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NPS Form 10-900
(Rev. 10-90)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name: **National Naval Medical Center** (M:35-98)

other names/site number: **Naval Medical Center/U.S. Naval Medical Center**

2. Location

street & number: **8901 Rockville Pike (Wisconsin Avenue)**

not for publication ___
vicinity: ___

city/town: **Bethesda**
state: **Maryland** county: **Montgomery** code: ___ zip code: **20889**

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Maryland Department of Housing and Community Development

Division of Historical and Cultural Programs

100 Community Place
Crownsville, Maryland 21032

410-514-7600
1-800-756-0119
Fax: 410-987-4071
Maryland Relay for the Deaf:
1-800-735-2258

http://www.dhcd.state.md.us

Parris N. Glendening
Governor

Patricia J. Payne
Secretary

Raymond A. Skinner
Deputy Secretary

November 16, 1998

Mr. Patrick F. Spahn
Head, Environmental Programs Department
National Naval Medical Center
Bethesda, MD 20889-5600

Re: Determination of National Register Eligibility
National Naval Medical Center Historic District (M:35-98)
Bethesda, Maryland

Dear Mr. Spahn:

Following review of the documentation for the National Naval Medical Center Historic District which you submitted to this office, I find that this property is eligible for the National Register of Historic Places.

It is my understanding that, although the documentation was prepared according to the format of a formal nomination to the National Register, it is not the Navy's intention to submit this nomination at this time. Please advise this office if this situation should change.

If you have any questions, please call Peter Kurtze of my staff at (410) 514-7649. Thank you for your cooperation.

Sincerely,

J. Rodney Little
Director, Division of Historical and Cultural Programs
State Historic Preservation Officer

cc: Ms. Lauren Bowlin
Mr. Larry Earle

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3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this _____ nomination _____request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property _____ meets _____ does not meet the National Register Criteria. I recommend that this property be considered significant _____ nationally _____statewide _____ locally.
(_____ See continuation sheet for additional comments.)

_____
Signature of certifying official Date

_____
State or Federal agency and bureau

In my opinion, the property _____ meets _____ does not meet the National Register criteria.
(_____ See continuation sheet for additional comments.)

_____
Signature of commenting or other official Date

_____
State or Federal agency and bureau

4. National Park Service Certification

I, hereby certify that this property is:

_____ entered in the National Register _____
_____ See continuation sheet.
_____ determined eligible for the _____
National Register
_____ See continuation sheet.
_____determined not eligible for the _____
National Register
_____ removed from the National Register _____

_____ other (explain): _____

_____
Signature of Keeper Date of Action

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5. Classification

Ownership of Property (Check as many boxes as apply)

___ private
___ public-local
___ public-State
__X__ public-Federal

Category of Property (Check only one box)

___ building(s)
__X__ district
___ site
___ structure
___ object

Number of Resources within Property

Contributing	Noncontributing	
18	18	buildings
1	___	sites
___	___	structures
___	___	objects
19	18	Total

Number of contributing resources previously listed in the National Register: __1__

Name of related multiple property listing (Enter "N/A" if property is not part of a multiple property listing.): __N/A__

6. Function or Use

Historic Functions (Enter categories from instructions):

Category: **Health Care** Sub-Category: **Hospital**
Education **Research Facility**

Current Functions (Enter categories from instructions):

Category: **Health Care** Sub-Category: **Hospital**
Education **Research Facility**

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7. Description

Architectural Classification (Enter categories from instructions): **Art Deco**

Materials (Enter categories from instructions):

foundation: **Concrete**

roof: **Concrete; Slate; built up;**

walls: **Concrete; Steel; Brick; Slate;**

other: **The majority of buildings within the boundaries of the proposed historic district are faced with pre-cast, exposed aggregate, concrete panels.**

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets):

SEE CONTINUATION SHEET

8. Statement of Significance

Applicable National Register Criteria (Mark "X" in one or more boxes for the criteria qualifying the property for National Register listing):

X	A	Property is associated with events that have made a significant contribution to the broad patterns of our history.
X	B	Property is associated with the lives of persons significant in our past.
X	C	Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
___	D	Property has yielded, or is likely to yield information important in prehistory or history.

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Criteria Considerations (Mark "X" in all the boxes that apply):

___ A owned by a religious institution or used for religious purposes

___ B removed from its original location

___ C a birthplace or a grave

___ D a cemetery

___ E a reconstructed building, object, or structure

___ F a commemorative property

___ G less than 50 years of age or achieved significance within the past 50 years

Areas of Significance (Enter categories from instructions):

Architecture
Health/Medicine
World War II

Period of Significance: **1940-1945**

Significant Dates: **1942**

Significant Person (s) (Complete if Criterion B is marked above): **Franklin D. Roosevelt**

Cultural Affiliation: **N/A**

Architect/Builder/Sculptor: **Paul P. Cret**

Narrative Statement of Significance (Explain the significance of the property on one or more continuation sheets):

SEE CONTINUATION SHEET

9. Major Bibliographical References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

SEE CONTINUATION SHEET

Previous documentation on file (NPS):

___ preliminary determination of individual listing (36 CFR 67) has been requested.
__X__ previously listed in the National Register
___ previously determined eligible by the National Register
___ designated a National Historic Landmark
___ recorded by Historic American Buildings Survey #
___ recorded by Historic American Engineering Record #

Primary Location of Additional Data:

___ State Historic Preservation Office
___ Other State agency
___ Federal agency
___ Local government
___ University
__X__ Other: **NNMC files/drawings**

10. Geographical Data

Acreage of Property: **131 acres**

UTM References (Place additional UTM references on a continuation sheet):

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Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet):
SEE CONTINUATION SHEET

Boundary Justification (Explain why the boundaries were selected on a continuation sheet):
SEE CONTINUATION SHEET

11. Form Prepared By

name/title: Judith H. Robinson, Joan M. Brierton, Stephanie S. Foell, Justin B. Edgington/Architectural Historians
organization: Robinson & Associates, Inc. date: 20 March 1998
telephone: 202/234.2333
city or town: Washington state: DC zip code: 20009

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps
A USGS map (7.5 or 15 minute series) indicating the property's location.
A sketch map for historic districts and properties having large acreage or numerous resources.
Photographs
Representative black and white photographs of the property.
Additional items (Check with the SHPO or FPO for any additional items)

Property Owner:

(Complete this item at the request of the SHPO or FPO.)
name: **United States Department of the Navy Engineering Field Activity Chesapeake**
street & number: **Washington Navy Yard, 901 M Street, SE, Building 212** telephone: **202/685.3446**
city or town: **Washington** state: **DC** zip code: **20374-5018**

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.). Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

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DESCRIPTION SUMMARY

The National Naval Medical Center (NNMC) forms a self-sufficient campus principally designed from 1939 to 1942. Located in Bethesda, Maryland in southern Montgomery County, the complex is three miles north of the Washington, D.C., border. NNMC is located on Rockville Pike (Maryland 355), one-half mile south of Interstate 495. The topography of the site varies from gently rolling to hilly terrain and land uses include forest, woodland, grassy fields, designed landscapes, and built areas. Circulation patterns, designed to connect key areas of the campus, are often curvilinear, and take advantage of natural vistas. The historic district contains 131 acres of the 242-acre campus. Of the approximately 90 buildings on the campus, 36 are in the district, and 18 of these are contributing. A significant designed landscape has also been determined to be a contributing feature. Portions of the campus have been compromised by new construction; however, many original buildings are extant on the site and it retains its essential character.

The campus, located in what was -- at the time of its initial construction -- a rural area, was to be a place of healing for naval veterans, including sick or injured veterans returning from World War II, along with aging naval veterans. In addition to treatment facilities, NNMC was also designed to house many different operations, or tenant commands, bringing together many facets of naval medicine, such as training and research. This goal was realized with the opening of the campus in 1942, and continues today as NNMC's objectives endure. While some tenant commands on the campus have changed, areas of original research, training, and treatment remain the same.

Buildings occupying the NNMC campus can be classified into several categories based on use or function. These categories reflect the various uses of the buildings that make it a self-sustaining facility, and provide NNMC with a multifaceted approach to medical care. They include medical and hospital facilities, medieal research facilities, and medical training schools. To support these facilities, residential, recreational, and service buildings were necessary. Finally, the landscape plans and siting of the buildings -- designed and executed with consulting architect Paul Cret's guidance -- contribute to the overall mission of NNMC by creating a circulation pattern to meet the needs of those working and being treated at the site.

The buildings erected during the construction campaign of 1941 and the 500-bed expansion several years later, most designed by Cret, share similar forms and materials. They are grouped behind Cret's striking Art Deco-inspired main hospital tower (Building 1), which rises 20 stories and faces Rockville Pike.[1] Early buildings are linear in composition, most with square or rectangular plans. Buildings with more complex plans (which are usually a combination of rectangles arranged to form H- or U-shaped footprints)

[1]The tower (Building 1) was placed on the National Register of Historic Places in 1977; the entire NNMC campus was not evaluated at that time.

are usually the result of standardized plans for buildings on naval hospital sites. Cret designed buildings to feature structural steel components faced with precast concrete aggregate panels that are pale grey in color. The Bachelor Officers' Quarters (Building 12) and the Naval Medical Research Institute (Buildings 17) also feature panels that are colored, using a different exposed aggregate. Metal canopies that shelter entrances are also common on the Cret-designed buildings.

Philadelphia-based architect Paul P. Cret served as consulting architect to the Bureau of Yards and Docks and was responsible for the design of many of the buildings constructed in the initial construction period in the 1940s. Cret also was responsible for the general site planning and placement of buildings on the campus according to function, as well as specific landscape designs for certain areas.

Cret also consistently used small decorative features to ornament the NNMC buildings, giving the buildings individual distinction. Several of the buildings feature decorative insignias over the doorways or flanking the entrances, such as the anchor insignia used on the Bachelor Officers' Quarters (Building 12) and the stylized floral motif that flanks the doorway of the Nurses' Quarters (Building 11). Cret used the star motif on the Flagpole (Building 30) and on the concrete wall that is located in front of the main Naval Medical Research Institute (NMRI) building (Building 17). Cret also used certain design features as nautical allusions. In addition to the anchor and star motifs, he also placed porthole windows on at least two buildings (Buildings 11 and 23). One outstanding Cret-designed landscape feature that retains a high degree of integrity is the parcel of land that lies between the hospital tower (Building 1) and Rockville Pike. This area, which contains a pond and pergola, appears much as it did in 1942.

Later additions to the campus have altered Cret's original plan for the site. These buildings, some of which are not located within the historic district boundaries, do not resemble Cret's original construction in either size or scale. As such, the site is compromised from Cret's original conception and the 1940s appearance. The hospital core has been altered and enlarged, with portions of the original building demolished and new construction taking its place. To accommodate the large number of patients and employees, two large parking garages (Buildings 54 and 55) were constructed in a central area of the campus. These garages present a visual barrier and interrupt the original plan of NNMC. However, a majority of the Cret buildings survive with minimal or no alterations. Similarly, portions of Cret's original circulation patterns, which were curvilinear in design, have been changed to accommodate the growth of new clusters of buildings; however, significant portions of the original circulation patterns survive.

Overall, the National Naval Medical Center continues to function successfully in its mission to provide a multifaceted facility for naval medicine that includes medical care and hospitalization, research, residential quarters and service buildings.

GENERAL DESCRIPTION

Methodology

Production of a National Register Historic District nomination for the National Naval Medical Center site was undertaken after the completion of a preliminary Phase I Historic and Archeological Resources Protection (HARP) Plan for the Chesapeake Division, Naval Facilities Engineering Command in June of 1996. The HARP Plan was prepared to provide NNMC with guidance for efficient compliance with the National Historic Preservation Act (NHPA) and Federal archeological protection legislation. The basis for this Plan was an overview survey of 29 resources, undertaken to identify, and complete a working inventory of known and potentially eligible National Register resources. The 29 resources at NNMC surveyed and tentatively evaluated as to National Register potential were selected to include all buildings 50 years of age and older, as well as one key landscape feature, the flagpole terrace identified by NNMC as Building 30. One property is currently listed in the National Register; Building 1 (commonly referred to as "the tower") was designated in 1978.[2]

As per HARP *Guidelines*, the 29 resources were evaluated and classified in *two* of the three National Register Treatment Categories established by the U.S. Department of the Navy. The result was the classification of 18 Category I resources and 11 Category II resources.[3] Perhaps most importantly, the preliminary HARP Plan recommended that the majority of original and potentially significant resources on the NNMC property be evaluated, during future survey efforts, not individually but as resources potentially contributing to an historic district. Originally designed as a self-sustaining complex of buildings, the significance, function, and use of each of these facilities relates directly to the mission of the larger National Naval Medical Center site. The preliminary HARP Plan also proposed preliminary boundaries for this potential district.

Based on the preliminary HARP findings described above, research was begun in August 1997 in an effort to fully document the history, mission, design and construction of the National Naval Medical Center

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[2]National Register of Historic places Inventory — nomination Form for the Bethesda Naval Hospital Tower Block, Building #1, National Naval Medical Center. Form completed by Lawrence P. Earle, United States Navy, 1975.

[3]Because the treatment of these resources varies substantially from the most comprehensive preservation treatment (Category I) to no special preservation measures (Category III), HARP *Guidelines* require that all resources be preliminarily assigned Category I or Category II as part of the Overview Survey. (At the completion of an Intensive Level Survey, resources may be shifted between Categories I and II, and reassigned to Category III.)

through the National Register Historic District Nomination process. Documentation efforts included extensive archival research, on-site surveys, architectural investigations and a comprehensive photographic survey. These efforts concentrated primarily on the early history of the site, in particular its realization through the aspirations of President Franklin D. Roosevelt, and its associated mission with the achievements and advancement of the United States Navy. Secondary source materials consulted included historic newspapers and periodicals, historic photographs, hospital histories, NNMC bulletins and, most significantly, the extensive collection of materials concerning naval hospital history on file within the Office of the Naval Historian, Bureau of Medicine and Surgery. A site visit to NNMC was also conducted in cooperation with Mr. Peter Kurtze, Administrator of Evaluation and Registration, with the Maryland Historical Trust.

The preparation of a National Register Historic District Nomination for the National Naval Medical Center has presented many significant challenges; among these was the difficulty in determining the overall integrity of the site. This challenge arose after historical and architectural evaluations of the site revealed mixed findings. On the one hand, the historical significance of the site — its mission, associations, achievements, and advancements in naval medicine and research — rose to the occasion and surpassed all expectations regarding the valued contributions offered by this center. On the other hand, serious consideration needed to be given to the remaining architectural integrity of the site, and, more specifically, determining if the site retained the appropriate sense of place, feeling, association, materials, and workmanship that would substantiate its eligibility as a National Register Historic District.
While many of the site's original buildings, planned and designed by internationally known architect Paul Cret, survive, a number of these facilities have received extensive exterior and/or interior renovations - - many of which were undertaken to further advance the NNMC mission. Perhaps the greatest effect to the original NNMC campus has been the impact of new construction within and around the immediate hospital core. Major expansion efforts in the late 1970s and 1980s have compromised a number of individual buildings, as well as the setting and original planned relationship of campus facilities. The Administration and Clinical Buildings (Buildings 7 and 8) and the new Hospital Buildings (Buildings 9 and 10), along with their associated parking garages (Buildings 54 and 55) have seriously compromised the scale and character of the core of the site. Extensive regrading of the site to accommodate new construction resulted in a new system of roadways through the site, destroying much of the site's original circulation pattern.

Fortunately, what remains most impressive and relatively unaltered, is the western boundary of this 242-acre campus. As intended, Building 1 (the tower) rises monumentally from the site, serving as a visual landmark along Rockville Pike. The extensive greensward surrounding this monument remains much as it appeared after its initial development. The experience, therefore, of entering a prominent and distinguished naval facility is clear and one is compelled to acknowledge and admire that which remains of its architectural character.

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The National Register nomination for this property offers significant discussion on the original design and later alterations to NNMC facilities, and on the medical and research achievements of this internationally significant medical center. The nomination examines the loss of architectural integrity of some of the sites' buildings along with the site's significant historical aspects. The nomination recognizes that, despite an apparent loss in the integrity of the site's physical fabric, the historical significance of the National Naval Medical Center, in particular its associations with President Franklin D. Roosevelt, master architect Paul Cret, and its acclaimed contributions to naval medicine and research justifies listing in the National Register of Historic Places.

INDIVIDUAL BUILDING DESCRIPTIONS

In accordance with the rules for counting resources within the boundaries of a the historic district, as specified in National Register Bulletin 16A, *How to Complete the National Register Registration Form*, this evaluation includes all buildings, structures, and sites located within the proposed boundaries that are substantial in size and scale. This documentation does not include an evaluation of minor resources, such as small sheds, storage buildings, and/or other ancillary structures that do not strongly contribute to the property's historic significance. While it is common throughout the NNMC property for buildings to have later sheds and storage buildings constructed within their immediate environs, these structures (Buildings 22, 146, 176, 219, etc.) , unless otherwise identified, are not contributing to the structure or the overall potential significance of the proposed historic district. Individual buildings descriptions, provided below, are organized by the functional clusters in which they were constructed to include the main hospital core, education, research, residential, service, recreation and landscape categories.

Main Hospital Core: (Buildings 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10)

Overview:
The complex of buildings that originally formed the core of the "Naval Medical Center" at the time of its construction in 1939-41 included essentially four inter-related components: 1) the monumental 20-story, main hospital tower and its flanking, three and four-story pavilions (Building 1); 2) a rear subsistence and recreation wing to the east (Building 2); 3) a set of extended, three-story wings to the north (Buildings 3 & 5); and 4) a set of extended, three-story wings to the south (Buildings 4 & 6). These four components were arranged around a central, three-story connecting corridor that led in an eastward direction from the heart of the tower and then branched off to the adjacent wings.

While the footprint of Building 1 remains relatively unaltered, the plan for the larger hospital core has changed considerably since its construction. Development of a new hospital facility to the immediate south of Building 1, completed in November 1980, resulted in the virtual demolition of Buildings 4 and 6, truncating these wings to essentially one-quarter of their original size. Further expansion of the medical facilities has also obscured the original, defining boundaries of Building 2 and the connecting corridor that joined it to Building 1. A new, six-story facility, recognized today as Building 7, encased the majority of Building 2, with the exception of its easternmost bay. Buildings 3 and 5 remain essentially unaltered in plan and appearance, with their original connections to the early hospital core still legible. Buildings 7 and 8 and Buildings 9 and 10 dominate the current hospital core to the eastern and southern boundaries, respectively. Despite such substantial changes to its surroundings, the tower of Building 1 retains its sense of prominence and definition within the medical complex and as it is viewed from Rockville Pike.

Building 1, the original Main Hospital Building, stands as a physical and visual reminder of the monumental medical, research, and educational achievements of the National Naval Medical Center at Bethesda. The building is positioned in an east-west fashion, with its main entrance facing westward toward Rockville Pike, directly opposite the National Institutes of Health. The 20-story tower of Building 1 rises dramatically above its flanking pavilions to the north and south, and the collection of smaller-scale buildings that comprise the larger, self-sustaining medical complex to the east. An expansive greensward forms the western boundary of the site. This ordered site plan enhances the tower's soaring verticality and sculptural qualities.

Main Hospital and Administration Building (Building 1)
The impressive tower is centrally sited on a prominent rise overlooking Rockville Pike, its westward landscape gradually sloping up from the Pike and culminating at the tower site. According to an article printed in the *United States Naval Medical Bulletin* in April 1942, the medical center site was

extensively regraded and the entire contours of the site changed to conform "harmoniously with the architecture of the buildings."[4] The modern, deco-inspired building is characterized primarily by its refined proportions, distinct rhythm, and formal bilateral plan. While its detailing is restrained, its composition and proportions are elegant. (Its architectural presence along this popular approach to the nation's capital is vital as it is one of the first major governmental buildings experienced en route to the federal city.)

Though influenced by President Franklin D. Roosevelt, the design for Building 1 at the National Naval Medical Center is formally credited to renowned architect, Paul P. Cret. The main building exhibits qualities strikingly similar in character to those exhibited in Bertram Goodhue's Nebraska State Capital in Lincoln, Nebraska, a structure admired by Roosevelt during his "Swing-across-America" tour in 1932. Cret had recognized Roosevelt's interest in generating the same essential form for the Naval Hospital at Bethesda and was able to creatively combine the characteristics of this earlier masterpiece with his own unique design skills and philosophies to develop a highly refined and state-of-the-art facility.

In plan, Building 1 features a C-shaped footprint. The main, four-story block of the building extends in a north-south direction for approximately 362 feet where it meets two, three-story, end pavilions — one to the north and one to the south. (It is at these junctures that the main block rises briefly to 5 stories.) These pavilions extend westward approximately 158 feet and are set perpendicular to the main block. From the center of the main block rises the original, 20-story hospital tower. The verticality of the slender tower, arranged around a central elevator core, is enhanced by its Geneva Cross plan, which divides the tower into two visually distinct "branches," — one emphasizing a north-south arrangement and the other emphasizing an east-west arrangement. The east-west or central branch of the tower rises the full 20-story height, with its floor plate stepping back — in a modified ziggurat fashion — at the eighteenth story to accommodate a self-contained elevator machine room.

The north-south branch of the tower rises to the seventeenth floor where it is capped by a roughly two-story solarium. As the plan for Building 1 is symmetrical, this solarium appears to either side of the central branch of the tower. The clever configuration of the tower ensures that each elevation features seven channeled bays, three projected and four recessed — two to either side of the projected bays. Along the north and south elevations of the tower, modest, single-light, metal sash windows separate each set of vertical bays in the recessed branch of the tower.

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[4]United States Naval Medical Bulletin, *National Naval Medical Center*, Volume XL, No. 2, April 1942. Government Printing Office, Washington, D.C., p.254.

General Construction
Original drawings for Building 1, dated February 1940, indicate that the building was laid on a concrete foundation and lined with a granite base. Construction is of reinforced concrete and structural steel framing. The steel framing is clad in precast, exposed aggregate, concrete panels. The concrete panels are faced with a combination of translucent and opaque quartz mixed with quartz sand and white Portland cement. Though limestone was the surface finish originally preferred by architect Paul Cret, this option proved too expensive; precast concrete panels were selected in 1939 after President Roosevelt visited what was then the new experimental Model Basin at Carderock, Maryland. The Model Basin (known today as the David W. Taylor Model Basin), recently completed, had been faced with precast concrete panels. Impressed by the beauty of exposed aggregate, and its simulation to stone, President Roosevelt ordered its incorporation into the design of the Naval Medical Center. All of the buildings within the original hospital core were faced with precast concrete panels. The roofing material was concrete with built-up insulation.

Fenestration
The fenestration arrangement of both the tower and its pavilion base is stacked. Along all elevations, the windows are set in vertical rows and recessed between alternating spans of concrete panels. The main block of Building 1 is ten bays wide; each pavilion is eight bays wide. In the tower, three-over-three, double-hung, wooden windows are separated at each floor level by painted, precast, concrete panels that act as spandrels. (It appears that these dark green panels were substituted, again for cost considerations, for true serpentine spandrels.) In the pavilion base, nine-light, bronze windows are separated at each floor level by serpentine spandrels. The precast, exposed aggregate, concrete panels framing the vertical window bays in the three-story section of the pavilion base are designed and applied to appear as decorative pilasters. Together, the stacked windows and spandrels form dark verticals which contrast dramatically with the brilliant concrete panels, creating the major decorative effect of the facades.

Main Entrance
The entrances to both the central tower and its pavilions deserve description as they contribute to further defining and developing the building's modern, Art Deco inspired design. The main entrance to the hospital is centrally located at the base of the tower's west elevation. Extending almost two stories in height, the decorative entrance features a set of double, bronze and glass doors with bronze frames and hardware. Original drawings, dated February 1940, indicate that the doors were to be flanked to either side by Virginia serpentine stone set in an oxidized bronze frame. Above this formal entry lies an elaborate, yet elegant, oxidized bronze grille with cast bronze elements. While the pattern is primarily geometric, the cast bronze elements incorporate traditional classicized (almost Deco-influenced) detailing. A bronze sash lies behind the main grille.

