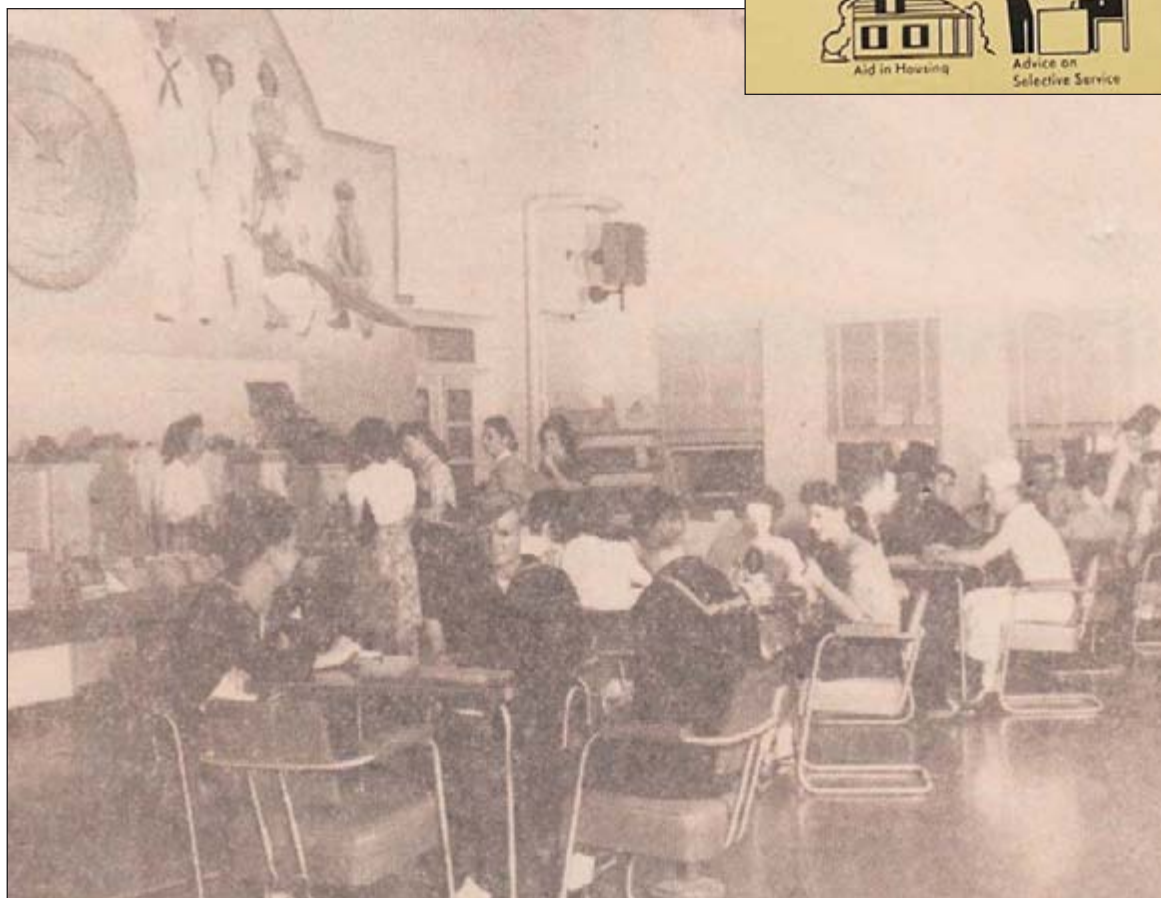
It may also be true that those working at the hospital or its supply and support buildings did not venture often into the shipyard, except for those who were working at the two dispensaries in the navy yard proper. Existing as a small city unto itself, the main hospital complex had its own “galley” to feed thousands of people, its own laundry and linen supply, its own supply department (housed in Building NH68), its own small stores, post office, candy and soda counter, library, barber shop, recreation hall and fleet of ambulances. Regular visitors to the hospital included the navy yard chaplain for Sunday morning services, ladies of the Red Cross, and the navy yard Welfare and Recreation office, which provided sports equipment and motion pictures for the entertainment of both patients and staff. The Recreation Building was begun in September of 1944 near the supply storage Building NH68. It featured a 500-seat auditorium and a soda fountain, which also sold ice cream and sandwiches. Large murals painted on the interior walls served as the decoration for the white-tiled building. It also housed staff who promoted outside activities like football, volleyball, tennis and basketball, which could be played on the nearby fields. The closest field to Building NH68 was one of several baseball diamonds. Considered the nation’s favorite past time, baseball played an important role during World War II as a morale booster for America and no doubt performed a similar duty for the staff, patients and enlisted men in the hospital complex (N&C, 4 Oct. 1943, 17 June 1946) (Figure 7).

