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Fort Knox Hammerhead Barracks Architectural Survey

Sunny Stone and Adam Smith

August 2005



Fort Knox Hammerhead Barracks Architectural Survey

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Final Report

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Prepared for US Army Garrison, Fort Knox
Environmental Management
Division
Directorate of Base Operations
Support
Fort Knox, Kentucky 40121



ABSTRACT: U.S. Army Garrison, Fort Knox (Fort Knox) is a U.S. Army Training and Doctrine Command installation with the primary mission of training soldiers for the Armor and Cavalry Force. It is the home to the U.S. Army Armor School and Center where soldiers are trained to use, maintain, and command tanks and other armored vehicles.

This document is an architectural survey of 53 permanent Cold War Base Operations (BASOPS) properties; more specifically, unaccompanied personnel housing (UPH) permanent hammerhead barracks and supporting facilities, constructed between 1953 and 1957 at Fort Knox, Kentucky for eligibility to the National Register of Historic Places (NRHP). One building on the list, a battalion headquarters, constructed in 1964, and two general instruction buildings, constructed in 1967, fall outside of the period being surveyed, and were included in the survey for their role as support facilities for the UPH structures. This survey satisfies Section 110 of the National Historic Preservation Act of 1966 as amended, and was used to determine the eligibility of these buildings and landscapes for inclusion on the NRHP.

The BASOPS properties, mostly UPH buildings, constructed during this time frame at Fort Knox were limited in use as support facilities only, and were not mission critical buildings. It was determined that these buildings are strictly utilitarian in nature. The UPH buildings included in this survey were evaluated under a recently completed historic context, "Army Unaccompanied Personnel Housing 1946-1989." This nationwide historic context and evaluation criteria for these buildings is organized by building type and lists specific architectural requirements for finding these buildings eligible. The lack or loss of these required features can result in insufficient integrity for specific examples of these buildings types to be considered eligible. The UPH structures at Fort Knox are significant under Criterion A as associated with this historic context. However, the buildings that were surveyed lack the retention of the required features to retain sufficient integrity and therefore are ineligible for the NRHP.

Thus, field reconnaissance and historical data analysis did not provide sufficient evidence for any of the properties to be considered eligible to the NRHP, individually or as part of a historic district. As a result, no buildings were recommended for nomination to the NRHP.

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Conversion Factors

Non-SI* units of measurement used in this report can be converted to SI units as follows:

Multiply	By	To Obtain
acres	4,046.873	square meters
cubic feet	0.02831685	cubic meters
cubic inches	0.00001638706	cubic meters
degrees (angle)	0.01745329	radians
degrees Fahrenheit	$(5/9) \times (^\circ\text{F} - 32)$	degrees Celsius
degrees Fahrenheit	$(5/9) \times (^\circ\text{F} - 32) + 273.15$	kelvins
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
kips per square foot	47.88026	kilopascals
kips per square inch	6.894757	megapascals
miles (U.S. statute)	1.609347	kilometers
pounds (force)	4.448222	newtons
pounds (force) per square inch	0.006894757	megapascals
pounds (mass)	0.4535924	kilograms
square feet	0.09290304	square meters
square miles	2,589,998	square meters
tons (force)	8,896.443	newtons
tons (2,000 pounds, mass)	907.1847	kilograms
yards	0.9144	meters

* *Système International d'Unités* ("International System of Measurement"), commonly known as the "metric system."

Preface

This study was conducted for the U.S. Army Garrison Fort Knox, Environmental Management Division, Fort Knox, KY under project number CNC-Q954, "Survey 56 Buildings at Ft. Knox." Funding was provided by Military Interdepartmental Purchase Request (MIPR) 21/2020/220/A/MIPR4HDDK00019/PO, dated 24 MAY 2004. The Fort Knox technical monitor was Dr. R. Criss Helmkamp, Cultural Resources Manager.

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 Mr. Adam Smith. Dr. Lucy A. Whalley is Chief, CEERD-CN-C, and Mr. Mike Golish is Acting Chief, CEERD-CN. The Acting Director of CERL is 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.

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 a 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 evaluate and inventory their cultural resources. Section 106 requires the determination of effect of federal undertakings on properties deemed eligible or potentially eligible for the NRHP.

The U.S. Army first established Camp Knox as a temporary camp in the north-central area of Kentucky when the United States entered World War I. The post closed in 1922, but continued to serve until 1932 as a training center for the V Corps. In January 1932, the post was selected as the site for the mechanized cavalry training and was redesignated as Fort Knox, to reflect its new permanence as the home of the mechanized cavalry. In 1940, Fort Knox became the home to the headquarters of the newly established Armored Force Command. Currently, Fort Knox is home to the U.S. Armor Center, U.S. Armor School, and U.S. Army Recruiting Command (see Figure 1).

Objectives

The objectives of this study were to (1) research the history, inventory, and assess 53 buildings and structures dating from 1953 to 1957 and three buildings from the 1960s that support the 1953 to 1957 buildings; (2) compile an architectural overview of the number and types of unaccompanied personnel housing (UPH) properties, specifically, hammerhead barracks, constructed by 1957; and (3) determine whether these buildings are eligible for listing individually or as a district in the NHPA.

Study and evaluation of the subject facilities was required for the NRHP compliance because the buildings have reached or are close to 50 years of age, at which time they become potentially eligible for the National Register. For a property to qualify for the NRHP, it must meet at least one of the National Register Criteria for Evaluation, must be associated with an important historic context, and must retain sufficient integrity to convey its significance.

An analysis of all UPH hammerhead barracks and associated structures constructed during the time frame was performed including their basic histories and an assessment of their basic conditions. This final report includes recommendations for eligibility to the National Register of Historic Places (NRHP) that will be submitted to the Kentucky State Historic Preservation Officer (KY SHPO). The information for the buildings to be surveyed is located in Table 1.

Table 1: Real Property Building List

Building Number	Year Built	Type	Army Category Code	Original Use	Current Use
296	1954	P	14185	HAMMERHEAD BARRACKS	CO HQ BLDG
297	1954	P	72114	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
298	1954	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
1474	1953	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
1475	1953	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
1476	1953	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
1477	1953	P	14183	BN HQ BLDG	BN HQ BLDG
1478	1953	P	14183	BN HQ BLDG	BN HQ BLDG
1479	1953	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
1480	1953	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
1481	1953	P	73016	RGT HQ BLDG	POLICE/MP STA
1482	1953	P	72111	HAMMERHEAD BARRACKS	HAMMERHEAD/RENOVATED
1483	1953	P	72111	HAMMERHEAD BARRACKS	HAMMERHEAD/RENOVATED
1484	1953	P	72111	HAMMERHEAD BARRACKS	HAMMERHEAD/RENOVATED
1485	1953	P	72111	HAMMERHEAD BARRACKS	HAMMERHEAD/RENOVATED
1486	1953	P	72111	HAMMERHEAD BARRACKS	HAMMERHEAD/RENOVATED
2370	1953	P	17180	RGT HQ BLDG	ARNG ARMORY
2371	1953	P	17180	HAMMERHEAD BARRACKS	ARNG ARMORY
2372	1953	P	14183	BN HQ BLDG	BN HQ BLDG
2373	1953	P	17140	HAMMERHEAD BARRACKS	USAR CENTER
2374	1953	P	61050	HAMMERHEAD BARRACKS	ADMIN GEN PURP
2375	1953	P	72210	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
2376	1953	P	17180	HAMMERHEAD BARRACKS	ARNG ARMORY
2377	1953	P	72210	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
2378	1953	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
2379	1953	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
2380	1953	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
2381	1953	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
2382	1953	P	14183	BN HQ BLDG	BN HQ BLDG
6536	1967	P	17120	GEN INST BLDG	GEN INST BLDG
6537	1967	P	17120	GEN INST BLDG	GEN INST BLDG
6538	1964	P	14182	BN HQ BLDG	BDE HQ BLDG
6539	1954	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6540	1954	P	14183	BN HQ BLDG	BN HQ BLDG
6541	1953	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6542	1954	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6543	1954	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6544	1953	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6545	1954	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6546	1954	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6547	1954	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS

Building Number	Year Built	Type	Army Category Code	Original Use	Current Use
6548	1953	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6549	1954	P	14183	BN HQ BLDG	BN HQ BLDG
6550	1953	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6551	1954	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6552	1954	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6553	1953	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6554	1954	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6555	1954	P	72181	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6556	1954	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6557	1953	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6558	1954	P	14185	HAMMERHEAD BARRACKS	HAMMERHEAD BARRACKS
6559	1954	P	14183	RGT HQ BLDG	BN HQ BLDG
6571	1953	P	17120	GEN INST BLDG	GEN INST BLDG
6583	1954	P	14183	BN HQ BLDG	BN HQ BLDG
6584	1957	P	14183	BN HQ BLDG	BN HQ BLDG

Approach

Fort Knox has not yet evaluated its Cold War UPH properties and supporting structures as per Section 110 of the NHPA. Under a Military Interdepartmental Purchase Request, the Engineer Research and Development Center's Construction Engineering Research Laboratory (ERDC-CERL) was retained to complete a thorough inventory and evaluation of the Fort Knox UPH and associated properties, more specifically hammerhead barracks, that date from the late 1953 to 1957.

A historic context for a group of BASOPS Cold War building types, *Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)*, was recently completed by R. Christopher Goodwin & Associates (2003). This report provides a national context and includes identification and evaluation guidelines that reference specific architectural or historic features that Army Cold War UPH properties must retain to be eligible for the NRHP. This study fills the gap between the local historic context for those Fort Knox buildings and this recently completed report.

This report has several parts. First is the methodology used for the report, second is a historic context of Fort Knox and surrounding areas, the third consists of survey results, the fourth is historic property inventory forms for all buildings constructed during the appropriate period, and the fifth are copies of building plans. Determinations for eligibility to the NRHP to be submitted to the KY SHPO are in this final report.

Archival Research

Archival research involves several tasks. The first task is the initial literature review. The second is to identify and locate primary research materials.

Literature review.

The research team used secondary literature to determine the general history of Fort Knox and the region, its natural history, and its geographical position. This involved reading published material on the history of Fort Knox and surrounding towns. Items looked at and reviewed included Camp Knox Completion Report (1919), the 2004-2008 Integrated Cultural Resources Management Plan (ICRMP), the 1995 Inventory Evaluation, and Nomination of Military Installations: Fort Knox, newspaper articles of the Fort Knox vicinity found at the Fort Knox Library, and photographic information found at Patton Museum.

Research material.

The research team then located primary research materials and additional secondary materials to establish a strategy to best utilize these resources. A member of the research team conducted a visit to the National Archives at College Park, Maryland, the Library of Congress, and the History Office of the United States Army Corps of Engineers on 31 January 2005 to 4 February 2005; where some historic photos were found.

This report is based primarily on the collections found at Fort Knox, including the review of cultural resource studies, historical accounts, real property data, construction program documentation, and visual information (photographs, technical illustrations, maps, charts, etc.). Most of this resources were provided by Environmental Management Division, Fort Knox Library, and the Patton Museum.

Site Visits

The research team conducted one site visit to familiarize themselves with the installation and its landscapes; and to survey and identify the buildings, structures, and landscapes. The site visit occurred on 12 July 2004 to 16 July 2004. During the site visit, researchers collected archival information such as real property cards, engineering drawings, and historic photographs from the installation and made preliminary identification of historic eligibility. Researchers conducted site reconnaissance on foot using photography, sketches, and note-taking to help determine if the buildings, structures, and landscapes components of Fort Knox were eligible for the National Register. The research team also met with points of contact at various installation offices in order to understand the installation development, land use changes, and landscape history.

Analysis

After the initial research was complete, the team analyzed the gathered information. The researchers outlined the historical context for the installation, identified changes in military mission over time, identified important chronological periods, established a geographical context, and identified historical themes.

Archival and field information was integrated throughout the course of the research. Using the archival sources, the research team discovered relevant historical information. As the field research identified specific building and structure type characteristics or relationships, the research team refined their questions and looked further in the archival records for answers. The integration of archival and field methods necessitated an integration of visual and written sources in the final report.

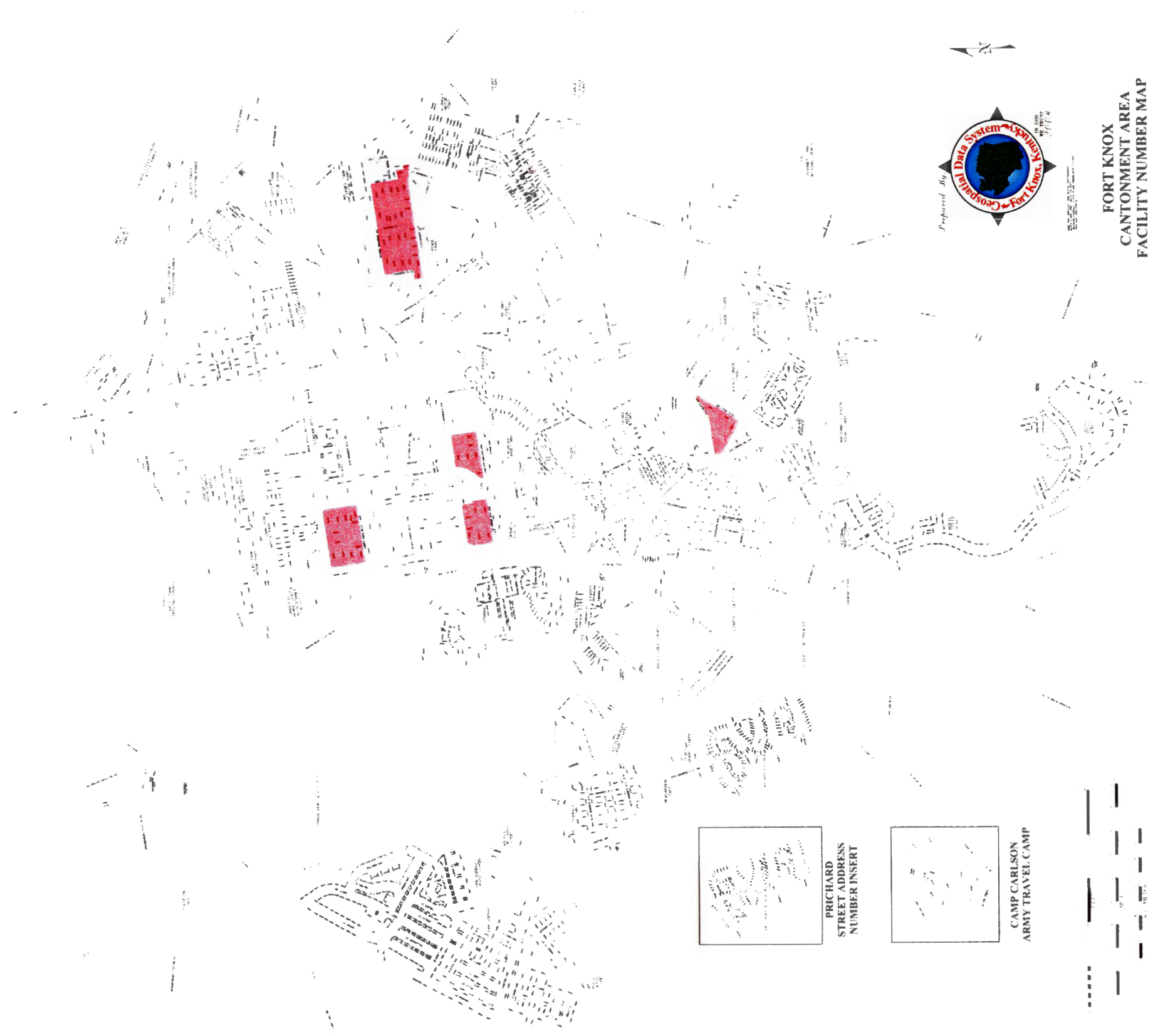


Figure 1. Fort Knox Cantonment Map with surveyed areas in red, 2004 (courtesy Fort Knox Environmental Management Division).

This inventory relied on historic maps and photographs to illustrate findings and provide evidence of the historical characteristics of the structures surveyed. For determining integrity of the buildings, the researchers relied heavily on real property cards and engineering plans for the original conditions, as few historic photographs were found for the buildings in question. The researchers relied on the information from the real property office and the engineering plans to determine size and areas of the buildings. Little written history was found on the development of Fort Knox.

The inventory is a series of forms, containing a site map, photographs, description of the range or building; history; architectural, landscape, and use integrity; the determination of eligibility; UTM coordinates, owner, owner's address, general condition of property, additions/alterations, and bibliography. Building plans are contained in Chapter 5 with each inventory form having a reference to the correct building plan.

Evaluation

The evaluation of the 1953-1957 BASOPS Cold War UPH properties for Fort Knox follows the guidelines in the *National Register Bulletin #15 How to Apply the National Register Criteria for Evaluation* and *National Register Bulletin #16 How to Complete the National Register Registration Form*. In addition, the survey followed the Army's guidance for "Documenting and Evaluating Historic Military Landscapes: An Integrated Landscape Approach."

Acknowledgements

People that assisted with the formation of this report are Dr. R. Criss Helmkamp, cultural resources manager; Matthew D. Rector, architectural historian; Candace Fuller, librarian/archivist at Patton Museum; Cozette Tucker, records holding; the Real Property Office; and the Engineering Office.

2 Context

Geographic Context

U.S. Army Garrison Fort Knox (Fort Knox) is a U.S. Army Training and Doctrine Command installation with the primary mission of training soldiers for the Armor and Cavalry Force. It is the home to the U.S. Army Armor Center where soldiers are trained to use, maintain, and command tanks and other armored vehicles. Fort Knox is a large military installation located in north central Kentucky, about 30 miles south of Louisville, Kentucky, and 18 miles north of Elizabethtown, on the highlands directly adjacent to the Ohio River bottoms. The installation has over 109,054 acres of land that covers parts of Bullitt, Hardin, and Meade counties. The towns of West Point, and Muldraugh, to the north of Fort Knox, are surrounded by the reservation, while the town of Radcliff is located to the south of the installation (see Figure 2).

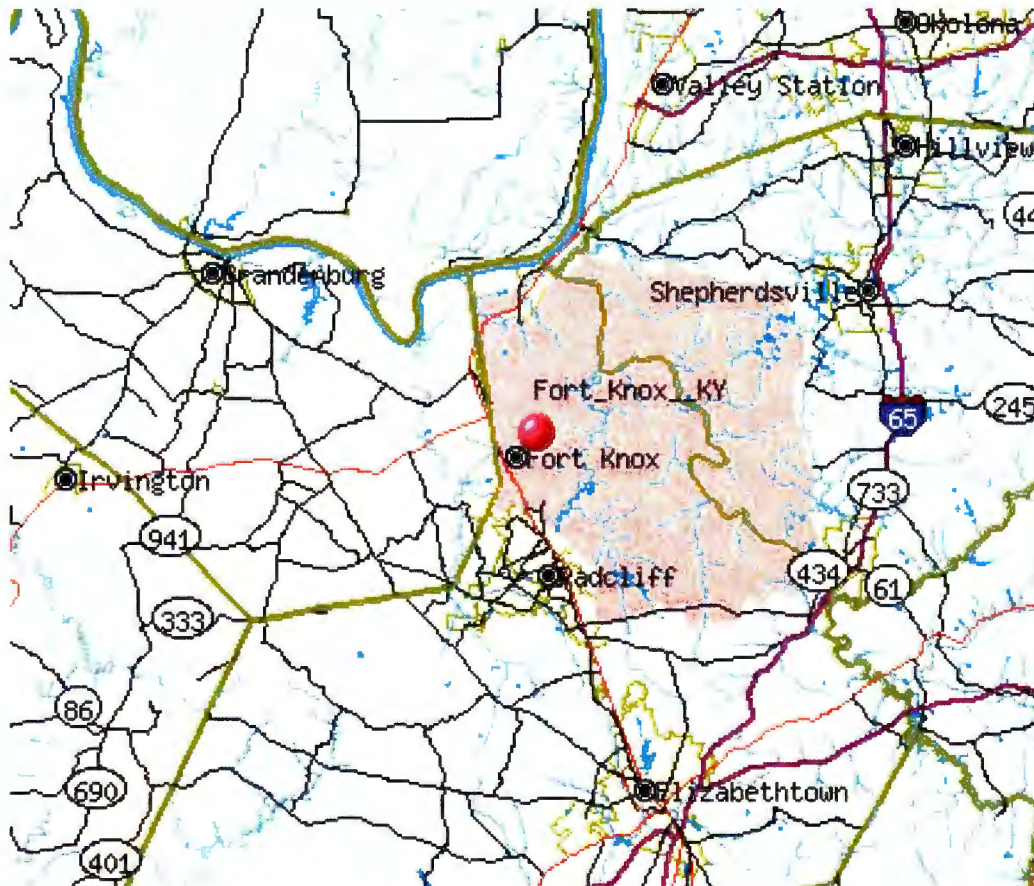


Figure 2. Fort Knox Location (US Census Bureau).

The central cantonment area of Fort Knox, comprised of some 5,685 acres, is located in the west-central portion of the installation, while the remaining installation acreage includes ranges, training and maneuver areas, live firing zones, and impact areas. U.S. Highway 31W provides primary access from Fort Knox to Louisville and elsewhere. The land itself, in the cantonment area, is rolling; while the land whereon the firing sectors are located is fairly level but the remainder of the range area is rugged (see Figure 3).*

Historic Development†

The first permanent settlement in the Fort Knox area began in 1780 when Colonel Andrew Hayes, Captain Thomas Helm, and Samuel Haycraft built small forts within in one mile of each other in Severns Valley near present-day Elizabethtown. This location of Fort Knox, originally named Camp Knox, was chosen for several reasons; it was near the center of population of the United States, it was near a large city, it was on high, well-drained land, it was situated on terrain ideal for artillery practice and the study of gases, and it was located at the intersection of several national highways.

The fort's history involves both the military reservation and the surrounding area. The land which today makes up Fort Knox was originally part of three Kentucky counties; Hardin, Bullitt, and Meade.

Hardin County was created in 1792 from portions of Nelson County as the fifteenth county formed in the state and was named for Colonel John Hardin, a notable pioneer and Indian fighter. Originally, the county measured 140 miles long and 60 miles wide with Elizabethtown as the county seat. It is bound on the north by the Ohio River and Bullitt and Meade counties; on the east by Bullitt, Nelson, and Larue counties; on the south by Larue, Hart, and Grayson counties, and on the west by Breckinridge, Grayson, and Meade counties. In 1918, one-twelfth of Hardin County was transferred to the U.S. Government to establish Camp Knox. 59,000 acres are now occupied by Fort Knox.

Bullitt County, carved out of Jefferson and Nelson counties, was organized in 1796 as the twentieth county formed in Kentucky. The county was named for Alexander Scott Bullitt, Kentucky's first lieutenant governor. Originally, the county measured 300 square miles with Shepherdsville as the county seat. Approximately 35,000 acres of Bullitt County are now occupied by Fort Knox.

Meade County, organized in 1823 from parts of Breckinridge and Hardin counties, was the seventy-sixth county formed in Kentucky and was named after Captain James Meade, who fought in the Battle of Tippecanoe. The county encompasses 305 square miles and is bordered by the Ohio River and Breckinridge and Hardin counties. Brandenburg is the county seat. Fort Knox now occupies 15,000 acres of Meade County (see Figure 4).

* Adapted from Major W. H. Radcliffe, *Completion Report Camp Knox Kentucky* (Construction Division of the Army, 1919)

† Adapted from AMEC Earth and Environmental, Inc., *Integrated Cultural Resources Management Plan, U.S. Armor Center and Fort Knox, Fort Knox, Kentucky* (Louisville, Kentucky, 2003); and Gary Kempf, *The History of Fort Knox* [on-line]; available from <http://www.hardinkyhistory.org/historyofFTKNOX.pdf>; Internet; accessed 15 July 2005.

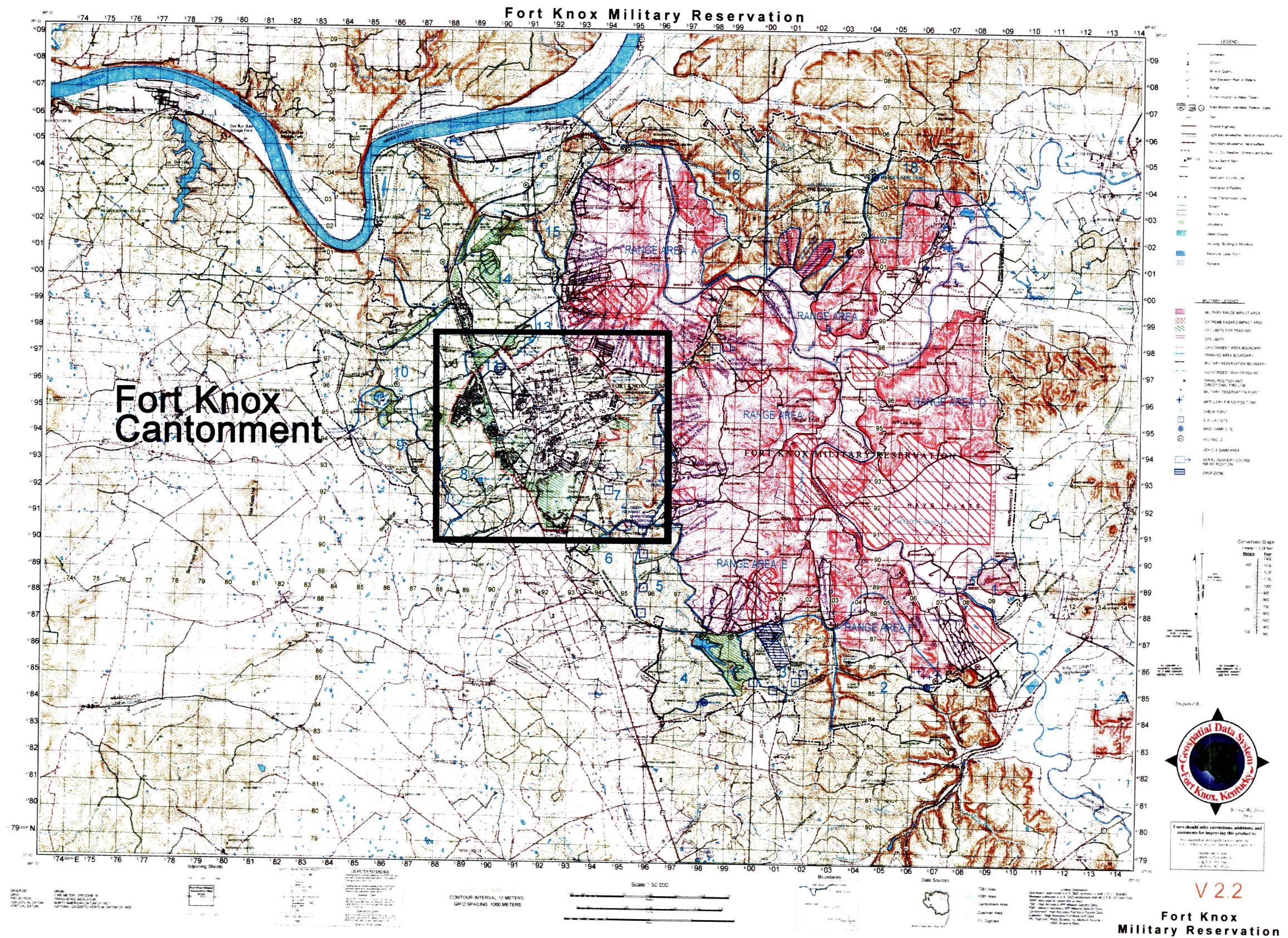


Figure 3. Fort Knox Installation Map, 2003 (courtesy Fort Knox Environmental Management Division).

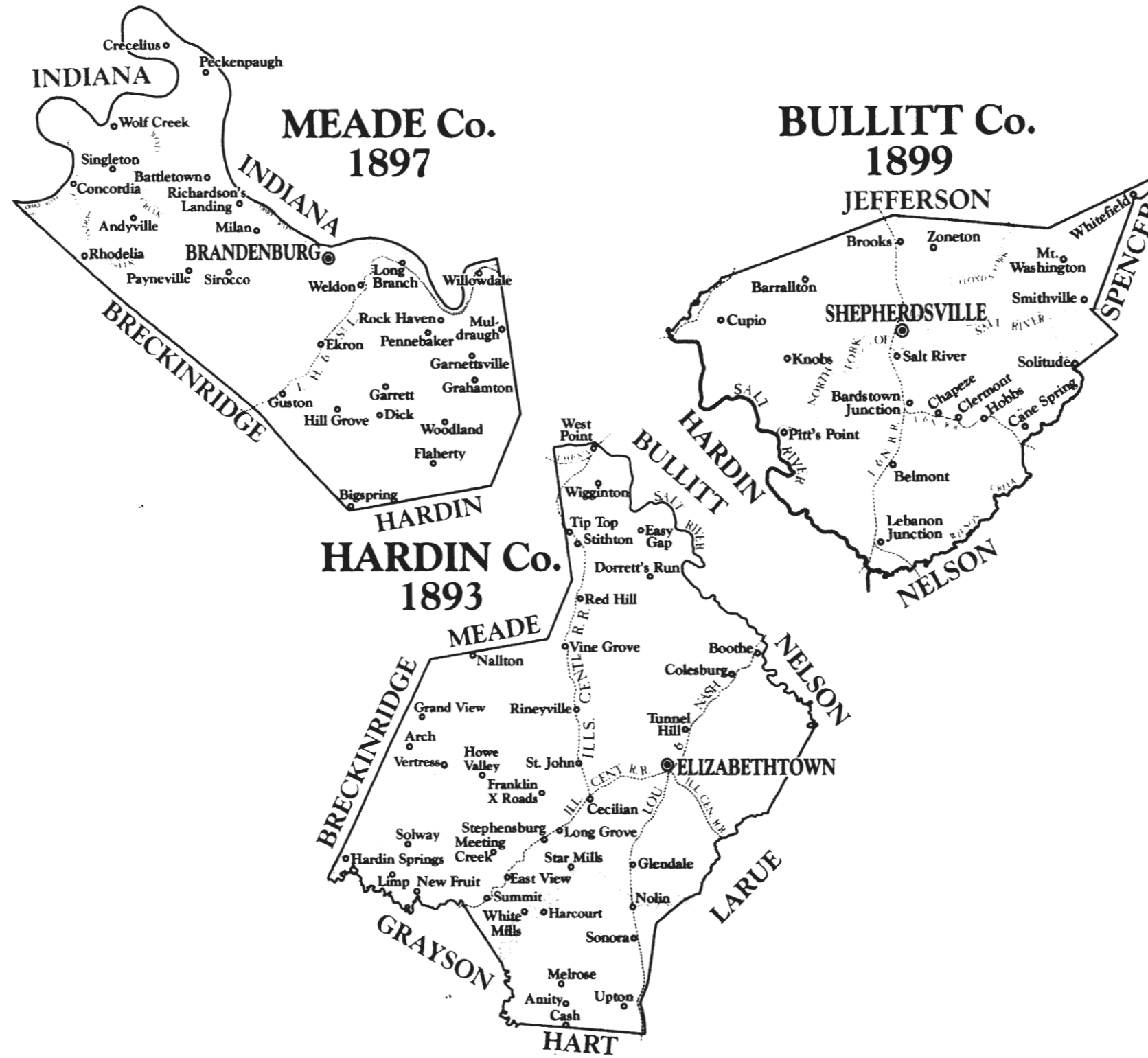


Figure 4: Hardin, Bullitt, and Meade counties (Images of America; The Land Before Fort Knox and ERDC-CERL).

Settlement accelerated during the 1780s, especially after the end of the American Revolution. By the turn of the century, hundreds of struggling pioneers who came to settle in the Fort Knox vicinity, provided a variety of marketing, manufacturing, and trade services to nearby farmers. These small towns surrounding Fort Knox flourished due to the advancements in transportation, which would carry local goods from the farm to local and regional markets. Agriculture was the primary economic pursuit of most residents of Hardin, Bullitt, and Meade counties during most of the nineteenth century. However, milling quickly became a primary industrial activity. By 1850 the three-county area had a least nineteen mills. By the mid-1850s, communities like Elizabethtown, West Point, Garnettsville, and Stithton had prospered through a mix of agriculture, commerce, and industry.

When the Civil War broke out in April 1861, the Kentucky General Assembly voted to remain neutral. Kentucky provided soldiers to both the Union and Confederate Armies. In 1862 fortifications and bridges were constructed north of the present reservation boundaries.

The decades between the end of the Civil War and the beginning of the twentieth century, the area that became Fort Knox fell into a general state of economic decline in relation to its northern counterpart states. Kentucky, as a state, was left behind in a period of rapid industrialization and urbanization. Thus, the development of the three-county area was slow in the postwar years.

However, economic troubles began to turn positive in July 1903 when the Secretary of War notified Kentucky's Adjutant General that the area around West Point had been selected as the site for Army training maneuvers.

Fort Knox Development*

The original area purchased for Camp Knox included the town of Stithton, parts of which were razed to make room for the camp. Modern military use of the area began when the War Department established Camp Young at nearby West Point in 1903. In October, 30,000 troops from cavalry, infantry, and artillery units in both the Regular Army and the National Guard of the surrounding states began pouring into Camp Young (see Figure 5). Despite the views of local citizens regarding the behavior of the young soldiers, the military judged the maneuvers as a success, even so much so that recommendations were given to the government to purchase the site as a permanent training facility. However, the training area was not selected as a permanent site.

* Adapted from the *Integrated Cultural Resources Management Plan; The Completion Report; and Kuranda et al., Inventory, Evaluation, and Nomination of Military Installations: Fort Knox, Kentucky* (Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., 1995).



Figure 5: Soldiers perform military maneuvers at Camp Young near West Point, Kentucky in the early 20th century (Images of America; The Land Before Fort Knox).

Despite the early interest in the training area, it was not until the United States entered World War I that the government acted. As the war progressed, the Army was fielding a growing number of artillery units and in May 1918, the War Department decided to buy land near West Point and the existing maneuver training area. Congress allocated \$1.6 million to purchase the first 40,000 acres for the camp. The site, was designated Camp Knox, named for General Henry T. Knox, Chief of Artillery for the Continental Army during the American Revolution and later the nation's first Secretary of War. Brigadier General Charles B. Blakely was assigned as the first commander. Over the next two years, the Quartermaster Department purchased 478 parcels of land in Hardin, Bullitt, and Meade counties.

Under the supervision of the Constructing Quartermaster, construction of a six-brigade artillery camp began in July 1918. Building of the camp was rapid. Original authorizations for camp construction were for housing for 60,000 men and 27,000 animals. The initial plans included facilities for six brigades of field artillery, two labor battalions, two balloon companies, a division headquarters, officer's training school of 10,000 men, aerial squadron, a remount depot, a Quartermaster's depot, an ordnance depot, a firing center, a veterinary hospital, a miniature range, an artillery park, and a base hospital with 2,500 beds.

By August 1918, construction was underway and 12,000 troops were stationed there, including artillery units, the 29th Aero Squadron and the 31st Balloon Company. However, at the signing of the armistice in November 1918, the camp was tentatively reduced to four brigades and construction on the original authorized facilities were cut short. By the following year, the capacity of the camp was reduced to 22,700 men totally three brigades. In addition, the officer's training school, a remount depot, one balloon company, and one labor company were eliminated. During World War I, Camp Knox comprised three distinct cantonments; one for the 1st Brigade, one for the 3rd Brigade, and one for the 4th Brigade (see Figure 6).

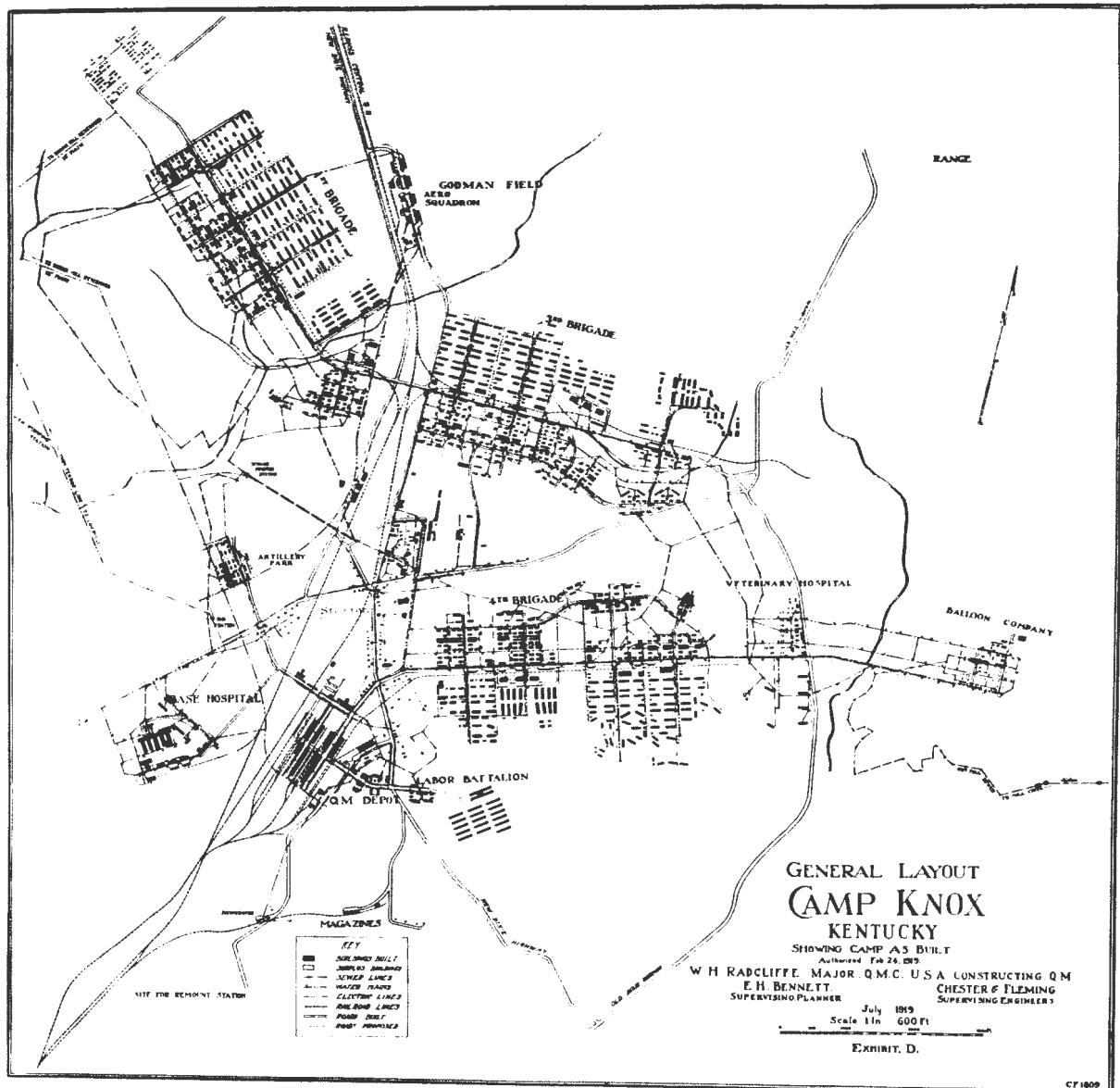


Figure 6: Camp Knox cantonment 24 February 1919 (Completion Report Camp Knox, Kentucky).

Due to the reduction in Army strength following World War I, many of the temporary camps and training camps were closed or inactivated by the Army. At first, Camp Knox served as a demobilization center until it was closed as a permanent installation in 1922. Because of postwar retrenchment, the artillery units at Camp Knox were transferred to Fort Sill, Oklahoma. Not wanting to completely close Camp, Knox, the War Department reevaluated the camp's purpose and use. It was decided in June 1922, that the existing camp would be used only for summer training within the V Corps, the Reserve Officer training, Citizen's Military Camp, and for the National Guard. The camp continued to serve as a summer training facility until 1932. In 1925, the post received the designation Camp Henry Knox National Forest, which was short-lived until 1928 when the Army assigned two infantry companies to the facility as its permanent garrison. The following January 1932, Congress

designated Camp Knox as a permanent garrison and renamed it Fort Knox, to reflect its new permanence as the home of the mechanized cavalry. Two cavalry regiments were transferred to Fort Knox and the process of replacing horses with machines began as these regiments merged to become the 7th Cavalry Brigade (Mechanized) in March 1932.

History of Mechanized Warfare*

While Camp Knox was a semi-active training camp, changes in military technology would decisively change the post's long-term mission. During the interwar years, the Army experimented with tanks and mechanized warfare. These experiments would generate substantial controversy between advocates of mechanization and defenders of the horse. But with the outbreak of World War II, the proponents of mechanization and tank warfare would triumph.

Tanks first appeared in World War I when the British employed them in mass, in battles such as the attack at Cambrai, France, in an attempt to break the stalemate of trench warfare and enable an infantry attack to succeed. Following the British example, on 26 January 1918, the United States created its own tank corps under the command of Brigadier General Samuel Rockenbach. The tank corps included the equivalent of five tank brigades, each with at least two battalions. However, even with its own tank corps, the United States Army continued to rely heavily upon its allies for support in armored warfare. In fact, by war's end twenty-six American tanks had been built but none had arrived overseas.[†]George S. Patton Jr. was chosen to organize and direct the Tank Center at Langres, France. Patton was one of the first American soldiers to distinguish himself in this type of warfare.

With the following of World War I, Rockenbach received orders to organize a peacetime tank corps at Camp Meade, MD in 1919. Because of reduced Army strength, the tank corps was also reduced and in the following year, the National Defense Act of 1920 abolished the tank corps entirely and assigned tanks to the infantry, thus, losing its status as a separate organization. With the signing of the Armistice, all public interest in armored tank vehicles ceased and military opinion of the machine's usefulness was divided.

On the other hand, the British Army continued to develop and employ mechanized forces following the war. As a result, this prompted the United States Army to develop its own mechanized force and in 1929, the War Department decided to create an experimental mechanized force and the government allocated funds for it. Major Adna Chaffee was to supervise the experimental force at Camp Meade and to develop the armored concept and conduct the initial maneuvers. Consequently, he would become a central figure in the development of mechanized warfare and of Fort Knox.

* Adapted from the *Integrated Cultural Resources Management Plan; The History of Fort Knox* (Kempf); Mildred Hanson Gillie, *Forging the Thunderbolt: A History of the Development of the Armored Force* (Harrisburg, Pennsylvania: Military Service Publishing Company, 1947).

† Gillie, *Forging the Thunderbolt*, 7.

The War Department felt that the experimental mechanized force was a success and that the tank would be essential to future offensive actions. Therefore, the Army assembled the Mechanized Force as a permanent organization at Fort Eustis, Virginia in the fall of 1930. It was organized as a combined arms force, which included armored cars, truck-drawn artillery, engineers, anti-aircraft artillery, and infantry tanks. However, this new permanent force was short-lived after General MacArthur disbanded the organization in 1931 and directed each branch to develop its own mechanized scheme.*

Mechanized Cavalry before WWII

Along with the decision to allow each branch to experiment with mechanization, the War Department permitted the organization of a mechanized cavalry. When the existing Mechanized Force was disbanded in October 1931 its headquarters and several tank and armored car units were moved to Camp Knox. Fort Eustis was too small and flat to provide the proper training area for speedy and mobile troops. Camp Knox was chosen as the new location of the mechanized cavalry regiment because of the varied terrain that it provided within its training area, thus was more suitable for the development of the mechanized force. In November 1931, the first element of the force, including personnel from the mechanized force from Camp Eustis, arrived at Camp Knox.†

In early 1933, the War Department suggested that a detachment of the mechanized cavalry participate in spring maneuvers with other military forces in the south. Chaffee protested against the idea stating that the force was not ready to display the skills and techniques to the public, in fear of disapproval and consequently lack of support for the mechanized force. The maneuvers were too important to the future of the Army. Chaffee was hoping that within a year the regiment would be able to be a combat team. When a proposal was again made to include a regiment in maneuvers at Fort Riley, Kansas in the spring of 1934, the reply was different. On 19 April 1934, the “Iron Horse Cavalry” roared out of Knox and headed towards Fort Riley (see Figure 7). Along the way, the regiment witnessed cheering crowds and an enthusiastic public. Upon arrival at Fort Riley, the 1st Cavalry Mechanized Regiment had to prove that their equipment and tactics could be used within the Army and not be mixed with a horse cavalry division but should stand alone. The maneuvers at Riley were to demonstrate that cavalry now includes troops of any kind equipped for highly mobile combat and not just mounted on horses.‡

* Gillie, *Forging the Thunderbolt*, 47.

† Ibid, 52.

‡ Ibid, 62-68.

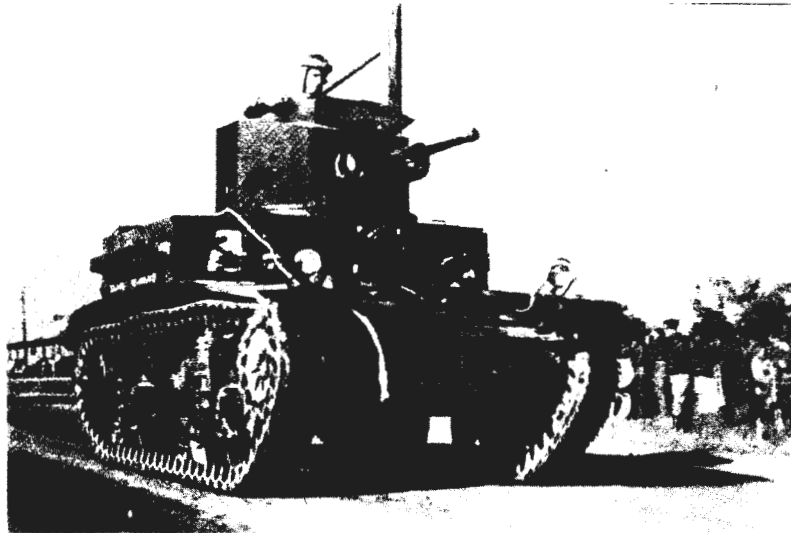


Figure 7: An M2A4 tank travels down a road at Fort Knox carrying a crew of four men (Images of America: The United States Army at Fort Knox).

Up to 1936, activities of the mechanized cavalry had been confined to modest exercises at Fort Knox against imaginary enemies and small-scale horse versus mechanized cavalry maneuvers at Fort Riley. In the summer of 1936, for the first time since its organization in 1931, the mechanized cavalry had a chance to test the doctrines of its founders against a large mass of Army troops. From this opportunity, and over the next two years, the mechanized cavalry underwent reorganization. The decisions made at that time were with regard to the types of equipment that the cavalry regiment should have versus the infantry regiments; whether or not the medium, light, or antitank equipment would best benefit the mechanized cavalry, infantry, or both. By the end of the 1930s, the government was already starting to prepare for war.

The pace of activity at Fort Knox picked up quickly in the late 1930s. The shockingly quick success of the German blitzkrieg into Poland in 1939 affected military tactics around the world, especially to the soldiers at Fort Knox. Because of the impact on tank advocates at Fort Knox, the soldiers pioneered the use of mechanized vehicles, while the post served as the center for cavalry mechanization and developed much of the tactics and doctrine that the Armored Force would use upon establishment. "On 10 July 1940, the War Department announced the creation of the Armored Force as separate command. The creation of a separate command allowed the War Department to bypass requirements for specific Congressional authorizations for another branch. The term Armored Force was selected because neither the infantry nor the cavalry had yet appropriated the term armor."* Chaffee was designated the first commander of the Armored Force and Fort Knox was designated the headquarters for this new organization. Consequently, Fort Knox would be the focal point for the growth of the Armored Force.

* AMEC Earth and Environmental Inc., *Integrated Cultural Resources Management Plan*, 90.

Establishment of the Armored Force

The beginning of World War II in September 1939 spurred American authorities to increase military expenditures in response to the German offense against Poland. The War Department, under pressure of Germany's success with the use of tanks, needed to increase its own mechanized efforts. The 7th Cavalry Brigade from Fort Knox was instructed to participate in maneuver exercises with the Third Army in northern Louisiana. With the creation of the Armored Force in 1940, the concept of mechanized units changed. The new concept of the Armored Force represented a significant increase in the roles of armor beyond that of the existing mechanized cavalry. The nucleus of the Armored Force was the 7th Cavalry Brigade (Mechanized) of Fort Knox and the Provisional Tank Brigade of Fort Benning, GA. However, on 15 July 1940, three divisions were activated; the 7th Cavalry Brigade (Mechanized) became the 1st Armored Division, while the 6th Provisional Tank Brigade became the 2nd Armored Division and the 70th Tank Battalion was established at Fort Meade, MD. From this comparatively small beginning, the American Armored Forces of World War II would develop.*

One of the first questions to be resolved was the organization of the armored division. From the outset, armored leaders recognized that an armored division required a mix of infantry and tank units. Under these circumstances, the customary use of purely infantry or tank regiments would be ineffective. Eventually the Army developed a system of "combat commands," which were flexible structures that mixed infantry, tank, and artillery units.†

Tables for organization to implement the armored division called for 9,500 officers and men for peace, 11,200 for war; 287 light tanks, 120 medium tanks, 431 other armored vehicles, 148 armored carriers; 1,388 other vehicles including motorcycles; 2,184 rifles and automatic rifles; 1,172 machine guns; 26 37 mm guns; 36 artillery pieces that were then 75mm but which were to be changed to 105 mm as soon as available; 8 other 75s for anti-tank defense; and 16 81 mm and 21 60 mm mortars.‡ In 1941, Chaffee secured \$650,000 from the War Department for an increased land purchase for Fort Knox in order to accommodate the increasing size of the Armored Force and the training ground and facilities that went along with it.

Long before the organization of the Armored Force, Chaffee had recognized the need for a school to train highly skilled specialists to handle the complicated machines and mechanized warfare. Consequently on 10 July 1940, the War Department authorized the establishment of a school at Fort Knox. Major General Stephen G. Henry and Major Robert G. Howie were selected by Chaffee as the new commandant and executive officer, respectively, of the new Armored Force School and Replacement Center upon its 19 September 1940 approval. The School and Replacement center were original planned together, but in October the Replacement Center was redesignated as a separate unit. The doors to the School opened in November 1940 to 200 officers and 2,000 enlisted men. The initial schedule of the School

* AMEC Earth and Environmental Inc., *Integrated Cultural Resources Management Plan*, 89-91.

† Ibid, 93.

‡ Gillie, *Forging the Thunderbolt*, 175.

called for a three-month training course for the officers and enlisted men in the specialized requirements of armored units, especially maintenance and tactics.*

In the meantime, the Armored Force Replacement Center had a huge task of building a training plant from scratch, which included buildings, training areas, and drill fields. The purpose of the Replacement Center was to provide a pool of trained replacements to the division, especially those in the field. The initial schedule of the Center called for a 12-week basic course (later extended to 13, then to 17 weeks). As advancements were made overseas with other countries' armored warfare, the battle training and techniques at the Center became more realistic.†

Later, an Officer Candidate School (OCS) was opened in May 1941 to train tank platoon leaders. From May 1941 to August 1945, 11,852 officers were commissioned through the OCS. In addition, a demonstration regiment was added to the school in 1942 to provide an element of realism to the training.‡

Chaffee's initial objective was, within a year's time, to have the strength of the Armored Force be near 70,000, a nine-fold increase over the original force, and by October have the Armored Force be ready for combat.

In June 1940, Chaffee fell ill and command of the 1st Armored Division was given to General C.L. Scott, who was hand-picked by Chaffee for his views and similar visions regarding the future of the Armored Force. The large task that lay at General Scott's hands was the transformation of a mass of straggling recruits and soldiers, many of whom had never seen a tank before, into a cohesive armored unit. As Chaffee lay ill, he was still focused on improving the Armored Force and gave advice to General Scott. One thing that he wanted to do besides focus on routine training of the divisions was the organization of additional GHQ tank battalions. These battalions were to be trained to provide additional attacking power and to be immediately adaptable to inclusion in groupings.§ At that time, the total number of reserve tank battalions under the command of the Armored Force was one, the 70th GHQ Reserve Tank Battalion (Medium) stationed at Fort Meade, MD. Chaffee proposed to utilize 18 scattered National Guard tank companies to provide personnel for the formation of four tank battalions immediately. Thus, from this proposal, on 25 November 1940, the 192d Tank Battalion was inducted at Fort Knox. Also three more battalions were organized at other installations across the United States.

After a six-month absence, Chaffee returned to Fort Knox. Upon his return to duty, Chaffee was faced with concerns from the War Department that attacked his plans and organization of the Armored Force. Attacks on the Armored Force Replacement Center, which was focused on the training troops for the armored infantry regiments, the signal, ordnance, medical, and every other component that was part of the armored division, was stating that the Center was duplicating the work of other specialized training centers. This tendency raised a basic problem of military organization for the War Department. Thus, the War Department wanted

* Gillie, *Forging the Thunderbolt*, 181-186.

† Ibid, 181-186.

‡ AMEC Earth and Environmental Inc., *Integrated Cultural Resources Management Plan*, 92.

§ Gillie, *Forging the Thunderbolt*, 194.

all training that was not strictly armored, tanks and armored reconnaissance related to be withdrawn from Fort Knox. Consequently, Armored Force leaders fought back and the battle to keep the Center as the core of the Armored Force was on. However, no matter what was said or what evidence was provided to show positive results of the training at the Center, the Armored Force leaders lost their fight and on 16 August 1941, it was directed that from that date on that only tank and armored reconnaissance troops would be trained at Fort Knox.

Not only were the organization and training tactics under scrutiny, the development of the armored equipment, tanks, were undergoing change as well. The size, weight, design, and maneuverability were changing. Chaffee refused to recommend the shift from light to medium tank regiments until the M-5 or its successor had been proven by experience. The Armored Force Board, which was established in 1940, played a vital role in developing new equipment. The Board experimented with new tank designs and modified the designs as appropriate.

Amidst the changing Armored Force organization and ideals, General Chaffee died on 22 August 1941. A year prior to his death, a statement that he had written was presented before the House of Representatives that contained some of his most significant recommendation regarding the Armored Force.

World War II – Armored Force

On 1 August 1941, Major General Jacob L. Devers, field artillery officer and youngest Major General in the army's land force, was named the second head of the Armored Force.* Even though Devers was not convinced of the use of an Armored Force, the need to have an artilleryman in charge was crucial to its advancement. By the summer of 1941, the importance of artillery and gunnery in mechanized warfare had emerged as an essential factor.

It was the battles overseas in Russia and Germany that this new concept of improved artillery in regards to tank and armored attacks sparked the United States to make a change in the organization of the Armored Force. The guns were proving to play a deciding role in mechanized warfare, this time in defense. Before Devers was in charge of the Armored Force and still under Chaffee command, attempts were made to improve artillery in the Armored Force. Chaffee recommended that the 105mm howitzer replace the 75mm guns for the armored artillery batteries. Upon the arrival of General Devers at Fort Knox, the new 105mm howitzer-medium tank experiment actually saw light. A new model was constructed and experimented; by summer of 1942 the first howitzers were in the hands of the troops.

Devers recommended that not only the ability of the artillery be used to destroy the antitank guns but also the addition of "observation" airplanes would provide a greater advantage for the artillery. On 19 June 1942, the Armored Force was authorized to include eight liaison planes as an organic part of the armored artillery of the division.†

* Gillie, *Forging the Thunderbolt*, 208.

† *Ibid*, 215.

In March 1942, the Army Ground Force was established and the Armored Force became a part of it. Changes were made in the armored division as a result of the Army maneuvers of 1941. The 1942 change abolished the brigade form of organization and substituted the regimental form instead. However, more significant than this change within the armored division was the reversal of the original ratio of two light tanks to one medium tank. By March 1942, it could no longer be denied that the medium tank was destined to be the major performer in the North African theatre of war.

As the war unfolded abroad and antitank resistance increased, British and German tank generals employed more infantry in the mechanized battles. The effect of such growing importance in the armored combat team was the addition of an extra battalion of infantry to the infantry component of the armored division. Other portions of the armored division that underwent alteration in 1942 were the armored reconnaissance battalions.

The 1941 maneuvers proved that the Armored Force was inexperienced and lacked the training of company officers. Thus, a rigorous training period began. No branch of service was deemed of such excellence as to be exempted from the intensive training program. All were included – infantry, artillery, cavalry, and the armored force. The high point of the Armored Force training program was witnessed within the 2nd Armored Division. General Patton was in charge of finding a remote desert location that would be suitable for the training of the division. He was to find a spot somewhere in the southwestern part of the United States resembling the desert and mountainous regions of North Africa.* Known as the Desert Training Center and located in the southeastern Mojave Desert, California the 18,000 square mile training ground was initially established to train troops in desert survival and warfare, in anticipation of a battle with General Rommel's North African Corps.

On 8 November 1942, the 1st Armored Division of Fort Knox under the command of Devers and the 2nd Armored Division of the Desert Training Center under the command of General Patton witnessed the first attacks on the shores of North Africa.

World War II – Fort Knox

On 7 December 1941, there were five armored divisions in varying stages of training. In the months following, money and men poured into military posts throughout the country, and one after another, more divisions were established. On 15 February 1942, the 6th Armored Division was activated at Fort Knox and then moved to Camp Chafee in Arkansas. On 1 April 1942, the 8th Armored Division was formed at Fort Knox as a training unit and later became a regular combat armored division in February 1943 when it was transferred to Camp Polk, Louisiana. The 8th Division's functions were assumed by the 20th Armored Division. Several other armored divisions reformed at various installations.

Fort Knox had expanded in various military activities before and after World War II, by 1943 the total area of the installation had tripled in acreage to approximately 110,000 acres, and over 2,900 buildings were constructed.

* Gillie, *Forging the Thunderbolt*, 226.

As the Armored Force grew and the United States entered World War II, the school expanded proportionately. From an initial cadre of 155 officers and 1,458 enlisted men in October 1940, the school grew to more than 700 officers and 3,500 enlisted men by May 1943.

The Armored Force School, at the peak of its operation during the war, operated on two daily shifts to satisfy the demands for qualified armor soldiers. The training reflected the rapid evolution of armored warfare doctrine, which changed constantly in the face of battle experience and in the alterations to the force structure and its tables of organization and equipment. Some of the buildings used by the school reflected these new doctrines and techniques. Building 1538, just off of First Avenue (now Eisenhower Avenue), was built in the shape of a Landing Ship Tank (LST) to train soldiers how to load and unload armored vehicles for transport at sea (see Figure 8).*



Figure 8: Landing Ship Tank (LST), located at Fort Knox, was used to train Armored Force soldiers (Images of America: The United States Army at Fort Knox).

Not only was the performance of the equipment tested and improved, but the soldier's performance while working within the confined space of these new motorized machines was tested and evaluated. The soldier's performance depended heavily upon his working conditions. Thus, in February 1942, the Army established an Armored Force Medical Research Laboratory to conduct research on the human factors of a tank.

During the course of the war, the nation's Armored Force grew to include sixteen armored divisions and over one hundred separate tank battalions and mechanized cavalry squadrons.

In July 1943, the term "Armored Force" was changed to "Armored Command," and later to "Armored Center." These changes in name reflected a diminishing authority over tactical armored units and more attention towards training and doctrine functions. In October 1945, the Armored Center officially closed and its functions were assumed by the Armored School.†

* Kempf, *The History of Fort Knox* [on-line].

† AMEC Earth and Environmental Inc., Inc., *Integrated Cultural Resources Management Plan*, 93.

Post-World War II – Fort Knox

The importance of armored units to the American Army in World War II ensured a permanent place for armor. The Armored Force of World War II had been a temporary expedient, but now a permanent organizational structure was required. In 1947, the Army started to assign all armored officers to the cavalry. In 1949, Army publications began to use the term “armor cavalry.” Congress finally settled the question with the Army Reorganization Act of 1950, which officially established the Armor Branch.* In addition, on 15 July 1947, the replacement center at Fort Knox was named the 3rd Armored Division

Following Germany’s defeat in World War II, the United States Army assumed responsibility for maintaining security and order in the American Occupied Zone of postwar Germany and thus the U.S. Constabulary was formed. Soldiers who were assigned to the United States Constabulary needed to attend special schools and training programs to prepare themselves for their roles and responsibilities. In order to provide the proper training of these soldiers, the Constabulary School was established in the Occupied Zone. The Armored School at Fort Knox served as the model for the Constabulary School and its related curricula training programs.†

Many World War II temporary camps that had closed in 1945 were reopened to train troops bound for Korea. Due to rapid demobilization after World War II, little construction was done at military posts after World War II. However, Fort Knox remained an active installation in post-World War II years.

Korea and the Cold War – Fort Knox‡

As the 1950s emerged, the demand for improved military weapons and equipment for the Korean Conflict led to a major involvement of Fort Knox. The Armor Center was responsible for determining the types of weapons, combat vehicles, and equipment necessary for Armor and Cavalry soldiers faced with the beginnings of the Cold War. Ultimately, Fort Knox served as a test site for Armor vehicles and materials.

From the 1940s to the 1980s, such research activities on combat development, equipment and material testing, and soldier training were shaped by the need to defeat a possible invasion of Central Europe by Warsaw Pact forces. The principal threats to American units were the Soviet tank and mechanized units. As a result, these were used as a model of comparison for American combat development efforts. Originally, the Armored Force Board oversaw the testing at Fort Knox.

Since the years after World War II, Fort Knox has been instrumental in introducing new armor such as the M-48 Patton tank, M-60, M-1 Abrams and M-2/M-3 Bradley tanks, and most recently, the Stryker armored vehicle.*

* AMEC Earth and Environmental Inc., *Integrated Cultural Resources Management Plan*, 94.

† Robert S. Cameron, “Fort Knox Cold War Contributions” (2001).

‡ Ibid.

New combat development focused on the ability to destroy the Soviet counterpart, including long range destroying capabilities. Throughout much of the Cold War, fire control systems, optics, and antitank ammunition were considered as high priority developments. Thus in 1972, the Main Battle Tank Task Force was established at Fort Knox.

In the wake of World War II demobilization and downsizing and as the Korean Conflict emerged and the beginning of the Cold War developed, Fort Knox was responsible for the training of personnel from basic trainee level up to the brigade commander's level. Officer, enlisted, and non-commissioned officers were trained on rifle ranges that utilized targets that resembled a Soviet or Chinese soldier. In the late 1940s, the Army selected Fort Knox for implementation of its Universal Military Service Experimental Unit. The unit was responsible for training drafted soldiers in a compressed timeline.

In addition to the equipment development and training tactics performed at Fort Knox during the onset of the Korean Conflict, Fort Knox and the Armored Center also established the doctrine and tactics for Armor and Cavalry units from platoon to brigades. During the Cold War, most doctrinal and tactical publications highlighted Soviet methods of conducting battle.

The primary missions of Fort Knox during the 1950s included serving as home for the Armored School and an armored division training center; as a permanent location for the Army Field Forces Board No. 2, conducting research into armor warfare; and as a location for the Medical Research Service Laboratory. In 1955, the Armored Combat Division was transferred to Fort Knox, and the principal mission of the installation since then has been basic combat training and advanced individual training in armored vehicles.

Changes in Cantonment Concept and Layout

Forts Become Installations

In the 19th century Army posts were considered to be "frontier forts." At first there was little standardization, with buildings constructed of local materials and designed for a specific mission. Conventional post design focused on a central parade ground around which barracks, officer housing, and administration buildings were laid out, and architectural styles varied widely.

Beginning in World War I, the Army developed a comprehensive set of standardized building designs, which could be used interchangeably in creating a camp. These structures were very simple in design and construction, with wood framing and sheathing constituting the main materials. Thus, these structures were not intended to last long or to provide luxurious accommodations.

* Matthew D. Rector, *Images of America; The United States Army at Fort Knox* (Charleston, South Carolina: Arcadia Publishing, 2005), 128.

During the early part of the 20th century the Army began developing standardized building plans to reduce design costs and to better equip buildings inhabited by soldiers. This practice was strongly advanced by the Housing Program of 1926, Public Law No. 45. This initiative provided construction funds to improve military housing, much of which had been temporary construction built for World War I and was too dilapidated for continued use. The program replaced run-down wooden housing with permanent brick barracks, while elaborate subdivisions laid out for officers, all unified through a carefully planned matrix of roadways, plantings, and architectural design features that provided “a park-like atmosphere.”* Housing was constructed using fireproof materials, electricity, central heating, and indoor plumbing. Enlisted men were housed in open squad rooms, while noncommissioned officers were provided with semi-private rooms.

Many of the temporary camps retained after World War I were improved through the construction of permanent facilities. The Quartermaster Corps carried out responsibility for design and construction of permanent housing and support facilities. Trained and experienced professional talent, including both military construction experts and civilian consultants in engineering, landscaping architecture, architecture, and planning were relied upon in the construction program. During the late 1920s, when initial project planning and construction of these permanent facilities began, Major General B. Frank Cheatham headed the Construction Division. The staff included several notable engineers, architects, consultants, and planners. George B. Ford was one of the most notable consultants. He reviewed proposed installation plans, combining concepts from the City Beautiful and Garden City movements. Ultimately, the Construction Division sought to design functional buildings that were both aesthetically attractive and cost effective.†

The German invasion of Poland on 1 September 1939, and the eruption of World War II spurred a major reorganization of the Army, including a merger of the Construction Division of Quartermaster Corps with the Corps of Engineers. Each Engineer District was assigned responsibility for a different high-priority mission involving the construction of airfields, housing, hospitals, depots, etc.‡

Even though, permanent construction of troop housing was witnessed at several installations, a majority of Army housing construction in the early 1940s focused on the rapid erection of mobilization-type two-story wood frame temporary barracks and supporting facilities. A series of standard barracks designs, along with the supporting buildings layouts, were developed and implemented at numerous installations across the United States; the War Department referred to these standard plans as the 700 and 800 series. These two series of drawings constituted the bulk of temporary cantonment construction throughout the War Department during World War II.§

* Arnold F. Swanberg, *The Development of Army Planning Process: A Case Study of Fort Lewis* (Washington, 1982), 65.

† AMEC Earth and Environmental Inc., *Integrated Cultural Resources Management Plan*, 88.

‡ Corps of Engineers History Office (CEHO), “Louisville District Military Mission” in *The Falls City Engineers: A History of the Louisville District Corps of Engineers* (DC: Headquarters, U.S. Army Corps of Engineers, 1974).

§ AMEC Earth and Environmental Inc., *Integrated Cultural Resources Management Plan*, 91.

The 700 series consisted of buildings designed in the 1930s to be used in a future emergency. The 700 series was initially intended to be a modified version of the 600 series. However, the 700 series temporary barracks type incorporated changes that reflected the need for longer troop occupancy and higher living standards. Durability was another important consideration; therefore, the 700 series barracks design substituted concrete foundation piers for the wood piers originally found on the 600 series. An aesthetic and functional change added to the 1940s temporary barracks was the addition of “aqua medias,” an overhanging eave unit which circumscribed the building above the first floor windows and served to keep water off the structure, which was an important consideration on all-wood buildings (see Figure 9).*



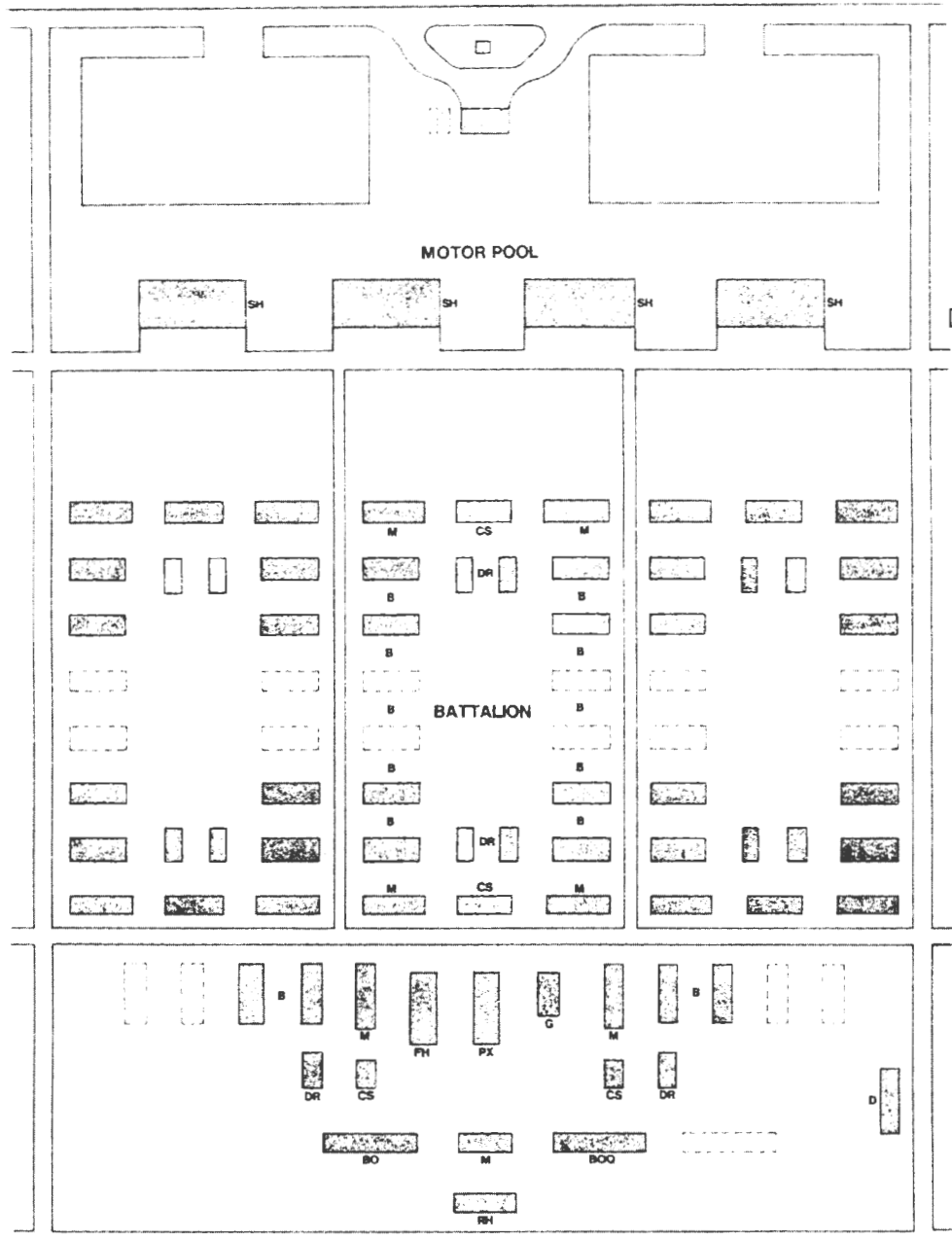
Figure 9: Typical barracks (700 series), 1941 (Library of Congress).