Continuing above the grille are raised, exposed-aggregate letters that read "Naval Medical Center." Centered above this identifier is a bronze, inserted plate depicting the seal and insignia of the U.S. Department of the Navy. This seal is set on an exposed aggregate frame. Capping the main entrance area is a simple, projecting aggregate "canopy." This formal entry is further demarcated by its slight recession from the main tower block. To either side of this recess are two inscribed tablets. While original drawings suggest that the panels were to feature a granite base with a raised plaque of Westland Verde-Verde marble, the actual tablets feature a precast panel base and concrete "plaque." The inscription on the tablet to the north reads:

UNITED STATES NAVAL MEDICAL CENTER
WASHINGTON, D.C.
MCMXL

REAR ADMIRAL ROSS T. McINTIRE (MC) U.S.N.
SURGEON GENERAL OF THE NAVY

REAR ADMIRAL BEN MOREEL (CEC) U.S.N.
CHIEF OF THE BUREAU OF YARDS & DOCKS

FREDERICK W. SOUTHWORTH, A.I.A.
ARCHITECT

The inscription on the tablet to the south reads:

UNITED STATES NAVAL MEDICAL CENTER
WASHINGTON, D.C.
MCMXL

FRANKLIN D. ROOSEVELT
PRESIDENT OF THE UNITED STATES

THE HONORABLE CHARLES EDISON
SECRETARY OF THE NAVY

PAUL P. CRET
CONSULTING ARCHITECT

The main hospital entrance is set on a stepped, granite terrace. Incorporated in the terrace, to either side of the main entrance, are three granite pedestals—all connected by a bronze railing. With the exception of the center pedestals, each pedestal is surmounted by a single, bronze, light standard. The granite terrace is approached by a designed, curvilinear, concrete walk that encircles Building 1. A simplified landscape treatment of various plantings was set around the perimeter of the main block and pavilions. (Its appears the landscaping in these areas served to mask the semi-recessed basement level partially

visible along the building's north, south, and west elevations.) For the most part, these plantings obscured the simple, wooden, double-hung windows at this level. Around the entire building, the basement level was protected by low granite wall that featured protective cast-iron posts and railings.)

Pavilion Entrances
The pavilion entrances appear along the west elevations of these prominent wings as pronounced concrete-paneled blocks/boxed bays. Each entrance block contains three vertical bays that extend nearly two stories in height. All three bays are recessed slightly from the pronounced concrete block. The central entrance bay features a set of double, bronze and glass doors with bronze frames and hardware. Above this double entry lies an elaborate oxidized bronze grille with cast bronze detailing. A bronze sash lies behind the main entry grille. To complete this three-part composition, the center bay is flanked to either side by a single, vertical bay occupied by a decorative bronze grille; these grilles repeat the pattern exhibited in the center bay. Capping each of these vertical bays is a raised, exposed aggregate relief depicting a varied floral motif. Each pavilion entrance is approached by granite steps bordered to either side by granite planters.

Other Decorative Features
Mentioned briefly in the general description of the building provided above, there are several distinctive elements of Building 1 that warrant further discussion, in particular, the solarium and the crowning block that houses the elevator machine room. The solariums that cap the seventeenth story rise approximately two stories in height and are constructed of glass panels set in lead-coated, metal sashes. The main body of the central tower functions as the inner wall of each solarium. The outer walls each feature six continuous glass bays, four projected and two recessed; the east and west elevations feature three similar bays. Original drawings, dated February 1940, indicate that each bay consists of six horizontal glass panels set in a lead-coated, metal sash. Separating the top and bottom three panes of each bay are two serpentine panels. Substantial lead-coated, metal mullions define the outer edges of the solariums. Each solarium is capped by a continuous band of vertical lights with simple, metal sashes that appear as a transom.

The crowning block of the central tower that houses the elevator machine room begins at the twentieth floor and continues an additional full story in height. This highly prominent part of the tower is extremely refined and carefully detailed along its exterior facades. The treatment of this purely functional block exhibits Cret's proficiency at incorporating necessary mechanical facilities into the overall sculptural form of the building. Faced with precast, exposed aggregate, concrete panels, this distinguished block features a series of vertical bays filled with decorative bronze grilles; the east and west elevations each feature a single, centered grille, while the north and south elevations each feature three symmetrical grilles. Though extremely similar in pattern, the grilles featured on the east and west

facades are framed in more elaborate grillework. Set above the west elevation grille is a cast, exposed aggregate panel depicting an anchor. The panel is set atop a series of vertical, inlaid channels. The panel detail is not repeated on the east elevation. At the highest point of the hospital tower sits an "airways obstruction lamp," set in place to warn low-flying airplanes of the tower's height.

Frontal Landscape and Flagpole

An integral part of Building 1 is its frontal landscape area and the monumental flagpole set directly on center with the main tower. The formal landscape immediately west of Building 1 is semicircular in appearance, shaped by the formal semi-circular drive that leads visitors into the site from the north and from the south (see Landscape/Section 8). The center of this semicircular drives culminates at the main entrance to Building 1. Dividing entering and exiting lanes at the center was an oval, concrete median that featured a center, concrete sidewalk flanked to either side by planted oval areas. Aerial photographs of the site taken in the mid-1950s indicate that a single, tall evergreen tree was later placed in the center of each of these planted ovals. While the frontal landscape remained largely as open space, clusters of trees were planted at its northern and southern corners and along the edge of Rockville Pike. A small lake, named Lake Eleanor after President Franklin D. Roosevelt's wife, was placed slightly off-center of the main tower to the southwest. This lake was bordered along its southern edge by a simple, rustic wood pergola. Today, the wood pergola has become overgrown by trees. This wooden pergola was set on a stone foundation, and flagstone steps line the edges of this small lake.

The flagpole (see Building 30/Flagpole description) and its surrounding terrace were designed by Paul Cret to act as somewhat of a centerpiece for this frontal landscape. Surrounded by a flagstone and granite terrace, the nautical-inspired structure was set on a cast-bronze base formed in the shape of an anchor. Flanked to either side by a series of steps leading down to the Medical Center's front lawn, this sculptural marker was a reflection of Cret's consideration of the landscape and its various features, as vital components of the Center's design. The placement of the flagpole and its terrace in close proximity to the main entrance of Building 1 and its planted median, created the sense of a formal plaza, elevating the prominence of a site soon to be recognized as the nation's Naval Medical Center.

Summary of Interior Spaces

Original drawings, dated February 1940, indicate that Building 1 (referred to as the "Main Building" on these drawings) was designed to house the Naval hospital, medical and dental schools. Floors throughout the building housed such varied support facilities as operating rooms, physical therapy wards, radiology divisions, pharmaceutical research and testing areas, offices, waiting and examination rooms, and chemistry laboratories. Classrooms, darkrooms, washing rooms, and other support areas were also common. Quality materials lined the building's interior, with colored terra-cotta tiles used extensively in the interior corridors and rooms. The main lobby, directly inside the central tower entrance, featured

Vermont marble, of three colors, trimmed with white bronze. The main operating room was faced with pink Tennessee marble and has two glass-enclosed viewing galleries.[5] Again, at the time of its construction, the Building 1 was equipped with the latest equipment for surgical and prosthetic dental procedures.

The 285-foot hospital tower contained private rooms for officers and enlisted men from the fifth to the seventeenth floors. On the seventeenth and eighteenth floors were sunrooms, recreation lounges, and observation balconies. Records of the National Naval Medical Center indicate that the Naval Dental School has been continuously housed, at least in part, in the north pavilion since the building opened in 1940. In 1980, when the new hospital facility was constructed to the south and east of Building 1, the majority of hospital-related functions, with the exception of the Naval Dental School and other certain administrative support functions, were transferred to new Buildings 9 and 10. As part of the new hospital construction effort, the south pavilion of Building 1 was connected, at its third floor level, by a raised, glass-enclosed corridor.

Today, the original hospital tower serves primarily as office space for medical and associated administrative personnel. As mentioned above, the Naval Dental School continues to occupy substantial space within the pavilion wings, and other training and educational activities are housed in the remaining sections of the building. In addition to principal public spaces, that include a monumental lobby and central stair hall, Building featured facilities specially equipped to provide and manage health care and emergency treatment to the President of the United States. While the majority of medical facilities for this specialized care have been transferred to Buildings 9 and 10, Building 1 and its associated pavilions functioned for decades as the "President's Hospital." In November of 1963, the body of assassinated President John F. Kennedy was transported, upon its arrival at Andrews Air Force Base, to the National Naval Medical Center for appropriate examinations and preparations. Prior to his presidency, and all Presidents that have followed, have received their annual physicals, routine check-ups, and emergency medical care at the National Naval Medical Center.

Specific areas within Building 1 have been designated as museum and display areas for the exhibition of items and artifacts. These areas, including the Roosevelt and Eisenhower Suites, reflect the significant associations and achievements of the National Naval Medical Center.

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[5]United States Naval Medical Bulletin, *National Naval Medical Center*, Volume XL, No. 2, April 1942. Government Printing Office, Washington, D.C., p.255.

Subsistence and Recreation Wing (Building 2)
Building 2 is one in a collection of buildings originally constructed to form the core of the Naval Medical Center. Building 2 was designed by Paul Cret and constructed during the first major building campaign which took place between 1939 and 1941. Building 2, identified on original drawings as the "Subsistence and Recreation" wing, was located to the east of the hospital tower at the end of the interlocking, three-story corridor that connected the original related facilities. The easternmost facade of Building 2 currently fronts onto R.B. Brown Drive. Completed in 1941, Building 2 was a complex of parts and individualized sections that extended roughly 310' in its entirety. Like all buildings constructed as part of the original hospital core, the exterior was faced with pre-cast, exposed-aggregate, concrete panels and the roofing was concrete with built-up insulation. The various functions contained within different sections of the building dictated its alternating fenestration patterns.

The westernmost and central sections of Building 2 extended nearly 190' in length and featured essentially three stepped levels; all three levels shared a central common corridor that measured just over 10' in width. The first level of these sections rose one story in height (the first floor) and extended 80' to the north and south of the central corridor. The second level rose two stories in height (the second and third floors) and extended approximately 40' to the north and south of the central corridor. The last and uppermost level functioned solely as a central corridor and was just over 10' wide. This corridor was lined along both elevations by windows featuring six, horizontal glass panes set in a metal sash.

Windows at the second and third floors were four-over-four, double-hung, with the exception of the eastern and westernmost bays. The easternmost bays at each level featured six, horizontal glass panes; the westernmost bay featured a single, glass-block, vertical bay that extended through both floor levels. Canopied entrances to these spaces were located along the north and south elevations of the westernmost section of Building 2, in close proximity to Building 1. Original drawings indicate that a canopied entrance also existed at the first floor level of the east/rear elevation of Building 2. With the exception of three modest, one-over-one, double-hung windows, set symmetrically above the canopied entrance, the east elevation was a devoid of fenestration — appearing as a solid wall of pre-cast, exposed aggregate panels.

The easternmost portion of Building 2 can be classified as the "auditorium wing" as this five-story space was oceupied largely by an auditorium. Extending 120' in length, the auditorium rose from the second floor to the full fifth-story height of this wing. The first floor was dedicated to storage. Due to the nature of its use, this eastern wing featured very little fenestration, with the exception of four pronounced tower-like bays at each of the four exterior corners of the building. Each pronounced bay held a stair hall, allowing access from all levels of the auditorium. Along the respective north and south elevations of these end bays was a single, glass-block vertical bay that extended from the second through the fourth

floor. The first-floor storage level did feature a series of windows each containing six, horizontal glass panes. The upper floors, though without windows, featured recessed spans of precast, exposed aggregate panels arranged to mimic the continuous vertical bays exhibited throughout the other sections of the main hospital core. The western elevation of Building 2 met a perpendicular corridor wing that extended ten vertical bays to the north and south, connecting Buildings 1 and 2 to Buildings 3 and 5 and Buildings 4 and 6, respectively.

As its name suggests, Building 2 contained facilities for recreation, health and nutritional support, entertainment and education. The western portion of the building contained activities related to sustaining the well-being of patients and naval personnel; these facilities included, but were not limited to, a ships service center, recreation room, chaplain's office, library, barber shop, and mess hall. The Red Cross had a headquarters station on the first floor of this section. Current property records for Building 2 indicate that activities contained within Building 2 today are similar to those for which it was intended; these activities include cafeteria space, general and medical libraries, a post office and mail room, credit union, barber and beauty shop, travel agency, and a convenience store. In addition, the dental school and clinic now occupy space within Building 2.

While original drawings and historic photographs clearly depict the varying levels and specific features of Building 2, this section of the early hospital core — as mentioned earlier — has been virtually obscured by the later hospital construction campaigns. In 1963, a new hospital facility was constructed to the east of Building 1. Building 7, which now runs parallel to the main block of Building 1, severed the connection between the central and easternmost (auditorium) sections of Building 2. The new facility bisected these sections, in a perpendicular fashion, claiming nearly one-third of the auditorium space and compromising the very linear relationship that once existed between the central tower of Building 1 and this eastward, low-lying extension.

Ward Buildings (Buildings 3, 4, 5, and 6)
Buildings 3, 4, 5 and 6 are part of an early collection of buildings originally constructed to form the core of the Naval Medical Center. All four facilities were constructed according to designs and plans set out by architect, Paul P. Cret. Buildings 3 and 5 formed a distinctive U-shaped unit to the north of the central corridor and Buildings 4 and 6 formed the identical unit to the south. Buildings 3, 4, 5, and 6 all functioned as hospital ward and administration units.

Buildings 4 and 6 were constructed in conjunction with Buildings 1 and 2, as part of the site's initial construction campaign, and completed by 1941. Though planned simultaneously, Buildings 3 and 5 were not completed until 1943 as part of the second major building campaign. As indicated in the description of Building 1, construction of a new hospital facility, completed in November 1980, resulted

in the virtual demolition of Buildings 4 and 6. In 1975 these once prominent wings were truncated to less than one-quarter their original size; only the inner pavilion portions remain.

General

As indicated above, Buildings 3, 4, 5, and 6 were identical in plan as well as in function. These supporting ward facilities appeared in groupings of two, with each set forming a U-shaped unit to either side of the hospital core's central, connecting corridor. Buildings 3 and 5 formed the continuous ward unit to the north. This "unit" featured a main ward block set on an east-west axis. This rectangular block extended approximately 188' in length, culminating at either end at a pronounced pavilion. From each pavilion, a perpendicular wing extended northward approximately 117', completing the U-shaped plan and creating a central, shared courtyard. These wings, one at the western end and one at the eastern end of the main block, comprised the bulk of Buildings 3 and 5, respectively.

Buildings 3 and 5 are rectangular in plan and three stories in height. A granite-faced basement level is partially exposed along most elevations. Faced in precast, exposed aggregate panels, Buildings 3 and 5 feature many of the same rhythmic and material compositions incorporated in Building 1. Simple, pre-cast, concrete coping forms a modest cornice between the second and third floor levels and at the buildings' roof lines. The roof is concrete slab with built-up insulation. Like all of the original hospital core facilities, these buildings were constructed of reinforced concrete and structural steel framing. As the buildings are identical in plan and decorative treatment, the description of Building 3 — presented here in detail — serves as the description for the remaining ward units.[6]

West Elevation

The west elevation is divided into essentially three discernable sections; a pronounced end pavilion, main (or center) section, and north entrance bay. The pavilion features three, recessed vertical bays that span all three levels. The pavilion windows are four-over-four, double-hung, and separated at each level by painted, precast, exposed aggregate panels that function as spandrels. Also in the pavilion, a central door occupies the first floor, central bay. The main section of this elevation features fourteen bays. The windows at the first and second floor levels are also set in vertical bays but feature a two-over-two, double-hung arrangement. These windows are also separated between levels by the same pre-cast spandrel treatment seen in the pavilion. More typical, single, double-hung windows are featured at the basement and recessed third-floor levels; however, the third floor features a two-over-two arrangement, while the basement features a four-over-four arrangement. The final, northernmost bay of this main

[6]The reader should note, however, that in the cases of Buildings 5 and 6, the plan is inverted and the descriptions for the east and west elevations should be exchanged. Again, Buildings 4 and 6 were demolished in 1975 to make way for the construction of a new, 880,000-square-foot hospital facility.

section is projected slightly from the main section and features a single, continuous, vertical bay of glass-block construction.

North Elevation
The north elevation of Building 3 is defined by a raised, three-story, boxed bay that projects from the main body of the wing. In this bay, fenestration replaces precast panels as the main curtain wall treatment. Double-hung windows comprise each floor level, with a two-over-two arrangement featured on the third floor and a two-over-three arrangement featured on the first and second floors. A single, entry door occupies the central bay of the first floor. The door is capped by a single-paned glass transom and flanked by sidelights. The west and east sides of this three-sided bay feature three, double-hung windows at each level. Original drawings indicate that each of these levels was separated by black serpentine spandrels. On the north facade, the double-hung windows are divided into three vertical bays; each bay features a set of double-hung windows. The individual bays are separated vertically by a continuous span of precast concrete, and horizontally by black serpentine spandrels. The entrance along this facade is accessed by a set of concrete steps with metal railings.

East Elevation
The east elevation of Building 3 is virtually identical to the west elevation, with one exception being the number of stories exposed. Due to a change in grade, all four stories (basement through the third floor) are visible along this elevation. On account of this change in grade, the central door at the pavilion end is located at basement level, leaving all three vertical bays above to feature a four-over-four, double-hung window arrangement. In addition, the main section of this wing features only thirteen bays as bays six, seven, and eight are projected. (The space consumed by this projection results in the loss of a single, vertical bay.) Unlike the west elevation, the final, northernmost bay of this elevation does not feature glass block; instead, this projected bay continues the vertical window arrangement seen in the main section. According to original drawings, all other fenestration patterns echo those exhibited on the west elevation. [A modest, penthouse rises above bays six, seven, and eight and is visible along all elevations.]

South Elevation
The south elevation of Building 3 is actually the facade that forms the south wall of the east-west main ward block that joins Buildings 3 and 5. This elevation features two pavilion ends, one to the east and one to the west. Each pavilion features four continuous, vertical bays. These bays consist of a double, central, vertical bay flanked by two single, vertical bays. These bays feature four-over-four, double-hung windows in the single bays and two-over-two, double-hung windows in the double bays. In between these pavilions, the main section features eleven bays. At the fourth bay of this facade extends, perpendicular to this section, the four-story corridor that connects Buildings 3 and 5 to the heart of the

hospital core. The sixth bay along this elevation consists only of a single, vertical, glass-block bay that extends from the first through the second floor level. The remaining bays along this facade (bays one through three and six through eleven) are vertical bays with two-over-two, double-hung windows separated by painted, pre-cast, exposed aggregate panels. Again, the exposed basement windows feature a four-over-four, double-hung arrangement. Unlike the other elevations, a sub-basement level is visible along the south elevation. A simple stair leads from the eastern pavilion to a double, glass door at the sub-basement. A two-over-two, double-hung window is also visible at the sub-basement.

Inner Courtyard
The remaining elevation not yet discussed is the courtyard elevation of the main ward block. Recessed between the extended wings of Buildings 3 and 5, this elevation is three stories in height (with an exposed basement) and defined primarily by its central, projecting, four-story bay. Similar to the north elevation, this three-part composition features three vertical bays that extend from the basement to the third floor level. The first three floors (basement through second floor) feature a set of two-over-three, double-hung windows in each bay. The third floor features the two-over-two, double-hung arrangement. The individual bays are separated vertically by a continuous span of precast concrete, and horizontally by black serpentine spandrels. A single, entry door occupies the central bay of the basement level. The door is capped by a single-paned glass transom and flanked by sidelights. The fenestration pattern along this main ward block elevation differs from those exhibited on the other elevations. More simply executed, the windows are set in pairs throughout the facade and are two-over-two double-hung.

Interior Spaces
Though dominated by individual and group recovery rooms (many of which were open ward units), original drawings, dated March 1942, indicate that all four ward buildings accommodated a variety of hospital support facilities. A sampling of these spaces include solariums, quiet rooms, doctors offices, examining and operating rooms. Arranged around a central corridor, these ward units appeared to encourage patient circulation and access to other recuperation areas geared toward improving the mental, as well as physical, health of patients. Today, property records for Buildings #3 and 5 indicate that these are used primarily for administrative purposes, communications, aviation operations, medical photography and radiation effects laboratories.

Administration and Clinical Buildings (Buildings 7 & 8) and
Hospital Buildings (Buildings 9 & 10)
Falling within the boundaries of the proposed National Naval Medical Center Historic District are a collection of later hospital buildings constructed in 1963 and 1980 in response to a need for improved and expanded medical facilities. Placed alongside and within the confines of Paul Cret's original hospital core, these facilities include Buildings 7, 8, 9, and 10. Though not constructed within the period

of significance identified for the potential district, this collection of buildings warrants discussion as each building has had a direct impact on the design and setting of the original hospital core and its surrounding medical complex. While the visual impacts of such massive redevelopment are more obvious, substantial physical (and often less obvious) impacts to the site also resulted from the extensive regrading required to accommodate these new facilities. These efforts significantly altered the original system of roads and walkways — a system believed to have been laid out by Cret's office (see Landscape description).

Administration and Clinical Buildings: Buildings 7 and 8
The first physical expansion of the Medical Center's hospital facilities took place in 1963 with the construction of Buildings 7 and 8. Constituting a combined area of over 184,000 square feet, these buildings introduced a substantial, rather intrusive addition to the original hospital core. These new 6-story facilities formed, in appearance, one large building set to the east of the main hospital tower. The essentially rectangular structure, set perpendicular to the tower, bisected Building 2 at the western edge of its auditorium wing. The placement of Buildings 7 and 8 in this location severed the linear relationship and strength of the east-west axis emphasized in Paul Cret's organized site plan.

Using the central corridor that extends to the east of Building 1 as its center, this new structure extended just over 300 feet to the north and south of this corridor; Building 7 occupied the northern half and Building 8 the southern half. While the fenestration pattern in this new facility echoed the vertical arrangement of the original hospital core, the window arrangements, materials, and proportions varied considerably from the earlier construction period. For example, the majority of windows were fixed, single-hung panes, many of which were run continuously in a horizontal fashion without alternating panels of precast concrete between. Projecting window bays in Buildings 7 and 8 were faced with aluminum. The roof of each building featured concrete slab and built-up insulation. Finally, these later structures are void of any ornament and/or decoration, unlike Cret's original buildings that often incorporated exterior insignia or symbols of some sort representing the occupants and/or function of the building. An attempt was made, however, to have the exterior facing of these buildings match, as closely as possible, the concrete panels utilized in the 1940s; though not exact, the differences are slight.

Property records indicate that Building 7 currently houses administrative offices, a rehabilitation center, police station, medical laboratories, educational facilities, and a medical clinic. Property records for Building 8 indicate that this facility accommodates administrative offices, medical laboratories and clinics, a family service center, Red Cross/Navy relief center, library, and chapel.

Hospital Buildings: Buildings 9 and 10
In the mid-1970s, the National Naval Medical Center at Bethesda began planning the redevelopment of

its main hospital facilities. A master planning study, completed during this period, examined the ever-changing needs of the center; identified its deficiencies, and prepared plans to carry out much-needed development.[7] The study recommended: 1) the construction of a new hospital; 2) the rehabilitation of existing buildings; 3) the select demolition of existing facilities; 4) the replacement of demolished buildings with "more functional" units; and the construction of large parking buildings to eliminate the shortage of parking.[8] Later development would include the construction of a new personnel service area (to include a bowling alley), a Navy Exchange, and quarters. This redevelopment scheme proposed the relocation of all hospital functions from Building 1 to the new facilities. After construction of the new hospital, Building 1 and its remaining wings would house the center Command, the Naval Medical Training Institute, the Naval Graduate Dental School, the Naval School of Health Care Administration, the Naval Medical Data Services Center and the Tissue Bank of the Naval Medical Research Institute.