Hospital staff and shipyard personnel did combine efforts for several war-related support drives during the early and mid-1940s, but their efforts ended happily with the end of the war. An announcement of victory over the public address system at the yard shocked everyone; they “simply stopped working.” Then they yelled, shouted, and created complete pandemonium with spontaneous celebration (Charles Naval Base Public Affairs Office 1995:9). Three days of formal events surrounded the Victory 1945 celebration at the end of the war. The Naval Hospital, the training center, the Naval Weapons Station and other commands on the military installation aided in a large parade. Inspiring music and a salute from World War II veterans “brought cheers from the crowd.” Retired Rear Admiral Jim Flatley spoke and noted that the victory brought the end of an era, not just a war, “An era where every man, woman and child pulled together in a unity not seen before or since” (Evening Post Publishing 1999:n.p.). Indeed, the war asked much of everyone, above and beyond their regular work in the hospital, machine shop or on the docks, welding together a destroyer. War Bond drives, blood donations, United War Fund drives and cash rewards for inventing new tools or techniques to improve production generated a camaraderie among the community and the employees of the Charleston Naval Yard, and helped them contribute to the war effort. The employees themselves boosted the morale of the yard with short newspapers like *The Charleston Navy News* or *Produce to Win*, or the homemade newsletter by the supply department, called *Supply Lines*. Between short comments about news from the yard, the newsletter contained congratulations for new mothers, regards from retirees, well-wishes for staff members who’d fallen ill, short jokes about a recent staff field trip and profiles of various officers. Publications like these helped departments such as Supply generate their own communities while in the midst of an overwhelming work load and an overseas war (Supply Department 1943).

One community-wide effort that engaged Building NH68, the supply and storage building for the hospital complex, was the continual blood drive campaign that lasted through World War II and beyond. With the new technologies related to blood donation and separation of the plasma, it appeared to be a significant and personal way for employees at the yard to support both incoming, injured sailors and yard personnel. Building NH68 was the storage center for blood used at the hospital, so although it was a utilitarian warehouse, it played an important role within

Figure 7.
Life at the Yard

A.
"Services Available to Navy Yard Personnel" in 1944
Source:
U.S. Navy Department 1944.



B. Hospital Recreational Building Interior, 1946

Source: *The News and Courier*, 17 June 1946

the yard. The structure is more austere than the neighboring buildings within the hospital complex. However, the free-standing, rectangular, two-story structure is somewhat similar to the nearby buildings, having a reinforced concrete frame infilled with terra cotta block on the exterior, coated with a thin layer of white stucco, and displaying large windows. Originally, the three-part windows were grouped as three or five adjoined windows. The replacement windows have fewer panes but retain the original window size, which composed most of the top half of each bay, and retain a concrete sill. The roof is not similar to other buildings nearby because it is flat with a short wall, or parapet, around the top. The front and rear walls are divided into 10 bays, and the side walls into five bays, created by the slightly projecting vertical and horizontal bands of the concrete frame and the slight recess of the infilled terra cotta walls. The main entrances are now in the center of the first story on the front and rear façades and are flanked by garage styled doorways, now enclosed. Originally the northern façade had a single door in the right bay, and a single door entrance on the side elevation. Interior concrete columns with flared capitals support the thick floors and ceilings, and are now an integral design feature of the revitalized space (Goodwin 1995:n.p.) (Figure 8).