The 800 series consisted of refinements of the 700 series. The plan and shape of the barracks was unchanged; however, unnecessary embellishments were stripped and the structural systems were strengthened.

The War Department envisioned that World War II cantonments be built on 125-man company blocks. Each company unit would contain two 63-man barracks, one mess hall, one recreation building, and one supply building. Troop organization was a major factor in cantonment design; however, the problem with construction of these temporary structures and cantonment areas resulted in the fact that the Army simply could not state definitively what size, shape, and capacity the army units would take.† At first, camps were planned to facilitate quick access to training grounds, rifle and artillery ranges, armored division grounds. Thus, barracks were located near the periphery of the camp (see Figure 10).

* Diane Shaw Wasch et al., *World War II and the U.S. Army Mobilization Program: A History of 700 and 800 Series Cantonment Construction*, (Washington DC: Government Printing Office), 12.

† *Ibid*, 35.



- | | |
|----------------------------|--------------------------|
| B BARRACKS | FH FIELD H HOUSE |
| BO BATTALION OFFICES | G GUARD HOUSE |
| BOQ OFFICERS BARRACKS | M MESS HALL |
| CS COMPANY OFFICE & SUPPLY | PX POST EXCHANGE |
| D DISPENSARY | RH REGIMENT HEADQUARTERS |
| DR DAY ROOM | SH STORE HOUSE |

Figure 10: Example of World War II cantonment design and layout of regimental grouping, 1940 (World War II Temporary Military Buildings).

By the conclusion of the war, military leaders had come to view Army posts not as frontier forts or campuses but more as industrial installations. This new concept was driven by economics and the need for long-range military master planning on a national scale. To support planning effectiveness and efficiency, new building designs were developed to suit the purposes of multiple installations instead of being tailored to each specific locale and landscape.* By 1950 the post planning mission was centralized and assigned to the Corps of Engineers.

By the early 1950s, the most obvious departure from traditional Army post infrastructure could be seen in the layout of new standardized barracks, which no longer faced a central parade ground. The principal reason for the change was the widespread mechanization of combat units spurred by the exigencies of World War II. “With the advent of mechanized military units,” stated a 1951 Department of Defense planning document, “the ‘Parade Ground,’ despite the considerable area allotted to it on the typical layout diagrams, no longer meets the requirements for any complete ‘review’ of troops plus their motorized equipment.”†

Cold War era Army planning goals required troop housing proximity to training ranges suitable for a large, mechanized Army. The change in billeting design and layout was not simply driven by progressive increases in unit size but by the need to change the spatial relationship between soldier housing and the training facilities as required for modern military technologies.

Early Cold War Army Housing Programs

After World War II, the Army determined that much of its wartime infrastructure was either redundant or too deteriorated to be useful for a peacetime military mission.‡ Nevertheless, existing facilities, including temporary World War II buildings, were needed after the war for troop housing, administration, and training, including mobilization activities in support of the UNC’s mission in Korea (see Figure 11). Many World War II-era bases that had closed in 1945 were reopened to train troops bound for Korea because military posts undertook little new construction. Only two minor appropriations for military construction were approved by the Congress from 1945 – 1950. However, in 1947, the newly established National Military Establishment (NME) decided to consolidate those appropriations under a single construction budget. Then, in 1949, the newly renamed Department of Defense (DoD) appointed the Carpenter Committee to review the housing needs of all three services. The committee determined that much of the wartime temporary wooden construction was in such poor condition that it posed health and safety hazards to soldiers. The committee concluded that a massive construction program would be required for modernization.§

* Swanberg, *The Development of Army Planning Process*, 146.

† Swanberg, *The Development of Army Planning Process*, 150.

‡ House, Military Public Works Appropriations for 1952, Hearings before a Subcommittee of the Committee on Appropriations, 82nd Cong., 1st sss., 554.

§ Swanberg, *The Development of Army Planning Process*, 142.

Continental United States troop-housing analysis, Sept. 22, 1951

Station	Strength July 31, 1951	Existing spaces		Requested fiscal year 1952				Mobilization requirement
		Permanent	Temporary	Permanent		Temporary		
				Spaces	Dollars	Spaces	Dollars	
First Army								
Fort Dix, N. J.	27,740	900	29,914	6,075	14,560,000	None	4,000	51,900
Camp Riker, N. J.	11,055	None	31,100	None	None	None	3,870,000	36,000
Second Army								
Fort Campbell, Ky.	27,262	730	25,724	8,970	21,965,000	None	None	58,850
Fort Knox, Ky.	20,480	2,787	10,277	8,430	21,711,000	None	None	37,250
Fort Meade, Md.	21,254	1,625	20,886	2,400	5,960,500	None	None	35,250
Third Army								
Fort Benning, Ga.	26,265	4,791	16,827	7,545	18,610,000	None	None	66,500
Fort Bragg, N. C.	37,841	914	15,290	10,345	25,710,000	None	None	59,350
Camp Gordon, Ga.	22,023	None	27,853	None	None	4,284	3,294,000	49,150
Fort McChesne, Ala.	1,866	1,865	1,865	3,811	8,208,400	2,000	1,940,000	35,950
Fourth Army								
Fort Bliss, Tex.	21,673	929	26,174	3,825	14,808,600	None	None	30,050
Fort Hood, Tex.	21,732	None	28,153	1,350	3,240,000	None	None	33,800
Fort Scott-Houston, Tex.	11,922	1,000	9,645	225	540,000	None	None	20,000
Fort Sill, Okla.	21,214	4,433	15,410	3,555	9,771,900	None	None	37,550
Sixth Army								
Fort Lawton, Wash. (including Yakima and Madras)	19,289	4,985	13,721	6,678	18,172,800	3,640	3,493,000	71,161
Yuma Test Station, Ariz.	373	None	498	None	None	120	300,000	600
Camp Irwin, Calif.	1,456	None	1,920	None	None	3,000	1,000,000	12,000
Fort Ord, Calif.	17,137	None	21,612	7,050	17,909,000	None	None	51,700
Other Army								
Fort Belvoir Arsenal, Tex.	1,360	None	2,000	150	1,080,000	None	None	5,900
Fort Belvoir Arsenal, Tex.	657	None	848	390	965,500	1,520	1,170,000	17,200
Quartermaster	310	None	None	105	328,000	None	None	400
Comptroller General Depot, Okla.	12,258	900	25,687	450	1,080,000	None	None	35,350
Fort Lee, Va.								
Signal								
Fort Monmouth, N. J.	19,709	2,364	9,341	1,500	3,600,000	None	None	15,020
Signal Photo Center, N. Y.	252	None	177	225	510,000	None	None	800
Two Rock Ranch, Calif.	463	173	103	48	104,000	None	None	750
Engineer - Fort Belvoir, Va.	13,572	1,434	18,248	4,700	11,421,000	None	None	27,800
Transportation								
Fort Rucker, Va.	17,063	None	16,269	2,000	6,000,000	3,000	2,902,300	57,500
Oakland Army Base, Calif.	565	220	2,080	675	1,020,000	None	None	4,000

Figure 11: United States Army troop housing chart, 22 September 1951 (House, Military Public Works Appropriation 1952).

A review of construction needs at the Department of the Army and DoD levels projected that the overall cost of military construction over the next 5 years would be \$12 billion, including \$1.2 billion for the Army in FY52 alone. The goal was to house the peacetime Army in permanent barracks on permanent installations. In appropriations hearings, the Army's stated position was that such an approach was ultimately the most economical because "although temporary housing costs less initially, its high maintenance costs makes it far more expensive in the long run."^{*}

During the Korean War Army troop strength rose from 593,167 in 1950 to 1,533,815 in June 1953.[†] The resulting surge in demand for Unaccompanied Personnel Housing (UPH) spurred a large wave of new construction. The new facilities had to meet the Army's mission needs and cost constraints while also complying with military policy on housing standards for uniformed personnel. Those requirements had a great impact on overall UPH design and layout. In order to reduce facility acquisition time and construction costs, both barracks and Bachelor Officers' Quarters (BOQ) were based on standardized designs that could be replicated on any installation.[‡]

^{*} House, Military Public Works Appropriations for 1952, Hearings before a Subcommittee of the Committee on Appropriations, 82nd Cong., 1st sess., 1951, 540-541.

[†] Kuranda et al. *Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)* (Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., 2003), 3-21.

[‡] *Ibid.*, 3-24.

The Congress had established a construction ceiling for barracks of \$1,700 per soldier for the FY50 Military Construction Program. To meet this target, as well as the Army's requirement for a housing design to promote company unity, the *hammerhead* barracks design were developed; named because their basic floor plan resembled the profile of a hammer (see Figure 12). Separate hammerhead designs were developed to house 105, 165, or 225 soldiers. The hammerhead-style barracks were designed to consolidate troop housing, dining facilities, and administration facilities for an entire company within a single efficient building. Standardization and uniformity were character-defining elements of all three hammerhead barracks types. * The first hammerhead barracks were introduced in 1951. Most of the construction took place between 1952 – 1957, and continued as late as 1958.

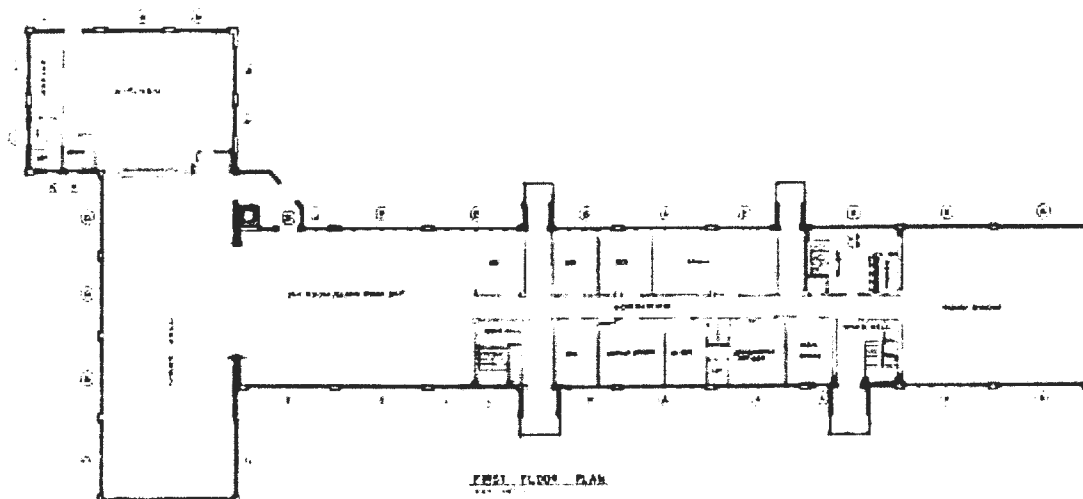


Figure 12: Representative hammerhead floor plan (Kuranda et al, 2003, 4-21).

Fort Knox Evolves and Grows

Early Site Layout

Rapid construction of the cantonment of Camp Knox during World War I began in 1918, with original authorizations for the construction of housing for 60,000 men and 27,000 animals. However, by the following year, the capacity of the camp was reduced to 22,700 men totaling three brigades. One major feature of the new construction at Camp Knox was Godman Army Airfield, which opened in 1918 as the first airfield in Kentucky. The construction materials used to build the Camp Knox cantonment were considered temporary, not intended to last for an extended period. Most of the structures were simple wood frame buildings (see Figures 13 and 14). Camp Knox resembled other World War I temporary cantonments in its hasty design and construction, and by the mid-1920s were

* Kuranda et al. *Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)* (Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., 2003), 3-26.

deteriorating rapidly. Poor living conditions for soldiers became a continued source of complaints. While other Army posts received new buildings during the late 1920s, Camp Knox retained its dilapidating temporary structures. At that time, the camp was only used as a summer training installation, and thus, did not justify the construction of any new permanent facilities.



Figure 13: Construction of temporary World War I barracks at Camp Knox (Images of America: The Land Before Fort Knox).

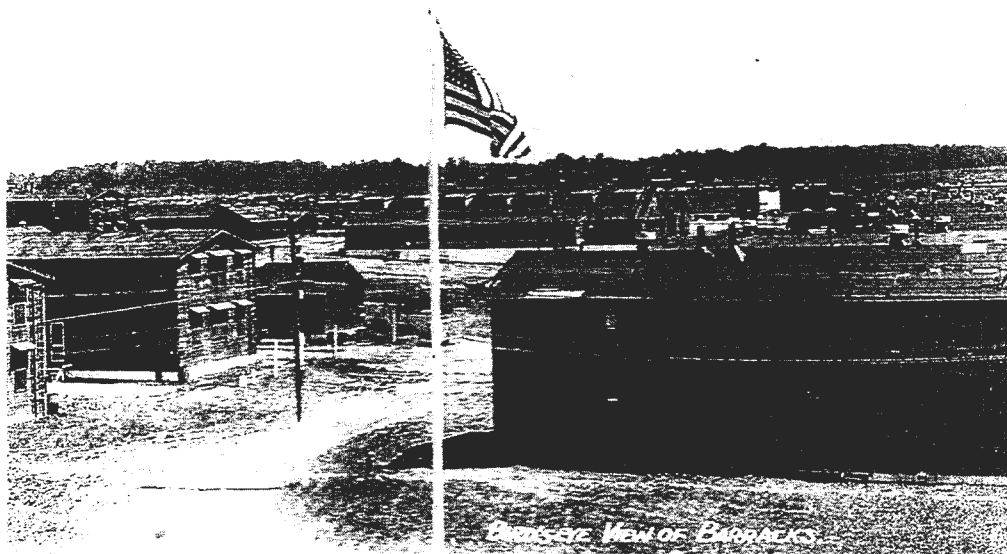


Figure 14: View of World War I temporary barracks at Camp Knox in 1920 (Images of America: The Land Before Fort Knox).

In January 1932, Congress designated Camp Knox as a permanent garrison and renamed it Fort Knox, to reflect its new permanence as the home of the mechanized cavalry. The mechanized convoy from Eustis, Virginia arrived at Fort Knox to find all of the housing and barracks in need of repair. The structures were not only leaking but they also lacked

adequate heating. Until they could be made more habitable, the enlisted men and their families lived at the Hostess House and the officers and their families lived at the Central Mess on “B” Street (see Figure 15).^{*} Specialized structures associated with the development of the mechanized cavalry that needed to be constructed included motor park garages, ordnance and tank maintenance shops, and the typical cantonment buildings, such as barracks, headquarters, and other support facilities.



Figure 15: The Hostess House, originally constructed in 1919, was used in the early 1930s to house the influx of enlisted men and their families as they were assigned to the new mechanized cavalry at Fort Knox (Images of America; The United States Army at Fort Knox).

Many temporary camps retained after World War I, including Fort Knox, were improved through construction of permanent facilities. The main cantonment of Fort Knox was constructed between 1933 and 1940. The Quartermaster Corps was responsible for the design and construction of the 1930s post renovations. As a result of their planning efforts, standardized plans were developed and used throughout the 1930s. Though standardized, the architecture and planning values were to reflect regional architectural tradition and climate. Consequently, the design scheme chosen for Fort Knox was Georgian Colonial Revival (see Figure 16).

^{*} Gillie, *Forging the Thunderbolt*, 54.



Figure 16: Most of the buildings constructed in the cantonment in the early 1930s were permanent structures designed in a Georgian Colonial Revival style (Images of America; The United States Army at Fort Knox).

With President Roosevelt's New Deal laws in 1933, money was scarce, especially within the military. However, in late summer 1933, a large sum of money designated for construction at Fort Knox became available; this was the first good news out of Washington in some time. A \$2.8 million appropriation for new construction financed much of the post's brick housing for non-commissioned officers' (NCO), field officers' quarters, company officers' quarters, a hospital, a new headquarters building, barracks, officers' mess, an administration building, a fire and guard house, and a radio station (see Figures 17-12).^{*} To support mechanized operations, the Army also constructed a garage complex, an ordnance warehouse, an ordnance shop, a quartermaster warehouse, and above-ground ammunition magazines. The first permanent construction included brick barracks for the 1st Cavalry Regiment.[†]

^{*} Gillie, *Forging the Thunderbolt*, 60; and Gulf Engineers & Consultants, Inc., *Integrated Cultural Resources Management Plan*, 87.

[†] Gulf Engineers & Consultants, Inc., *Integrated Cultural Resources Management Plan*, 89.



Figure 17: Single non-commissioned officers' quarters, 1934 (Images of America: The United States Army at Fort Knox).



Figure 18: Field officers' quarters under construction in 1934 (Images of America: The United States Army at Fort Knox).



Figure 19: Construction on the hospital began in 1933 and was completed in 1935 (Images of America: The United States Army at Fort Knox).



Figure 20: Permanent brick barracks constructed in 1934 to house four companies (Images of America: The United States Army at Fort Knox).



Figure 21: Permanent brick duplexes constructed for field officers and their families (Images of America: The United States Army at Fort Knox).



Figure 22: Administration building, more commonly known as the headquarters, was completed in 1934 (Images of America: The United States Army at Fort Knox).

As was typical with earlier Army posts, the buildings at Fort Knox were laid out around a central parade ground, known as Brooks Field, where troops conducted training activities and attended ceremonies (See Figure 23). The enlisted men's barracks, located to the south of the parade ground, were arranged linearly, while the officers' quarters were laid out along winding streets just to the north of the parade ground. The NCO quarters were located to the southwest of the parade ground and were arranged in a straight row formation. The community buildings, such as the chapel and gymnasium were located near the enlisted men's barracks, while the post hospital was located on the east side of the parade ground (see Figure 24).



Figure 23: Brooks Field in 1941 with post hospital in the background (Images of America: The United States Army at Fort Knox).



Figure 24: Fort Knox World War II cantonment in 1948 (Environmental Management Division).

Additional construction funds were made available through the Work Relief and Public Works Appropriations Act of 1938. Permanent construction began between 1938 and 1940 on barracks for the 13th Cavalry, the 68th Field Artillery, the 12th Observation Squadron, and the medical detachment. The construction of family quarters for officers and NCOs, as well as 31 semi-permanent duplex NCO quarters were completed by 1940.*

World War II

The physical development of Fort Knox was firmly tied to the establishment of the mechanized cavalry. However, in July 1940, Fort Knox became home to the Armored Force Command, at which time the pace of the activity and construction at the installation picked up quickly in response to the German threat on Poland. In 1931 the post consisted of deteriorating World War I temporary buildings, however, with the new added role of Fort Knox, new construction was necessary in order to accommodate the increased number of troops pouring into the installation. Thus, the World War II construction at Fort Knox was associated with the development of the Armored Force, the outgrowth of the Mechanized Cavalry. However, the Army's need for rapid construction and conservation of scarce resources resulted in a standardized design with little attention to aesthetics.

With the unprecedented surge in military recruitment and spending that came with the outbreak of World War II, the population of Fort Knox exploded in a short amount of time; during which, building construction often reached a rate of 160 buildings per month.† By August 1943, there were 3,820 buildings on post, compared to the 864 buildings in 1940. In 1941, General Chaffee secured \$650,000 from the War Department for an increased land purchase for Fort Knox in order to accommodate the increasing size of the Armored Force, the training ground, and facilities.‡ The installation expanded to 110,000 acres from its previous size of 30,000 acres.

As happened at other posts nationwide, the expansion drove a military construction boom at Fort Knox that created a huge infrastructure of temporary wooden facilities. Most of the new buildings were of temporary construction built using the standard 700 and 800 series construction drawings. Even with the additional construction, the post was not able to accommodate all the personnel assigned, and soldiers were occasionally quartered in tents (see Figures 25 and 26).

* AMEC Earth and Environmental Inc., *Integrated Cultural Resources Management Plan*, 89.

† Ibid, 91.

‡ Gillie, *Forging the Thunderbolt*, 155.



Figure 25: A military construction boom at Fort Knox that created a huge infrastructure of temporary wooden facilities (Images of America: The United States Army at Fort Knox).



Figure 26: Two-story wooden barracks of the 700 and 800 series were constructed at Fort Knox (Images of America: The United States Army at Fort Knox).

In general, the permanent and semi-permanent construction during the early 1940s was markedly different from permanent construction during the 1930s. The exigencies of mobilization and war required quicker building completion schedules and use of available materials. Stuccoed concrete block replaced red brick and synthetic roofing materials replaced slate and red-shingled tiles.*

Postwar World War II

After the postwar demobilization, many temporary wooden facilities nationwide quickly fell into disrepair. Fort Knox facility managers and planners argued that many of the classrooms, shops, and training facilities located in the World War II structures were inadequate for the needs of modern mechanized troops expected to adopt advanced technology at an increasing rate. Cold War era military training at Fort Knox required large ranges and supporting facilities to train soldiers in modern mechanized combat operations. As a result, the established parade ground diminished in importance as a training area. Reflecting Department of Defense (DoD) level trends in military post design, barracks were moved further from the parade ground, while motor pools became a focus of regimental activity.

Postwar Installation Expansion Program

By the early 1950s, Fort Knox consisted of 107,099 acres of Government-owned land bought at a cost to the Government of \$6,071,493. The cost of construction was \$48,169,463; therefore, the government spent a total of \$54,240,956 for the development of Fort Knox.†

As previously noted, postwar DoD military housing initiatives and the influx of soldiers arriving to train at Fort Knox for the Korean War prompted a major program of permanent construction. The largest project during this period was new regimental barracks (see Figure 27). The Army proposed to expend \$37,614,100 at the installation under the fiscal year 1952 MCA Budget for the construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities.

By July 1951, Fort Knox had 28,606 soldiers and 2,046 officers, with 2,787 permanent barracks, 21 permanent BOQs, and 422 permanent family quarters. The vast majority of available housing (40,277 barracks spaces, 2,652 BOQs, 1,160 family quarters, and 4,200 tent camp spaces) was World War II period temporary wooden construction that was considered inadequate and repair was not economically viable.‡

Overall, the UPH-related projects authorized by HR 4814 for FY52 provided permanent barracks for 8,325 enlisted men costing approximately \$21,184,000 under project numbers A212-5, A212-6, and A212-7. :§

* Kuranda et al., *Inventory, Evaluation, and Nomination*, 56.

† House, Military Public Works Appropriation, 653.

‡ House, Military Public Works Appropriation, 654.

§ Ibid, 654.

Table 2: Proposed permanent barracks, FY 52

Number	Type	Total sq ft per bldg	Cost per bldg	Total cost
27	225-man barracks	39,309	\$540,000	\$14,580,000
6	165-man barracks	24,482	\$445,500	\$2,673,000
12	105-man barracks	8,454	\$327,528	\$3,931,000

Under this appropriation, these 45 buildings were to accommodate the following type units: three combat-command headquarters companies, and nine armored infantry, artillery, or tank battalions. The construction of these barracks would not exceed the estimated 20,337 peacetime troops or the 57,250 mobilization troops requirements, and would be in accordance with the master plan for permanent development of the installation.

Construction of 12 permanent buildings to house three combat command headquarters and nine battalion headquarters were also included in the HR 4914 FY52 under project numbers A212-8 and A212-9 at a cost of about \$2,337,000. These supporting facilities were constructed of the same materials: reinforced concrete frame and concrete block exterior walls. At the time, there were no permanent headquarters buildings at Fort Knox, nor were there any permanent buildings suitably located near the proposed permanent barracks area to accommodate these unit headquarters.*

Table 3: Proposed permanent support facilities, FY52

Number	Type	Total sq ft per bldg	Cost per bldg	Total cost
3	regimental headquarters	21,000	\$353,000	\$1,059,000
9	battalion headquarters	8,450	\$142,000	\$1,278,000

Other projects, constructed at the same time as the permanent barracks at Fort Knox authorized by the funding of HR 4914 included:

Table 4: Proposed permanent construction not UPH-related, FY52

Project	Type	Total sq ft per bldg	Cost per bldg	Total cost
A 212-3	4 -BOQs	NA	\$145,625	\$582,500
A 212-17	9 - motor repair shops	4,000	\$52,555	\$473,000
A 212-18	1 - paint shop	8,000	\$112,000	\$112,000
A 212-19	2 - motor-dispatch offices	400	\$6,000	\$12,000
A 212-20	2 - gasoline dispensing stations	400	\$8,000	\$16,000
A 212-22	1 - fire station	8,500	\$107,000	\$107,000
A 212-23	5 - warehouses	16,000	\$135,000	\$675,000
A 212-24	1 - TAC academic building	53,000	\$840,000	\$840,000
A 212-32	1 - signal center	22,000	\$332,000	\$332,000

* House, Military Public Works Appropriation, 655.

Project	Type	Total sq ft per bldg	Cost per bldg	Total cost
	building			
A 212-37	hardstands	240,000	\$135,000	\$135,000
A 212-38	2 - combat vehicle wash racks	NA	\$40,000	\$80,000
A 212-39	12 - magazines	2,106	\$53,500	\$402,000
A 212-40	1 - artillery shop	NA	\$44,000	\$44,000
A 212-45	1 - guardhouse, 225 prisoners	NA	\$945,000	\$945,000
A 212-86	1 - hospital with 500 beds	NA	\$327,600	\$327,600
A 212-87	training facilities	NA		\$752,000

Source: House 1951, pp 655-664.

While construction of the permanent structures focused on barracks, many supplementary facilities were built simultaneously. Nine proposed motor repair shops required vehicle repair shops because each of these battalions had more than 200 vehicles. In addition, each of the three regimental-type areas required at least 80,000 square feet of hardstand, part of which was to be located in the motor pool area near the barracks. Construction of two motor-dispatch offices was required for the regimental-type area.



Figure 27: Fort Knox World War II cantonment in 1948 with proposed 1950s permanent construction in red (Environmental Management Division).

Construction of the Regimental-type Barracks Areas

In 1951, Congress appropriated \$37 million for new facilities at Fort Knox. This program was hardly underway before the Defense Department asked for another \$16 million more for housing. It was initially proposed in an 17 July 1952 Engineering News article that thirty-two 225-man hammerhead barracks (eleven-bay), four 165-man hammerhead barracks (nine-bay), five 105-man barracks (six-bay), three regimental headquarters, and six battalion headquarters be constructed in four different areas of the cantonment in 1953 and 1954.

Southeastern Construction Company of Charlotte, North Carolina; T.A. Loving & Company of Goldsboro, North Carolina; and Doyle & Russell of Richmond, Virginia built the new regimental-type barracks, commonly called hammerhead barracks. Brigade General Robert L. Howze accepted the first of the permanent quarters completed in the Fort Knox building program on 23 September 1953 (see Figure 28).^{*} These hammerhead barracks and supporting facilities completed in 1953 are located near the corners of Knox Street and Eisenhower Avenue (1400 area) and Knox Street and Brave Rifles Road (2300 area).



Figure 28: Typical 225-man hammerhead barracks constructed at Fort Knox in the regimental areas, no date for the photo (Patton Museum; Vol. 4).

In early 1954, more than 2,000 Spearheads of the 3rd Armored Division moved into nine completed barracks located on Eisenhower Avenue, east of Chamberlin Street (6500 area). An additional nine other barracks were completed a few months later for the Division (see Figure 29). Along with the hammerhead barracks, two battalion headquarters and a regimental headquarters was completed later that year. Headquarters and Headquarters Company, 3rd Armored Division, were the first Spearhead unit to move into the new buildings. The 761st Tank Support Battalion and the 84th Tank Support Battalion each occupied two barracks. Headquarters Company CCB had one and the 7th Medical Tank Battalion had the remaining three.[†]

^{*} "First Modern Troop Housing Units Dedicated in September 23rd Ceremonies," *Inside the Turret*, (1953), 2.

[†] "Military Construction Boom at Armored Force Training Center," *Engineering News Record*, (1952).



Figure 29: 3rd Armored Division soldiers sitting in open area of the 6500 area. A 165-man hammerhead barracks is located in the background (3AD 1955).

Two 225-man hammerhead barracks and one 105-man hammerhead barracks located near the corner of Gold Vault Road and Dixie Street (290 area) were also completed in 1954.

In addition to the hammerhead barracks completed under the housing program, several supporting facilities were constructed in the regimental areas. Two battalion headquarters and one regimental headquarters was constructed in the both 1400 area and 2300 area; while five battalion headquarters, one regimental headquarters, and three general instruction buildings were constructed in the 6500 area (see Figures 30,31, and 32).



Figure 30: Example of a regimental headquarters constructed in the regimental areas at Fort Knox; photo taken of Building 2370 in 1957 (National Archives College Park).



Figure 31: Example of a general instruction building constructed in the regimental areas at Fort Knox; photo taken of Building 6536 in 1967 (National Archives College Park).



Figure 32: Fort Knox cantonment after 1956 with new regimental areas of hammerhead barracks and supporting facilities in red (Environmental Management Division).

Architectural Overview of the Regimental-type Areas

Barracks Complexes in Blocks

As previously discussed, new Army site planning principles, practices, and designs introduced in the 1950s lacked traditional parade grounds, picturesque layouts, adorned buildings, and elaborate plantings. The 1950s utilitarian industrial aesthetic is clearly evident in the regimental-type area landscape. The setting is one of standardized building designs of various types and periods (e.g. barracks, headquarters, classrooms, and motor pools), laid out in repeated patterns that reflect the organization of the units they house and support.

Each hammerhead barracks accommodates a single company. Four or five of these barracks typically house a battalion. Four battalions constitute one regiment, which is the basic tactical increment used to plan the regimental-type areas.

Regimental-type Area Layout

Overall, four distinct areas or blocks were used for the construction of the hammerhead barracks between 1953 – 1957.

The 290 block of hammerhead barracks is located to the south of the original parade ground, and consists of two eleven-bay hammerhead barracks and one six-bay hammerhead barracks. The block of barracks are bound by Eleventh Avenue on the north; Gold Vault Road on the southeast; and Dixie Street on the southwest. The plot of land where the 290 block of hammerhead barracks are situated is triangular shaped. When the barracks were originally constructed in 1953, several World War II temporary buildings were located within the same triangular portion of land. Currently, the only remaining buildings on the block are the three hammerhead barracks. There is no distinct rectangular headquarters building in the area and consequently, the six-bay hammerhead is currently being used as a company headquarters building. The overall design of the 290 area does not represent a complete regimental complex of hammerhead barracks, headquarters buildings since only three hammerhead barracks were constructed, and no original regimental or battalion headquarters buildings were built.

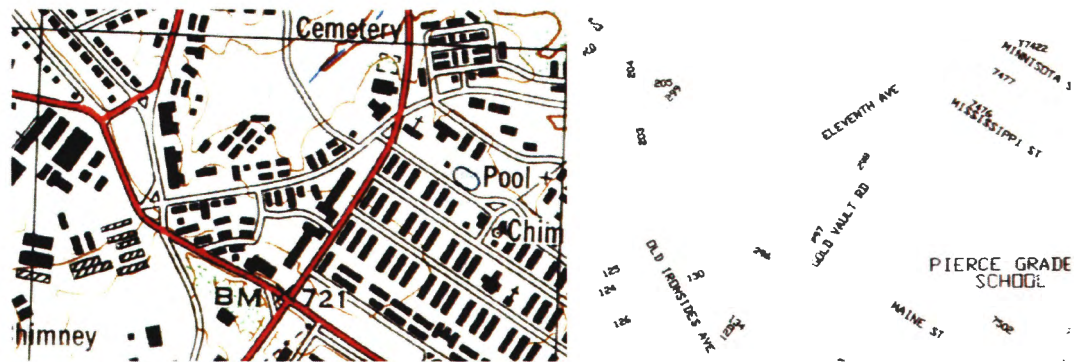


Figure 33: 290 Area; Comparison of the 1953 USGS map (left) with several World War II temporary buildings located in the triangular block along with the three hammerhead barracks to the 2004 cantonment map (right) with only the three hammerhead barracks remaining in the block.

The 1400 blocks of hammerhead barracks and supporting facilities are located to the north of the original parade ground. One block contains a group of four eleven-bay hammerhead barracks set around an open area used for drills and recreation. One six-bay hammerhead barracks and two battalion headquarters are set to the north of the barracks within the block. This block is bound by Eisenhower Avenue on the north; Old Ironsides Avenue on the east; 12 Armor Division Avenue on the south; and Knox Street on the west. This portion of the 1400 area does not represent a complete regimental complex of four or ten hammerhead barracks and supporting facilities as only five barracks and two battalion headquarters were constructed in the area.

The other 1400 block of hammerhead barracks and supporting facilities, located to the east of the above mentioned block, is bound by Eisenhower Avenue to the north; Famous 4th Division Road to the east; 12 Armor Division Avenue to the south; and Old Ironsides Avenue to the west. The group of five eleven-bay hammerhead barracks is located north of the “C” shaped World War II brick barracks. The open area around the hammerheads originally used for drills and recreation is currently filled with paved parking lots. A regimental headquarters is located west of the group of barracks. This portion of the 1400 area does not represent a complete regimental complex of four or ten hammerhead barracks and supporting facilities; as only five barracks and one regimental headquarters were constructed in the area.

When the barracks were originally constructed in 1953, the surrounding area was open. Currently, the opened area, once used for drills and recreations, is crowded with additional buildings and paved parking lots.



Figure 34: 1400 Area; Comparison of the 1953 USGS map (left) with large areas of open space within and to the block to the 2004 Cantonment map (right) with several new buildings located in the old open area.

The 2300 block of hammerhead barracks and supporting facilities is located north of the original parade ground. Eight eleven-bay hammerhead barracks are set around an open area used for drills and recreation. Two six-bay hammerhead barracks are located in the two south corners of the block of barracks, while two battalion headquarters are located adjacent to the six-bay barracks. This block is bound by Brave Rifles Regiment Avenue to the north; Hell on Wheels Avenue to the east, Garry Owens Regiment Avenue is to the south; and Knox Street is to the west. This block of barracks host ten barracks, thereby housing two battalions. The overall design of the 2300 area represents a complete regimental complex of hammerhead barracks and supporting facilities as eight eleven-bay hammerhead barracks, two six-bay hammerhead barracks, and two battalion headquarters were built. These buildings do constitute the four or ten buildings needed to have a regimental complex.

When the barracks were originally constructed in 1953, the area was divided into two blocks. At an unknown date, the road was removed and the area in the middle of the hammerhead barracks was used more for drills and recreation.

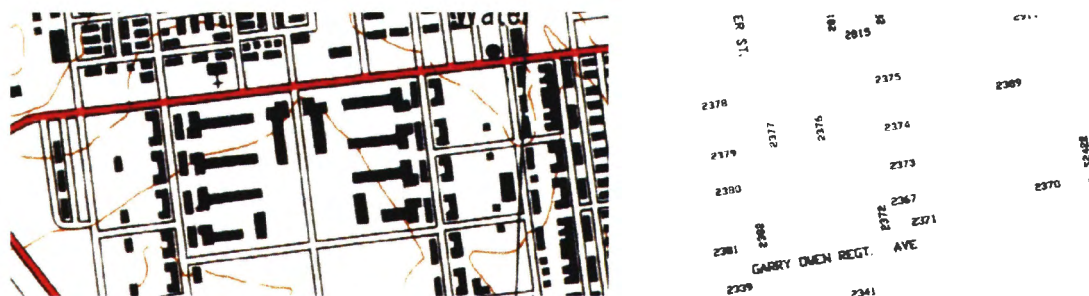


Figure 35: 2300 Area; Comparison of the 1953 USGS map (left) with the road dividing the area into two blocks to the 2004 Cantonment map (right) with the removed road and more open area used for drills and recreation.

The 6500 blocks of hammerhead barracks and supporting facilities are located to the northeast of the original parade ground. These two blocks are the farthest from the original cantonment parade ground.

One block contains seven eleven-bay hammerhead barracks, two nine-bay hammerhead barracks, one six-bay hammerhead barracks, two battalion headquarters, one brigade headquarters, and two general instruction buildings. The block is bound by Second Dragoons Road to the north; Bacher Street to the east; Eisenhower Avenue to the south; and Chamberlin Street to the west. The center of the block is covered with a large paved parking lot.

The other block contains eight eleven-bay hammerhead barracks, one nine-bay hammerhead barracks, and one battalion headquarters. The block is bound by Second Dragoons Avenue to the north; Abel Street to the east; Eisenhower Avenue to the south; and Bacher Street to the west. The center of the block is an open area used for drills and recreation.

The overall design of the 6500 area does not represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings

When the barracks were originally constructed in 1953 and 1954, the center of both blocks was an open area used for drills and recreation. Currently, the block to the west has a large paved parking lot in the center of the block. In addition, several other permanent structures were later constructed within the block.



Figure 36: 6500 Area; Comparison of the 1953 USGS map (left) to the 2004 Cantonment map (right).

Standardized Hammerhead Barracks

Standardization and uniformity in design were character-defining elements of the hammerhead type. Hammerhead barracks were the first major class of barracks built by the Army after World War II. Louis and Henry, architects of Louisville, Kentucky, designed the barracks. The design was developed with an anticipated life expectancy of twenty-five years.

A large number of hammerhead barracks were built between 1951 and 1957. Three different sizes of single-company hammerhead barracks were developed to house 105, 165, and 225 unaccompanied troops. The new DoD policy of promoting greater unit cohesion through housing design was accomplished architecturally through Louis and Henry's hammerhead barracks design by providing housing, dining, administrative, and storage space for an entire company under one roof. These buildings were strictly utilitarian, with a straightforward expression of structure and material. Their distinct footprint resembles the outline of a hammer – a three-story barracks wing forming the *handle* with a single-story kitchen/mess wing forming the *head* and *tail*.

Three types of hammerhead barracks are found on the Fort Knox installation. Their designations in this report are six-bay hammerhead barracks (occupancy 105), nine-bay hammerhead barracks (occupancy 165), and eleven-bay hammerhead barracks (occupancy 225). Each type is distinguished by its size, interior arrangement, and glazing. Interestingly, projects authorized by the House 1951 appropriation for fiscal year 1952, are quite different from what was constructed in 1953 and 1954:

Table 5: Projects authorized, proposed, and constructed at Fort Knox, Kentucky

Authorized by Appropriation, House 1951	Proposed in Engineering News Record; July 17, 1952	Actually constructed in 1953-1957 at Fort Knox
27 - 225-man hammerhead barracks	32 - 225-man hammerhead barracks	44 - 225-man hammerhead barracks
6 - 165-man hammerhead barracks	4 - 165-man hammerhead barracks	2 - 165-man hammerhead barracks
12 - 105-man hammerhead barracks	5 - 105-man hammerhead barracks	5 - 105 man hammerhead barracks
3 - regimental headquarters	3 - regimental headquarters	3 - regimental headquarters
6 - battalion headquarters	6 - battalion headquarters	6 - battalion headquarters

Character-Defining Features of all Fort Knox Hammerhead Barracks

The hammerhead barracks at Fort Knox are characterized by the following features:

- standardization and uniformity of design
- construction in groups to form housing complexes
- distinctive hammer-shaped building footprint
- three-story barracks wing and adjoining one-story kitchen/mess wing
- exposed reinforced concrete frame
- concrete masonry unit infill walls
- ribbons of steel awning or multipane windows
- entrances that lack architectural embellishment
- interior layout that includes open-bay squad rooms, double-loaded central corridors, and kitchen with mess hall

The presence or absence of these features may be used to determine the historical significance and integrity for this building type.

Modification to the Regimental-type Areas

Although standard designs were used by Fort Knox to obtain construction funds for the development of the Regimental-type areas, it is clear that some functional and architectural

modifications were made from the onset to address local needs. An example of such modifications was the increased number of 225-man hammerhead barracks constructed versus the proposed. This was possibly to accommodate more soldiers that were arriving at Fort Knox. Later modifications are common and inevitable because Army-wide housing standards continually evolve for reasons of affordability, technological improvements, and soldier quality of life.

Modifications under the Project Volunteer Army (VOLAR)

The last service member was drafted in the United States in December 1972. All-volunteer recruiting began on 1 July 1973, and the Modern Volunteer Army (MVA) was established. This program was designed to strengthen professionalism, enhance Army life, and develop a modern accession system. Improvements included modernization of barracks and replacement of temporary buildings over a 5-year period. The most significant upgrade to troop living quarters was the partitioning of open-bay squad rooms to enhance soldier privacy. The FY72 budget included sizeable increases to cover the upgrades.*

Prior to implementation of the MVA program, DoD conducted Project Volunteer Army (VOLAR), an MVA field experiment. VOLAR was to test and develop, under local conditions, certain ideas and approaches that would strengthen professionalism and improve Army life, and to concentrate resources in areas critical to combat arms accession and retention.

The principle MVA-driven modification made to hammerhead barracks was the subdivision of squad rooms into two-person NCO or enlisted rooms with the addition of partitions. Latrines were upgraded and many day rooms were subdivided into smaller rooms for vending and TV areas. Some kitchen and dining operations were consolidated, thus freeing former mess halls for conversion into administration space, classrooms, or storage areas. On some hammerhead barracks' exteriors, window modifications were made to conceal the newly placed interior squad room partitions. The original ribbons of metal awning windows were replaced with infill metal panels and one-over-one anodized bronze aluminum metal sash windows (see Figure 37).

* William G. Bell, *Department of the Army Historical Summary, Fiscal Year 1972* (DC: Center of Military History, 1974), [on-line]; available from <http://www.army.mil/cmh-pg/books/DAHSUM/1972/ch05.htm>; Internet; accessed 20 July 2005; and Thomas W. Evan, "The All-Volunteer Army After Twenty Years: Recruiting in the Modern Era," excerpted from *The Army History: The Professional Bulletin of Army History*, No. 27 (Summer, 1993), 40-46, [on-line]; available from http://www.shsu.edu/~his_ncp/VolArm.html; Internet; accessed 12 May 2005.



Figure 37: One of the modifications from the VOLAR program resulted in the removal of original steel awning windows being replaced with anodized bronze aluminum windows (ERDC-CERL).

Two-Plus-Two Program (1983)

In 1983 DoD established the two-plus-two troop housing standard to further improve privacy for enlisted soldiers. Even though improvement under the MVA program enhanced soldier life when it was first established by the early 1980s these living situations were not conducive to the living standards of the time. The two-plus-two rule provided for a two-room suite for four personnel with a shared bathroom.* According to Fort Knox real property cards, this program did not affect the barracks with wholesale modifications.

One-Plus-One Program (1995)

By the 1990s, the two-plus-two housing standards were considered obsolete in terms of contemporary standards, thus DoD established the one-plus-one housing standard. Under that standard, two service members share an efficiency apartment with two 118 sq ft living/sleeping rooms, closets, a bathroom, and a kitchenette. While the one-plus-one would be more costly, the investments would pay off in higher retention rates, lower recruiting and training costs, and would ultimately heighten morale and productivity for enlisted service members (see Figure 38). †

* "Perry Approves New Standard for Single Soldier Housing," American Forces Information Service (DC: Office of the Assistant of Defense for Public Affairs, 1995). [on-line]; available from http://www.defenselink.mil/news/Dec1995/n12141995_9512142.html; Internet; accessed 20 July 2005.

† "Perry Approves New Standard for Single Soldier Housing," [on-line]; available from http://www.defenselink.mil/news/Dec1995/n12141995_9512142.html; Internet.



Figure 38: Under the One-Plus-One program in the 1990s, some hammerhead barracks were modified extensively to include exterior balconies, apartment-like rooms, brick veneer exterior walls, and exterior circulation towers (ERDC-CERL).

Miscellaneous Barracks Modifications

In 1994, five eleven-bay hammerhead barracks in the 1400 area (Buildings 1482, 1483, 1484, 1485, and 1486) underwent massive renovations. The structures were completely gutted to their reinforced concrete frames and the interiors were rebuilt with modern materials, which included metal stud walls, new windows, and different exterior finishes. The original footprint of the hammerhead barracks was enlarged in width. This modification resulted in wrap-around exterior balconies, which freed up interior room. With this modification, the doors into the apartment-like rooms were moved to the exterior and the anodized bronze aluminum windows were now replaced with paired aluminum double-hung windows. An exposed poured concrete frame defined the original bays of the hammerheads, whereas under this renovation process, brick veneer covered columns now depicted the bays. Along with the exterior balcony additions, large brick enclosed circulation towers were constructed at both ends of the *handle* portion of the hammerhead. The original exposed concrete frame and concrete block infill walls were replaced with a brick veneered exterior wall, and the original built-up flat roof was replaced with a hipped roof covered in three-tab asphalt shingles and painted metal fascia.

Along with the renovations to the *handle* portion of the hammerhead, the one-story kitchen/mess wing underwent more modifications. The original one-story wing footprint was also enlarged to include an addition off of the front part of the wing. This one-story wing was also gutted to its reinforced concrete framed and completely rebuilt. Both the

one-story wing and new addition off of the front are clad with a stucco-like material. The renovated one-story wing features a large semi-circular arched entry canopy that is supported by four round columns. The one-story portion also has a new hipped roof covered with three-tab asphalt shingles and metal fascia. A large gable, parapet wall/roofline was constructed between the one-story wing and the *handle* portion of the hammerhead. This wall is clad with a stucco-like material and depicts the massing or outline of the original hammerhead barracks width and height. Several tall arched windows define the exterior walls of the one-story wing, and is clad with a stucco-like material.

In 2004, a new addition was constructed between Buildings 6542 and 6543 and another between Buildings 6556 and 6557, ultimately connecting the buildings together at the *head* and *tail* portions. Additionally, two new entries were cut into the original exterior wall of the *head* and *tail* portions and new gable roof canopies were constructed above the new entries. The hammerhead barracks footprint is no longer intact. The footprint was altered when the concrete block addition was constructed between the *head* and *tail* portions of the four buildings. This not only altered the overall footprint of the barracks, but it altered the utilitarian appearance of the structure. The *head* and *tail* portion of the barracks originally were one-story and had a flat roof, whereas the new addition is slightly taller and has a cross-gable metal standing-seam roof (see Figure 39).



Figure 39: In 2004, new additions were constructed between the head and tail portion of a few hammerhead barracks, altering the exterior appearance of the barracks (ERDC-CERL).

3 Survey Results

This report contains a survey of permanent unaccompanied personnel housing (UPH), more specifically, permanent hammerhead barracks and supporting facilities, constructed between 1953 and 1957 at Fort Knox, Kentucky. The Fort Knox Real Property Officer provided a list containing 53 buildings to the survey team. One building on the list, a battalion headquarters, was constructed in 1964 and two general instruction buildings constructed in 1967, fall outside of the period being surveyed, but were included in the survey for their role as support facilities for the UPH structures.

The identification of historically significant properties can be achieved only through evaluation of their position within the larger historic context. They unify the patterns, themes, trends, or cultural affiliations in history by which an event, property, or site is understood. A property is determined significant or not significant based on the application of standardized National Register Criteria within the property's historical context.

In order to qualify for the National Register, a district or its components resources must meet one or more National Register Criteria for Evaluation associated with an important historic context. The Criterion describes 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 Criterion for Evaluation*:

- A. Event**—properties associated with events that have made a significant contribution to the broad patterns of our history; or
- B. Person**—properties associated with the lives of persons significant in our past; or
- C. Design/Construction**—properties that 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 represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. Information Potential**—properties that have yielded, or is likely to yield, information important in prehistory or history.

* Department of the Interior, *National Register Bulletin #15, How to Apply the National Register Criteria for Evaluation*, (Washington, D.C.: National Park Service, 1991), 44-45.

Aspects of Integrity

In addition to being deemed significant for their association with one or more of the Criteria for Evaluation, in order to be eligible to the NRHP, properties must also retain sufficient physical integrity of the features that convey its significance*.

“Historic properties either retain integrity (this is, convey their significance) or they do 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 a property to convey its significance. Determining which of these aspects are most important to a particular property requires knowing why, where, and when the property is significant”†.

Districts and individual resources are considered to be significant if they possess a majority of the following Seven Aspects of Integrity:

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.

* Department of the Interior, *National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation*, (Washington, D.C.: National Park Service, 1991), 44-45.

† Ibid, 44.

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 an 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 an historic property.

An overview of the properties that served UPH mission and support roles can be found in Table 6.

Findings

The findings of this report will be discussed under the two components of NRHP eligibility: Significance and Integrity. These buildings are associated with two historic contexts and needed to be evaluated as to how they fit into each context.

Determinations of Significance

The period of significance for these 56 buildings is the Cold War, 1953 to 1957.

Cold War Context

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".* This interim policy further stated that those Real Property assets that had only a temporal relationship with the Cold War would not qualify as exceptionally important. These buildings would need to be reviewed further once

* "Department of the Army Cultural Resources Interim Policy Statements," (Washington, DC: Department of the Army, Assistant Chief of Staff for Installation Management, 27 November 1995).

they reached 50 years of age. Many of the Real Property types that are included in this category are associated with basic and usual base operations (BASOPs). These types of properties include family housing, barracks, administrative buildings, motor pools and maintenance shops, sewage and water treatment plants, hospitals, and other support facilities.

The Interim Policy was set into guidance with the *US Army Cold War Military-Industrial Historic Context* in 1997. This guidance is a thematic study on historic properties associated specifically 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 on what the Army did in direct response to the Cold War, and the Cold War is defined primarily as the relationship between the United States and the Soviet Union and in only secondarily defined as the general threat of communist aggression from other sources.

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:
 - a. Meet the perceived Soviet/communist military threat;
 - b. Project a force designed to influence Soviet policy; and
 - c. 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.

The context goes further to state what types of buildings are **NOT** eligible for being exceptionally important unless they meet the one or more of the above requirements. These buildings are typically BASOPs and would have been built regardless of the Cold War, although maybe not in such high quantities.

- Administration Buildings
- Banking Facilities
- Chapels
- Clubs
- Commissaries/Exchanges
- Educational facilities
 - Classroom Buildings
 - Public Schools
- Fire stations
- Garages
- Gas stations
- General storage
 - Cold storage plants
 - Magazines
 - Storehouses
 - Warehouses
- Guardhouses
- Housing
 - Barracks
 - Dormitories
 - Hotels
 - NCO quarters
 - Officers' quarters
- Laundries
- Latrines
- Libraries
- Medical Facilities
 - Clinics
 - Hospitals
 - Infirmaries
- Mess/Dining halls
- Motor pools and maintenance facilities
- Museums
- Post offices
- Recreational facilities
 - Bowling alleys
 - Craft shops
 - Field houses
 - Gyms
 - Outdoor facilities
 - Basketball courts
 - Playing fields
 - Swimming pools
 - Tennis courts

- Stadiums
- Theaters/auditoriums
- Sheds
 - Equipment
 - Hay
 - Lumber
 - Maintenance
- Stables
- Static displays
- Utilities
 - Electrical power stations
 - Incinerators
 - Sewage treatment plants
 - Switch houses
 - Telephone exchanges
 - Water towers/tanks
 - Water treatment plants
- Visitor centers
- Other Miscellaneous Support Facilities

It is the finding of this report that none of the 56 buildings surveyed qualify for being significant for the Cold War even though they are now 50 years of age.

For Criterion A—Event: None of the buildings could be linked to the Cold War events as outlined in the *U.S. Army Cold War Military-Industrial Historic Context*.

For Criterion B—Person: None of the buildings and structures could be linked to a particular person important in the Cold War.

For Criterion C—Design/Construction: The design and construction of these 56 buildings is quite ordinary for their construction time frame. The typical construction is steel reinforced poured-in-place concrete structural elements with concrete block infill.

For Criterion D—Information Potential: None of these buildings is likely to yield information about the history of its building type or specific Fort Knox history.

Unaccompanied Personnel Housing (UPH) Context

The *Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)* [UPH Context] historic context objective is to provide a framework for the evaluation and treatment of the U.S. Army's UPH in applying the National Register Criteria for Evaluation. The context was accepted by the Army Environmental Center in December of 2003.

This UPH Context provides the necessary historic background to evaluate the enlisted barracks, bachelor officers' quarters (BOQs), and transient officers' quarters constructed at Army installations between 1946 and 1989 as permanent, semi-permanent, and temporary construction. The Army contracted R. Goodwin & Associates to develop this national context and the resulting January 2003 [draft] report not only provides a national context that

identifies and describes most or all of the Army Cold War UPH types, but also provides guidelines for determining NRHP eligibility of Army Cold War UPH properties. Using the Army Integrated Facilities System (IFS) database, the Goodwin report identified examples of Cold War era UPH facilities at 145 Army installations. Facility standardization was so apparent that the Army opted for a programmatic approach to NHPA compliance as these properties approached their 50th year. This Army Cold War UPH national context is referenced in the individual building evaluations and the guidance provided by the report was used to determine the significance and integrity of the 38 hammerhead barracks at Fort Knox.

For Criterion A—Event: The 38 hammerhead barracks are significant under Criterion A for their association with the UPH Context.

For Criterion B—Person: None of the buildings and structures could be linked to a particular person important in the Cold War.

For Criterion C—Design/Construction: The design and construction of these 38 barracks is quite ordinary for their construction time frame. The typical construction is steel reinforced poured-in-place concrete structural elements with concrete block infill.

For Criterion D—Information Potential: None of these buildings is likely to yield information about the history of its building type or specific Fort Knox history.

State or Local Significance

There is no indication in the available historical record that these 56 buildings have any significance in a local or state context. None of the buildings appears to represent any significant aspects of state or local history. Design and construction documents indicate that virtually all the buildings were of types commissioned by the Office of the Chief of Engineers in Washington, DC and constructed on a nationwide scale. The involvement of local architects, engineers, fabricators, and contractors to address site-specific conditions was standard practice at the time of construction and did not produce any variations or innovations of local or state significance.

Determinations of Integrity

Once a property or group of properties have been determined to have significance under one of the Criteria for Evaluation, the property must be evaluated to determine if it retains its integrity. In this study, it has been determined that the only properties significant under the Criteria are the 38 hammerhead barracks. These buildings were found to be significant under Criterion A for their association with the UPH Context.

According to the Goodwin report, these properties are considered eligible for the NRHP as contributing elements to Cold War UPH districts *if* a sufficient number of them possess integrity to their identified period of significance, 1953-1957. For properties to be judged to have retained their integrity, they must retain the physical features of their original construction that characterize their identified period of significance. That is, their key defining elements, such as exterior materials, window placements and treatments, and layouts, generally must remain unchanged. The Goodwin report specifically describes the

physical features each Cold War Army UPH property type found significant at Fort Knox must currently possess in order to be judged to have retained its integrity:*

Hammerhead barracks:

- Three story scale
- Mass
- Distinctive ground plan
- Exposed reinforced concrete building frames
- Exposed concrete block
- Ribbons of windows

Aspects of Integrity

It was determined that the two important aspects of integrity for the hammerhead barracks are design and material.

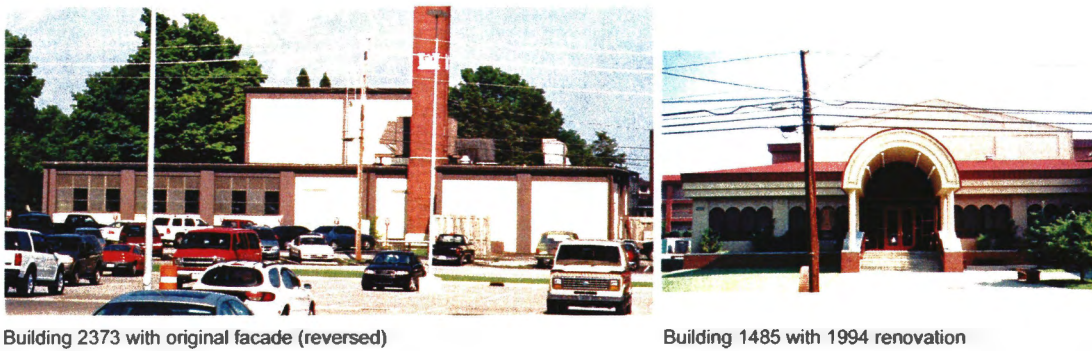
Design: These buildings lack architectural embellishment, with the primary architectural designs created by ribbons of windows and a distinctive ground plan. The defining elements of a majority of these structures have been altered through the painting of the exposed concrete block and the replacement of original windows, doors, and roofing. These modifications and changes have adversely affected the UPH buildings' integrity of design.

The hammerhead barracks in the 1400 Area were extensively renovated in 1994 so that no reference to their original construction exists (see Figure 8).

Materials: The materials of the hammerhead barracks have been significantly altered throughout the years after the period of significance. The concrete block structures located at Fort Knox lack architectural embellishment, with the primary architectural design created by ribbons of windows. The original exterior cladding construction materials of the concrete block structures still exist, but the concrete block structures have been painted, thus compromising one of the identifying characteristics, exposed concrete block (see Figure 9). On the whole, windows, roofs, fascia, and soffits have been replaced with new materials. The original ribbons of steel industrial awning windows located on the concrete block structures were replaced with one-over-one anodized bronze aluminum windows and metal panels (see Figure 10).

The hammerhead barracks in the 1400 Area were extensively renovated in 1994 so that no original materials exists (see Figure 8).

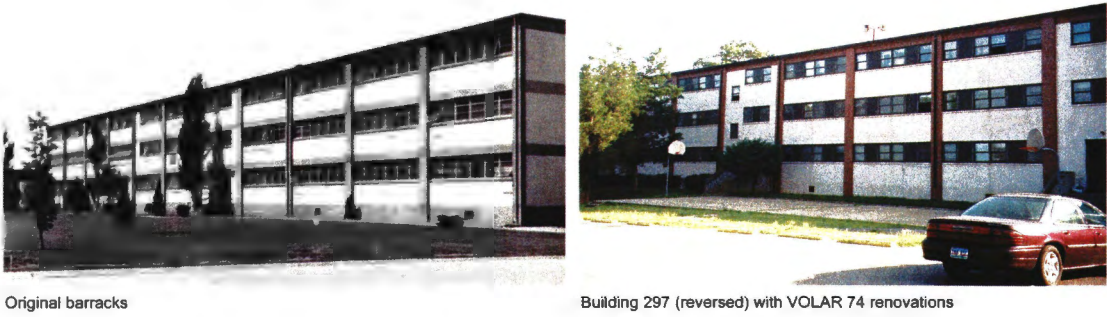
* Kuranda et al. *Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)* (Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., 2003), 4-4.



Building 2373 with original facade (reversed)

Building 1485 with 1994 renovation

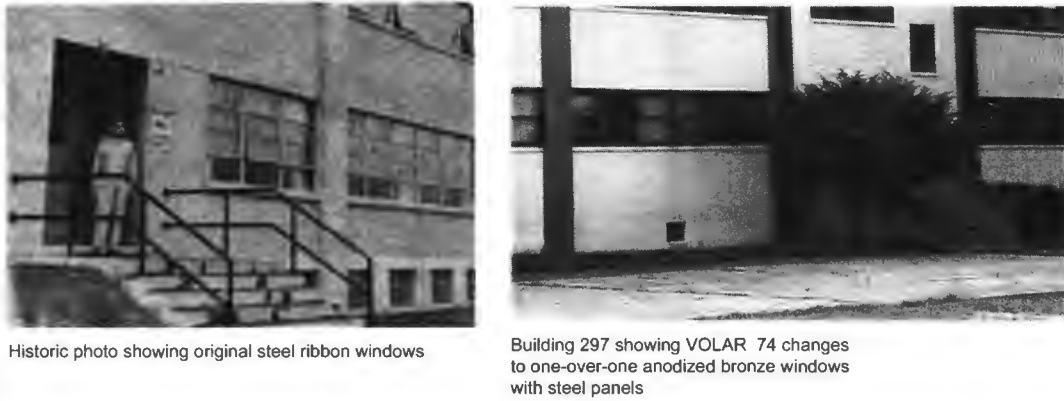
Figure 40. Comparison between VOLAR 74 renovations in the 1970s and the 1+1 renovations in the 1990s.



Original barracks

Building 297 (reversed) with VOLAR 74 renovations

Figure 41: Comparison between original construction and 1970s renovations.



Historic photo showing original steel ribbon windows

Building 297 showing VOLAR 74 changes to one-over-one anodized bronze windows with steel panels

Figure 42. Window comparison between original construction and 1970s renovations.

Determinations of Integrity

It is the finding of this survey that none of these 56 buildings are individually eligible for the National Register of Historic Places under any of the National Register Criteria.

Table 6. List of Buildings Eligible for National Register

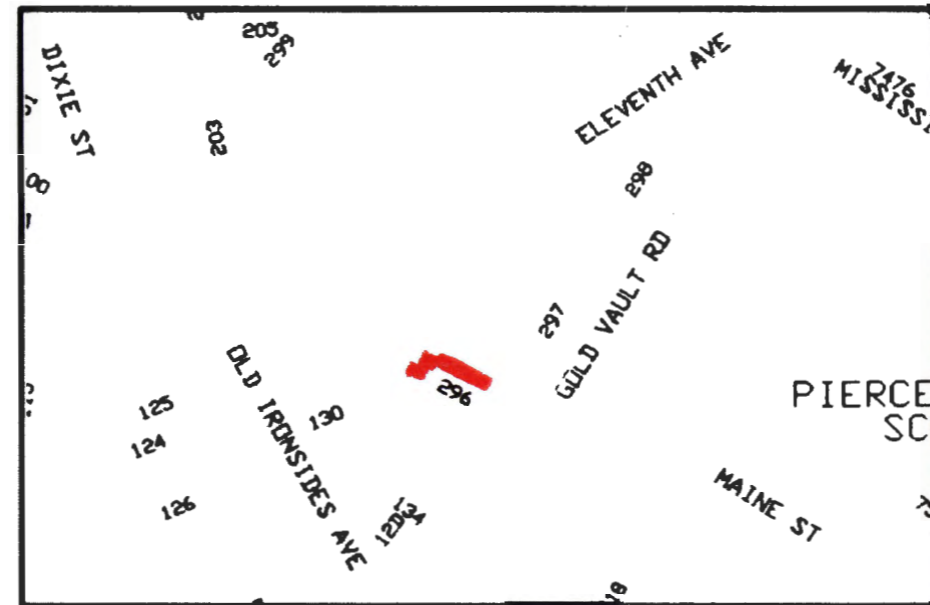
Building Number	Year Built	Type	Current Use	Eligible for National Register	Inventory Form Page Number
296	1954	P	CO HQ BLDG	NO	83
297	1954	P	HAMMERHEAD BARRACKS	NO	93
298	1954	P	HAMMERHEAD BARRACKS	NO	93
1474	1953	P	HAMMERHEAD BARRACKS	NO	107
1475	1953	P	HAMMERHEAD BARRACKS	NO	107
1476	1953	P	HAMMERHEAD BARRACKS	NO	119
1477	1953	P	BN HQ BLDG	NO	129
1478	1953	P	BN HQ BLDG	NO	129
1479	1953	P	HAMMERHEAD BARRACKS	NO	107
1480	1953	P	HAMMERHEAD BARRACKS	NO	107
1481	1953	P	POLICE/MP STA	NO	139
1482	1953	P	HAMMERHEAD/RENOVATED	NO	149
1483	1953	P	HAMMERHEAD/RENOVATED	NO	149
1484	1953	P	HAMMERHEAD/RENOVATED	NO	149
1485	1953	P	HAMMERHEAD/RENOVATED	NO	149
1486	1953	P	HAMMERHEAD/RENOVATED	NO	149
2370	1953	P	ARNG ARMORY	NO	165
2371	1953	P	ARNG ARMORY	NO	175
2372	1953	P	BN HQ BLDG	NO	185
2373	1953	P	USAR CENTER	NO	193
2374	1953	P	ADMIN GEN PURP	NO	193
2375	1953	P	HAMMERHEAD BARRACKS	NO	193
2376	1953	P	ARNG ARMORY	NO	193
2377	1953	P	HAMMERHEAD BARRACKS	NO	193
2378	1953	P	HAMMERHEAD BARRACKS	NO	193
2379	1953	P	HAMMERHEAD BARRACKS	NO	193
2380	1953	P	HAMMERHEAD BARRACKS	NO	193
2381	1953	P	HAMMERHEAD BARRACKS	NO	175
2382	1953	P	BN HQ BLDG	NO	185
6536	1967	P	GEN INST BLDG	NO	211
6537	1967	P	GEN INST BLDG	NO	211
6538	1964	P	BDE HQ BLDG	NO	229
6539	1954	P	HAMMERHEAD BARRACKS	NO	219
6540	1954	P	BN HQ BLDG	NO	237
6541	1953	P	HAMMERHEAD BARRACKS	NO	245
6542	1954	P	HAMMERHEAD BARRACKS	NO	259
6543	1954	P	HAMMERHEAD BARRACKS	NO	259
6544	1953	P	HAMMERHEAD BARRACKS	NO	271
6545	1954	P	HAMMERHEAD BARRACKS	NO	245
6546	1954	P	HAMMERHEAD BARRACKS	NO	245
6547	1954	P	HAMMERHEAD BARRACKS	NO	245
6548	1953	P	HAMMERHEAD BARRACKS	NO	245

Building Number	Year Built	Type	Current Use	Eligible for National Register	Inventory Form Page Number
6549	1954	P	BN HQ BLDG	NO	237
6550	1953	P	HAMMERHEAD BARRACKS	NO	245
6551	1954	P	HAMMERHEAD BARRACKS	NO	245
6552	1954	P	HAMMERHEAD BARRACKS	NO	245
6553	1953	P	HAMMERHEAD BARRACKS	NO	271
6554	1954	P	HAMMERHEAD BARRACKS	NO	245
6555	1954	P	HAMMERHEAD BARRACKS	NO	245
6556	1954	P	HAMMERHEAD BARRACKS	NO	259
6557	1953	P	HAMMERHEAD BARRACKS	NO	259
6558	1954	P	HAMMERHEAD BARRACKS	NO	245
6559	1954	P	BN HQ BLDG	NO	281
6571	1953	P	GEN INST BLDG	NO	289
6583	1954	P	BN HQ BLDG	NO	293
6584	1957	P	BN HQ BLDG	NO	297

4 Building Inventory Forms



Building 296 - northeast elevation of the *handle* portion containing the barracks



Building 296 - oblique view of northeast and northwest elevations of the *tail* portion containing the mess hall

Figure 43 – 290 Area – 6 bay hammerhead barracks

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

<u>PROPERTY BOUNDARIES</u> North of Dixie Street, south of Eleventh Avenue, and west of Gold Vault Road		<u>COMMON/HISTORIC NAME/BUILDING #</u> Company Headquarters/Band Training Facility/ Enlisted Men’s Barracks with Mess Hall/Bldg 296		<u>STATUS</u> Occupied
<u>ARCHITECT/BUILDER</u> Louis and Henry Architect-Engineers/ Southeastern Construction Co.; T. A. Loving and Company; Doyle and Russell		<u>DATE OF CONSTRUCTION</u> 1954	<u>NO. OF STORIES</u> 3	<u>FOOTPRINT</u> Complex (hammerhead)
		<u>DATE OF ALTERATIONS</u> 1977		
<u>MASSING</u> Flat	<u>FOUNDATION</u> Concrete wall	<u>WALLS</u> Post-and-beam with concrete masonry unit infill walls	<u>ROOF</u> Built-up	
<u>PROPERTY FUNCTION</u> <u>HISTORIC USE(S)</u> Barracks		<u>PROPERTY FUNCTION</u> <u>CURRENT USE</u> Office		<u>NOTABLE FEATURES</u> Distinctive hammer-shaped building footprint Exposed reinforced concrete frame Reinforced concrete floors Concrete masonry unit infill walls Replacement anodized bronze aluminum windows Three-story barracks with adjoining one-story kitchen/mess wing
<u>RELATIONSHIP TO OTHER BUILDINGS</u> The six-bay barracks is located west of two eleven-bay hammerhead barracks on a triangular piece of land.				