In December 1975, the first phase of this massive redevelopment program began with the demolition of Buildings 4 and 6. The new hospital was planned for the area immediately south of Building 1, almost immediately adjacent to its south pavilion wing. The selection of this site, in its relation to the original hospital core, required that the main and southernmost sections of Building 4 and 6 be removed; only the westernmost, pronounced pavilions remain. This 880,000 square foot hospital facility included a three-story ancillary (outpatient) building (Building 9) and a seven-story nursing (inpatient) building (Building 10). Unlike the original hospital, this new facility was composed of rooms for one, two and four patients; there were no open wards and no separation between officers and enlisted patients.[9] Together, the new facilities provided 5,000 rooms, 30 clinics, 16 operating rooms, 43 radiology suites, 317 physician offices and 345 exam rooms.[10]

The exteriors of Buildings 9 and 10 were extremely contemporary in appearance. Though faced in a precast, light-paneled concrete curtain wall, the new hospital facilities were not constructed to be

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[7]Historical records of the U.S. Naval Hospital/National Naval Medical Center. Article from collection entitled, *The Future?*, no date given. Records courtesy of the Bureau of Medicine and Surgery, Naval History Office, Naval Medical Historian, Jan Hermann.

[8]Ibid.

[9]According to an article that appeared in "U.S. Medicine, Volume II, No. 8, April 15, 1975, entitled, *Navy to Build 580-Bed Hospital,* the National Naval Medical Center had been criticized for this practice in a report prepared by the General Accounting Office.

[10]Dedication brochure entitled, *The New National Naval Medical Center*, dated November 21, 1980, p.2.

compatible with the existing hospital core. Appearing primarily as two separate, massive blocks, Buildings 9 and 10 dominate the southern edge of the medical complex, disregarding — and thereby compromising —the sense of balance and symmetry achieved in Cret's original plan for this site. Along their west elevations, facing Rockville Pike, Buildings 9 and 10 measured 285' and 88' respectively. Building 9 extended 535' to the east and Building 10 extended 506' to the east. Buildings 9 and 10 were joined by a connecting corridor at the third floor level. The minimal setback of Building 9 allowed the pavilions of Building 1 to retain their prominence along this elevation. Building 10 was in turn set back somewhat from the west elevation of Building 9. The main entrance to these facilities was situated along the south elevation of Building 10 on the newly redirected Palmer Road and to the east on the newly formed R.B. Brown Drive.

The most striking difference between these buildings and the original facilities was the fenestration treatment. The new hospital facilities featured virtually continuous bans of *horizontal* windows that defined each floor level. Unlike the windows that created contrasting dark *verticals* against the light-colored panels of the original buildings, the windows of Buildings 9 and 10 emphasized the diverging horizontality of these modern structures. Horizontal window bands lined each elevation of the new facilities. The roof of each building was comprised of concrete slab and built-up insulation.

As indicated above, parking garages were planned as part of this major redevelopment program. Concurrent with the construction of Buildings 9 and 10, a 750-car staff parking structure and a 1,000-car outpatient parking structure were built to serve patients and visitors. The outpatient parking structure is connected to both Building 9 and 10 by covered bridges. Though the original hospital core was set on a prominent rise that set it off from its surrounding support facilities, the construction of these combined structures required massive regrading. The area immediately south and east of the original hospital core was raised to accommodate the new, accompanying, eight-story parking garages; thereby eliminating and somewhat compromising the prominence of the original hospital core, particularly as it is viewed from the east.

Upon completion, Buildings 9 and 10 contributed to making the National Naval Medical Center at Bethesda one of the largest medical centers in the country. Property records indicate that these two buildings continue to function as outpatient and inpatient hospital facilities.

Education:

Naval Medical Data Services (Building 27)
Building 27 is a recently constructed facility, built in 1990 to house the Naval Medical Information Management Center (NMIMC). This new construction replaced the former Building 125, a two-story

concrete and aluminum siding-faced Bachelor Officers' Quarters (B.O.Q.). This early residential facility was demolished in 1988 to accommodate Building 27.

Set into the hillside along Taylor Road, Building 27 is located immediately across the street from Building 17, the Naval Medical Research Institute (NMRI). Comprised of approximately 54, 800 square feet, the three-story building features an irregular footprint and is stepped back at each floor level along its southern (or Taylor Road) elevation. As a result of the change in grade at this site, Building 27 appears as only two stories along its north elevation. The building is canted on its site so that its entrance is centered and aligned with the main NMRI entrance. This contemporary facility is simple and unadorned, defined only by its almost continuous band of green-tinted and mirrored-glass windows that line each floor level along all of the building's elevations. The building is faced entirely in gypsum fiber reinforced concrete (GFRC) and set on a concrete foundation.

Building 27 is entered along its south elevation through a series of sliding glass doors. Functioning as the Data Services Center, the first, second, and third floors of the building feature essentially computer and work station facilities, data processing rooms, conference rooms, lounge areas and administrative offices. The basement of Building 27 houses mechanical equipment and additional computer room space.

The NMIMC is tasked with providing and coordinating the operation and centralized control of integrated, automated information systems on a world-wide basis as directed by the Commander of the Bureau of Medicine and Surgery and higher authorities. The NMIMC also cooperates with other government agencies in automated information systems and is responsible for collecting, analyzing, and providing health care and related data in support of Navy Medical Department requirements.

According to representatives from the facilities management division of the National Naval Medical Center, funding for NMIMC has been drastically reduced and this tenant will be vacating Building 27 within the next couple of years.

Hospital Corps School for WAVES (Building 141)
Building 141, located on the southeast side of Taylor Road, is two stories in height and sits on a raised basement. Constructed in 1943, and designed by the Bureau of Yards and Docks, Building 141 is northeast of the main hospital core. It measures 177' x 168' and was built as a semi-permanent educational facility for Women Appointed for Voluntary Emergency Service (WAVES), in preparation for World War II. The front section of the building, which includes the main entrance and the east and west wings, forms an H-shaped footprint, with a rectangular projection attached at the rear of the main entrance section. The front elevation is on the southeast side of Taylor Road. The exterior walls are made of two-ply gypsum

painted white. The wooden window frames on all the facades are painted red. The built-up roof is flat except for a slight slope at the center of the two wings and the projection. Two ventilators lie along the ridgeline of the auditorium roof. The structure is composed of a roof truss system, a wood frame reinforced with steel, and rests on a concrete block foundation.

The front or northwest facade, facing Taylor Road, has a central section with the main entrance in the center and with projecting wings on either side. The two wings are dominated by two rows of three closely spaced six-over-six double-hung sash windows with wooden frames. At the bottom of the two wings lies a small screened vent. The recessed central section has two rows of eleven, six-over-six, double-hung sash windows with wood frames. The main doorway at the center of the central section is recessed and has a projecting canopy above it with a wood sign that reads "Naval School of Health Sciences." The original doorway included two doors, each with a four-light window. The doors now are glass with a steel border. The walkway that projects out from the central doorway is bordered by an iron railing painted red. There are gutters along the corners of the two wings, as well as down the central section of the front facade.

The southwest and northeast facades include the two wings and the auditorium. The two wings are identical in design and have two rows of ten six-over-six double-hung sash windows with wood frames. The basement level has two screened small vents, a single six-light rectangular window with a row of five, six-over-six double-hung sash windows with wooden frames. The southwest and northeast elevations of the auditorium include a single row of five paired six-over-six-over-six triple-hung sash windows. (On the same fenestration there is also a single louver and a six-over-six double-hung sash window.) To the right side of the auditorium facade is a doorway on the first floor that has a raised staircase attached to the side of the building. The staircase with handrails extends down to the ground. The basement level fenestration includes two, six-over-six double-hung sash windows, two, paired, six-over-six, double-hung, sash windows with a concrete lintel and a single six-over-six double-hung sash window, also with a lintel. On the basement level, there is a single door with a four-light window and a concrete lintel and sill.

The rear or southeast facade includes the auditorium annex and the two wings. The rear of the auditorium includes a single row of three louvers. On the bottom left is a single door with four-light window and a concrete lintel and sill. The basement level also includes four, six-over-six, double-hung, sash windows with concrete lintels. The two wing facades from the rear include three rows of three, six-over-six, double-hung sash windows.

Research

Naval Medical Research Institute (NMRI)
The Naval Medical Research Institute was commissioned in 1942, occupying two buildings at the National Naval Medical Center that same year. These buildings functioned together to assist scientists in

researching many important medical and physiological issues that affected naval and other military troops. As NMRI research expanded, the need for larger facilities became apparent. Soon Building 17 was enlarged and new NMRI buildings were constructed.

Naval Medical Research Institute (Buildings 17, 17A, & 17B)
Building 17, designed by Paul Cret in 1941, was added onto shortly after its construction. The original building was constructed to serve as a research facility for NMRI, whose mission it was to assist troops, particularly naval personnel, in effectively combating diseases and facing the many physiological issues that arose during combat situations. The original core building had a simple rectangular footprint, and was constructed of structural steel covered with precast exposed aggregate panels that are a pale grey in color. Building 17 also featured colored precast panels in green which were placed between windows on each floor. Like other Cret buildings on the NNMC campus, the NMRI building is simple and linear in design, with little surface ornamentation, giving the building an Art Deco character.

The original Building 17 was symmetrical, with a central, one-story entryway flanked by five windows on each side. The first story windows are small, multipane windows, with the second-story windows and third-story windows slightly larger. Between the second- and third-story windows are precast exposed aggregate panels in dark green. All windows lack surrounds. The entryway, which flanks a series of concrete steps, has concrete walls which feature a repeating star motif. The central doors are glass replacements, and are covered by a flat protruding marquee that is executed in metal.

The later annexes, designed in late 1944, are also rectangular in shape, and are attached on either side of Building 17 -- 17A on the northeast and 17B on the southwest. However, the annexes are aligned on slight angles, rather than on the original axis of the building, creating a segmental, curving building which opens to the northwest. These annexes, designed by the Bureau of Yards and Docks, not by Cret, respect the original scale, materials, and massing of Building 17, and are harmonious with the original portion of the building. Apparently, very early in the design and construction phase of Building 17, NMRI personnel realized that the existing building would not house their research tasks for very long, so the new annexes were anticipated from a very early phase in the planning of the NMRI complex. Like the original building, the annexes feature a similar fenestration pattern.

The interior spaces of Building 17 were equipped to house a variety of research initiatives. Laboratories with original hoods and cabinetry are present, as are observation rooms with one-way mirrors that allow subjects to be observed without interfering with the experiment. On Cret's original drawings, the laboratory areas were given specific names, indicating the types of research conducted in each room.

The original Building 17 consisted of basement areas such as a compressor room, a transformer room, a darkroom, men's toilet and locker room, a refrigeration and equipment room, and a treadmill room.

Material for these areas varied, but were predominately cement with tile, brick, terra cotta, or plaster.

The first floor consisted of metabolism rooms, offices, laboratories, a precision instrument room, which was electrically shielded, and a front lobby. The second floor consisted of primarily laboratories, a sterilization room, a library, and storage and office space.

As the annexes 17A and 17B were added, interior spaces became more specialized. Sensory motor testing laboratories, an equilibrium laboratory, an X-ray room, equipped with light-proof shades, a visual study room, a physics sound-proof room, a dark room and a psychology office were all located on the third floor, while an experimental dentistry laboratory, a nutrition laboratory, space for large equipment, a design and illustration office, a ward room were present on the second floor. Once again, spaces were constructed with materials that were easily cleaned, maintained, and sterilized.

Animal Building (Building 18)
Designed in 1941 by Paul Cret, Building 18 was constructed in 1942 as part of the original building campaign at NNMC. Built as a companion facility to Building 17, the Naval Medical Research Institute, Building 18, known as the Animal House, is connected to Building 17 by a series of walkways. Located east of the main hospital core, Building 18 is also situated directly southeast of Building 17. The Animal House has a rectangular footprint with a small projection on the southeast facade, and is located on a northwest-southeast axis. Like Cret's other buildings at the National Naval Medical Center, Building 18 features little ornamentation and its simple linear design give the building an Art Deco character.

The exterior of Building 18 is designed to harmonize with Building 17. Similar massing and materials are used by Cret, and the system of structural steel elements and brick supports is present. Pale grey, precast, exposed aggregate concrete panels face the building, and green exposed aggregate concrete panels are located between the windows on the second and third levels. Some of the windows, which originally had six-pane, steel-sash configurations, have been obscured by either air-conditioning units or replaced by single-pane, fixed windows.

The northeast elevation features an even fenestration pattern and an entryway with a metal canopy which Cret uses in many of his NNMC buildings. The remaining facades all feature similar even fenestration patterns, and the facades are devoid of ornamentation.

The interior spaces as designated on Cret's drawings reflect its use as an animal research area to support the work of NMRI. Mouse-breeding rooms, frog and turtle rooms, feed storage areas, an incinerator, offices, laboratories, and isolation rooms were all located along a central corridor. While some of the specific names of these rooms have changed, their general purpose of animal research has remained the same. The interior spaces retain much of their original material and configuration. Many of the

laboratories also retain original cages, cabinetry, and laboratory equipment. In 1944, when a new animal building (Building 21) was added as a result of the expanded work of NMRI, another walkway was added to connect the two animal buildings. Building 18 retains a high degree of integrity, and is in good condition. However, extensive repairs and upgrades need to be made to several utility systems within Building 18.

Animal Building (Building 21)
Building 21 is located on a northeast-southwest axis and is part of the NMRI complex of buildings. Designed in 1944 by the Bureau of Yards and Docks as a direct response for the need for additional animal research and housing space, the building is similar in materials and design to earlier NMRI buildings designed in 1941 by Paul Cret. The building which has a slightly irregular rectangular footprint is located northeast of the main hospital core, and is located directly to the southeast of Building 18, the original Animal Building. At the time of the construction of Building 21, it was connected to Building 18 by a walkway to facilitate movement between the two animal research facilities.

Building 21 is constructed of concrete covered with stucco. Although it does not use the precast aggregate panels of the earlier Cret buildings, the stucco is painted a color similar to the panels. The drawings for Building 21 show that the building was to have concrete panels interspersed with the windows on the first and second floors. These panels were to be painted dark green to match the precast panels on Building 17. However, these panels currently are painted to match the rest of the building. Building 21 has two full levels and a full basement. There is a third floor area that does not run the full length of the building, and a penthouse is located on the flat roof.

Three types of windows are found on this building. The basement (where visible), first level, and the penthouse contain six-pane, steel-frame windows which pivot open as a unit. The second floor contains glass block windows, and the monitor light area has three-pane steel frame windows that pivot open as a unit. The southwest elevation has a central double door with glass panes. The windows placement is described above and appears in an even pattern of fenestration. An off-center, projecting, metal marquee covers the doorway and two of the windows on the first floor. Wire enclosed pens are located off of this elevation.

The first floor of the northwest elevation features off-center double doors with glass panes. The windows, which are the consistently-used, six-pane, steel-frame type, appear in sets of either two or four. The glass block windows on the second floor appear in various sized panels. The walkway to Building 18 is located on this facade on the third level, and animal enclosures are also located on the roof area of this facade.

The northeast elevation has no doors, only windows which are evenly spaced, and are in the consistent configuration described above. The southeast elevation features both double wood doors with glass panes

and single metal doors on the basement level. Windows on the first and second levels are unevenly paired and spaced.

The interior of Building 21 features a variety of spaces devoted to animal research or to support and service areas necessary to conduct this type of research. Spaces include a feed room, a dipping room, a maintenance and refrigerating room, an incinerator and sterilization area, and toilets and locker rooms for the employees. These spaces remain in use as research areas for NMRI. In 1984, Building 21 underwent improvements on the interior and exterior. These alterations did not affect the integrity of the building.

Environmental Health Effects Laboratory (Building 53)
Building 53 was constructed in 1976 to house the Environmental Health Effects Laboratory, a division of the National Naval Medical Center's Diving Medical Department. Sited to the east of Building 17 and to the west of Building 141, this later structure occupied the former site of Building 140. Building 140 was an early residential quarters and one of three H-shaped buildings that once lined this section of Taylor Road (formerly Rock Creek Road). The three buildings included Buildings 140, 141, and 142; only Building 141, the Naval School of Health Sciences, remains standing. The lot formerly occupied by Building 142 is empty.

Though its exterior appearance suggests that Building 53 is only one story in height, it actually contains two full floors and a partial sub-basement level. The first floor is the only story that lies fully above grade. As is the case with many of the buildings on the National Naval Medical Center site, the natural terrain levels off substantially to the south, and the building is set into the existing grade. The basement, or "Operating Room" level, as it is referred to in original drawings, is therefore partially visible along the east and west elevations and fully exposed along its south elevation. The third "floor" of the building lies at what could be considered the sub-basement level. This space is only a fraction of the size of the upper floors and is described in original plans as an MRCC "Support Pit." Early plans and a quick site visit through this space indicate that this area is used solely to support the equipment and activities required by the Diving Medical Department, a division of the Naval Medical Research Institute (NMRI).

Building 53 is rectangular in shape and includes approximately 35,209 square feet of space. The building is faced entirely in architectural, precast, concrete panels and features minimal fenestration. All four facades at the first-floor level exhibit a number of narrow, vertical, floor-to-ceiling windows; each window appears as an extended strip of glass divided horizontally at its lower half by a simple muntin. Each of these windows is lined to one side by a projecting concrete element that extends beyond the face of the building to apparently shield each window. These simplified concrete elements are placed at equal intervals along each elevation, regardless of the number of windows along each facade. In some locations, particularly along the north elevation, these vertical concrete elements serve as dividers

between two windows. The windows along the first floor of Building 53 do not appear to be operable.

The main entrance, situated along the building's north entrance on Taylor Road, is projected somewhat from the main body of the building. The east and west elevations of this entrance block are faced entirely with solid panels of architectural pre-cast concrete panels. The main entrance is centrally located along the north elevation and appears as a glass-paneled wall. This wall is divided into six sections (three-over-three units), all but one of which is a solid glass panel. The section in the easternmost corner at the first-floor level functions as the main entrance and features a set of glass, swinging doors. The doors open onto a simple entrance lobby that leads to a set of stairs to the first floor.

The first floor of Building 53 is rectangular in shape and features a continuous corridor that runs in a fashion parallel to each of the building's four elevations. This arrangement allows each corridor to be lined along its outer edge by laboratory and research rooms and the center (or interior) portion of the building to appear/function as a central research block — also containing a collection of laboratory and research facilities. According to original drawings, the first floor of Building 53 was designed to accommodate numerous laboratories including, but not limited to, tremor and general purpose laboratories, neuro-physiology laboratories, biochemistry and physiology laboratories, pathology and toxicology laboratories, pharmacology and cardio-pulmonary laboratories, and instrumentation laboratories. The first floor also contained space for administrative and conference purposes.

The basement or "Operating Room" level featured a much different floor plan arrangement. This level was essentially divided into two distinct sections; the east side of this level was specifically designed for the study of animal toxicology research and the west side dedicated to other environmental health effects research. While the east side continues to house a collection of research laboratories today, the west side contains equipment and facilities specific to the effects of underwater conditions and pressures on humans. This area features maintenance and repair facilities and a collection of other support-oriented facilities that pertain to this type of study. These facilities are arranged around the "support pit" referred to above. This pit is accessed by a single stair that leads to a partial sub-basement level. Again, this pit area contains specialized diving tanks and equipment specific to the needs of the Diving Medical Department.

The basement level of Building 53 is faced along its exposed, southern elevation with architectural, precast, concrete facing panels. This elevation also features two roll-up doors (for delivery and equipment access purposes), several louvered ventilation screens, exhaust fans, and two single doors. Both doors are covered by a simple, single canopy. Both the east and west elevations of this level, which are only partially visible, are also faced with architectural, precast, concrete facing panels.

Building 53 continues in use today as the headquarters for the Environmental Health Effects Laboratory and the Diving Medical Department of NMRI. Current property records for Building 53 indicate that this facility now houses, in addition to a number of research and medical laboratory facilities, a data processing center, machine and welding shop, an electronics and communications maintenance shop, a locker room, and a lunch room.

Public Works Shop/NMRI Research (Building 139)
Building 139 was constructed as part of the 500-bed expansion at the National Naval Medical Center. Designed in 1944 by Paul Cret, the building, which now serves as a shop area and office space for NMRI researchers, has a rectangular footprint and is oriented on a northwest-southeast axis behind Building 17B on Taylor Road. The one-story building has a flat roof with precast concrete copings. Like other Cret buildings, the overall lack of ornamentation and linear design gave the original design an Art Deco character. However, later alterations have obscured Cret's original design concept.

The southwest elevation originally contained a series of nine overhead doors with glass panels. In later years, these doors were either filled in with concrete, replaced with newer overhead doors, or filled in with flush wood siding surrounding smaller window openings. Single doors have been added to this facade, affecting the original planned symmetry of Cret's design, which included only the overhead doors. The new windows are incompatible with original windows located on the other facades of this building. The northeast elevation was comprised of two different types of windows. Four-light, double hung windows with horizontal panes and similar two-light windows were used.

The northwest and southeast elevations were designed to be mirror images of each other. Like the other two facades, these elevations are covered in concrete. However, the concrete on these facades has been scored to resemble the other buildings which are covered in the precast panels. One opening on the southeast elevation that originally contained a window has been reconfigured to accommodate a door. Remaining windows are replacements.

During renovations completed in 1967 and 1989, Building 139 was substantially altered. Fenestration patterns have been altered, and almost all of the windows have been replaced. None of the original nine overhead doors remains, and most of the openings have been filled in with wood siding or concrete. As such, Building 139 retains little integrity. Little historic fabric remains on the interior. Research that continues to be conducted in Building 139 includes experiments on thermal stress and physiological aspects of diving. Mail and security facilities are also located here.

Residential

Bachelor Officers' Quarters (former Nurses' Quarters) (Building 11)

Building 11, located northeast of the main hospital core, is two-and-one-half stories in height and sits on a raised basement. It has an irregular, asymmetrical footprint that most closely resembles a T and is oriented on a north-south axis just north of Palmer Road North. The exterior of the building is covered in precast concrete panels with an exposed aggregate that is pale grey in color. The flat roof is concrete slab built up with insulation. Copper flashing and a system of rainwater conductors displace water from the flat roof. Windows are evenly spaced throughout the building, and there are no sills or lintels. Except for the central entry portico, the building exterior is relatively free of ornamentation. The structure is a steel beam system, interspersed with brick joists, and composed of reinforced concrete. The basement floor is asphalt tile, with floors above consisting of concrete. Originally designed by Paul Cret as housing for nurses and constructed in 1941 as part of the initial building campaign at the National Naval Medical Center, Building 11 is connected to the main hospital complex by an underground tunnel designed to allow residents to move between the two buildings.

The west (main) facade measures 151' and is punctuated by evenly spaced windows. Many of the windows have been obscured by air-conditioning units or replaced with single panes of glass. However, historic photographs show a four-over-four, wood-sash window configuration. In a nautical allusion, circular porthole windows are located at either end of this facade. The central, symmetrical block of the facade projects from the main building and contains a modillioned cornice and a three-quarter, flat-roof, entry portico supported by plain, square concrete columns. The doorway features double wood doors with a six-light transom. Concrete grilles with symmetrical, stylized floral motifs in square areas flank the doorway. As seen in other Cret-designed buildings at the National Naval Medical Center, these motifs give distinction to similar buildings. A large multipane window is located above the doorway, while narrow windows are directly above the grilles. These features combine to give the building a Neo-Classical appeal, although the overall linear composition of the building is Art Deco-inspired.

The south elevation features a projecting addition which obscures the original T-shaped footprint. Windows on the main building appear once again in an even fenestration pattern and feature a four-over-four configuration. Some windows have been obscured by either air-conditioning units or metal storm windows. The door on this facade is original and features four large panes of glass which comprise the majority of the door.

Foundation plantings around the building include several varieties of evergreen trees and shrubs. Historic photos indicate that these plantings were placed on the grounds shortly after the construction of Building 11 was complete. Several of the trees have grown taller than the building and currently obscure the main entryway.