Building NH68 was constructed with its function in mind. Created with large garage-sized doors originally on its north and south exterior walls, the cavernous structure allowed quick unloading or dispersal of supplies from or to large vehicles or the navy yard train. In order to move heavy ship building materials efficiently throughout the yard, a series of railroad tracks lined the roads and docks of the yard, and extended for at least some years as a spur to Building NH68. This created easy off-loading at the large doors along the southern façade after supplies were loaded on the trains from ships. Supplies could then be inventoried and dispersed through the large doors along the north elevation and trucked or carted the short distance to the hospital nearby (1944 photo for construction of NH63, from Naval Base Redevelopment Authority).

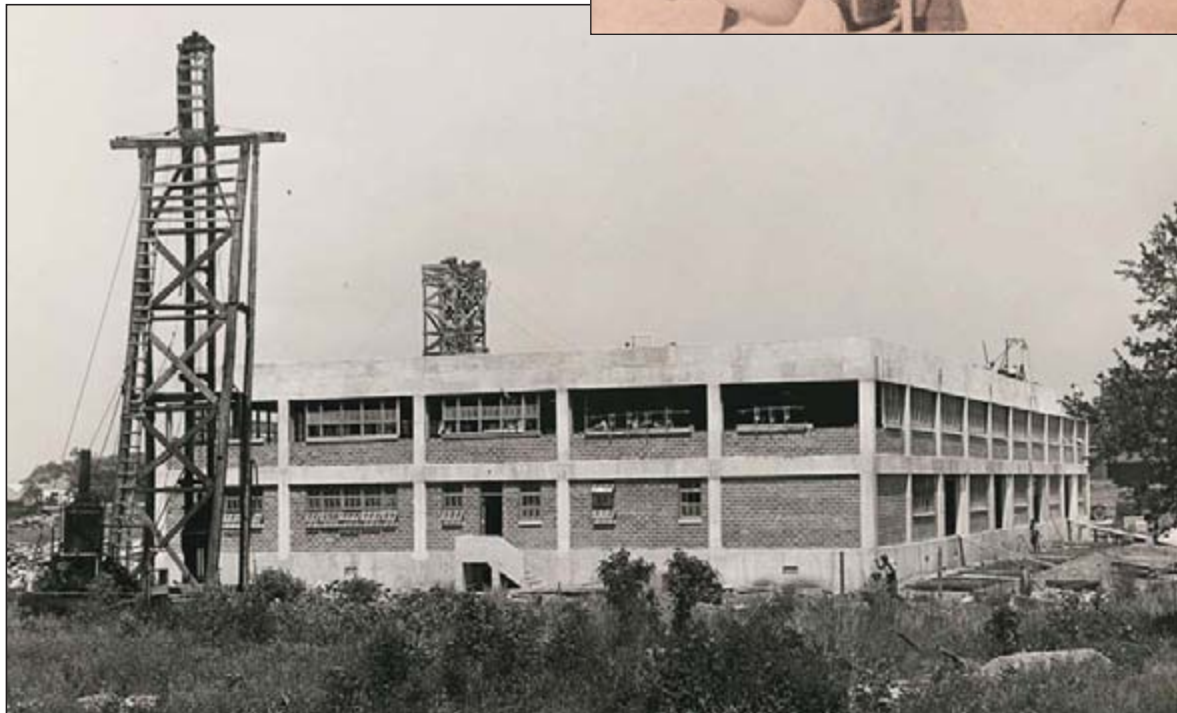
The Naval Hospital complex is still largely intact, though the buildings now are generally empty. The pine trees that once crowded the landscape have given way to grassy areas with a few palmetto trees. Aging buildings, suffering from over a decade without occupants, belie the hustle and bustle that once defined the hospital. A community almost unto itself, the hospital complex maintained recreational buildings, a dining hall and its supply building, NH68. While much of the naval yard hosts a myriad of buildings with various styles, sizes and materials, the hospital is a cohesive district. Like other buildings, it strove to avoid using precious steel materials during World War II, and as such, is an important example of the use of concrete block masonry on the yard (Figure 9).