Building 296 - northwest elevation of the tail

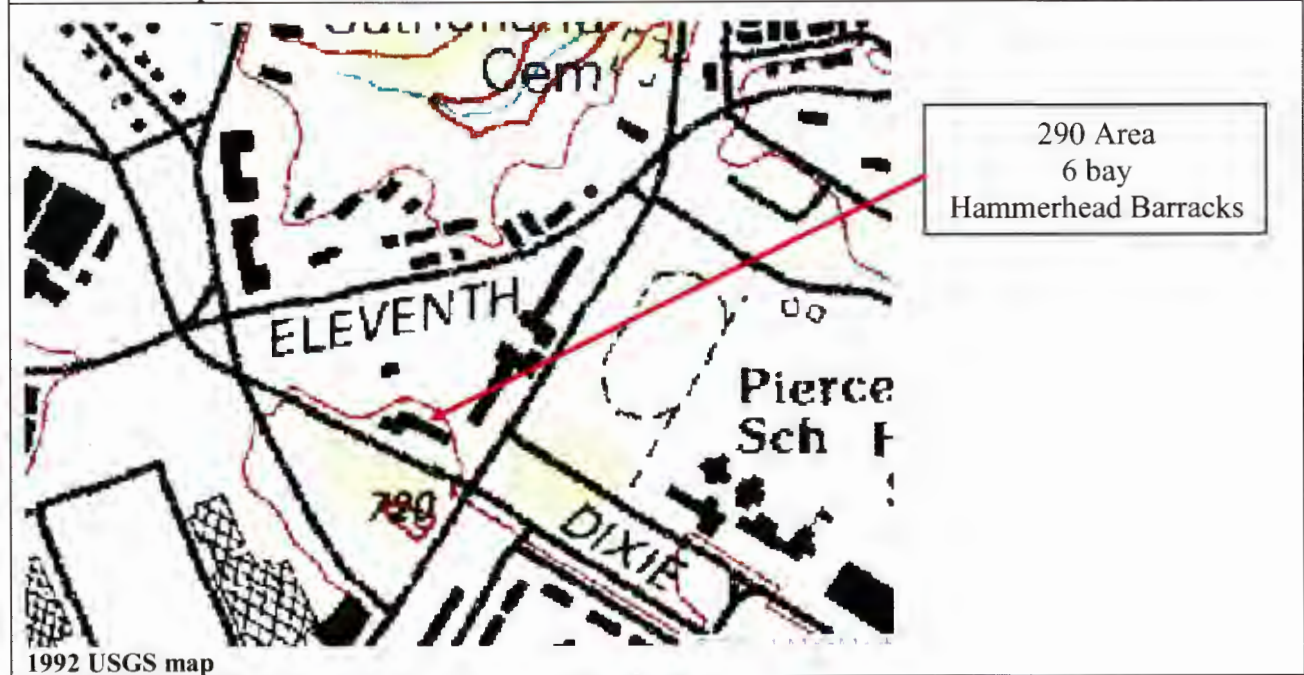
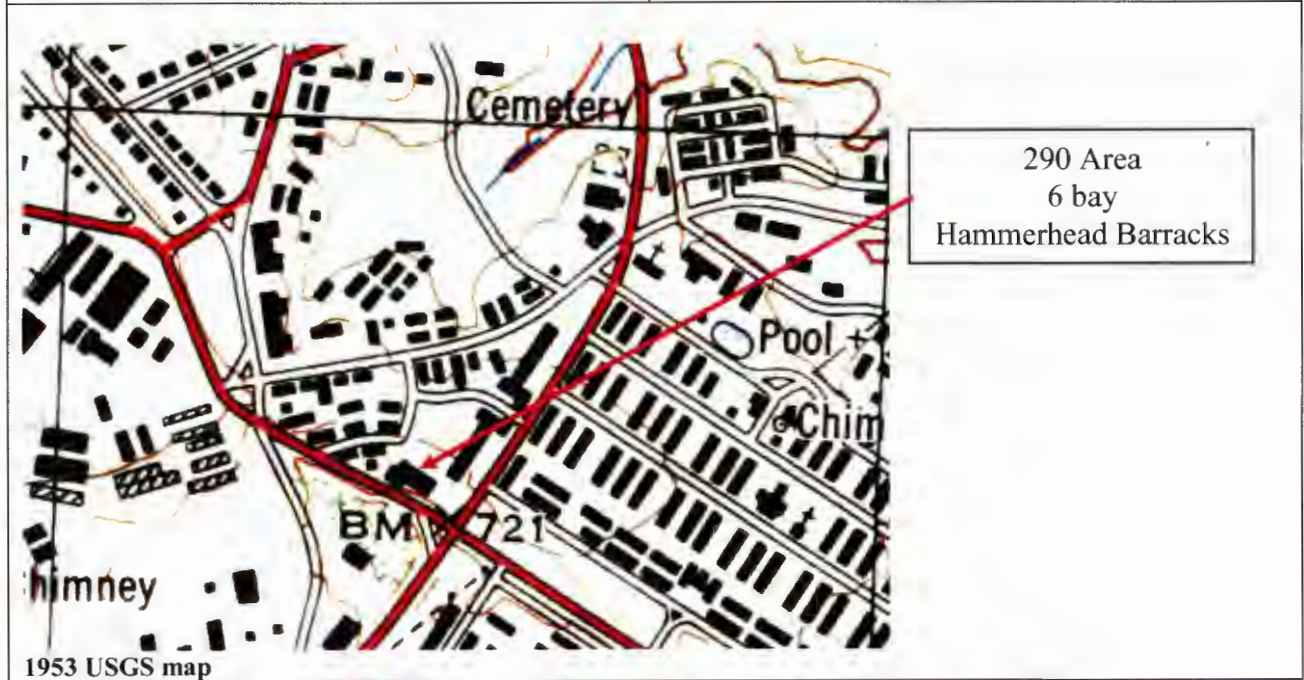


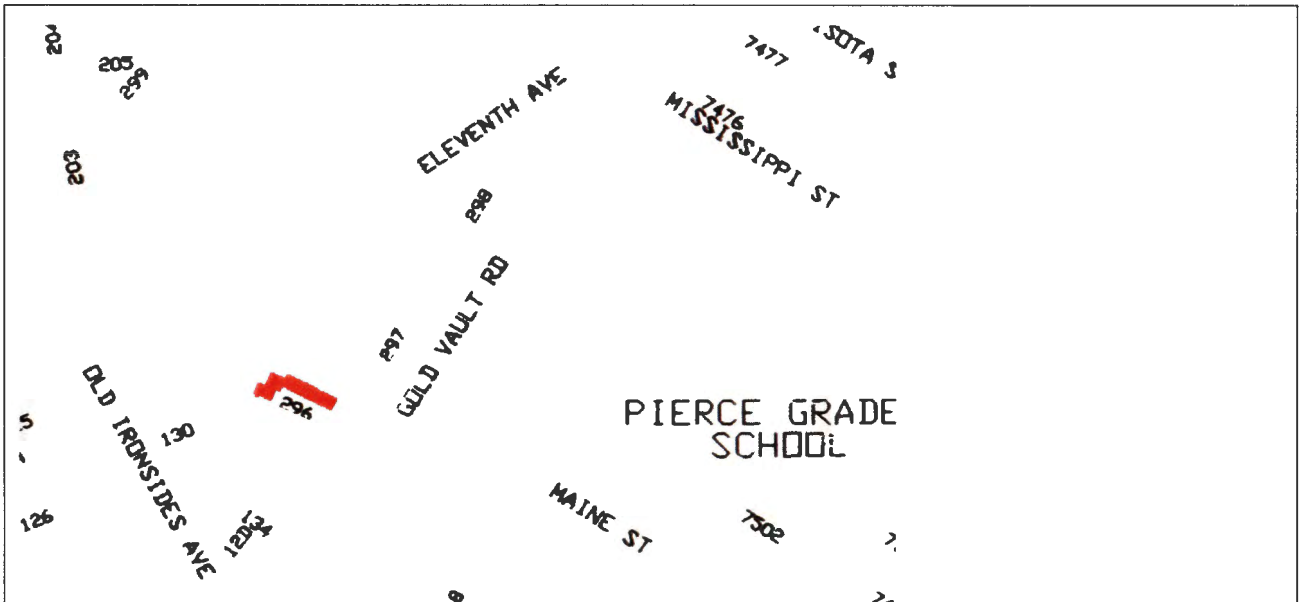
Building 296 - north elevation of the *handle*



Building 296 – east elevation of the *handle*

<p>COORDINATES UTM 16 4193780N 592422E</p>	<p>USGS QUAD Fort Knox</p>
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2004 Cantonment map of 290 Area, 6 bay hammerhead barracks

<p><u>PRESENT OWNER</u> U. S. Army Garrison, Fort Knox</p>	<p><u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>
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<p><u>GENERAL CONDITION OF PROPERTY</u></p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p><u>ADDITIONS/ALTERATIONS</u></p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>
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BIBLIOGRAPHIC SOURCES

Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.

House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.

Kuranda, Kathryn M., et. al.
2003 *Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)*. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.

Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.

<p><u>PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY</u></p> <p>ELIGIBLE/CONTRIBUTING NOT ELIGIBLE</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p><u>FORM PREPARED BY:</u> Sunny Stone and Adam Smith Engineer Research and Development Center Construction Engineering Research Laboratory 2902 Farber Drive Champaign, IL 61822</p> <p>DATE: NOVEMBER 2004</p>
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DESCRIPTION

The six-bay hammerhead barracks in the 290 area is located north of Dixie Street, south of Eleventh Avenue, and west of Gold Vault Road. Building 296 is currently used as a company headquarters building.

This building is unaccompanied personnel housing (UPH) commonly called hammerhead barracks. This type of building has a reinforced concrete frame structure with an exterior curtain wall of concrete block and a built-up flat roof. The barracks is supported by a reinforced concrete foundation; the reinforced concrete frame consists of exposed reinforced concrete columns and reinforced concrete floors. The building also has replacement anodized bronze aluminum windows.

The overall layout of the barracks is a rectangular, six-bay, three-story barracks with a basement and a one-story, L-shaped addition appended to the northwest elevation. The entrances into the six-bay hammerhead are located on the north and south facades and consist of metal double doors. The building was constructed from drawing number 21-01-68 sheets 1 thru 44.

Hammerhead barracks are designed in different sizes; the six-bay, nine-bay, and eleven-bay were designed as a regimental-size troop housing complex. Usually a group of hammerhead barracks are set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 290 area, only two eleven-bay barracks and one six-bay barracks are situated in a triangular portion of land. There is no distinct rectangular headquarters building in the area and consequently, the six-bay hammerhead is currently used as a company headquarters building.

HISTORY

Beginning in the 1950s, as a result of military build-up associated with the Korean War, the Army reviewed its construction needs and developed a series of seven standard barracks designs to reduce design time and building costs. This series was issued to Engineer Field Office for repetitive use in the continental United States.

In the 1950s, accommodating all company functions in a single building was the prime consideration in the design of barracks. These barracks, designed to utilize this aspect, are commonly known as hammerhead barracks due to their unique footprint. The overall layout of the building is a rectangular three-story barracks and a one-story, L-shaped addition appended to an end elevation, which housed the company's mess facility, administrative space, and storage area. These buildings were built with ribbons of metal sash windows.

Hammerhead barracks were most commonly clustered in groups of four and ten and laid out as a regimental-size troop housing complex. Each four building group represents a battalion and each four battalion group represents a regiment.

Standardization and uniformity in design were character defining elements of the hammerhead barracks type. Hammerhead barracks were the first major class of barracks built by the Army after World War II. Louis and Henry Architects-Engineers of Louisville, KY, designed the barracks. The design was developed with an anticipated life expectancy of twenty-five years.

A large number of hammerhead barracks were built between 1951 and 1957. Three different sizes of single-company hammerhead barracks were developed to house 105, 165, and 225 men. These buildings were strictly utilitarian, with a straightforward expression of structure and materials. Their distinct footprint resembles the outline of a hammer – a three-story barracks wing forming the *handle* with a single-story kitchen/mess wing forming the *head* and *tail*.

The barracks were originally constructed as open bay squad rooms with no interior walls. With the introduction of the Volunteer Army (VOLAR) program in the early 1970s, the hammerhead barracks underwent a number of changes. A major interior modification was the division of the squad rooms into three-person enlisted men rooms. More extensive changes included the removal or replacements of windows varying from the infill of windows with metal panels to the replacement of the original ribbon windows with smaller metal double sash units. "In the 1990s, a number of the hammerhead barracks were renovated to meet the 2+2 standards, and later the 1+1 standards. The renovations often included stripping the building interiors to the reinforced concrete frame, adding balconies, constructing walls in modern materials, and the addition of gable roofs" (Kuranda et al 2003, p 4-4).

The 290 area, six-bay hammerhead barracks was originally constructed in 1954 by Southeastern Construction Co., Charlotte, NC; T. A. Loving and Company, Goldsboro, NC; and Doyle and Russell of Richmond, VA as a 105-man enlisted men's barracks with a mess hall. The barracks was also used as band training facility. This structure was constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952 (House 1951, p 653). The six-bay hammerhead barracks located in the 290 area was one of five six-bay hammerhead barracks to be constructed on the installation under this appropriation.

INTEGRITY

These buildings were strictly utilitarian, with a straightforward expression of structure and materials. The four elements that are key to the integrity of the hammerhead barracks are the hammerhead footprint, the exposed reinforced concrete frame, the exposed concrete block walls, and ribbons of windows.

The 290 area, six-bay hammerhead barracks footprint is intact and the exposed concrete frame and concrete block walls are still intact with the addition of new paint. In April 1977, under the VOLAR 74, the six-bay hammerhead barracks underwent numerous interior and exterior changes. One of the alterations to the structure resulted in the removal of the original ribbons of windows. The original steel awning windows were replaced with one-over-one anodized bronze aluminum windows and metal panels. In January 1980, security cages and screen doors were installed. New gutters and downspouts were added at an unknown date.

The six-bay hammerhead barracks located in the 290 area had a change in use from an enlisted men's barracks with a mess hall to a band training facility to its current use as a company headquarters building.

The overall design of the 290 area does not represent a complete regimental complex group of hammerhead barracks and headquarters buildings since only three hammerhead barracks were constructed and no original regimental or battalion headquarters buildings were built.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that this six-bay hammerhead barracks is not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria for unaccompanied personnel housing (UPH) due to the lack of architectural and contextual integrity.

This building is not associated with a historically significant person nor does it have any unique architectural features that qualify it individually for the National Register of Historic Places (NRHP). However, according to the December 2003 R. Christopher Goodwin & Associates context on Cold War-era UPH, this six-bay hammerhead barracks may be NRHP-eligible as a contributing element to a district if it retains sufficient integrity and a sufficient number of the Cold War UPH and associated structures retain sufficient integrity.

The 290 area was also examined as a potential historic district; however, the integrity of not only the six-bay hammerhead barracks but the two eleven-bay hammerhead barracks in the area has been severely compromised by the removal of the distinctive original windows and doors on all three buildings. Furthermore, the 290 area does not represent a complete regimental complex of four or ten hammerhead barracks and supporting facilities as only three barracks were constructed in the area.

Because a sufficient number of the Cold War UPH structures in the 290 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the six-bay hammerhead barracks, Building 296, does **not** qualify for the NRHP.

DRAWINGS

See pages 303-309 for similar floor plans and elevations for the six-bay hammerhead barracks, Building 296.

HISTORIC PHOTOGRAPHS



View of original ribbon awning windows on hammerhead barracks (no date, Patton Museum Vol. 2)



Hammerhead barracks dayroom 1955 (TAC)



Hammerhead barracks mess hall 1955 (TAC)

COMPARISON PHOTOGRAPHS



Original unpainted exposed concrete and concrete block with original steel awning windows



Current painted concrete and concrete block with anodized aluminum replacement windows



Building 297 - southeast elevation of the *handle* portion containing the barracks



Building 297 - southwest elevation of *handle* portion containing the barracks



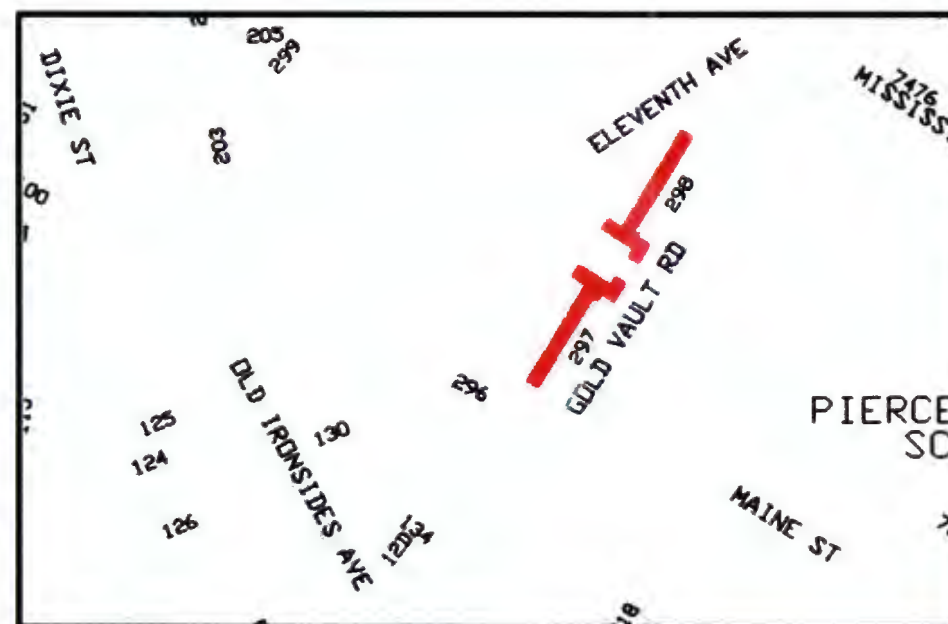
Building 298 - southeast elevation of the *handle* portion containing the barracks



Building 297 - entrance bay on southeast elevation



Building 297 - original steel awning window located on southeast elevation



Building 297 - southeast elevation of the *head* portion containing the kitchen



Building 297 - north and west oblique view of the *tail* portion containing the mess hall



Building 297 - replacement anodized bronze window located on the southeast elevation of the kitchen wing



Building 297 - northeast elevation of the *handle* portion containing the barracks

Figure 44 – 290 Area – 11 bay hammerhead barracks

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

<u>PROPERTY BOUNDARIES</u> Northeast of Dixie Street, south of Eleventh Avenue, and west of Gold Vault Road		<u>COMMON/HISTORIC NAME/BUILDING #</u> Bender Hall/Enlisted Men’s Barracks with Mess Hall /Bldg 297 Thomas Hall/Enlisted Men’s Barracks with Mess Hall/Bldg 298		<u>STATUS</u> Occupied
<u>ARCHITECT/BUILDER</u> Louis and Henry Architect-Engineers/ Spector & Montgomery Architects-Engineers Southeastern Construction Co.; T. A. Loving and Company; Doyle and Russell		<u>DATE OF CONSTRUCTION</u> 1954	<u>NO. OF STORIES</u> 3	<u>FOOTPRINT</u> Complex (hammerhead)
		<u>DATE OF ALTERATIONS</u> 1976, 1979		
<u>MASSING</u> Flat	<u>FOUNDATION</u> Concrete wall	<u>WALLS</u> Post-and-beam with concrete masonry unit infill walls	<u>ROOF</u> Built-up	
<u>PROPERTY FUNCTION</u>		<u>NOTABLE FEATURES</u> Distinctive hammer-shaped building footprint Exposed reinforced concrete frame Reinforced concrete floors Concrete masonry unit infill walls Replacement anodized bronze aluminum windows Exterior brick chimney – Bldg 297 Three-story barracks with adjoining one-story kitchen/mess wing		
<u>HISTORIC USE(S)</u> Barracks	<u>CURRENT USE</u> Barracks			
<u>RELATIONSHIP TO OTHER BUILDINGS</u> The eleven-bay barracks are located northeast of a smaller six-bay hammerhead barracks on a triangular lot of land.				



Building 297 – north elevation of the handle where the barracks are located



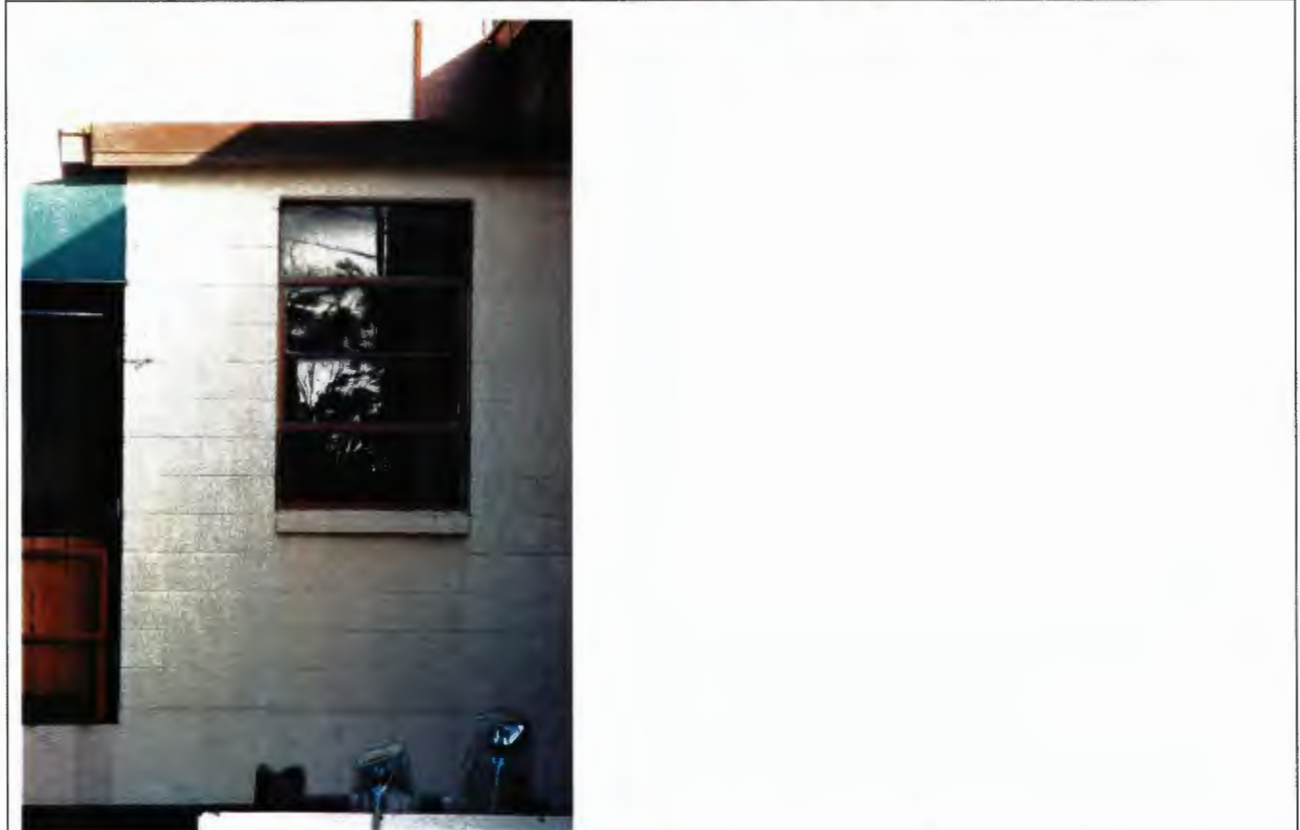
Building 297 – north elevation of the *tail* where the mess hall is located



Building 297 – southeast elevation of the *head* where the kitchen is located



Building 297 – replacement anodized bronze aluminum window located on the *head* portion



Building 297 – original steel awning window located between the *head* and *handle* on the southeast elevation



Building 297 – southeast elevation of the *handle*



Building 297 – entrance bay located on the southeast side of the *handle*



Building 297 – south elevation of the *handle*



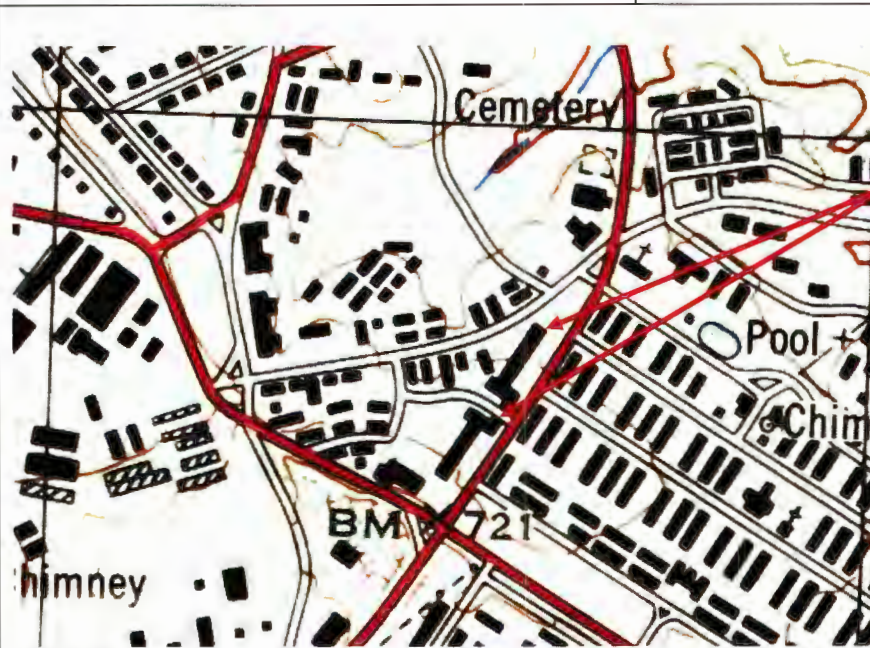
Building 298 – southeast elevation of the *handle* where the barracks are located

COORDINATES (center of area)

UTM 16
4193868N
592532E

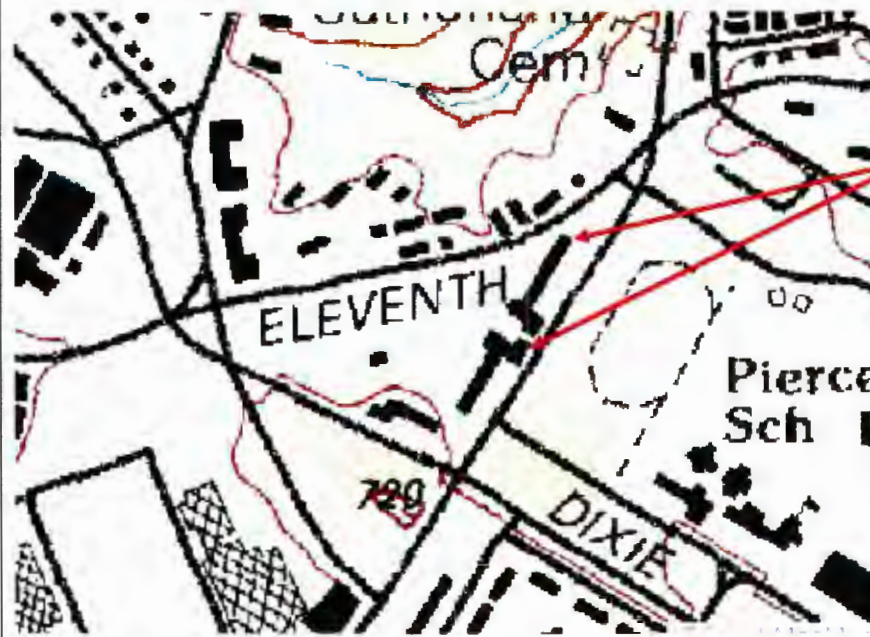
USGS QUAD

Fort Knox



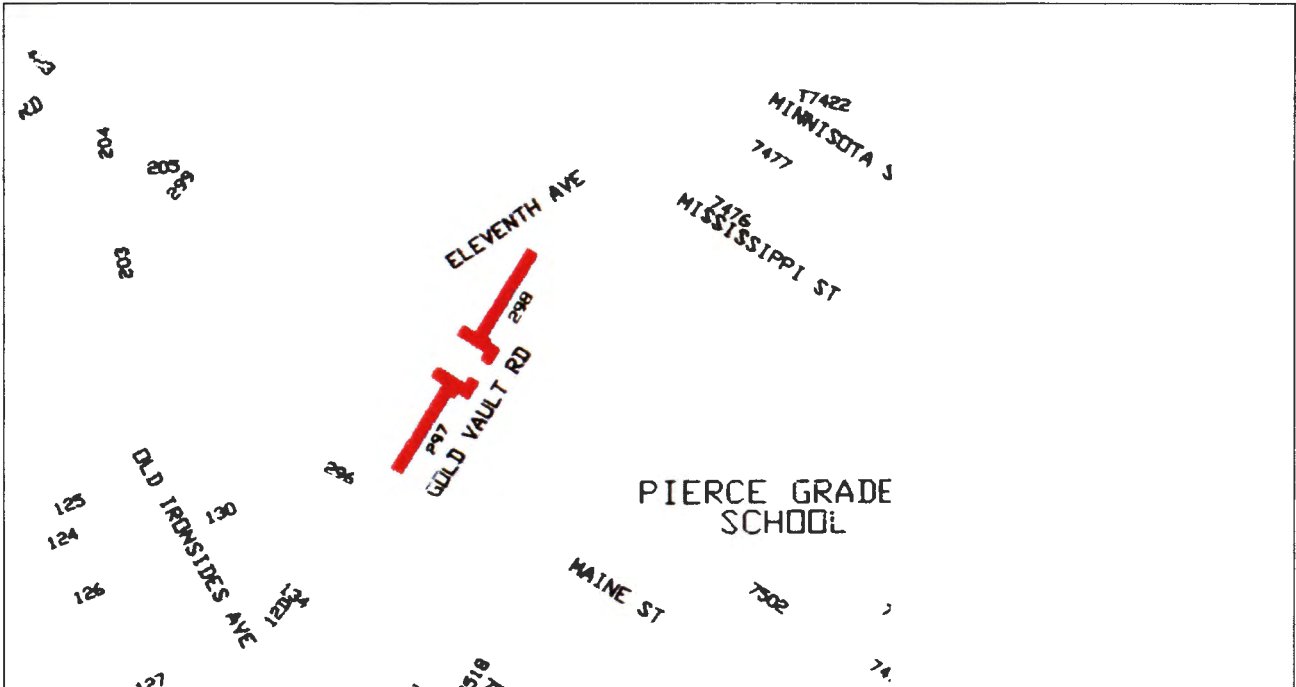
290 Area
11 bay
Hammerhead Barracks

1953 USGS map



290 Area
11 bay
Hammerhead Barracks

1992 USGS map



2004 Cantonment map of 290 Area, 11 bay hammerhead barracks

<p><u>PRESENT OWNER</u> U. S. Army Garrison, Fort Knox</p>	<p><u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>
<p><u>GENERAL CONDITION OF PROPERTY</u></p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p><u>ADDITIONS/ALTERATIONS</u></p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>
<p><u>BIBLIOGRAPHIC SOURCES</u></p> <p>Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.</p> <p>House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.</p> <p>Kuranda, Kathryn M., et. al. 2003 <i>Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)</i>. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.</p> <p>Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.</p>	
<p><u>PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY</u></p> <p>ELIGIBLE/CONTRIBUTING NOT ELIGIBLE</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p><u>FORM PREPARED BY:</u> Sunny Stone and Adam Smith Engineer Research and Development Center Construction Engineering Research Laboratory 2902 Farber Drive Champaign, IL 61822</p> <p>DATE: NOVEMBER 2004</p>

DESCRIPTION

Two eleven-bay hammerhead barracks are located northeast of Dixie Street, south of Eleventh Avenue, and west of Gold Vault Road. The two buildings are currently used as enlisted men's barracks with a mess hall.

These buildings are unaccompanied personnel housing (UPH) commonly called hammerhead barracks. This type of building has a reinforced concrete frame structure with an exterior curtain wall of concrete block and a built-up flat roof. The barracks is supported by a reinforced concrete foundation; the reinforced concrete frame consists of exposed reinforced concrete columns and reinforced concrete floors. These buildings also have replacement anodized bronze aluminum windows.

The overall layout of the barracks is a rectangular, eleven-bay, three-story barracks and a one-story, L-shaped addition appended to one of the end elevations of the *handle* portion. The structure has a basement. The entrances into each building are located on the long side of the *handle* and consist of metal double doors. There is a large exterior brick chimney that extends from the one-story addition on Building 297. These buildings were constructed from drawing number 21-01-64 sheets 1 thru 44.

Hammerhead barracks are designed in different sizes; the six-bay, nine-bay, and eleven-bay were designed as a regimental-size troop housing complex. Usually a group of hammerhead barracks are set around an open area that is used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 290 area, only two eleven-bay barracks and one six-bay barracks are situated in a triangular portion of land. There are no distinct rectangular headquarters building in the area and consequently, the six-bay hammerhead is currently being used as a company headquarters building.

HISTORY

Beginning in the 1950s, as a result of military build-up associated with the Korean War, the Army reviewed its construction needs and developed a series of seven standard barracks designs to reduce design time and building costs. This series was issued to Engineer Field Office for repetitive use in the continental United States.

In the 1950s, accommodating all company functions in a single building was the prime consideration in the design of barracks. These barracks, designed to utilize this aspect, are commonly known as hammerhead barracks due to their unique footprint. The overall layout of the building is a rectangular three-story barracks and a one-story, L-shaped addition appended to an end elevation, which housed the company's mess facility, administrative space, and storage area. These buildings were built with ribbons of metal sash windows.

Hammerhead barracks were most commonly clustered in groups of four and ten and laid out as a regimental-size troop housing complex. Each four building group represents a battalion and each four battalion group represents a regiment.

Standardization and uniformity in design were character defining elements of the hammerhead barracks type. Hammerhead barracks were the first major class of barracks built by the Army after World War II. Louis and Henry Architects-Engineers of Louisville, KY, designed the barracks. The design was developed with an anticipated life expectancy of twenty-five years.

A large number of hammerhead barracks were built between 1951 and 1957. Three different sizes of single-company hammerhead barracks were developed to house 105, 165, and 225 men. These buildings were strictly utilitarian, with a straightforward expression of structure and materials. Their distinct footprint resembles the outline of a hammer – a three-story barracks wing forming the *handle* with a single-story kitchen/mess wing forming the *head* and *tail*.

The barracks were originally constructed as open bay squad rooms with no interior walls. With the introduction of the Volunteer Army (VOLAR) program in the early 1970s, the hammerhead barracks underwent a number of changes. A major interior modification was the division of the squad rooms into three-person enlisted men rooms. More extensive changes included the removal or replacements of windows varying from the infill of windows with metal panels to the replacement of the original ribbon windows with smaller metal double sash units. "In the 1990s, a number of the hammerhead barracks were renovated to meet the 2+2 standards, and later the 1+1 standards. The renovations often included stripping the building interiors to the reinforced concrete frame, adding balconies, constructing walls in modern materials, and the addition of gable roofs" (Kuranda et al 2003, p 4-4).

The eleven-bay hammerhead barracks in the 290 area were originally designed by Louis and Henry Architects-Engineers of Louisville, KY, and Spector and Montgomery Architects-Engineers of Falls Church, VA. The structures were constructed in 1954 by Southeastern Construction Co., Charlotte, NC; T. A. Loving and Company, Goldsboro, NC; and Doyle and Russell of Richmond, VA, as 225-man enlisted men's barracks with a mess hall in each barracks. These structures were constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952 (House 1951, p 653).

INTEGRITY

These buildings were strictly utilitarian, with a straightforward expression of structure and materials. The four elements that are key to the integrity of the hammerhead barracks are the hammerhead footprint, the exposed reinforced concrete frame, the exposed concrete block walls, and ribbons of windows.

The 290 area, eleven-bay hammerhead barracks footprint and the exposed concrete frame and concrete block walls are still intact with the addition of new paint. In February 1976, under the VOLAR 73, the eleven-bay hammerhead barracks underwent numerous interior and exterior changes. One of the alterations to the structures resulted in the removal of the original ribbons of windows. The original steel awning windows were replaced with one-over-one anodized bronze aluminum windows and metal panels. In May 1979 the mess halls of both barracks underwent modernization. New gutters and downspouts were added at an unknown date.

The overall design of the 290 area does not represent a complete regimental complex of hammerhead barracks and headquarters buildings since only three hammerhead barracks were constructed and no original regimental or battalion headquarters buildings were built.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that these two eleven-bay hammerhead barracks are not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria for unaccompanied personnel housing (UPH) due to the lack of architectural and contextual integrity.

These buildings are not associated with a historically significant person nor do they have any unique architectural features that qualify them individually for the National Register of Historic Places (NRHP). However, according to the December 2003 R. Christopher Goodwin & Associates context on Cold War era UPH, these eleven-bay hammerhead barracks may be NRHP-eligible as contributing elements to a district if they retain sufficient integrity and a sufficient number of the Cold War UPH and associated structures retain sufficient integrity.

The 290 area was also examined as a potential historic district; however, the integrity of not only the eleven-bay hammerhead barracks but the one six-bay hammerhead barracks in the area has been severely compromised by the removal of the distinctive original windows and doors on all three buildings. Furthermore, the 290 area does not represent a complete regimental complex of four or ten hammerhead barracks and supporting facilities as only three barracks were constructed in the area.

Because a sufficient number of the Cold War UPH structures in the 290 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the eleven-bay hammerhead barracks, Buildings 297 and 298, do **not** qualify for the NRHP.

DRAWINGS

See pages 311-319 for similar floor plans and elevations for the eleven-bay hammerhead barracks, Buildings 297 and 298.

HISTORIC PHOTOGRAPHS



View of original ribbon awning windows (no date, Patton Museum Vol. 2)



Hammerhead barracks dayroom 1955 (TAC)

COMPARISON PHOTOGRAPHS



Original unpainted exposed concrete and concrete block with original steel awning windows



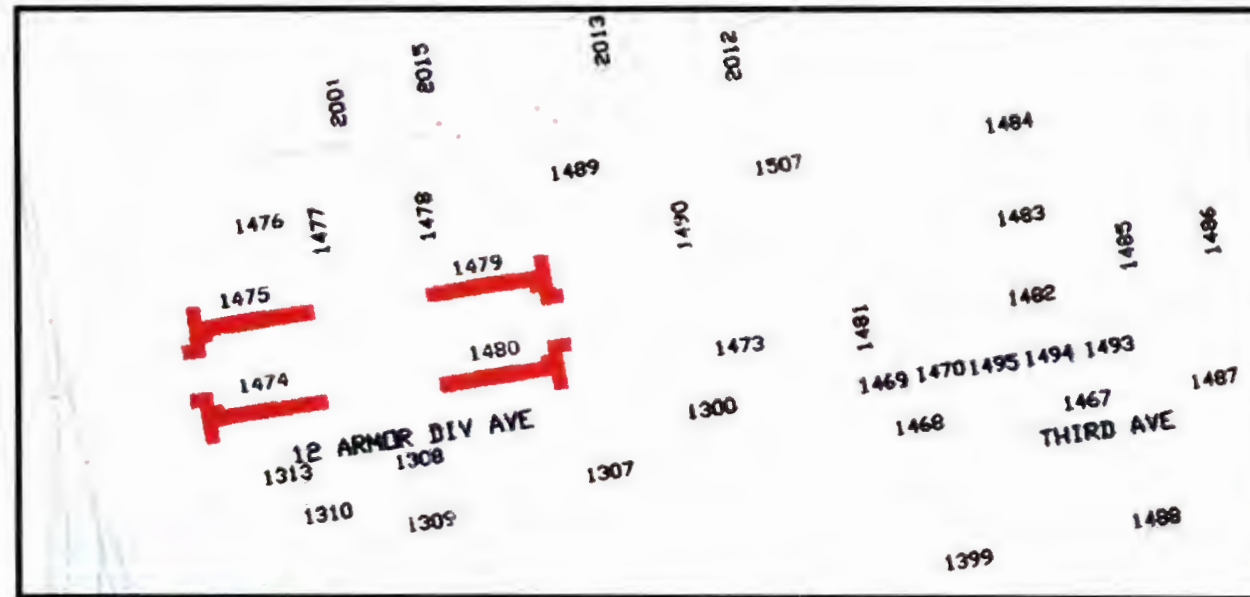
Current painted concrete and concrete block with anodized aluminum replacement windows



Building 1474 - south elevation of the *tail* and *handle* portion containing the mess hall and barracks respectively



Building 1475 - north elevation of *handle* portion containing the barracks with exterior brick chimney protruding from the *head* portion which is the kitchen area



Building 1480 - newer air conditioner vent placed in the concrete block wall of the south elevation of the *handle* portion



Building 1480 - west elevation of *handle* portion containing the barracks



Building 1479 - south elevation of *handle* portion containing the barracks

Figure 45 – 1400 Area; 11 bay hammerhead barracks

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

<u>PROPERTY BOUNDARIES</u> North of 12 Armor Division Avenue, east of Knox Street, south of Eisenhower Avenue, and west of Old Ironsides Avenue		<u>COMMON/HISTORIC NAME/BUILDING #</u> Rankin Hall/Enlisted Men’s Barracks with Mess Hall/Bldg 1474 Vierling Hall/Enlisted Men’s Barracks with Mess Hall/Bldg 1475 Olsen Hall/Enlisted Men’s Barracks with Mess Hall/Bldg 1479 Nunziato Hall/Enlisted Men’s Barracks with Mess Hall/Bldg 1480		<u>STATUS</u> Occupied
<u>ARCHITECT/BUILDER</u> Louis and Henry Architect-Engineers/ Spector & Montgomery Architects-Engineers Southeastern Construction Co.; T. A. Loving and Company; Doyle and Russell		<u>DATE OF CONSTRUCTION</u> 1953 (inventory list) 1954 (Real Property card for Bldg 1474) <u>DATE OF ALTERATIONS</u> 1976, 1990	<u>NO. OF STORIES</u> 3	<u>FOOTPRINT</u> Complex (hammerhead)
<u>MASSING</u> Flat	<u>FOUNDATION</u> Concrete wall	<u>WALLS</u> Post-and-beam with concrete masonry unit infill walls	<u>ROOF</u> Built-up roofing	
<u>PROPERTY FUNCTION</u> <u>HISTORIC USE(S)</u> Barracks		<u>NOTABLE FEATURES</u> Distinctive hammer-shaped building footprint Exposed reinforced concrete frame Reinforced concrete floors Concrete masonry unit infill walls Replacement anodized bronze aluminum windows Three-story barracks with adjoining one-story kitchen/mess wing		
<u>CURRENT USE</u> Barracks		<u>RELATIONSHIP TO OTHER BUILDINGS</u> The group of four eleven-bay barracks is set around an open area used for drill and recreation. One six-bay hammerhead barracks and two battalion headquarters buildings are set to the north.		



Building 1474 – south view of the *handle and tail*



Building 1475 – north elevation of the *handle* portion where the barracks are located



Building 1479 – south elevation of the *handle*



Building 1480 – west elevation of the *handle*



Building 1480 – air conditioning unit installed in the concrete block exterior wall



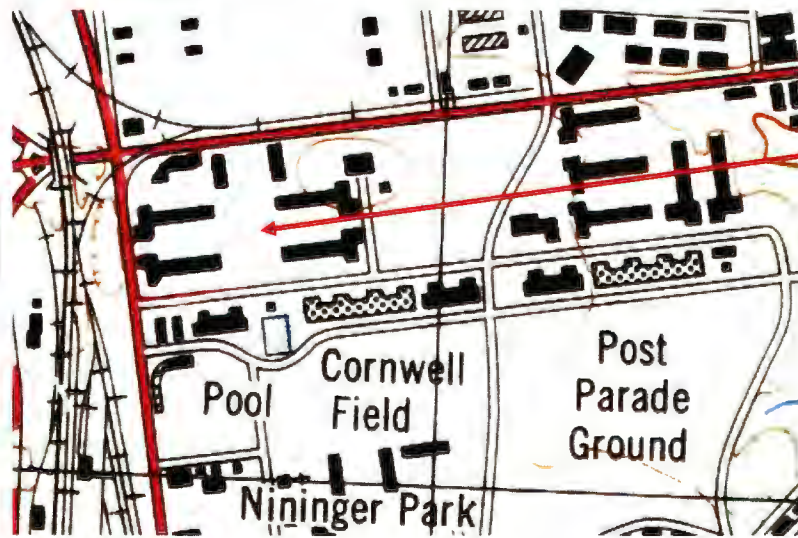
Open area between group of four 11-bay hammerhead barracks used for drills and recreation

COORDINATES (center of area)

UTM 16
4195514N
591758E

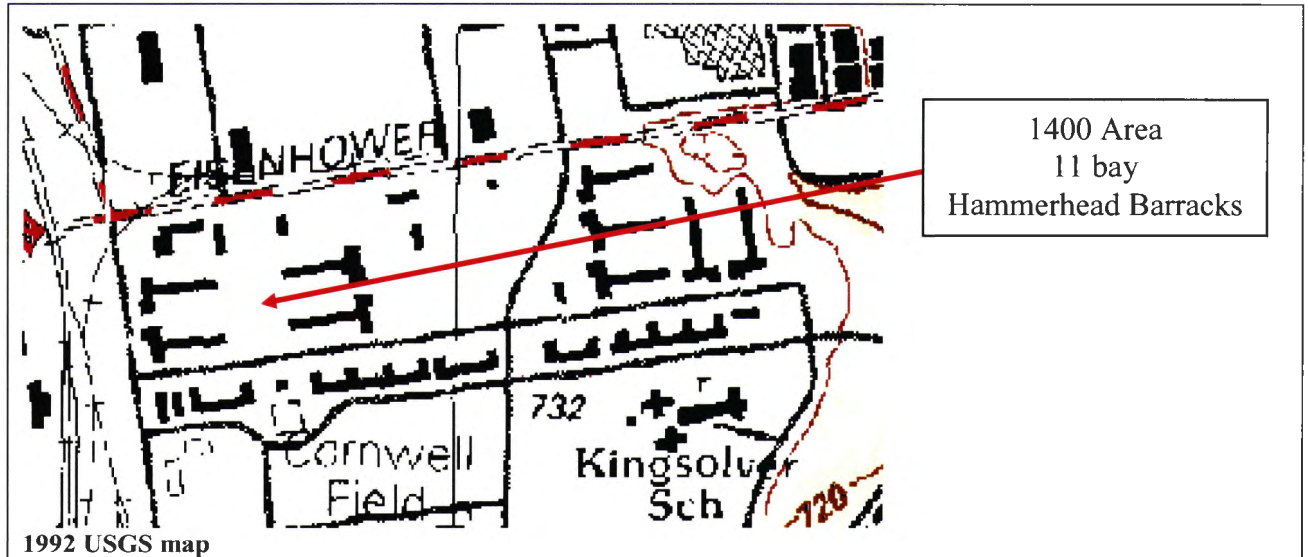
USGS QUAD

Fort Knox



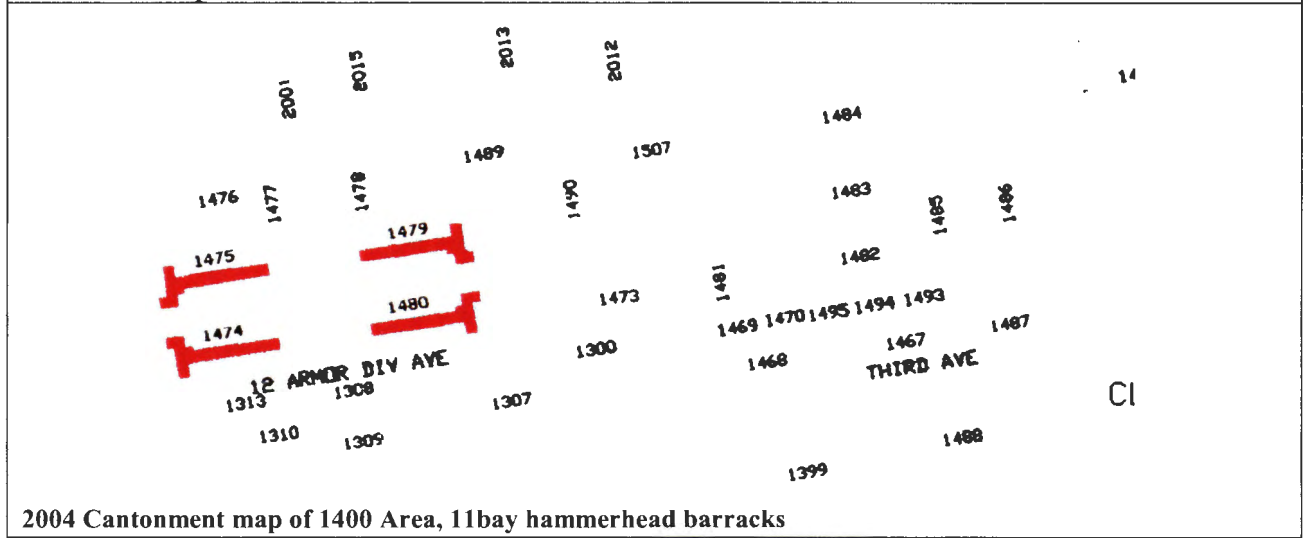
1400 Area
11 bay
Hammerhead Barracks

1953 USGS map



1400 Area
11 bay
Hammerhead Barracks

1992 USGS map



2004 Cantonment map of 1400 Area, 11 bay hammerhead barracks

<p><u>PRESENT OWNER</u> U. S. Army Garrison, Fort Knox</p>	<p><u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>
<p><u>GENERAL CONDITION OF PROPERTY</u></p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p><u>ADDITIONS/ALTERATIONS</u></p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>
<p><u>BIBLIOGRAPHIC SOURCES</u></p> <p>Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.</p> <p>House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.</p> <p>Kuranda, Kathryn M., et. al. 2003 <i>Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)</i>. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.</p> <p>Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.</p>	
<p><u>PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY</u></p> <p>ELIGIBLE/CONTRIBUTING NOT ELIGIBLE</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p><u>FORM PREPARED BY:</u> Sunny Stone and Adam Smith Engineer Research and Development Center Construction Engineering Research Laboratory 2902 Farber Drive Champaign, IL 61822</p> <p>DATE: NOVEMBER 2004</p>

DESCRIPTION

The eleven-bay hammerhead barracks in the 1400 area are located north of 12 Armor Division Avenue, east of Knox Street, south of Eisenhower Avenue, and west of Old Ironsides Avenue. The group of four eleven-bay barracks is set around an open area used for drill and recreation. One six-bay hammerhead barracks and two battalion headquarters buildings are set to the north. All four buildings are currently used as enlisted men's barracks with a mess hall.

These buildings are unaccompanied personnel housing (UPH) commonly called hammerhead barracks. This type of building has a reinforced concrete frame structure with an exterior curtain wall of concrete block and a built-up flat roof. The barracks is supported by a reinforced concrete foundation; the reinforced concrete frame consists of exposed reinforced concrete columns and reinforced concrete floors. These buildings also have replacement anodized bronze aluminum windows.

The overall layout of the eleven-bay barracks is a rectangular, eleven bay, three-story barracks and a one-story, L-shaped addition appended to one end of the *handle* portion. The structures have basements with the same footprint. The entrances are located on the long side of the *handle* and consist of metal double doors. These buildings were constructed from drawing number 21-01-64 sheets 1 thru 44.

Hammerhead barracks are designed in different sizes; the six-bay, nine-bay, and eleven-bay were designed as a regimental-size troop housing complex. Usually a group of hammerhead barracks are set around an open area that is used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 1400 area four eleven-bay barracks, one six-bay barracks, and two battalion headquarters buildings are situated on rectangular portion of land.

HISTORY

Beginning in the 1950s, as a result of military build-up associated with the Korean War, the Army reviewed its construction needs and developed a series of seven standard barracks designs to reduce design time and building costs. This series was issued to Engineer Field Office for repetitive use in the continental United States.

In the 1950s, accommodating all company functions in a single building was the prime consideration in the design of barracks. These barracks, designed to utilize this aspect, are commonly known as hammerhead barracks due to their unique footprint. The overall layout of the building is a rectangular three-story barracks and a one-story, L-shaped addition appended to an end elevation, which housed the company's mess facility, administrative space, and storage area. These buildings were built with ribbons of metal sash windows.

Hammerhead barracks were most commonly clustered in groups of four and ten and laid out as a regimental-size troop housing complex. Each four building group represents a battalion and each four battalion group represents a regiment.

Standardization and uniformity in design were character defining elements of the hammerhead barracks type. Hammerhead barracks were the first major class of barracks built by the Army after World War II. Louis and Henry Architects-Engineers of Louisville, KY, designed the barracks. The design was developed with an anticipated life expectancy of twenty-five years.

A large number of hammerhead barracks were built between 1951 and 1957. Three different sizes of single-company hammerhead barracks were developed to house 105, 165, and 225 men. These buildings were strictly utilitarian, with a straightforward expression of structure and materials. Their distinct footprint resembles the outline of a hammer – a three-story barracks wing forming the *handle* with a single-story kitchen/mess wing forming the *head* and *tail*.

The barracks were originally constructed as open bay squad rooms with no interior walls. With the introduction of the Volunteer Army (VOLAR) program in the early 1970s, the hammerhead barracks underwent a number of changes. A major interior modification was the division of the squad rooms into three-person enlisted men rooms. More extensive changes included the removal or replacements of windows varying from the infill of windows with metal panels to the replacement of the original ribbon windows with smaller metal double sash units. "In the 1990s, a number of the hammerhead barracks were renovated to meet the 2+2 standards, and later the 1+1 standards. The renovations often included stripping the building interiors to the reinforced concrete frame, adding balconies, constructing walls in modern materials, and the addition of gable roofs" (Kuranda et al 2003, p 4-4).

HISTORY (cont.)

The 1400 area, eleven-bay hammerhead barracks, Buildings 1474, 1475, 1479, and 1480, were originally designed by Louis and Henry Architects-Engineers of Louisville, KY and Spector and Montgomery Architects-Engineers of Falls Church, VA. The structures were constructed in 1953 by Southeastern Construction Co., Charlotte, NC; T. A. Loving and Company, Goldsboro, NC; and Doyle and Russell of Richmond, VA as 225-man enlisted men's barracks with a mess hall. These structures were constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952 (House 1951, p 653).

INTEGRITY

These buildings were strictly utilitarian, with a straightforward expression of structure and materials. The four elements that are key to the integrity of the hammerhead barracks are the hammerhead footprint, the exposed reinforced concrete frame, the exposed concrete block walls, and ribbons of windows.

The 1400 area, eleven-bay hammerhead barracks footprint is intact and the exposed concrete frame and concrete block walls are still intact with the addition of new paint. In February 1976, under the VOLAR 73, the eleven-bay hammerhead barracks underwent numerous interior and exterior changes. One of the alterations to the structures resulted in the removal of the original ribbons of windows. The original steel awning windows were replaced with one-over-one anodized bronze aluminum windows and metal panels. New gutters and downspouts were added to the four barracks at an unknown date.

The Real Property record card gives the original construction date for Building 1474 as 1954, while the inventory list gives the original date as 1953.

The roof was replaced on Building 1475 in 1990 and the windows on the west side of the *head* were filled in with concrete block.

The overall design of the 1400 area does not represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since only four eleven-bay hammerhead barracks, one six-bay hammerhead barracks, and two battalion headquarters were built. These buildings do not constitute the four or ten buildings needed to have a regimental complex.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that these four eleven-bay hammerhead barracks are not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria for unaccompanied personnel housing (UPH) due to the lack of architectural and contextual integrity.

These buildings are not associated with a historically significant person nor do they have any unique architectural features that qualify them individually for the National Register of Historic Places (NRHP). The 1400 area was also examined as a potential historic district; however, the integrity of not only the eleven-bay hammerhead barracks but the one six-bay hammerhead barracks and the two battalion headquarters buildings in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings. Furthermore, the 1400 area does not represent a complete regimental complex of four or ten hammerhead barracks and supporting facilities with only five barracks and two battalion headquarters being constructed in the area.

Because a sufficient number of the Cold War UPH structures in the 1400 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the eleven-bay hammerhead barracks, Buildings 1474, 1475, 1479, and 1480, do **not** qualify for the NRHP.

DRAWINGS

See pages 311-319 for similar floor plans and elevations for the eleven-bay hammerhead barracks, Buildings 1474, 1475, 1479, and 1480.

HISTORIC PHOTOGRAPHS



View of original ribbon awning windows (no date, Patton Museum Vol. 2)



Hammerhead barracks dayroom 1955 (TAC)

COMPARISON PHOTOGRAPHS



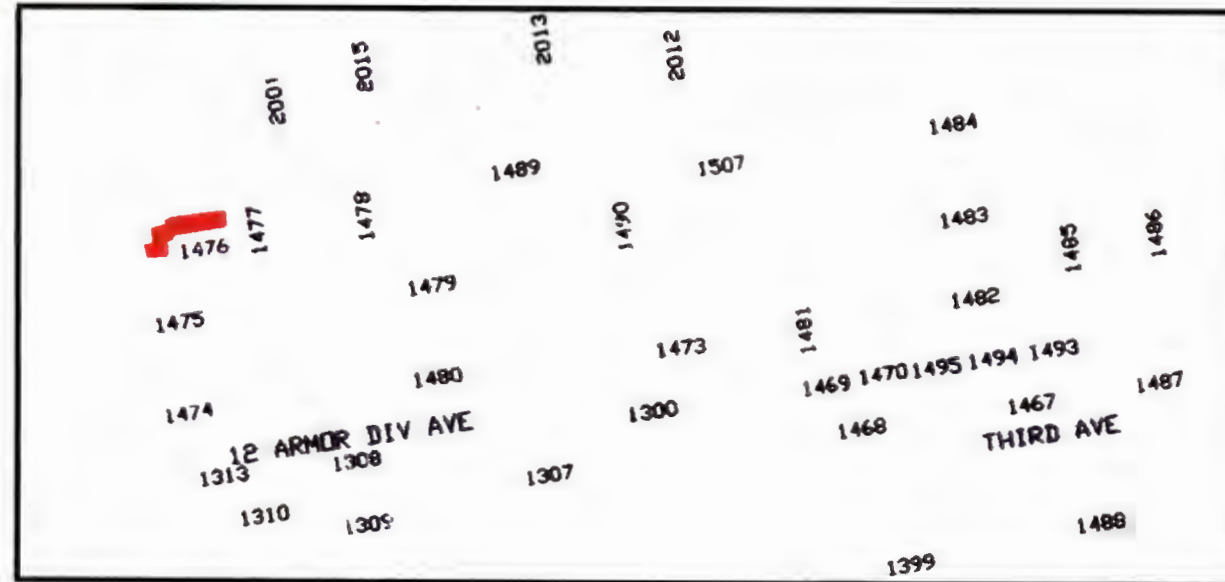
Original unpainted exposed concrete and concrete block with original steel awning windows



Current painted concrete and concrete block with anodized aluminum replacement windows



Building 1476 - south elevation of the *head* and *handle* portions containing the kitchen and barracks respectively



Building 1476 - south entrance between the *head* and *handle* portions, with original steel awning windows and asbestos siding

Figure 46 – 1400 Area; 6 bay hammerhead barracks

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

PROPERTY BOUNDARIES North of 12 Armor Division Avenue, east of Knox Street, south of Eisenhower Avenue, and west of Old Ironsides Avenue		COMMON/HISTORIC NAME/BUILDING # Enlisted Men’s Barracks with Mess Hall/Bldg 1476		STATUS Occupied
ARCHITECT/BUILDER Louis and Henry Architect-Engineers/Southeastern Construction Co.; T. A. Loving and Company; Doyle and Russell		DATE OF CONSTRUCTION 1953	NO. OF STORIES 3	FOOTPRINT Complex (hammerhead)
		DATE OF ALTERATIONS 1977, 1979		
MASSING Flat	FOUNDATION Concrete wall	WALLS Post-and-beam with concrete masonry unit infill walls	ROOF Built-up roofing	
PROPERTY FUNCTION		NOTABLE FEATURES Distinctive hammer-shaped building footprint Exposed reinforced concrete frame Reinforced concrete floors Concrete masonry unit infill walls Replacement anodized bronze aluminum windows Three-story barracks with adjoining one-story kitchen/mess wing		
HISTORIC USE(S) Barracks	CURRENT USE Barracks			
RELATIONSHIP TO OTHER BUILDINGS The six-bay hammerhead barracks is located in the northwest corner of a block of larger hammerhead barracks and battalion headquarters buildings. The open area in the middle of the block is used for drills and recreation.				



Building 1476 – south elevation of the *handle* portion where the barracks are located



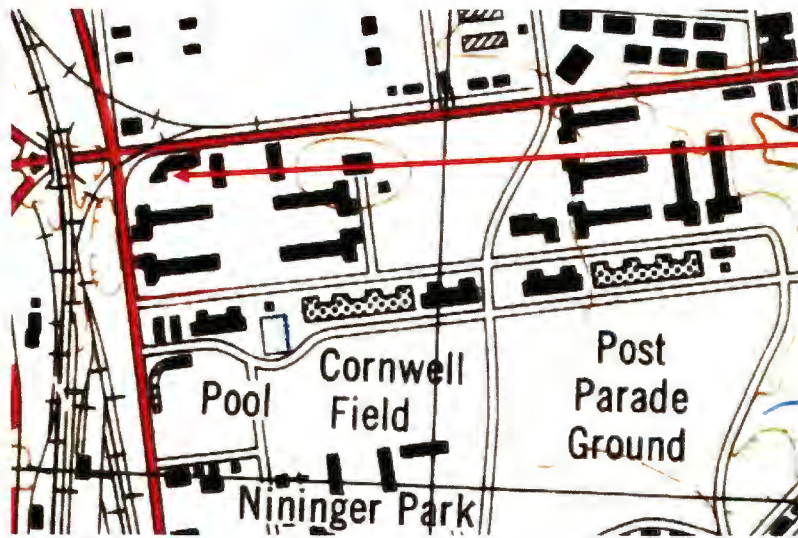
Building 1476 – south entrance between *handle* and *head* with asbestos siding and original steel awning windows

COORDINATES

UTM 16
4195610N
591673E

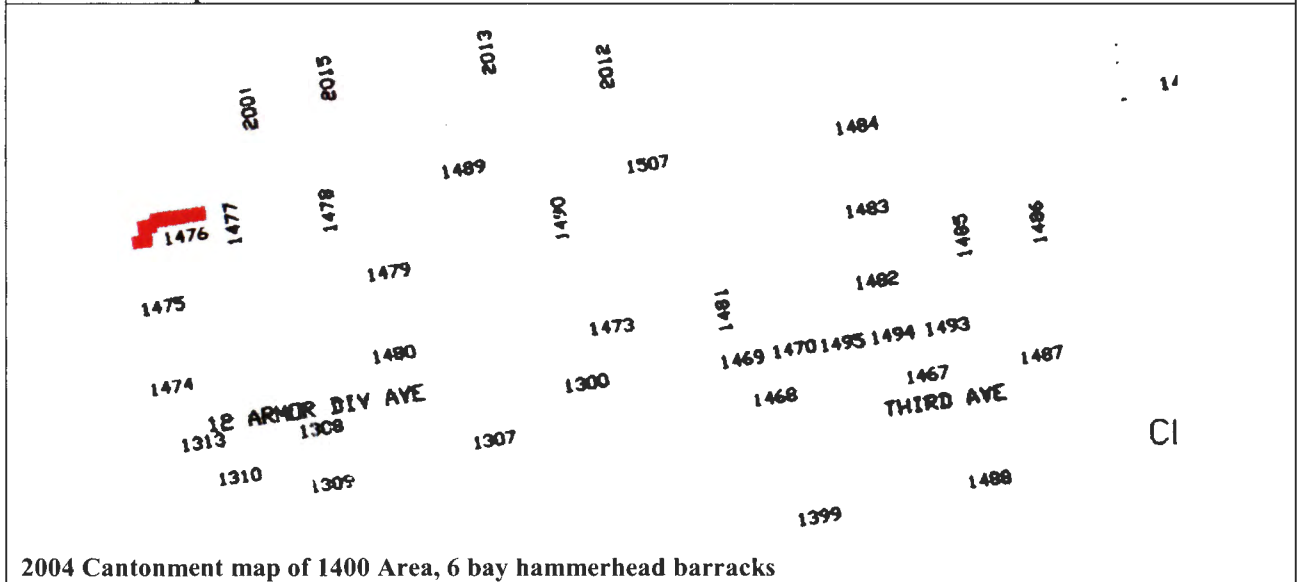
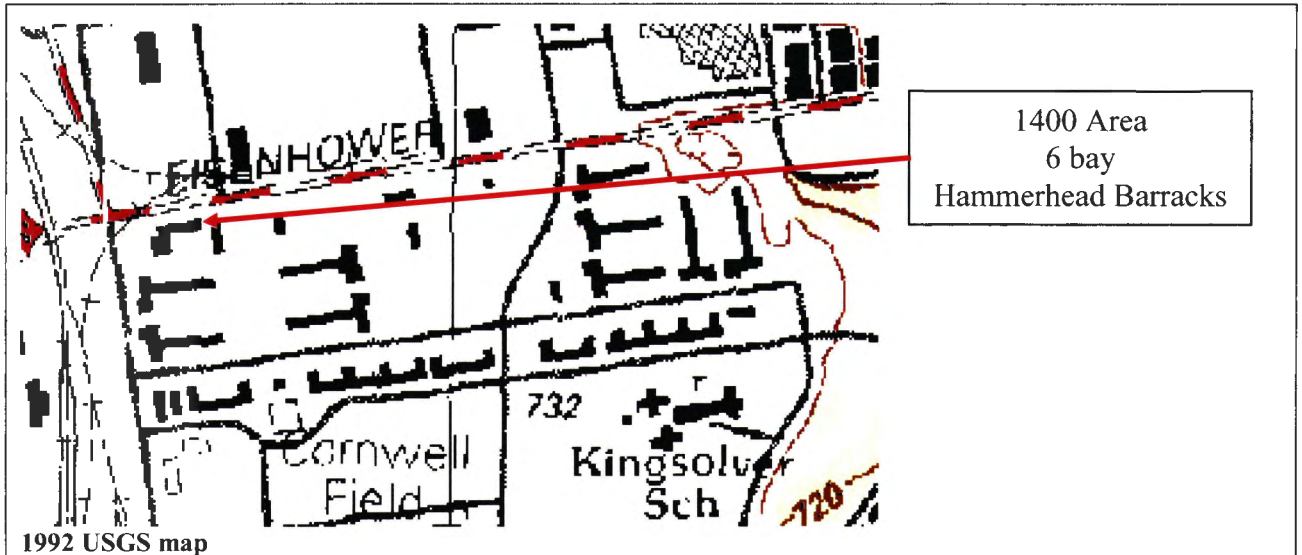
USGS QUAD

Fort Knox



1953 USGS map

1400 Area
6 bay
Hammerhead Barracks



<p><u>PRESENT OWNER</u> U. S. Army Garrison, Fort Knox</p>			<p><u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>		
<p><u>GENERAL CONDITION OF PROPERTY</u></p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>			<p><u>ADDITIONS/ALTERATIONS</u></p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>		

BIBLIOGRAPHIC SOURCES

Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.

House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.

Kuranda, Kathryn M., et. al.

2003 *Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)*. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.

Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.

PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY

ELIGIBLE/CONTRIBUTING



NOT ELIGIBLE

**FORM PREPARED BY:**

Sunny Stone and Adam Smith
Engineer Research and Development Center
Construction Engineering Research Laboratory
2902 Farber Drive
Champaign, IL 61822

DATE: NOVEMBER 2004

DESCRIPTION

The six-bay hammerhead barracks in the 1400 area is located north of 12 Armor Division Avenue, east of Knox Street, south of Eisenhower Avenue, and west of Old Ironsides Avenue. The barracks is located in the northwest corner of a block of larger hammerhead barracks and battalion headquarters buildings. The open area in the middle of the block is used for drills and recreation. Building 1476 is currently used as enlisted men's barracks with a mess hall.

This building is unaccompanied personnel housing (UPH) commonly called hammerhead barracks. Building 1476 has a reinforced concrete frame structure with an exterior curtain wall of concrete block and a built-up flat roof. The barracks is supported by a reinforced concrete foundation; the reinforced concrete frame consists of exposed reinforced concrete columns and reinforced concrete floors. The building also has replacement anodized bronze aluminum windows.

The overall layout of Building 1476 is a rectangular, six bay, three-story barracks and a one-story, L-shaped addition appended to the west elevation. The entrances into the building are located on the north and south facades and consist of metal double doors. The building was constructed from drawing number 21-01-68 sheet 1 thru 44.

Hammerhead barracks are designed in different sizes; the six-bay, nine-bay, and eleven-bay and were designed as a regimental-size troop housing complex. Usually a group of hammerhead barracks are set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 1400 area four eleven-bay barracks, one six-bay barracks, and two battalion headquarters buildings are situated on rectangular portion of land.

HISTORY

Beginning in the 1950s, as a result of military build-up associated with the Korean War, the Army reviewed its construction needs and developed a series of seven standard barracks designs to reduce design time and building costs. This series was issued to Engineer Field Office for repetitive use in the continental United States.

In the 1950s, accommodating all company functions in a single building was the prime consideration in the design of barracks. These barracks, designed to utilize this aspect, are commonly known as hammerhead barracks due to their unique footprint. The overall layout of the building is a rectangular three-story barracks and a one-story, L-shaped addition appended to an end elevation which housed the company's mess facility, administrative space, and storage area. These buildings were built with ribbons of metal sash windows.

Hammerhead barracks were most commonly clustered in groups of four and ten and laid out as a regimental-size troop housing complex. Each four building group represents a battalion and each four battalion group represents a regiment.

HISTORY (cont.)

Standardization and uniformity in design were character defining elements of the hammerhead barracks type. Hammerhead barracks were the first major class of barracks built by the Army after World War II. Louis and Henry Architects-Engineers of Louisville, KY, designed the barracks. The design was developed with an anticipated life expectancy of twenty-five years.