Interior spaces were designed to accommodate the residential needs of nurses who worked at the National Naval Medical Center. In addition to sleeping spaces, washrooms, common living areas, and sitting rooms

are present. Interior alterations include changes in fire detection and HVAC systems, and changes to the main lobby and support spaces. Building 11 has been altered by the addition to the south facade. Replacement windows also contribute to the general loss of integrity.

Building 11 Tunnel:
The tunnel that connects Building 11 and the main hospital runs from the basement level of Building 11, down a flight of stairs, and then slopes slightly downward to reach a level that is below grade. Tunnel walls are concrete, as are the stairs, which contain nonslip treads. Metal handrails and terrazzo landings are used in the stairways. Light fixtures featured in the tunnel are cast, brushed-bronze, brass rings with opal glass bowls. Doors at either end of the tunnel are painted pine.

Corpsmen's Quarters (Building 12)
Building 12, located near Palmer Road South, is directly south of the main hospital core. Originally designed by Paul Cret as housing for corpsmen, and constructed in 1941 as part of the initial building campaign at the National Naval Medical Center, Building 12 continues to be used as a residential facility. Oriented on a north-south axis, Building 12 has a symmetrical footprint that is basically a linear central corridor with four linear cross arms that resemble a double H pattern. The building is two stories with a basement and is constructed of structural steel with concrete. The exterior of the building is covered with precast concrete panels that are pale grey in color. Pale yellow exposed aggregate concrete panels alternate with windows on the second story of the building. Windows on the first story have simple concrete surrounds, giving the windows the appearance of being slightly recessed. Second story windows, which are not as tall as those on the first story, have neither sills nor lintels. A water table, which forms a decorative ledge around the building, is located between the first and second stories. The flat roof is concrete slab that has been built up with insulation. Except for the exposed aggregate panels and the central entryway, the building is relatively free of ornamentation.

The north (main) facade is punctuated by evenly spaced windows. On the first level, the windows are tall, with a four-over-four configuration, while the smaller windows on the second floor also have a four-over-four configuration. Many of the windows on both levels have been obscured by either air-conditioning units or metal storm windows. The central entryway, which originally contained double doors with six panes of glass each, now contain glass replacement doors. The entrance is flanked by a pair of smooth, round pilasters that support a flat metal canopy, which together form a one-story portico. On the second story, over the portico, is a precast concrete anchor and rope insignia, with the letters "USN" applied over the motif. As seen in other Cret-designed buildings at the National Naval Medical Center, motifs are used to give individual identities to similar buildings. The entry portico and the linear composition of the building combine to give the building an Art Deco character.

The remaining elevations feature evenly-spaced windows; however, the windows on the first and second

stories are the same size. Because the grade changes on the south elevation, basement windows are partially visible in some areas. Exterior stairways are located on the other facades; they are either metal or concrete. Most of the doors on the building, which are glass, are replacements of original wood and glass doors.

The south elevation features a protruding central bay with a shed roof that is original to the building. Original drawing show that much of this bay was covered with windows that were identical to the original four-over-four pattern used throughout the building. However, the original windows have been replaced with large, single pane metal windows, greatly compromising the original appearance of the south facade.

Foundation plantings around Building 12 include a variety of deciduous trees and evergreen trees and shrubs. Historic photographs of the construction of Building 12 show that the site around the building was completely cleared, indicating that the plantings were deliberate. Many of the evergreen trees have grown taller than the building, obscuring portions of the building from view.

Interior spaces of Building 12 were designed to accommodate the residential needs of corpsmen who were stationed at the National Naval Medical Center. In addition to sleeping spaces, washrooms, and common living areas, a gymnasium was also present. The window and door replacements that have taken place throughout Building 12 present the biggest integrity issues. Metal storm windows and air-conditioning units obscure original window configurations. Most noticeably, on the south elevation, window replacement on the protruding bay detracts from the overall integrity of the building, as do replacement glass doors.

Surgeon General and Officers' Quarters (Buildings 34, 35, 36, 37 & 38)
Buildings 34, 35, 36, 37, and 38 are five, Paul Cret-designed structures that form a residential enclave to the northeast of the main hospital core. These substantial homes are located off Taylor Road, along the north side of the semicircular Van Reypen Road. All five structures feature brick construction set on concrete block and flagstone foundations. Constructed to house high-ranking Navy officials, including the Surgeon General of the Navy and other commanding officers, these homes are the only, free-standing, single-family homes built on the National Naval Medical Center site. Original project correspondence, reviewed in the Paul Cret collection at the Athenaeum of Philadelphia, revealed that, though eompleted as part of the first building campaign at the Medical Center,[11] these homes were not

[11]It is relative to note in this instance that one of the major players, overseeing the selection of the Naval Medical Center site, its design, and construction, was Rear Admiral Ross T. McIntire, Surgeon General of the Navy. With the Surgeon General's home having been located on the site of the Bureau of Medicine and Surgery at 23rd and E Streets, NW, it is likely that Admiral McIntire played a significant role in the decision to relocate these

included within the original project specifications or the site.

Shortly after the production of the final specifications, an addendum outlining the design requirements and specifications for these quarters was prepared and the homes were completed by 1941.Though the five officers' quarters lining Van Reypen Road initially appear to be identical, they are set apart by the fact that Building 34, designed to house the Surgeon General of the Navy, features a larger and slightly varied design; the four remaining houses feature virtually identical plans. Original drawings, dated March 1940, reveal that the Surgeon General's home was referred to as Officers' Quarters Type "A," and the remaining homes as Officers' Quarters Type "B." The site plan for these properties indicates that each home was accessed by a driveway that approached the properties from the rear. Buildings 35 and 36 share a rear drive as do Buildings 37 and 38. Building 34 has a private rear drive. As seen in the plan and layout of Building 23, the grading and natural terrain of this site appears to have had an impact on the design of these buildings. A substantial change in grade from the southern (or front) elevation of these homes to the northern (or rear) elevation resulted in the homes appearing as two-and-a-half stories in front and three-and-a-half stories to the rear. The basement level is fully exposed along the rear elevation.

The rear of each of these homes features a small back yard area that meets the site's northern boundary. The buildings are buffered to the east and west by various, carefully landscaped plantings. Original drawings indicate that the area immediately west of these homes was designated at the time of their construction as a "Pine Grove." To the immediate south of these residential properties, across Van Reypen Road, is a raised, circular, curb-lined lawn with lush landscaping that shields this enclave from the medical center's research, educational, and group residential facilities beyond.[12]

Quarters of the Surgeon General of the Navy (Building 34)
Building 34 is essentially L-shaped in plan, with several accessory wings projected to the north, east, and west. The largest of the five officers' houses, Building 34 consists of roughly 5,613 square feet. Original drawings, dated March 26, 1940, indicate that the core of the house was square in plan and included a living room, dining room, and entrance hall on the first floor and three bedrooms on the

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quarters to the new Bethesda site.

[12]It is interesting to note that original drawings for these residences identify the road to the immediate south of this landscaped area, recognized today as Taylor Road, as the "Road to Rock Creek." This earlier reference suggests the potential connection established between this once dense-forested site with its adjacent Rock Creek. The location of these homes, along this route and in close to proximity to the park, may have been influenced by these amenities.

second floor. A rectangular wing, extended to the east, accommodated the kitchen on the first floor and the master bedroom on the second floor. A small, rectangular addition to the east of the kitchen served as the garage, which was accessed by the rear drive. The roof of the garage functioned as a deck for the master bedroom. At the west end of the house, off the living room space, was a screened-in porch.

As mentioned above, the houses are constructed of brick and set on concrete block and stone foundations. Essentially Colonial/Classical Revival in appearance and detail, the Surgeon General's Quarters features a hipped roof above its main section and a gabled roof above its eastern wing. The roof of the garage is flat. The roof of the main house is faced in slate; the porch roof is faced with copper and metal counter-flashing. A single, eyebrow window is featured at the center of the north, south and east elevation roof slopes, and a single, brick chimney rises along the west elevation.

Rows of double-hung, multi-pane windows in various sizes line each elevation. A single, nine-light, porthole window is featured on the first floor of the main elevation and the second floor of the rear elevation. All windows, with the exception of the porthole windows, feature custom-designed shutters.[13] The entrance to the Surgeon General's Quarters feature a wooden door with inset panels flanked by sidelights. A copper canopy above the entryway is supported by decorative, cast-iron panels featuring ornate grillework. This same decorative grillework forms the structural framing members of the west end screened-in porch. Cast-iron grillework forms a continuous railing along the porch in Quarters "A." Along the rear elevation, a single door leads out onto an impressive flagstone terrace that is enclosed by brick walls.

With the exception of the removal and replacement of the building's custom-designed shutters, few alterations have been made to the Surgeon General's Quarters. Painted white immediately after its construction, the building appears much as it did when first constructed.

Officers' Quarters (Buildings 35, 36, 37 & 38)
Identical in style and similar in detail to Building 34, each of these residential quarters feature an essentially square plan, with a single, accessory wing to the east and a simple recessed entrance to the south. Property records indicate that Buildings 35 and 37 consisted of approximately 4,415 square feet, while Buildings 36 and 38 consisted of approximately 4,270 square feet. Original drawings, dated March 26, 1940, indicate that the core of the house included the living room, dining room and entrance hall on the first floor and two bedrooms on the second floor. A small, square, accessory wing projected

[13]Original drawings for these quarters, on file with the Facilities Management Division of the National Naval Medical Center, revealed that the shutters were custom-designed by Paul Cret's office for each window and/or door where they were used.

to the east and accommodated a pantry and kitchen on the first floor and a bedroom on the second floor. As seen in Building 34, the main core of each house is capped by a hipped roof and the eastern wing features a gabled roof. Each porch roof is flat. Eyebrow dormers are centered and project from each major roof slope. A single chimney runs along the building's west elevation.

Buildings 35, 36, 37, and 38 each feature a side porch along the west elevation that appears simpler in form than the larger porch planned for the Surgeon General's Quarters. This smaller porch is set on a brick base and features decorative, cast-iron grillework panels only along the exterior of the brick posts that frame each of the porch windows. The porch on Building 35 is capped by a decorative, metal railing and painted white. A garage, accessed from the rear, is located below each porch. As illustrated in Building 34, rows of double-hung, multi-pane windows in various sizes line each elevation. A single, nine-light, porthole window is featured on the first floor of the main elevation and the second floor of the rear elevation. All windows, with the exception of the porthole windows, feature custom-designed shutters.[14]

A historic photograph taken shortly after the completion of these homes in December 1941, reveals that Buildings 35, 36, 37, and 38 all originally featured the same entryway design. Each entrance featured what appears to be a simple screen door and a solid, wood-paneled storm door. The doorway was recessed slightly from the main elevation. Each doorway was then flanked to either side by a set of full-length, custom-designed shutters. Today, the entryway for Building 35 features a copper canopy supported by decorative, cast-iron panels similar — though less ornate — than those exhibited on the Surgeon General's Quarters. The remaining buildings still feature their recessed entryways and flanking shutters.

As indicated in the description of Building 34 provided above, very few changes have been made to Buildings 35, 36, 37, and 38. Slight alterations include the changes made to the entryway of Building 35, the enclosure of several originally screened-in porches, slight modifications to window treatments, and the removal and replacement of the buildings custom-designed shutters. The five house along Van Reypen Road continue to serve as residential accommodations for the Surgeon General of the Navy and four Commanding Officers.

Unaccompanied Enlisted Personnel Housing (Buildings 60 and 61)
The Unaccompanied Enlisted Personnel Housing (Building 60) and the Bachelor Enlisted Quarters

[14]Original drawings for these quarters, on file with the Facilities Management Division of the National Naval Medical Center, revealed that the shutters were custom-designed by Paul Cret's office for each window and/or door where they were used.

(Building 61) are oriented on an east-west axis facing Palmer Road. The two buildings are generally U-shaped and are directly north of the main hospital core. Building 60 was constructed in 1986, followed by Building 61 in 1993. The buildings are nearly identical in design, except Building 61, which is larger, with a longer footprint. Building 60 is 229' x 186' and Building 61 is 268' x 183'. They are five stories in height including garages at the lower level. The exterior of the building is face brick and the fenestration includes ten projecting columns of four windows each on Building 60, and 12 projecting columns of four windows each on Building 61. The projecting rectangular columns extend from the roof to the ground of both buildings. The roof is flat.

The main or front facades include the courtyard entrances and the projecting wings that form the U-shaped footprint. The courtyard elevation looking west includes four rows of evenly spaced rectangular windows. At the far left corner are three tall rectangular glass blocks spaced one above the other. A door sits directly below the glass blocks.

The interior layout of Buildings 60 and 61 correspond with its use as residence quarters. At the lower level is a garage with up to 60 parking spaces. The next four levels all have individual bedrooms and baths connected by central corridors. The central section includes a sitting room, game room, laundry room, and an east and west terrace.

Service Core

Overview of Service Buildings:
Because the National Naval Medical Center was designed to be a self-supporting facility, a variety of service-related buildings were necessary to ensure complete operation. Some of these buildings were designed by Paul Cret during the initial phases of design and construction at the site, and all of their functions were service-oriented. These buildings, which share similar design features will be described individually, but will be grouped under the single service core heading.

Laundry and Garage (Building 13)
Oriented on a north-south axis on Palmer Road, east of the main hospital core, Building 13 was designed by Paul Cret in 1940 and was constructed as part of the initial building campaign at the National Naval Medical Center. The building uses similar materials and design concepts as other early service-related, Cret-designed buildings at NNMC. The facade is asymmetrical, and the footprint of the building is essentially rectangular, with a slight projection on the west facade. The west (main) facade measures 142' 7" and is one story constructed of steel framing and concrete covered with precast exposed aggregate panels. The entryway, which is on a raised, off-center, loading dock platform features two sets of double doors and one single door, each with two vertical glass panes. A metal canopy roof covers the platform. The windows are evenly spaced and feature either eight- or nine-pane windows with central panes that

pivot open. The flat roof has a parapet wall, a skylight, a large metal, motor-driven ventilator, and a gutter system that includes scuppers. Distinctive Art Deco light fixtures are located throughout the exterior of the building. Although the building is relatively free of ornamentation, the simple linear design, the metal entry canopy, and the light fixtures give the building an Art Deco character.

The east elevation is two stories because the building was constructed on an unevenly graded area. The first level contains five areas which, according to Cret's drawings, contained metal-covered wood overhead doors. However, recently, these openings have been filled in with concrete block. Windows on the second level are also evenly spaced and have either six or eight panes. A metal ladder leading to the roof is also present. The north and south elevations are each 63'- 2.5" and windows, which are once again evenly spaced, are eight paned. The north elevation features a concrete stairway leading to a doorway.

Interior spaces on the basement (garage) level originally included a car wash and a large open garage area. The first level contained laundry facilities such as a mending and sorting room with counters around the perimeter. Receiving rooms, one for contagious laundry and the other for disinfected laundry each had ceramic glazed unit wainscoting. Other spaces were used as offices or storage space. The toilets were designated not only as men's and women's, but also as white and colored. The majority of the first floor was occupied by a large area where the laundry was washed, dried, and ironed. The building contained its own fire hydrant and fire hoses, most likely due to the risk of fire associated with laundry facilities. Building 13 is also located directly next to Building 20, the Fire Station.

The interior of Building 13 has been adapted to serve as a shop, with all laundry-related machinery removed. The exterior of the building is in fair condition, and the garage doors on the east elevation have been filled in with concrete blocks, which greatly compromises the original integrity of the building.

Storehouse (Building 14)
Building 14, constructed in 1942, recalls earlier Cret-designed buildings in form and materials though the building was actually designed by the Bureau of Yards and Docks in 1941. Constructed as a storehouse, Building 14 has been greatly expanded and now serves as office space for the facilities and engineering branch.

Building 14 has a rectangular footprint and is oriented on a north-south axis along Palmer Road, directly east of the main hospital core. The original portion of Building 14 was constructed of cast-iron structural components and concrete, with precast concrete aggregate panels used to face the building. Although the original building remains, it has been greatly added onto on the south facade, enlarging the building to nearly three times its original width. Although the addition is compatible in height and materials, the original footprint of the building is obscured. The flat roof features a one-story, square penthouse area that has a single, half-glazed door and six-pane windows. The simple design, lack of ornamentation, and linear

appeal of the building give it an Art Deco-inspired style.

The west elevation is one story. The original portion of Building 14 has an off-center entryway was located at the north end of this facade. Atop a loading platform, there was a traditional double door and an overhung metal roll service entry. The overhung door has been replaced with several windows. A flat-roofed metal overhang covers the entryway. Windows are triple-hung, nine-over-six-over-three with each six-paned portion pivoting outward. The south portion of the east facade is the addition which uses concrete panels as facing. However, door and window headers are angled inward, which deviates from the simple concrete sills on the original building. The windows are much taller than those on the original building and are of one large pane of glass atop a smaller pane of glass.

Because the building was constructed on a grade, the north and east elevations each have two stories. The east elevation features a similar loading dock entrance with traditional and overhung doors. The windows on the first level are smaller and feature and eight-over four configuration, with the top eight panes pivoting open. Windows on the second level are three-over-six-over-three, with the central six panes pivoting open.

The north elevation features an even fenestration pattern and has triple-hung, three-over-six-over-three windows. The north elevation, which is affected by the grading of the site and has two small six-pane windows on the first level. The south elevation also features the tall windows which are found on the new portion of the west facade. Although the original building retains integrity, the new addition greatly alters the scale of the original building. Windows, doors, and their surrounds are very different from those found on the original building. Although an attempt was made to use similar materials and keep the addition to the general scale of original building, the addition has compromised the integrity of the building. The building is now used as administrative offices for the facilities and engineering branch.

Public Works/Maintenance Shop (Building 15)
Building 15 was constructed as a shop during a second phase of construction at the National Naval Medical Center. Designed by Paul Cret in 1944, it retains its original footprint. Oriented on a north-south axis east of the main hospital core, this building features many of the same elements of other Cret buildings located on the site. Its original rectangular footprint remains intact. One story with a basement, the building is faced in pale grey, precast, exposed aggregate concrete panels, and contains various configurations of the same type of window with central pivoting panes that is found on may service-oriented buildings at NNMC. And like other buildings, a central metal overhanging marquee is also located on the main facade. The flat roof features a 3' parapet wall, and a series of scuppers displaces water from the roof. Although the building is not heavily ornamented, the simple lines and marquee over the entryway give an Art Deco character to the building.

The west (main) facade, which is symmetrical, has an elevated central portion that is reached by a concrete ramp. On this platform are three sets of double doors, evenly spaced, with two windows located between each set. Originally, the doors were all double doors, each with a four-light configuration. Over each set of doors was a four-light transom. However, the central set of doors and the transom have been filled in with concrete blocks. The windows are a 12-pane configuration, with the top eight panes pivoting open. A flat metal overhang cover the entrance platform. On each side of the platform is a pair of 16-pane windows, with the central 8 panes of each window pivoting open.

The east elevation, which shows the basement and first levels because of changes in grade, features traditional single doors, overhung rolling steel doors, and several configurations of multipane windows, where some panes pivot open. The first level features 16-pane windows with the central eight panes pivoting open. These windows are hung singly and in pairs. The basement level is slightly asymmetrical, while the first level is symmetrical.

The north and south elevations also show some of the basement level and each elevation contains a single door with four panes of glass. Once again, windows are 16-panes, with eight pivoting panes on the first level. The north elevation features two smaller, nine-pane windows, with the upper six panes opening on the basement level, while the south elevation has six-pane windows on the basement level. All of the panes of these windows open. Building 15 retains a high degree of integrity, although the alteration of the central entrance on the west facade greatly alters the appearance of that portion of the building. Building 15 continues to be used as a shop.

Power Plant (Building 16)
Building 16 was constructed during the initial wave of construction at the National Naval Medical Center. Designed by Paul Cret in 1940, the power plant was constructed to serve as a source for power, heating, and refrigeration for NNMC. Like other buildings designed by Cret and constructed during this era, Building 16 is a simple, linear building with little ornamentation and Art Deco-inspired design and details.

Oriented on a north-south axis north of East Rixey Road, Building 16 originally had a rectangular footprint, which has been slightly altered and enlarged since its construction. Two stories with a basement and penthouse, the power plant also contains a high smokestack, shortened since its original construction, on its flat roof. The power plant is constructed of structural steel and faced with pale grey, precast, concrete aggregate panels. Openings on the building are tall, and usually contain multipane windows topped by metal louvered vents of equal size. These windows are mechanically operated, allowing select panes to open. Metal overhung doors replace the original doors.

The interior of Building 16 contains a variety of rooms, such as a basement boiler room, a charging room, and a transformer room, which functioned together to produce power for NNMC. Other spaces include a

store room, a shop, and an office. A water tank was located in the penthouse area. Although the building was enlarged and updated in 1992, it retains a high degree of integrity.

Fire House (Building 20)
Building 20, located east of Palmer Road South, and northeast of the main hospital core, was designed by Paul Cret's office in late 1943 and early 1944. Constructed after the initial building campaign at NNMC, and designed to house fire equipment and sleeping and storage spaces, the one-story Fire House has an almost square, asymmetrical footprint with two square extensions on the north and south elevations. The exterior of Building 20 is covered with stucco that has been painted a light color. A small concrete-block addition is located on the south facade. A rectangular, stucco-covered tower with wood louvers is located on the flat roof. A small precast concrete cornice is located at the roofline, and four-paned, horizontal, wood, jalousie windows are located on all facades. Recently, a deck was added to the rear of the building.

The west (main) elevation features a three-bay central block with three large openings with overhung doors where the fire engines are parked. To the north of the central bay, and set back slightly, is a block that contains a single replacement window and another overhung door. Original drawings for this building do not indicate that a door was to be placed on this portion of the building, so it is likely that was added at a later date. The addition on the southern end of Building 20 is not as high as the original building, and is constructed of concrete block that has been painted to match the original building. It has a metal door and a double replacement window. A large sign, reading "NNMC Fire Department, Building 20," hangs over the central portion of the building. A wooden fascia runs the length of the central portion of the building, and slightly overhangs the entryways.

Interior spaces include a dormitory area, a hose washing room, an apparatus room, a day room, and a lavatory. Building 20 has been altered by the addition on the south elevation. Because this building is small, the addition detracts from the overall integrity by rivaling the original building. The building remains in use as a fire house.

Medical Warehouse/Parking and South Garage (Buildings 54 and 55)
Buildings 54 and 55, located east of the main hospital core, have a rectangular footprint and are oriented on a north-south axis just west of East Palmer Road and east of Brown Drive. Building 54, which is just north of Building 55, was built in 1977 as a medical warehouse and parking garage. Its dimensions are 366' x 122' and is seven stories in height. The exterior consists of precast concrete panels attached to concrete columns. Between successive floors and concrete panels are open spaces. Atop each panel are steel pipe guardrails. The east elevation includes an elevator. On the west elevation, at the bottom warehouse level, are loading docks as well as storage areas. At the north and south elevations, each level slopes slightly upward at the mid-section. Building 55 was built in 1980 as another structure for employee parking. Its dimensions are 422' x 122' and is six stories in height. While it lacks a medical warehouse at

the bottom level, Building 55 is very similar in design to Building 54. The interior of both buildings includes standard, compact, and handicapped parking spaces, with elevator access to each level. Both buildings are prominent physical dividers between the main hospital core and the service facilities to the west.

Lumber Shed/General Warehouse (Building 143)
Building 143, the Lumber Shed/General Warehouse, was constructed in 1944 during a later phase of construction at NNMC. Located east of the main hospital core and oriented on a north-south axis, the building retains its original rectangular footprint. Designed by the Bureau of Yards and Docks, this building is a simple one-story service storage facility constructed of cinder block covered with stucco. Its most notable feature is a series of five doors located across the west elevation. Three large original wood batten doors remain, and two have been replaced with metal overhung doors. The east elevation contains two small louvered openings, and the north elevation contains a single metal door. The building has a dirt floor and a flat, slag roof.