In the late 1960s, the Charleston Naval Hospital began outgrowing its 20-year old facility. Housing around twice as many patients than it was designed to hold, the hospital served a military and ex-military population of around 90,000 in 1968, a growth of 30,000 in only six years. Doctors had to “jury-rig things to make it work” (N&C, 1 Oct. 1968). As a result, the U.S. Navy proposed the construction of a brand new hospital building, a high-rise structure to hold 500 beds, which opened in 1973. The WWII-era hospital buildings went on to house the Sixth Naval District headquarters, which oversaw the naval functions of several southeastern states. The hospital and Building NH68 are among some 200 buildings surviving from the World War II era. These structures represent a variety of functions, all vital to the shipyard during the hectic years of the early 1940s (N&C, 1 Oct. 1968; Goodwin 1995:58). None, however, were more involved with the physical care and survival of the yard’s and the war’s injured heroes, than the Charleston Naval Hospital.

Figure 8.
Blood Donation and Supply

A.
"Employees at Charleston Yard
Donate to Blood Bank" in 1942

Source:
Charleston Evening Post, 26 October 1942



B. Construction of Building NH68, 1943

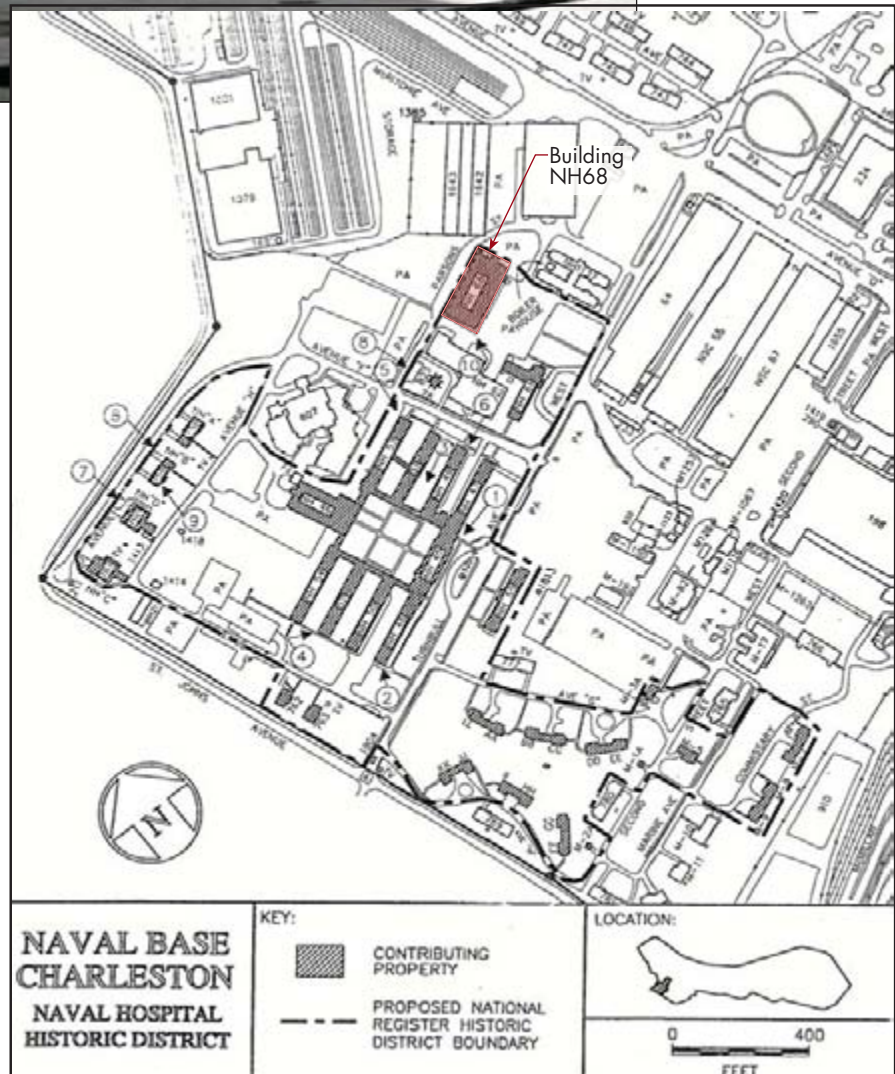
Source: Naval Base Redevelopment Authority