A large number of hammerhead barracks were built between 1951 and 1957. Three different sizes of single-company hammerhead barracks were developed to house 105, 165, and 225 men. These buildings were strictly utilitarian, with a straightforward expression of structure and materials. Their distinct footprint resembles the outline of a hammer – a three-story barracks wing forming the *handle* with a single-story kitchen/mess wing forming the *head and tail*.

The barracks were originally constructed as open bay squad room with no interior walls. With the introduction of the Volunteer Army (VOLAR) program in the early 1970s, the hammerhead barracks underwent a number of changes. A major interior modification was the division of the squad rooms into three-person enlisted men rooms. More extensive changes included the removal or replacements of windows varying from the infill of windows with metal panels to the replacement of the original ribbon windows with smaller metal double sash units. “In the 1990s, a number of the hammerhead barracks were renovated to meet the 2+2 standards, and later the 1+1 standards. The renovations often included stripping the building interiors to the reinforced concrete frame, adding balconies, constructing walls in modern materials, and the addition of gable roofs” (Kuranda et al 2003, p 4-4).

The 1400 area, six-bay hammerhead barracks, Building 1476, was originally constructed in 1953 by Southeastern Construction Co., Charlotte, NC; T. A. Loving and Company, Goldsboro, NC; and Doyle and Russell of Richmond, VA as a 105-man enlisted men’s barracks with a mess hall. This structure was constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952 (House 1951, p 653). The six-bay hammerhead barracks located in the 1400 area was one of five six-bay hammerhead barracks to be constructed on the installation under this appropriation.

INTEGRITY

These buildings were strictly utilitarian, with a straightforward expression of structure and materials. The four elements that are key to the integrity of the hammerhead barracks are the hammerhead footprint, the exposed reinforced concrete frame, the exposed concrete block walls, and ribbons of windows.

The 1400 area, hammerhead barracks footprint, the exposed concrete frame, and concrete block walls are still intact with the addition of new paint. In April 1977, under the VOLAR 74, the six-bay hammerhead barracks underwent numerous interior and exterior changes. One of the alterations to the structure resulted in the removal of the original ribbons of windows. The original steel awning windows were replaced with one-over-one anodized bronze aluminum windows and metal panels. In July 1979, the mess hall was renovated. New gutters and downspouts were added at an unknown date.

The overall design of the 1400 area does not represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since only four eleven-bay hammerhead barracks, one six-bay hammerhead barracks, and two battalion headquarters were built. These buildings do not constitute the four or ten buildings needed to have a regimental complex.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that this six-bay hammerhead barracks is not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria for unaccompanied personnel housing (UPH) due to the lack of architectural and contextual integrity.

This building by itself is not associated with a historically significant person nor does it have any unique architectural features that qualify it individually for the National Register of Historic Places (NRHP). The 1400 area was also examined as a potential historic district; however, the integrity of not only the six-bay hammerhead barracks but also the four eleven-bay hammerhead barracks in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings. Furthermore, the 1400 area does not represent a complete regimental complex of four or ten hammerhead barracks and supporting facilities as only five barracks and two battalion headquarters were constructed in the area.

Because a sufficient number of the Cold War UPH structures in the 1400 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the six-bay hammerhead barracks, Building 1476, does **not** qualify for the NRHP.

DRAWINGS

See pages 303-309 for similar floor plans and elevations for the six-bay hammerhead barracks, Building 1476.

HISTORIC PHOTOGRAPHS



View of original ribbon awning windows (no date, Patton Museum Vol. 2)



Hammerhead barracks dayroom 1955 (TAC)

COMPARISON PHOTOGRAPHS



Original unpainted exposed concrete and concrete block with original steel awning windows



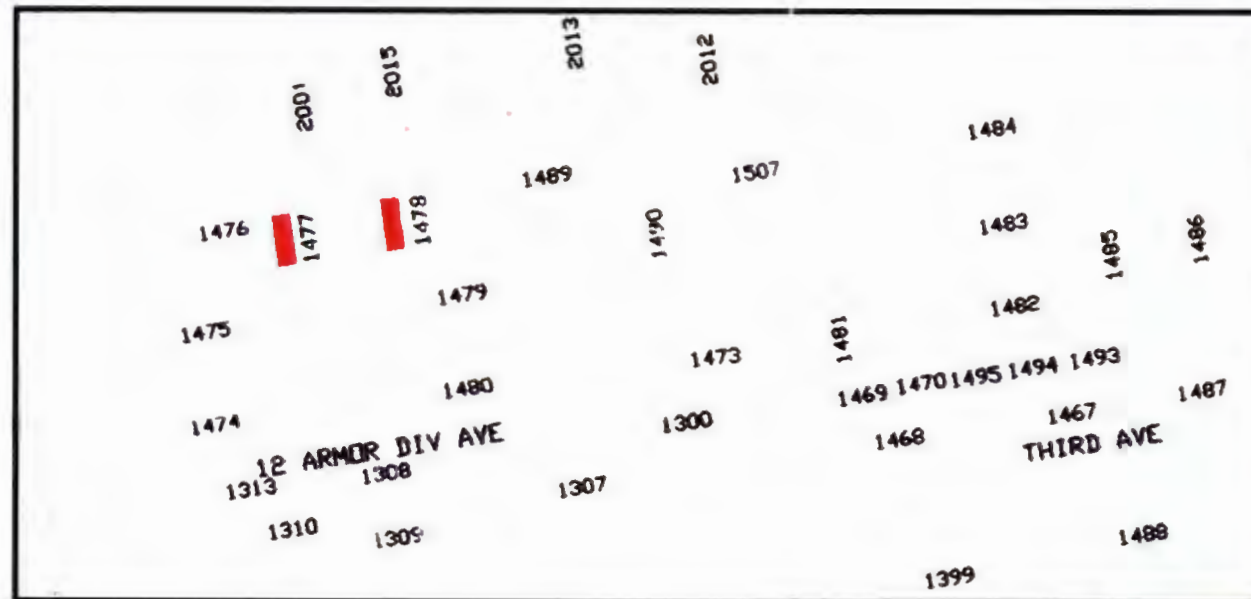
Current painted concrete and concrete block with anodized aluminum replacement windows



Building 1477 - oblique view of the north and east elevations



Building 1478 - oblique view of the east and south elevations



Building 1477 - close up of metal canopies on the west elevations



Building 1478 - oblique view of the south and west elevations

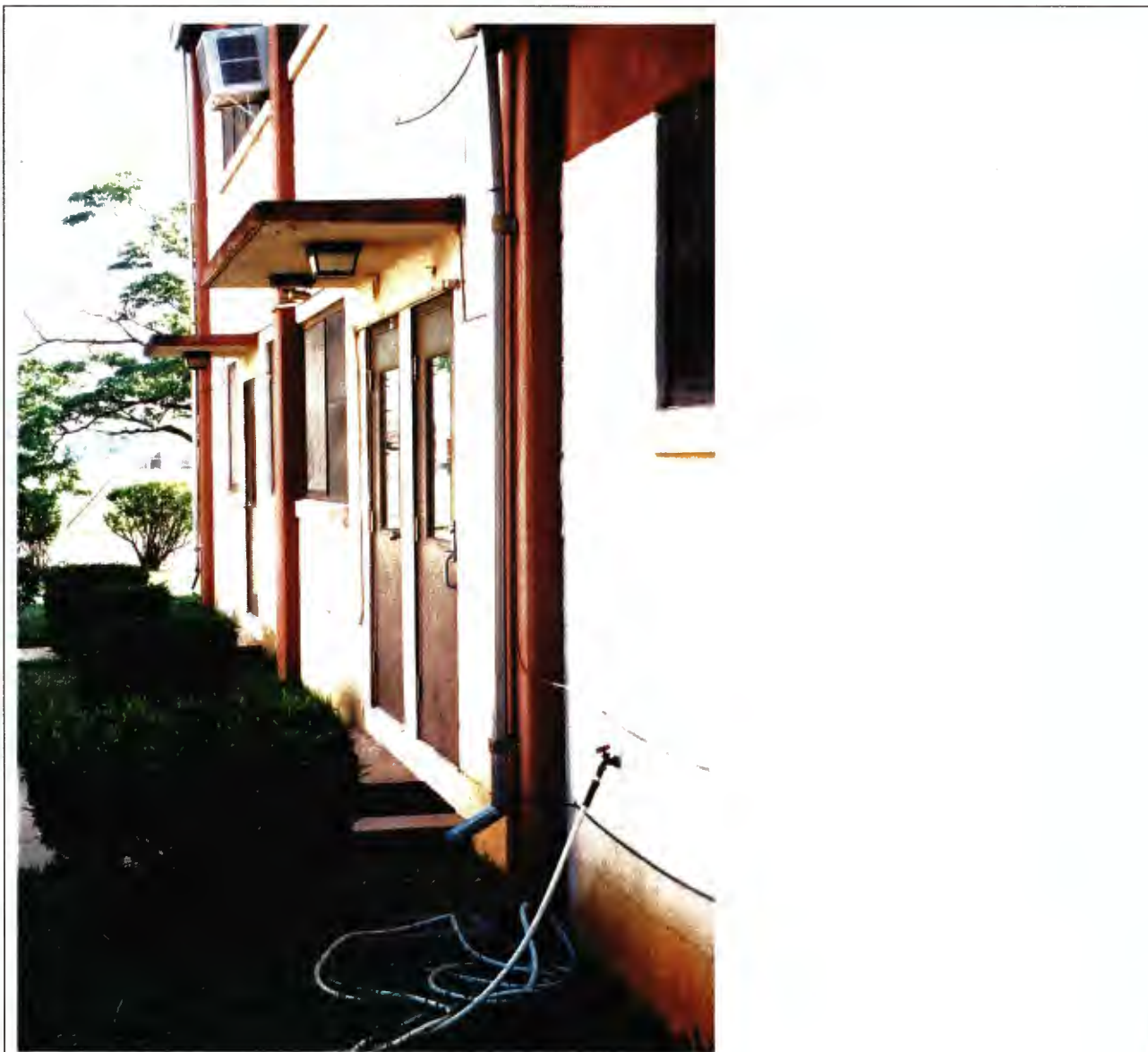
Figure 47 – 1400 Area; battalion headquarters

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

PROPERTY BOUNDARIES North of 12 Armor Division Avenue, east of Knox Street, south of Eisenhower Avenue, west of Old Ironsides Avenue		COMMON/HISTORIC NAME/BUILDING # Battalion Headquarters/Bldg 1477 Gardeens Hall/Battalion Headquarters/Bldg 1478		STATUS Occupied
ARCHITECT/BUILDER Louis and Henry; Fred Elswick; Hazelet and Erdal Architect- Engineer		DATE OF CONSTRUCTION 1953 (inventory list) 1954 (Real Property card for Bldg 1477) DATE OF ALTERATIONS 1970s	NO. OF STORIES 2	FOOTPRINT Rectangular
MASSING Flat	FOUNDATION Concrete wall	WALLS Post-and-beam with concrete masonry unit infill walls	ROOF Built-up	
PROPERTY FUNCTION HISTORIC USE(S) CURRENT USE		NOTABLE FEATURES		
Office Office		Exposed reinforced concrete frame Reinforced concrete floors Concrete masonry unit infill walls Replacement anodized bronze aluminum windows Exterior brick chimney		
RELATIONSHIP TO OTHER BUILDINGS The battalion headquarters are located north of a group of four eleven-bay hammerhead barracks and east of one six-bay hammerhead barracks.				



Building 1477 – north elevation



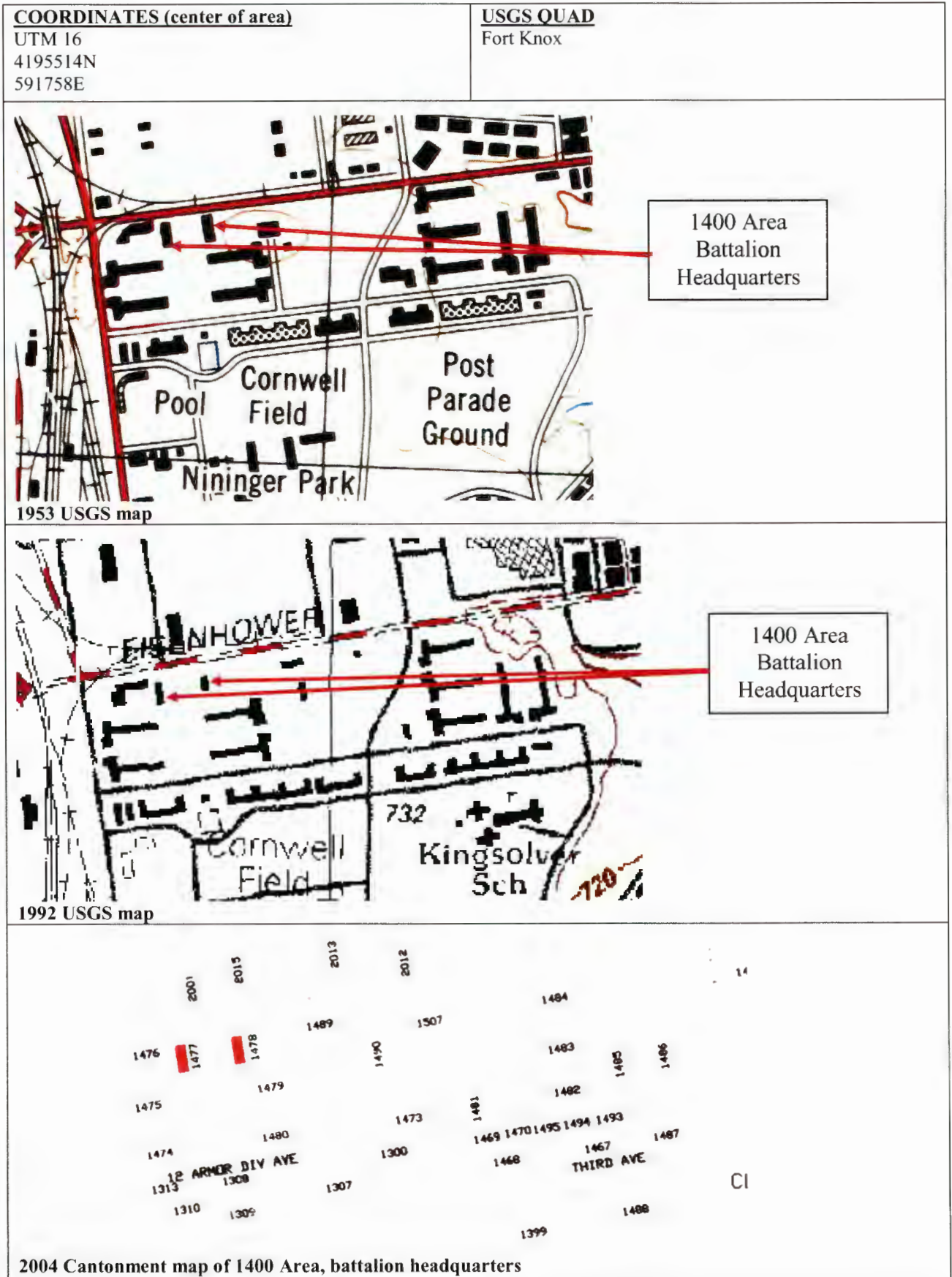
Building 1477 – metal canopies over the entrances on the west side



Building 1478 – oblique view of the south and west elevations



Building 1478 – west elevation



<p><u>PRESENT OWNER</u> U. S. Army Garrison, Fort Knox</p>	<p><u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>
<p><u>GENERAL CONDITION OF PROPERTY</u></p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p><u>ADDITIONS/ALTERATIONS</u></p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>
<p><u>BIBLIOGRAPHIC SOURCES</u></p> <p>Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.</p> <p>House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.</p> <p>Kuranda, Kathryn M., et. al. 2003 <i>Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)</i>. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.</p> <p>Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.</p>	
<p><u>PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY</u></p> <p>ELIGIBLE/CONTRIBUTING NOT ELIGIBLE</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p><u>FORM PREPARED BY:</u> Sunny Stone and Adam Smith Engineer Research and Development Center Construction Engineering Research Laboratory 2902 Farber Drive Champaign, IL 61822</p> <p>DATE: NOVEMBER 2004</p>

DESCRIPTION

The two battalion headquarters buildings in the 1400 area are located north of 12 Armor Division Avenue, east of Knox Street, south of Eisenhower Avenue, west of Old Ironsides Avenue. The headquarters are located north of a group of four eleven-bay hammerhead barracks and east of one six-bay hammerhead barracks. The open area in the middle of the block is used for drills and recreation. Both Building 1477 and 1478 are currently used as battalion headquarters buildings.

These buildings have a reinforced concrete frame structure with an exterior curtain wall of concrete block and a built-up flat roof. The structures are supported by a reinforced concrete foundation; the reinforced concrete frame consists of exposed reinforced concrete columns and reinforced concrete floors. These buildings also have replacement anodized bronze aluminum windows.

The overall layouts of the buildings are rectangular. The structures have two different roof heights. The front portion, where the main entrance is located, is two bays wide by two bays deep and two stories tall, while the rear portion of the building is two bays wide by three bays deep and one-story tall. The windows located on the first floor of the two-story portion are replacement anodized bronze aluminum windows and are grouped in sets of four, while the windows located on the second level of the two-story portion are also anodized bronze aluminum replacement windows but are set in pairs. There are two pairs of windows per bay on the second story. The one-story rear portion has replacement anodized bronze windows grouped in sets of four, similar to the windows found on the first floor of the two-story portion. The doors on the battalion headquarters buildings are metal replacement doors with one light in each door. The main entrance into each building is defined by a large inset the width of one bay. Flat metal canopies are positioned above the metal doors on the sides of the buildings. Both battalion headquarters have a large exterior brick chimney that appears above the roof of the one-story portion. These buildings were constructed from drawing number 30-02-14 sheets 1-12.

Typically, a group of hammerhead barracks are set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 1400 area only four eleven-bay barracks, one six-bay barracks, and two battalion headquarters buildings are situated on rectangular portion of land.

HISTORY

Building 1477 was originally constructed in 1954, while Building 1478 was constructed in 1953. The 1400 area, battalion headquarters were designed by Louis and Henry; Fred Elswick; Hazelet and Erdal Architect-Engineer from Louisville, KY. These structures were constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952. "These buildings were required to house the normal headquarters echelons to command the units that would occupy the permanent barracks being constructed" (House 1951, p 655). The two battalion headquarters located in the 1400 area were two of six battalion headquarters to be constructed on the installation under this appropriation.

INTEGRITY

The 1400 area, battalion headquarters is intact and in good condition. The exposed concrete frame and concrete block walls are still intact with the addition of new paint. However, one of the alterations to the structures resulted in the removal of the original ribbons of windows. The original steel awning windows were replaced with one-over-one anodized bronze aluminum windows and metal panels.

The Real Property card for Building 1477 gives the original construction date of 1954, while the inventory list given to the research team lists the construction date as 1953.

The overall design of the 1400 area does not represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since only four eleven-bay hammerhead barracks, one six-bay hammerhead barracks, and two battalion headquarters were built. These buildings do not constitute the four or ten buildings needed to have a regimental complex.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that these two battalion headquarters, Building 1477 and 1478, are not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria due to the lack of architectural and contextual integrity.

These buildings are not associated with a historically significant person nor do they have any unique architectural features that qualify them individually for the National Register of Historic Places (NRHP). The 1400 area was also examined as a potential historic district; however, the integrity of not only the battalion headquarters, but also the one six-bay hammerhead barracks and four eleven-bay hammerhead barracks in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings. Furthermore, the 1400 area does not represent a complete regimental complex of four or ten hammerhead barracks and supporting facilities as five barracks and two battalion headquarters were constructed in the area.

Because a sufficient number of the Cold War UPH structures in the 1400 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the two battalion headquarters, Buildings 1477 and 1478, do **not** qualify for the NRHP.

DRAWINGS

See pages 321-323 for similar floor plans and elevations for the battalion headquarters, Buildings 1477 and 1478.

COMPARISON PHOTOGRAPHS

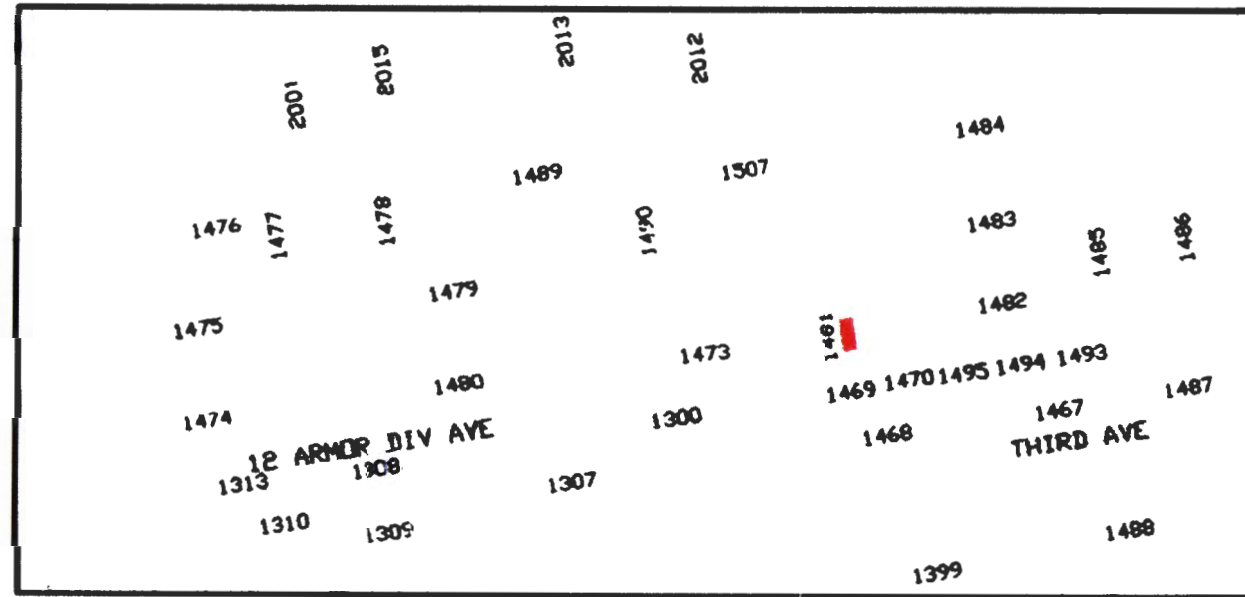
Original unpainted exposed concrete and concrete block with original steel awning windows



Current painted concrete and concrete block with anodized aluminum replacement windows



Building 1481 - north elevation



Building 1481 - west elevation

Figure 48 – 1400 Area; regimental headquarters

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

PROPERTY BOUNDARIES North of 12 Armor Division Avenue, east of Old Ironsides Avenue, and south of Eisenhower Avenue		COMMON/HISTORIC NAME/BUILDING # Humpick Hall/Police/MP Station/Regimental Headquarters/Bldg 1481		STATUS Occupied
ARCHITECT/BUILDER Keyes, Smith, and Satterlee, Architects; Francis D. Lethbridge-Associate; Achitects- Engineers		DATE OF CONSTRUCTION 1953 (inventory list) 1954 (Real Property card)	NO. OF STORIES 2	FOOTPRINT Rectangular
DATE OF ALTERATIONS 1970s				
MASSING Flat	FOUNDATION Concrete wall	WALLS Post-and-beam with concrete masonry unit infill walls	ROOF Built-up	
PROPERTY FUNCTION		NOTABLE FEATURES		
HISTORIC USE(S) Office	CURRENT USE Office	Exposed reinforced concrete frame Reinforced concrete floors Concrete masonry unit infill walls Replacement anodized bronze aluminum windows		
RELATIONSHIP TO OTHER BUILDINGS The regimental headquarters is located west of the group of renovated eleven-bay hammerhead barracks and east of a large parking lot near the group of four eleven-bay hammerhead barracks.				



Building 1481 – north elevation



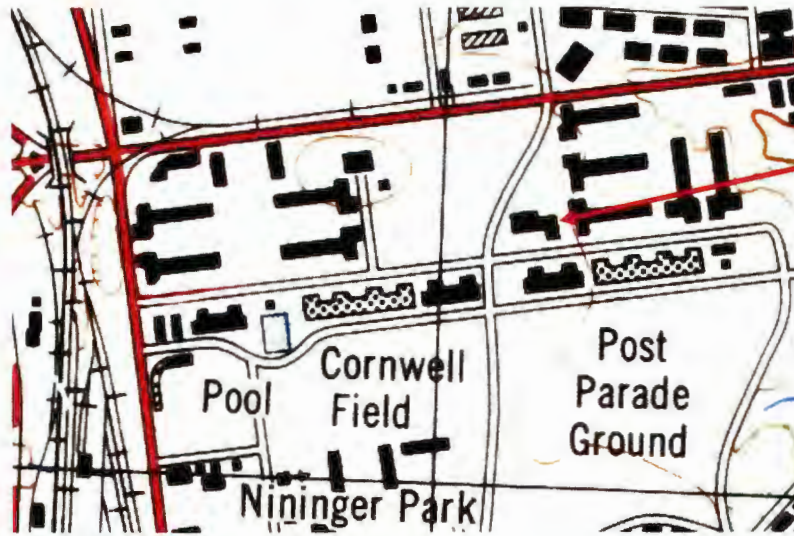
Building 1481 – west elevation

COORDINATES

UTM 16
4195530N
592122E

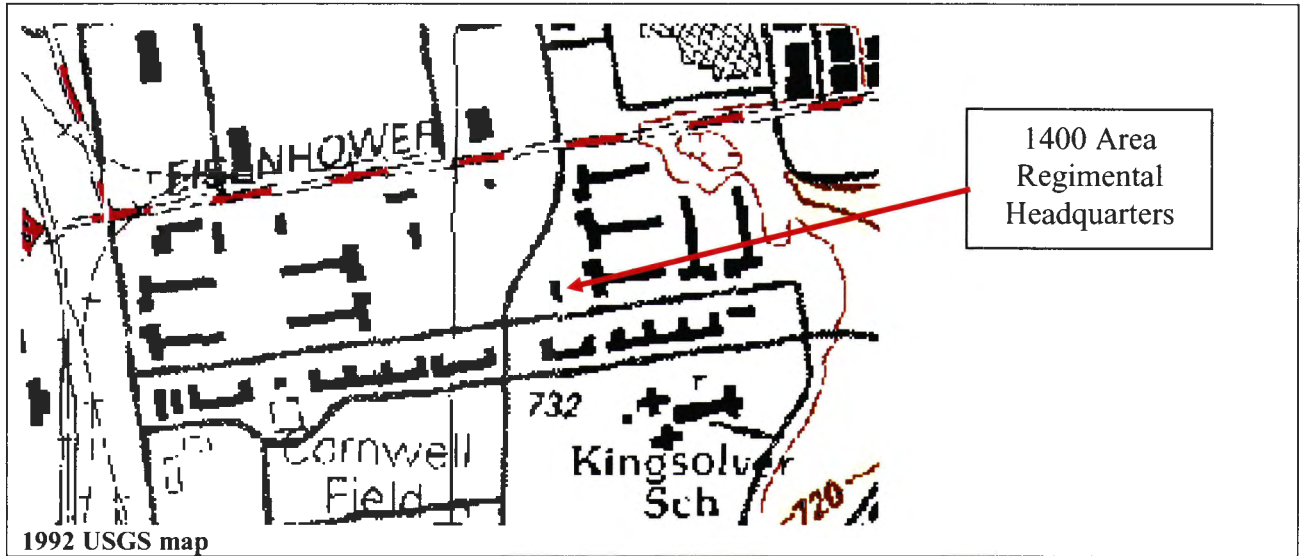
USGS QUAD

Fort Knox



1953 USGS map

1400 Area
Regimental
Headquarters



1992 USGS map



2004 Cantonment map of 1400 Area, regimental headquarters

<p><u>PRESENT OWNER</u> U.S. Army Garrison, Fort Knox</p>	<p><u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>
<p><u>GENERAL CONDITION OF PROPERTY</u></p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p><u>ADDITIONS/ALTERATIONS</u></p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>
<p><u>BIBLIOGRAPHIC SOURCES</u></p> <p>Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.</p> <p>House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.</p> <p>Kuranda, Kathryn M., et. al. 2003 <i>Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)</i>. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.</p> <p>Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.</p>	
<p><u>PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY</u></p> <p>ELIGIBLE/CONTRIBUTING NOT ELIGIBLE</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p><u>FORM PREPARED BY:</u> Sammy Stone and Adam Smith Engineer Research and Development Center Construction Engineering Research Laboratory 2902 Farber Drive Champaign, IL 61822</p> <p>DATE: NOVEMBER 2004</p>
<p><u>DESCRIPTION</u></p> <p>The regimental headquarters, Buildings 1481, in the 1400 area is located north of 12 Armor Division Avenue, east of Old Ironsides Avenue, and south of Eisenhower Avenue. The regimental headquarters is located west of the group of renovated eleven-bay hammerhead barracks and east of a large parking lot near the group of four eleven-bay hammerhead barracks. Building 1481 is currently used as a police/MP station.</p> <p>This building has a reinforced concrete frame structure with an exterior curtain wall of concrete block and a built-up flat roof. The structure is supported by a reinforced concrete foundation; the reinforced concrete frame consists of exposed reinforced concrete columns and reinforced concrete floors. The building also has replacement anodized bronze aluminum windows and metal panels.</p> <p>The overall layout of the building is rectangular. The structure is two bays wide by four bays deep and two stories tall with a basement. The windows are replacement anodized bronze aluminum metal windows. There are two windows per bay and three metal panels per bay that fill original window openings. The doors on the regimental headquarters building are metal replacement doors with one light in each door. A poured concrete block ramp is located on the west side of the structure. This building was constructed from drawing number 30-02-39 sheets 1-20.</p> <p>Typically, a group of hammerhead barracks are set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 1400 area only four eleven-bay barracks, one six-bay barracks, and two battalion headquarters buildings are situated on rectangular portion of land.</p>	

HISTORY

Building 1481 was originally constructed in 1954 as a regimental headquarters building. The 1400 area, regimental headquarters was designed by Keyes, Smith, and Satterlee, Architects; Francis D. Lethbridge-Associate; Architects-Engineers of Washington, D.C. This structure was constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952. “These buildings were required to house the normal headquarters echelons to command the units occupying the permanent barracks space that was to be constructed” (House 1951, p 655). This regimental headquarters located in the 1400 area was one of three regimental headquarters to be constructed on the installation under this appropriation.

INTEGRITY

The 1400 area, regimental headquarters, Building 1481, is intact and in good condition. The exposed concrete frame and concrete block walls are still intact with the addition of new paint. However, one of the alterations to the structures resulted in the removal of the original ribbons of windows. The original steel awning windows were replaced with one-over-one anodized bronze aluminum windows and metal panels at an unknown date.

The Real Property card for Building 1481 gives the original construction date as 1954, while the inventory list given to the research team lists the construction date as 1953.

Building 1481 had a change in use from a regimental headquarters building to a police/MP station in November 1967.

The overall design of the 1400 area does not represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since four eleven-bay hammerhead barracks, one six-bay hammerhead barracks, and two battalion headquarters were built. These buildings do not constitute the four or ten buildings needed to have a regimental complex.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

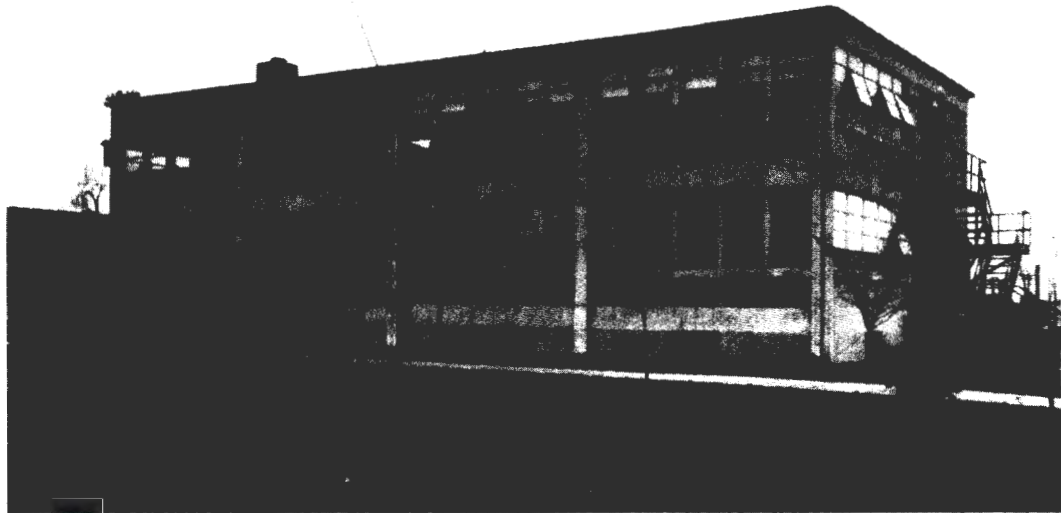
It is the determination of this report that this regimental headquarters, Building 1481, is not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria due to the lack of architectural and contextual integrity.

This building is not associated with a historically significant person nor does it have any unique architectural features that qualify it individually for the National Register of Historic Places (NRHP). The 1400 area was also examined as a potential historic district; however, the integrity of not only the regimental headquarters, but also the one six-bay hammerhead barracks, four eleven-bay hammerhead barracks, and two battalion headquarters in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings. Furthermore, the 1400 area does not represent a complete regimental complex of four or ten hammerhead barracks and supporting facilities as five barracks and two battalion headquarters were constructed in the area.

Because a sufficient number of the Cold War UPH structures in the 1400 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the regimental headquarters, Building 1481, does **not** qualify for the NRHP.

DRAWINGS

See pages 325-327 for similar floor plans and elevations for the regimental headquarters, Building 1481.

HISTORIC PHOTOGRAPHS

**Building 2370 – similar to Building 1481, showing original steel awning windows and reinforced concrete frame
12 February 1957 (National Archives College Park)**



Building 2370 – similar to Building 1481 12 February 1957 (National Archives College Park)



Interior view of Building 2370 depicting the concrete frame supports; similar to Building 1481 12 February 1957 (National Archives College Park)

COMPARISON PHOTOGRAPHS

Original unpainted exposed concrete and concrete block with original steel awning windows



Current painted concrete and concrete block with anodized aluminum replacement windows



Building 1482 on left and Building 1483 on right-renovated 11 bay hammerhead barracks



Looking south between Building 1482 on left and Building 1485 on right - addition of exterior brick circulation towers



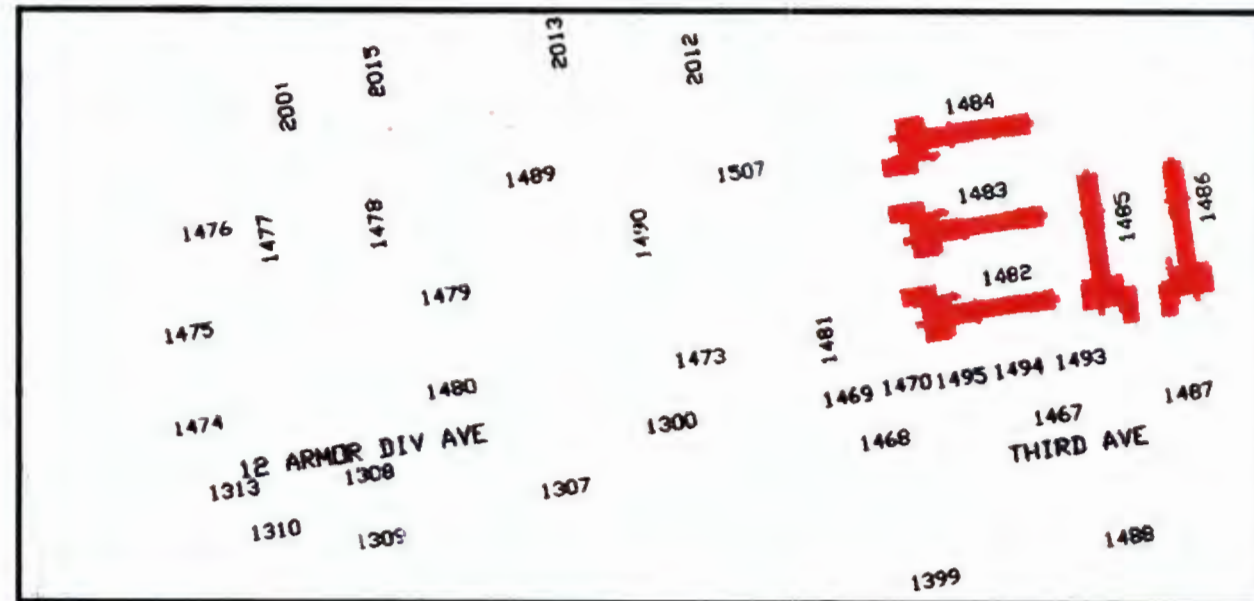
Building 1485 - east elevation of *handle* portion containing the barracks



Building 1485 - close up of brick circulation addition on the north elevation



Building 1483 - north elevation of *handle* portion containing the barracks with addition of exterior brick balconies and circulation tower



Building 1485 - close up of a renovated bay on east elevation



Building 1484 - south elevation of *handle* portion containing the barracks with addition of exterior brick balconies and large circulation tower



Building 1486 - east elevation of *handle* portion containing the barracks with addition of exterior brick balconies



Building 1486 - new entrance located on the *tail* portion of the south elevation containing the mess hall



Building 1485 - new arched entrance, arched windows, and gable parapet wall located on the south elevation

Figure 49 – 1400 Area; 11 bay hammerhead barracks-renovated

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

<u>PROPERTY BOUNDARIES</u> North of 12 Armor Division Avenue, east of Old Ironsides Avenue, and South of Eisenhower Avenue		<u>COMMON/HISTORIC NAME/BUILDING #</u> Enlisted Men’s Barracks with Mess Hall/Bldg 1482 Enlisted Men’s Barracks with Mess Hall/Bldg 1483 Enlisted Men’s Barracks with Mess Hall/Bldg 1484 Cole Hall/Enlisted Men’s Barracks with Mess Hall/Bldg 1485 Gates Hall/Enlisted Men’s Barracks with Mess Hall/Bldg 1486		<u>STATUS</u> Occupied
<u>ARCHITECT/BUILDER</u> Louis and Henry Architect-Engineer/ Spector & Montgomery Architects-Engineers (originals) Southeastern Construction Co.; T. A. Loving and Company; Doyle and Russell (originals)		<u>DATE OF CONSTRUCTION</u> 1953 (inventory list) 1954 (Real Property card) <u>DATE OF ALTERATIONS</u> 1963, 1977, 1979, 1994	<u>NO. OF STORIES</u> 3	<u>FOOTPRINT</u> Complex (hammerhead)
<u>MASSING</u> Hipped	<u>FOUNDATION</u> Concrete wall	<u>WALLS</u> Post-and-beam with brick veneer	<u>ROOF</u> Three-tab asphalt with metal fascia	
<u>PROPERTY FUNCTION</u> <u>HISTORIC USE(S)</u> Barracks		<u>NOTABLE FEATURES</u> Exterior stair towers Wrap-around exterior balconies with metal handrails Hipped asphalt roof with metal fascia Brick veneer exterior walls Additions to the one-story kitchen/mess wing Stucco-like exterior cladding on one-story wing Arched windows and accent features Replacement aluminum double-hung windows		
<u>CURRENT USE</u> Barracks				
<u>RELATIONSHIP TO OTHER BUILDINGS</u> The group of five barracks is located north of “C” shape brick barracks. The open area around the hammerheads is filled with paved parking lots. A regimental headquarters building is located west of the group of barracks.				



Building 1482 located on the left side and Building 1483 located on the right side



Building 1482 is located on the right side and Building 1485 located on the left side; showing arch comparisons on new additions with the original design of the 1930s brick barracks in the middle



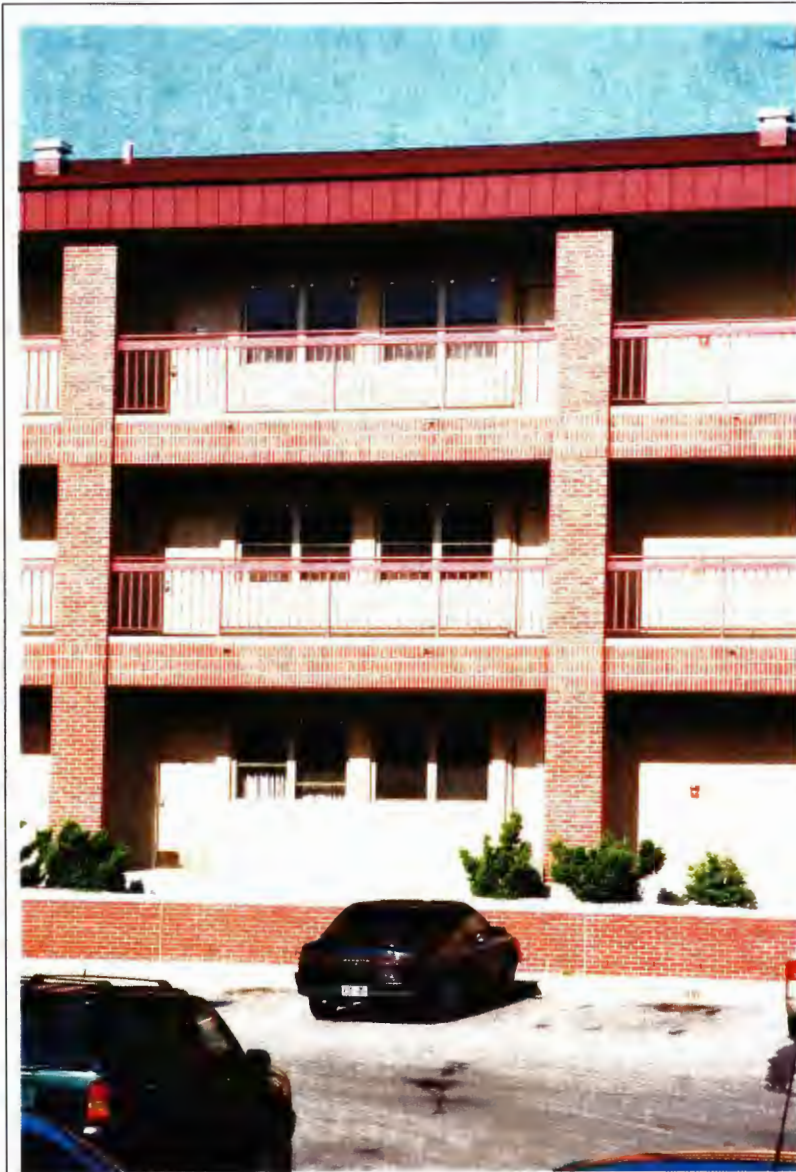
Building 1483 – north side of the *handle* portion where the barracks are located



Building 1484 – south side of the *handle* portion of the renovated building



Building 1485 – east elevation of the *handle* portion of the renovated building



Building 1485 – east elevation of the *handle* showing a close up of one of the renovated bays



Building 1485 – new stair tower located on the north end



Building 1485 – new front entrance into the building, located on the south elevation



Building 1485 is located on the right side and Building 1486 is located on the left side



Building 1486 – east elevation of the *handle* of the renovated building



Building 1486 – new front entrance into the building, located on the south elevation



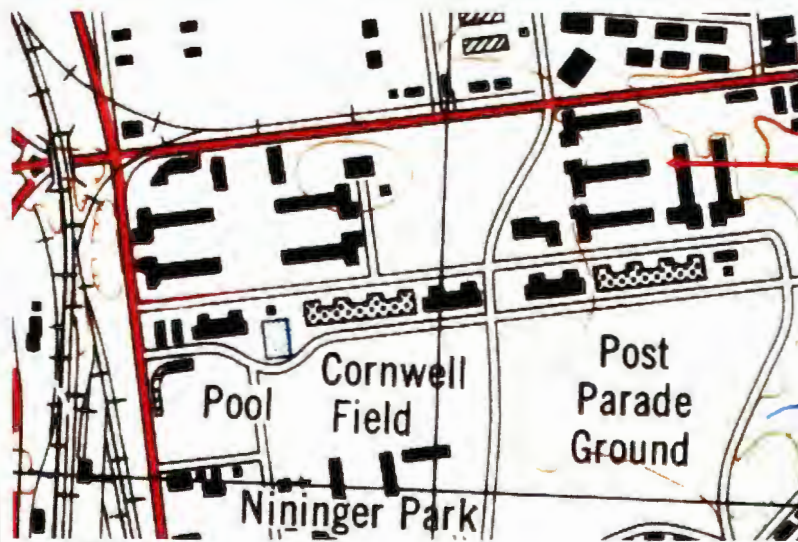
Building 1486 – new front entrance into the building, located on the south elevation

COORDINATES (center of area)

UTM 16
4195652N
592274E

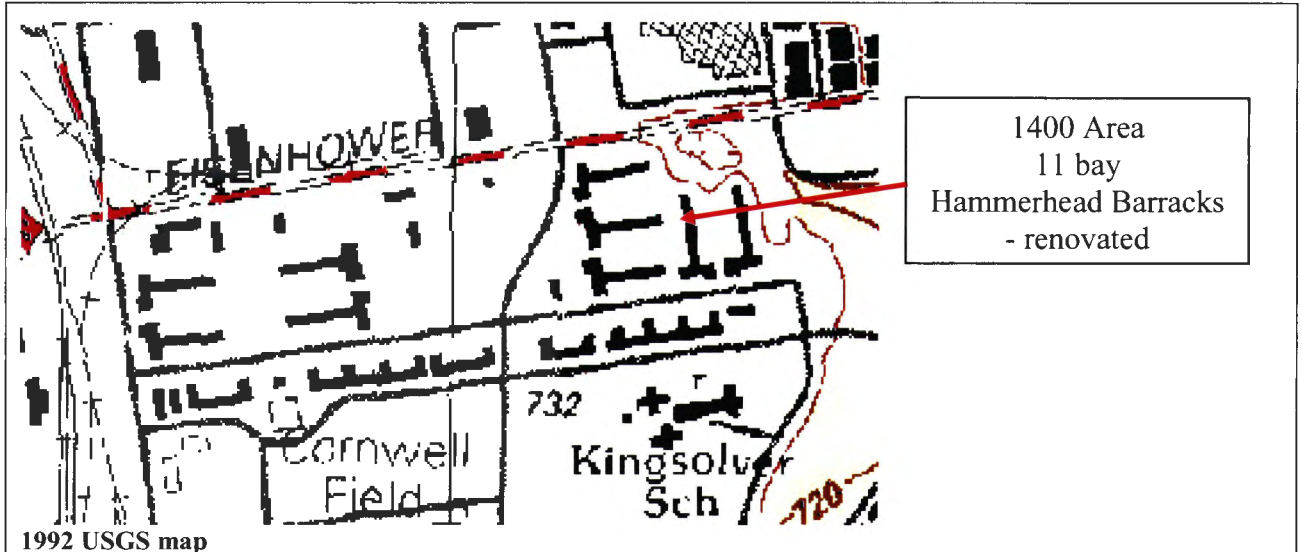
USGS QUAD

Fort Knox

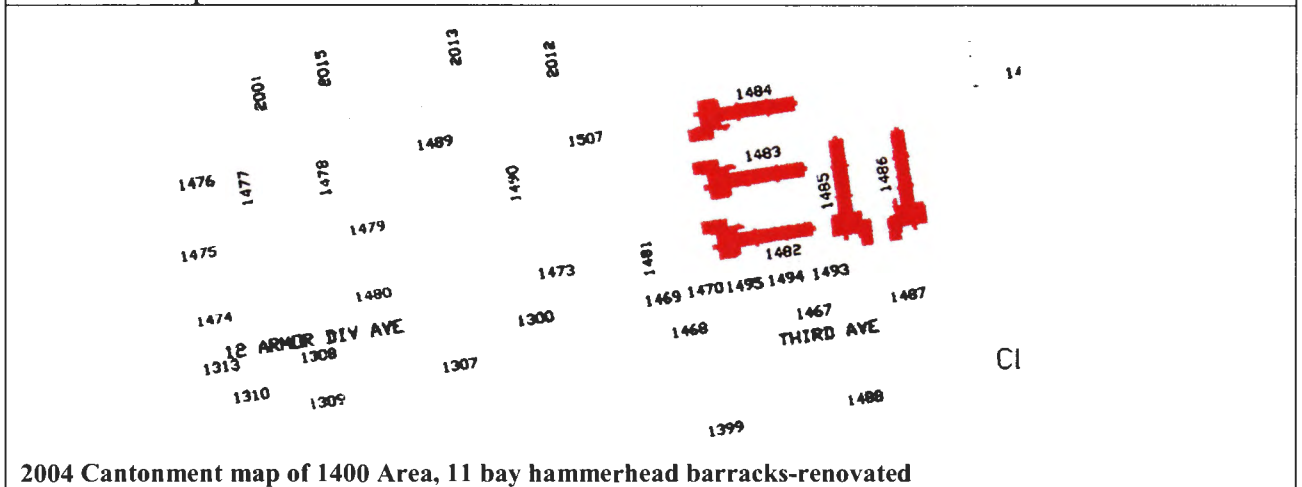


1953 USGS map

1400 Area
11 bay
Hammerhead Barracks
- renovated



1400 Area
11 bay
Hammerhead Barracks
- renovated



PRESENT OWNER U. S. Army Garrison, Fort Knox			OWNER ADDRESS Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121		
GENERAL CONDITION OF PROPERTY			ADDITIONS/ALTERATIONS		
EXCELLENT ■	GOOD □	POOR □	YES ■	NO □	IF YES, SEE DESCRIPTION

BIBLIOGRAPHIC SOURCES

Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.

House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.

Kuranda, Kathryn M., et. al.
2003 *Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)*. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.

Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.

**PRELIMINARY NATIONAL REGISTER
DETERMINATION OF ELIGIBILITY**

ELIGIBLE/CONTRIBUTING

NOT ELIGIBLE

**FORM PREPARED BY:**

Sunny Stone and Adam Smith
 Engineer Research and Development Center
 Construction Engineering Research Laboratory
 2902 Farber Drive
 Champaign, IL 61822

DATE: NOVEMBER 2004**DESCRIPTION**

The eleven-bay hammerhead barracks in the 1400 area are located north of 12 Armor Division Avenue, east of Old Ironsides Avenue, and South of Eisenhower Avenue. The group of five barracks is located north of "C" shape brick barracks. The open area around the hammerheads is filled with paved parking lots. A regimental headquarters building is located to the west of the group of barracks. All five buildings are currently used as enlisted men's barracks with a mess hall.

These buildings are unaccompanied personnel housing (UPH) commonly called hammerhead barracks. These structures have been extensively renovated. These barracks have a reinforced concrete frame structure with an exterior curtain wall of brick veneer. The structures all have a hipped roof covered with three-tab asphalt shingles and metal fascia. The barracks are supported by a reinforced concrete foundation.

The overall layout of the eleven-bay barracks is a rectangular, eleven bay, three-story barracks and a one-story, L-shaped addition appended to one end of the *handle* portion. The *handle portion* of the barracks is defined by large brick veneered columns, wrap-around exterior balconies with painted metal handrails, and large enclosed brick veneered circulation towers. The circulation towers feature both large square and arched openings in the walls. Solid metal exterior doors provide entry into the apartment-like rooms, while replacement paired aluminum double-hung windows provides light into the interior of the *handle* portion.

The one-story wing located at one end of the *handle* portion of the barracks is clad with a stucco-like material. It also has a hipped roof covered with three-tab asphalt shingles and metal fascia. There is a large gable, parapet wall/roofline located between the one-story wing and the *handle* portion of the hammerhead. This wall is also clad with a stucco-like material and depicts the massing or outline of the original hammerhead barracks width and height. The one-story wing features a large semi-circular arched entry canopy that is supported by four round columns. Several tall arched windows define the exterior walls of the one-story wing. A one-story addition has been constructed off of the front portion of the original one-story wing of the hammerhead barracks. This addition features the same elements as the renovated one-story wing.

Hammerhead barracks are designed in different sizes; the six-bay, nine-bay, and eleven-bay and were designed as a regimental-size troop housing complex. Usually a group of hammerhead barracks are set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 1400 area five eleven-bay barracks and one regimental headquarters are situated on rectangular portion of land, which is mostly covered by paved parking lots.

HISTORY

Beginning in the 1950s, as a result of military build-up associated with the Korean War, the Army reviewed its construction needs and developed a series of seven standard barracks designs to reduce design time and building costs. This series was issued to Engineer Field Office for repetitive use in the continental United States.

In the 1950s, accommodating all company functions in a single building was the prime consideration in the design of barracks. These barracks, designed to utilize this aspect, are commonly known as hammerhead barracks due to their unique footprint. The overall layout of the building is a rectangular three-story barracks and a one-story, L-shaped addition appended to an end elevation, which housed the company's mess facility, administrative space, and storage area. These buildings were built with ribbons of metal sash windows.

Hammerhead barracks were most commonly clustered in groups of four and ten and laid out as a regimental-size troop housing complex. Each four building group represents a battalion and each four battalion group represents a regiment.

Standardization and uniformity in design were character defining elements of the hammerhead barracks type. Hammerhead barracks were the first major class of barracks built by the Army after World War II. Louis and Henry Architects-Engineers of Louisville, KY, designed the barracks. The design was developed with an anticipated life expectancy of twenty-five years.

A large number of hammerhead barracks were built between 1951 and 1957. Three different sizes of single-company hammerhead barracks were developed to house 105, 165, and 225 men. These buildings were strictly utilitarian, with a straightforward expression of structure and materials. Their distinct footprint resembles the outline of a hammer – a three-story barracks wing forming the *handle* with a single-story kitchen/mess wing forming the *head* and *tail*.

The barracks were originally constructed as open bay squad rooms with no interior walls. With the introduction of the Volunteer Army (VOLAR) program in the early 1970s, the hammerhead barracks underwent a number of changes. A major interior modification was the division of the squad rooms into three-person enlisted men rooms. More extensive changes included the removal or replacements of windows varying from the infill of windows with metal panels to the replacement of the original ribbon windows with smaller metal double sash units. "In the 1990s, a number of the hammerhead barracks were renovated to meet the 2+2 standards, and later the 1+1 standards. The renovations often included stripping the building interiors to the reinforced concrete frame, adding balconies, constructing walls in modern materials, and the addition of gable roofs" (Kuranda et al 2003, p 4-4).

The 1400 area, eleven-bay hammerhead barracks, Buildings 1482, 1483, 1484, 1485, and 1486, were originally designed by Louis and Henry Architects-Engineers of Louisville, KY and Spector and Montgomery Architects-Engineers of Falls Church, VA. The structures were constructed in 1954 by Southeastern Construction Co., Charlotte, NC; T. A. Loving and Company, Goldsboro, NC; and Doyle and Russell of Richmond, VA as 225-man enlisted men's barracks with a mess hall. These structures were constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952 (House 1951, p 653). These buildings were originally constructed from drawing number 21-01-64 sheets 1 thru 44. However, in 1994, all five of the eleven-bay barracks underwent massive renovations. The renovation involved both interior and exterior modifications, which changed the overall utilitarian appearance of the original structures.

INTEGRITY

These buildings were strictly utilitarian, with a straightforward expression of structure and materials. The four elements that are key to the integrity of the hammerhead barracks are the hammerhead footprint, the exposed reinforced concrete frame, the exposed concrete block walls, and ribbons of windows.

The 1400 area, eleven-bay hammerhead barracks footprint is somewhat intact but has been enlarged through various modifications. In April 1977, under the VOLAR 74, the eleven-bay hammerhead barracks underwent numerous interior and exterior changes. One of the alterations to the structures resulted in the removal of the original ribbons of windows. The original steel awning windows were replaced with one-over-one anodized bronze aluminum windows and metal panels.

Building 1482 had its dining facilities modernized in April 1979.

Building 1484 had its dayroom modified in May 1963.

Building 1486 had security screens installed in April 1971.

The Real Property record card gives the original construction date for Buildings 1482, 1483, 1484, 1485, and 1486 as 1954, while the inventory list gives the original date as 1953.

In 1994, this group of five eleven-bay hammerhead barracks underwent massive renovations. The structures were completely gutted to their reinforced concrete frames and the interiors were rebuilt with modern materials, which included metal stud walls, new windows, and different exterior finishes. The original footprint of the hammerhead barracks was enlarged in width. This modification resulted in wrap-around exterior balconies, which freed up interior room. With this modification, the doors into the apartment-like rooms were moved to the exterior and the anodized bronze aluminum windows were now replaced with paired aluminum double-hung windows. The original bays of the hammerheads were defined by an exposed poured concrete frame, whereas under this renovation process, the bays were now depicted by brick veneer covered columns. Along with the exterior balcony additions, large brick enclosed circulation towers were constructed at that both ends of the *handle* portion of the hammerhead. The original exposed concrete frame and concrete block infill walls were replaced with a brick veneered exterior wall and the original built-up flat roof was replaced with a hipped roof covered in three-tab asphalt shingles and painted metal fascia.

Along with the renovations to the *handle* portion of the hammerhead, the one-story kitchen/mess wing underwent more modifications. The original one-story wing footprint was also enlarged to include an addition off of the front part of the wing. This one-story wing was also gutted to its reinforced concrete framed and completely rebuilt. Both the one-story wing and new addition off of the front are clad with a stucco-like material. The renovated one-story wing features a large semi-circular arched entry canopy that is supported by four round columns. The one-story portion also has a new hipped roof covered with three-tab asphalt shingles and metal fascia. A large gable, parapet wall/roofline was constructed between the one-story wing and the *handle* portion of the hammerhead. This wall is clad with a stucco-like material and depicts the massing or outline of the original hammerhead barracks width and height. Several tall arched windows define the exterior walls of the one-story wing. The one-story wing located at one end of the *handle* portion of the hammerhead barracks is clad with a stucco-like material. The original exterior brick chimney that was located on the one-story wing was removed and relocated in front of the one-story wing.

The open area located around the five hammerhead barracks once used for drills and recreation is now completely covered with paved parking lots.

The overall design of the 1400 area does not represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since five eleven-bay hammerhead barracks and one regimental headquarters building were built in the area. These buildings do not constitute the four or ten buildings needed to have a regimental complex.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that these five eleven-bay hammerhead barracks are not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria for unaccompanied personnel housing (UPH) due to the lack of architectural and contextual integrity.

These buildings are not associated with a historically significant person nor do they have any unique architectural features that qualify them individually for the National Register of Historic Places (NRHP). The 1400 area was also examined as a potential historic district; however, the integrity of these structures has been severely compromised by the complete renovations on all buildings. Furthermore, the 1400 area does not represent a complete regimental complex of four or ten hammerhead barracks and supporting facilities as only five barracks and one regimental headquarters were constructed in the area.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS (cont.)

Because a sufficient number of the Cold War UPH structures in the 1400 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the eleven-bay hammerhead barracks, Buildings 1482, 1483, 1484, 1485, and 1486, do **not** qualify for the NRHP.

DRAWINGS

See pages 311-319 for similar floor plans and elevations for the original eleven-bay hammerhead barracks, Buildings 1482, 1483, 1484, 1485, and 1486.

HISTORIC PHOTOGRAPHS

View of original ribbon awning windows (no date, Patton Museum Vol. 2)

COMPARISON PHOTOGRAPHS

Building 2373 with original facade (reversed)



Building 1485 with 1994 renovation



Original unpainted exposed concrete and concrete block with original steel awning windows



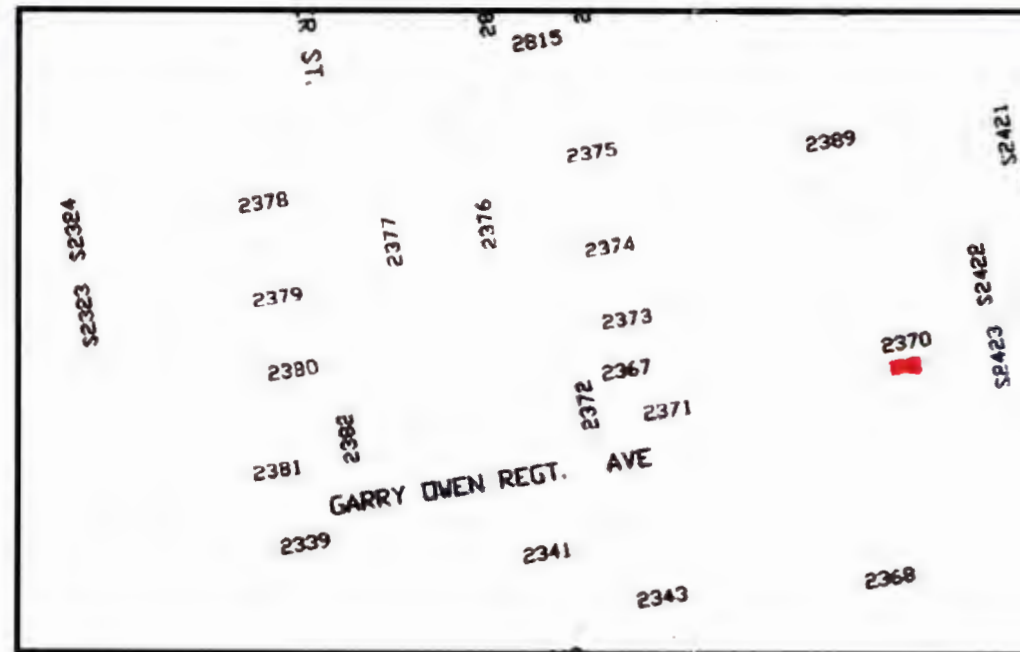
Current painted concrete and concrete block with anodized aluminum replacement windows



Building 2370 - north elevation



Building 2370 - south elevation with service entry



Building 2370 - close-up of service bay



Building 2370 - original steel awning windows with replacement panels

Figure 50 – 2300 Area; regimental headquarters

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

PROPERTY BOUNDARIES North of Garry Owen Regiment Avenue, east of Hell on Wheels, south of Brave Rifles Regiment Avenue, and west of Old Ironsides Avenue		COMMON/HISTORIC NAME/BUILDING # Serio Hall/Army National Guard Armory/Regimental Headquarters/Bldg 2370		STATUS Occupied
ARCHITECT/BUILDER Keyes, Smith, and Satterlee-Architects; Francis D. Lethbridge-Associate; Architects-Engineers		DATE OF CONSTRUCTION 1953	NO. OF STORIES 2	FOOTPRINT Rectangular
		DATE OF ALTERATIONS 1970s		
MASSING Flat	FOUNDATION Concrete wall	WALLS Post-and-beam with concrete masonry unit infill walls	ROOF Built-up	
PROPERTY FUNCTION HISTORIC USE(S) Office		NOTABLE FEATURES Exposed reinforced concrete frame Concrete masonry unit infill walls Exterior brick chimney Two-pane metal awning windows Window panel inserts		
CURRENT USE Office				
RELATIONSHIP TO OTHER BUILDINGS The regimental headquarters is located east of a block of hammerhead barracks and battalion headquarters.				



Building 2370 – north elevation



Building 2370 – south elevation



Building 2370 – original steel awning window



Building 2370 – a close up of the service bay

COORDINATES

UTM 16
4196430N
591980E

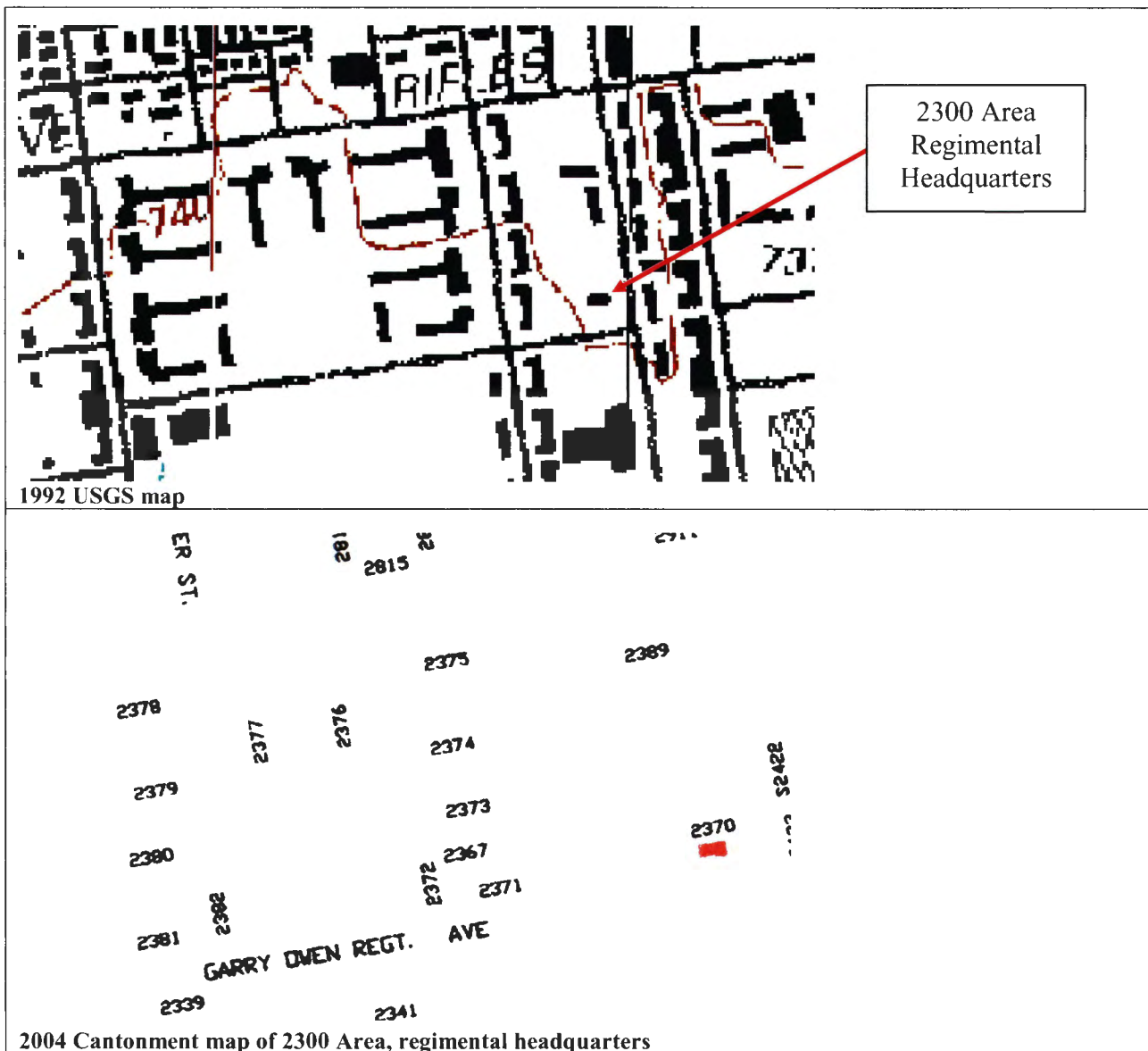
USGS QUAD

Fort Knox



1953 USGS map

2300 Area
Regimental
Headquarters



<p><u>PRESENT OWNER</u> U. S. Army Garrison, Fort Knox</p>	<p><u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>
<p><u>GENERAL CONDITION OF PROPERTY</u></p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p><u>ADDITIONS/ALTERATIONS</u></p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>
<p><u>BIBLIOGRAPHIC SOURCES</u></p> <p>Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.</p> <p>House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.</p> <p>Kuranda, Kathryn M., et. al. 2003 <i>Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)</i>. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.</p> <p>Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.</p>	
<p><u>PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY</u></p> <p>ELIGIBLE/CONTRIBUTING NOT ELIGIBLE</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p><u>FORM PREPARED BY:</u> Sunny Stone and Adam Smith Engineer Research and Development Center Construction Engineering Research Laboratory 2902 Farber Drive Champaign, IL 61822</p> <p>DATE: NOVEMBER 2004</p>
<p><u>DESCRIPTION</u></p> <p>The regimental headquarters, Building 2370, in the 2300 area is located north of Garry Owen Regiment Avenue, east of Hell on Wheels, south of Brave Rifles Regiment Avenue, and west of Old Ironsides Avenue. The regimental headquarters is located east of a block of hammerhead barracks and battalion headquarters. Building 2370 is currently used as an Army National Guard Armory.</p> <p>This building has a reinforced concrete frame structure with an exterior curtain wall of concrete block and a built-up flat roof. The structure is supported by a reinforced concrete foundation; the reinforced concrete frame consists of exposed reinforced concrete columns and reinforced concrete floors. The building also has the original steel awning windows; however, several of the original panes of glass have been removed and metal panels fill the original pane opening. The windows are four-panes in height with the middle two panes opening outward. There is a poured concrete loading ramp ascending to the basement level on the south side of the structure.</p> <p>The overall layout of the building is rectangular. The structure is two bays wide by four bays deep and two stories tall with a basement. There are five windows per bay. This type of arrangement of windows is considered a ribbon of windows. The doors on the regimental headquarters building are metal replacement doors with one light in each door. A large exterior brick chimney is located on the east side of the structure. This building was constructed from drawing number 30-02-39 sheets 1-20.</p> <p>A group of hammerhead barracks are set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 2300 area there are eight eleven-bay barracks, two six-bay barracks, and two battalion headquarters buildings situated on rectangular portion of land, while the regimental headquarters building is located to the east of the entire block.</p>	

HISTORY

Building 2370 was originally constructed in 1953 as a regimental headquarters building. The 2300 area, regimental headquarters was designed by Keyes, Smith, and Satterlee, Architects; Francis D. Lethbridge-Associate; Architects-Engineers of Washington, D.C. This structure was constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952. "These buildings were required to house the normal headquarters echelons to command the units occupying the permanent barracks space that was to be constructed" (House 1951, p 655). This regimental headquarters located in the 1400 area was one of three regimental headquarters to be constructed on the installation under this appropriation.