Because of the alterations to two of its doors, which are the only notable feature of the building, Building 143 does not retain integrity.

Warehouses (Buildings 147, 148, 149, 152, 153, 154, 225, 239, 241 & 242)
The warehouses at NNMC are located northeast of the main hospital core across from Grounds Road. Several of the warehouses are known as Butler Buildings, which were government standard rigid frame warehouses built to the specifications of the Armed Forces. The first warehouses were built in 1949 and further construction continued into the 1960s. The warehouses are each roughly 100' x 40' and follow a rectangular footprint. With a concrete foundation, the warehouses' exteriors are corrugated aluminum or galvanized steel. The gable roof is also covered with corrugated aluminum or galvanized steel.

The front and rear elevations include two large sliding doors, with a square louver directly above the doors. On either side of the sliding doors are two, six-light rectangular windows. Each interior space of the warehouses averages approximately 4000 square feet. The floors consist of concrete slab. Over the years, the doors, roof, and steel panels have undergone alterations.

Recreation

Officers' Club and Recreation Building (Building 23)
Building 23 was constructed in 1944-45 as part of the second major building campaign at the National Naval Medical Center. Designed by Paul Cret, Building 23 was built to serve as the Officers' Club and Recreation Building. Set off to the southeast of the main hospital core, and placed in the dense forest that line the grounds, this building was intended to remove doctors and patients from the confines of the

hospital. Its rustic appearance and irregular plan allowed Building 23 to sit within the natural contours of its site, offering a more relaxed and healing environment. A narrow pedestrian bridge spanned a natural creek that ran through the Medical Center grounds, connecting the hospital core to this somewhat remote recreational enclave. A separate vehicular bridge approached Building 23 from the east.

General

Building 23 features a highly irregular footprint, generated from what appears to have been very varied terrain. The unique arrangement of the building's four, distinct wings seems to have resulted from allowing the site's natural contours to dictate its layout. Set off on an angle from the main hospital core, the main entrance of Building 23 faces in a southeasterly direction. Just inside this entrance is the building's essentially rectangular main lobby. From each of the lobby's four corners extends one of four distinct wings. The pool wing extends off the southeastern corner of the lobby at a 90-degree angle; the gymnasium wing sits immediately due east of the lobby; the kitchen and fountain room wing extends in a diagonal fashion from the southwest corner; and the lounge and shop wing extends at a 90-degree angle from the northwestern corner of the lobby. On account of the building's setting, the number of exposed floor levels changes along most of the buildings elevations. Building 23 is currently bordered to the south by Stokes Road and to the north by Palmer Road South.

Recognizing that the program prescribed for this facility greatly contrasted with the activities of the main hospital core, the architects presented a completely different building form, utilizing a selection of new and varied materials, and creating a more relaxed, club-like setting that would differentiate it from this otherwise structured medical environment. Materials incorporated in all of the buildings facades include local stone class "A" masonry, concrete, and wood siding. The roof was concrete slab with built-up insulation. The building was set on a concrete foundation. Though fenestration patterns differ throughout the building, continuous rows of windows line all elevations, suggesting an effort to bring as much natural sunlight into this facility as possible. The pedestrian and vehicular bridges that connected the hospital core to Building 23 were constructed of concrete and featured wood railings set on concrete and stone piers.

Southeast Elevation

The primary, southeast elevation featured a central, concrete and metal, canopied entrance set within the base of a square, three-story, stone tower. A nautical, porthole window, surrounded by decorative stonework, punctuated the second-floor level of this tower. Set at an angle, the exterior entrance wall was flanked to the east by a gabled-roofed pool wing and to the west by a flat-roofed kitchen/fountain room wing. With the exception of the pool wing, the first story and lower half of the second story of this elevation were faced in stone. The pool wing was faced entirely in vertical, wood siding, with the exception of its partially exposed basement, which was stone. The remaining upper half of this

elevation's second story was faced in horizontal wood siding. Windows along the entire second story were one-over-one, double-hung, presented in continuous three and five-unit groupings. Sets of double-hung windows were also set within the first story of the stone entrance wall. Five window bays punctuated both the east and west elevations of the pool wing. Each of these bays included three, two-over-two, double-hung windows, framed by heavy muntins and mullions. The south face of the pool wing featured one large window bay that consumed the majority of this end wall. This single window was divided into seven vertical bays. Each vertical bay was defined by a heavy mullion. Each of these bays featured two, three-light windows in its lower half and one, three-light window in its upper half. The lower and upper halves were separated by a heavy muntin.

Since its construction, the southeast elevation of Building 23 has received numerous alterations, including the addition of extended, overlapping, entrance canopies and the transformation of the original circular, tree and grass-lined drive into a parking lot. It appears that the majority of windows along this elevation have also been replaced, with the exception of the porthole window above the central entrance. Several original windows have been converted to doorways, particularly at the second story entrance wall and the east elevation of the kitchen/fountain wing.

Southwest Elevation

The southwest elevation of Building 23 was divided into two sections, one to the north and one to the south. Dividing these sections was the west wall of the central, stone entrance. The southern half contained the kitchen/fountain room and the northern half contained lounge, terrace, and shop areas. The west wall of the kitchen/fountain room wing featured stone facing from the basement level through the lower half of the second story. The remaining half of the second story, which was recessed from the stone wall, was faced with narrow, horizontal, wood siding. A separate, slightly recessed kitchen entrance wing was located in the far southern corner of this facade. This wing featured a single door and loading entrance on the first floor. These entrances were protected by a shingled roof. The second story featured a single, centered bay with three, two-over-two, double-hung windows. Concrete lintels and sills framed the windows. This entrance/loading wing appears to have also been faced in stone. The second story of the kitchen/fountain room wing featured a continuous band of twelve, one-over-one, double-hung windows. A narrow terrace lined this level. One-over-one, double-hung windows also lined the basement level. The second floor featured a series of two-over-two, double-hung windows.

The northern half of the southwest elevation featured stone facing along the first story and a series of continuous glass bays at the second story. The first story was set along an open, sloping, concrete ramp that was lined along its exterior in stone. The ramp sloped downward to the north where it met the pedestrian bridges that led from the hospital core. Original renderings, on file in the Paul Cret collection at the Athenaeum of Philadelphia, illustrate wheelchair-bound patients being transported across these

pedestrian bridges to a more serene-looking environment. The first story featured six glass bays, five of which featured a single, or set of doors. The remaining windows in each bay were square and divided into a one-over-one, double-hung arrangement. The bay without a door featured six, square, one-over-one, double-hung windows. All of the windows at this and the second floor level featured concrete posts and lintels. Seven window bays lined the second story. The third, fifth and seventh bays featured a set of double doors. All remaining bays were floor-to-ceiling, two-over-two, double-hung windows. A projecting, concrete balcony, faced with horizontal wood siding and capped with concrete coping and a wooden rail, separated the first and second floors of this wing. A simple, wooden cornice also projected from this flat-roof wing.

Since its construction, the southwest elevation of Building 23 has received numerous alterations, several of which have seriously compromised the building's original fabric. Major alterations include the addition of two vertical mechanical towers to the immediate north of the kitchen/entrance wing. These solid brick towers project several feet from the building's original stone facing. Immediately adjacent to these towers, a single-story, brick mechanical unit has also been constructed. These additions have blocked several of the windows within the first story of the southern half of this elevation. In addition, the majority of windows along this elevation have been replaced; others have been infilled with what appears to be wooden panels. The recessed second story and terrace of the southern wing has been covered with a half-gabled, shingled roof. This roof, which features a series of bubble skylights, conceals all the original windows at this level. A door has been inserted at the basement level of the central stone tower and the open ramp that once led into the first story lounge area has been enclosed by a tinted-glass addition. This addition projects a full story above the ramp to meet the base of the second floor balcony. Floor-to-ceiling metal rails now enclose the second floor of this northern wing. Overgrown trees obscure the remainder of this elevation. A parking lot has also been added along the west elevation of this building, an area that once served as part of a larger, nine-hole golf course.

Northwest Elevation

The north wall of the lounge/shop wing formed the westernmost block of the northwest elevation. This block was originally faced entirely in stone. A semicircular stone wall projected from this block to form an enclosed, semicircular terrace. The terrace, accessible by the lounge/shop wing, was paved in flagstone. A band of four, two-over-two, double-hung windows, capped by a concrete lintel, lined the first floor, and a band of five, one-over-one, double-hung windows, also capped with a concrete lintel, lined the second story. The three-story tower was also partially visible along this elevation. The mid-section of this elevation was faced in stone along the first level and horizontal wood siding at the second level. The first level featured three sets of one-over-one, double-hung windows, each capped with a concrete lintel. The second story featured a band of seven, one-over-one windows and a single, one-over-one double-hung window. The final block of this elevation was divided into three bays. Each bay

featured two sets of three, one-over-one, double-hung windows at the basement level. At the second story, each bay featured two, twelve-light bays flanked to either side by vertical wood siding. The twelve lights that constituted each of these bays were divided by heavy mullions and muntins. The first story was sheathed entirely in horizontal wood siding.

The northwest elevation of Building 23 has received numerous alterations. In addition to the replacement and removal of the majority of windows, a substantial semicircular wing was added to the north of this elevation's westernmost block. This two-story addition is lined by a continuous band of windows at its first and second levels. Separating these levels and capping the second story are what appear to be precast concrete panels; these panels, however, are darker in color and feature a larger aggregate than those seen within the original hospital core and support facilities. The individual panels and roofline of this contemporary addition are capped with metal coping. This addition sits atop the original gravel terrace planned for this area.

Northeast Elevation
The northeast elevation consists primarily of the east elevation of the gymnasium wing and the east elevation of the pool wing. Connecting these two is the eastern wall of the lobby/lounge corridor. The gabled-roof gymnasium wing is sheathed almost entirely in horizontal wood siding. The exposed basement of each of these sections is faced with local stone. The basement level of the gymnasium wing originally featured a single entry door and two sets of one-over-one, double-hung windows. The basement doorway was accessed by a series of wooden steps. At the first floor level, two single doors offered additional access to this wing. These doors were accessed by a single, wooden stair to the south. The central lobby/lounge wing featured six, one-over-one, double-hung windows with concrete lintels and sills. The second floor featured three sets of three, one-over-one, double-hung windows. As stated above, five window bays punctuated the east elevation of the pool wing. Each of these bays included three, two-over-two, double hung windows, framed by heavy muntins and mullions. Both the lobby/lounge section and the east elevation of the pool wing were faced with vertical wood siding. A low, wooden railing lined the roof of the lounge/lobby section. Alterations along the northeast elevation appear to have been limited to the replacement and alteration of windows.

Building 23 continues in use today as an Officer's Club and Recreation Building. As indicated above, the building was designed to provide a variety of recreational and relaxation facilities for patients and employees. In addition to the gymnasium, pool, lounge, and dining activities discussed, Building 23 also offered "family rooms" along its main lobby corridor, and equipment rooms supplied materials for other outdoor activities, including golf, boating (Stone Lake, once located on the current site of USUHS, was a popular recreation and picnic area), tennis and the like. Currently serving in large part as an officer and employee dining hall, this facility retains its gymnasium and pool wings and continues to function as the

site's primary recreation center.

The number and extent of changes made to Building 23 have substantially altered large parts of the building's original historic fabric and significantly obscured much of Cret's original design intent. In addition to the construction of the semicircular north wing, the enclosure of the southwest ramp, the construction of mechanical towers, and the alteration of the building's main entrance canopies, the pedestrian bridge that was designed to connect Building 23 to the main hospital core has been demolished. This demolition resulted from extensive regrading efforts undertaken during the massive redevelopment of hospital facilities in the mid-1970s. Although a new concrete and metal bridge was constructed, the bridge was vehicular and intended to carry cars past the building to the eastern portion of the medical center site. The new bridge severed the connection between the hospital core and Building 23. The parking lot added to the immediate south of the main entrance, in an area that early plans indicate as being carefully landscaped, has also had an impact on the building's context — a context once defined by its relationship to the site's natural contours and landscaped terrain.

Landscape

Terrace, Walls, Steps and Flagpole (Building 30)
The terrace, walls, steps, and flagpole (designated as Building 30) are located west of the front entrance of the main hospital tower (Building 1) and the main hospital core. It is sited roughly parallel to Rockville Pike and stands prominently as a visible symbol of the National Naval Medical Center. The flagpole and terrace lie at the center of Wood Road, which serves as both the north and south entrances to the site. Extending about 450 feet from the flagpole toward Rockville Pike is a wide and gradually downward sloping landscape designed by architect Paul Cret as part of the original 1941 construction campaign.

The front elevation, also designed by Cret, includes the central terrace and the north and south retaining walls. Semicircular in shape, the central terrace extends 130 feet and is 10 feet high at the center. The terrace is flanked on both sides by 14 steps that descend adjacent to the curvature of the terrace. Constructed of rubble set in mortar and topped with a thin layer of stone, the front elevation is interspersed with four evenly spaced stone piers for support. Extending 215 feet from the central terrace, the north and south retaining walls are 8' -9" high where they meet at the center, gradually decreasing in height as they extend outward. The retaining walls are constructed of rubble set in mortar with a thin layer of stone resting on top.

At the center of the terrace lies the granite and bronze flagpole base. The bottom portion of the base is pink granite. On the western side of the base there are three steps, and in later years, an iron railing leading up the stairs and circling the base was added. This bronze upper portion of the base is flanked on the north and south side by two large bronze anchors. Attached to the top of the bronze base on the east

and west sides are two bronze cleats used to tie the ropes from the flagpole. In later years, two more cleats were added to the anchors. The flagpole is constructed of steel and alternates in color from gold to light blue to white. At the bottom portion of the flagpole are two gold bands with eight projecting gold stars set evenly in between on a light blue background. Currently, only one gold star remains of the eight original stars. The imprint of the other seven stars can be seen. Near the top of the flagpole is a cross bar, which symbolizes a ship's mast. Attached to the mast, four ropes fly navy signal flags. The mast and signal flags were added sometime in the late 1940s or early 50s, as they are not in the original drawings. The central rope flies the flag of the United States. At the crest of the flagpole lies a small bronze eagle with outstretched wings. The height of both the base and the flagpole is 90 feet.

Surrounding the granite base of the flagpole are slabs of irregularly shaped flagstone arranged in a circular pattern. This circle is in turn surrounded by a ring of three granite steps. The rest of the surrounding terrace surface consists of large slabs of cement paving. Set inside the central terrace walls on the north and south sides are two stone benches. A later addition to the inside of the central terrace is a sundial set atop a three to four foot high concrete aggregate base.

Heliport (Building 200)
The lighted heliport at NNMC is located southwest of the main hospital core. Connected in two driveways to Wood Road, the heliport is relatively close to Rockville Pike and the main entrance of NNMC. Used as a helicopter landing pad, the heliport's most important use is for the arrival by helicopter of the President of the United States. Built in 1961, the heliport has an asphalt surface, which measures 150' x 150'. Situated in the middle of the heliport is a landing sign in the form of a cross.

In 1979, a rotating heliport beacon was added to the roof of the main tower (Building 1) at NNMC. Placed atop a penthouse on the roof, the light structure includes an obstruction light and a rotating tricolor heliport beacon.

BUILDING INVENTORY

NATIONAL NAVAL MEDICAL CENTER HISTORIC DISTRICT BUILDING INVENTORY				
Building No.	Building Name	Date of Construction	Contributing/ Noncontributing	Designed by Paul Cret
1	Main Hospital Building	1941	C	Yes
2	Subsistence and Recreation Wing	1941*	NC	Yes
3	Ward Building No. 3	1942-43	C	Yes
4	Ward Building No. 4	1941*	NC	Yes
5	Ward Building No. 5	1942-43	C	Yes
6	Ward Building No. 6	1942*	NC	Yes
7	Administration and Clinical Space	1963	NC	No
8	Administration and Clinical Space	1963	NC	No
9	Hospital	1980	NC	No
10	Hospital	1980	NC	No
11	Bachelor Officers' Quarters	1941	C	Yes
12	Corpsmen's Quarters	1941	C	Yes
13	Laundry and Garage	1941	C	Yes
14	Storehouse	1942	NC	No
15	Public Works/Maintenance Shop	1944	C	Yes
16	Power Plant	1941	C	Yes
17, 17A, 17B	Main NMRI Building and Annexes	1941 and 1944	C	Yes
18	Animal Building	1942	C	Yes

20	Firehouse	1944	C	Yes
21	Animal Building	1946	C	No
23	Officers' Club/Recreation Building	1944-45	NC	Yes
27	Naval Medical Information Management Center	1990	NC	No
30	Flagpole	1941-42	C	Yes
34	Surgeon General's Quarters	1941	C	Yes
35	Officer's Quarters	1941	C	Yes
36	Officer's Quarters	1941	C	Yes
37	Officer's Quarters	1941	C	Yes
38	Officer's Quarters	1941	C	Yes
53	Environmental Health Effects Lab	1976	NC	No
54	Medical Warehouse/Parking Garage	1977	NC	No
55	Parking Garage	1980	NC	No
60	Unaccompanied Personnel Housing	1986	NC	No
61	Unaccompanied Personnel Housing	1993	NC	No
139	P.W. Shop/NMRI Research	1944	NC	Yes
141	Naval School of Health Sciences	1943	NC	No
200	Heliport	1961	NC	No
N/A	Landscape	1941-45	C	Yes

* Note: Though constructed during the initial NNMC construction campaign as part of the early main hospital core, Buildings 2, 4, and 6 have been designated as noncontributing based on significant alterations made to each building that have seriously comprised its original design and architectural integrity.

SIGNIFICANCE SUMMARY

Touted as the "temple of medical science"[1] upon its completion in 1941, the National Naval Medical Center featured state-of-the-art facilities and equipment prepared to offer the highest level of care to naval officers, veterans, and their families. Unlike other naval hospitals, constructed across the country to serve naval personnel in their immediate jurisdictions, the "U.S. Naval Medical Center," as it was referred to at the time of its construction, was designed and dedicated to serving the nation. Its location and proximity to Washington, D.C., also designated NNMC as the primary care facility for high level government dignitaries, in particular, the President of the United States. NNMC has offered its services to the President for nearly 50 years and is best recognized by the general public as "the President's hospital." Unbeknownst to many, however, are the outstanding number of contributions made to medical science through the research and educational divisions of the NNMC. The Naval Medical Research Institute (NMRI), a major tenant of NNMC since 1941, is the primary research institution credited with providing the Navy with the medical knowledge necessary to improving the health and well being of military personnel during conflicts, and making such personnel more effective in battle. While not responding directly to wartime needs, in particular those of World War II veterans, NMRI continued to develop medical innovations to benefit the civilian as well as the military population.

Educational training institutes and tenants of the NNMC, including the Naval Dental School and the Naval School of Health Sciences, have provided Navy medical personnel with specialized training in preventing disease, relieving suffering, and saving lives of military personnel in remote locations across the world. Such levels of research and education were not provided at other naval hospitals throughout the country, but remained in a collective and collaborative fashion at the NNMC in Bethesda. Here again, the location of the NNMC just outside the nation's capital, made it the more likely recipient of government support, reflected most notably in its sustained levels of federal appropriations for these efforts. Viewed as the nation's leading center for naval medical science, the NNMC, unlike many other naval hospitals across the country, is not slated for closure as part of the Base Realignment and Closure (BRAC) Act — a process that has closed over twelve naval hospitals within the past decade.

The NNMC also derives significance from its associations with President Franklin D. Roosevelt and internationally known architect, Paul Philippe Cret. The design and construction of the NNMC was a vision realized by President Roosevelt, an effort motivated by his interest in building a government building that resembled Bertram Goodhue's Nebraska State Capitol in Lincoln, Nebraska. Recognizing

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[1] *The Washington Post*, "Naval Medical Center Will Move Into New Plant Soon," by Gerald G. Gross, Sunday, November 2, 1941, p. 18.

the difficulties of managing and carrying such a major project through the appropriate federal and local review agencies, Roosevelt employed the assistance of Paul Cret, appointing him as consulting architect in charge of NNMC's final design scheme. While the initial plan for the main hospital building was generated by President Roosevelt's hand, Paul Cret is recognized and credited with carrying out the President's intentions, enlarging and refining the design for Building 1, as well as planning the larger, associated, and self-sustaining medical complex buildings.

The National Naval Medical Center, and its surrounding support facilities, stands today as a testament to the dedication and commitment of Franklin D. Roosevelt who sought to develop a "place of healing" for naval personnel exposed to the traumas and injuries of war. The impressive and monumental tower (Building 1), of an evocative classicism suggestive of the Art Deco, rises from its expansive landscape as a symbol of the talent and skills of Paul Philippe Cret. In addition, its function as the centerpiece of a much larger, planned medical community, further illustrates the site and city planning abilities of this master architect.

HISTORY OF NAVAL MEDICINE AND RESEARCH

The practice of naval medicine in America began in 1775 when the first American fleet was placed in commission by acts of the Continental Congress. Physicians were selected by commanders of naval vessels to serve on individual voyages. Older or more incompetent sailors often assisted the physicians in their duties. Pay was often uncertain, and many physicians simply shared in whatever spoils their ships captured. Ships' doctors attained a higher status in 1798 when the Navy Department was established and they were made commissioned officers.[2]

Naval doctors received little training in the specialized area of naval medicine. Consequently, many learned from experience. While at this time, most wounded and ill soldiers were not expected to live, some doctors had foresight in the areas of both injury and illness. Although medically primitive conditions prevailed throughout the Navy, some doctors were more advanced in their techniques. One such physician was Edward Cutbush, a doctor aboard the frigate *United States*, who immunized the crew against smallpox to prevent an epidemic. Cutbush did this only one year after the discovery of the vaccine, and 40 years before the Navy required this immunization of all of its sailors.[3]

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[2]"History of the Research Division, Bureau of Medicine and Surgery, U.S. Department of the Navy." Charles W. Schilling, Captain, Medical Corps, U.S. Navy, Retired, N.p., n.d., p. 1.

[3]Ibid.

During the first half of the nineteenth century, naval physicians lobbied for higher quality medical care for naval personnel. Their efforts resulted in improvements in the quality of professional personnel, medical equipment and supplies, and quarters for the sick aboard ships at hospitals ashore. In 1842, the Bureau of Medicine and Surgery was established to internally organize naval medicine and hospitals.

Naval research can trace its origins to the first half of the nineteenth century, when doctors on voyages experimented with the therapeutic values of certain herbs. Observations of sick and injured sailors were often kept in logs, allowing for comparisons of the values of certain treatments. This research became more formalized when the Museum of Naval Hygiene was established in Washington, D.C., in 1883. Space within the museum building was designated for the examination of pathology specimens. As a result of this work, a system of naval medical research, with emphasis on chemistry and tropical medicine, evolved. Yet another important step toward a formal research organization was the establishment of the Naval Medical School in 1902. Postgraduate instruction on the unique aspects of naval medicine were taught, and research was encouraged. As a result of this environment focusing on naval medicine, the vaccination for tetanus was developed. Other medical discoveries were the result of research work undertaken because of professional curiosities without the direct support of the Navy Medical School or the Bureau of Medicine and Surgery. Scientists were permitted to use naval facilities, although funding was not allocated for research. This allowed scientists a degree of freedom to test medical theories, and some of these studies -- fueled only by personal interest -- yielded important information that directly benefitted the Navy. Also during this time, the new domains of submarines, deep-sea diving, aviation, and chemical warfare were first mentioned in naval medical literature. In later years, these would become some of the most important areas for naval medical research.[4]

During the first half of the twentieth century, the Medical Department of the Navy established various other schools, research institutes, and hospitals to further the spread of naval medical knowledge and provide facilities to care for naval veterans. Much of the naval medical research conducted during World War II was a direct response to the needs of the troops. Although responsive to specific wartime needs of personnel, the Navy was also committed to providing ongoing care to its veterans. Additionally, families of naval veterans were also treated at these facilities, so hospital medicine and surgery was inclusive of all phases of life for both men and women.