Figure 9.
Building NH68 and Proposed Hospital District



A.
2009 Photo of NH68,
Lowcountry Innovation Center

Source:
Tucker and Grandine 1993



B. Draft of the Proposed Charleston Naval Hospital District for the National Register of Historic Places

The Charleston Naval Yard served the nation for almost a century, but in that long life, its climax of activity, personnel, construction and shipbuilding occurred in the early 1940s. The demands of World War II generated within the nation and the Charleston Naval Yard a great impetus for doing everything possible to achieve victory for democracy. In this great effort, the needs of American workers, sailors, and soldiers were met by the efficiency of the Navy's personnel and its buildings, designed to fulfill their function with expediency. In the midst of a bustling hospital complex, Building NH68 served not in the forefront of conflict but in the vital background that steadily and efficiently met the great need of the hospital, the shipyard and the American war effort.

RESEARCH QUESTIONS

The following questions, suggested by architectural historian Richard Sidebottom, were generated after a review of this draft and may help direct future research regarding the Charleston Naval Hospital.

1. Did the creation of the hospital as a permanent facility within the navy yard reflect a trend in the U.S. Navy to become more professional in its medical care? Was World War II a significant era of change from temporary to more permanent medical facilities?
2. How did advances in medical theory and treatment, especially regarding the development of antibiotics and the spread of disease, affect the architecture of medical facilities in the Navy? Does the Charleston Naval Hospital reflect this shift in treatment and building construction from expanded wards to a single highrise building? What were the contemporary treatment theories that may have affected hospital construction?
3. What part did the Charleston Naval Hospital play in the care of World War II 's wounded? Did it treat soldiers from the European theater?
4. What was the typical patient experience at the Charleston Naval Hospital? Did they arrive by ship and from where? How were they divided into wards? What types of treatments were typical at the facility?
5. How many patients were treated at Charleston versus other naval hospitals? How does this hospital rank with other naval hospitals in terms of size, patient load, location on the yard, and design?

REFERENCES CITED

Anonymous

1990 *The Navy in Charleston, South Carolina*. Blake Publishing Co., San Diego, California.

Cannan, Deborah K., J. Hampton Tucker, William T. Dod, Katherine E Grandine, H. Thomas Shaw, John Laurens

2006 "Charleston Navy Yard Historic District." National Register of Historic Places nomination form. Goodwin & Associates, Historic Preservation Consultants, Charleston, S.C. Available from the S.C. Department of Archives and History.

Charleston Evening Post

1942 "New Hospital at Navy Yard." 26 October 1942. Clipping from the vertical files of the Charleston County Public Library.

Charleston Naval Base Public Affairs Office

1995 *The Bow Hook*. Vol. 35, no. 45. Charleston Naval Base Public Affairs Office, North Charleston, S.C.

Evening Post Publishing Company

1999 *The Post and Courier, our 20th Century Headlines*. Evening Post Publishing Co., Charleston, S.C.

Goodwin, R. Christopher and Associates, Inc.

1995 *Inventory, Evaluation, and Nomination of Military Installations: Naval Base Charleston, Final Report*. R. Christopher Goodwin and Associates, Inc., Frederick, Maryland. Prepared for the U.S. Army Corps of Engineers, Baltimore, Maryland.