INTEGRITY

The 2300 area, regimental headquarters, Building 2370, is intact and in good condition. The exposed concrete frame and concrete block walls are still intact with the addition of new paint. However, one of the alterations to the structures resulted in the change in appearance of the original ribbons of windows. The frames of the original steel awning windows are intact; however, a majority of the fixed glass panes of the four-pane window have been removed and the opening has been filled with a metal panel. These alterations were most likely done in July 1979.

Building 2370 had a change in use from a regimental headquarters building to an Army National Guard armory in November 1967.

The overall design of the 2300 area does represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since eight eleven-bay hammerhead barracks, two six-bay hammerhead barracks, two battalion headquarters, and one regimental headquarters were built.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that this regimental headquarters, Building 2370, is not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria due to the lack of architectural and contextual integrity.

This building is not associated with a historically significant person nor does it have any unique architectural features that qualify it individually for the National Register of Historic Places (NRHP). The 2300 area was also examined as a potential historic district; even though, the integrity of the regimental headquarters is high, the two six-bay hammerhead barracks, eight eleven-bay hammerhead barracks, and two battalion headquarters in the area have all been severely compromised by the removal of the distinctive original windows and doors on all buildings.

Because a sufficient number of the Cold War UPH structures in the 2300 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the regimental headquarters, Building 2370, does **not** qualify for the NRHP.

DRAWINGS

See pages 325-327 for similar floor plans and elevations for the regimental headquarters, Buildings 2370.

HISTORIC PHOTOGRAPHS



Building 2370 – oblique view of the north and east elevations 12 February 1957 (National Archives College Park)



Building 2370 – oblique view of the south and west elevations 12 February 1957 (National Archives College Park)



Building 2370 – interior view depicting the concrete supports 12 February 1957 (National Archives College Park)

COMPARISON PHOTOGRAPHS



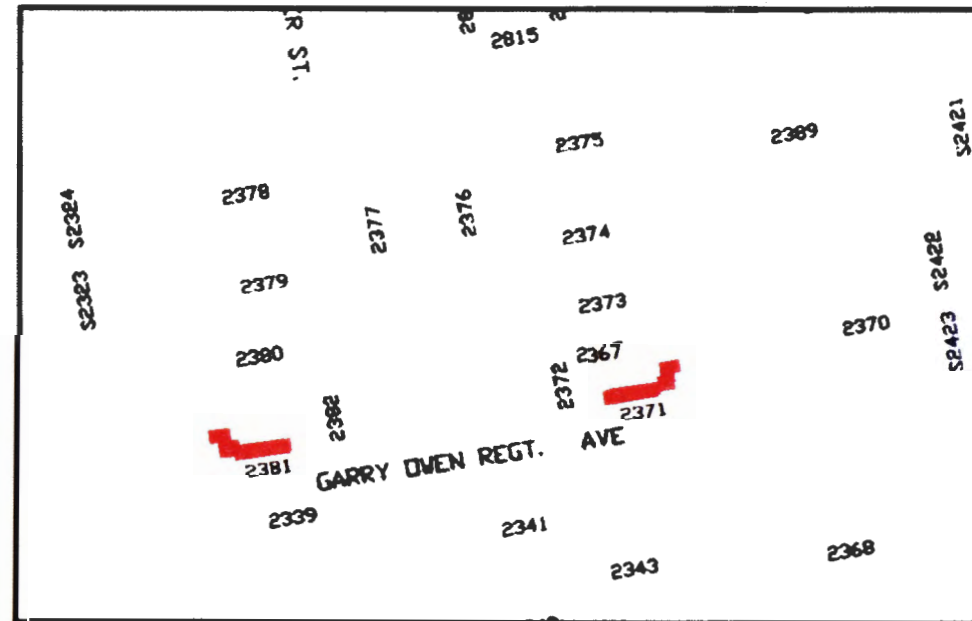
Original unpainted exposed concrete and concrete block with original steel awning windows



Current painted concrete and concrete block with anodized aluminum replacement windows



Building 2371 - east elevation of the head portion containing the kitchen



Building 2381 - oblique view east and south elevations of the handle portion containing the barracks

Figure 51 – 2300 Area; 6 bay hammerhead barracks

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

PROPERTY BOUNDARIES North of Garry Owen Regiment Avenue, east of Knox Street, south of Brave Rifles Regiment Avenue, and west of Hell on Wheels		COMMON/HISTORIC NAME/BUILDING # Army National Guard Armory/Enlisted Men's Barracks with Mess Hall/Bldg 2371 Enlisted Men's Barracks with Mess Hall/Bldg 2381		STATUS Occupied
ARCHITECT/BUILDER Louis and Henry Architect-Engineer/Southeastern Construction Co.; T. A. Loving and Company; Doyle and Russell		DATE OF CONSTRUCTION 1953 (inventory list) 1954 (Real Property card for Bldg 2371)	NO. OF STORIES 3	FOOTPRINT Complex (hammerhead)
DATE OF ALTERATIONS 1976				
MASSING Flat	FOUNDATION Concrete wall	WALLS Post-and-beam with concrete masonry unit infill walls	ROOF Built-up	
PROPERTY FUNCTION		NOTABLE FEATURES Distinctive hammer-shaped building footprint Exposed reinforced concrete frame Reinforced concrete floors Concrete masonry unit infill walls Replacement anodized bronze aluminum windows Three-story barracks with adjoining one-story kitchen/mess wing		
HISTORIC USE(S) Barracks	CURRENT USE Office – Bldg 2371 Barracks			
RELATIONSHIP TO OTHER BUILDINGS The six-bay hammerhead barracks are set around an open area used for drills and recreation. The barracks are located in the two south corners of a block of eleven-bay barracks. Two battalion headquarters buildings are located adjacent to the six-bay barracks.				



Building 2371 – east elevation



Building 2381 – oblique view of the east and south elevations

COORDINATES (center of area)

UTM 16
4196451N
591659E

USGS QUAD

Fort Knox



1953 USGS map

2300 Area
6 bay
Hammerhead Barracks



2300 Area
6 bay
Hammerhead Barracks



PRESENT OWNER
U. S. Army Garrison, Fort Knox

OWNER ADDRESS
Headquarters
U. S. Army Garrison, Fort Knox
Fort Knox, KY 40121

GENERAL CONDITION OF PROPERTY

EXCELLENT GOOD POOR

ADDITIONS/ALTERATIONS

 IF YES, SEE DESCRIPTION

YES NO

BIBLIOGRAPHIC SOURCES

Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.

House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.

Kuranda, Kathryn M., et. al.

2003 *Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)*. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.

Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.

PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY

ELIGIBLE/CONTRIBUTING

NOT ELIGIBLE

**FORM PREPARED BY:**

Sunny Stone and Adam Smith
Engineer Research and Development Center
Construction Engineering Research Laboratory
2902 Farber Drive
Champaign, IL 61822

DATE: NOVEMBER 2004

DESCRIPTION

The two six-bay hammerhead barracks in the 2300 area are located north of Garry Owen Regiment Avenue, east of Knox Street, south of Brave Rifles Regiment Avenue, and west of Hell on Wheels. The six-bay hammerhead barracks are set around an open area used for drills and recreation. The barracks are located in the two south corners of a block of eleven-bay barracks. Two battalion headquarters buildings are located adjacent to the six-bay barracks. Building 2371 is currently used as an Army National Guard Armory, while Building 2381 is currently used as enlisted men's barracks with a mess hall.

These buildings are unaccompanied personnel housing (UPH) commonly called hammerhead barracks. Buildings 2371 and 2381 have a reinforced concrete frame structure with an exterior curtain wall of concrete block and a built-up flat roof. The barracks are supported by a reinforced concrete foundation; the reinforced concrete frame consists of exposed reinforced concrete columns and reinforced concrete floors. These buildings also have replacement anodized bronze aluminum windows and metal panels.

The overall layout of Buildings 2371 and 2381 is a rectangular, six bay, three-story barracks and a one-story, L-shaped addition appended to an end elevation. The structures have basements with the same footprint. The entrances are located on the long side of the *handle* and consist of metal double doors. These buildings were constructed from drawing number 21-01-68 sheets 1 thru 44.

Hammerhead barracks are designed in different sizes; the six-bay, nine-bay, and eleven-bay were designed as a regimental-size troop housing complex. Usually a group of hammerhead barracks are set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 2300 area there are eight eleven-bay barracks, two six-bay barracks, two battalion headquarters, and one regimental headquarters situated on a rectangular portion of land.

HISTORY

Beginning in the 1950s, as a result of military build-up associated with the Korean War, the Army reviewed its construction needs and developed a series of seven standard barracks designs to reduce design time and building costs. This series was issued to Engineer Field Office for repetitive use in the continental United States.

In the 1950s, accommodating all company functions in a single building was the prime consideration in the design of barracks. These barracks, designed to utilize this aspect, are commonly known as hammerhead barracks due to their unique footprint. The overall layout of the building is a rectangular three-story barracks and a one-story, L-shaped addition appended to an end elevation which housed the company's mess facility, administrative space, and storage area. These buildings were built with ribbons of metal sash windows.

HISTORY (cont.)

Hammerhead barracks were most commonly clustered in groups of four and ten and laid out as a regimental-size troop housing complex. Each four building group represents a battalion and each four battalion group represents a regiment.

Standardization and uniformity in design were character defining elements of the hammerhead barracks type. Hammerhead barracks were the first major class of barracks built by the Army after World War II. Louis and Henry Architects-Engineers of Louisville, KY, designed the barracks. The design was developed with an anticipated life expectancy of twenty-five years.

A large number of hammerhead barracks were built between 1951 and 1957. Three different sizes of single-company hammerhead barracks were developed to house 105, 165, and 225 men. These buildings were strictly utilitarian, with a straightforward expression of structure and materials. Their distinct footprint resembles the outline of a hammer – a three-story barracks wing forming the *handle* with a single-story kitchen/mess wing forming the *head* and *tail*.

The barracks were originally constructed as open bay squad room with no interior walls. With the introduction of the Volunteer Army (VOLAR) program in the early 1970s, the hammerhead barracks underwent a number of changes. A major interior modification was the division of the squad rooms into three-person enlisted men rooms. More extensive changes included the removal or replacements of windows varying from the infill of windows with metal panels to the replacement of the original ribbon windows with smaller metal double sash units. “In the 1990s, a number of the hammerhead barracks were renovated to meet the 2+2 standards, and later the 1+1 standards. The renovations often included stripping the building interiors to the reinforced concrete frame, adding balconies, constructing walls in modern materials, and the addition of gable roofs” (Kuranda et al 2003, p 4-4).

The 2300 area, six-bay hammerhead barracks, Buildings 2371 and 2382, were originally constructed in 1953 by Southeastern Construction Co., Charlotte, NC; T. A. Loving and Company, Goldsboro, NC; and Doyle and Russell of Richmond, VA as a 105-man enlisted men’s barracks with a mess hall. These structures were constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952 (House 1951, p 653). The two six-bay hammerhead barracks located in the 2300 area were two of five six-bay hammerhead barracks to be constructed on the installation under this appropriation.

INTEGRITY

These buildings were strictly utilitarian, with a straightforward expression of structure and materials. The four elements that are key to the integrity of the hammerhead barracks are the hammerhead footprint, the exposed reinforced concrete frame, the exposed concrete block walls, and ribbons of windows.

The 2300 area, hammerhead barracks footprint, the exposed concrete frame, and concrete block walls are still intact with the addition of new paint. In February 1976, under the VOLAR 73, the six-bay hammerhead barracks underwent numerous interior and exterior changes. One of the exterior alterations to the structure resulted in the removal of the original ribbons of windows. The original steel awning windows were replaced with one-over-one anodized bronze aluminum windows and metal panels, while a major interior modification resulted in the division of the squad rooms into three-person enlisted man rooms. New gutters and downspouts were added at an unknown date.

Building 2371 had a change in use from enlisted men’s barracks with a mess hall to an Army National Guard at an unknown date.

The Real Property record card gives the original construction date for Building 2371 as 1954, while the inventory list given to the research team lists the original date as 1953.

The overall design of the 2300 area does represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since eight eleven-bay hammerhead barracks, two six-bay hammerhead barracks, two battalion headquarters, and one regimental headquarters were constructed.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that these two six-bay hammerhead barracks are not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria for unaccompanied personnel housing (UPH) due to the lack of architectural and contextual integrity.

These buildings are not associated with a historically significant person nor do they have any unique architectural features that qualify them individually for the National Register of Historic Places (NRHP). The 2300 area was also examined as a potential historic district; however, the integrity of not only the two six-bay hammerhead barracks but the eight eleven-bay hammerhead barracks and two battalion headquarters in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings.

Because a sufficient number of the Cold War UPH structures in the 2300 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the two six-bay hammerhead barracks, Buildings 2371 and 2381, do **not** qualify for the NRHP.

DRAWINGS

See pages 303-309 for similar floor plans and elevations for the six-bay hammerhead barracks, Buildings 2371 and 2381.

HISTORIC PHOTOGRAPHS



View of original ribbon awning windows (no date, Patton Museum Vol. 2)



Hammerhead barracks dayroom 1955 (TAC)

COMPARISON PHOTOGRAPHS

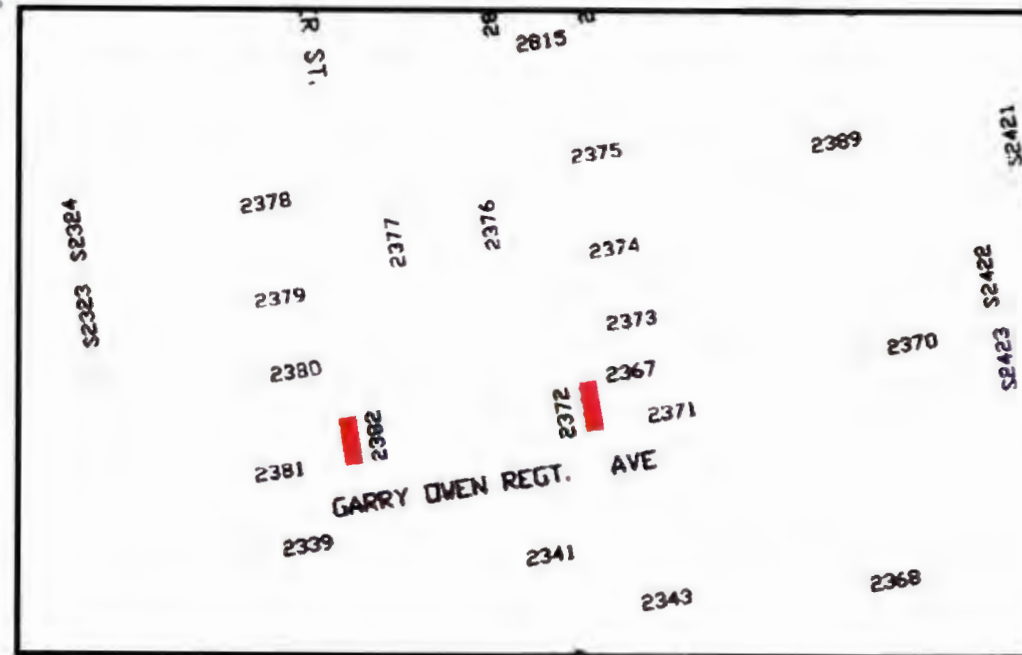
Original unpainted exposed concrete and concrete block with original steel awning windows



Current painted concrete and concrete block with anodized aluminum replacement windows



Building 2372 - south elevation



Building 2382 - south elevation with new glass entry

Figure 52 – 2300 Area; battalion headquarters

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

<u>PROPERTY BOUNDARIES</u> North of Garry Owen Regiment Avenue, east of Knox Street, south of Brave Rifles Regiment Avenue, and west of Hell on Wheels		<u>COMMON/HISTORIC NAME/BUILDING #</u> Battalion Headquarters/Bldg 2372 Battalion Headquarters/Bldg 2382		<u>STATUS</u> Occupied
<u>ARCHITECT/BUILDER</u> Louis and Henry; Fred Elswick; Hazelet and Erdal Architect-Engineer		<u>DATE OF CONSTRUCTION</u> 1953 (inventory list) 1954 (Real Property card for Bldg 2382) <u>DATE OF ALTERATIONS</u> 1970s	<u>NO. OF STORIES</u> 2	<u>FOOTPRINT</u> Rectangular
<u>MASSING</u> Flat	<u>FOUNDATION</u> Concrete wall	<u>WALLS</u> Post-and-beam with concrete masonry unit infill walls	<u>ROOF</u> Built-up	
<u>PROPERTY FUNCTION</u> <u>HISTORIC USE(S)</u> <u>CURRENT USE</u>		<u>NOTABLE FEATURES</u> Exposed reinforced concrete frame Concrete masonry unit infill walls Replacement anodized bronze aluminum windows Glass enclosed front entry addition – Bldg 2382		
Office	Office			
<u>RELATIONSHIP TO OTHER BUILDINGS</u> Two battalion headquarters are located on an open area used for drills and recreation. The headquarters are located on the south side of a block of hammerhead barracks.				



Building 2372 – south elevation



Building 2382 – south elevation with front entrance enclosed with glass

COORDINATES (center of area)

UTM 16
4196451N
591659E

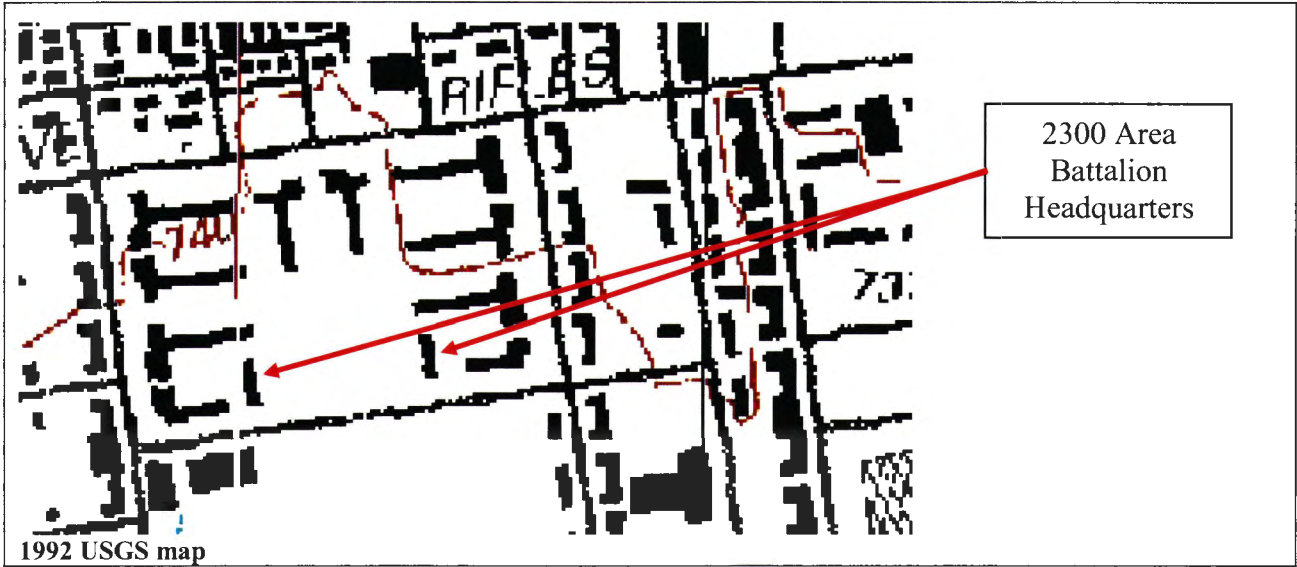
USGS QUAD

Fort Knox

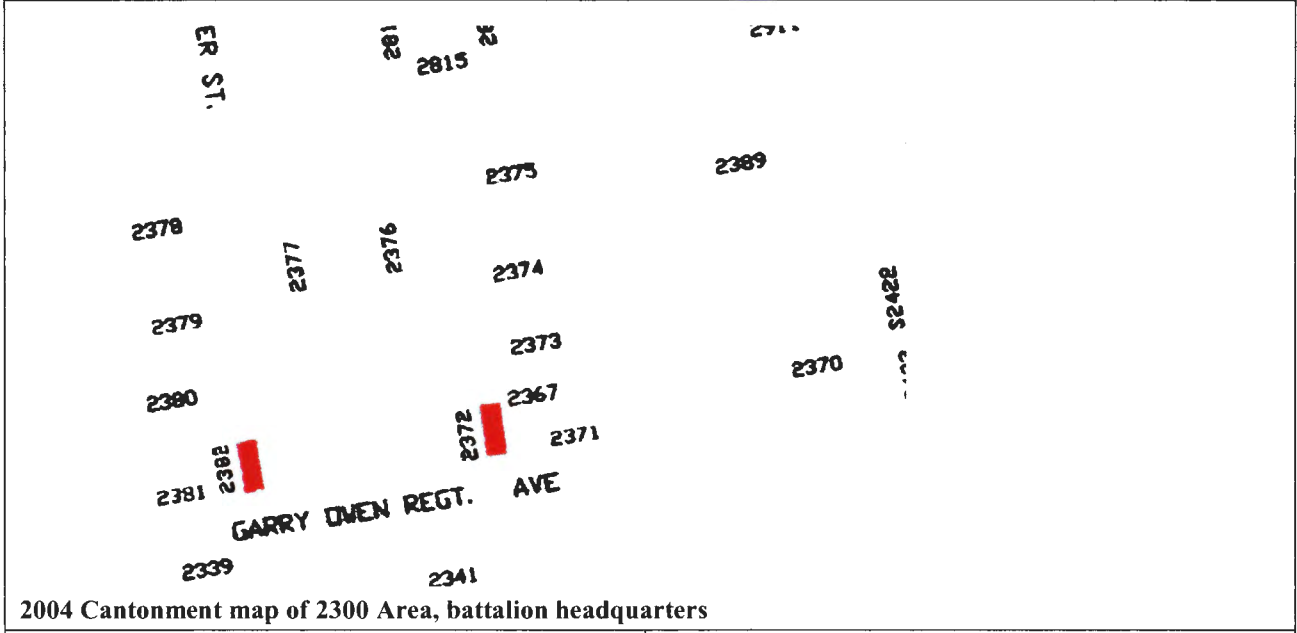


2300 Area
Battalion
Headquarters

1953 USGS map



1992 USGS map



2004 Cantonment map of 2300 Area, battalion headquarters

<p>PRESENT OWNER U. S. Army Garrison, Fort Knox</p>	<p>OWNER ADDRESS Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>
<p>GENERAL CONDITION OF PROPERTY</p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p>ADDITIONS/ALTERATIONS</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>

BIBLIOGRAPHIC SOURCES

Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.

House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.

Kuranda, Kathryn M., et. al.

2003 *Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)*. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.

Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.

**PRELIMINARY NATIONAL REGISTER
DETERMINATION OF ELIGIBILITY**

ELIGIBLE/CONTRIBUTING

NOT ELIGIBLE

**FORM PREPARED BY:**

Sunny Stone and Adam Smith
Engineer Research and Development Center
Construction Engineering Research Laboratory
2902 Farber Drive
Champaign, IL 61822

DATE: NOVEMBER 2004

DESCRIPTION

The two battalion headquarters buildings in the 2300 area are located north of Garry Owen Regiment Avenue, east of Knox Street, south of Brave Rifles Regiment Avenue, and west of Hell on Wheels. Two battalion headquarters are located on an open area used for drills and recreation. The headquarters are located on the south side of a block of hammerhead barracks. Both Building 2372 and 2382 are currently used as battalion headquarters buildings.

These buildings have a reinforced concrete frame structure with an exterior curtain wall of concrete block and a built-up flat roof. The structures are supported by a reinforced concrete foundation; the reinforced concrete frame consists of exposed reinforced concrete columns and reinforced concrete floors. These buildings also have replacement anodized bronze aluminum windows.

The overall layout of the buildings is rectangular. The structures have two different roof heights. The front portion where the main entrance is located is two bays wide by two bays deep and two stories tall, while the rear portion of the building is two bays wide by three bays deep and one-story tall. The windows are replacement anodized bronze aluminum windows that are grouped in sets of four and two. The doors on the battalion headquarters buildings are metal replacement doors with one light in each door. The main entrance into Building 2372 is defined by a large inset that is the width of one bay, while Building 2382 has a glass enclosed addition at the main entrance, thus there is no longer an inset entry. Flat metal canopies are positioned above the metal doors on the sides of the buildings. Wood posts support the canopies on Building 2382. Both battalion headquarters have a large exterior brick chimney that extends from the roof of the one-story portion. These buildings were constructed from drawing number 30-02-14 sheets 1-12.

Typically, a group of hammerhead barracks are set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 2300 area there are eight eleven-bay barracks, two six-bay barracks, and two battalion headquarters buildings situated on a rectangular portion of land, while the regimental headquarters building is located east of the entire block.

HISTORY

Buildings 2372 and 2382 were originally constructed in 1954. The 2300 area battalion headquarters were designed by Louis and Henry; Fred Elswick; Hazelet and Erdal Architect-Engineer from Louisville, KY. These structures were constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952. “These buildings were required to house the normal headquarters echelons to command the units occupying the permanent barracks space that was to be constructed” (House 1951, p 655). The two battalion headquarters located in the 2300 area were two of six battalion headquarters to be constructed on the installation under this appropriation.

INTEGRITY

The 2300 area, battalion headquarters is intact and in good condition. The exposed concrete frame and concrete block walls are still intact with the addition of new paint. However, one of the alterations to the structures resulted in the removal of the original ribbons of windows. The original steel awning windows were replaced with one-over-one anodized bronze aluminum windows most likely in the 1970s. A large glass addition was constructed on Building 2382 at an unknown date in order to enclose the original inset entrance.

The Real Property card for Building 2382 gives the original construction date as 1954, while the inventory list given to the research team lists the construction date as 1953.

The overall design of the 2300 area does represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since eight eleven-bay hammerhead barracks, two six-bay hammerhead barracks, two battalion headquarters, and one regimental headquarters were built.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that these two battalion headquarters, Buildings 2372 and 2382, are not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria due to the lack of architectural and contextual integrity.

These buildings are not associated with a historically significant person nor do they have any unique architectural features that qualify them individually for the National Register of Historic Places (NRHP). The 2300 area was also examined as a potential historic district; however, the integrity of not only the two battalion headquarters, but also the two six-bay hammerhead barracks and eight eleven-bay hammerhead barracks in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings.

Because a sufficient number of the Cold War UPH structures in the 2300 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the two battalion headquarters, Buildings 2372 and 2382, do **not** qualify for the NRHP.

DRAWINGS

See pages 321-323 for similar floor plans and elevations for the battalion headquarters, Buildings 2372 and 2382.

COMPARISON PHOTOGRAPHS



Original unpainted exposed concrete and concrete block with original steel awning windows



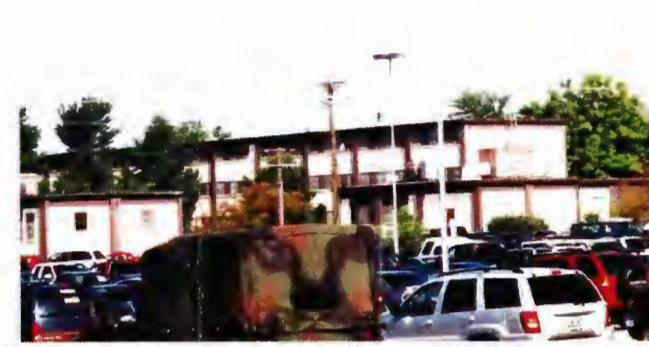
Current painted concrete and concrete block with anodized aluminum replacement windows



Building 2373 - east elevation of head and tail portions with brick chimney



Building 2374 - east elevation



Building 2375 - east elevation



Building 2376 - one bay on east elevation



Building 2376 - basement window filled with brick and new air conditioning vent



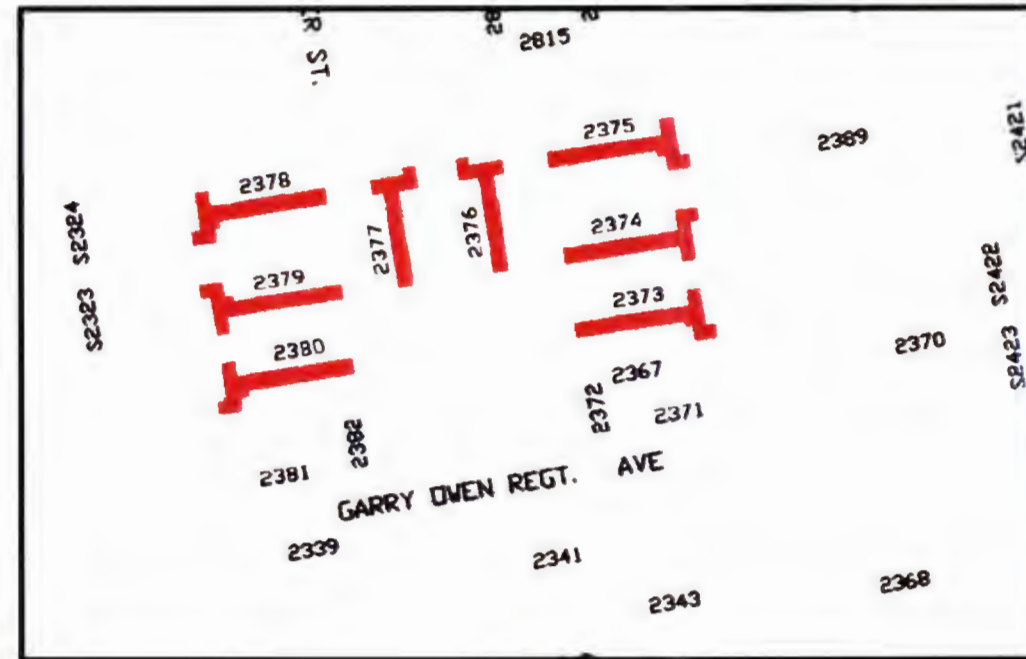
Building 2378 - north elevation of handle portion containing the barracks



Building 2378 - north entrance between the head and handle portions, with original steel awning window and concrete block exterior wall



Building 2378 - paint delamination on concrete block exterior wall



Building 2380 - south elevation of the handle and head portions



Building 2380 - north elevation of the handle portion containing the barracks



Building 2379 - oblique view of the south and west elevations of the tail portion containing the mess hall



Building 2379 - north elevation of the handle portion containing the barracks



Building 2379 - north entrance between the head and handle portions, with original steel awning window and asbestos siding

Figure 53 – 2300 Area; 11 bay hammerhead barracks

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

<u>PROPERTY BOUNDARIES</u> North of Garry Owen Regiment Avenue, east of Knox Street, south of Brave Rifles Regiment Avenue, and west of Hell on Wheels		<u>COMMON/HISTORIC NAME/BUILDING #</u> U.S. Army Reserves Center/Enlisted Men’s Barracks with Mess Hall /Bldg 2373 Administrative General Purpose/Enlisted Men’s Barracks with Mess Hall/Bldg 2374 Enlisted Men’s Barracks with Mess Hall/Bldg 2375 Army National Guard Armory/Enlisted Men’s Barracks with Mess Hall/Bldg 2376 Enlisted Men’s Barracks with Mess Hall/Bldg 2377 Enlisted Men’s Barracks with Mess Hall/Bldg 2378 Enlisted Men’s Barracks with Mess Hall/Bldg 2379 Enlisted Men’s Barracks with Mess Hall/Bldg 2380		<u>STATUS</u> Occupied
<u>ARCHITECT/BUILDER</u> Louis and Henry Architect-Engineer/ Spector & Montgomery Architects- Engineers Southeastern Construction Co.; T. A. Loving and Company; Doyle and Russell		<u>DATE OF CONSTRUCTION</u> 1953 (inventory list) 1954 (Real Property card for Bldgs 2373, 2374, 2375, 2376, 2377) <u>DATE OF ALTERATIONS</u> 1966, 1973, 1979	<u>NO. OF STORIES</u> 3	<u>FOOTPRINT</u> Complex (hammerhead)
<u>MASSING</u> Flat	<u>FOUNDATION</u> Concrete wall	<u>WALLS</u> Post-and-beam with concrete masonry unit infill walls	<u>ROOF</u> Built-up	
<u>PROPERTY FUNCTION</u> <u>HISTORIC USE(S)</u> Barracks		<u>CURRENT USE</u> Offices – Bldgs 2373, 2374, 2376 Barracks – Bldgs 2375, 2377, 2378, 2379, 2380	<u>NOTABLE FEATURES</u> Distinctive hammer-shaped building footprint Exposed reinforced concrete frame Reinforced concrete floors Concrete masonry unit infill walls Replacement anodized bronze aluminum windows Exterior brick chimney – Bldgs 2373, 2377, and 2380 Three-story barracks with adjoining one-story kitchen/mess wing	
<u>RELATIONSHIP TO OTHER BUILDINGS</u> The eleven-bay barracks are set around an open area used for drills and recreation. Two six-bay barracks are located in the two south corners of the block of barracks. Two battalion headquarters buildings are located adjacent to the six-bay barracks.				



Building 2373 – east elevation with large exterior brick chimnenny



East elevations of Buildings 2373, 2374, and 2375 (left to right)



Building 2374 – east elevation



Building 2375 – east elevation



Building 2376 – one bay on the east elevation



Building 2376 – basement window filled in with brick on the east elevation



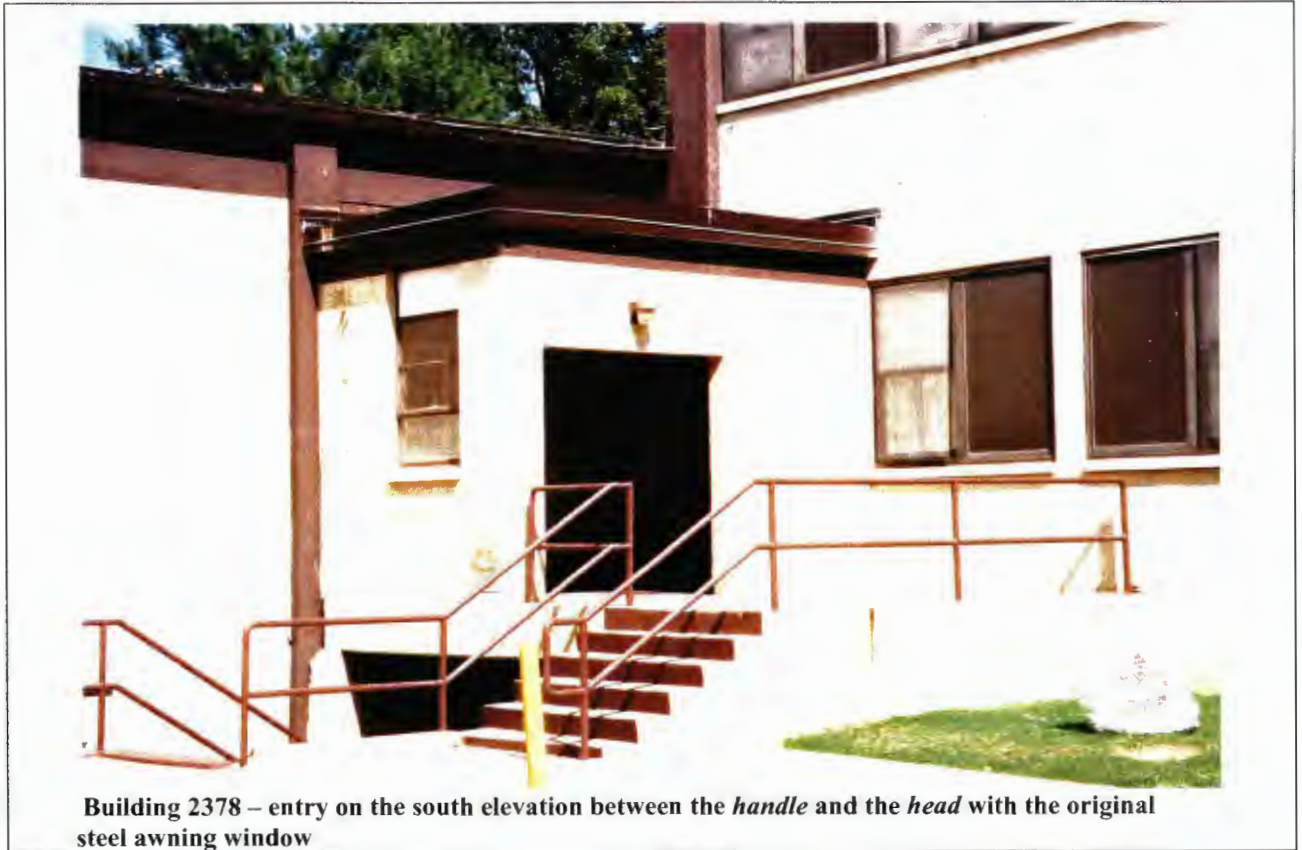
Open area used for drills and recreation in the 2300 area of 11 bay hammerhead barracks



Building 2377 – north elevation



Building 2378 – north elevation of the *handle* portion where the barracks are located





Building 2379 – north elevation of the *handle* portion where the barracks are located



Building 2379 – oblique view of the south and west elevation of the *tail* portion



Building 2379 – entry located between the *handle* and the *head* on the north elevation



Building 2380 – north elevation of the *handle* portion



Building 2380 – south elevation of the *handle* and *head* portions

COORDINATES (center of area)

UTM 16
4196451N
591659E

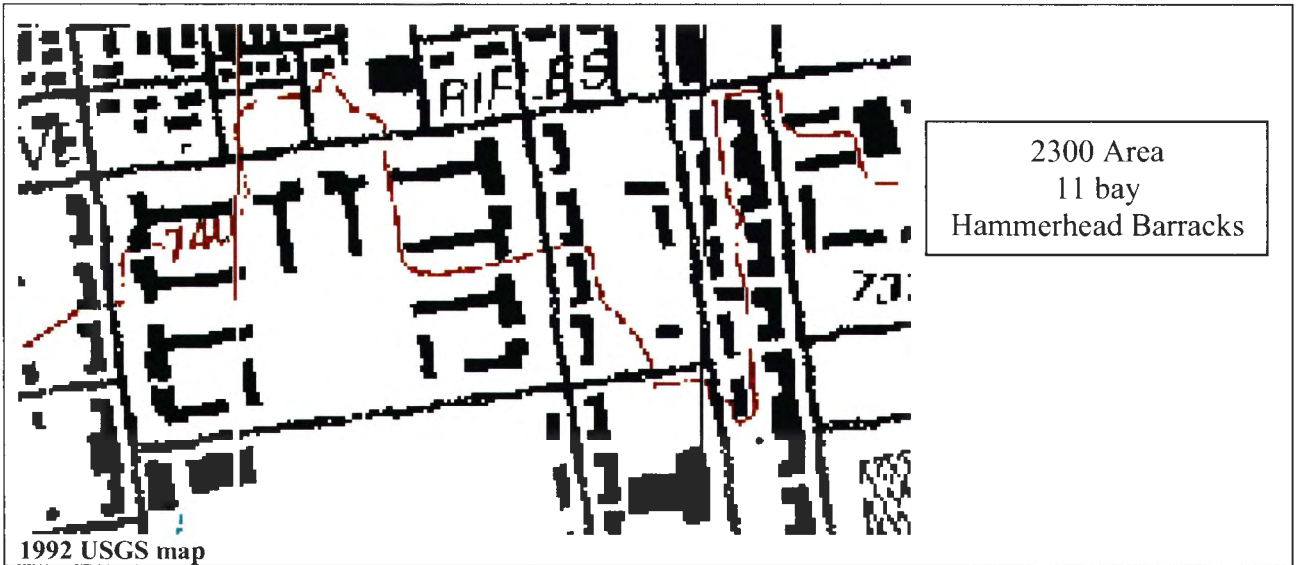
USGS QUAD

Fort Knox



1953 USGS map

2300 Area
11 bay
Hammerhead Barracks



1992 USGS map



2004 Cantonment map of 2300 Area, 11 bay hammerhead barracks

<p><u>PRESENT OWNER</u> U. S. Army Garrison, Fort Knox</p>			<p><u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>		
<p><u>GENERAL CONDITION OF PROPERTY</u></p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>			<p><u>ADDITIONS/ALTERATIONS</u></p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>		

BIBLIOGRAPHIC SOURCES

Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.

House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.

Kuranda, Kathryn M., et. al.

2003 *Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)*. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.

Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.

PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY

FORM PREPARED BY:

Sunny Stone and Adam Smith
 Engineer Research and Development Center
 Construction Engineering Research Laboratory
 2902 Farber Drive
 Champaign, IL 61822

ELIGIBLE/CONTRIBUTING

NOT ELIGIBLE



DATE: NOVEMBER 2004

DESCRIPTION

The eleven-bay hammerhead barracks in the 2300 area are located north of Garry Owen Regiment Avenue, east of Knox Street, south of Brave Rifles Regiment Avenue, and west of Hell on Wheels. The group of eight eleven-bay barracks is set around an open area used for drill and recreation. Two six-bay barracks are located in the two south corners of the block of barracks. Two battalion headquarters buildings are located adjacent to the six-bay barracks. Building 2373 is currently used as a U.S. Army Reserve Center; Building 2374 is currently used as an administrative building; Building 2376 is currently used as an Army National Guard armory; and Buildings 2375, 2377, 2378, 2379, and 2380 are currently used as enlisted men's barracks with a mess hall.

These buildings are unaccompanied personnel housing (UPH) commonly called hammerhead barracks. This type of building has a reinforced concrete frame structure with an exterior curtain wall of concrete block and a built-up flat roof. The barracks is supported by a reinforced concrete foundation; the reinforced concrete frame consists of exposed reinforced concrete columns and reinforced concrete floors. These buildings also have replacement anodized bronze aluminum windows and metal panels.

The overall layout of the eleven-bay barracks is a rectangular, eleven bay, three-story barracks and a one-story, L-shaped addition appended to one end of the *handle* portion. The structures have basements with the same footprint. The entrances are located on the long side of the *handle* and consist of metal double doors. A large exterior brick chimney extends from the one-story addition on Buildings 2373, 2377, and 2380. Buildings 2373, 2374, 2375, 2378, 2379, and 2380 were constructed from drawing number 21-01-64 sheets 1 thru 44, while Buildings 2376 and 2377 were constructed from drawing number 21-01-67 sheets 1 thru 44.

Hammerhead barracks are designed in different sizes; the six-bay, nine-bay, and eleven-bay were designed as a regimental-size troop housing complex. Usually a group of hammerhead barracks are set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 2300 area, eight eleven-bay barracks, two six-bay barracks, and two battalion headquarters buildings are situated on a rectangular portion of land.

HISTORY

Beginning in the 1950s, as a result of military build-up associated with the Korean War, the Army reviewed its construction needs and developed a series of seven standard barracks designs to reduce design time and building costs. This series was issued to Engineer Field Office for repetitive use in the continental United States.

In the 1950s, accommodating all company functions in a single building was the prime consideration in the design of barracks. These barracks, designed to utilize this aspect, are commonly known as hammerhead barracks due to their unique footprint. The overall layout of the building is a rectangular three-story barracks and a one-story, L-shaped addition appended to an end elevation, which housed the company's mess facility, administrative space, and storage area. These buildings were built with ribbons of metal sash windows.

Hammerhead barracks were most commonly clustered in groups of four and ten and laid out as a regimental-size troop housing complex. Each four building group represents a battalion and each four battalion group represents a regiment.

Standardization and uniformity in design were character defining elements of the hammerhead barracks type. Hammerhead barracks were the first major class of barracks built by the Army after World War II. Louis and Henry Architects-Engineers of Louisville, KY, designed the barracks. The design was developed with an anticipated life expectancy of twenty-five years.

A large number of hammerhead barracks were built between 1951 and 1957. Three different sizes of single-company hammerhead barracks were developed to house 105, 165, and 225 men. These buildings were strictly utilitarian, with a straightforward expression of structure and materials. Their distinct footprint resembles the outline of a hammer – a three-story barracks wing forming the *handle* with a single-story kitchen/mess wing forming the *head and tail*.

The barracks were originally constructed as open bay squad rooms with no interior walls. With the introduction of the Volunteer Army (VOLAR) program in the early 1970s, the hammerhead barracks underwent a number of changes. A major interior modification was the division of the squad rooms into three-person enlisted men rooms. More extensive changes included the removal or replacements of windows varying from the infill of windows with metal panels to the replacement of the original ribbon windows with smaller metal double sash units. "In the 1990s, a number of the hammerhead barracks were renovated to meet the 2+2 standards, and later the 1+1 standards. The renovations often included stripping the building interiors to the reinforced concrete frame, adding balconies, constructing walls in modern materials, and the addition of gable roofs" (Kuranda et al 2003, p 4-4).

The 2300 area, eleven-bay hammerhead barracks, Buildings 2373, 2374, 2375, 2376, and 2377, were originally designed by Louis and Henry Architects-Engineers of Louisville, KY and Spector and Montgomery Architects-Engineers of Falls Church, VA. These structures were constructed in 1954, while Buildings 2378, 2379, and 2380 were originally constructed in 1953 by Southeastern Construction Co., Charlotte, NC; T. A. Loving and Company, Goldsboro, NC; and Doyle and Russell of Richmond, VA as a 225-man enlisted men's barracks with a mess hall. These structures were constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952 (House 1951, p 653).

INTEGRITY

These buildings were strictly utilitarian, with a straightforward expression of structure and materials. The four elements that are key to the integrity of the hammerhead barracks are the hammerhead footprint, the exposed reinforced concrete frame, the exposed concrete block walls, and ribbons of windows.

The 2300 area, eleven-bay hammerhead barracks footprint, the exposed concrete frame, and concrete block walls are still intact with the addition of new paint. In February 1973, the lighting and partitions were improved and new features were added. In February 1976, under the VOLAR 73, the eleven-bay hammerhead barracks underwent numerous interior and exterior changes. One of the alterations to the structures resulted in the removal of the original ribbons of windows. The original steel awning windows were replaced with one-over-one anodized bronze aluminum windows and metal panels, while a major interior modification resulted in the division of the squad rooms into three-person enlisted men rooms. New gutters and downspouts were added to the eight barracks at an unknown date.

In December 1966, an arms security room was constructed in the basement of Building 2377.

In April 1979, the dining facilities of Buildings 2373 and 2377 underwent modernization.

In June 1979, the dining facilities of Building 2375 were modernized.

In February 1976, security screens were added to the basement windows of Building 2376. Also additional office space was constructed in October 1978 to Building 2376.

INTEGRITY (cont.)

The Real Property record card gives the original construction date for Buildings 2373, 2374, 2375, 2376, and 2377 as 1954, while the inventory list gives the original date as 1953.

The overall design of the 2300 area does represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since eight eleven-bay hammerhead barracks, two six-bay hammerhead barracks, and two battalion headquarters were built. These buildings do not constitute the four or ten buildings needed to have a regimental complex.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that these eight eleven-bay hammerhead barracks are not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria for unaccompanied personnel housing (UPH) due to the lack of architectural and contextual integrity.

These buildings are not associated with a historically significant person nor do they have any unique architectural features that qualify them individually for the National Register of Historic Places (NRHP). The 2300 area was also examined as a potential historic district; however, the integrity of not only the eleven-bay hammerhead barracks but the two six-bay hammerhead barracks and the two battalion headquarters building in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings.

Because a sufficient number of the Cold War UPH structures in the 2300 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the eleven-bay hammerhead barracks, Buildings 2373, 2374, 2375, 2376, 2377, 2378, 2379, and 2380, do **not** qualify for the NRHP.

DRAWINGS

See pages 311-319 for similar floor plans and elevations for the eleven-bay hammerhead barracks, Buildings 2373, 2374, 2375, 2376, 2377, 2378, 2378, and 2380.

HISTORIC PHOTOGRAPHS

View of original ribbon awning windows (no date, Patton Museum Vol. 2)



Hammerhead barracks dayroom 1955 (TAC)

COMPARISON PHOTOGRAPHS



Original unpainted exposed concrete and concrete block with original steel awning windows



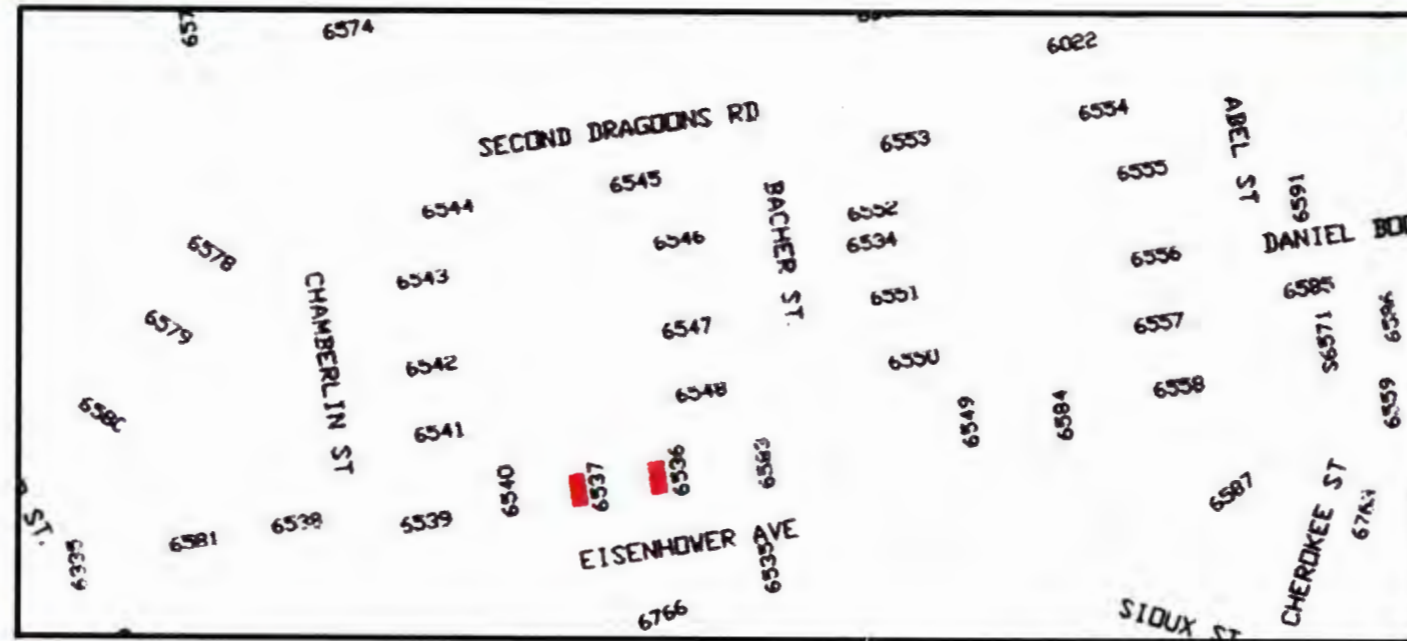
Current painted concrete and concrete block with anodized aluminum replacement windows



Building 6536 - west elevation



Building 6537 - west elevation



Building 6536 - east elevation

Figure 54 – 6500 Area; general instruction buildings

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

<u>PROPERTY BOUNDARIES</u> North of Eisenhower Avenue, east of Chamberlin Street, south of Second Dragoons Road, and west of Bacher Street		<u>COMMON/HISTORIC NAME/BUILDING #</u> General Instruction/Bldg 6536 General Instruction/Bldg 6537		<u>STATUS</u> Occupied
<u>ARCHITECT/BUILDER</u> Unknown		<u>DATE OF CONSTRUCTION</u> 1967	<u>NO. OF STORIES</u> 1	<u>FOOTPRINT</u> Rectangular
<u>MASSING</u> Flat	<u>FOUNDATION</u> Concrete slab	<u>WALLS</u> Concrete block	<u>ROOF</u> Built-up	
<u>PROPERTY FUNCTION</u> <u>HISTORIC USE(S)</u> Classroom		<u>NOTABLE FEATURES</u> Concrete masonry unit infill walls Replacement aluminum windows Large exterior brick chimney on Bldg 6536		
<u>CURRENT USE</u> Classroom				
<u>RELATIONSHIP TO OTHER BUILDINGS</u> Two general instruction buildings are set around an area once used for drills and recreation but is now a large paved parking lot. The classrooms are located on the south side of a block of hammerhead barracks.				



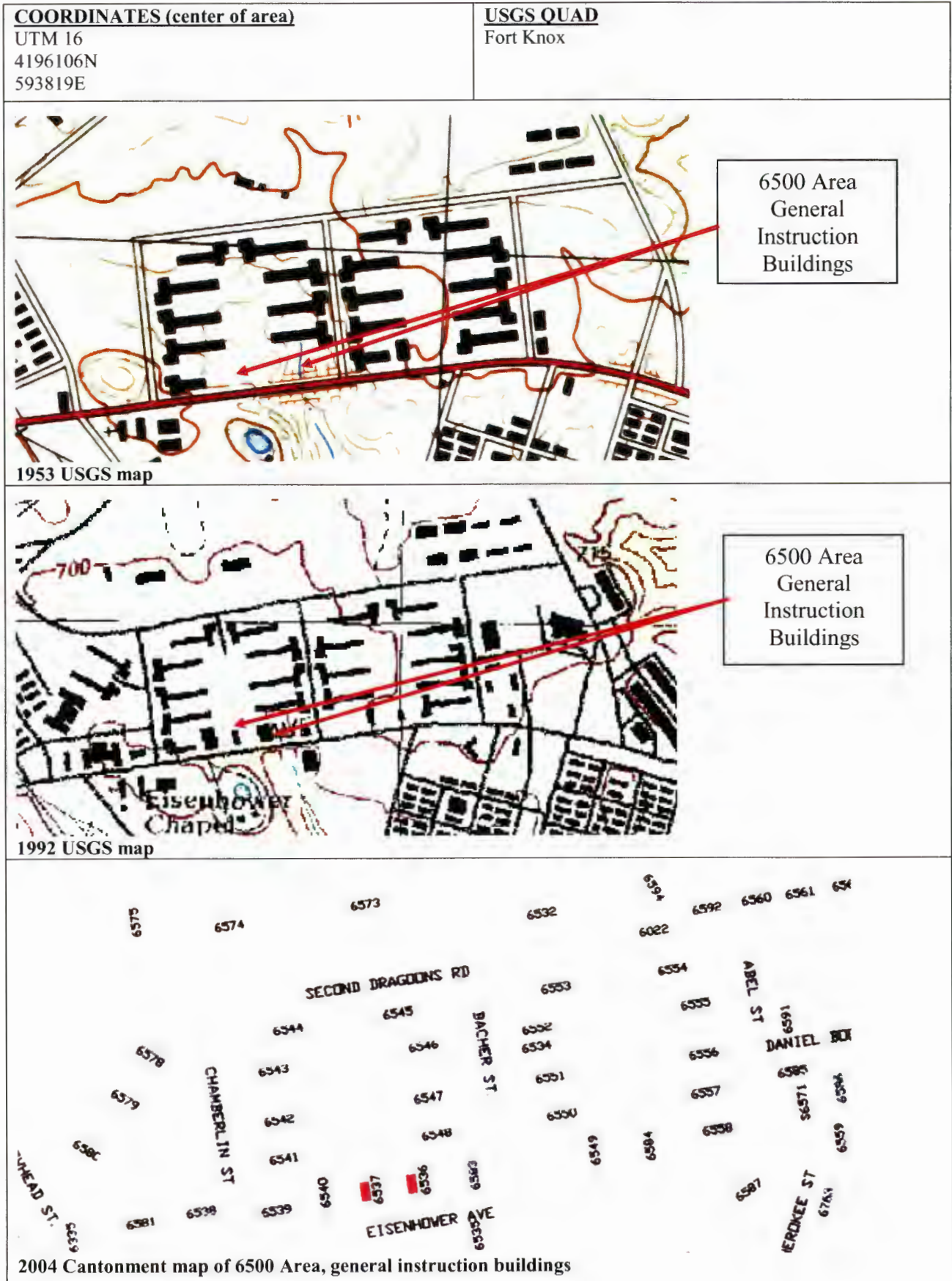
Building 6536 – east elevation



Building 6536 – west elevation



Building 6537 – west elevation



<p><u>PRESENT OWNER</u> U. S. Army Garrison, Fort Knox</p>	<p><u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>	
<p><u>GENERAL CONDITION OF PROPERTY</u></p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p><u>ADDITIONS/ALTERATIONS</u></p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>	
<p><u>BIBLIOGRAPHIC SOURCES</u> Kuranda, Kathryn M., et. al. 2003 <i>Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)</i>. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.</p> <p>Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.</p>		
<p><u>PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY</u></p> <p>ELIGIBLE/CONTRIBUTING NOT ELIGIBLE</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p><u>FORM PREPARED BY:</u> Sunny Stone and Adam Smith Engineer Research and Development Center Construction Engineering Research Laboratory 2902 Farber Drive Champaign, IL 61822</p> <p>DATE: NOVEMBER 2004</p>	
<p><u>DESCRIPTION</u></p> <p>There are two general instruction buildings located in the 6500 area north of Eisenhower Avenue, east of Chamberlin Street, south of Second Dragoons Road, and west of Bacher Street. The two general instruction buildings are set around an area that is now a large paved parking lot. The classrooms are located on the south side of a block of hammerhead barracks. Buildings 6536 and 6537 are currently used as classroom buildings.</p> <p>These buildings are constructed out of concrete block and have a shallow sloping gable roof. These structures are supported by a reinforced concrete foundation and are rectangular in floor plan. There are not many window or door openings on either building. The doors on these buildings are either solid metal, metal with one small light, or metal with one large light. The windows are paired aluminum single-hung. There is a large exterior brick chimney located on the east side of Building 6536. These buildings were constructed from drawing number 16-01-29.</p> <p>A typical regimental complex consists of a group of hammerhead barracks set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 6500 area there are eleven eleven-bay hammerhead barracks, four eleven-bay hammerhead barracks with a concrete block addition, one six-bay hammerhead barracks, two nine-bay hammerhead barracks, three battalion headquarters buildings, and two general instruction buildings, all which are situated on a rectangular portion of land; while a brigade headquarters is located to the west of the blocks of hammerhead barracks.</p>		
<p><u>HISTORY</u></p> <p>Buildings 6536 and 6537 were originally constructed in 1967. These structures were originally used as battalion classrooms before being changed to general instruction buildings at an unknown date.</p>		

INTEGRITY

The 6500 area, general instruction buildings, Buildings 6536 and 6537, are intact and in good condition. The concrete block walls are still intact with the addition of new paint. However, one of the exterior alterations was the replacement of doors and windows. The original doors were replaced with either solid metal, metal with one small light, or metal with one large light. The original windows were replaced with aluminum single-hung.

The overall design of the 6500 area does not represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since only a total of nine hammerhead barracks, and one battalion headquarters were constructed on each block. These buildings do not constitute the four or ten hammerhead barracks needed to have a regimental complex.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

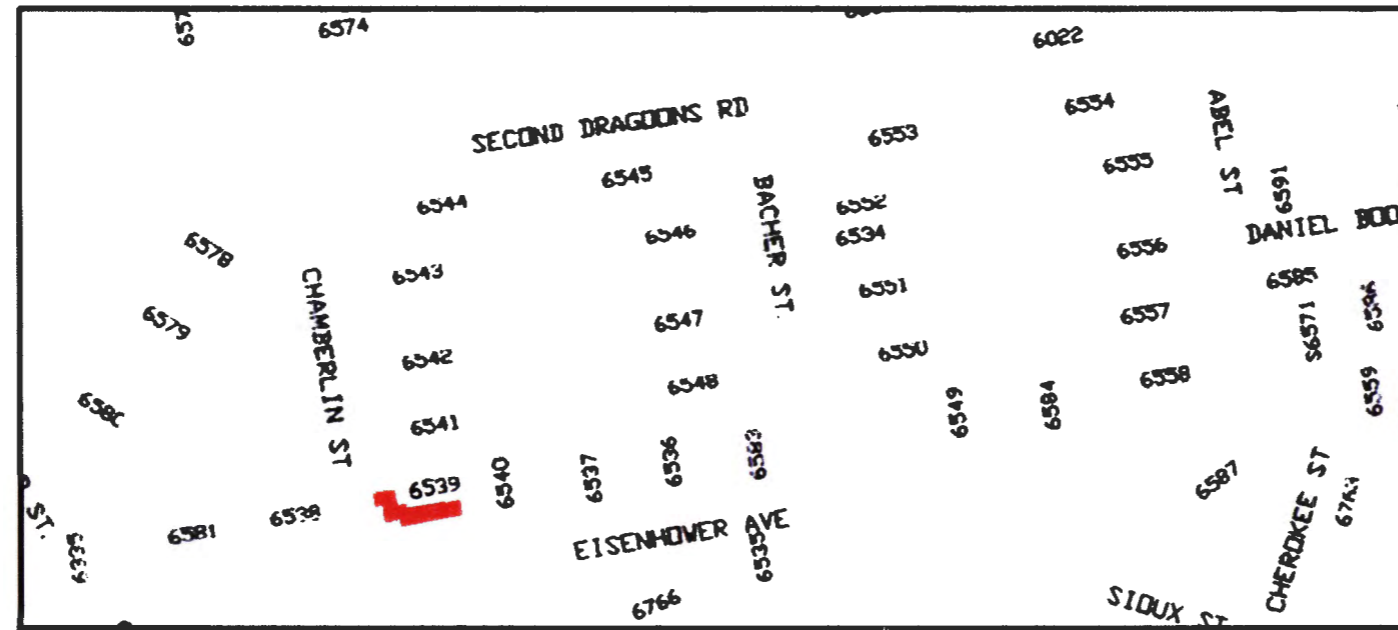
It is the determination of this report that these general instruction buildings, Buildings 6536 and 6537, are not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria due to the lack of architectural and contextual integrity.

These buildings are not associated with a historically significant person nor do they have any unique architectural features that qualify them individually for the National Register of Historic Places (NRHP). The 6500 area was also examined as a potential historic district; the integrity of the general instruction buildings, the eleven eleven-bay hammerhead barracks, the four eleven-bay hammerhead barracks with concrete block additions, the one six-bay hammerhead barracks, the two nine-bay hammerhead barracks, the one brigade headquarters, the two original battalion headquarters, and the one original regimental headquarters in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings.

Because a sufficient number of the Cold War UPH structures in the 6500 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the general instruction buildings, Buildings 6536 and 6537, do **not** qualify for the NRHP.

HISTORIC PHOTOGRAPHS

Building 6536 – oblique view of the east and south elevations, also similar to Building 6537. Hammerhead barracks in the background on right side. 18 July 1967 (National Archives College Park)



Building 6539 - oblique view of the south and west elevations

Figure 55 – 6500 Area; 6 bay hammerhead barracks

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

<u>PROPERTY BOUNDARIES</u> North of Eisenhower Avenue, east of Chamberlin Street, south of Second Dragoons Road, and west of Bacher Street		<u>COMMON/HISTORIC NAME/BUILDING #</u> Enlisted Men’s Barracks with Mess Hall/Bldg 6539		<u>STATUS</u> Occupied
<u>ARCHITECT/BUILDER</u> Louis and Henry Architect-Engineer/Southeastern Construction Co.; T. A. Loving and Company; Doyle and Russell		<u>DATE OF CONSTRUCTION</u> 1954	<u>NO. OF STORIES</u> 3	<u>FOOTPRINT</u> Complex (hammerhead)
		<u>DATE OF ALTERATIONS</u> 1977		
<u>MASSING</u> Flat	<u>FOUNDATION</u> Concrete wall	<u>WALLS</u> Post-and-beam with concrete masonry unit infill walls	<u>ROOF</u> Built-up	
<u>PROPERTY FUNCTION</u>		<u>NOTABLE FEATURES</u> Distinctive hammer-shaped building footprint Exposed reinforced concrete frame Reinforced concrete floors Concrete masonry unit infill walls Replacement anodized bronze aluminum windows Poured concrete stairs with metal pipe handrails Three-story barracks with adjoining one-story kitchen/mess wing		
<u>HISTORIC USE(S)</u> Barracks	<u>CURRENT USE</u> Barracks			
<u>RELATIONSHIP TO OTHER BUILDINGS</u> The six-bay hammerhead barracks is located on the southwest corner of a block of seven eleven-bay hammerhead barracks, one nine-bay hammerhead barracks, one battalion headquarters, and two general instruction classrooms. The center of the block was once used for drills and recreation but is now a large paved parking lot.				



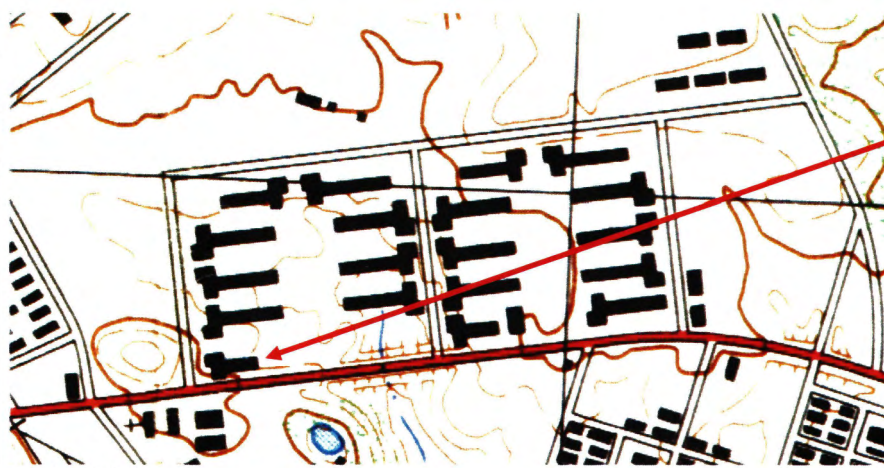
Building 6539 – south elevation

COORDINATES

UTM 16
4195970N
593566E

USGS QUAD

Fort Knox



6500 Area
6 bay
Hammerhead Barracks

1953 USGS map



6500 Area
6 bay
Hammerhead Barracks

1992 USGS map



2004 Cantonment map of 6500 Area, 6 bay hammerhead barracks

<p><u>PRESENT OWNER</u> U. S. Army Garrison, Fort Knox</p>	<p><u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>
<p><u>GENERAL CONDITION OF PROPERTY</u></p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p><u>ADDITIONS/ALTERATIONS</u></p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>
<p><u>BIBLIOGRAPHIC SOURCES</u></p> <p>Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.</p> <p>House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.</p> <p>Kuranda, Kathryn M., et. al. 2003 <i>Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)</i>. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.</p> <p>Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.</p>	
<p><u>PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY</u></p> <p>ELIGIBLE/CONTRIBUTING NOT ELIGIBLE</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p><u>FORM PREPARED BY:</u> Sunny Stone and Adam Smith Engineer Research and Development Center Construction Engineering Research Laboratory 2902 Farber Drive Champaign, IL 61822</p> <p>DATE: NOVEMBER 2004</p>
<p><u>DESCRIPTION</u></p> <p>The six-bay hammerhead barracks, Building 6539, in the 6500 area is located north of Garry Owen Regiment Avenue, east of Knox Street, south of Brave Rifles Regiment Avenue, and west of Hell on Wheels. The six-bay hammerhead barracks is located on the southwest corner of a block of eleven-bay hammerhead barracks, battalion headquarters, and general instruction classrooms. The center of the block is a large paved parking lot.</p> <p>This building is unaccompanied personnel housing (UPH) commonly called hammerhead barracks. Building 6539 has a reinforced concrete frame structure with an exterior curtain wall of concrete block and a built-up flat roof. The barracks is supported by a reinforced concrete foundation; the reinforced concrete frame consists of exposed reinforced concrete columns and exposed reinforced concrete floors. The building also has replacement anodized bronze aluminum windows and metal panels.</p> <p>The overall layout of Building 6539 is a rectangular, six bay, three-story barracks and a one-story, L-shaped addition appended to an end elevation. The structure has a basement with the same footprint. The entrances are located on the long side of the <i>handle</i> and consist of metal double doors. This building was constructed from drawing number 21-01-68 sheets 1 thru 44.</p>	

DESCRIPTION (cont.)

Hammerhead barracks are designed in different sizes; the six-bay, nine-bay, and eleven-bay were designed as a regimental-size troop housing complex. Usually a group of hammerhead barracks are set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 6500 area, there are five eleven-bay hammerhead barracks, two eleven-bay hammerhead barracks with a concrete block addition, one six-bay hammerhead barracks, one nine-bay hammerhead barracks, one battalion headquarters, and two general instruction buildings situated on a rectangular portion of land.

HISTORY

Beginning in the 1950s, as a result of military build-up associated with the Korean War, the Army reviewed its construction needs and developed a series of seven standard barracks designs to reduce design time and building costs. This series was issued to Engineer Field Office for repetitive use in the continental United States.

In the 1950s, accommodating all company functions in a single building was the prime consideration in the design of barracks. These barracks, designed to utilize this aspect, are commonly known as hammerhead barracks due to their unique footprint. The overall layout of the building is a rectangular three-story barracks and a one-story, L-shaped addition appended to an end elevation, which housed the company's mess facility, administrative space, and storage area. These buildings were built with ribbons of metal sash windows.