Over a century and a half of progressive development of naval medical facilities is represented in the development of NNMC. While Washington, D.C., housed naval hospitals in various locations since 1802, the National Naval Medical Center would represent a combination of the shore facilities and activities of the Medical Department of the Navy, consolidated into one central, unified organization under one general

[4]Ibid, p. 4.

command. The hospital, schools (medical, dental, and hospital administration), corps (medical, dental, hospital, and nurses), and a research institute (the Naval Medical Research Institute, or NMRI). NNMC provides an arena where caring for human illness and disability is combined with professional training and instruction of medical personnel and investigation into new areas of research related to naval issues. This combination of functions in a single naval medical site makes NNMC a unique facility.

Early History of the National Naval Medical Center

The history of the Naval Medical Center at Bethesda can be firmly traced to the first decade of the nineteenth century, and to five distinct locations in or near the District of Columbia. The five sites are 1) the Navy Yard at 8th and M Streets, S.E; 2) the Marine Barracks at 8th and I Streets, S.E.; 3) the U.S. Naval Hospital, Pennsylvania Avenue and 9th and 10th Streets, S.E.; 4) the U.S. Naval Hospital, 23rd and E Streets, N.W., and finally, 5) the U.S. Naval Hospital, National Naval Medical Center, Bethesda, Maryland.[5]

The Washington Navy Yard at 8th and M Streets, S.E.
The first infirmary or hospital for naval personnel in Washington, D.C. was established between 1802 and 1811 in a rented farmhouse near the old Washington Navy Yard along the Anacostia River. Located adjacent to the recently established Navy Yard, the early hospital cared for the sick of the naval station, as well as personnel from arriving fleets. As in all naval medical facilities, the primary mission of the hospital was to provide general clinical and hospital services to active duty Navy and Marine Corps personnel, and to patients of other Federal uniformed services requiring particular treatment.

The Marine Barracks at 8th and I Streets, S.E.
It was not until 1843 that other expanded and improved facilities were provided within the confines of the Marine Barracks at 8th and I Streets, S.E. According to records of the Naval Medical Historian, this hospital was used until the beginning of the Civil War, when its capacity was overwhelmed by casualties and a temporary arrangement was made on June 8, 1861 for the utilization of a portion of the Government Hospital for the Insane. Known today as Saint Elizabeth's Hospital, this asylum was

[5] One of the earliest forms of correspondence relating to the establishment of a naval hospital appears to be a letter, written in early January 1799 by Benjamin Stoddert, Secretary of the Navy, to the Commissioners of the City of Washington. The letter inquired as to whether land that had been set aside for a marine hospital could be appropriated as the location for a Navy yard. According to a paper produced by E. Caylor Bowen, entitled *U.S. Naval Hospital, Washington, D.C. (Ninth Street and Pennsylvania Avenue, S.E.)*, the Commissioners replied to Stoddert that the area under consideration was sufficient to meet the needs of both a marine hospital and a Navy yard, but that the final decision would have to be made by the President.

located in what was then the southern Maryland countryside across the Anacostia River.

The U.S. Naval Hospital, Pennsylvania Avenue and 9th and 10th Streets, S.E.
Recognizing that an insane asylum was not necessarily an ideal setting for injured and recuperating Naval personnel, the United States Congress, on March 14, 1864, authorized the construction of a new naval hospital. This authorization included a $25,000 appropriation for the construction of a new building — also near the Navy Yard — on a small plot of land between 9th and 10th Streets and Pennsylvania Avenue, S.E. The final cost for the construction of the first U.S. Naval Hospital in Washington was an elevated $115,000. Commissioned on October 1, 1866, the hospital at Pennsylvania Avenue, between 9th and 10th Streets, operated until 1906. From 1907 until 1911, the building housed the Hospital Corps School of Instruction. It was placed out of commission on February 3, 1911 and designated as an annex for cases of infectious diseases and for the overcrowding of wards at the new hospital at 23rd and E Streets, N.W.

The U.S. Naval Hospital, 23rd and E Streets, N.W.
According to a survey conducted in 1903, the U.S. Naval Hospital Reservation at 23rd and E Streets in Washington, immediately north of the Lincoln Memorial across Constitution Avenue, originally consisted of 21 acres. These grounds were transferred to the Bureau of Medicine and Surgery by order of the Secretary of the Navy on January 20, 1894. Commonly referred to by naval medical staff as "The Hill," the site was reduced to 17.7 acres when approximately 5 acres of its western boundary, along the Potomac River, were transferred to the Treasury Department by an Act of Congress approved on March 3, 1901. This 5-acre area was designated for use by the Marine Hospital Service as a laboratory. Eventually, this parcel was used by the Hygienic Laboratory, and later used by the National Institutes of Health, U.S. Public Health Service. The remaining 17.7 acres was designated for use by the U.S. Naval Hospital.

Originally planned to replace the "old Naval Hospital" in southeast Washington, the new hospital at 23rd and E Streets also provided modern clinical facilities for the Naval Medical School. Although the 1803 Congressional appropriation of $125,000 was insufficient to carry out plans for these "modern" and expanded facilities, construction of the main hospital, the power plant, and a laundry were begun in 1904. An additional $20,000, appropriated by Congress on March 5, 1905, assisted in the completion of the new hospital. Though still under construction, the hospital was commissioned on October 1, 1906. During World War I, the hospital was greatly expanded by the construction of temporary ward buildings. Rich in history, the site at 23rd and E Streets served not only as the former location of the United States Naval Hospital, Washington, D.C., but also as the Naval Observatory, the Naval Medical School, the Naval Dispensary, the Naval Dental School, and the Bureau of Medicine and Surgery.

The New Naval Medical Center at Bethesda

Twenty-five years after the Naval Hospital was commissioned at the 23rd and E Street site, the Bureau of Yards and Docks, as well as the current President and former Secretary of the Navy, Franklin Delano Roosevelt, recognized that these facilities were inadequate, limiting the extent and quality of care the Navy was providing to its personnel. As a result of this situation, Congressional bill H.R. 9676 was introduced in early 1930. Approved, it became law in early 1931 and as such authorized the Secretary of the Navy "to replace, remodel, or extend existing structures and to construct additional buildings...at the United States Naval Hospital, Washington, D.C..."[6] The act authorized the establishment of a Naval Medical Center to be formed by the expansion of the existing hospital buildings or the construction of new buildings at the 23rd and E Streets site.

As discussion on the House floor commenced, startling facts concerning the condition of the existing naval hospital were revealed. More than half of the patients in the Washington hospital were accommodated in buildings erected between 1842 and 1905, or in temporary frame buildings constructed during World War I. The fire hazard was immense, and the medical school, which was housed in the old Observatory building built in 1844, was also inadequate to meet existing needs. The need for a new site was deemed necessary because the old site provided no room for expansion, even if the older buildings were razed. The bill was endorsed by the Bureau of Yards and Docks, the Chief of the Bureau of Medicine and Surgery, among others. It was referred to the Committee on Naval Affairs, which strongly recommended its passage. The need for additional space for the sick and the injured, combined with a need for fire-safe and expanded modern facilities. A report which accompanied H.R. 9676 stated that additional laboratories, classrooms, library, and dental department, under the same command would establish a medical center commensurate with modern advances for the diagnosis and treatment of patients and the postgraduate instruction of the personnel of the Navy Medical Department.

Passed by the 71st Congress, Public Law Number 732 authorized the Secretary of the Navy "to replace, remodel, or extend existing structures, and to construct additional buildings at the United States Naval Hospital, Washington, D.C." The Navy intended, at this time, to erect its new medical center on the existing site of the Naval Hospital and the Naval Medical School at 23rd and E Streets near Constitution Avenue in downtown Washington. In fact, by April 1931, Allied Architects of Washington had been selected by the Navy Department to design the new Naval Hospital and Medical Center. The estimated

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[6]*U.S. Naval Medical Department, Administrative History, 1941-1945*, Volume II, Organizational History, Chapter X, N.p., n.d., p. 2. Quoted from United States Statues at Large, 71 Congress, 1929-1931, vol. 46, Part I, p. 1419.

cost for this project was $3,200,000.[7]

Strong opposition to this proposal was raised immediately by both the Commission of Fine Arts and the National Capital Park and Planning Commission (as it was known at the time), with both groups urging the Secretary of the Navy to consider alternative sites for such new and extensive construction. Each Commission suggested relocating the medical center to a site near the Walter Reed Hospital, an Army-owned and operated medical facility in upper northwest Washington. Concerned primarily with the impact this project would have on the National Mall, immediately across Constitution Avenue from the proposed site, the Commission of Fine Arts prepared the following statement:

> The Commission are unanimous in advising you that the buildings as planned would prove to be a serious detriment to the integrity and dominance of the great central composition of the National Capital....The Commission are convinced that the proper place for a growing hospital is a large suburban area, where a group of comparatively low buildings may be developed within an area suited for inevitable expansion....The Commission therefore urgently recommend that the United States Naval Hospital be relocated on ample grounds in some outlying section of the District of Columbia, preferably near the Army Medical Center.[8]

Several months later, on February 26, 1932, Frederic A. Delano, Chairman of the National Capital Park and Planning Commission (and uncle to President Franklin Delano Roosevelt) sent a letter to Charles F. Adams, Secretary of the Navy, also recommending the relocation of the proposed new medical facility to another government-owned site in the District. Citing a study conducted by the Commission, Delano indicated that the 23rd and E Streets site was inadequate and inappropriate for the Naval Hospital and the Public Health Laboratories, and recommended "to the consideration of all authorities concerned....combining the Army, Navy, and Public Health Service work in the vicinity of the present Walter Reed Hospital."[9]

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[7] *Washington Star.* "Architects Named for Navy Hospital." Friday, April 3, 1931. National Archives and Records Administration, Record Group 71, Records of the Navy Department, Bureau of Yards and Docks.

[8] Letter from Charles Moore, Chairman of the Commission of Fine Arts to Rear Admiral E.E. Parson, Chief, Bureau of Yards & Docks, December 22, 1931. National Archives and Records Administration, Record Group 71, Records of the Navy Department, Bureau of Yards and Docks.

[9] Letter from Frederic A. Delano, Chairman of the National Capital Park and Planning Commission to the Honorable Charles F. Adams, Secretary of the Navy, February 26, 1932.

Despite delays in planning and construction, the Naval Medical Center, consisting of the Naval Hospital and the Naval Medical School, was established on June 28, 1935, by General Order No. 70. Recognizing the physical constraints of the small 23rd and E Streets site, and the strong opposition expressed by federal commissions to expanding the Medical Center at this location, Congress passed Public Law 306, authorizing the construction of the new Naval Medical Center at an alternative site. Approved by the President on August 16, 1937, Public Law 306 amended Public Law 732 and authorized the Secretary of the Navy to:

> *construct in the District of Columbia, or in the immediate vicinity thereof, on land already acquired or hereby authorized to be acquired therefore by purchase, gift, or otherwise, buildings to replace the present Naval Hospital and Naval Medical School at Washington, District of Columbia, with the utilities, accessories, and appurtenances pertaining thereto, including facilities for the Naval Medical Center and Naval Dental School.*[10]

This enabling act was significant because it allowed for the consolidation of activities of the hospital, including medicine, surgery, and dentistry, and the school for closer coordination and efficiency in training medical staff and treating patients.

Along with the difficulties concerning the site selection and proposed new construction for the medical center, there was strong opposition to the project within the Navy Department. Mysteriously, the monies allocated for the Medical Center project disappeared from the annual budget. Discovered by President Roosevelt — who is said to have assembled enough funds to restore it — the Senate passed the Navy Appropriation Bill containing the money for the building. The Naval Appropriation Act for the fiscal year 1939 (Public Law 493), passed by Congress and approved by the President on April 26, 1938, appropriated $4,850,000 for the "acquisition of land and to commence construction of a naval hospital in Washington, D.C., or vicinity, instead of replacing, remodeling or constructing the necessary buildings and facilities for such a hospital on the site of the existing naval hospital in Washington."[11] Approximately $1,500,000 of this appropriation was designated solely for the acquisition of land, allowing site selection

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[10] *Naval Medical Center, Bethesda, Maryland (1939-1984).* E. Caylor Bowen, Editor. Transplantation Research Program Center. Naval Medical Command, National Capital Region. Bethesda, Maryland, 1984.

[11] *U.S. Naval Medical Department, Administrative History, 1941-1945*, Volume II, Organizational History, Chapter X, N.p., n.d. Quoted from the Daily Congressional Record, 75 Congress, 1 Session, Document No. 36, "Communication from the President of the United States."

to begin.[12]

Selection of the Present NNMC Site

After visiting over 80 of the original 200 sites considered throughout the District of Columbia, Maryland, and Virginia, President Franklin Delano Roosevelt, along with Perceval S. Rossiter, Surgeon General of the Navy, and White House physician, Ross T. McIntire, were unanimous in their decision to construct the new Naval Medical Center on a large, rural tract of land directly across from the National Institutes of Health, and approximately one mile north of the small village of Bethesda, Maryland. All agreed that the tract, which consisted of three parcels of land amounting to 264.7 acres, was the most impressive and most suitable location for the intended purpose. A beautiful site that combined acres of rolling fields with areas of dense woods, the tract fronted Rockville Pike for 2,300 feet to the west, and backed Rock Creek Parkway to the east. More importantly, the large site offered the potential for future expansion — which, according to President Roosevelt, was not only desired, but required for any naval medical center development.

Another feature attracting Roosevelt to this particular site was an existing spring and spring house located in a gully between the main farmhouse on the property and the adjacent Rockville Pike. According to an article that appeared in *The Military Surgeon*, in October 1950, entitled "The Navy Builds a Medical Center," the pool and tiny stream reminded the President of the biblical Pool of Bethesda, in Jerusalem.[13] The legend of the Pool of Bethesda was that, at a certain season, an angel came down and troubled the waters of the spring. The first person who entered the spring after the troubling of the water would be at once restored to complete health. Committed to developing this site as a future place of healing, the President directed that plans be made to preserve the spring and to carry out, as far as possible, the details of the legend.[14]

Mission and Function of the Naval Medical Center

Between the years 1935 and 1938, proposed plans for the new Naval Medical Center had been further developed and refined to include — in addition to the Naval Hospital and Naval Medical School — a Naval Dental School, Naval Medical Research Institute, Hospital Corps School for WAVES (Women Appointed for Voluntary Emergency Service), an Occupational Therapy and Recreation Building, utility

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[12] Records courtesy of the Office of the Naval Medical Historian, Bureau of Medicine and Surgery. *U.S. Naval Hospital, National Naval Medical Center, Bethesda, Maryland*, p. 3.

[13] "Bethesda" meaning "House of Mercy." The biblical reference to this pool is found in John V.2.

[14] *Historical Record of the National Naval Medical Center*. 1959 Revision, p. iv.

buildings, and residential quarters for officers, corpsmen, and nurses. The intention at this stage was to create a self-sufficient community that could provide all the necessary health care, research, and administrative support required for the successful operation and development of the nation's primary naval medical and research facility.

Philadelphia architect Paul P. Cret (see section entitled "Selecting Paul Cret as Consulting Architect") was selected as the consulting architect for the new Bethesda campus. Cret, who had completed various projects which included civic buildings, other naval hospitals, landscape designs, and campus plans for a number of prominent universities, was a logical choice because his experience combined all necessary aspects of designing the new National Naval Medical Center.

By late February 1942, construction was complete and the U.S. Naval Hospital, under the command of Rear Admiral Charles M. Oman, had moved its 200 patients and their doctors and nurses from the 23rd and E Street location into the new Bethesda center. The hospital's central tower immediately became a landmark in Bethesda.[15] The Administration Building and Tower (Building 1), with its handsome 363-foot front and Art Deco design, boasted a lobby two stories high sheathed in curved slabs of green Vermont marble and piers of dark green serpentine.

The original cluster of buildings to define the complex included: the Administration Building and Tower (Building 1), four ward buildings (Buildings 3, 4, 5, and 6), Quarters for Nurses and Corpsmen (Buildings 11 and 12), a Laundry (Building 13), a Power and Refrigeration Building (Building 16), and five sets of Officers' Quarters (Buildings 34, 35, 36, 37 and 38 — the only structures of this set not built of steel and precast concrete aggregate panels). The main hospital core housed the Naval Hospital, Naval Dental School, and the Naval Medical School. Within these structures were offices, laboratories, classrooms, ward buildings, a dining hall, an auditorium, a refreshment bar and Ship's Service Room, and a surgical pavilion. Another notable early feature of the Medical Center, visible from Rockville Pike, is the front landscaped area. Designed by Cret as part of the initial building campaign at NNMC, this area provides a setback from the now-busy Rockville Pike, as well as a beautiful visual setting for the tower. Cret incorporated the spring that Roosevelt termed the healing pool of Bethesda in a landscaped setting that included a pergola and stone retaining walls. Components of the design for this area were the flagpole and terrace, centrally located immediately west of the main entrance to Building 1. The Flagpole Terrace was completed in 1941.

Almost immediately after the completion of the original cluster of buildings for the Medical Center, a

[15] Offutt, p. 508.

second series of buildings, planned and designed by Cret in conjunction with the earlier set, were constructed in 1945. These buildings included two Public Works facilities (Buildings 14 and 15), the Naval Medical Research Institute (Building 17), a Fire Station (Building 20), an Animal House (Building 21), a Chemical Storage Facility (Building 22), a Recreation Building (Building 23), a Storehouse and Garage (Building 139), and a Hospital Corpsmen School for WAVES (Building 141).

In conjunction with NNMC's mission to provide education and training to aid the war effort, the U.S. Naval Hospital Corps School was used to teach WAVES during the war period. Established by Congress in July 1942, WAVES were crucial to filling the roles of much-needed medical corpsmen. Applicants were required to submit evidence that they were professionally qualified to perform the duties of Hospital Corps technicians in one of the following areas: clinical laboratory technician; dental technician; X-ray technician; physiotherapy technician; or occupational therapy technician. In June 1943 the WAVES' barracks (Building 141), with a capacity for 240 WAVES, at NNMC was ready for occupancy. Classes began in January of 1944 and included a four-week course in anatomy and physiology, first aid and minor surgery, hygiene and sanitation, nursing, metrology, materia medica, and pharmacology and, in addition, three weeks' active ward duty. The course work was eventually extended to a 16-week period, with classes in neuropsychiatry and general psychology added. Notably, WAVES were given the same basic training outlines in the catalog of Hospital Corps Schools as male hospital corpsmen. WAVES were not only assigned to naval hospitals after completing training, but also to all Navy activities that required the services of representatives of the Medical Department. WAVES served in clerical and administrative eapacities, including working in commissaries, medical storerooms, as telephone operators, bookkeepers, or clerks. Others were assistant in operating rooms or worked in general ward duties where their services could be used in caring for the sick or injured personnel of the Navy or Marine Corps.[16]

Hospital Corps WAVES who showed exceptional ability were selected to be instructors at the Hospital Corps School for WAVES at NNMC. Another specialized task for WAVES who showed aptitude was the job of painting acrylic eyes. After the last class to graduate from the school in 1946, the total number of WAVES students to graduate from Bethesda was 8,390. While the WAVES corps school was not unique to NNMC, their presence on the campus was an important part of the mission to bring many facets of Naval medicine to a single location in the nation's capital.

Tenant Commands at the National Naval Medical Center

A series of tenant commands occupied many of the original buildings on the Medical Center campus; these commands included the Naval Medical Research Institute (NMRI), the U.S. Naval School of

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[16] *U.S. Naval Medical Department, Administrative History, 1941-1945*, Volume II, Organizational History, Chapter X, N.p., n.d., pp.62-67.

Hospital Administration, the Armed Forces Radiobiology Research Institute, and the U.S. Navy Toxicology Unit. At its inception, the hospital housed and utilized the latest in medical equipment and supplies and held the capacity to care for approximately 1,200 patients. During World War II, however, this number increased to roughly 2,000, escalating even higher by late 1945 to a maximum 2,464 patients.[17]

Defining the "National Naval Medical Center"
Initially defined as separate entities comprising the National Naval Medical Center, the U.S. Naval Hospital and the U.S. Naval Medical School are no longer recognized as individual divisions, but have been absorbed and are currently directed under the auspices of what is officially recognized today as the National Naval Medical Center (NNMC) at Bethesda. The U.S. Naval Hospital and the U.S. Naval Medical Center were not officially consolidated into one command until September 1, 1973. Responsibilities formerly held by the U.S. Naval Hospital, including the diagnosis, treatment, and hospitalization of active and retired Navy and Marine Corps personnel continue as part of the overall mission of the Center.

Another important function of the National Naval Medical Center is the training of medical personnel, formerly the responsibility of the U.S. Naval Medical School. NNMC is approved by many American specialty boards and by the Council on Medical Education and Hospitals of the American Medical Association for resident training in medical and surgical specialties. A military teaching staff of certified specialists and civilian consultants maintains residency, intern, and fellowship training programs. The National Naval Medical Center has approximately 250 residents, interns, and fellows in training and is affiliated with, among many others, the Uniformed Services University of the Health Sciences, the National Institutes of Health, the National Cancer Institute, and the Walter Reed Army Medical Center.

Recognized today as one of the 10 largest medical facilities in the United States, the National Naval Medical Center employs more than 3,300 people (military and civilian), treats approximately 2,500 patients daily in its more than 50 outpatient clinics, and receives referrals for treatment from military medical facilities worldwide. With more than 17,000 patient admissions each year, NNMC has an operating bed capacity of approximately 425, which is expandable to over 750 in emergency situations.

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[17] Such accommodations were made possible by the construction of temporary ward buildings — an effort often referred to in the Medical Center's construction management files as the "500-bed expansion." An aerial photograph taken of the site circa 1945 shows a collection of approximately 14 temporary wards arranged in groups of seven to the north and south of Building 1 and the central group of buildings. Records indicate that these temporary facilities were demolished incrementally between 1958 and 1962.

The primary mission of the National Naval Medical Center, unchanged for over 50 years, is the care and treatment of active duty military personnel. The medical center also provides care for authorized government officials, including the President, Vice President, their families, members of Congress, Justices of the Supreme Court, and other beneficiaries as designated by the Secretary of the Navy including foreign military and embassy personnel.

Though the names and missions of many of the tenant commands have changed over the years, the National Naval Medical Center continues to act as landlord to a number of tenants, including, but not limited to, the National Naval Dental Center, the Naval School of Health Sciences, and the Naval Medical Research Institute. (These particular tenants are individually defined below on account of their association(s) with the buildings examined as part of this study.)

The National Naval Dental Center (Formerly The U.S. Naval Dental School)
The National Naval Dental Center is the Navy's second largest dental command, providing comprehensive and specialized dental services to eligible military beneficiaries. The Center is composed of command headquarters, the Naval Dental School, six branch dental clinics, and eight annex facilities. Command headquarters and the Naval Dental School are located on the grounds of the National Naval Medical Center in Bethesda.

The mission of the National Naval Dental Center is to conduct postgraduate and graduate instruction for Dental Corps officers in fields of dentistry and in military medical subjects particular to the requirements of the naval services; to instruct and train dental technicians in various technical specialties; to participate in the preparation of training aids for use by naval dental personnel; to prepare and administer correspondence training courses for the personnel of the regular and reserve components of the Dental Corps; and to provide dental treatment and consultation for the National Naval Medical Center and other naval professional activities. The National Naval Dental Center is currently located in the north wing of Building 1, where it has been since 1942. For more information relating to the achievements and historic significance of the National Naval Dental Center, see Section 8, National Naval Dental Center.

The Naval School of Health Sciences
The Naval School of Health Sciences was established out of a need to recruit and train specialists in hospital and medical administration during World War II. The first course of instruction, begun on July 3, 1942, offered general hospital management training for Warrant Officers and temporary Hospital Corps Officers. The course continued as part of the training department of the Naval Hospital Corps Officers' School until 1945. On August 2, 1945, the Hospital Corps Officers' School was disestablished. Under the direction of a Hospital Corps Officer, the Naval School of Hospital Administration was created by the authority of the Secretary of the Navy. On March 18, 1970, the Naval School of Hospital

Administration was renamed the Naval School of Health Care Administration. On October 1, 1977, the school underwent a major reorganization and was redesignated to its current name, the Naval School of Health Sciences (NSHS).