Hamer, Fritz

2006 "Charleston Naval Shipyard." In *The South Carolina Encyclopedia*, ed. Walter Edgar. The University of South Carolina Press, Columbia, S.C.

2005 *Charleston Reborn*. History Press, Charleston, S.C.

Hopkins, George W.

1984 "From Naval Pauper to Naval Power: The Development of Charleston's Metropolitan-Military Complex." In *The Martial Metropolis: U.S. Cities in War and Peace*, ed. Roger W. Lotchin, 1-34. University of Virginia Press, Charlottesville, VA.

McNeil, Jim

1985 *Charleston's Navy Yard, a Picture History*. CokerCraft Press, Charleston, S.C.

News and Courier

Newspaper. Various clippings from 1941-1969 in vertical files, Charleston County Public Library.

Palmer, Michael A.

1994 "The Navy." In *Encyclopedia of the American Military, Vol. 1*, p. 365-380. Charles Scribner's Sons, New York, New York. Available from www.history.navy.mil/history/history1.htm, accessed March 10, 2009.

Supply Department, U.S. Navy Yard

1943 "Supply Lines," Vol. 1, no. 3. Department of the Navy, Supplies and Accounts, U.S. Navy Yard, Charleston, S.C. From the South Carolina Historical Society, Charleston, S.C.

Tucker, Hampton and Katherine Grandine

1993 "Naval Hospital Historic District, Naval Base Charleston." Draft nomination for the National Register of Historic Places. Part of the *Inventory, Evaluation, and Nomination of Military Installations: Naval Base Charleston, Final Report*. R. Christopher Goodwin and Associates, Inc., Frederick, Maryland.

Tyler, Lyon

n.d. "The Charleston Naval Base: From 'Red-Headed Step-Child' to 'Deterrent Capital of the World.'" Typescript. From the vertical files of the South Carolina Historical Society, Charleston, S.C.

United States Navy Department

1944 *You and the Navy: Handbook for Employees of U.S. Navy Yard, Charleston, South Carolina*. U.S. Navy Department, Charleston, S.C. From the Charleston County Public Library Archives.

APPENDIX A: SHORT SUMMARY

BUILDING NH68

During the years of World War II, 1941-1945, the Charleston Navy Yard experienced unprecedented and unsurpassed expansion. New docks, buildings and roads created an entirely new "South Yard," while expansion in the northwest part of the shipyard included a brand new hospital complex. One important structure within this complex was Building NH68.

Building NH68, a supply and storage facility, was built in 1943, a year after the completion of the Charleston Naval Hospital. Somewhat segregated from the main building, this two-story concrete frame building mimics the white masonry exterior of the hospital complex. It was a utilitarian structure, and housed employees who would shuttle supplies in and out to support the patients located several yards away. Originally created with large garage-sized doors on its north and south exterior walls, the cavernous structure enabled quick unloading or dispersing of supplies from or to large vehicles or the train. In order to move heavy shipbuilding materials efficiently throughout the yard, a series of railroad tracks lined the roads and docks of the yard, and extended for at least some years as a spur to Building NH68. This created easy off-loading at the large doors along the southern façade after supplies were loaded on the trains from ships. Supplies could then be inventoried and dispersed through the large doors along the north elevation and trucked or carted the short distance to the hospital.

Part of a small "city" unto itself, the building contributed to a district of not only healthcare, but recreation, living quarters, dining facilities, outdoor sports, a library, barber shop and even a soda fountain. Employees bustling in and out of this building were part of a larger community, one committed to the war effort of the 1940s. United in their support for their servicemen, these employees often contributed far beyond their grueling six-day work week, participating in war bond drives, morale-boosting newsletters and competitions, and blood donations. Building NH68 maintained the supplies and the blood for the hospital, and often the plasma was donated by the yard's own employees, especially during the blood drives of World War II and beyond. In this noble service, this structure met a great need for the health and well being of generations of patriots.