Hammerhead barracks were most commonly clustered in groups of four and ten and laid out as a regimental-size troop housing complex. Each four building group represents a battalion and each four battalion group represents a regiment.

Standardization and uniformity in design were character defining elements of the hammerhead barracks type. Hammerhead barracks were the first major class of barracks built by the Army after World War II. Louis and Henry Architects-Engineers of Louisville, KY, designed the barracks. The design was developed with an anticipated life expectancy of twenty-five years.

A large number of hammerhead barracks were built between 1951 and 1957. Three different sizes of single-company hammerhead barracks were developed to house 105, 165, and 225 men. These buildings were strictly utilitarian, with a straightforward expression of structure and materials. Their distinct footprint resembles the outline of a hammer – a three-story barracks wing forming the *handle* with a single-story kitchen/mess wing forming the *head* and *tail*.

The barracks were originally constructed as open bay squad rooms with no interior walls. With the introduction of the Volunteer Army (VOLAR) program in the early 1970s, the hammerhead barracks underwent a number of changes. A major interior modification was the division of the squad rooms into three-person enlisted men rooms. More extensive changes included the removal or replacements of windows varying from the infill of windows with metal panels to the replacement of the original ribbon windows with smaller metal double sash units. "In the 1990s, a number of the hammerhead barracks were renovated to meet the 2+2 standards, and later the 1+1 standards. The renovations often included stripping the building interiors to the reinforced concrete frame, adding balconies, constructing walls in modern materials, and the addition of gable roofs" (Kuranda et al 2003, p 4-4).

The 6500 area, six-bay hammerhead barracks, Building 6539 was originally constructed in 1954 by Southeastern Construction Co., Charlotte, NC; T. A. Loving and Company, Goldsboro, NC; and Doyle and Russell of Richmond, VA as a 105-man enlisted men's barracks with a mess hall. This structure was constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952 (House 1951, p 653). The six-bay hammerhead barracks located in the 6500 area was one of five six-bay hammerhead barracks to be constructed on the installation under this appropriation.

INTEGRITY

These buildings were strictly utilitarian, with a straightforward expression of structure and materials. The four elements that are key to the integrity of the hammerhead barracks are the hammerhead footprint, the exposed reinforced concrete frame, the exposed concrete block walls, and ribbons of windows.

The 6500 area, hammerhead barracks footprint, the exposed concrete frame, and concrete block walls are still intact with the addition of new paint. In April 1977, under the VOLAR 74, the six-bay hammerhead barracks underwent numerous interior and exterior changes. One of the exterior alterations to the structure resulted in the removal of the original ribbons of windows. The original steel awning windows were replaced with one-over-one anodized bronze aluminum windows and metal panels, while a major interior modification resulted in the division of the squad rooms into three-person enlisted man rooms. New gutters and downspouts were added at an unknown date.

The overall design of the 6500 area does not represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since only seven eleven-bay hammerhead barracks, one six-bay hammerhead barracks, one nine-bay hammerhead barracks, one battalion headquarters, and two general instruction buildings were constructed. These do not constitute the four or ten buildings needed to have a complete regimental area.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that this six-bay hammerhead barracks is not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria for unaccompanied personnel housing (UPH) due to the lack of architectural and contextual integrity.

This building is not associated with a historically significant person nor does it have any unique architectural features that qualify it individually for the National Register of Historic Places (NRHP). The 6500 area was also examined as a potential historic district; however, the integrity of not only the six-bay hammerhead barracks but the five eleven-bay hammerhead barracks, two eleven-bay hammerhead barracks with a concrete block addition, one nine-bay hammerhead barracks, one battalion headquarters, and two general instruction buildings in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings.

Because a sufficient number of the Cold War UPH structures in the 6500 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the six-bay hammerhead barracks, Building 6539, does **not** qualify for the NRHP.

DRAWINGS

See pages 303-309 for similar floor plans and elevations for the six-bay hammerhead barracks, Building 6539.

HISTORIC PHOTOGRAPHS



View of original ribbon awning windows (no date, Patton Museum Vol. 2)



Hammerhead barracks dayroom 1955 (TAC)

COMPARISON PHOTOGRAPHS



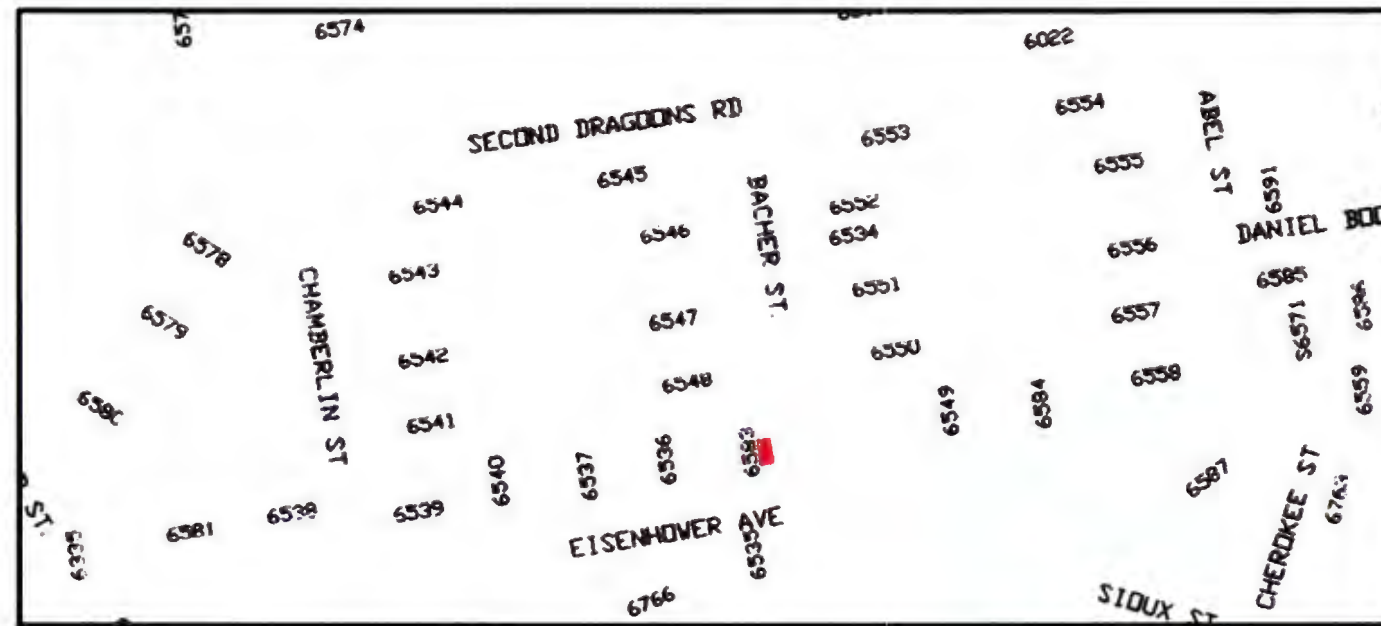
Original unpainted exposed concrete and concrete block with original steel awning windows



Current painted concrete and concrete block with anodized aluminum replacement windows



Building 6538 - oblique view of the north and east elevations



Building 6538 - oblique view of the south and west elevations

Figure 56 – 6500 Area; brigade headquarters

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

<u>PROPERTY BOUNDARIES</u> North of Eisenhower Avenue, east of Arrowhead Street, south of Second Dragoons Road, and west of Chamberlin Street		<u>COMMON/HISTORIC NAME/BUILDING #</u> Brigade Headquarters/Battalion Headquarters/Bldg 6538		<u>STATUS</u> Occupied
<u>ARCHITECT/BUILDER</u> Unknown		<u>DATE OF CONSTRUCTION</u> 1964	<u>NO. OF STORIES</u> 1	<u>FOOTPRINT</u> Rectangular
<u>MASSING</u> Slight gable	<u>FOUNDATION</u> Concrete slab	<u>WALLS</u> Concrete block	<u>ROOF</u> Built-up	
<u>PROPERTY FUNCTION</u>		<u>NOTABLE FEATURES</u> Replacement aluminum single-hung windows Concrete masonry unit walls		
<u>HISTORIC USE(S)</u> Office	<u>CURRENT USE</u> Office			
<u>RELATIONSHIP TO OTHER BUILDINGS</u> The headquarters is located to the west of a block of hammerhead barracks, battalion headquarters, and classroom buildings.				



Building 6538 – north elevation



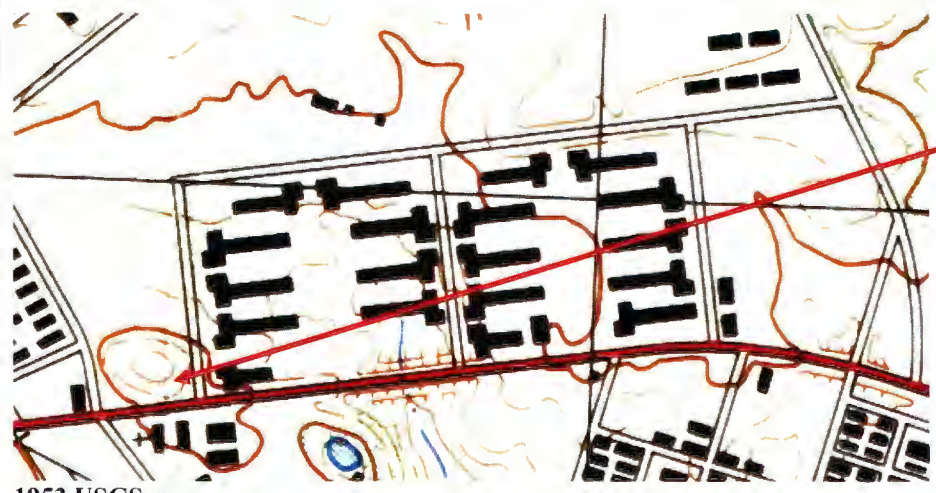
Building 6538 – south elevation

COORDINATES

UTM 16
4195950N
593486E

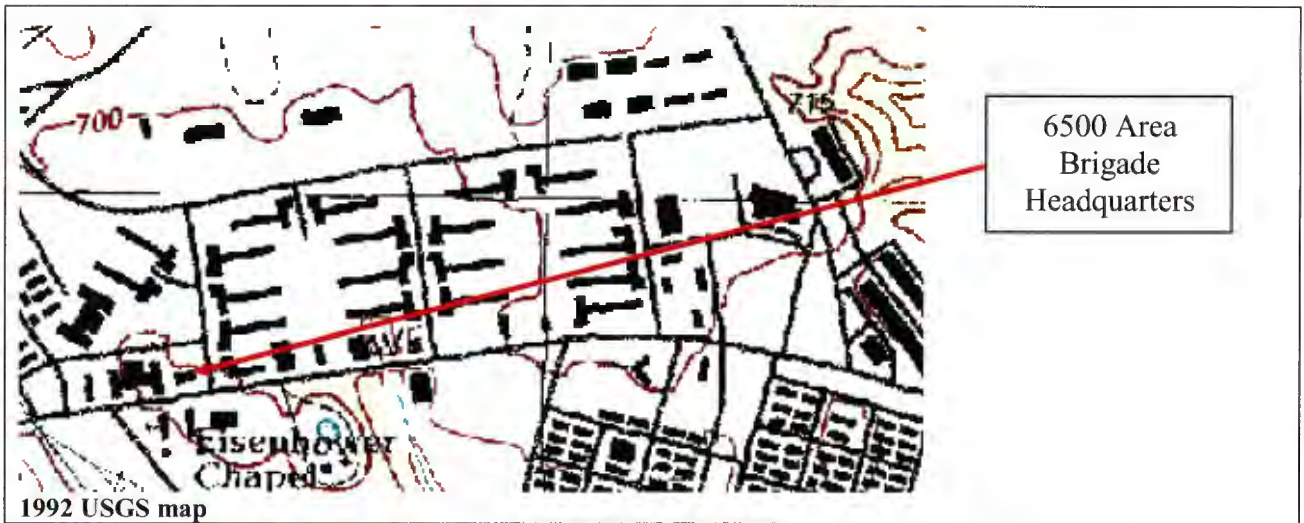
USGS QUAD

Fort Knox

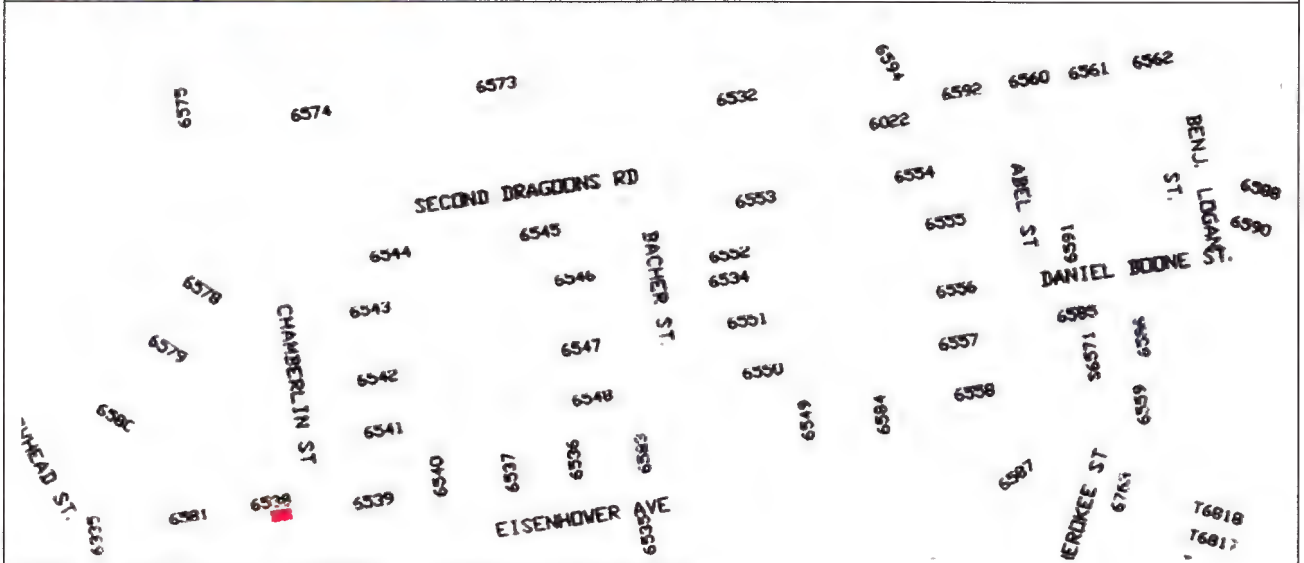


6500 Area
Brigade
Headquarters

1953 USGS map



1992 USGS map



2004 Cantonment map of 6500 Area, brigade headquarters

<p><u>PRESENT OWNER</u> U. S. Army Garrison, Fort Knox</p>	<p><u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>
<p><u>GENERAL CONDITION OF PROPERTY</u></p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p><u>ADDITIONS/ALTERATIONS</u></p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>

BIBLIOGRAPHIC SOURCES

Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.

Kuranda, Kathryn M., et. al.
2003 *Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)*. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.

Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.

<p><u>PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY</u></p> <p>ELIGIBLE/CONTRIBUTING NOT ELIGIBLE</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p><u>FORM PREPARED BY:</u> Sunny Stone and Adam Smith Engineer Research and Development Center Construction Engineering Research Laboratory 2902 Farber Drive Champaign, IL 61822</p> <p>DATE: NOVEMBER 2004</p>
<p><u>DESCRIPTION</u></p> <p>The brigade headquarters located in the 6500 area is north of Eisenhower Avenue, east of Arrowhead Street, south of Second Dragoons Road, and west of Chamberlin Street. The headquarters is located to the west of a block of hammerhead barracks, battalion headquarters, and classroom buildings. Building 6538 is currently used as a brigade headquarters.</p> <p>This building is constructed out of concrete block. The structure has a shallow sloping gable roof and is supported by a reinforced concrete foundation that is rectangular in floor plan. The doors on this building are metal with one large light. The windows are aluminum single-hung. Building 6538 was constructed from drawing number 30-02-44.</p> <p>A typical regimental complex consists of a group of hammerhead barracks that are set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 6500 area there are eleven eleven-bay hammerhead barracks, four eleven-bay hammerhead barracks with a concrete block addition, one six-bay hammerhead barracks, two nine-bay hammerhead barracks, three battalion headquarters buildings, and two general instruction buildings situated on a rectangular portion of land, while a brigade headquarters is located west of the blocks of hammerhead barracks.</p>	
<p><u>HISTORY</u></p> <p>Building 6538 was originally constructed in 1964. This structure was originally used as battalion headquarters before changing to a brigade headquarters building at an unknown date.</p>	
<p><u>INTEGRITY</u></p> <p>The 6500 area, brigade headquarters, Building 6538, is intact and in good condition. Exterior alterations include the replacement of doors and windows. The original doors were replaced with metal doors with one large light and the original windows were replaced with aluminum single-hung.</p> <p>Building 6538 had a change in use from a battalion headquarters building to a brigade headquarters at an unknown date.</p> <p>The overall design of the 6500 area does not represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since only a total of nine hammerhead barracks, and one battalion headquarters were constructed on each block. These buildings do not constitute the four or ten hammerhead barracks needed to have a regimental complex.</p>	

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that this brigade headquarters, Building 6538, is not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria due to the lack of architectural and contextual integrity.

This building is not associated with a historically significant person nor does it have any unique architectural features that qualify it individually for the National Register of Historic Places (NRHP). The 6500 area was also examined as a potential historic district; even though, the brigade headquarters is in good condition, the eleven eleven-bay hammerhead barracks, the four eleven-bay hammerhead barracks with concrete block additions, the one six-bay hammerhead barracks, the two nine-bay hammerhead barracks, the two general instruction buildings, the two original battalion headquarters, and the one original regimental headquarters in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings.

Because a sufficient number of the Cold War UPH structures in the 6500 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the brigade headquarters, Building 6538, does **not** qualify for the NRHP.



Building 6540 - south elevation



Building 6549 - south elevation

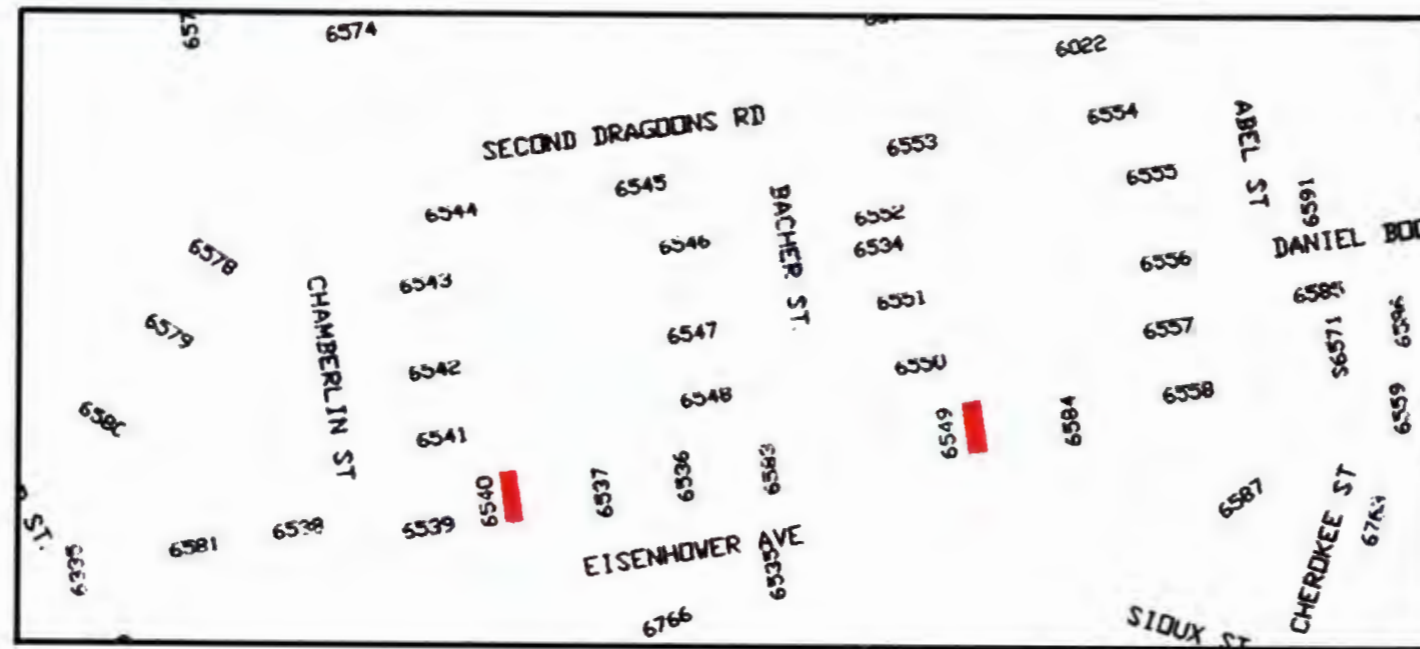


Figure 57 – 6500 Area; battalion headquarters

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

<u>PROPERTY BOUNDARIES</u> Bldg 6540 – North of Eisenhower Avenue, east of Chamberlin Street, south of Second Dragoons Road, and west of Bacher Street Bldg 6549 – North of Eisenhower Avenue, east Bacher Street, south of Second Dragoons Road, and west of Abel Street		<u>COMMON/HISTORIC NAME/BUILDING #</u> Battalion Headquarters/Bldg 6540 Battalion Headquarters/Bldg 6549		<u>STATUS</u> Occupied
<u>ARCHITECT/BUILDER</u> Louis and Henry; Fred Elswick; Hazelet and Erdal Architect-Engineer		<u>DATE OF CONSTRUCTION</u> 1954	<u>NO. OF STORIES</u> 2	<u>FOOTPRINT</u> Rectangular
		<u>DATE OF ALTERATIONS</u> 1970s		
<u>MASSING</u> Flat	<u>FOUNDATION</u> Concrete wall	<u>WALLS</u> Post-and-beam with concrete masonry unit infill walls	<u>ROOF</u> Built-up	
<u>PROPERTY FUNCTION</u>		<u>NOTABLE FEATURES</u>		
<u>HISTORIC USE(S)</u> Office	<u>CURRENT USE</u> Office	Exposed reinforced concrete frame Concrete masonry unit infill walls Replacement anodized bronze aluminum windows Glass enclosed entry addition		
<u>RELATIONSHIP TO OTHER BUILDINGS</u> Building 6540 and 6549 are located on the south side of two different blocks of hammerhead barracks and general instruction classrooms. The center of one block is a large paved parking lot, while the center of the other block is used for drills and recreation.				



Building 6540 – south elevation



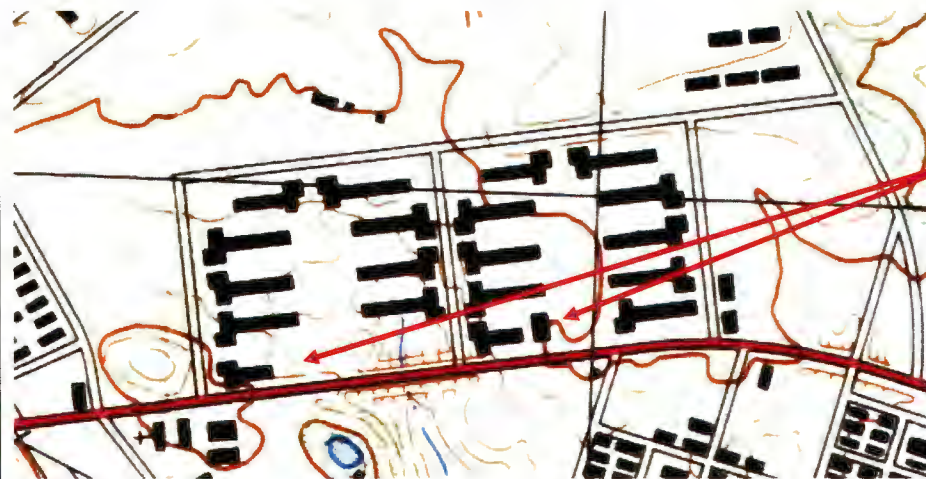
Building 6549 – south elevation

COORDINATES (center of area)

UTM 16
4196086N
593824E

USGS QUAD

Fort Knox

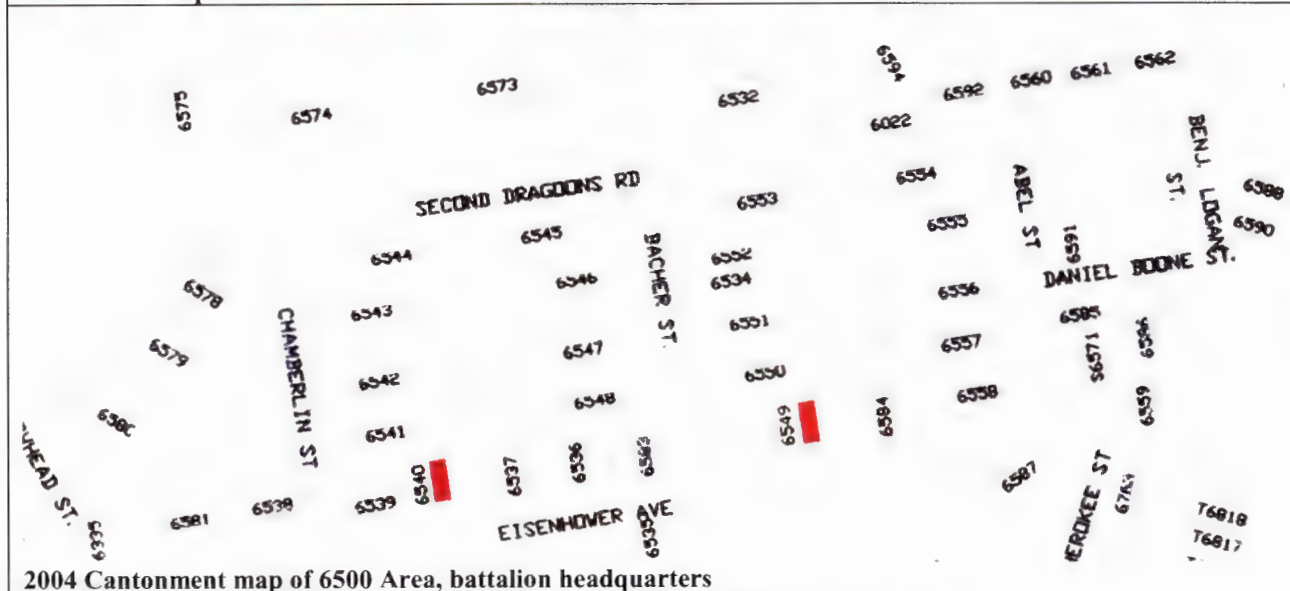


1953 USGS map

6500 Area
Battalion
Headquarters



1992 USGS map



2004 Cantonment map of 6500 Area, battalion headquarters

<p><u>PRESENT OWNER</u> U. S. Army Garrison, Fort Knox</p>	<p><u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>
<p><u>GENERAL CONDITION OF PROPERTY</u></p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p><u>ADDITIONS/ALTERATIONS</u></p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>

BIBLIOGRAPHIC SOURCES

Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.

House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.

Kuranda, Kathryn M., et. al.

2003 *Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)*. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.

Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.

PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY

ELIGIBLE/CONTRIBUTING



NOT ELIGIBLE

**FORM PREPARED BY:**

Sunny Stone and Adam Smith
Engineer Research and Development Center
Construction Engineering Research Laboratory
2902 Farber Drive
Champaign, IL 61822

DATE: NOVEMBER 2004

DESCRIPTION

There are three battalion headquarters located in the 6500 area. However, one of the battalion headquarters was formally a regimental headquarters, thus has a different layout and design. The two original battalion headquarters buildings in the 6500 area are located on different blocks. Building 6540 is located north of Eisenhower Avenue, east of Chamberlin Street, south of Second Dragoons Road, and west of Bacher Street. Building 6549 is located north of Eisenhower Avenue, east Bacher Street, south of Second Dragoons Road, and west of Abel Street. Both buildings are currently used as battalion headquarters.

These buildings have a reinforced concrete frame structure with an exterior curtain wall of concrete block and a built-up flat roof. The structures are supported by a reinforced concrete foundation; the reinforced concrete frame consists of exposed reinforced concrete columns and reinforced concrete floors. These buildings have replacement anodized bronze aluminum windows and metal panel inserts.

The overall layouts of the buildings are rectangular. The structures have two different roof heights. The front portion, where the main entrance is located, is two bays wide by two bays deep and two stories tall, while the rear portion of the building is two bays wide by three bays deep and one-story tall. The windows on the buildings are replacement anodized bronze aluminum windows that are grouped in sets of two and four. The doors on the battalion headquarters buildings are metal replacement doors with one light in each door. The main entrance into these buildings is defined by a glass enclosed addition at the main entrance, thus there is no longer an inset entry. Flat metal canopies are positioned above the metal doors on the sides of the buildings. These buildings were constructed from drawing number 30-02-14 sheets 1-12.

Typically, a group of hammerhead barracks are set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 6500 area there are eleven eleven-bay hammerhead barracks, four eleven-bay hammerhead barracks with a concrete block addition, one six-bay hammerhead barracks, two nine-bay hammerhead barracks, and three battalion headquarters buildings situated on rectangular portion of land, while a brigade headquarters is located to the west of the blocks of hammerhead barracks.

HISTORY

Buildings 6544 and 6549 were originally constructed in 1954. The 6500 area, battalion headquarters were designed by Louis and Henry; Fred Elswick; Hazelet and Erdal Architect-Engineer from Louisville, KY. These structures were constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952. “These buildings were required to house the normal headquarters echelons to command the units occupying the permanent barracks space that was to be constructed” (House 1951, p 655). The two battalion headquarters located in the 6500 area were two of six battalion headquarters to be constructed on the installation under this appropriation.

INTEGRITY

The 6500 area, battalion headquarters buildings are intact and in good condition. The exposed concrete frame and concrete block walls are still intact with the addition of new paint. However, one of the alterations to the structures resulted in the removal of the original ribbons of windows. The original steel awning windows were replaced with one-over-one anodized bronze aluminum windows and metal panel inserts. A large glass addition was constructed on both Buildings 6544 and 6549, at an unknown date, in order to enclose the original inset entrance.

The overall design of the 6500 area does not represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since only a total of nine hammerhead barracks and one battalion headquarters were constructed on each block. These buildings do not constitute the four or ten buildings needed to have a regimental complex.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that these two battalion headquarters, Buildings 6544 and 6549, are not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria due to the lack of architectural and contextual integrity.

These buildings are not associated with a historically significant person nor do they have any unique architectural features that qualify them individually for the National Register of Historic Places (NRHP). The 6500 area was also examined as a potential historic district; however, the integrity of not only the two battalion headquarters, but also the eleven eleven-bay hammerhead barracks, the four eleven-bay hammerhead barracks with concrete block additions, the one six-bay hammerhead barracks, the two nine-bay hammerhead barracks, the one brigade headquarters, and the two general instruction buildings in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings.

Because a sufficient number of the Cold War UPH structures in the 6500 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the two battalion headquarters, Buildings 6544 and 6549, do **not** qualify for the NRHP.

DRAWINGS

See pages 321-323 for similar floor plans and elevations for the battalion headquarters, Buildings 6540 and 6549.

COMPARISON PHOTOGRAPHS



Original unpainted exposed concrete and concrete block with original steel awning windows



Current painted concrete and concrete block with anodized aluminum replacement windows



Building 6541 - east elevation



Building 6545 - north elevation



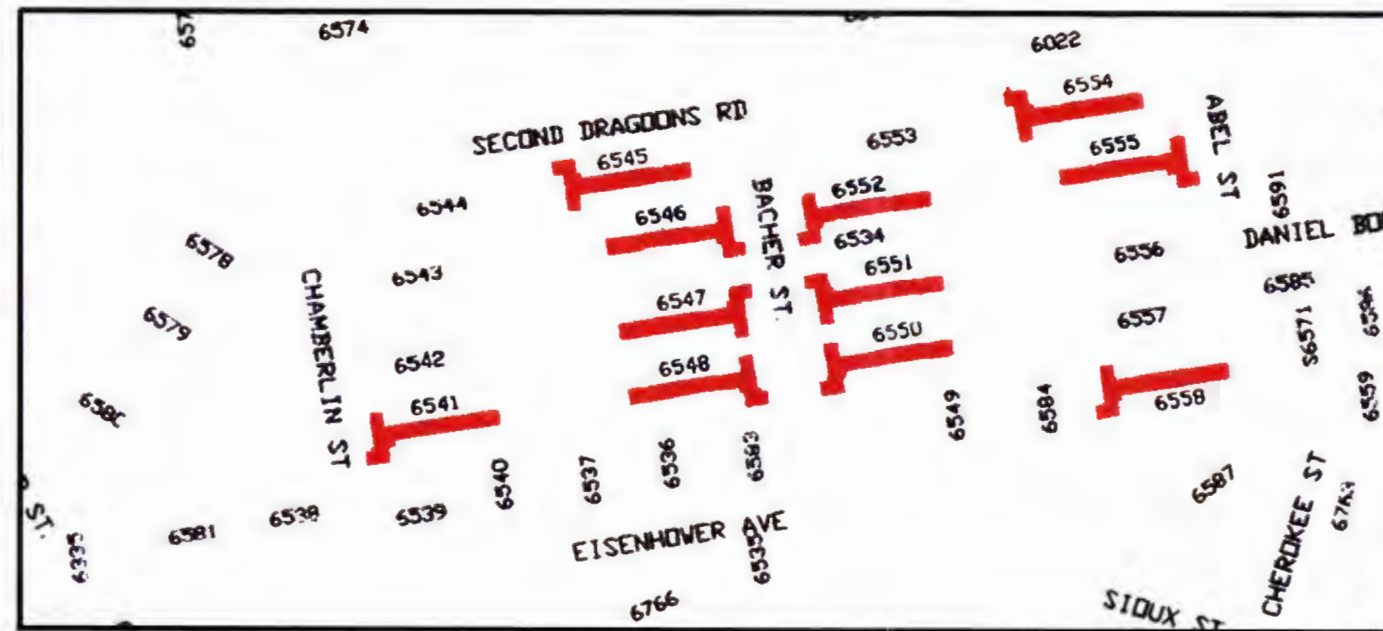
Building 6546 - oblique view of the east and south elevations



Oblique views of east and south elevations of Buildings 6546-left, 6547-middle, and 6548-right



Building 6548 - east elevation with large exterior brick chimney



Building 6558 - oblique view of the north and east elevations



Building 6550 - Oblique view of north and west elevations



Building 6551 - oblique view of the north and west elevations



Building 6552 - oblique view of the south and west elevations



Building 6555 - east elevation

Figure 58 – 6500 Area; 11 bay hammerhead barracks

FORT KNOX HISTORIC PROPERTY INVENTORY FORM				
<u>PROPERTY BOUNDARIES</u> Buildings 6541, 6545, 6546, 6547, and 6548 – North of Eisenhower Avenue, east of Chamberlin Street, south of Second Dragoons Road, and west of Bacher Street Buildings 6550, 6551, 6552, 6554, 6555, and 6558 – North of Eisenhower Avenue, south of Second Dragoons Road, east Bacher Street, and west of Abel Street		<u>COMMON/HISTORIC NAME/BUILDING #</u> Enlisted Men’s Barracks with Mess Hall/Bldg 6541 Enlisted Men’s Barracks with Mess Hall/Bldg 6545 Enlisted Men’s Barracks with Mess Hall/Bldg 6546 Enlisted Men’s Barracks with Mess Hall/Bldg 6547 Enlisted Men’s Barracks with Mess Hall/Bldg 6548 Enlisted Men’s Barracks with Mess Hall/Bldg 6550 Enlisted Men’s Barracks with Mess Hall/Bldg 6551 Enlisted Men’s Barracks with Mess Hall/Bldg 6552 Enlisted Men’s Barracks with Mess Hall/Bldg 6554 Enlisted Men’s Barracks with Mess Hall/Bldg 6555 Enlisted Men’s Barracks with Mess Hall/Bldg 6558		<u>STATUS</u> Occupied
<u>ARCHITECT/BUILDER</u> Louis and Henry Architect-Engineer/ Spector & Montgomery Architects- Engineers Southeastern Construction Co.; T. A. Loving and Company; Doyle and Russell		<u>DATE OF CONSTRUCTION</u> 1953 (inventory list) – Bldgs 6541, 6548, 6550 1954 (inventory list) – Bldgs 6545, 6546, 6547, 6551, 6552, 6554, 6555, 6558 1953 (Real Property card) – Bldgs 6551, 6552, 6554, 6555 1954 (Real Property card) – Bldgs 6541, 6548, 6550	<u>NO. OF STORIES</u> 3	<u>FOOTPRINT</u> Complex (hammerhead)
<u>DATE OF ALTERATIONS</u> 1970s, 1978		<u>MASSING</u> Flat	<u>FOUNDATION</u> Concrete wall	<u>WALLS</u> Post-and-beam with concrete masonry unit infill walls
<u>ROOF</u> Built-up		<u>PROPERTY FUNCTION</u>		
<u>HISTORIC USE(S)</u> Barracks		<u>CURRENT USE</u> Barracks		
<u>RELATIONSHIP TO OTHER BUILDINGS</u> The eleven-bay hammerhead barracks are located on two different blocks. The center of one block is a large paved parking lot, while the center of the other block is used for drills and recreation. Amongst the barracks are general instruction classrooms, battalion headquarters and regimental headquarters.		<u>NOTABLE FEATURES</u> Distinctive hammer-shaped building footprint Exposed reinforced concrete frame Reinforced concrete floors Concrete masonry unit infill walls Replacement anodized bronze aluminum windows Exterior brick chimney – Bldgs 6541, 6547, 6548, and 6550 Three-story barracks with adjoining one-story kitchen/mess wing		



Building 6540 – east elevation with large brick chimney



Building 6545 – north elevation of the *handle* portion where the barracks are located



Building 6546 – east elevation



Building 6548- east elevation with large brick chimney



East elevations of Buildings 6546, 6547, and 6548 (right to left)



Building 6550 – oblique view of the north and west elevations



Building 6551 – oblique view of the north and west elevations



Building 6552 – west elevation of the *head* portion where the kitchen is located



Building 6554 – east elevation with exterior staircase addition



Building 6555 – east elevation



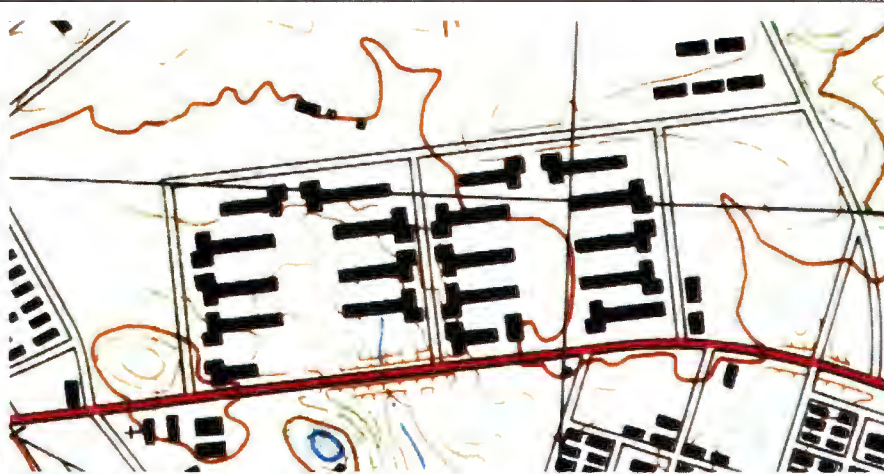
Building 6558 – oblique view of the north and east elevation of the *handle* portion

COORDINATES (center of area)

UTM 16
4196106N
593819E

USGS QUAD

Fort Knox



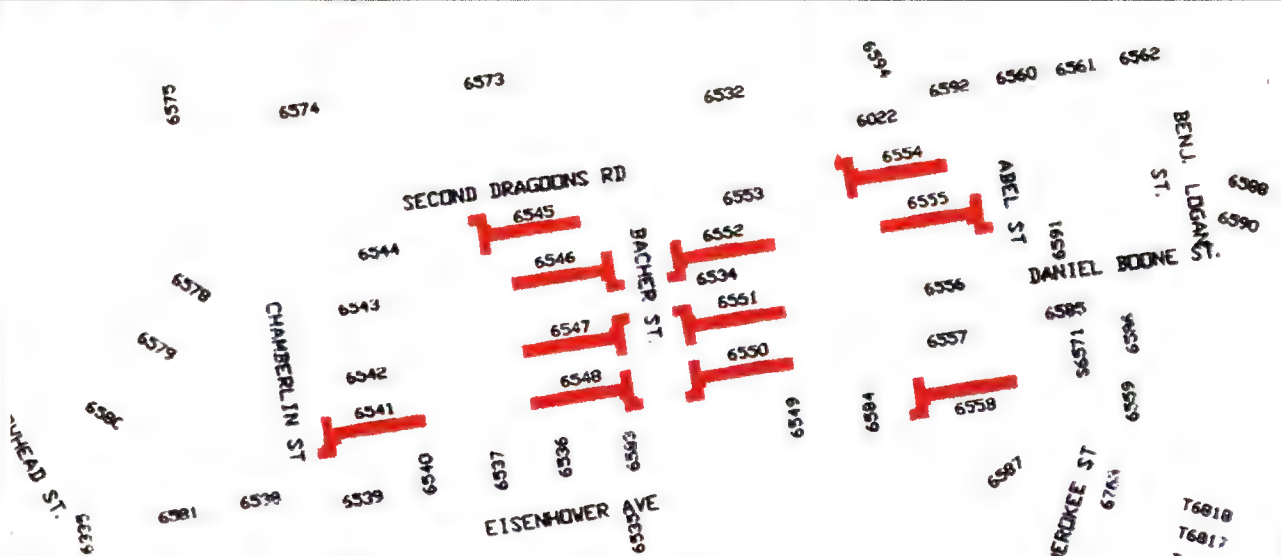
1953 USGS map

6500 Area
11 bay
Hammerhead Barracks



1992 USGS map

6500 Area
11 bay
Hammerhead Barracks



2004 Cantonment map of 6500 Area, 11 bay hammerhead barracks

<p><u>PRESENT OWNER</u> U. S. Army Garrison, Fort Knox</p>	<p><u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>
<p><u>GENERAL CONDITION OF PROPERTY</u></p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p><u>ADDITIONS/ALTERATIONS</u></p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>
<p><u>BIBLIOGRAPHIC SOURCES</u></p> <p>Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.</p> <p>House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.</p> <p>Kuranda, Kathryn M., et. al. 2003 <i>Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)</i>. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.</p> <p>Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.</p>	
<p><u>PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY</u></p> <p>ELIGIBLE/CONTRIBUTING NOT ELIGIBLE</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p><u>FORM PREPARED BY:</u> Sunny Stone and Adam Smith Engineer Research and Development Center Construction Engineering Research Laboratory 2902 Farber Drive Champaign, IL 61822</p> <p>DATE: NOVEMBER 2004</p>
<p><u>DESCRIPTION</u></p> <p>The eleven-bay hammerhead barracks, Buildings 6541, 6545, 6546, 6547, and 6548, in the 6500 area are located north of Eisenhower Avenue, east of Chamberlin Street, south of Second Dragoons Road, and west of Bacher Street. The eleven-bay hammerhead barracks, Buildings 6550, 6551, 6552, 6554, 6555, and 6558, in the 6500 area are located north of Eisenhower Avenue, south of Second Dragoons Road, east Bacher Street, and west of Abel Street. The eleven-bay hammerhead barracks are located on two different blocks. The center of one block is a large paved parking lot, while the center of the other block is used for drills and recreation. Amongst the barracks are general instruction classrooms, battalion and regimental headquarters. All of the buildings are currently used as enlisted men's barracks with a mess hall.</p> <p>These buildings are unaccompanied personnel housing (UPH) commonly called hammerhead barracks. This type of building has a reinforced concrete frame structure with an exterior curtain wall of concrete block and a built-up flat roof. The barracks is supported by a reinforced concrete foundation; the reinforced concrete frame consists of exposed reinforced concrete columns and reinforced concrete floors. These buildings also have replacement anodized bronze aluminum windows and metal panels.</p> <p>The overall layout of the eleven-bay barracks is a rectangular, eleven bay, three-story barracks and a one-story, L-shaped addition appended to one end of the <i>handle</i> portion. The structures have basements with the same footprint. The entrances are located on the long side of the <i>handle</i> and consist of metal double doors. A large exterior brick chimney extends from the one-story addition on Buildings 6541, 6547, 6548, and 6550. These buildings were constructed from drawing number 21-01-64 sheets 1 thru 44.</p> <p>Building 6554 has an exterior metal staircase located on the east elevation of the <i>handle</i> portion.</p>	

DESCRIPTION (cont.)

Hammerhead barracks are designed in different sizes; the six-bay, nine-bay, and eleven-bay were designed as a regimental-size troop housing complex. Usually a group of hammerhead barracks are set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 6500 area, each block of barracks has a total of nine hammerhead barracks and one battalion headquarters. One block has an additional two general instruction buildings, while a brigade headquarters is located west of the blocks and third battalion headquarters is located east of the blocks of hammerhead barracks.

HISTORY

Beginning in the 1950s, as a result of military build-up associated with the Korean War, the Army reviewed its construction needs and developed a series of seven standard barracks designs to reduce design time and building costs. This series was issued to Engineer Field Office for repetitive use in the continental United States.

In the 1950s, accommodating all company functions in a single building was the prime consideration in the design of barracks. These barracks, designed to utilize this aspect, are commonly known as hammerhead barracks due to their unique footprint. The overall layout of the building is a rectangular three-story barracks and a one-story, L-shaped addition appended to an end elevation, which housed the company's mess facility, administrative space, and storage area. These buildings were built with ribbons of metal sash windows.

Hammerhead barracks were most commonly clustered in groups of four and ten and laid out as a regimental-size troop housing complex. Each four building group represents a battalion and each four battalion group represents a regiment.

Standardization and uniformity in design were character defining elements of the hammerhead barracks type. Hammerhead barracks were the first major class of barracks built by the Army after World War II. Louis and Henry Architects-Engineers of Louisville, KY, designed the barracks. The design was developed with an anticipated life expectancy of twenty-five years.

A large number of hammerhead barracks were built between 1951 and 1957. Three different sizes of single-company hammerhead barracks were developed to house 105, 165, and 225 men. These buildings were strictly utilitarian, with a straightforward expression of structure and materials. Their distinct footprint resembles the outline of a hammer – a three-story barracks wing forming the *handle* with a single-story kitchen/mess wing forming the *head* and *tail*.

The barracks were originally constructed as open bay squad rooms with no interior walls. With the introduction of the Volunteer Army (VOLAR) program in the early 1970s, the hammerhead barracks underwent a number of changes. A major interior modification was the division of the squad rooms into three-person enlisted men rooms. More extensive changes included the removal or replacements of windows varying from the infill of windows with metal panels to the replacement of the original ribbon windows with smaller metal double sash units. "In the 1990s, a number of the hammerhead barracks were renovated to meet the 2+2 standards, and later the 1+1 standards. The renovations often included stripping the building interiors to the reinforced concrete frame, adding balconies, constructing walls in modern materials, and the addition of gable roofs" (Kuranda et al 2003, p 4-4).

The 6500 area, eleven-bay hammerhead barracks, Buildings 6551, 6552, 6554, and 6555 were originally designed by Louis and Henry Architects-Engineers of Louisville, KY and Spector and Montgomery of Falls Church, VA. The structures were constructed in 1953, while Buildings 6541, 6545, 6546, 6547, 6548, 6550, and 6558 was originally constructed in 1954 by Southeastern Construction Co., Charlotte, NC; T. A. Loving and Company, Goldsboro, NC; and Doyle and Russell of Richmond, VA as 225-man enlisted men's barracks with a mess hall. These structures were constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952 (House 1951, p 653).

INTEGRITY

These buildings were strictly utilitarian, with a straightforward expression of structure and materials. The four elements that are key to the integrity of the hammerhead barracks are the hammerhead footprint, the exposed reinforced concrete frame, the exposed concrete block walls, and ribbons of windows.

The 6500 area, eleven-bay hammerhead barracks footprint, the exposed concrete frame, and concrete block walls are still intact with the addition of new paint. The eleven-bay hammerhead barracks underwent numerous interior and exterior changes. One of the alterations to the structures resulted in the removal of the original ribbons of windows. The original steel awning windows were replaced with one-over-one anodized bronze aluminum windows and metal panels. This modification was most likely done in the 1970s under the VOLAR program. A major interior modification resulted in the division of the squad rooms into three-person enlisted men rooms. New gutters and downspouts were added to the four barracks at an unknown date.

The Real Property record card gives the original construction date for Buildings 6551, 6552, 6554, and 6555 as 1953, while the inventory list given to the research team gives the original date as 1954. The Real Property card also gives the original construction date for Buildings 6541, 6548, and 6550 as 1954, while the inventory list gives the original date as 1953.

In October 1978, two new classrooms were constructed in Building 6545.

Building 6554 has an exterior metal staircase addition located on the east elevation of the *handle* portion. The original exterior wall has had door opening cut into on the first, second, and third floor level and metal doors were placed in the new openings.

No Real Property card was found for Building 6558.

The overall design of the 6500 area does not represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since only a total of nine hammerhead barracks, and one battalion headquarters were constructed on each block. These buildings do not constitute the four or ten buildings needed to have a regimental complex.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that these four eleven-bay hammerhead barracks are not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria for unaccompanied personnel housing (UPH) due to the lack of architectural and contextual integrity.

These buildings are not associated with a historically significant person nor do they have any unique architectural features that qualify them individually for the National Register of Historic Places (NRHP). The 6500 area was also examined as a potential historic district; however, the integrity of not only these eleven eleven-bay hammerhead barracks but the other four eleven-bay hammerhead barracks with a concrete block addition, one six-bay hammerhead barracks, two nine-bay hammerhead barracks, three battalion headquarters, one brigade headquarters, and two general instruction buildings in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings.

Because a sufficient number of the Cold War UPH structures in the 6500 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the eleven-bay hammerhead barracks, Buildings 6541, 6545, 6546, 6547, 6548, 6550, 6551, 6552, 6554, 6555, and 6558, do **not** qualify for the NRHP.

DRAWINGS

See pages 311-319 for similar floor plans and elevations for the eleven-bay hammerhead barracks, Buildings 6541, 6545, 6546, 6547, 6548, 6550, 6551, 6552, 6554, 6555, and 6558.

HISTORIC PHOTOGRAPHS



View of original ribbon awning windows (no date, Patton Museum Vol. 2)

COMPARISON PHOTOGRAPHS



Original unpainted exposed concrete and concrete block with original steel awning windows



Current painted concrete and concrete block with anodized aluminum replacement windows



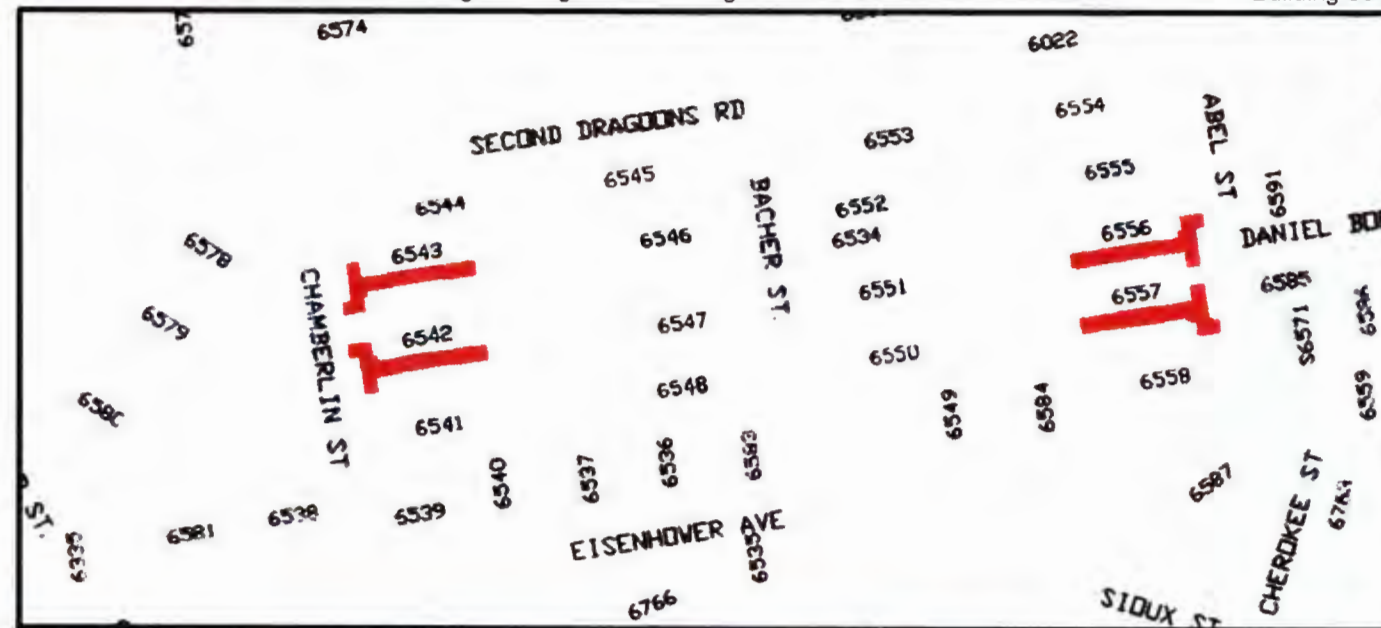
Building 6542 - oblique view of south and west elevations



Building 6542-right and Building 6543-left with addition in between



Building 6543 - west elevation of the head and tail portions



Building 6556 - east elevation of the tail portion



East elevations of Building 6556-right and Building 6557-left with addition in between



Building 6557 - oblique of the north and east elevations

Figure 59 – 6500 Area; 11 bay hammerhead barracks-addition

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

<u>PROPERTY BOUNDARIES</u> Buildings 6542 and 6543 – North of Eisenhower Avenue, east of Chamberlin Street, south of Second Dragons Road, and west of Bacher Street Buildings 6556 and 6557 – North of Eisenhower Avenue, east Bacher Street, south of Second Dragons Road, and west of Abel Street		<u>COMMON/HISTORIC NAME/BUILDING #</u> Enlisted Men’s Barracks with Mess Hall/Bldg 6542 Enlisted Men’s Barracks with Mess Hall/Bldg 6543 Enlisted Men’s Barracks with Mess Hall/Bldg 6556 Enlisted Men’s Barracks with Mess Hall/Bldg 6557		<u>STATUS</u> Occupied
<u>ARCHITECT/BUILDER</u> Louis and Henry Architect-Engineer/ Spector & Montgomery Architects- Engineers (originals) Southeastern Construction Co.; T. A. Loving and Company; Doyle and Russell (originals)		<u>DATE OF CONSTRUCTION</u> 1954 (inventory list) 1953 (Real Property card for Bldg 6556) <u>DATE OF ALTERATIONS</u> 1970s, 2004	<u>NO. OF STORIES</u> 3	<u>FOOTPRINT</u> Complex (hammerhead)
<u>MASSING</u> Flat	<u>FOUNDATION</u> Concrete wall	<u>WALLS</u> Post-and-beam with concrete masonry unit infill walls	<u>ROOF</u> Built-up	
<u>PROPERTY FUNCTION</u> <u>HISTORIC USE(S)</u> Barracks		<u>NOTABLE FEATURES</u> Distinctive hammer-shaped building footprint Exposed reinforced concrete frame Reinforced concrete floors Concrete masonry unit infill walls Replacement anodized bronze aluminum windows Three-story barracks with adjoining one-story kitchen/mess wing Concrete block with stucco veneer addition connecting buildings with a cross-gable roof New gable roof canopy additions over new entries		
<u>CURRENT USE</u> Barracks				
<u>RELATIONSHIP TO OTHER BUILDINGS</u> The eleven-bay hammerhead barracks with a concrete block addition are located on two different blocks. The center of one block is a large paved parking lot, while the center of the other block is used for drills and recreation. Amongst the barracks are general instruction classrooms, battalion headquarters, and regimental headquarters.				



Building 6552 – west elevation of the tail portion where the mess hall is located



Building 6542 on the far right with an addition connecting to Building 6543 on the far left



East elevations of Buildings 6541, 6542, and 6543 (left to right)



Building 6543 – west elevation with new addition on far right side



Building 6556 – east elevation with addition on the far right side



Building 6556 is located on the right of the new addition that connects to Building 6557 on the left



Building 6557 – east elevation

COORDINATES (center of area) UTM 16 4196106N 593819E	USGS QUAD Fort Knox
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1953 USGS map

6500 Area
11 bay
Hammerhead Barracks-
addition



1992 USGS map

6500 Area
11 bay
Hammerhead Barracks-
addition



2004 Cantonment map of 6500 Area, 11 bay hammerhead barracks-addition

<p><u>PRESENT OWNER</u> U. S. Army Garrison, Fort Knox</p>	<p><u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>
<p><u>GENERAL CONDITION OF PROPERTY</u></p> <p>EXCELLENT GOOD POOR</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>	<p><u>ADDITIONS/ALTERATIONS</u></p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>
<p><u>BIBLIOGRAPHIC SOURCES</u></p> <p>Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.</p> <p>House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.</p> <p>Kuranda, Kathryn M., et. al. 2003 <i>Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)</i>. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.</p> <p>Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.</p>	
<p><u>PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY</u></p> <p>ELIGIBLE/CONTRIBUTING NOT ELIGIBLE</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p><u>FORM PREPARED BY:</u> Sunny Stone and Adam Smith Engineer Research and Development Center Construction Engineering Research Laboratory 2902 Farber Drive Champaign, IL 61822</p> <p>DATE: NOVEMBER 2004</p>
<p><u>DESCRIPTION</u></p> <p>The eleven-bay hammerhead barracks with the addition, Buildings 6542 and 6543, in the 6500 area are located north of Eisenhower Avenue, east of Chamberlin Street, south of Second Dragoons Road, and west of Bacher Street. The eleven-bay hammerhead barracks with the addition, Buildings 6556 and 6557, in the 6500 area are located north of Eisenhower Avenue, east Bacher Street, south of Second Dragoons Road, and west of Abel Street. The eleven-bay hammerhead barracks with an addition are located on two different blocks. The center of one block is a large paved parking lot, while the center of the other block is used for drills and recreation. Amongst the barracks are general instruction classrooms, battalion headquarters, and regimental headquarters. All four buildings are currently used as enlisted men's barracks with a mess hall.</p> <p>These buildings are unaccompanied personnel housing (UPH) commonly called hammerhead barracks. This type of building has a reinforced concrete frame structure with an exterior curtain wall of concrete block and a built-up flat roof. The barracks is supported by a reinforced concrete foundation; the reinforced concrete frame consists of exposed reinforced concrete columns and reinforced concrete floors. These buildings also have replacement anodized bronze aluminum windows and metal panels.</p> <p>The overall layout of the eleven-bay barracks is a rectangular, eleven bay, three-story barracks and a one-story, L-shaped addition appended to one end of the <i>handle</i> portion. The structures have basements with the same footprint. The entrances are located on the long side of the <i>handle</i> and consist of metal double doors. These buildings were constructed from drawing number 21-01-64 sheets 1 thru 44.</p> <p>A new addition was constructed between Buildings 6542 and 6543 and also between Buildings 6556 and 6557, ultimately connecting the paired buildings together at the <i>head</i> and <i>tail</i> portions. The addition is constructed out of concrete block, which is covered with stucco-like material. It is one-story in height but the overall height of the addition is slightly taller than the flat-roof, one-story L-shaped <i>head</i> and <i>tail</i> portion of the original hammerhead layout. The addition has a cross-gable roof covered with metal standing-seam. Also two new entries have been cut into the original exterior wall of the <i>head</i> and <i>tail</i> portions and new gable roof canopies supported by two large square posts were constructed above the new entries. The canopies have a metal standing-seam roof.</p>	

DESCRIPTION (cont.)

Hammerhead barracks are designed in different sizes; the six-bay, nine-bay, and eleven-bay were designed as a regimental-size troop housing complex. Usually a group of hammerhead barracks are set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 6500 area, each block of barracks, where these four eleven-bay barracks with concrete block additions are located, have a total of nine hammerhead barracks and one battalion headquarters. One block has an additional two general instruction buildings, a brigade headquarters is situated west of the blocks, and a battalion headquarters is located east of the blocks of hammerhead barracks.

HISTORY

Beginning in the 1950s, as a result of military build-up associated with the Korean War, the Army reviewed its construction needs and developed a series of seven standard barracks designs to reduce design time and building costs. This series was issued to Engineer Field Office for repetitive use in the continental United States.

In the 1950s, accommodating all company functions in a single building was the prime consideration in the design of barracks. These barracks, designed to utilize this aspect, are commonly known as hammerhead barracks due to their unique footprint. The overall layout of the building is a rectangular three-story barracks and a one-story, L-shaped addition appended to an end elevation, which housed the company's mess facility, administrative space, and storage area. These buildings were built with ribbons of metal sash windows.

Hammerhead barracks were most commonly clustered in groups of four and ten and laid out as a regimental-size troop housing complex. Each four building group represents a battalion and each four battalion group represents a regiment.

Standardization and uniformity in design were character defining elements of the hammerhead barracks type. Hammerhead barracks were the first major class of barracks built by the Army after World War II. Louis and Henry Architects-Engineers of Louisville, KY, designed the barracks. The design was developed with an anticipated life expectancy of twenty-five years.

A large number of hammerhead barracks were built between 1951 and 1957. Three different sizes of single-company hammerhead barracks were developed to house 105, 165, and 225 men. These buildings were strictly utilitarian, with a straightforward expression of structure and materials. Their distinct footprint resembles the outline of a hammer – a three-story barracks wing forming the *handle* with a single-story kitchen/mess wing forming the *head* and *tail*.

The barracks were originally constructed as open bay squad rooms with no interior walls. With the introduction of the Volunteer Army (VOLAR) program in the early 1970s, the hammerhead barracks underwent a number of changes. A major interior modification was the division of the squad rooms into three-person enlisted men rooms. More extensive changes included the removal or replacements of windows varying from the infill of windows with metal panels to the replacement of the original ribbon windows with smaller metal double sash units. "In the 1990s, a number of the hammerhead barracks were renovated to meet the 2+2 standards, and later the 1+1 standards. The renovations often included stripping the building interiors to the reinforced concrete frame, adding balconies, constructing walls in modern materials, and the addition of gable roofs" (Kuranda et al 2003, p 4-4).

The 6500 area, eleven-bay hammerhead barracks, Buildings 6542, 6543, and 6557, were originally constructed in 1953, while Building 6556 was originally constructed in 1954 by Southeastern Construction Co., Charlotte, NC; T. A. Loving and Company, Goldsboro, NC; and Doyle and Russell of Richmond, VA as 225-man enlisted men's barracks with a mess hall. These structures were constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952 (House 1951, p 653).

In 2004, a new addition was constructed between Buildings 6542 and 6543 and also between Buildings 6556 and 6557, ultimately connecting the buildings together at the *head* and *tail* portions. Also two new entries have been cut into the original exterior wall of the *head* and *tail* portions and new gable roof canopies were constructed above the new entries.

INTEGRITY

These buildings were strictly utilitarian, with a straightforward expression of structure and materials. The four elements that are key to the integrity of the hammerhead barracks are the hammerhead footprint, the exposed reinforced concrete frame, the concrete block walls, and ribbons of windows.

The 6500 area, eleven-bay hammerhead barracks exposed concrete frame and concrete block walls are still intact with the addition of new paint. The eleven-bay hammerhead barracks underwent numerous interior and exterior changes. One of the alterations to the structures resulted in the removal of the original ribbons of windows. The original steel awning windows were replaced with one-over-one anodized bronze aluminum windows and metal panels. This modification was most likely done in the 1970s under the VOLAR program. A major interior modification resulted in the division of the squad rooms into three-person enlisted man rooms. New gutters and downspouts were added to the four barracks at an unknown date.

The hammerhead barracks footprint is no longer intact. The footprint was altered when a concrete block addition was constructed between the *head* and *tail* portions of the four buildings in 2004. This not only altered the overall footprint of the barracks, but it also altered the utilitarian appearance of the structure. The *head* and *tail* portion of the barracks originally was one-story and had a flat roof, while the new addition is slightly taller and has a cross-gable roof covered with metal standing-seam.

No Real Property record card was found for Building 6557.

The Real Property record card gives the original construction date for Building 6556 as 1954, while the inventory list given to the research team gives the original date as 1953.

The overall design of the 6500 area does not represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since only a total of nine hammerhead barracks, and one battalion headquarters were constructed on each block. These buildings do not constitute the four or ten buildings needed to have a regimental complex.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that these four eleven-bay hammerhead barracks are not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria for unaccompanied personnel housing (UPH) due to the lack of architectural and contextual integrity.

These buildings are not associated with a historically significant person nor do they have any unique architectural features that qualify them individually for the National Register of Historic Places (NRHP). The 6500 area was also examined as a potential historic district; however, the integrity of not only these eleven-bay hammerhead barracks with a concrete block addition but the other eleven eleven-bay hammerhead barracks, one six-bay hammerhead barracks, two nine-bay hammerhead barracks, three battalion headquarters, one brigade headquarters, and two general instruction buildings in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings. In addition, the cross-gable, one-story concrete block addition on Buildings 6542, 6543, 6556, and 6557 altered the overall layout of the hammerhead footprint and changed the exterior appearance of the simplistic structures.

Because a sufficient number of the Cold War UPH structures in the 6500 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the eleven-bay hammerhead barracks with concrete block additions, Buildings 6542, 6543, 6556, and 6557, do **not** qualify for the NRHP.

DRAWINGS

See pages 311-319 for similar floor plans and elevations for the original eleven-bay hammerhead barracks with an addition, Buildings 6542, 6543, 6556, and 6557.

HISTORIC PHOTOGRAPHS



View of original ribbon awning windows (no date, Patton Museum Vol. 2)

COMPARISON PHOTOGRAPHS



Original unpainted exposed concrete and concrete block with original steel awning windows



Current painted concrete and concrete block with anodized aluminum replacement windows



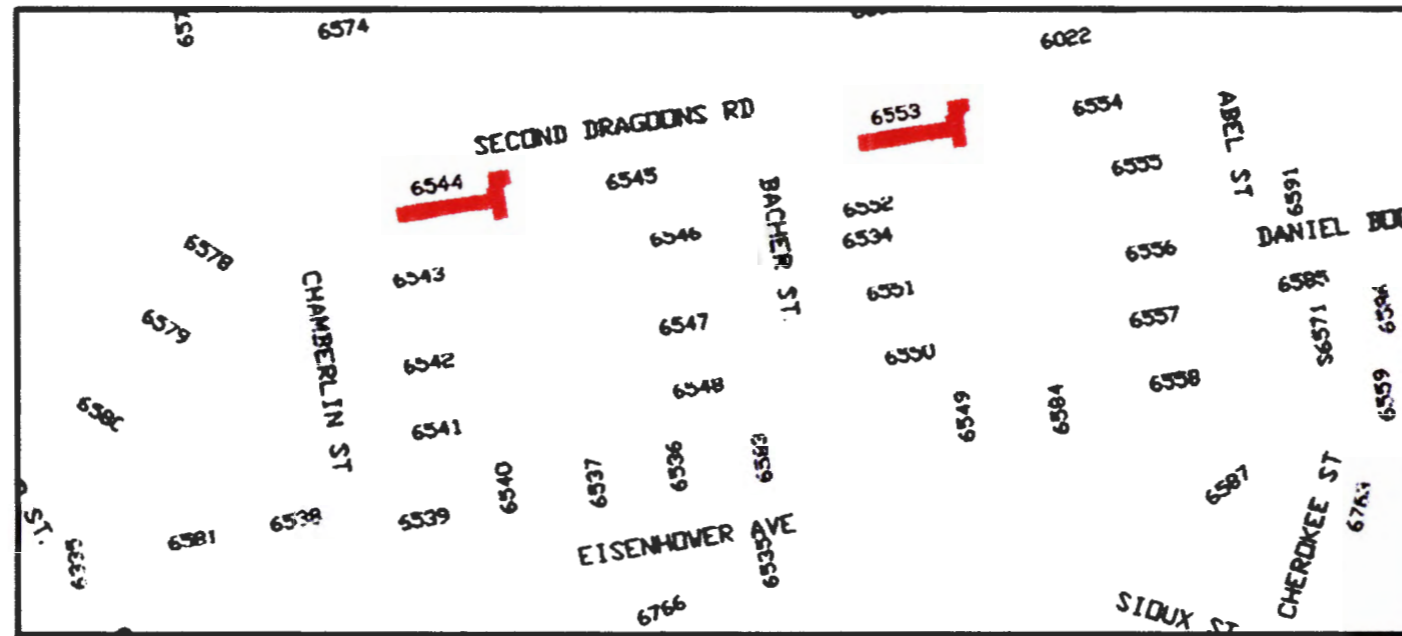
View of a similar head and tail portion before renovation on these four hammerhead barracks



View of addition between the hammerhead barracks



Building 6544 - north elevation of the *handle* portion containing the barracks



Building 6553 - oblique view of the north and east elevations and the large exterior brick chimney

Figure 60 – 6500 Area; 9 bay hammerhead barracks

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

PROPERTY BOUNDARIES Buildings 6544 – North of Eisenhower Avenue, east of Chamberlin Street, south of Second Dragoons Road, and west of Bacher Street Buildings 6553 – North of Eisenhower Avenue, east Bacher Street, south of Second Dragoons Road, and west of Abel Street		COMMON/HISTORIC NAME/BUILDING # Enlisted Men’s Barracks with Mess Hall/Bldg 6544 Enlisted Men’s Barracks with Mess Hall/Bldg 6553		STATUS Occupied
ARCHITECT/BUILDER Louis and Henry Architect-Engineer/Southeastern Construction Co.; T. A. Loving and Company; Doyle and Russell		DATE OF CONSTRUCTION 1953 (inventory list) 1954 (Real Property card for Bldg 6544)	NO. OF STORIES 3	FOOTPRINT Complex (hammerhead)
DATE OF ALTERATIONS 1977, 1979				
MASSING Flat	FOUNDATION Concrete wall	WALLS Post-and-beam with concrete masonry unit infill walls	ROOF Built-up	
PROPERTY FUNCTION		NOTABLE FEATURES		
HISTORIC USE(S) Barracks	CURRENT USE Barracks	Distinctive hammer-shaped building footprint Exposed reinforced concrete frame Reinforced concrete floors Concrete masonry unit infill walls Replacement anodized bronze aluminum windows Exterior brick chimney Three-story barracks with adjoining one-story kitchen/mess wing		
RELATIONSHIP TO OTHER BUILDINGS The nine-bay hammerhead barracks are located on two different blocks. The center of one block is a large paved parking lot, while the center of the other block is used for drills and recreation. Amongst the barracks are general instruction classrooms, battalion headquarters and regimental headquarters.				