The mission of the medical school command is to conduct entry to advanced-level training for Navy medical personnel. To accomplish this mission, the Naval School of Health Sciences conducts education and training programs for medical personnel at the technical, undergraduate, graduate, and postgraduate levels. NSHS conducts research relating to the health delivery system supporting Navy and Marine Corps beneficiary populations and other related areas as instructed. The school provides audiovisual production, audiovisual library, medical exhibit, medical photography, and medical graphic arts services for the Navy Medical Department.

In early 1996, the Health Science Education and Training Command was combined with the Naval School of Health Sciences. The Naval School of Health Sciences is located in Building 141, which has continuously functioned as an educational facility since its construction in 1943. (For a brief period, 1943-46, it housed the Hospital Corps School for WAVES.)

The Naval Medical Research Institute
The Naval Medical Research Institute (NMRI) conducts research contributing to the health, safety, and efficiency of naval personnel. The Research Institute was commissioned on Navy Day, October 27, 1942, following planning carried out under Surgeon General Ross T. McIntire, with an initial staff of 13 officers and 50 enlisted men. During World War II, the Institute grew to an organization of over 200 people. The work conducted was then largely the development and testing of devices and procedures for use by the fleet. Support for the construction of the research institute was received at the highest level — the President of the United States — who, as former Secretary of the Navy, had himself experienced the effects of heat stress on previous naval cruises. Extensive studies were carried out on such things as protective clothing, desalination of sea water, aviation oxygen equipment and measures for insect control. Vaccines, body armor, night vision, tropical diseases and many other matters were also investigated. Shortly after the War, the Institute participated in the Bikini atomic bomb tests and other related studies concerning the biological effects of radiation.

Today, NMRI is the critical component of the Medical Center facility charged with overseeing and managing both research and development and test and evaluation programs focusing on the health, safety, and performance of Navy medical personnel. NMRI, a subcommand of the Naval Medical Research and Development Command, conducts research in infectious disease and operational problems. The Institute performs research on specific naval health problems and monitors the safety and work efficiency of Navy personnel. The three primary areas of study examined by the Institute are: 1) clinical

support, 2) disease prevention, and 3) adaptation of people to stressful environments.

Equipped with state-of-the-art laboratories for such basic sciences as chemistry, physiology, bio-physics, pharmacology and toxicology, pathology, bacteriology, virology, and parasitology, NMRI undertakes a wide variety of unique and challenging experiments. The Naval Medical Research Institute currently occupies Buildings 17, 18, 21, and 139. From the time of its construction, NMRI occupied rear portions of the campus, chiefly because of the extensive animal facilities required to support required research. The many achievements of NMRI are responsible for much of the important research conducted at NNMC. These scientific contributions give the NNMC historical significance in the area of medical research. For a more detailed account of the achievements of NMRI, see Section 8, Naval Medical Research Institute.

Armed Forces Radiobiology Research Institute
The Armed Forces Radiobiology Research Institute (AFRRI) occupies Buildings 42-48. AFRRI is a research activity of the Defense Nuclear Agency with the mission to conduct research in the field of ionizing radiation, radiobiology, and matters relating to the biomedical effects of nuclear weapons that are essential to the operational and medical support of the Department of Defense (DoD)and the military services. AFRRI also has the mission to transfer the research technology developed to the medical and operational personnel of the DoD and other North Atlantic Treaty Organization (NATO) organizations. Because these buildings are all less than 50 years old (constructed from the mid-1960s through the early 1980s), and occupy an area outside of the proposed historic district boundary, AFRRI's history and significance of accomplishments were not evaluated as part of the current study.

Uniformed Services University of the Health Sciences
The Uniformed Services University of the Health Sciences (USUHS) occupies Buildings 70-74. USUHS's mission responsibilities entail preparation of men and women for careers as regular medical officers in the uniformed services. Graduate training in the medical sciences is provided, as is research training. Because the USUHS buildings are all less than fifty years old and occupy an area outside of the proposed historic district boundary, neither the buildings nor the history and significance of USUHS's accomplishments were evaluated as part of the current study. USUHS and its associated facilities do not appear to exhibit exceptional significance.

Other Tenants and Activities
Several smaller tenants and activities are currently hosted by NNMC and occupy space in various buildings. Navy tenants include: Naval Investigative Service (NIS); Personnel Support Detachment/Service Air Travel Office (PSD/SATO); Resident Officer in Charge of Construction (ROICC); and Medical Evaluation and Treatment Unit (METU). Non-Navy tenants include: Southern

Illinois University (SIU), National Cancer Institute (NCI); Patient Escort (contractor); Sea Cadets; Credit Union; and U.S. Postal Service. These tenants have been determined to be noncontributing to the historical significance of NNMC -- either because their placement within the NNMC campus has occurred in recent history, or the nature of their work is not unique to the site or significant to the history of NNMC. None of these commands appear to exhibit exceptional significance.

Achievements of the National Naval Medical Center

Significant advances in medical research and technology have been achieved at the National Naval Medical Center over its 50-year history. A sampling of the discoveries pioneered by Medical Center personnel and staff include: the confirmation of the value of bone and blood vessel grafting techniques; the development and use of radioactive gallium for the treatment of bone tumors; the development of new surgical procedures and psychiatric techniques; and the experimentation and production of facsimile limbs. (For a more detailed account of the achievements of NMRI, see Section 8, Naval Medical Research Institute.) As noted earlier, the National Naval Medical Center has trained thousands of hospital doctors, nurses, and technicians in specialized areas such as tropical medicine, radiation exposure treatments, and emergency care to the injured — all of which are of critical or unique importance to the Navy.

UNITED STATES NAVAL HOSPITAL DEVELOPMENT

The history of the establishment of naval hospitals in the United States began roughly at the time of the Revolutionary War. Though American naval forces were minimal, naval hospitals and sick quarters were established by public monies with the purpose of caring for American sailors. As was true for many hospitals of the time, the condition of the facilities and quality of care was poor. The United States placed little emphasis on a national Navy until 1798 when Congress passed an act that established the Department of the Navy. In addition to this act, Congress attempted to create a system to provide medical care for sick and disabled sailors. By deducting twenty cents per month from the pay of Navy personnel, Congress hoped to use the Marine Hospital Service of the Treasury Department to provide medical care for the Navy. Marine hospitals, which were created for the use of merchant marine sailors, were located at ports such as Boston, Baltimore, and Pensacola. The marine hospitals, however, provided unsatisfactory care for both naval officers and enlisted men.[18]

In the early 1800s, the United States, needing to support its emerging Navy, established Navy Yards along Eastern ports. Dissatisfied with the quality of care at marine hospitals, Navy surgeons created their own

[18]W.K. Patton, *History of U.S. Naval Hospitals*, 2 vols. (n.p., n.d.), pp. 7-8.

facilities at Navy yards, thereby creating alternatives to hospital care. In addition to the Navy yard hospitals, the medical facilities of ships in port were also used to provide medical care. Though Navy yard facilities were preferred by officers and enlisted men, the overall care at the Navy yards was still of poor quality.[19]

The need for naval hospitals eventually persuaded Congress to create the Naval Hospital Fund in 1811. The act provided the Navy Department with its own hospital fund, supported by monthly contributions of twenty cents from officers and enlisted men. The Navy Department appointed the incumbent Secretaries of Navy, War, and Treasury as the Commissioners of Naval Hospitals. Their responsibilities included the procurement of hospital sites and the construction of necessary hospital facilities. The performance of these duties, however, did not occur for many years. One factor in the delay was the War of 1812, which forced the diversion of the hospital fund into other areas.[20]

Despite the slow progress of the Naval Hospital Fund, sites were eventually chosen for naval hospitals. The sites designated for construction corresponded with the Navy's predominance along the Atlantic coast -- Boston, New York, Philadelphia, Norfolk, and Pensacola. The actual purchase of sites did not begin until 1821, with the acquisition of land in Washington, D.C.[21] A site in Chelsea, Massachusetts, was purchased in 1823, followed by sites in Philadelphia, New York, and Portsmouth, Virginia. During this interim period, treatment of patients was maintained by various facilities referred to as naval hospitals. These facilities ranged in location from Boston to New Orleans. Between 1824 and 1827, actual construction of naval hospitals began at Portsmouth, and Philadelphia. Thus, in 1827, the Norfolk Naval Hospital in Portsmouth became the first recognized naval hospital built in the United States.[22]

The overall organization of naval hospitals was designated as the responsibility of Navy surgeons. Duties and responsibilities of the surgeon in charge included the care and treatment of Navy personnel, the overall efficiency of the hospital, and the maintaining of Navy discipline and regulations among subordinate staff.

By the early 1840s, administration of the Navy Department was plagued by problems of inefficiency. In

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[19]Patton, *History of the U.S. Naval Hospitals*, p. 8.

[20]*U.S. Navy Medical Department Administrative History 1941-45*, vol. 2, (n.p., n.d.), p. 15.

[21]Despite the land purchase in 1821, Washington, D.C., did not construct a naval hospital on the site until 1866.

[22]Patton, *History of the U.S. Naval Hospitals*, pp. 5, 11.

1842, Congress passed a Navy appropriations bill that created five different bureaus within the Navy, including the Bureau of Medicine and Surgery (BUMED), which was responsible for naval medicine. The duties of BUMED, according to the General Order of 1842, included:

> *All medicines and medical stores of every description, used in the treatment of the sick, the diseased and the wounded; all boxes, vials and other vessels containing the same; all diet for the sick; all clothing, beds and bedding for the sick; all surgical instruments of every kind; the management of hospitals, so far as the patients therein are concerned; all appliances of every sort, used in surgical and medical practice, all contracts, accounts and returns, relating to these and such other subjects as shall hereafter be assigned to this bureau.*[23]

As a result of BUMED's establishment, Navy medical regulations were standardized, and improved. BUMED began providing reference manuals for naval medical officers that supplied detailed instructions regarding their responsibilities.[24]

The Civil War brought increased attention to the construction and repair of naval hospitals. In 1863, the Secretary of the Navy gave BUMED authority over hospital buildings, which until that point had been under the supervision of the Bureau of Yards and Docks. As a result, the Chief of BUMED began the process of recommending construction of new hospitals, repairing old facilities, and analyzing of the overall costs for naval hospital construction and repair.[25]

Further development of naval hospitals occurred with the Congressional authorization of the Public Buildings Act in February of 1931. As a part of the act, Congress also authorized the Shore Station Development Program, with the purpose of developing naval hospitals along the seaboard. Philadelphia and Bethesda were two recipients of permanent naval hospitals funded by the Public Buildings Act. The Naval Hospital at Philadelphia was constructed in 1935 with additional aid coming from the Public Works

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[23]"A Brief History Of BUMED." (n.d.) [http://support1.med.Navy.mil/bumed/med-09/med-09h/bumed.htm](January 21, 1997).

[24]Patton, *History of the U.S. Naval Hospitals*, pp. 9-10.

[25]"A Brief History of BUMED." (n.d.) [http://support1.med.Navy.mil/bumed/med-09/med-09h/bumed.htm](January 21, 1997).

Administration (P.W.A.) due to insufficient congressional funds.[26] In the Washington, D.C., area, the act authorized the Secretary of the Navy:

> *to replace, remodel or extend existing structures and to construct additional buildings...at the United States Naval Hospital, Washington, D.C. at a cost not to exceed $3,200,000, of which $100,000 shall be charged to the Naval hospital fund.*[27]

This appropriation evolved into the National Naval Medical Center in Bethesda, Maryland, which was commissioned in 1942.

The greatest expansion of naval hospitals and the Navy Medical Department occurred during World War II. As a result of worldwide tensions in the late 1930s, planning and development of naval hospitals increased. Anticipating a U.S. entry into the war against Germany, the Department of the Navy began preparations for the expansion of naval hospitals. The need for preparation and planning was underscored by the bombing of the naval station at Pearl Harbor on December 7, 1941. On that day alone, the naval hospital at Pearl Harbor accepted 545 battle casualties and 313 dead.[28] In addition to the need for new hospitals, the attack at Pearl Harbor signaled the need for expansion of the Navy Medical Department. In 1941, the department was staffed with less than 13,000 persons; by 1945, this number would reach 169,225.[29]

Before 1941, the Federal Board of Hospitalization was responsible for the coordination of federal hospital projects and the advisement of the Bureau of the Budget. Established in 1924, the Board reviewed all federal hospital projects on the basis of need, location, and type of construction and provided coordination efforts with "a greater unity of action." After the attack (Pearl Harbor), however, the Board's input was halted, so that construction for military purposes was not delayed by bureaucracy. The lifting of the Board's oversight lasted for 18 months until May of 1943, when the armed forces' need for coordination of hospital expansion programs prompted a change. Subsequently, all funds for hospital projects were placed once again under the control of the Federal Board of Hospitalization. The War and Navy Department,

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[26]R. Stanley Brown and C.W. Short, *Public Buildings - Architecture Under the Public Works Administration 1933 to 1939* (Washington, D.C.: United States Government Printing Office, 1939), 353.

[27]*U.S. Navy Medical Department Administrative History*, 2.

[28]Patton, *History of the U.S. Naval Hospitals*, 244.

[29]*The History of the Medical Department of the United States Navy in World War II*, vol. 1, (n.p., n.d.), v.

however, modified the review power of the Board by allowing military hospitals to acquire temporary methods of construction which could not exceed 150 beds per project. The modification meant that existing hospitals could be expanded with temporary construction, as opposed to establishing multiple new hospitals.[30]

From June 1941 to June 1942, the patient census in naval hospitals rose from 7,723 to 13,274. In December, 1941, the Navy Medical Department consisted of 19 continental and 3 extracontinental hospitals. To address the need for hospitals, quick solutions were encouraged. One immediate change involved creating space by moving patients beds from 8- feet to 6- feet intervals.[31] A more substantial solution involved the use of standard plans and temporary construction. With standard plans, hospitals could be built with much greater efficiency and lower cost through large purchases of standard materials. To illustrate the difference in cost, the Chief of BUMED wrote to the Secretary of the Navy in 1942:

> *The Bureau of Yards and Docks in evaluating permanent and temporary construction for hospital facilities, estimate the permanent bed costs at $6,000, and in temporary construction the cost per bed is approximately $4,000.*[32]

The temporary structure styles of the "I" or "finger" type and the "H" type enabled the Navy to provide training facilities and care for war casualties in a very short time.[33] Temporary buildings were often located at training facilities and areas accessible to the coasts where war casualties were first brought. There was rarely an attempt to place temporary buildings according to permanent hospital planning regimens.[34]

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[30] *U.S. Navy Medical Department Administrative History*, 20-21.

[31] Jennifer Mitchum, "BUMED'S World War II 'Resorts,'" *Navy Medicine* (November-December 1991): 22.

[32] *U.S. Navy Medical Department Administrative History*, 13-17.

[33] The "I" style of temporary buildings was also referred to as the "Bethesda type," due to its prevalent use at the National Naval Medical Center in Bethesda, Maryland. The "I" style was used for war purposes, whereas the "H" type building was used predominately for quarters purposes.

[34] *U.S. Navy Medical Department Administrative History 1941-45*, 16.

Another important development in the expansion of naval hospitals during World War II was the creation of convalescent hospitals. Beginning in 1942, the Navy for the first time began using private and government buildings for the sole use of rehabilitating ambulatory patients by providing them with rest, a healthy diet, and mental and physical therapy. The notion of using private and government buildings for hospital purposes was part of the Navy's plan for emergency preparedness in the event of war. Typical sites included "civilian institutions such as hotels, schools, resorts, sanitariums, and similar government facilities for emergency hospitalization usage."[35] A large segment of convalescent hospitals, including Yosemite National Park, California, and Harriman, New York, were located in isolated rural areas. These hospitals cared for patients whose recuperation would be aided by access to nature.

Convalescent hospitals served two purposes. First of all, they provided relief for naval hospitals at ports that were heavily affected by the large increase of casualties from the European and Pacific theaters. Secondly, convalescent hospitals prepared injured patients either for a return to the front or a return to civil society. The "civil readjustment" of patients involved occupational therapy and college-level courses. As the war continued, many of the convalescent hospitals began accepting patients with acute diseases. By the end of the war, some 40,000 naval and marine personnel had recuperated or received treatment at convalescent or special hospitals.[36]

Aside from convalescent hospitals, the Navy Department established 31 new U.S. naval hospitals during the war years, ten of which were permanent. The organization required for this large-scale construction entailed numerous planning stages. In the first step, the Surgeon General and the Planning Division of the Bureau of Medicine and Surgery assessed the need for a hospital in a particular locale. The Planning Division investigated further by suggesting possible alternatives for locations. The Federal Board of Hospitalization, after May 7, 1943, returned to its role of reviewing plans for hospital construction projects. Once a need was determined, the Shore Station Development Board chose a site for the new hospital. The Hospital Division of the Bureau of Yards and Docks was responsible for all construction. The Bureau of Medicine and Surgery would then select a medical officer to communicate the progress of the project. After completion of the hospital, the Bureau of Medicine and Surgery reviewed requests for hospital commission dates, which would officially signal its activation as a naval hospital.[37]

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[35]Mitchum, "BUMED'S World War II Resorts," 23.

[36]Ibid., 25.

[37]*U.S. Navy Medical Department Administrative History 1941-45*, 30-31.

Naval hospitals constructed during the war period shared certain physical design elements. A U.S. Navy Medical Department history described a typical wartime naval hospital:

> *There is usually a center building or group of connected buildings which house the various administrative offices, operation rooms, X-ray, laboratory, and departmental and divisional office and clinic. The wards and S.O.Q. are also usually an integral, physically connected part of this pattern. In addition, the hospital compound generally includes a number of subsidiary structures usually physically separated from the main unit and from each other. Examples of such units are officers' quarters, nurses' quarters, WAVE quarters, corpsmen quarters, and the auxiliary buildings such as shops, laundry, garages, storehouses, greenhouse, recreation building, and gate houses.*[38]

Location being important, naval hospitals typically were located near or around metropolitan areas, which provided easy access to amenities such as water, fire protection, and sewage disposal. Of the 21 permanent hospitals at the end of the war, 14 were on the East Coast, 5 on the West Coast and 2 in the mid-continent area. The West Coast hospitals, though fewer, were much larger and handled a majority of war casualties during the war. The top five permanent and temporary hospitals at the end of the war in terms of patient load were San Diego, California, 8,069 patients; Great Lakes, Illinois, 7,532; Oakland, California, 5,400; St. Albans, New York, 4,642, and Corona, California, 3,611.[39]

The end of the war in 1945 signaled the inevitable demobilization and lack of appropriations for naval hospitals. Temporary and convalescent hospitals either closed or returned to their original functions before the war. The Navy Medical Department's massive wartime construction efforts were unprecedented in its history and left a permanent impact on the planning efforts of the department as well as hospital development in the United States.

NAVAL MEDICAL RESEARCH INSTITUTE (NMRI)

The Naval Medical Research Institute (NMRI) was formed to respond to the needs of troops during World War II, as this was the first war that emphasized the importance of the specialties of aviation medicine, submarine medicine, and amphibious medicine. As medical knowledge has expanded, and warfare tactics

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[38] *U.S. Navy Medical Department Administrative History*, 33.

[39] Ibid., Appendix N.

changed, NMRI continues its mission to the present day. At NMRI, researchers in fields allied with medicine -- including physiology, psychology, physics, chemistry, bacteriology, botany, and entomology -- conduct research designed to prevent disease, relieve suffering, and save lives of military personnel.

During World War II, although other naval hospitals around the nation were involved in medical research, NNMC was the leader in this area, primarily because of the work of NMRI, which was commissioned on Naval Day, October 27, 1942, as one of the commands of the National Naval Medical Center. The mission was to conduct basic and applied research and development concerned with health, safety, and efficiency of naval personnel. With this stated mission almost any type of research was possible, and interpretation has been broad. Combat requirements were studied and dealt primarily with issues involving aviation, field operations, submarines, biological weapons, and chemical warfare, including studies of the effects of altitude, decompression, and isolation on forces.[40] The original staff consisted of 13 officers and 50 enlisted men.[41]

The original organization had four departments: (1) environmental medicine; (2) naval preventative medicine; (3) equipment research; and (4) dental research. Less than a year later, in July 1943, the departments were reorganized into divisions with various specialties. Included were animal laboratories, aviation, bacteriology, biochemistry, biophysics, chemical and gas analysis, experimental dentistry, diving and underwater physiology, heating, air-conditioning, and ventilation, industrial hygiene, library, nutrition, parasitology, pathology, personal equipment design, pharmacology, and toxicology, hematology, and experimental surgery, and virology. In June 1947, the organization consisted of the divisions and service units listed above. By 1967, the divisions consisted of eight scientific departments: behavioral sciences, clinical investigation, microbiology, parasitology, physiological sciences, dental research, education and training sciences, and bioenergetics laboratories, and five technical service departments: technical reference library, veterinary services, instrumentation laboratories, graphic arts, and radioisotope laboratory.[42]

Much of the NMRI research began as tests on animal subjects, as the study of new chemical compounds

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[40]History of the Medical Department of the United States Navy in World War II, Chapter XX, Medical Research, Harold W. Smith, Rear Admiral (MC), USN (Deceased), p. 316.

[41]History of the Research Division, Bureau of Medicine and Surgery, U.S. Department of the Navy, Charles W. Schilling, Captain, Medical Corps, U.S. Navy, Retired, p. 126.

[42]History of the Research Division, Bureau of Medicine and Surgery, U.S. Department of the Navy, Charles W. Schilling, Captain, Medical Corps, U.S. Navy, Retired, p. 127.

was typically performed on animals. Data concerning the pharmacology, toxicology, and therapeutic action had to be corrected or confirmed. After the animal phase of tests, clinical trials on humans were conducted elsewhere, using the NMRI background information. However, human trials that did not involve drugs were routinely performed at NMRI. These experiments, such as tests on human reactions to changes in climate, air pressure, and other physical elements were conducted at NMRI.[43]

The achievements of NMRI are many. From the year of its inceptions, NMRI scientists have been responsible for many significant medical accomplishments. While the focus of the research was on military, specifically naval, medicine, much of the work was adaptable for civilian applications. Much of NMRI's work, while medical in nature, may more accurately be classified as physiological. Studies conducted on physiological responses of men in combat situations yielded important information on how the human body adapts to a variety of situations.

NMRI responded specifically to challenges that resulted from combat situations encountered during World War II. The first project of NMRI concerned studying water and food for shipwrecked personnel. In February 1943, a new method for desalinating sea water was developed by NMRI. This new method, which required only small, light-weight equipment, replaced an older method that required several steps using large mechanical devices. While water for the shipwrecked was the primary focus of this study, rations for rafts and lifeboats were also investigated. The driving concept of this study was that any food used in theses studies had to be easily consumed and efficiently metabolized. NMRI developed a ration consisting of three tablets -- containing fat, sugar, or malted milk. Known as the "NMRI Tablet Emergency Ration," this combination proved effective and was included in the survival kits of aviators and air crewmen.[44]

Another area of high priority associated with assisting shipwrecked sailors and those who faced survival at sea was the development of tablets that changed urine to potable drinking water. These tablets were used in situations where no desalinization equipment was available. Also related to both survival and routine missions at sea, studies of seasickness were conducted to determine causes and to develop remedies. While several remedies were accepted aboard ship, NMRI found that one -- hyoscine -- was particularly effective in preventing seasickness for personnel stranded in life rafts, aboard which most men became

[43]Interview with Regina Hunt, Command Editor, NMRI, by Joan Brierton and Stephanie Foell, Robinson & Associates, Inc., August 21, 1997.