Building 6544 - north elevation of the handle portion where the barracks are located



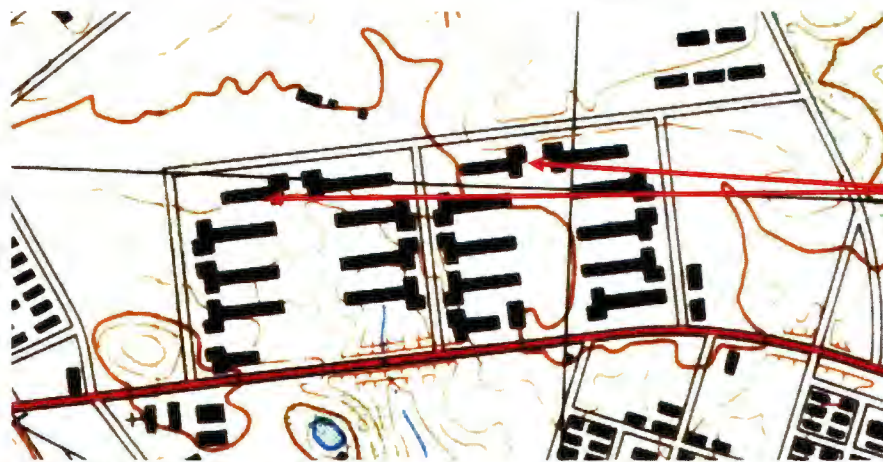
Building 6553 – oblique view of the north and east elevations

COORDINATES (center of area)

UTM 16
4196106N
593819E

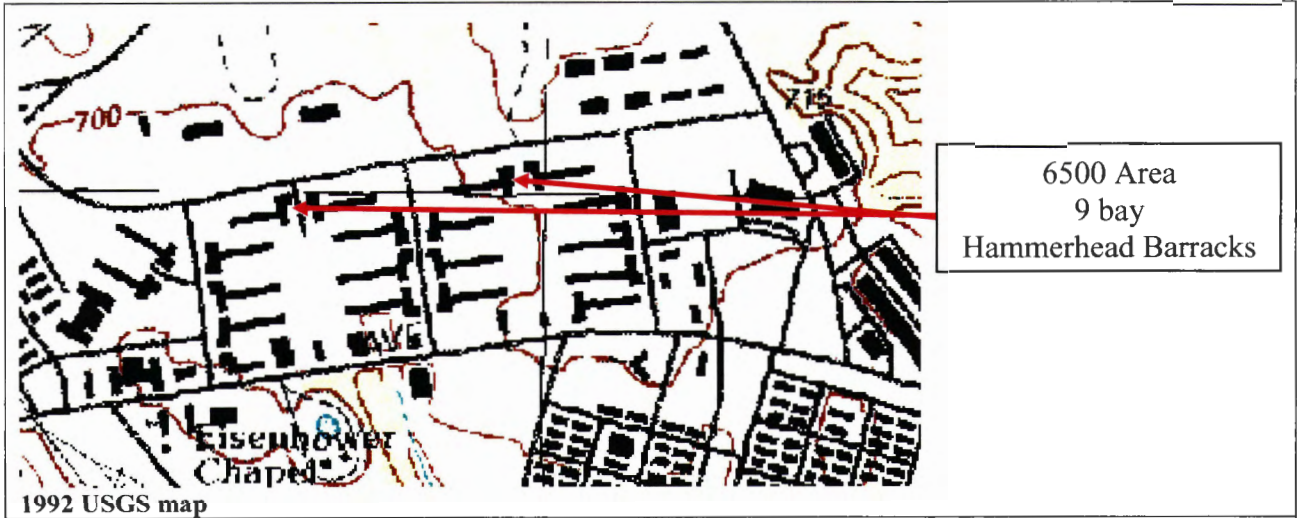
USGS QUAD

Fort Knox



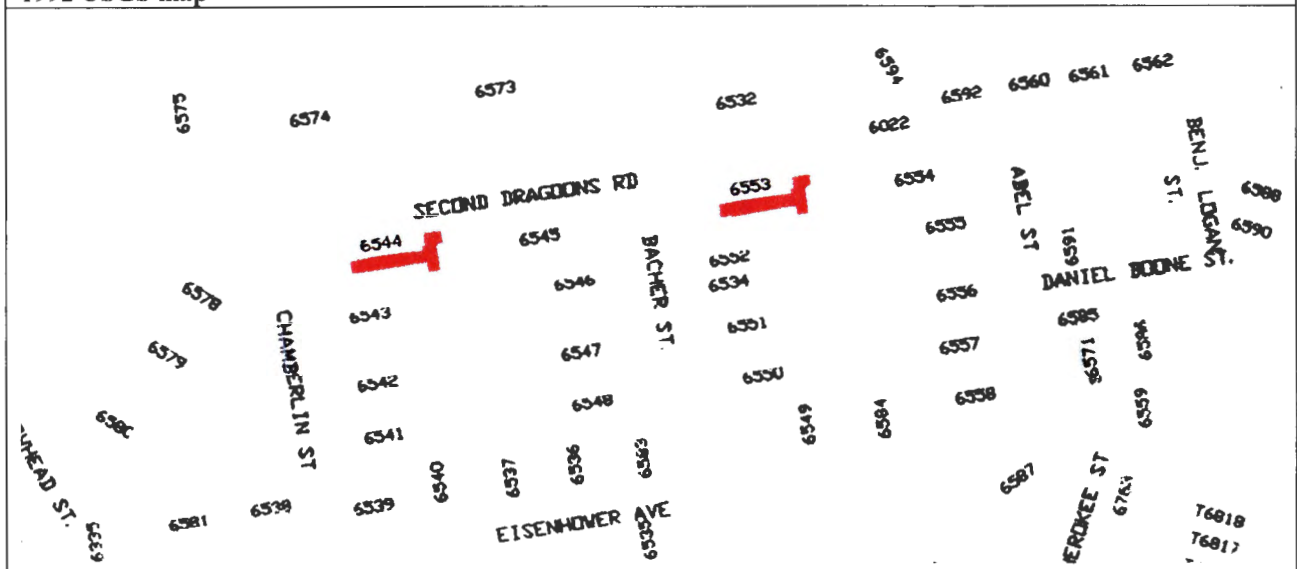
1953 USGS map

6500 Area
9 bay
Hammerhead Barracks



6500 Area
9 bay
Hammerhead Barracks

1992 USGS map



2004 Cantonment map of 6500 Area, 9 bay hammerhead barracks

<p>PRESENT OWNER U. S. Army Garrison, Fort Knox</p>	<p>OWNER ADDRESS Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>
<p>GENERAL CONDITION OF PROPERTY</p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p>ADDITIONS/ALTERATIONS</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>

BIBLIOGRAPHIC SOURCES

Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.

House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.

Kuranda, Kathryn M., et. al.

2003 *Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)*. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.

Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.

PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY

ELIGIBLE/CONTRIBUTING

NOT ELIGIBLE

**FORM PREPARED BY:**

Sunny Stone and Adam Smith
Engineer Research and Development Center
Construction Engineering Research Laboratory
2902 Farber Drive
Champaign, IL 61822

DATE: NOVEMBER 2004

DESCRIPTION

The two nine-bay hammerhead barracks, Buildings 6544 and 6553, in the 6500 area are located on two different blocks. Building 6544 is located north of Eisenhower Avenue, east of Chamberlin Street, south of Second Dragons Road, and west of Bacher Street. Building 6553 is located north of Eisenhower Avenue, east Bacher Street, south of Second Dragons Road, and west of Abel Street. The center of one block is a large paved parking lot, while the center of the other block is used for drills and recreation. Amongst the barracks are general instruction classrooms, battalion headquarters and regimental headquarters. Both nine-bay hammerhead barracks are currently used as enlisted men's barracks with a mess hall.

These buildings are unaccompanied personnel housing (UPH) commonly called hammerhead barracks. The nine-bay hammerhead barracks has a reinforced concrete frame structure with an exterior curtain wall of concrete block and a built-up flat roof. The barracks are supported by a reinforced concrete foundation; the reinforced concrete frame consists of exposed reinforced concrete columns and reinforced concrete floors. These buildings also have replacement anodized bronze aluminum windows and metal panel inserts.

The overall layout of the hammerhead is a rectangular, nine bay, three-story barracks and a one-story, L-shaped addition appended to an end elevation. The structure has a basement with the same footprint. The entrances are located on the long side of the *handle* and consist of metal double doors. These buildings were constructed from drawing number 21-01-67.

Hammerhead barracks are designed in different sizes; the six-bay, nine-bay, and eleven-bay were designed as a regimental-size troop housing complex. Usually a group of hammerhead barracks are set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 6500 area, there are eleven eleven-bay hammerhead barracks, four eleven-bay hammerhead barracks with a concrete block addition, one six-bay hammerhead barracks, two nine-bay hammerhead barracks, three battalion headquarters, one brigade headquarters, and two general instruction buildings situated on a rectangular portion of land.

HISTORY

Beginning in the 1950s, as a result of military build-up associated with the Korean War, the Army reviewed its construction needs and developed a series of seven standard barracks designs to reduce design time and building costs. This series was issued to Engineer Field Office for repetitive use in the continental United States.

In the 1950s, accommodating all company functions in a single building was the prime consideration in the design of barracks. These barracks, designed to utilize this aspect, are commonly known as hammerhead barracks due to their unique footprint. The overall layout of the building is a rectangular three-story barracks and a one-story, L-shaped addition appended to an end elevation, which housed the company's mess facility, administrative space, and storage area. These buildings were built with ribbons of metal sash windows.

Hammerhead barracks were most commonly clustered in groups of four and ten and laid out as a regimental-size troop housing complex. Each four building group represents a battalion and each four battalion group represents a regiment.

Standardization and uniformity in design were character defining elements of the hammerhead barracks type. Hammerhead barracks were the first major class of barracks built by the Army after World War II. Louis and Henry Architects-Engineers of Louisville, KY, designed the barracks. The design was developed with an anticipated life expectancy of twenty-five years.

A large number of hammerhead barracks were built between 1951 and 1957. Three different sizes of single-company hammerhead barracks were developed to house 105, 165, and 225 men. These buildings were strictly utilitarian, with a straightforward expression of structure and materials. Their distinct footprint resembles the outline of a hammer – a three-story barracks wing forming the *handle* with a single-story kitchen/mess wing forming the *head* and *tail*.

The barracks were originally constructed as open bay squad rooms with no interior walls. With the introduction of the Volunteer Army (VOLAR) program in the early 1970s, the hammerhead barracks underwent a number of changes. A major interior modification was the division of the squad rooms into three-person enlisted men rooms. More extensive changes included the removal or replacements of windows varying from the infill of windows with metal panels to the replacement of the original ribbon windows with smaller metal double sash units. "In the 1990s, a number of the hammerhead barracks were renovated to meet the 2+2 standards, and later the 1+1 standards. The renovations often included stripping the building interiors to the reinforced concrete frame, adding balconies, constructing walls in modern materials, and the addition of gable roofs" (Kuranda et al 2003, p 4-4).

The 6500 area, nine-bay hammerhead barracks, Building 6544 was originally constructed in 1954, while Building 6553 was originally constructed in 1953 by Southeastern Construction Co., Charlotte, NC; T. A. Loving and Company, Goldsboro, NC; and Doyle and Russell of Richmond, VA as a 165-man enlisted men's barracks with a mess hall. This structure was constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952 (House 1951, p 653).

INTEGRITY

These buildings were strictly utilitarian, with a straightforward expression of structure and materials. The four elements that are key to the integrity of the hammerhead barracks are the hammerhead footprint, the exposed reinforced concrete frame, the exposed concrete block walls, and ribbons of windows.

The 6500 area, hammerhead barracks footprint and the exposed concrete frame and concrete block walls are still intact with the addition of new paint. In April 1977, under the VOLAR 74, the nine-bay hammerhead barracks underwent numerous interior and exterior changes. One of the exterior alterations to the structure resulted in the removal of the original ribbons of windows. The original steel awning windows were replaced with one-over-one anodized bronze aluminum windows and metal panels, while a major interior modification resulted in the division of the squad rooms into three-person enlisted man rooms. New gutters and downspouts were added at an unknown date.

In April 1979, partitions for the dayrooms were constructed in Building 6544.

The Real Property card gives the original construction date for Building 6544 as 1954, while the inventory list gives the original date as 1953.

The overall design of the 6500 area does not represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since only a total of nine hammerhead barracks, and one battalion headquarters were constructed on each block. These buildings do not constitute the four or ten buildings needed to have a regimental complex.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that this six-bay hammerhead barracks is not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria for unaccompanied personnel housing (UPH) due to the lack of architectural and contextual integrity.

These buildings are not associated with a historically significant person nor do they have any unique architectural features that qualify it individually for the National Register of Historic Places (NRHP). The 6500 area was also examined as a potential historic district; however, the integrity of not only the nine-bay hammerhead barracks but the eleven eleven-bay hammerhead barracks, four eleven-bay hammerhead barracks with a concrete block addition, one six-bay hammerhead barracks, three battalion headquarters, one brigade headquarters, and two general instruction buildings in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings.

Because a sufficient number of the Cold War UPH structures in the 6500 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the nine-bay hammerhead barracks, Buildings 6544 and 6553, do **not** qualify for the NRHP.

HISTORIC PHOTOGRAPHS

Men sitting in open area of hammerhead block with a 9 bay hammerhead in background (1955 3 3AD)

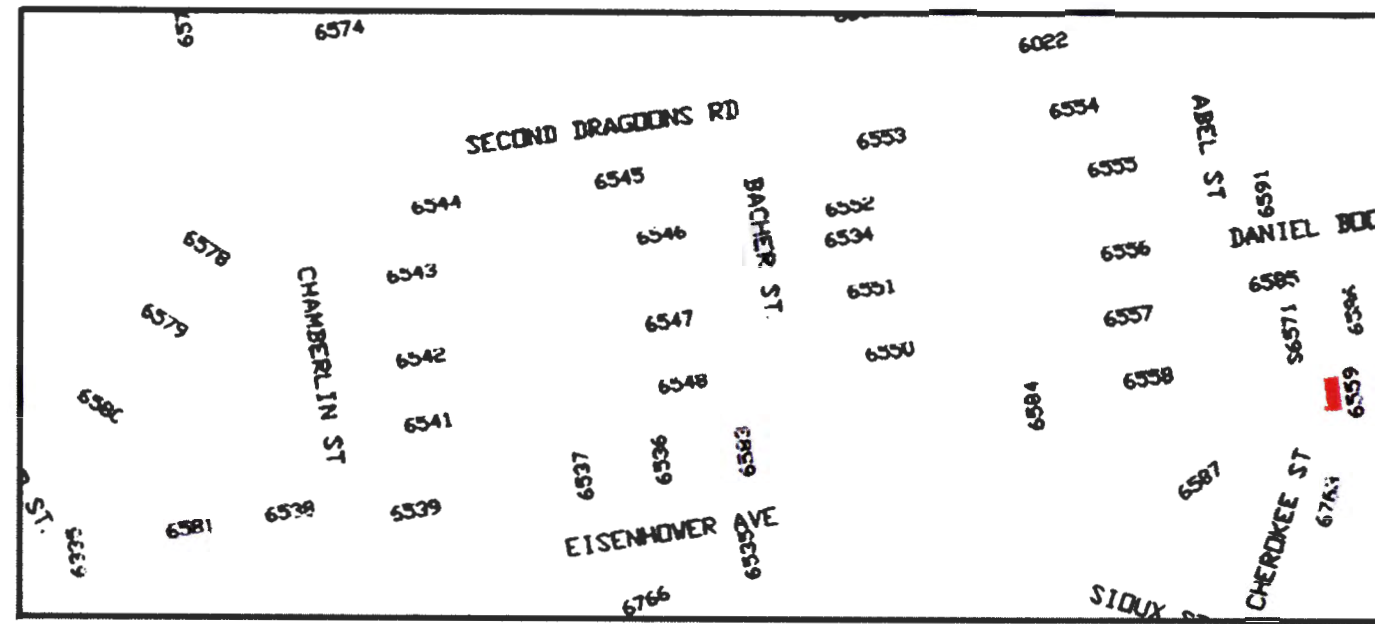
COMPARISON PHOTOGRAPHS



Original unpainted exposed concrete and concrete block with original steel awning windows



Current painted concrete and concrete block with anodized aluminum replacement windows



Building 6559 - east elevation

Figure 61 – 6500 Area; regimental headquarters

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

<u>PROPERTY BOUNDARIES</u> Bldg 6559 - North of Eisenhower Avenue, east Abel Street, south of Daniel Boone Street, and west of North Delaware Street		<u>COMMON/HISTORIC NAME/BUILDING #</u> Cherry Hall/Battalion Headquarters/Regimental Headquarters/Bldg 6559		<u>STATUS</u> Occupied
<u>ARCHITECT/BUILDER</u> Keyes, Smith, and Satterlee-Architects; Francis D. Lethbridge-Associate; Architects-Engineers		<u>DATE OF CONSTRUCTION</u> 1954	<u>NO. OF STORIES</u> 2	<u>FOOTPRINT</u> Rectangular
		<u>DATE OF ALTERATIONS</u> 1970s		
<u>MASSING</u> Flat	<u>FOUNDATION</u> Concrete wall	<u>WALLS</u> Post-and-beam with concrete masonry unit infill walls	<u>ROOF</u> Built-up	
<u>PROPERTY FUNCTION</u>		<u>NOTABLE FEATURES</u>		
<u>HISTORIC USE(S)</u> Office	<u>CURRENT USE</u> Office	Exposed reinforced concrete frame Concrete masonry unit infill walls Original four-pane steel awning windows		
<u>RELATIONSHIP TO OTHER BUILDINGS</u> Building 6559 is located east of the blocks of hammerhead barracks, battalion headquarters, and general instruction buildings.				



Building 6559 – east elevation

COORDINATES (center of area)

UTM 16
4196086N
593824E

USGS QUAD

Fort Knox



6500 Area
Regimental
Headquarters

1953 USGS map



6500 Area
Regimental
Headquarters

1992 USGS map



2004 Cantonment map of 6500 Area, regimental headquarters

<p><u>PRESENT OWNER</u> U. S. Army Garrison, Fort Knox</p>	<p><u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>
<p><u>GENERAL CONDITION OF PROPERTY</u></p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p><u>ADDITIONS/ALTERATIONS</u></p> <p><input checked="" type="checkbox"/> <input type="checkbox"/> IF YES, SEE DESCRIPTION</p> <p>YES NO</p>
<p><u>BIBLIOGRAPHIC SOURCES</u></p> <p>Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.</p> <p>House, Military Public Works Appropriations for 1952: Hearings before a Subcommittee of the Committee of Appropriations, 82d Cong., 1st sess., 1951.</p> <p>Kuranda, Kathryn M., et. al. 2003 <i>Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)</i>. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.</p> <p>Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.</p>	
<p><u>PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY</u></p> <p>ELIGIBLE/CONTRIBUTING NOT ELIGIBLE</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p><u>FORM PREPARED BY:</u> Sunny Stone and Adam Smith Engineer Research and Development Center Construction Engineering Research Laboratory 2902 Farber Drive Champaign, IL 61822</p> <p>DATE: NOVEMBER 2004</p>
<p><u>DESCRIPTION</u></p> <p>There are three battalion headquarters located in the 6500 area. However, one of the battalion headquarters was formally a regimental headquarters, thus has a different layout and design. Building 6559 is located north of Eisenhower Avenue, east Abel Street, south of Daniel Boone Street, and west of North Delaware Street. The other two battalion headquarters buildings in the 6500 area are located on different blocks. Building 6559 is currently used as battalion headquarters.</p> <p>Building 6559 has a reinforced concrete frame structure with an exterior curtain wall of concrete block and a built-up flat roof. The structure is supported by a reinforced concrete foundation; the reinforced concrete frame consists of exposed reinforced concrete columns and concrete floors. The building also has the original steel awning windows; however, several of the original panes of glass have been removed and metal panels fill in the original pane opening. The windows are four panes in height with the middle two panes opening outward. Poured concrete steps provide access into the building.</p> <p>The overall layout of the building is rectangular. The structure is two bays wide by four bays deep and two stories tall with a basement. There are five windows per bay. This type of arrangement of windows is considered a ribbon of windows. The doors on the regimental headquarters building are metal replacement doors with one light in each door. A large exterior brick chimney is located on the west side of the structure. This building was constructed from drawing number 30-02-39 sheets 1-20.</p>	

DESCRIPTION (cont.)

Typically, a group of hammerhead barracks are set around an open area used for drills and recreation. Battalion and regimental headquarters buildings, which are usually rectangular in shape, are located among the hammerheads. In this portion of the 6500 area there are eleven eleven-bay hammerhead barracks, four eleven-bay hammerhead barracks with a concrete block addition, one six-bay hammerhead barracks, two nine-bay hammerhead barracks, and three battalion headquarters buildings situated on a rectangular portion of land, while a brigade headquarters is located west of the blocks of hammerhead barracks.

HISTORY

Building 6559 was originally constructed in 1953 as a regimental headquarters building but is currently being used as a battalion headquarters. The 6500 area, headquarters buildings was designed by Keyes, Smith, and Satterlee, Architects; Francis D. Lethbridge-Associate; Architects-Engineers of Washington, D.C. This structure was constructed under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952. "These buildings were required to house the normal headquarters echelons to command the units occupying the permanent barracks space that was to be constructed" (House 1951, p 655).

INTEGRITY

The 6500 area, battalion headquarters, Building 6559, is intact and in good condition. The exposed concrete frame and concrete block walls are still intact with the addition of new paint. However, one of the alterations to the structures resulted in the change in appearance of the original ribbons of windows. The frames of the original steel awning windows are intact; however, a majority of the fixed glass panes of the four-pane window have been removed and the opening has been filled with a metal panel. These alterations were most likely done in the 1970s.

Building 6559 had a change in use from a regimental headquarters building to a battalion headquarters in October/November 1967.

The overall design of the 6500 area does not represent a complete regimental complex of hammerhead barracks and regimental and battalion headquarters buildings since only a total of nine hammerhead barracks, and one battalion headquarters were constructed on each block. These buildings do not constitute the four or ten buildings needed to have a regimental complex.

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that this regimental headquarters, Building 6559, is not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria due to the lack of architectural and contextual integrity.

This building is not associated with a historically significant person nor does it have any unique architectural features that qualify it individually for the National Register of Historic Places (NRHP). The 6500 area was also examined as a potential historic district; even though, the integrity of the regimental headquarters is high, the eleven eleven-bay hammerhead barracks, the four eleven-bay hammerhead barracks with concrete block additions, the one six-bay hammerhead barracks, the two nine-bay hammerhead barracks, the one brigade headquarters, the two original battalion headquarters, and the two general instruction buildings in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings.

Because a sufficient number of the Cold War UPH structures in the 6500 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the regimental headquarters, Building 6559, does **not** qualify for the NRHP.

DRAWINGS

See pages 325-327 for similar floor plans and elevations for the regimental headquarters, Building 6559.

HISTORIC PHOTOGRAPHS



Building 2370 – similar to Building 6559 showing the original steel awning windows and concrete frame 12 February 1957 (National Archives College Park)



Building 2370 – similar to Building 6559 February 12 1957 (National Archives College Park)



Interior view of Building 2370 depicting the concrete frame supports; similar to Building 6559 12 February 1957 (National Archives College Park)

COMPARISON PHOTOGRAPHS



Original unpainted exposed concrete and concrete block with original steel awning windows



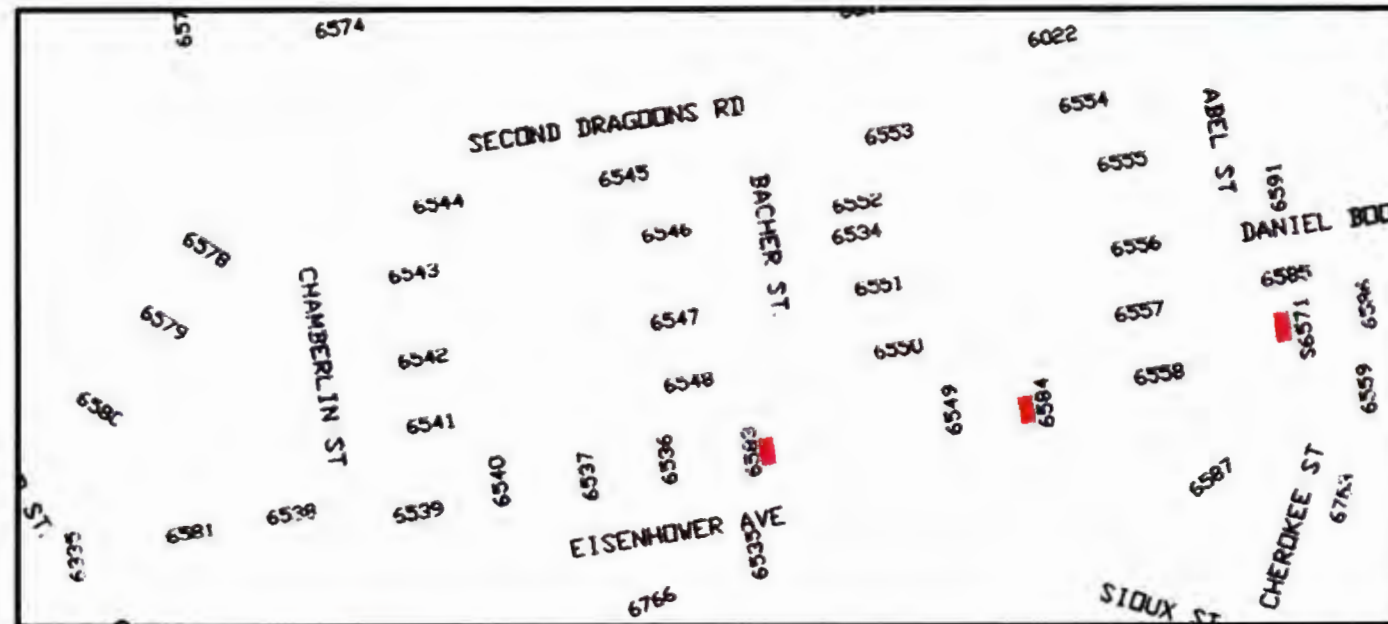
Current painted concrete and concrete block with anodized aluminum replacement windows



Building 6571 - east elevation



Building 6583 - oblique view of the north and east elevations



Building 6584 - east elevation

Figure 62 – 6500 Area; miscellaneous buildings

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

<u>PROPERTY BOUNDARIES</u> North of Eisenhower Avenue, south of Daniel Boone Street, east Abel Street, and west of North Delaware Street		<u>COMMON/HISTORIC NAME/BUILDING #</u> General Instruction/Bldg 6571		<u>STATUS</u> Occupied
<u>ARCHITECT/BUILDER</u> Unknown		<u>DATE OF CONSTRUCTION</u> 1953	<u>NO. OF STORIES</u> 1	<u>FOOTPRINT</u> Rectangular
<u>MASSING</u> Side-gable	<u>FOUNDATION</u> Concrete wall	<u>WALLS</u> Post-and-beam with concrete masonry unit infill walls		<u>ROOF</u> Three-tab asphalt
<u>PROPERTY FUNCTION</u> <u>HISTORIC USE(S)</u> Classroom		<u>NOTABLE FEATURES</u> Evenly spaced replacement windows Original panel door Exterior brick chimney		
<u>CURRENT USE</u> Classroom				
<u>RELATIONSHIP TO OTHER BUILDINGS</u> Building 6571 is located east of the blocks of hammerhead barracks, battalion headquarters, and general instruction buildings.				



Building 6571 – east elevation

COORDINATES

UTM 16
4196090N
594179E

USGS QUAD

Fort Knox



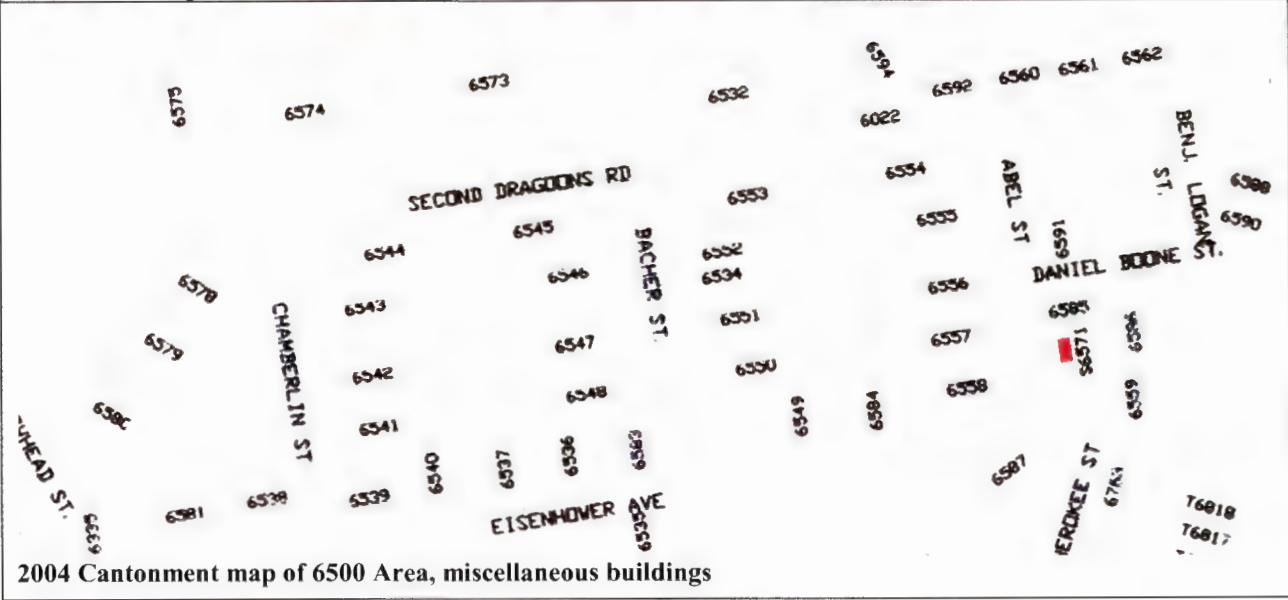
6500 Area
Miscellaneous
Buildings

1953 USGS map



6500 Area
Miscellaneous
Buildings

1992 USGS map



2004 Cantonment map of 6500 Area, miscellaneous buildings

PRESENT OWNER U. S. Army Garrison, Fort Knox			OWNER ADDRESS Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121		
GENERAL CONDITION OF PROPERTY			ADDITIONS/ALTERATIONS		
EXCELLENT <input type="checkbox"/>	GOOD <input checked="" type="checkbox"/>	POOR <input type="checkbox"/>	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	IF YES, SEE DESCRIPTION
BIBLIOGRAPHIC SOURCES Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26. Kuranda, Kathryn M., et. al. 2003 <i>Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)</i> . Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground. Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.					
PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY			FORM PREPARED BY: Sunny Stone and Adam Smith Engineer Research and Development Center Construction Engineering Research Laboratory 2902 Farber Drive Champaign, IL 61822		
ELIGIBLE/CONTRIBUTING <input type="checkbox"/>			NOT ELIGIBLE <input checked="" type="checkbox"/>		
DATE: NOVEMBER 2004					
DESCRIPTION Building 6571 is located north of Eisenhower Avenue, south of Daniel Boone Street, east Abel Street, and west of North Delaware. Building 6571 is located east of the blocks of hammerhead barracks, battalion headquarters, and general instruction buildings and is currently used as a general instruction building. The building has a reinforced concrete frame structure with an exterior curtain wall of concrete block. The rectangular structure is supported by a reinforced concrete foundation. The building has a side-gable roof covered with three-tab asphalt shingles. There is a large exterior brick chimney located on the west elevation. The building was constructed from drawing number E-28-14-06, sheet 1. The east and west elevations are defined by evenly spaced replacement aluminum single-hung windows and one <i>original</i> panel door. The <i>north</i> and <i>south</i> elevations have no window or door openings.					
HISTORY Building 6571 was original constructed in 1953 under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities and training facilities, which allotted \$37 million dollars for new permanent construction at Fort Knox beginning in 1952. (House 1951, p 653).					
INTEGRITY Building 6571 is intact; however, the original windows have been replaced with aluminum single-hung windows and the original roofing material has been replaced with three-tab asphalt shingles. Both of these modifications were done at an <i>unknown</i> date.					

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that this general instruction building, Building 6571, is not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria due to the lack of architectural and contextual integrity.

This building is not associated with a historically significant person nor does it have any unique architectural features that qualify it individually for the National Register of Historic Places (NRHP). The 6500 area was also examined as a potential historic district; the integrity of the general instruction building, the eleven-bay hammerhead barracks, the four eleven-bay hammerhead barracks with concrete block additions, the six-bay hammerhead barracks, the nine-bay hammerhead barracks, the brigade headquarters, and the battalion headquarters in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings.

Because a sufficient number of the Cold War UPH structures in the 6500 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the regimental headquarters, Building 6571, does **not** qualify for the NRHP.

FORT KNOX HISTORIC PROPERTY INVENTORY FORM

<u>PROPERTY BOUNDARIES</u> North of Eisenhower Avenue, south of Second Dragoons Road, east Chamberlin Street, and west of Bacher Street		<u>COMMON/HISTORIC NAME/BUILDING #</u> Battalion Headquarters/Bldg 6583		<u>STATUS</u> Occupied
<u>ARCHITECT/BUILDER</u> Unknown		<u>DATE OF CONSTRUCTION</u> 1954 (inventory list) 1957 (Real Property card)	<u>NO. OF STORIES</u> 1	<u>FOOTPRINT</u> Rectangular
<u>MASSING</u> Slight shed	<u>FOUNDATION</u> Concrete wall	<u>WALLS</u> Post-and-beam with concrete masonry unit infill walls	<u>ROOF</u> Built-up	
<u>PROPERTY FUNCTION</u>		<u>NOTABLE FEATURES</u>		
<u>HISTORIC USE(S)</u> Office	<u>CURRENT USE</u> Office	Original panel door Original steel awning windows		
<u>RELATIONSHIP TO OTHER BUILDINGS</u> North of Building 6535, east of Building 6536, southeast of Building 6548, southwest of Building 6550, and west of Building 6549				



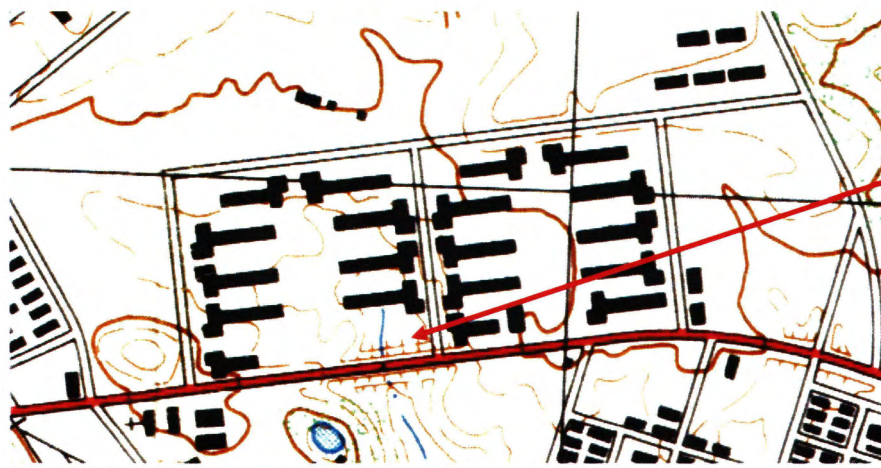
Building 6583 – Oblique views of the north and east elevations

COORDINATES

UTM 16
4196000N
593814E

USGS QUAD

Fort Knox



6500 Area
Miscellaneous
Buildings

1953 USGS map



6500 Area
Miscellaneous
Buildings

1992 USGS map



2004 Cantonment map of 6500 Area, miscellaneous buildings

<p><u>PRESENT OWNER</u> U. S. Army Garrison, Fort Knox</p>	<p><u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121</p>
<p><u>GENERAL CONDITION OF PROPERTY</u></p> <p>EXCELLENT GOOD POOR</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p><u>ADDITIONS/ALTERATIONS</u></p> <p><input checked="" type="checkbox"/> <input type="checkbox"/></p> <p>YES NO</p> <p style="text-align: right;">IF YES, SEE DESCRIPTION</p>
<p><u>BIBLIOGRAPHIC SOURCES</u> Engineering News-Record. "Military Construction Program Booms at Armed Force Training Center." July 17, 1952. p26.</p> <p>Kuranda, Kathryn M., et. al. 2003 <i>Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)</i>. Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground.</p> <p>Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.</p>	
<p><u>PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY</u></p> <p>ELIGIBLE/CONTRIBUTING NOT ELIGIBLE</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p><u>FORM PREPARED BY:</u> Sunny Stone and Adam Smith Engineer Research and Development Center Construction Engineering Research Laboratory 2902 Farber Drive Champaign, IL 61822</p> <p>DATE: NOVEMBER 2004</p>
<p><u>DESCRIPTION</u> Building 6583 is located north of Eisenhower Avenue, south of Second Dragoons Road, east Chamberlin Street, and west of Bacher Street. It is currently used as a battalion headquarters.</p> <p>This building has a reinforced concrete frame structure with an exterior curtain wall of concrete block. The rectangular structure is supported by a reinforced concrete foundation. The building has a slight shed built-up roof. A majority of the original four-pane steel awning windows are intact. However, several of the panes have been removed and metal panels were placed in the opening. There is one original panel door located on the north elevation. The other doors located on the structure have been replaced with metal doors with one large light. The building was constructed from drawing number 30-02-44.</p>	
<p><u>HISTORY</u> Building 6583 was original constructed in 1954 (according to the inventory list given the research team but in 1957 according to the real property card) under the fiscal year 1952 MCA Budget for construction of permanent troop housing and supporting facilities, Armored Center and School activities, and training facilities, allotting \$37 million dollars for new permanent construction at Fort Knox beginning in 1952. (<i>House 1951, p 653</i>).</p>	
<p><u>INTEGRITY</u> Building 6583 is intact; however, several of the original four-pane steel awning windows have been modified. The panes in some of the windows have been removed and replaced with metal panels. A few of the original panel doors located on the structure have been removed and replaced with metal doors with one large light. Both of these modifications were done at an unknown date.</p>	

DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS

It is the determination of this report that this general instruction building, Building 6583, is not eligible to the National Register of Historic Places (NRHP) under the Cold War era criteria due to the lack of architectural and contextual integrity.

This building is not associated with a historically significant person nor does it have any unique architectural features that qualify it individually for the National Register of Historic Places (NRHP). The 6500 area was also examined as a potential historic district; the integrity of the general instruction building, the eleven-bay hammerhead barracks, the four eleven-bay hammerhead barracks with concrete block additions, the six-bay hammerhead barracks, the nine-bay hammerhead barracks, the brigade headquarters, and the battalion headquarters in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings.

Because a sufficient number of the Cold War UPH structures in the 6500 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the regimental headquarters, Building 6583, does **not** qualify for the NRHP.

HISTORIC PHOTOGRAPHS

Troops in front of 11 bay Hammerhead barracks (right) and a single-story Battalion Headquarters building (left) similar to Building 6583 1955 (1 TAC)

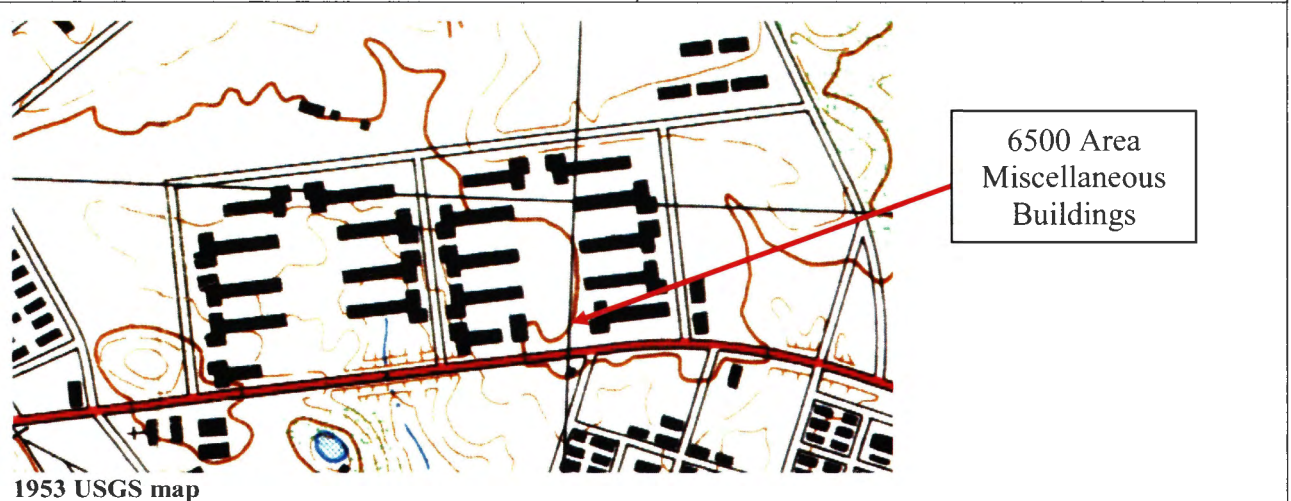
FORT KNOX HISTORIC PROPERTY INVENTORY FORM

<u>PROPERTY BOUNDARIES</u> North of Eisenhower Avenue, south of Second Dragoons Road, east of Bacher Street, and west of Abel Street		<u>COMMON/HISTORIC NAME/BUILDING #</u> Battalion Headquarters/Bldg 6584		<u>STATUS</u> Occupied
<u>ARCHITECT/BUILDER</u> Unknown		<u>DATE OF CONSTRUCTION</u> 1957	<u>NO. OF STORIES</u> 1	<u>FOOTPRINT</u> Rectangular
<u>MASSING</u> Flat with eaves	<u>FOUNDATION</u> Concrete wall	<u>WALLS</u> Post-and-beam with concrete masonry unit infill walls	<u>ROOF</u> Built-up	
<u>PROPERTY FUNCTION</u>		<u>NOTABLE FEATURES</u>		
<u>HISTORIC USE(S)</u> Office	<u>CURRENT USE</u> Office	Replacement double doors Replacement small horizontal windows		
<u>RELATIONSHIP TO OTHER BUILDINGS</u> Building 6584 is located on the south side of a block of hammerhead barracks and general instruction classrooms. The center of the block is used for drills and recreation.				

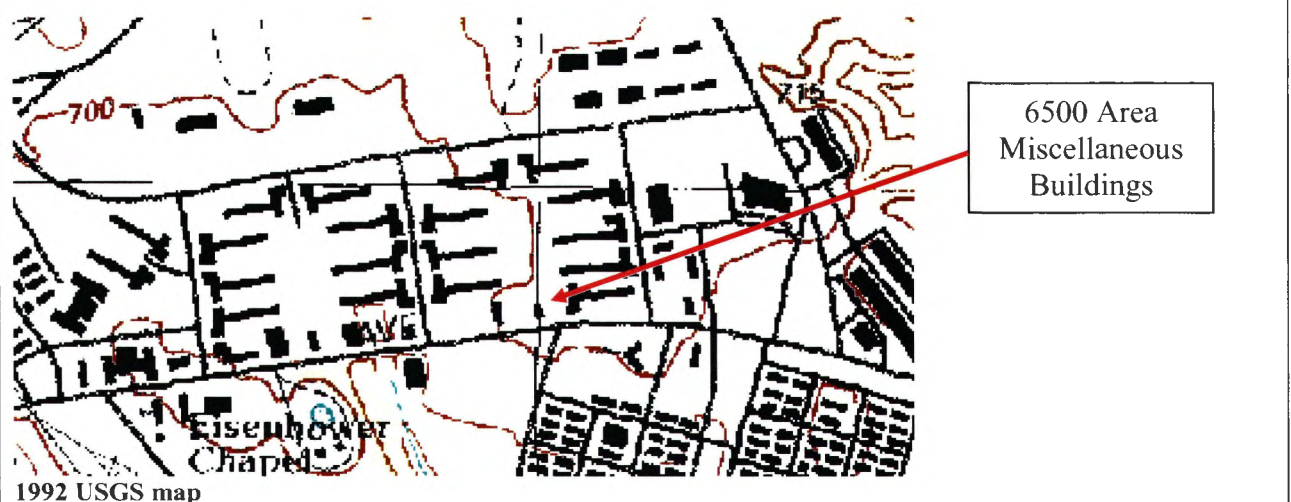


Building 6584 – south elevation

<u>COORDINATES</u> UTM 16 4196050N 593996E	<u>USGS QUAD</u> Fort Knox
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6500 Area
Miscellaneous
Buildings



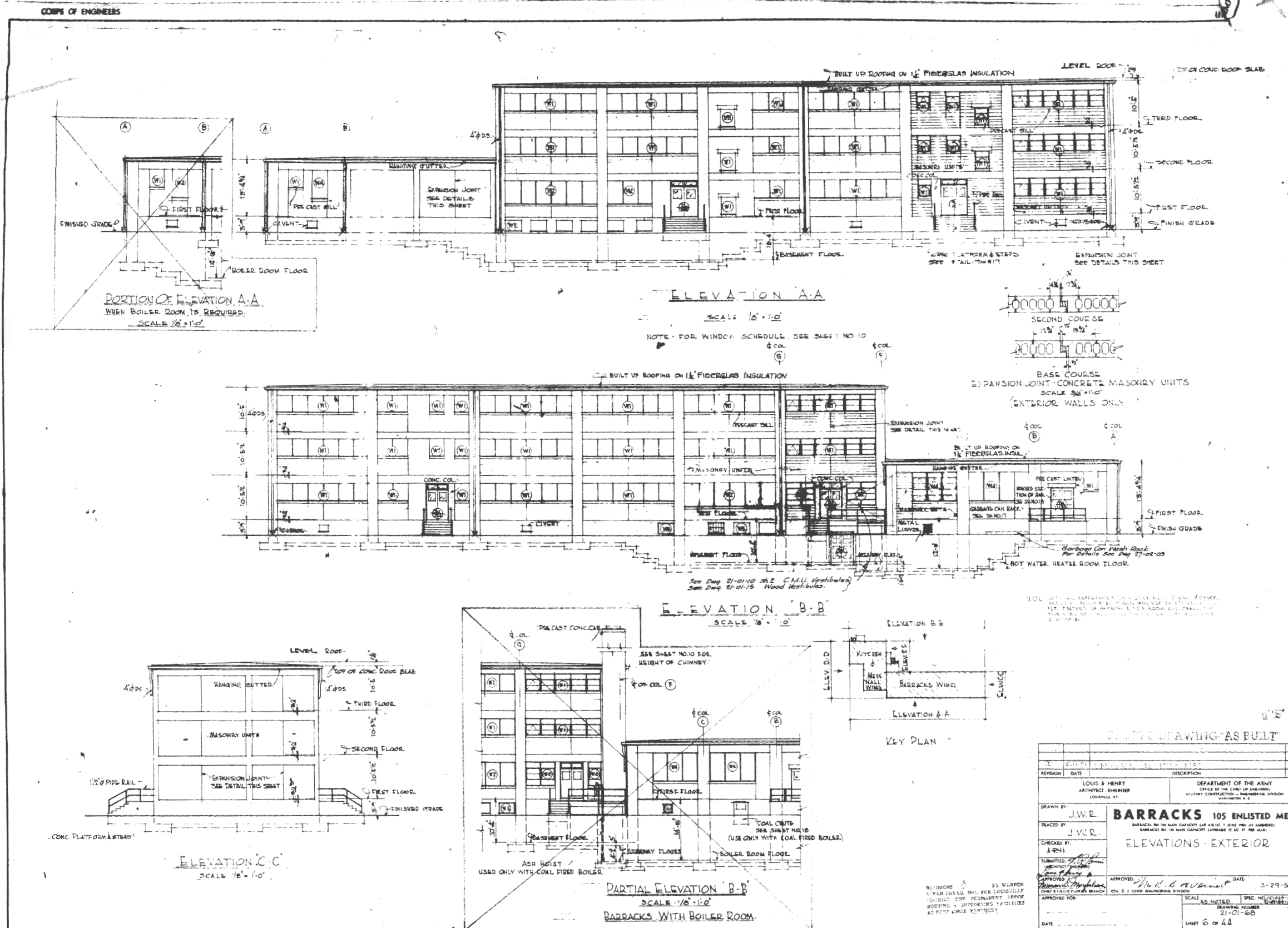
6500 Area
Miscellaneous
Buildings

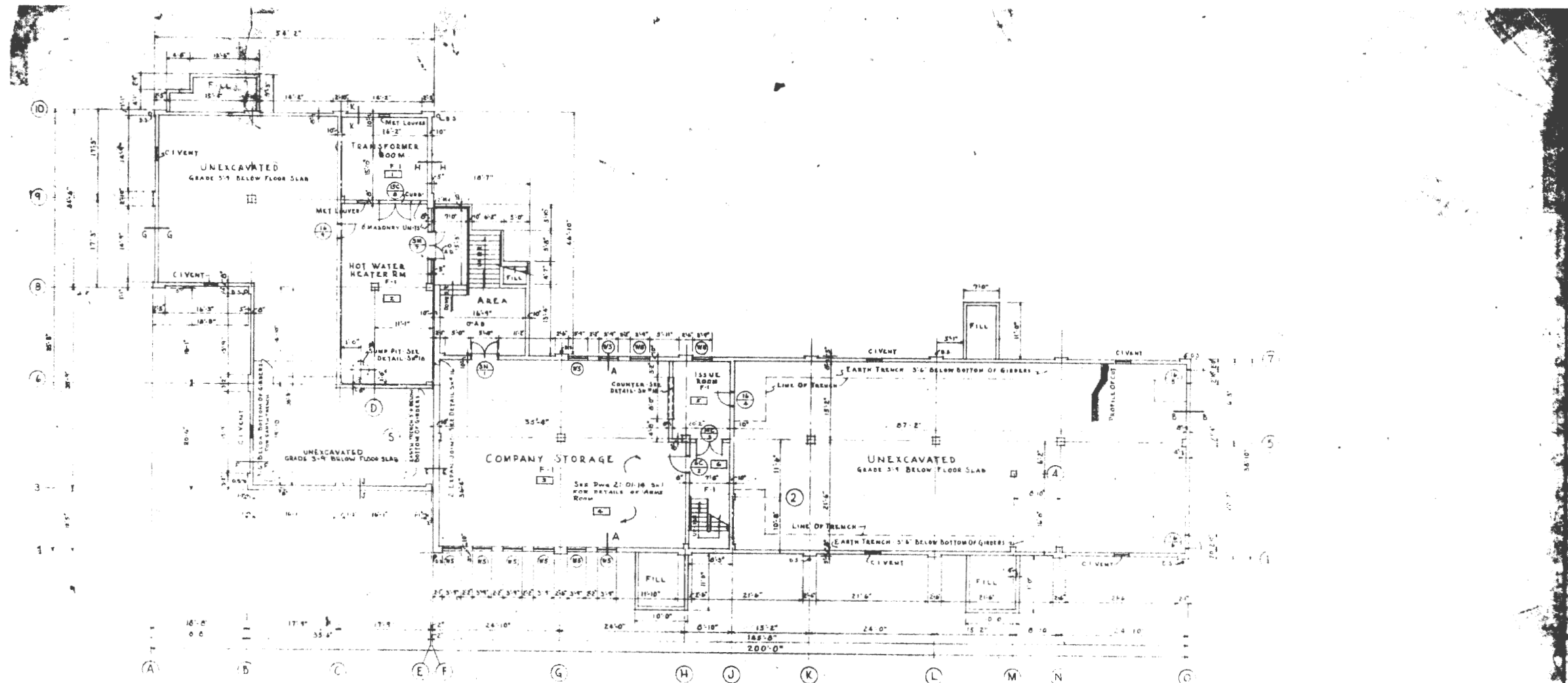


<u>PRESENT OWNER</u> U. S. Army Garrison, Fort Knox			<u>OWNER ADDRESS</u> Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121		
<u>GENERAL CONDITION OF PROPERTY</u>			<u>ADDITIONS/ALTERATIONS</u>		
EXCELLENT <input type="checkbox"/>	GOOD <input checked="" type="checkbox"/>	POOR <input type="checkbox"/>	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	IF YES, SEE DESCRIPTION
<u>BIBLIOGRAPHIC SOURCES</u> Kuranda, Kathryn M., et. al. 2003 <i>Unaccompanied Personnel Housing (UPH) During the Cold War (1946-1989)</i> . Frederick, Maryland: R. Christopher Goodwin & Associates, Inc., for the U.S. Army Environmental Center, Aberdeen Proving Ground. Real Property Records on file at the Real Property Management Office, Fort Knox, Kentucky.					
<u>PRELIMINARY NATIONAL REGISTER DETERMINATION OF ELIGIBILITY</u>			<u>FORM PREPARED BY:</u> Sunny Stone and Adam Smith Engineer Research and Development Center Construction Engineering Research Laboratory 2902 Farber Drive Champaign, IL 61822 DATE: NOVEMBER 2004		
ELIGIBLE/CONTRIBUTING <input type="checkbox"/>	NOT ELIGIBLE <input checked="" type="checkbox"/>				
<u>DESCRIPTION</u> Building 6584 is located north of Eisenhower Avenue, south of Second Dragoons Road, east of Bacher Street, and west of Abel Street. Building 6584 is located on the south side of a block of hammerhead barracks and general instruction classrooms. The center of the block is used for drills and recreation. Building 6584 is currently used as a battalion headquarters. The building has a reinforced concrete frame structure with an exterior curtain wall of concrete block. The rectangular structure is supported by a reinforced concrete foundation. The building has a flat built-up roof. The building was constructed from drawing number 30-02-44, sheet 2. There are few doors and windows located on the building. Two main entrances are located on the south elevation. These entries consist of replacement double doors flanked by small horizontal replacement windows and covered by a small flat metal roof canopy.					
<u>HISTORY</u> Building 6584 was originally constructed in 1957 as a battalion headquarters building.					
<u>INTEGRITY</u> The doors and windows located on the south elevation of Building 6584 have been replaced with glass double doors and small horizontal windows.					
<u>DETERMINATION OF CONTRIBUTING/NONCONTRIBUTING STATUS</u> This building is not associated with a historically significant person nor does it have any unique architectural features that qualify it individually for the National Register of Historic Places (NRHP). The 6500 area was also examined as a potential historic district; the integrity of the general instruction building, the eleven-bay hammerhead barracks, the four eleven-bay hammerhead barracks with concrete block additions, the six-bay hammerhead barracks, the nine-bay hammerhead barracks, the brigade headquarters, and the battalion headquarters in the area have been severely compromised by the removal of the distinctive original windows and doors on all buildings. Because a sufficient number of the Cold War UPH structures in the 6500 area do not retain sufficient integrity, there is no basis for establishing an NRHP-eligible district and consequently the regimental headquarters, Building 6584, does not qualify for the NRHP.					

5 Building Floor Plans and Elevations

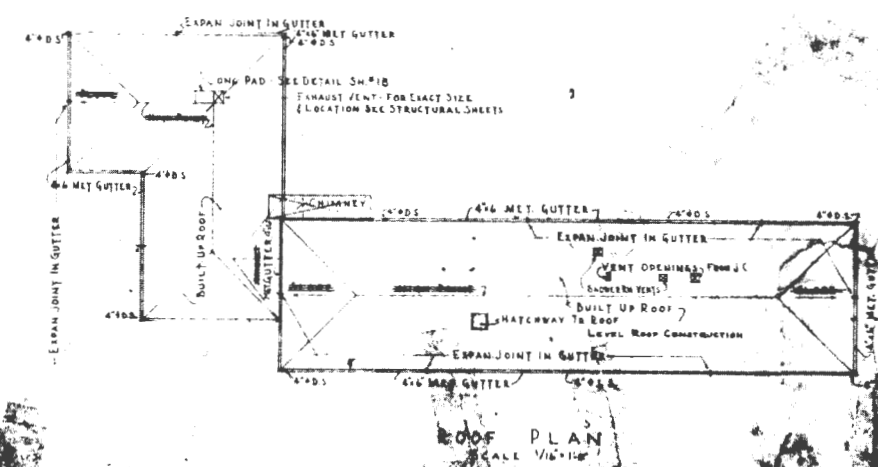
Hammerhead Barracks
 6 bay
 105-man
 1951 - Elevations
 Drawing Number:
 21-01-68





BASEMENT PLAN

SCALE - 1/8" = 1'-0"



ROOF PLAN

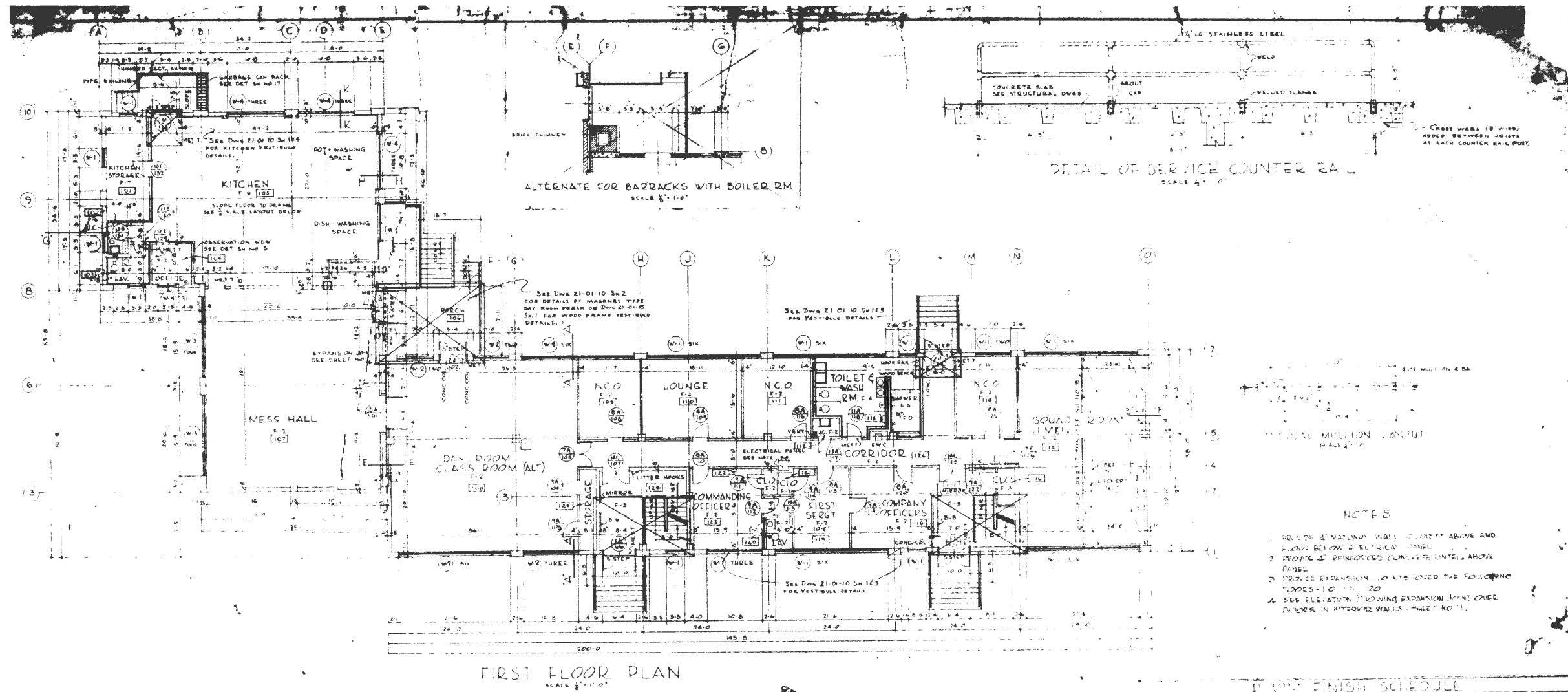
SCALE - 1/8" = 1'-0"

7/13/76

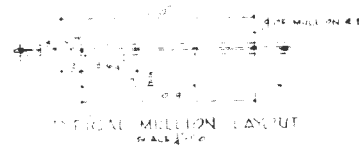
FILED
 21-01-68 AS BUILT

NO.	REVISION	DATE	DESCRIPTION
1	REVISED - AS BUILT DRAWING		
DRAWN BY		LOUIS & HENRY ARCHITECT ENGINEERS	
CHECKED BY		J. E. JONES	
APPROVED BY		[Signature]	
DATE		7-13-76	
BARRACKS 105 ENLISTED BASEMENT PLAN (WITHOUT BOILER ROOM) ROOF PLAN			

Hammerhead Barracks
 6 bay
 105-man
 1951 - Basement plan
 Drawing Number:
 21-01-68



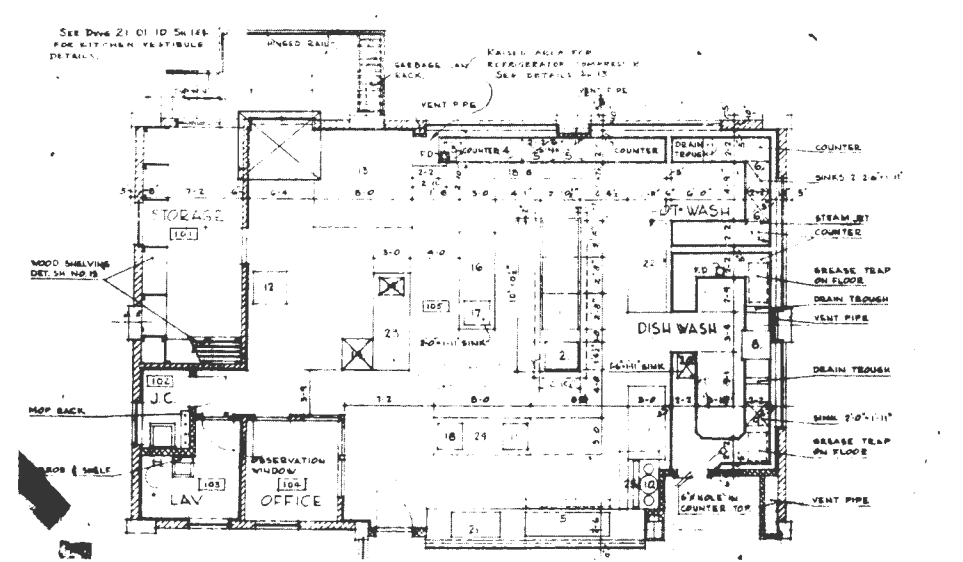
Hammerhead Barracks
6 bay
105-man
1951 - First floor plan
Drawing Number:
21-01-68



- NOTES**
1. POLYMER WATERPROOFING TO BE APPLIED ABOVE AND BELOW ELECTRICAL PANELS.
 2. PROVIDE REINFORCED CONCRETE UNITS ABOVE PANELS.
 3. PROVIDE EXPANSION JOINTS OVER THE FOLLOWING FLOORS: 10, 11, 20.
 4. SEE ELEVATION SHOWING EXPANSION JOINT OVER DOORS IN INTERIOR WALLS - SHEET NO. 11.

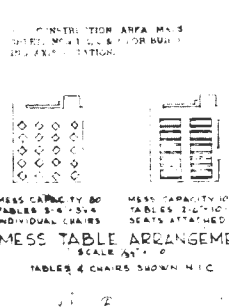
FINISH SCHEDULE

NO.	DESCRIPTION	UNIT	W/ST	CEILING	INT. BASE	EXT. BASE	REMARKS
1	WOOD SHELVING	SQ. FT.	WOOD	WOOD	WOOD	WOOD	FOR ALL ZONES
2	WOOD SHELVING	SQ. FT.	WOOD	WOOD	WOOD	WOOD	FOR ALL ZONES
3	WOOD SHELVING	SQ. FT.	WOOD	WOOD	WOOD	WOOD	FOR ALL ZONES
4	WOOD SHELVING	SQ. FT.	WOOD	WOOD	WOOD	WOOD	FOR ALL ZONES
5	WOOD SHELVING	SQ. FT.	WOOD	WOOD	WOOD	WOOD	FOR ALL ZONES
6	WOOD SHELVING	SQ. FT.	WOOD	WOOD	WOOD	WOOD	FOR ALL ZONES
7	WOOD SHELVING	SQ. FT.	WOOD	WOOD	WOOD	WOOD	FOR ALL ZONES
8	WOOD SHELVING	SQ. FT.	WOOD	WOOD	WOOD	WOOD	FOR ALL ZONES
9	WOOD SHELVING	SQ. FT.	WOOD	WOOD	WOOD	WOOD	FOR ALL ZONES
10	WOOD SHELVING	SQ. FT.	WOOD	WOOD	WOOD	WOOD	FOR ALL ZONES



KITCHEN EQUIPMENT SCHEDULE

ITEM NO.	DESCRIPTION	QTY	CAPACITY	REMARKS
1	KITCHEN FUEL	1	300 GALS.	WOOD BY CONTRACTOR
2	KITCHEN GAS	1	24" DIA.	WOOD BY CONTRACTOR
3	KITCHEN MIXER	1	15 LBS.	
4	KITCHEN POTATO	1	15 LBS.	
5	KITCHEN SINK	1	30" DIA.	
6	KITCHEN SINK	1	30" DIA.	
7	KITCHEN SINK	1	30" DIA.	
8	KITCHEN SINK	1	30" DIA.	
9	KITCHEN SINK	1	30" DIA.	
10	KITCHEN SINK	1	30" DIA.	
11	KITCHEN SINK	1	30" DIA.	
12	KITCHEN SINK	1	30" DIA.	
13	KITCHEN SINK	1	30" DIA.	
14	KITCHEN SINK	1	30" DIA.	
15	KITCHEN SINK	1	30" DIA.	
16	KITCHEN SINK	1	30" DIA.	
17	KITCHEN SINK	1	30" DIA.	
18	KITCHEN SINK	1	30" DIA.	
19	KITCHEN SINK	1	30" DIA.	
20	KITCHEN SINK	1	30" DIA.	



BARRACKS 105 ENLISTED M

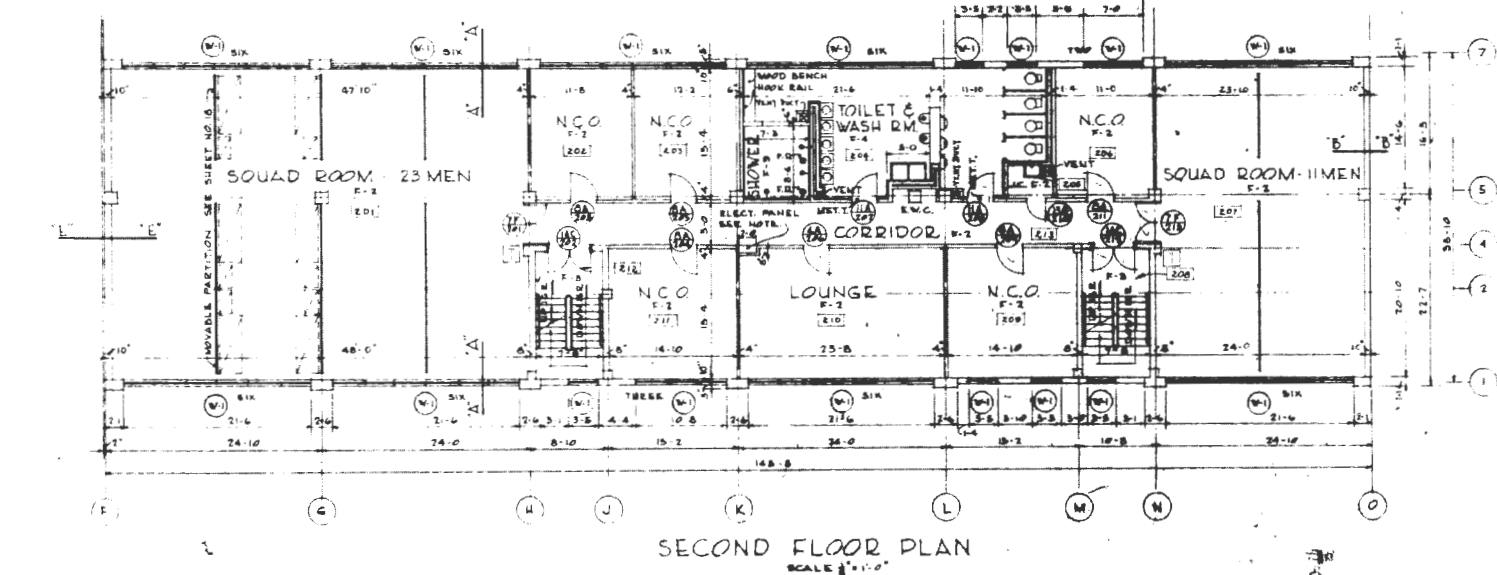
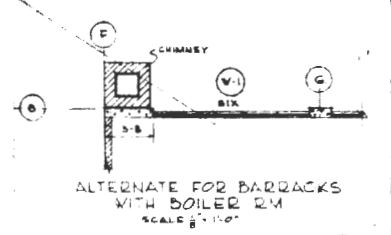
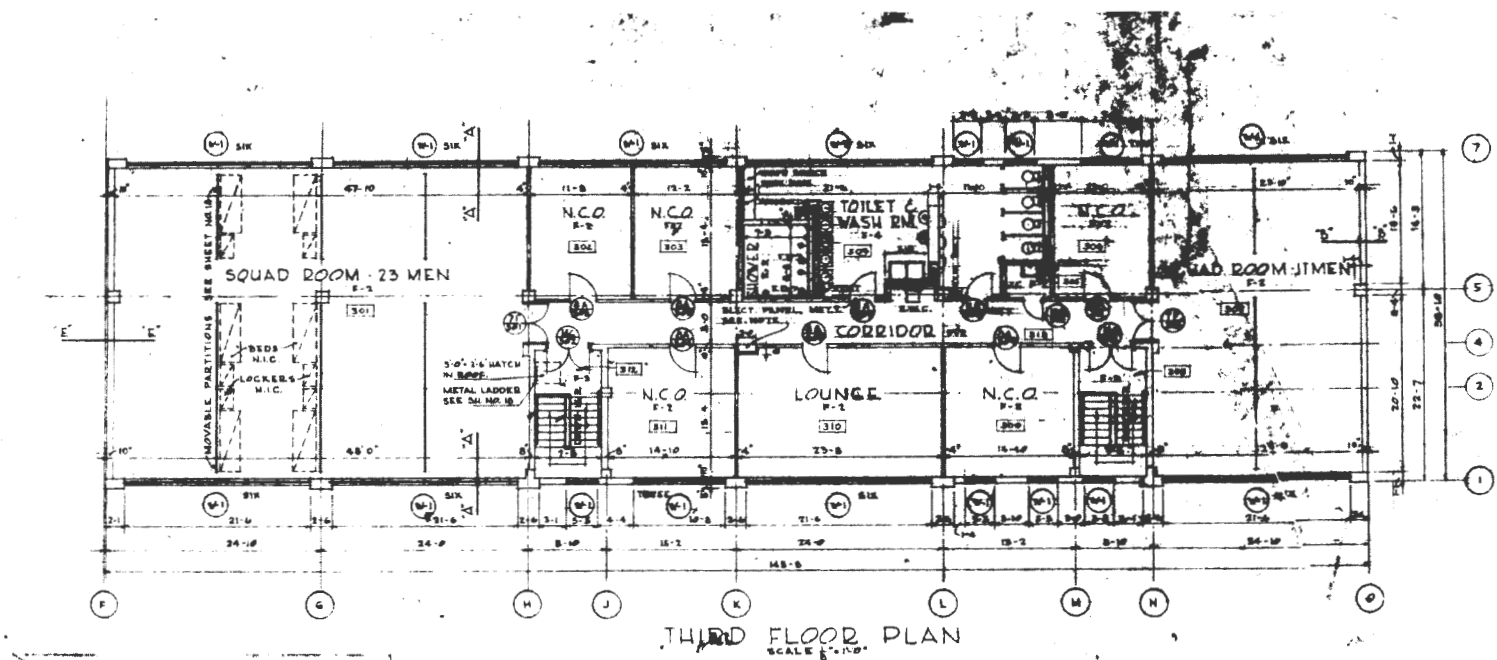
REGION: DATE: DESCRIPTION:

LOUIS & HENRY ARCHITECT-ENGINEERS DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
MILITARY CONSTRUCTION - ENGINEERING DIVISION
FORT MONMOUTH, N.J.

DRAWN BY: CRP
CHECKED BY: AR-2
SUBMITTED BY: [Signature]
APPROVED BY: [Signature]

FIRST FLOOR PLAN
KITCHEN EQUIPMENT LAYOUT
& SCHEDULE

Hammerhead Barracks
 6 bay
 105-man
 1951 – Second and third
 floor plan
 Drawing Number:
 21-01-68



- NOTES**
- EXPANSION JOINT OCCURS OVER THE FOLLOWING DOORS: -- SECOND FLOOR: 204, 205, 206, 207, 209 & 210 THIRD FLOOR: 204, 205, 206, 207, 209 & 210
 - SEE ELEVATION SHOWING EXPANSION JOINT OVER DOORS IN INTERIOR WALLS, SHEET NO. 11
 - PROVIDE 4" MASONRY WALL TO JOISTS ABOVE AND FLOOR BELOW ELECTRICAL PANEL.
 - PROVIDE 4" REINFORCED LINTEL ABOVE SELECT PANEL.

FLOOR	INT WALL	EXT WALL	WN'T	CEILING	INT BASE	EXT BASE	REMARKS
F-1	CONCRETE	MU & CONC	MU & CONC	NONE	CONC	NONE	FOR ALL ZONES
F-2	CONC	MU	MU	CONC	G.S.F.U.	G.S.F.U.	FOR 07C ZONES
F-3	CONC	MU	MU	CONC	G.S.F.U.	NONE	FOR 20 ZONES ONLY
F-4	CONC	MU	MU	CONC	NONE	RPNE	FOR ALL ZONES
F-5	CER. TILE	MU & G.S.F.U.	MU	G.S.F.U.	CONC.	CER. TILE	NONE
F-6	QUARRY TILE	G.S.F.U.	G.S.F.U.	NONE	CONC.	G.S.F.U.	G.S.F.U.
F-7	QUARRY TILE	MU	MU	NONE	CONC.	G.S.F.U.	NONE
F-8	CER. TILE	G.S.F.U.	G.S.F.U.	NONE	CONC.	G.S.F.U.	G.S.F.U.

WAINSCOT APPLIES TO EXTERIOR WALLS ONLY
 NO FURNISH ON CONCRETE COLUMNS IN EXTERIOR WALLS ABOVE WINDOW SILLS.



REVISION DATE DESCRIPTION

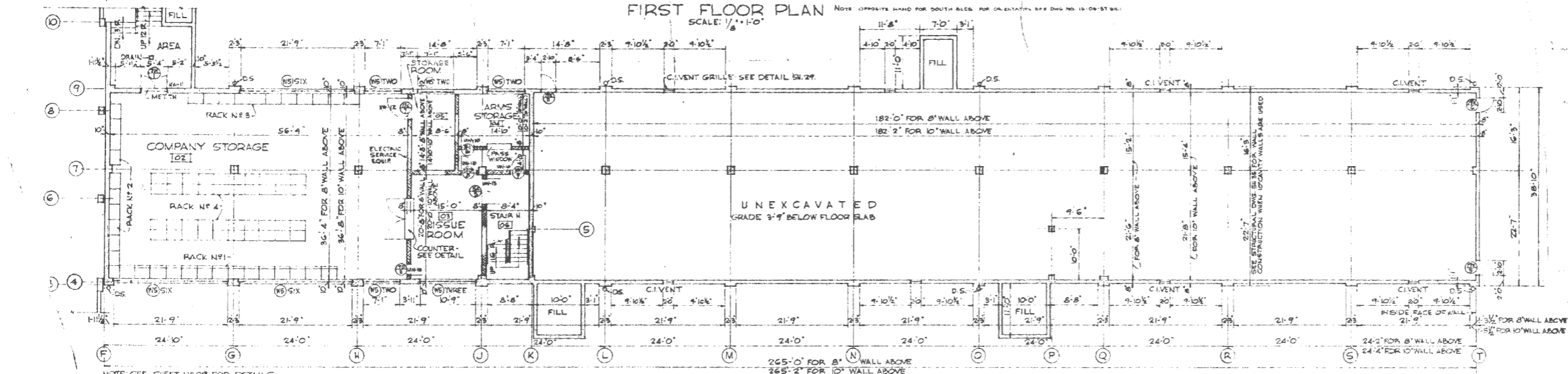
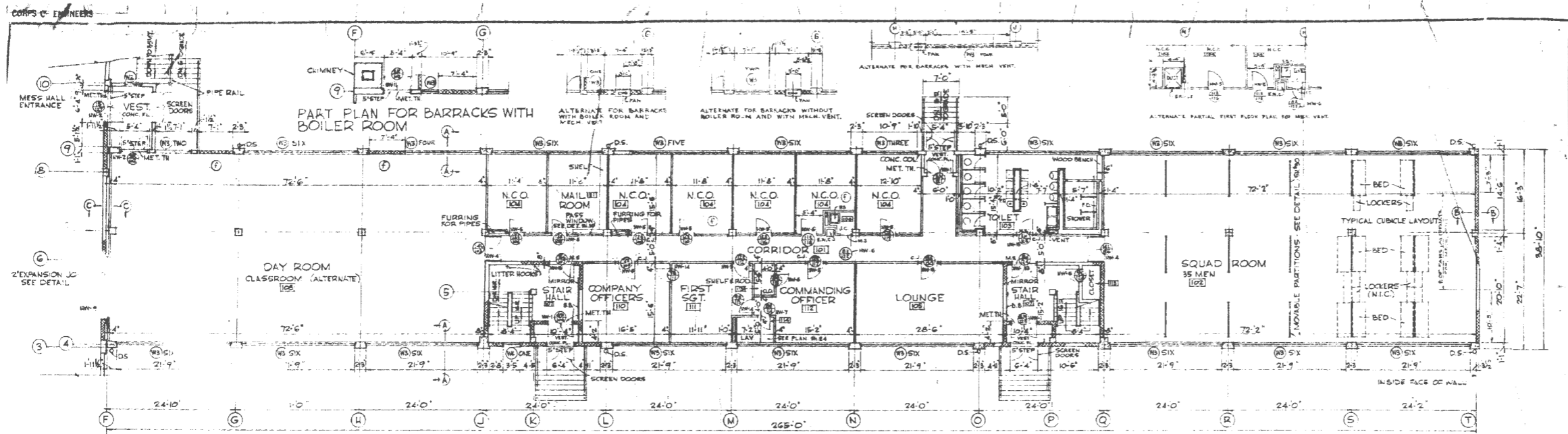
LOUIS & HENRY ARCHITECT ENGINEERS
 DEPARTMENT OF THE ARMY
 OFFICE OF THE CHIEF OF ENGINEERS
 MILITARY CONSTRUCTION ENGINEERING DIVISION
 WASHINGTON, D. C.

DRAWN BY: JES
 TRACED BY: CRP
 CHECKED BY: ARH
 SUBMITTED (ARCHITECT SIGNATURE)
 APPROVED (ENGINEER SIGNATURE)

BARRACKS 105 ENLISTED
 BARRACKS 105 HAS SEAT CAPACITY (40' x 10' x 7' ARE) 100 AT APPROXIMATE
 BARRACKS 105 HAS SEAT CAPACITY (CORRIDOR) 10' x 30' AT APPROXIMATE

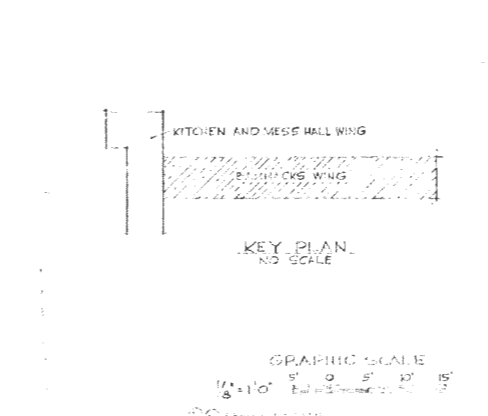
SECOND & THIRD FLOOR PLAN
BARRACKS WING

APPROVED: [Signature] DATE: [Date]



SPACE NO.	FLOOR	BASE	INTERIOR WALLS	INTERIOR WALLS	CEILING	REMARKS
101	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
102	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
103	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
104	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
105	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
106	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
107	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
108	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
109	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
110	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
111	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
112	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
113	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
114	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
115	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
116	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
117	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
118	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
119	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
120	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
121	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
122	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
123	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
124	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
125	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
126	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
127	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
128	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
129	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
130	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
131	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
132	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
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142	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
143	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
144	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
145	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
146	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
147	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
148	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
149	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	
150	CONCRETE	NONE	CONCRETE	CONCRETE	CONCRETE	

SPACE NO.	SPACE DESIGNATION	FLOOR	BASE	WAIN-SCOT	EXTERIOR WALLS	INTERIOR WALLS	CEILING	REMARKS
115	KITCHEN	QUARRY TILE	GSFU	GSFU	MASONRY	MASONRY	CONCRETE	
116	STORE ROOM	CONCRETE	NONE	NONE	MASONRY	MASONRY	CONCRETE	
117	KIT. JAN. CLOSET	CONCRETE	NONE	NONE	MASONRY	MASONRY	CONCRETE	
118	KITCHEN LAV.	QUARRY TILE	GSFU	GSFU	MASONRY	MASONRY	CONCRETE	
119	OFFICE	QUARRY TILE	GSFU	GSFU	MASONRY	MASONRY	CONCRETE	SEE DETAIL S124
120	MESS HALL	SPHALT TILE	GSFU	NONE	MASONRY	MASONRY	ACROSTICAL	FORST REGENT
121	MAIL ROOM	SPHALT TILE	GSFU	NONE	MASONRY	MASONRY	CONCRETE	
201	CORRIDOR	SPHALT TILE	GSFU	NONE	MASONRY	MASONRY	CONCRETE	
202	TOILET ROOM	SPHALT TILE	GSFU	NONE	MASONRY	MASONRY	CONCRETE	
203	TOILET ROOM	SPHALT TILE	GSFU	NONE	MASONRY	MASONRY	CONCRETE	SEE DETAIL S124
204	TOILET ROOM	SPHALT TILE	GSFU	NONE	MASONRY	MASONRY	CONCRETE	
205	TOILET ROOM	SPHALT TILE	GSFU	NONE	MASONRY	MASONRY	CONCRETE	
206	TOILET ROOM	SPHALT TILE	GSFU	NONE	MASONRY	MASONRY	CONCRETE	
207	STAIR HALL	CONCRETE	NONE	NONE	MASONRY	MASONRY	CONCRETE	SEE DETAIL S124
301	CORRIDOR	SPHALT TILE	GSFU	NONE	MASONRY	MASONRY	CONCRETE	
302	TOILET ROOM	SPHALT TILE	GSFU	NONE	MASONRY	MASONRY	CONCRETE	SEE DETAIL S124
303	TOILET ROOM	SPHALT TILE	GSFU	NONE	MASONRY	MASONRY	CONCRETE	
304	TOILET ROOM	SPHALT TILE	GSFU	NONE	MASONRY	MASONRY	CONCRETE	
305	LOUNGE	SPHALT TILE	GSFU	NONE	MASONRY	MASONRY	CONCRETE	SEE DETAIL S124
306	JAN. CLOSET	CONCRETE	NONE	NONE	MASONRY	MASONRY	CONCRETE	SEE DETAIL S124
307	STAIR HALL	CONCRETE	NONE	NONE	MASONRY	MASONRY	CONCRETE	SEE DETAIL S124



RECORD DRAWING - AS BUILT

REVISED BY USGS (HAWAII) AT TO AS BUILT CONDITION

DESIGNED BY USGS (HAWAII) AT TO AS BUILT CONDITION

CONSTRUCTION BY USGS (HAWAII) AT TO AS BUILT CONDITION

DATE: 21-01-64

INSPECTOR & HONIGMERY
ARCHITECTS - ENGINEERS
FALLS CHURCH, VIRGINIA

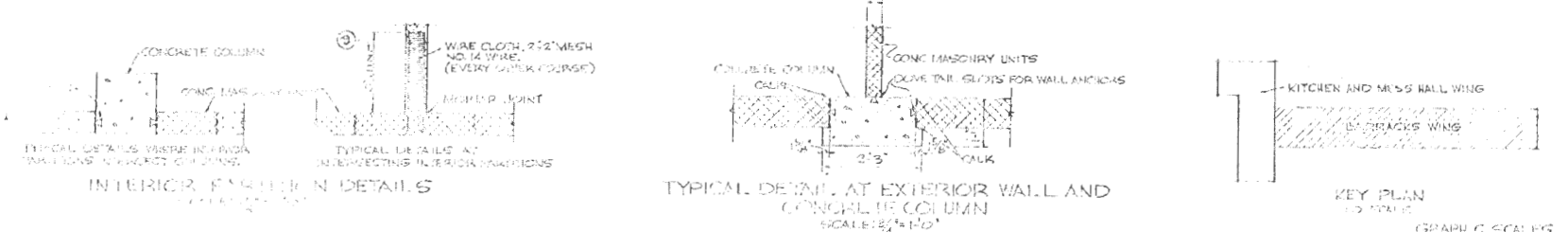
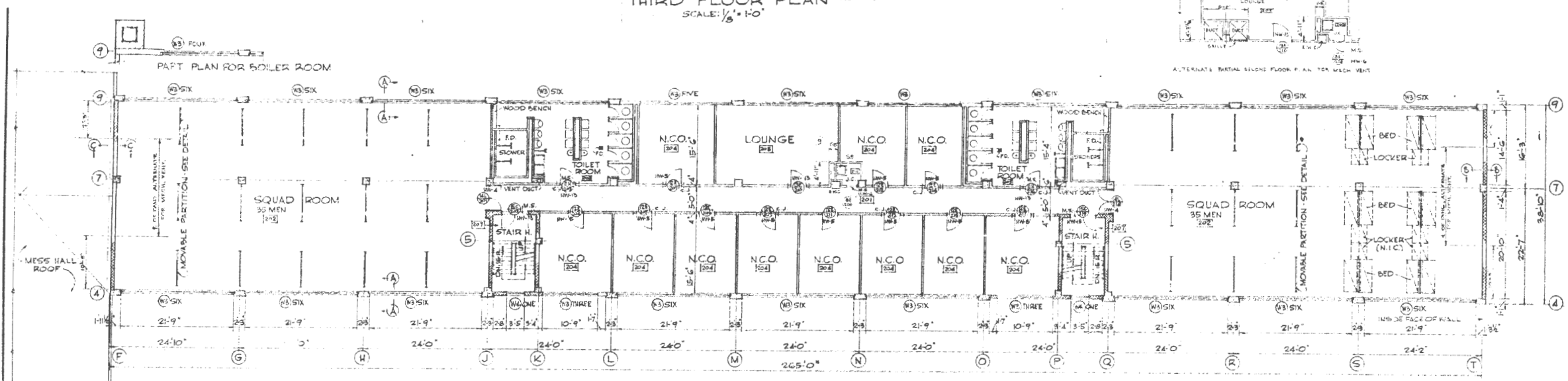
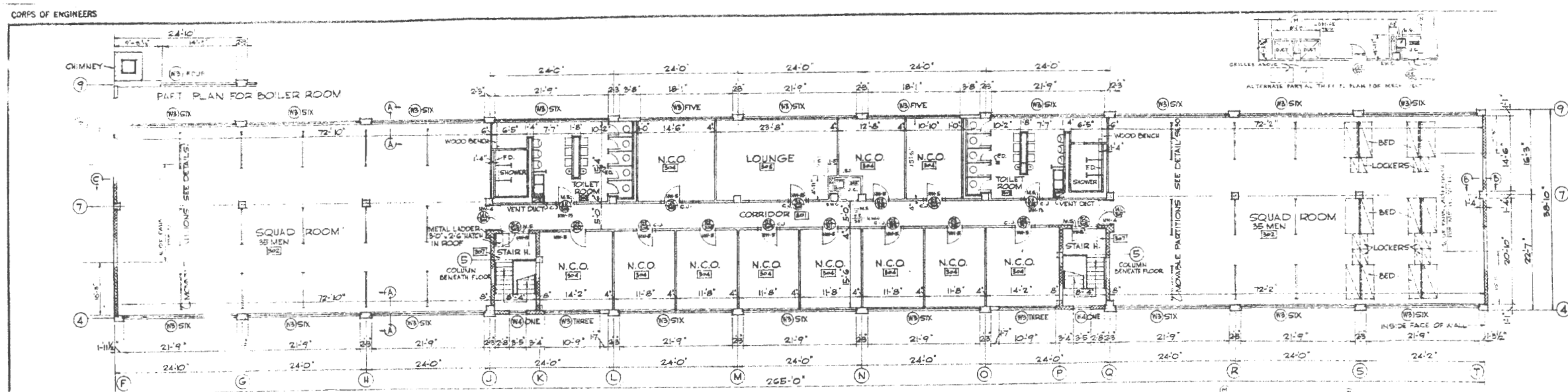
DEPARTMENT OF THE ARMY
ENGINEER CENTER
FALLS CHURCH, VIRGINIA

BARRACKS - ONE COMPANY
TYPE A

CADRENT & FIRST FLOOR PLANS
DRAWING NO. 21-01-64

DATE: 21-01-64

Hammerhead Barracks
11 bay
1954 - Basement plan
Drawing Number:
21-01-64



- NOTES:
1. CONTROL JOINTS AT LINTELS IN CONCRETE MASONRY UNITS ARE INDICATED AS C, J.
 2. FOR DIMENSIONS NOT SHOWN ON SECOND FLOOR PLAN SEE THIRD FLOOR PLAN ABOVE.
 3. FOR TOILET ROOM DETAILS SEE SH N 24.

NO.	REVISION	DESCRIPTION	DATE	INITIALS
1	AS BUILT			
2		REVISION		
3		REVISION		
4		REVISION		
5		REVISION		

SECTOR & MONTGOMERY
ARCHITECTS - ENGINEERS
FAIRFAX COUNTY, VIRGINIA

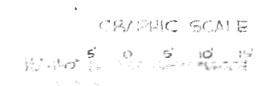
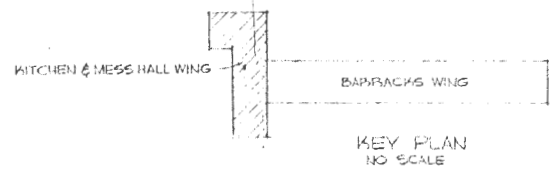
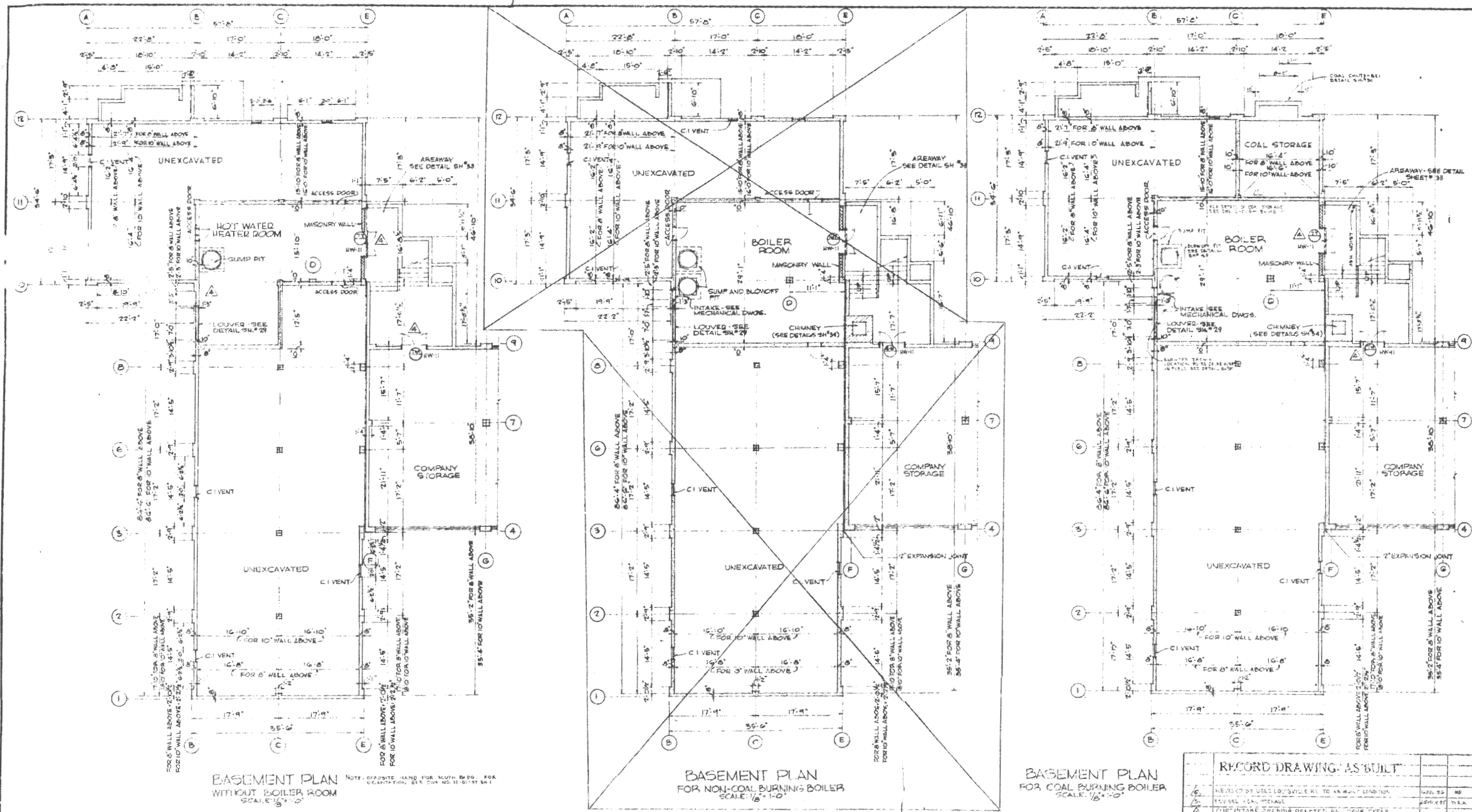
DEPARTMENT OF THE ARMY
ENGINEER REGIMENT
FORT MONROE, VIRGINIA

**BARRACKS - ONE COMPANY
TYPE A**

GROUP THIRD FLOOR PLANS
REVISION NO. 3

DATE: 21-01-64

Hammerhead Barracks
11 bay
1954 - Second and third
floor plan
Drawing Number:
21-01-64



REVISIONS	
NO.	DESCRIPTION
1	REVISION BY USER TO CORRECT TO AS-BUILT CONDITION
2	REVISION BY USER TO CORRECT TO AS-BUILT CONDITION
3	REVISION BY USER TO CORRECT TO AS-BUILT CONDITION
4	REVISION BY USER TO CORRECT TO AS-BUILT CONDITION
5	REVISION BY USER TO CORRECT TO AS-BUILT CONDITION
6	REVISION BY USER TO CORRECT TO AS-BUILT CONDITION
7	REVISION BY USER TO CORRECT TO AS-BUILT CONDITION
8	REVISION BY USER TO CORRECT TO AS-BUILT CONDITION
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41	REVISION BY USER TO CORRECT TO AS-BUILT CONDITION
42	REVISION BY USER TO CORRECT TO AS-BUILT CONDITION
43	REVISION BY USER TO CORRECT TO AS-BUILT CONDITION
44	REVISION BY USER TO CORRECT TO AS-BUILT CONDITION

DEPARTMENT OF THE ARMY
ENGINEERING DIVISION
FALLS CHURCH, VIRGINIA

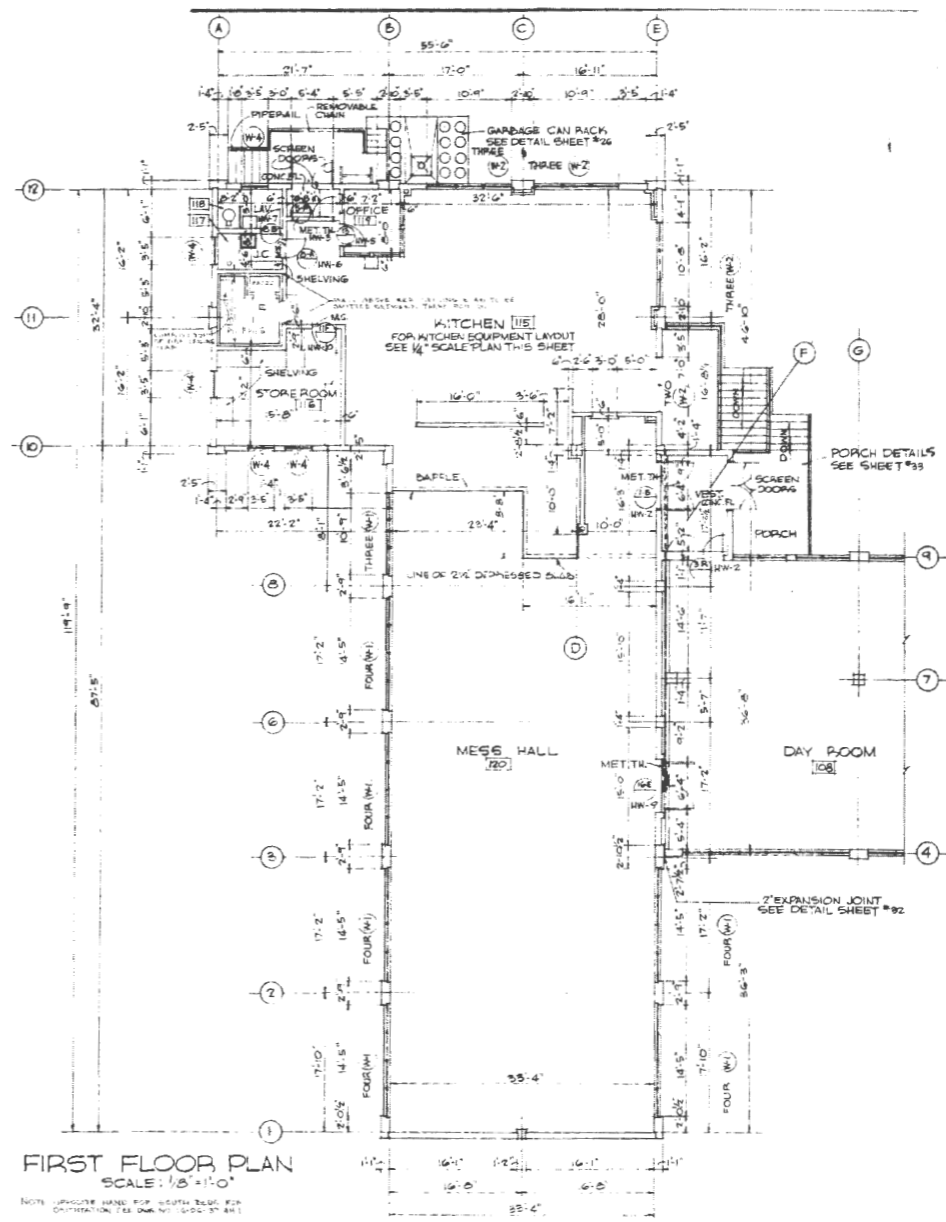
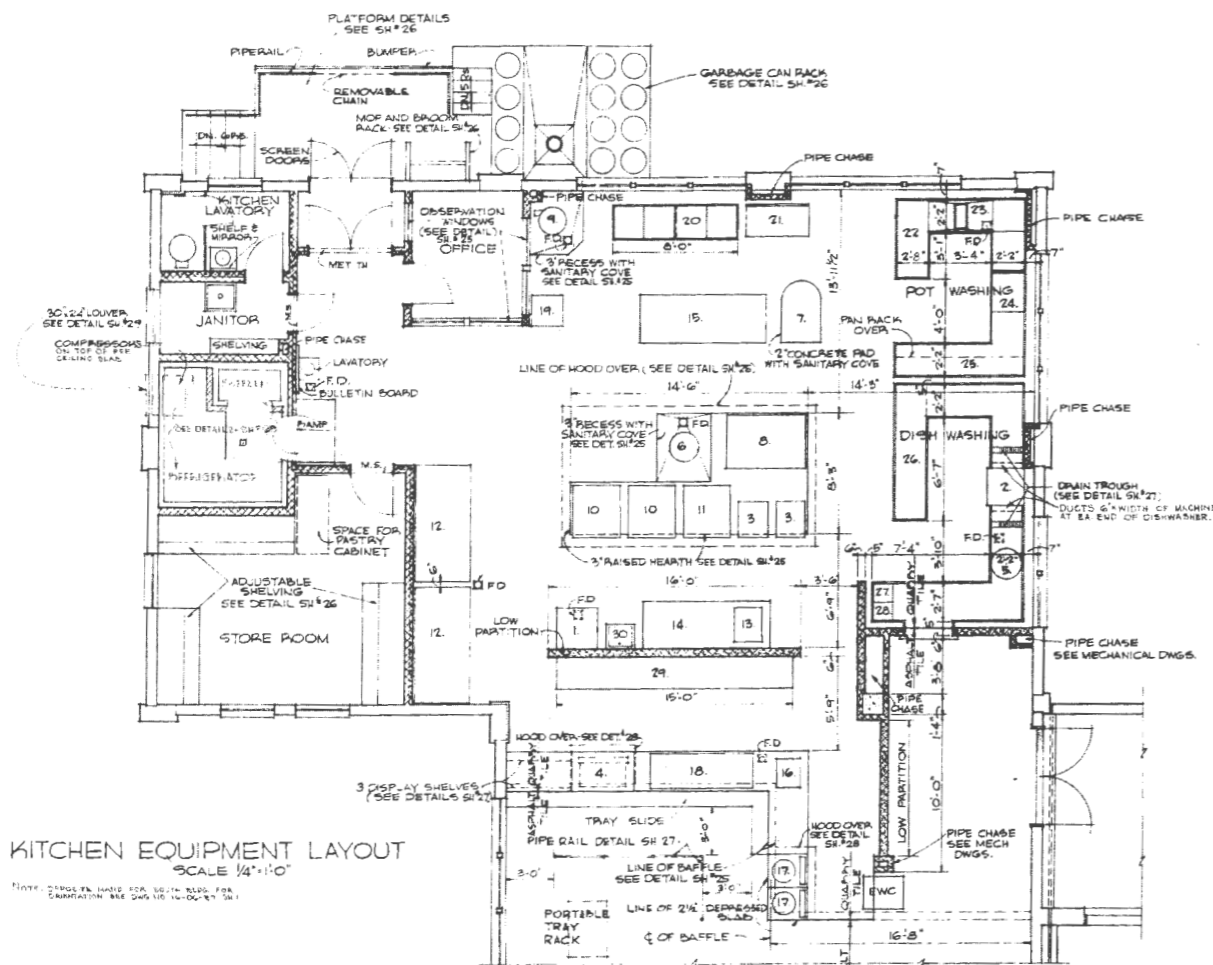
SPECTOR & MONTGOMERY
ARCHITECTS-ENGINEERS
FALLS CHURCH, VIRGINIA

BARRACKS - ONE COMPANY
TYPE A

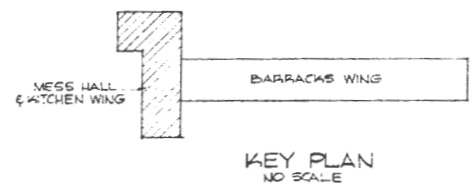
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21-01-64

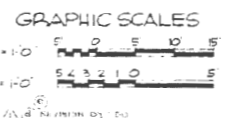
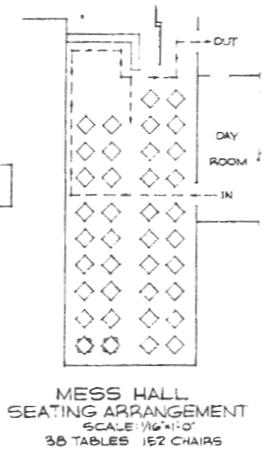
Hammerhead Barracks
11 bay
1951 - Kitchen wing,
basement plan
Drawing Number:
21-01-64



REF. NO.	ITEM NUMBER	EQUIPMENT	NO REQD	CAPACITY OR SIZE	CLASS	REMARKS
1	K-5	ICE STORAGE CHEST	1	200 LBS.	4	
2	K-8	DISHWASHING MACHINE - 50 SMT	1	28" x 28"	1	
3	K-9	DEEP FAT Fryer	2	SEE REMARKS	2	ELEC. 27" x 27" x 31" (GAS) GAS 21" x 30" x 31" (ELEC)
4	K-10	GRIDDLE	1	SEE REMARKS	2	ELEC. SIZE 2'-30" x 8'-4" GAS 55" x 10" x 10"
5	K-16	PRE-FLUSHING MACHINE	1	23 1/2" x 34" H	1	
6	K-12	STEAM JACKETED KETTLE	1	20 GAL.	2	
7	K-13	FOOD MIXER - VERTICAL - FL MOUNTED	1	30 QTS.	4	
8	K-15	BAKE & ROASTING OVEN	1	SEE REMARKS	3	ELEC. 54" x 36" x 67" GAS 60" x 60" x 62"
9	K-16-1	VEGETABLE PEELER	1	30 LBS.	2	
10	K-18-1	RANGES - HOT TOP	2	SEE REMARKS	2	ELEC. 32" x 41" x 34" GAS 36" x 39" x 32"
11	K-18-2	RANGES - FRY TOP	2	SEE REMARKS	2	ELEC. 32" x 41" x 34" GAS 36" x 39" x 32"
12	K-19-4	REFRIGERATOR	2	65 CU. FT.	4	
13	K-21	MEAT SLICING MACHINE	1	26" x 20"	4	
14	K-24	WORK TABLE W/PAN RACK	1	96" x 36"	4	
15	K-24-2	WORK TABLE	1	96" x 36"	4	
16	K-25-2	CONVEYOR TYPE TOASTER	1	540 SLICES	2	
17	K-26-2	COFFEE JANS - W/STAND - TYPE II	2	TWIN 10 GAL.	3	
18	K-36-1	STEAM TABLE	1	78" x 27"	4	
19		VEGETABLE RACK	1		1	
20		CUTLERY SINK	1	SEE PLAN	1	SEE DETAIL SH# 27
21		MIXER ACCESSORY STAND	1	SEE PLAN	1	SEE DETAIL SH# 27
22		SOILED POT & PAN COUNTER	1	SEE PLAN	1	SEE DETAIL SH# 27
23		SCRAPING TROUGH	1	SEE PLAN	1	SEE DETAIL SH# 27
24		POT SINK	1	SEE PLAN	1	SEE DETAIL SH# 27
25		CLEAN POT & PAN COUNTER	1	SEE PLAN	1	SEE DETAIL SH# 27
26		CLEAN DISH COUNTER	1	SEE PLAN	1	SEE DETAIL SH# 27
27		EXCESS LIQUID SINK W/REMOVABLE BASKET	1	SEE PLAN	1	SEE DETAIL SH# 27
28		CUTLERY SINK	1	SEE PLAN	1	SEE DETAIL SH# 27
29		BACA COUNTER	1	SEE PLAN	1	SEE DETAIL SH# 27
30		COOKS SINK	1	SEE PLAN	1	SEE DETAIL SH# 27



CLASS 1. FURNISHED & INSTALLED BY CONTRACTOR.
CLASS 2. FURNISHED & INSTALLED BY CONTRACTOR.
CLASS 3. FURNISHED BY GOVERNMENT INSTALLED BY CONTRACTOR.
CLASS 4. FURNISHED & INSTALLED BY GOVERNMENT.

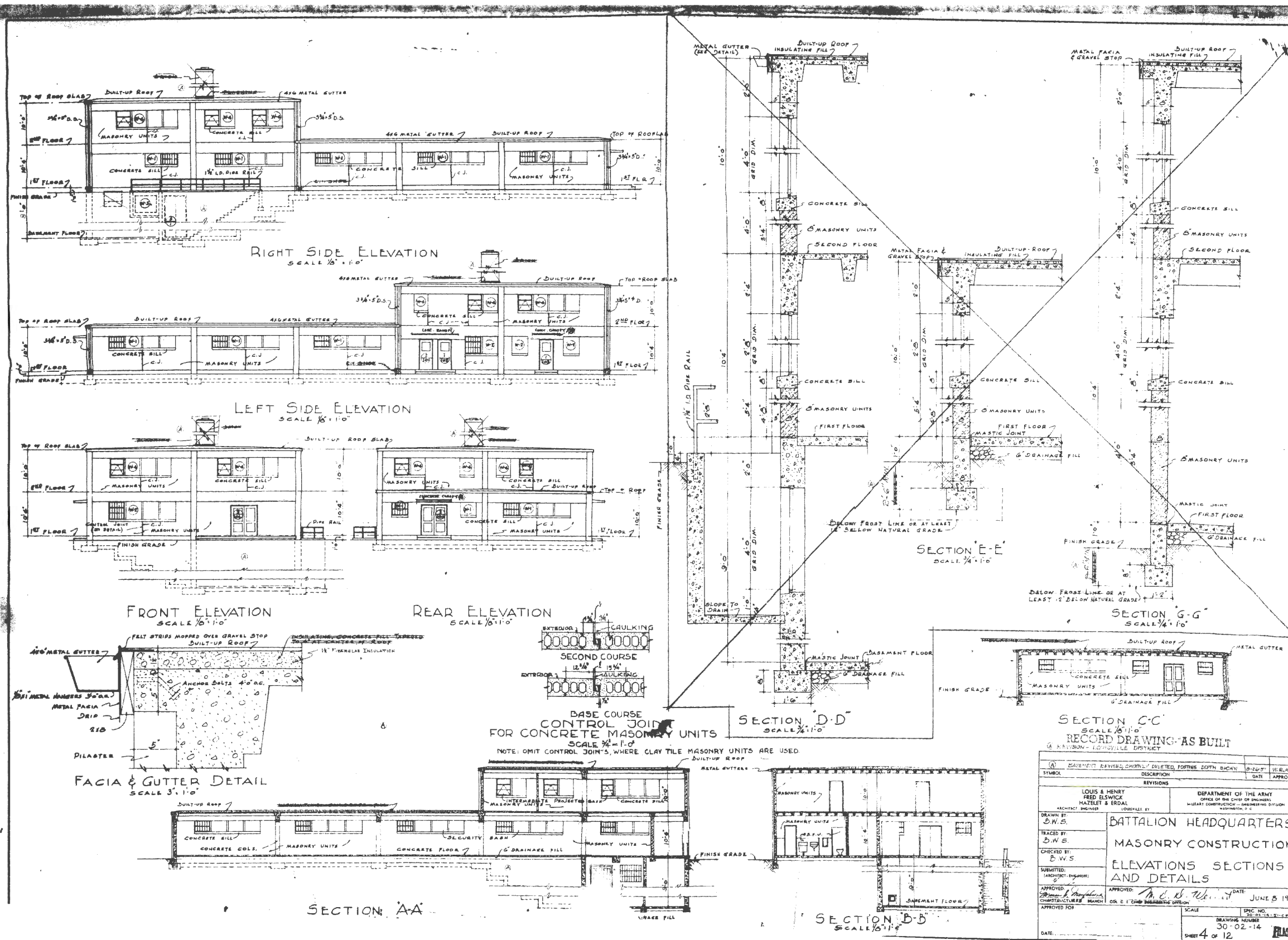


REVISIONS	
(1)	REVISIONS TO BE MADE BY THE AS BUILT CONDITION
(2)	CONTRACTOR TO BE ADVISED BY THE ARCHITECT OF ANY CHANGES TO THE CONTRACT DOCUMENTS
(3)	REVISIONS TO BE MADE BY THE ARCHITECT
(4)	REVISIONS TO BE MADE BY THE ARCHITECT
(5)	REVISIONS TO BE MADE BY THE ARCHITECT
(6)	REVISIONS TO BE MADE BY THE ARCHITECT
(7)	REVISIONS TO BE MADE BY THE ARCHITECT
(8)	REVISIONS TO BE MADE BY THE ARCHITECT
(9)	REVISIONS TO BE MADE BY THE ARCHITECT
(10)	REVISIONS TO BE MADE BY THE ARCHITECT

SPECTOR & MONTGOMERY ARCHITECTS - ENGINEERS FALLS CHURCH, VIRGINIA	DEPARTMENT OF THE ARMY OFFICE OF THE CHIEF OF ENGINEERS MILITARY CONSTRUCTION - BUILDINGS DIVISION WASHINGTON, D. C.
BARRACKS - ONE COMPANY TYPE A FIRST FLOOR PLAN, EQUIPMENT PLAN & SCHEDULE KITCHEN & MESS HALL WING	
DRAWN BY: PRW TRACED BY: PRW CHECKED BY: R.A.P. SUBMITTED BY: Spector & Montgomery APPROVED BY: Spector & Montgomery DATE: 21 JUNE 1954	DATE: 21 JUNE 1954 SCALE AS NOTED SHEET NO. 5 21-01-64

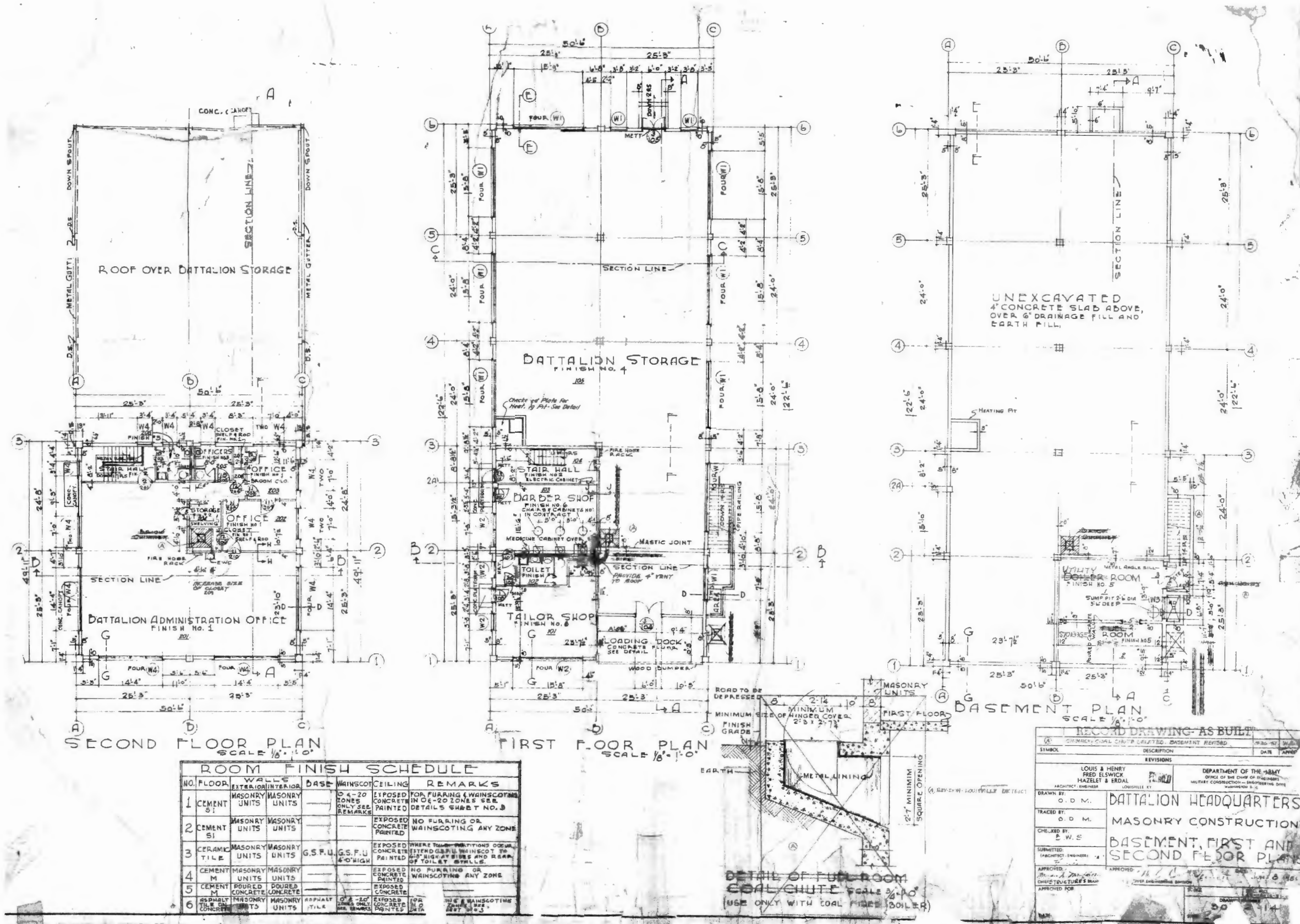
Hammerhead Barracks
11 bay
1951 - Kitchen wing,
First floor plan
Drawing Number:
21-01-64

Battalion Headquarters
1951 - Elevations
Drawing Number:
30-02-14



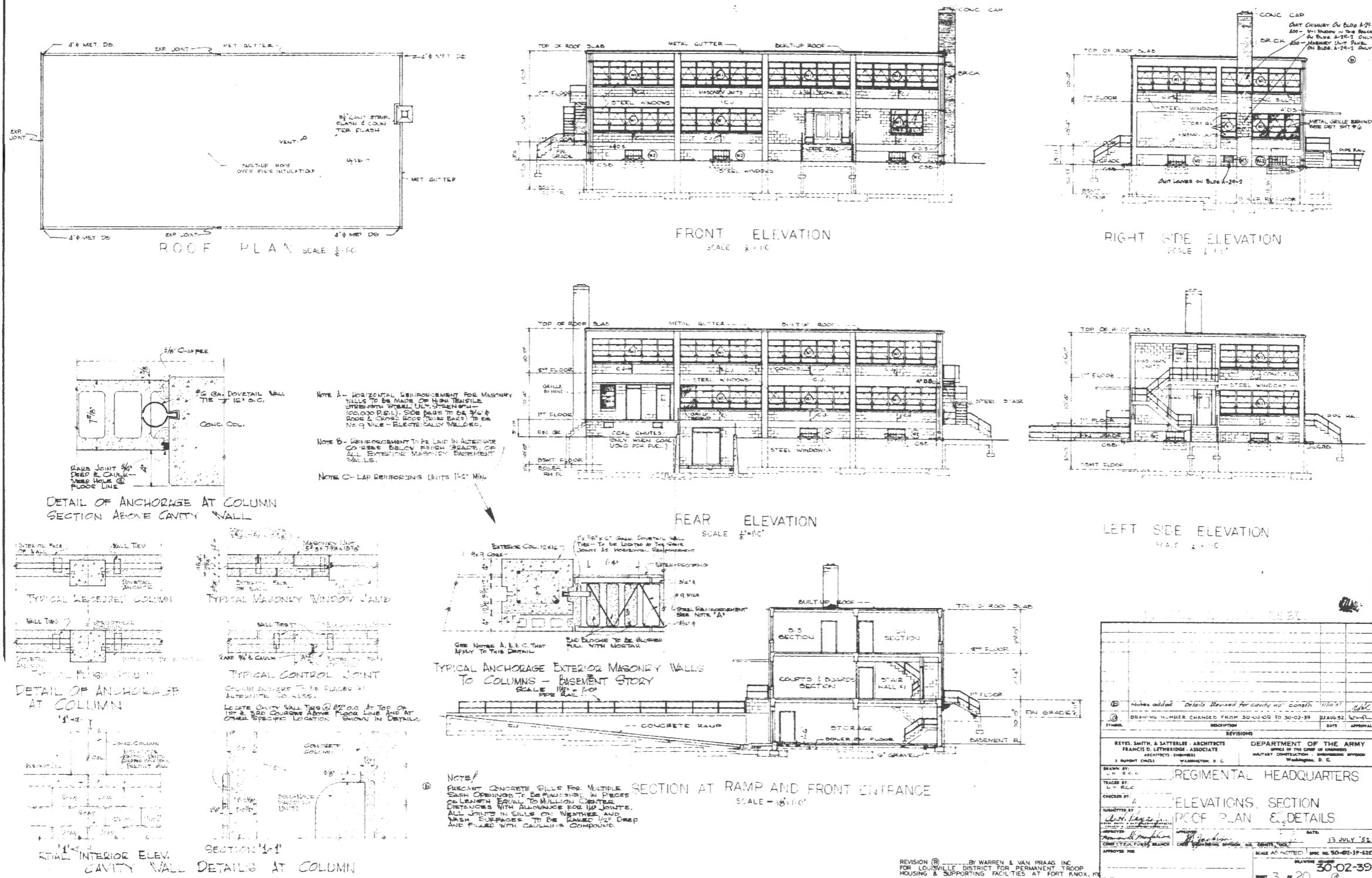
SECTION C-C
 SCALE 1/8" = 1'-0"
RECORD DRAWING - AS BUILT
 G. HANSON - LOUISVILLE DISTRICT

SYMBOL	DESCRIPTION	DATE	APPROVAL
REVISIONS			
LOUIS & HENRY FRED ELSWICK HATELET & ERDAL ARCHITECTS INCORPORATED		DEPARTMENT OF THE ARMY OFFICE OF THE CHIEF OF ENGINEERS MILITARY CONSTRUCTION - ENGINEERING DIVISION WASHINGTON, D.C.	
DRAWN BY	B.W.S.	DATE	JUNE 5 1951
TRACED BY	B.W.S.		
CHECKED BY	B.W.S.		
APPROVED	<i>M.C. W.</i>	DATE	JUNE 5 1951
APPROVED FOR		SCALE	1/8" = 1'-0"
		DRAWING NUMBER	30-02-14
		SHEET	4 OF 12



**Battalion Headquarters
1951 – Floor plans
Drawing Number:
30-02-14**

**Regimental Headquarters
1952 - Elevations
Drawing Number:
30-02-39**



NOTE A - HORIZONTAL REINFORCEMENT FOR MASONRY WALLS TO BE MADE OF HIGH TENSILE STRENGTH STEEL (ULT. STRENGTH 100,000 P.S.I.), SIZE SHALL BE 3/4" & RODS & CHAINS (RIGID BARS) TO BE NO. 4 WIRE - ELECTRICALLY WELDED.

NOTE B - REINFORCEMENT TO BE LAID IN ALTERNATE COURSES BELOW FINISH GRADE OF ALL EXTERIOR MASONRY BASEMENT WALLS.

NOTE C - LAP REINFORCING UNITS 1'-0" MIN.

NOTE: PRECAST CONCRETE SILLS FOR MULTIPLE SASH OPENINGS TO BE FURNISHED IN PIECES OR LENGTH EQUAL TO MULTIPLE OPENING WITH ALLOWANCE FOR LAP JOINTS. ALL JOINTS IN SILLS ON WEATHER AND WASH SURFACES TO BE RANGED 1/2" DEEP AND FILLED WITH CAULKING COMPOUND.

CONC. CAP
OUT CHIMNEY ON BLDG A-252
ADD - 1st WINDOW IN THIS BLOCK
ON BLDG A-252-2 ONLY
DR. CH. ADD - MASONRY UNIT PANEL
ON BLDG A-24-1 ONLY

RIGHT SIDE ELEVATION
SCALE 1/4"=1'-0"

FRONT ELEVATION
SCALE 1/4"=1'-0"

REAR ELEVATION
SCALE 1/4"=1'-0"

LEFT SIDE ELEVATION
SCALE 1/4"=1'-0"

REGIMENTAL HEADQUARTERS

ELEVATIONS, SECTION
ROOF PLAN & DETAILS

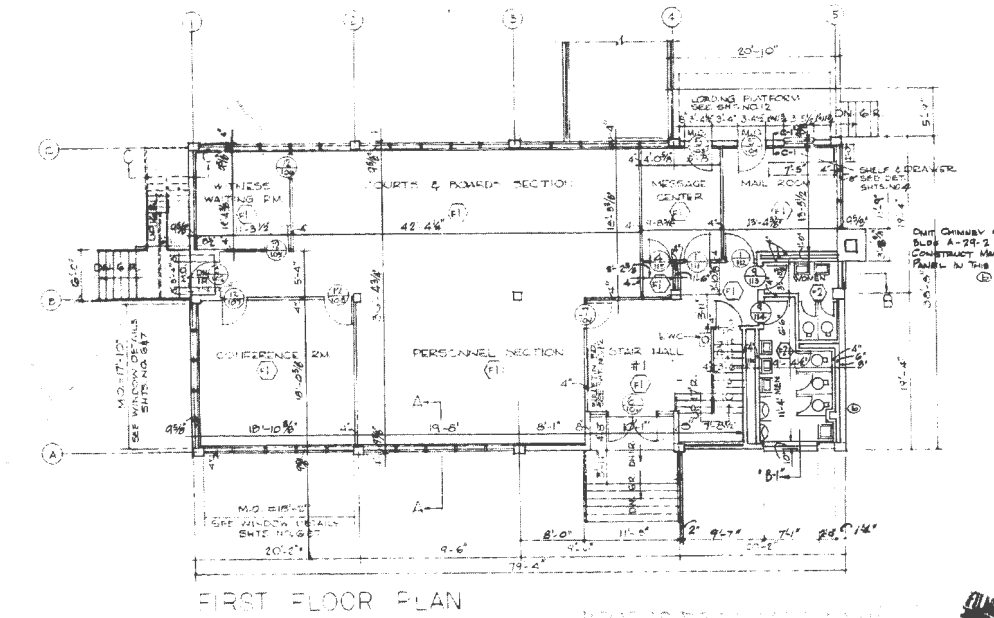
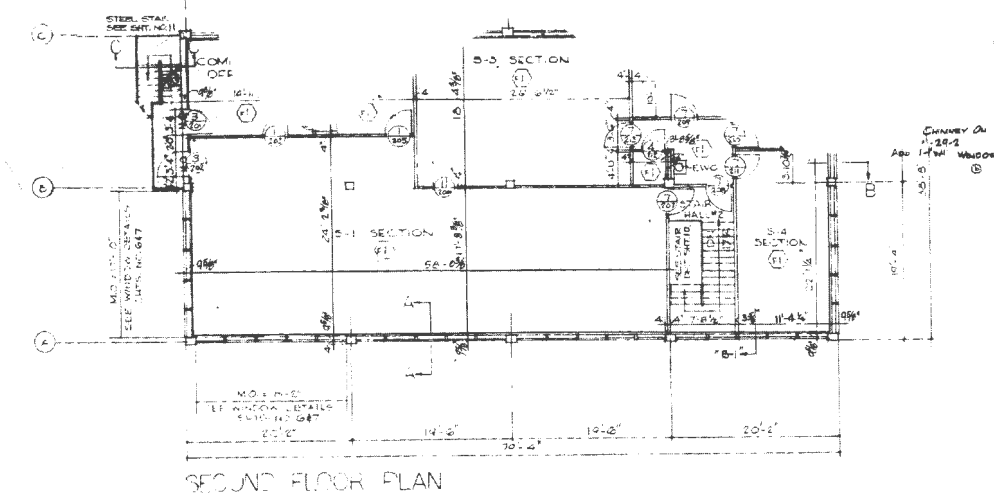
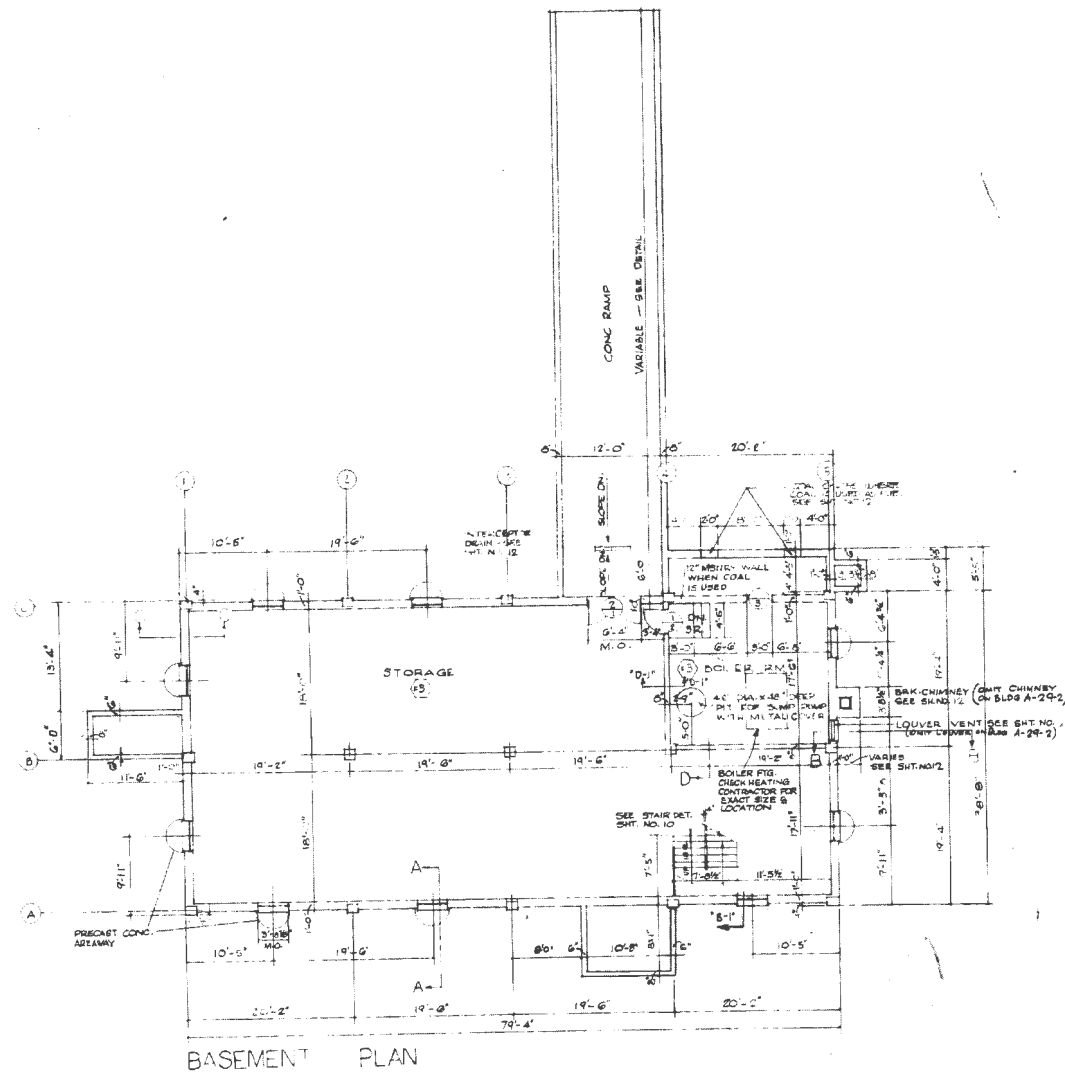
DATE: 19 JULY '51

SCALE AS NOTED: 1/4"=1'-0"

DRAWING NO. 30-02-39-522C

SHEET 3 OF 20

**Regimental Headquarters
1952 - Floor plans
Drawing Number:
30-02-39**



ROOM FINISH SCHEDULE

NO.	FLOOR	HALLS EXTERIOR	HALLS INTERIOR	BASE	WINDCOT	CEILING	REMARKS
11		MASONRY UNITS	MASONRY UNITS PAINTED			EXPOSED CONC. PAINTED	
12		MASONRY UNITS	MASONRY UNITS	G.S.F.U.	BASE TO 4'-0"	EXPOSED CONC. PAINTED	WHERE TOILET PARTITIONS OCCUR EXTEND G.S.F.U. TO 6'-0"
13		MASONRY UNITS	MASONRY UNITS			EXPOSED CONC.	

PAINTING SCHEDULE

EXTERIOR PAINTING		INTERIOR PAINTING	
CONCRETE	NO PAINTING	MASONRY & CONCRETE	RUBBER BASE PAINT - 2 COATS
MASONRY UNITS OR TILE	CEMENT WATER PAINT - 2 COATS	GYPSUM BOARD	RUBBER BASE PAINT - 2 COATS
WOOD TRIM	LEAD AND OIL - 3 COATS	WOOD TRIM	INTERIOR OIL-SEMI-GLOSS-5 COATS
METAL	LEAD AND OIL - 3 COATS	METAL	INTERIOR OIL-SEMI-GLOSS-5 COATS
CEMENT ASPRESTING	LEAD AND OIL - 3 COATS		

REVISION (B) DRAWN BY WARREN & VAN PRAAG INC FOR PERMANENT TROOP HOUSING & SUPPORTING FACILITIES AT FORT KNOX, KY

REVISIONS

NO.	DESCRIPTION	DATE	APPROVAL
(A)	ADDED 12' HIGH WALL WHEN COAL IS USED	10 MAY 52	[Signature]
(B)	DRAWING NUMBER CHANGED FROM 30-02-02 TO 30-02-39	22 AUG 52	[Signature]

KEYES, SMITH & SATTERLEE - ARCHITECTS
FRANCIS D. LETHBRIDGE - ASSOCIATE ARCHITECTS ENGINEERS
3 DUPONT CIRCLE WASHINGTON, D. C.

DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
MILITARY CONSTRUCTION - ENGINEERING DIVISION
WASHINGTON, D. C.

**REGIMENTAL HEADQUARTERS
FLOOR PLANS AND
FINISH SCHEDULE**

DATE: 12 JULY 52
SCALE AS NOTED
SHEET 2 OF 20
DRAWING NUMBER: 30-02-39

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Abbreviations and Acronyms

BASOPS	base operations
BOQ	bachelor officers' quarters
CERL	Construction Engineering Research Laboratory
CMU	concrete masonry unit
DoD	Department of Defense
DPRK	People's Democratic Republic of Korea
ERDC	Engineer Research and Development Center
ICRMP	Integrated Cultural Resources Management Plan
KY SHPO	Kentucky State Historic Preservation Officer
MCA	Military Construction Appropriation
MVA	Modern Volunteer Army
NATO	North Atlantic Treaty Organization
NCO	non-commissioned officer
NHPA	National Historic Preservation Act
NME	National Military Establishment
NRHP	National Register of Historic Places
OCS	Officer Candidate School
ROK	Republic of Korea
UN	United Nations
UNC	United Nations Command
UPH	unaccompanied personnel housing
VOLAR	Volunteer Army

REPORT DOCUMENTATION PAGE

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1. REPORT DATE (DD-MM-YYYY) 06-2005		2. REPORT TYPE Final		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE Fort Knox Hammerhead Barracks Architectural Survey				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Sunny Stone and Adam Smith				5d. PROJECT NUMBER MIPR	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER 21/2020/220/A/MIPR4HDDK00019	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Engineer Research and Development Center (ERDC) Construction Engineering Research Laboratory (CERL) P.O. Box 9005 Champaign, IL 61826-9005				8. PERFORMING ORGANIZATION REPORT NUMBER ERDC/CERL SR-05-15	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Headquarters U. S. Army Garrison, Fort Knox Fort Knox, KY 40121				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
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13. SUPPLEMENTARY NOTES Copies are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.					
14. ABSTRACT U.S. Army Garrison Fort Knox (Fort Knox) is a U.S. Army Training and Doctrine Command installation with the primary mission of training soldiers for the Armor and Cavalry Force. It is the home to the U.S. Army Armor School and Center where soldiers are trained to use, maintain, and command tanks and other armored vehicles. This document is an architectural survey of 53 permanent Cold War Base Operations (BASOPS) properties, more specifically, unaccompanied personnel housing (UPH) permanent hammerhead barracks and supporting facilities, constructed between 1953 and 1957 at Fort Knox, Kentucky for eligibility to the National Register of Historic Places (NRHP). One building on the list, a battalion headquarters, constructed in 1964, and two general instruction buildings, constructed in 1967, fall outside of the period being surveyed, and were included in the survey for their role as support facilities for the UPH structures. This survey satisfies Section 110 of the National Historic Preservation Act of 1966 as amended, and was used to determine the eligibility of these buildings and landscapes for inclusion on the NRHP. The BASOPS properties, mostly UPH buildings, constructed during this time frame at Fort Knox were limited in use as support facilities only, and were not mission critical buildings. It was determined that these buildings are strictly utilitarian in nature. The UPH buildings included in this survey were evaluated under a recently completed historic context, "Army Unaccompanied Personnel Housing 1946-1989." This nationwide historic context and evaluation criteria for these buildings is organized by building type and lists specific architectural requirements for finding these buildings eligible. The lack or loss of these required features can result in insufficient integrity for specific examples of these buildings types to be considered eligible. The UPH structures at Fort Knox are significant under Criterion A as associated with this historic context. However, the buildings that were surveyed lack the retention of the required features to retain sufficient integrity and therefore are ineligible for the NRHP.					
15. SUBJECT TERMS Fort Knox, KY National Register of Historic Places (NRHP) cultural resources management Historic preservation historic building inventory					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT SAR	18. NUMBER OF PAGES 334	19a. NAME OF RESPONSIBLE PERSON Adam Smith
a. REPORT Unclassified	b. ABSTRACT Unclassified	c. THIS PAGE Unclassified			19b. TELEPHONE NUMBER (include area code) (217) 352-6511 x5897