[44]*U.S. Naval Medical Department Administrative History, 1941-1945*, Volume II, Appendix B, n.p.

seasick to a degree that their survival was jeopardized.[45]

Similarly, prolonged exposure to the sun was a threat to men in lifeboats, those who were shipwrecked, and those who were in combat situations in both tropical and mountain climates. In response to this, NMRI developed increasingly more effective anti-sunburn creams as well as an anti-sunburn lipstick. Both of these items were accepted for general use in the Navy, and were also included in survival kits on life rafts.[46]

Assisting men to survive in water was another challenge faced by NMRI researchers. Water-tight garments, worn over regular clothing, were developed for use in situations where prolonged exposure to water could be detrimental. In situations where freezing water temperatures would have been fatal, NMRI developed an antiexposure suit that enabled survival for many hours in cold water. Without these suits, men could be expected to live less than an hour.[47]

The climates of the combat arenas were new to forces, as were indigenous diseases. Enemy forces used new weapons, or used traditional weapons in unexpected ways, so during the years of World War II, studies also focused on assisting men in combat situations. Responding directly to the needs of men in post-combat situations, NMRI investigators developed new procedures to help personnel with destroyed mandibles to grow new bone tissue. A metal crib packed with particles of the patient's bone and bone marrow was inserted in place of the missing jaw bone. When the entire jaw needed to be replaced, a freeze-dried jaw was drilled with small holes that were then packed with marrow. In both cases, new bone grows and combines with the existing bone to form a new solid jawbone. Similarly, high velocity bullets used by Asian forces often resulted in the loss of segments of bone measuring six to eight inches. Prior to NMRI's work, this amount of bone loss would have required amputation of the affected limb. However, NMRI surgeons developed techniques to replace the entire missing segment with a graft, restoring use of the limb to the patient. Similarly, tendon grafts were used to repair hand injuries, allowing patients to regain full use of their hands. Prior to this development, damaged hands would have been immobilized and virtually useless.[48]

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[45]History of the Research Division, Bureau of Medicine and Surgery, U.S. Department of the Navy, Charles W. Schilling, Captain, Medical Corps, U.S. Navy, Retired, p. 142.

[46]*U.S. Naval Medical Department Administrative History, 1941-1945*, Volume II, Appendix B, n.p.

[47]Ibid.

[48]*NNMC Celebrates 30 Years at Bethesda 1942-1972.* Department of the Navy, 1972.

At the end of World War II, a contingent of NMRI scientists were sent to Japan to study clinical and pathological aspects of the atomic bombings. Radiation studies on animals present at the blast sites also yielded information about exposure to ionizing radiation. These animals were transported back to NMRI's laboratories at NNMC so that their offspring could also be studied for any radiation effects.

From 1960 through 1972, heat and humidity acclimatization mechanisms, and heat stress studies conducted aboard ships were priorities for NMRI researchers. The results of these studies not only made naval personnel more comfortable, but they also led to an increased efficiency of work. NMRI studies showed that excess heat produced distress and physical deterioration in personnel. Research showed that if personnel spent approximately 12 hours each day in air-conditioned living or working spaces, they were more efficient, and associated ailments, such as heat rash, disappeared. The Asian theater also brought new diseases to naval personnel, who were exposed to particularly hot climates and to a host of foreign diseases. Combating these diseases often involved developing insect repellents to ward of disease-carrying insects. In other cases, where disease could not be prevented, finding treatments or cures for diseases was given a high priority. In many instances, treating tropical diseases called for finding a way to fight parasitic infestations, leading NMRI researchers to investigations in entomology and parasitology.[49]

Much of NMRI's wartime research had applications for the civilian population. Effective sunscreens were developed and marketed to the public. Medical knowledge, such as bone grafts and disease treatments, was also shared with the larger medical community. For example, in 1962, scientists developed and refined a method of recording changes in human body temperature from the tympanic membrane of the ear. Because this method gave very accurate results, particularly for small children, thermometers that are inserted into the ear canal are now commonly used in hospitals and homes.[50]

Another NMRI finding that has become part of many civilian lives is the development of the "step-up test" as a measure of physical fitness. Participants step up and down a single step for a set amount of time, and afterward, their heart rates are used as a measure of their levels of cardiovascular fitness. Physical education programs across the country use this test to rate the fitness levels of school-age children, and similar stress tests are used by physicians to evaluate the cardiovascular fitness of patients. As recently as 1997, NMRI was responsible for developing an anti-rejection drug for recipients of transplanted organs. The chances of rejection of the transplanted organ, which poses a great threat to patients, is greatly

[49] *History of the Research Division, Bureau of Medicine and Surgery*, U.S. Department of the Navy, Charles W. Schilling, Captain, Medical Corps, U.S. Navy, Retired, p. 147.

[50] Ibid.

reduced, increasing the overall survival rate for recipients.[51]

A distinguished person associated with NMRI was Charles Lindbergh, the famed aviator who later became a Congressman. Lindbergh, who was also was highly interested in medicine and physiology, developed a heart perfusion pump in 1935. He announced his invention after secretly working on it for four years with Nobel Prize laureate Dr. Alexis Carrel of the Rockefeller Institute of Medicine. Although the device is often mistakenly referred to as an artificial heart, it was actually a perfusion pump designed to keep isolated organs alive outside of the body. The pump had three glass chambers. The top chamber housed the organ , while a reservoir at the bottom held a nutrient solution. Compressed gases, released in spurts, oxygenated the solution and forced it through the organ. Most importantly, the pump was completely enclosed and aseptic. In the mid 1960s, NMRI researchers realized that the model worked better than their current equipment. They asked Lindbergh to further refine and develop it for use at NMRI. Lindbergh complied, and his revamped heart perfusion pump, a museum-quality piece, is owned by NMRI.[52]

Another notable historical connection is found between NMRI and the Mercury astronauts. During the 1960s, NMRI scientists observed and tested the astronauts, who included John Glenn, both before and after the mission. Conducting some of the same tests used on both submarine personnel and on aviators, NMRI scientists assisted NASA with physiological aspects of issues such as altitude and weightlessness.[53]

NMRI's achievements are many, and these achievements have had major impacts on the health and well-being of military personnel during conflicts. The civilian population has also benefitted from NMRI's body of knowledge, with developments that now seem commonplace, such as sunscreen. NMRI has succeeded in responding to the changing needs of the Navy. As combat arenas and methods of warfare have changed, NMRI has provided the Navy with knowledge that made personnel more effective in battle. NMRI also provided injured Naval personnel with medical innovations that prevented major deformities or disabilities. When not responding directly to the needs of a wartime situation, NMRI scientists continue to develop medical innovations that benefit not only military personnel, but the civilian population as well.

Significance of NMRI Buildings

The NMRI buildings are architecturally significant. Resulting from the design of the master architect Paul

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[51]Ibid.

[52]Conversation with Jan Herman, Bureau of Medicine and Surgery historian, January 1998.

[53]Interview with Regina Hunt, Command Editor, NMRI, by J. Brierton and S. Foell, Robinson & Associates, Inc., August 21, 1997.

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Cret, these buildings display thoughtful attention to detail and simple, yet deliberate decorative ornamentation. Like other Cret-designed buildings at NNMC, Building 17 uses similar materials, massing, and scale as other Cret buildings at NNMC. While Building 17 has been enlarged with the additions of 17A and 17B, the annexes themselves have gained historic significance. Also, correspondence and drawings indicate that although the center portion was constructed first, designers knew that an expansion would be following shortly. The areas designated as 17A and 17B, while greatly enlarging the existing Building 17, are compatible in scale, color, materials, and massing. They are reflective of NMRI's increasingly significant role in military research. As the need for military research, such as that conducted by NMRI, became more important in winning the war effort and in treating returning veterans of World War II, the organization needed more space to conduct research and expand to accommodate the latest in medical technology.

Research is unclear as to whether the concrete designer John Joseph Earley was connected to the colored concrete panels located on the NMRI building. A preliminary review of Early's papers indicated that after his death, Earley's firm was involved with placing panels on the research building (Building 17) in 1955. However, historic photographs show that the panels were in place at the time of the buildings construction in 1944. Whether Earley was involved at this phase of construction is unknown. A review of Earley's records and correspondence relating to the construction of NNMC and NMRI has been inconclusive, and no connection between Earley and Cret has been established.

The Naval Medical Research Institute has been located in its current building since 1942. However, as of this writing, construction is underway for new facilities located in Forest Glen, Maryland. Currently, NMRI plans to occupy this new building during first half of 1999.

NATIONAL NAVAL DENTAL CENTER

The National Naval Dental Center is the Navy's second largest dental command, providing comprehensive and specialized dental services to eligible military beneficiaries. The Center is composed of command headquarters, the Naval Dental School, six branch dental clinics, and eight annex facilities. Command headquarters and the Naval Dental School are located on the grounds of the National Naval Medical Center in Bethesda. Branch dental facilities are located at naval installations in Washington, D.C.; Annapolis, Maryland; Quantico, Virginia; Patuxent River, Maryland; Indian Head, Maryland; and Dahlgren, Virginia.

The mission of the National Naval Dental Center is to conduct postgraduate and graduate instruction for Dental Corps officers in fields of dentistry and in military medical subjects particular to the requirements of the naval services; to instruct and train dental technicians in various technical specialties; to

participate in the preparation of training aids for use by naval dental personnel; to prepare and administer correspondence training courses for the personnel of the regular and reserve components of the Dental Corps; and to provide dental treatment and consultation for the National Naval Medical Center and other naval professional activities.[54]

Established in 1923 as the Navy's primary institution for postdoctoral and graduate level training for officers in the Navy Dental Corps, the school offers residency programs in endodontics, comprehensive dentistry, oral diagnosis, oral medicine, oral and maxillofacial radiology, periodontics, prosthodontics, oral pathology, and maxillofacial prosthetics. Originally located at the Naval Hospital at 23rd and E Streets, the Naval Dental School relocated to the National Naval Medical Center in Bethesda in December 1941, shortly before the new medical center was commissioned in February 1942. In addition to conducting research in dentistry and allied sciences, the school provides a full range of clinical dental services and trains a limited number of enlisted dental technicians in maxillofacial prosthetics. The Naval Dental School offers a comprehensive continuing education program that keeps officers abreast of the latest developments in dentistry.[55]

The accomplishments of the National Naval Dental Center during the years of World War II are particularly notable. Dental officers on staff were charged with treating patients as well as teaching classes. The courses at the school were formulated with the intent of including instruction in subjects that would be of the greatest value to dental officers in battle zones. The principal subjects emphasized during the war years included general anesthesia, maxillofacial surgery, surgical first aid, and chemical warfare. During the fiscal year 1943-1944, a new department known as the Maxillofacial Prothesis Department was established in anticipation of needs created by World War II.[56]

Interestingly, one of the most important contributions of the Dental School was not actually to the field of dentistry. Because of the work in prosthetics that the Dental School did, the researchers there were particularly experienced in working with plastics, they took on the task of creating an improved artificial eye. Prior to World War II, people needing artificial eyes were given glass eyes that were available only in a small range of standard sizes. Therefore, these eyes were often ill-fitting, causing pain to the wearer.

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[54]*The United States Naval Dental School, Bethesda, MD*, Captain A.H. Yando, Dental Corps, United States Navy, in the *United States Naval Bulletin*, Bureau of Medicine and Surgery, Volume XL, Number 2, April 1942, p. 268.

[55]*U.S. Naval Medical Department Administrative History, 1941-1945*, Volume II, p. 48.

[56]Ibid., p. 50.

Also, the eyes would break easily if dropped. And because a rare glass made in Germany was used in making artificial eyes, the supply was depleted at the beginning of the war.[57]

In 1945, the Dental School developed an eye that was far superior to the old glass eye. The plastic eye was custom fitted to each recipient, matching the muscles of the socket so well that the artificial eye moved in coordination with the good eye. The iris of the artificial eye was hand painted to match the existing eye in shape and color. The only detectable difference between a real eye and this artificial eye is that the pupil of the artificial eye does not respond to changes in light.

Naval dental researchers developed a mannequin to use in first aid training of dental technicians. This mannequin had an artificial blood supply that was piped to various wounds to simulate bleeding, and injuries such as broken bones, cuts, and objects caught in the throat could also be simulated. A commercial firm began to manufacture these mannequins under the name of "Mr. Disaster." Soon, the Red Cross, civil defense agencies, and the armed forces used "Mr. Disaster" to teach first aid techniques across the country.[58]

Later accomplishments included the development of high speed drill in 1960. Because it moved at 300,000 rpm, in comparison to the old drill that moved at only 4,500 rpm, the new drill generated less vibration, making control of the drill easier for dentists, and reducing pain for patients.[59] The National Naval Dental Center currently occupies space in the north wing of Building 1, where it has been located since 1942.[60]

THE ARCHITECTURAL DESIGN AND DEVELOPMENT OF THE NATIONAL NAVAL MEDICAL CENTER

Introduction

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[57] *NNMC Celebrates 30 Years at Bethesda, 1942-1972*, Department of the Navy, 1972.

[58] Ibid.

[59] Ibid.

[60] *U.S. Naval Medical Department Administrative History, 1941-1945*, Volume II, p. 48.

Official credit for the design and construction of the National Naval Medical Center[61] is attributed first, on account of this being a project undertaken and sponsored by a government agency, to the United States Bureau of Yards and Docks, with Frederick W. Southworth, an employee of the Bureau, recognized as project architect. At the time of the National Naval Medical Center's construction, the Bureau of Yards and Docks was the branch of the Navy responsible for designing shore installations. Southworth, known for his great ability to understand service personnel and to harmonize naval functional and structural limitations within the demands of medical officers, is listed as "architect" on all construction drawings and within the Building 1 cornerstone. Outside the realm of standardized bureaucratic procedures and traditional practices, the breakdown of actual responsibilities distributes credit to a collection of prominent and deserving individuals. It is probably most appropriate to acknowledge Frederick Southworth's involvement as that of construction manager and project representative for the Bureau of Yards and Docks. Working with the Bureau of Yards and Docks for years, Southworth had, by the time of his involvement with the National Naval Medical Center, extensive experience in designing and constructing naval hospitals. Based on this knowledge, and such a familiarity with the building and complex type, it was logical for this project to be carried out under Southworth's direction.

Though executed through the Bureau of Yards and Docks, the design and construction of the National Naval Medical Center, like most projects, involved a series of players, not the least of which were President Franklin Delano Roosevelt, and architect Paul Philippe Cret. Roosevelt's involvement was the catalyst that brought the project to its realization. Having served as Assistant Secretary of the Navy from 1913 to 1921, Roosevelt had — for some time — envisioned a national center dedicated to the care and treatment of naval personnel and, in particular, the battle of protecting servicemen and women from the injuries and diseases often acquired during the conflicts of war. Roosevelt's overall intention was to ensure that the nation was in good physical shape; after all, — as he saw it — a nation could only be strong if it was first healthy.

Defining Roosevelt's Initial Inspiration and Involvement

During his 1932 "Swing Across America" tour, President Franklin Delano Roosevelt was greatly impressed by Bertram Goodhue's design for the Nebraska State Capital in Lincoln, Nebraska. President Roosevelt proclaimed on his visit to the Capitol that some day he too "would like to build a government

[61]During the actual design and development of the National Naval Medical Center, the complex was officially known as the U.S. Naval Medical Center, and more commonly referred to simply as the Naval Medical Center. For consistency and the purposes of this documentation, the center is referred to continuously as the National Naval Medical Center.

building like that."[62] Defined by its 350-foot stone tower and two-story pavilions, the building combined classical forms with modern materials and methods of construction. Virtually devoid of ornament, the Capitol was delicately adorned by a creative, yet simply refined combination of dark vertical window expanses set against contrasting precision stonework. In December 1937, Roosevelt sketched, on White House stationery, a rough plan and elevation of the government building he envisioned. The sketch was strikingly similar to the scale, massing, and design of the Nebraska State Capitol. It was this preliminary drawing that would eventually guide the design and development of the National Naval Medical Center complex.

The early sketches prepared by Roosevelt proceeded from essentially rough ideas to a full-scale, in-house Bureau of Yards and Docks design effort. Much to the surprise of this branch, which had planned a competition for the design of the Medical Center among its architectural staff, President Roosevelt assumed a much greater design role than anticipated. To solve the dilemma of the architectural competition, the President subsequently selected one of the drawings submitted by an in-house architect as the winner, and issued the appropriate certificate of award. However, Roosevelt insisted that further studies be made, and the eventual result is a close approximation of his own design.[63]

Overseeing Design and Construction

As noted above, the Bureau of Yards and Docks appointed Frederick Southworth to oversee the National Naval Medical Center design effort. Familiar with the complexities of the regulatory design review process within the nation's capital and its immediate environs, however, it is apparent that President Roosevelt recognized the need to hire an architect of prominence that could successfully guide this major project through the necessary agency reviews. A series of influential federal commissions received and skillfully completed by architect, Paul Philippe Cret, certainly had not gone unrecognized by the President. Paul Cret commanded great respect from an impressive clientele and the high esteem held for him is exhibited in an internal memorandum sent to Frederic Delano, Chairman of the National Capital Park and Planning Commission, on December 7, 1936, from John Nolen, Jr., Director of Planning. Regarding earlier opposition to the construction of the National Institutes of Health (directly across Rockville Pike from the proposed National Naval Medical Center), Mr. Nolen indicated that a colleague

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[62] *Naval Medical Center, Bethesda, Maryland (1939-1984)*. E. Caylor Bowen, Editor. Transplantation Research Program Center. Naval Medical Research Institute. Naval Medical Command, National Capital Region, Bethesda, Maryland, 1984.

[63] *The Military Surgeon*, October 1950, "The Navy Builds a Medical Center," by Rear Admiral Lucius W. Johnson, Medical Corps, United States Navy (Retired), 3. Courtesy of the Office of the Naval Medical Historian, Bureau of Medicine and Surgery.

had offered the following advice:

> *the Maryland authorities will withdraw their formal objections to the proposed development, provided they are satisfied that the Treasury Department is planning the very best arrangement and design of buildings that it can....the project is important enough to warrant the employment of a consulting architect of the caliber of Paul Cret, for example, an opinion already expressed...to the Public Health Service.*[64]

Selecting Paul Cret as Consulting Architect

Paul Cret is listed on all Bureau of Yards and Docks construction drawings, and within the Main Administration and Hospital Building (Building 1) cornerstone, as the "consulting architect." The decision to hire Paul Cret for the NNMC project was most likely based not only on his outstanding reputation, but on his previous associations with President Roosevelt, particularly during the design and construction of a number of buildings constructed for the federal government, and in particular, those throughout the District of Columbia and its immediate environs. Details of these commissions and this extended association follow.

Education and Early Achievements

Paul Philippe Cret was born on October 23, 1876 in Lyons, France. Recognized as one of the most influential forces in Philadelphia architecture during the early part of the twentieth century, he began his career studying at the Ecole des Beaux Arts in Lyons. Successfully obtaining the Paris Prize while in Lyons enabled Cret to move and continue his studies at the Ecole in Paris. Paul Cret graduated from the Ecole des Beaux Arts in 1903, a year in which many schools of architecture in the United States were attracting teachers from this prominent and highly regarded design school. It was this same year Cret himself was persuaded to move to Philadelphia, where he accepted a position as Professor of Design at the University of Pennsylvania. By 1907 Cret had formed a partnership with Philadelphia architect Albert Kelsey, together winning the first of Cret's many shared national architectural competitions — the design of the International Bureau of American Republics in Washington, D.C., later known as the Pan American Union.

Paul Cret had returned to France when war broke out in 1914. A citizen of France, Cret joined the French Army, serving his country as a soldier for the next five years. In recognition of his wartime service, Cret

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[64] Memorandum to Frederic A. Delano, Chairman of the National Capital Park and Planning Commission from John Nolen, Jr., Director of Planning, December 7, 1936. Record Group 121, Records of the Public Buildings Service on file at the National Archives.

was awarded the Croix de Guerre and made an officer in the French Legion of Honor.[65] Once discharged, the veteran Cret returned to his academic appointment and architectural practice in Philadelphia. It was at this time, in 1919, that Mrs. Theodore Roosevelt asked Cret to design a memorial to her son, Quentin, who had been killed during the War. The memorial, placed at Charnery, France, was designed this same year. In 1923, in addition to his continuing responsibilities, Cret agreed to serve as Consulting Architect for the American Battle Monuments Commission. In this capacity, Cret found that, through the design of memorials, chapels, and cemeteries honoring the heroes of the first World War, he could affect and express the image of the United States throughout the world.

A Flourishing Architectural Practice

The work of internationally known architect, Paul Cret, stretches far beyond the monumental public structures that have gained him such distinguished recognition. Review of a comprehensive project list, on file as part of the Paul Cret Collection at the Athenaeum of Philadelphia, reveals that Cret's talents extended into the fields of landscape design, as well as city, site, and campus planning. Though Cret's project list is extensive, a close examination of his various works suggests areas of expertise in which Cret, and his office, appeared to specialize. The more predominant and repeated project types that emerge from this list include small and large-scale public buildings, bridges, monuments, landscapes, and site/campus plans. The years between 1920 and 1940 appear, by far, to have been the firm's most prolific. Examination of the collection of impressive and high-profile projects filling Cret's office during this period indicates that Cret's participation in the design of the National Naval Medical Center at Bethesda may have been based on three primary factors: the first being his already established experience and association within Washington's architectural community, particularly the local and federal review agencies; the second being his already established relations, through like projects, with the Bureau of Yards and Docks; and the third being his recognized abilities in large site/campus planning.

While a comprehensive review of each of the works of Paul Cret is not necessary, it is useful to summarize the projects leading up to and immediately following his receipt of the National Naval Medical Center commission. This review places the project in an appropriate and related context, establishing the likely connections that existed between Cret's ongoing efforts in institutional planning (particularly those undertaken for the United States government), landscape and monumental public building design — and how each of these associations may have influenced his being selected as consulting architect and his eventual scheme for the site. Along with such major and widely known commissions as the Detroit Institute of Arts in Detroit, the Barnes Foundation Gallery in Merion,

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[65]Sandra L. Tatman and Roger W. Moss, *Biographical Dictionary of Philadelphia Architects: 1700-1930,* The Athenaeum of Philadelphia, p. 172.

Pennsylvania, and the Rodin Museum in Philadelphia, Cret's office balanced a diverse selection of work that included designs for banks, libraries, small-scale commercial office buildings, storefronts, bridges (at least six in Washington, D.C., alone), and bandstands. Surprisingly, a large number of projects received during the 1920s were landscape oriented, ranging from parkway and cemetery design to individual gardens, gateways, and residential grounds. It appears common for the office to have often accepted commissions limited to the design of a single lamp post, tablet, fountain, or bird bath.

Among the continuing contracts received by Cret's office were those for monuments and memorials, most likely gained from his long and established association with the American Battle Monuments Commission. A sampling of these projects included: the Pennsylvania Battle Monument, Varennes, France; the American Battle Monuments Chapel, Flanders Field Cemetery, Waregem, Belgium; the American Battle Monuments Commission Memorial, Chateau Thierry, France; and various war memorials at Chamery, Fismes, and Bellicourt.[66] Significant commissions in their own right, many of these cultural contributions go largely unrecognized as the work of this master architect and, again, it is chiefly his monumental public projects that have gained him such personal and professional acclaim.

Revealing Expertise in City and Site Planning

Another aspect of Cret's career that appears to have gone relatively under-recognized and under-appreciated is his understanding and experience in executing the principles of sound environmental design and planning. Of particular interest and relation to Cret's involvement in the planning and design of the National Naval Medical Center were the commissions he received early in his career to undertake campus development studies at both Brown University in Providence, Rhode Island, and at the University of Pennsylvania in Philadelphia (in 1922 and 1925, respectively). Both projects, along with the commissions he would receive later in 1930 to design the Philadelphia Zoological Garden and the campus of the University of Texas, involved the knowledge and skill of site analysis and city planning. Each of these complex institutional commissions[67] involved the incorporation of roadways, vehicular and pedestrian traffic patterns, landscape features and furnishings, administration buildings, classroom and recreational facilities, residential accommodations, and the placement of a variety of support and service structures.

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[66]Obituary, " Dr. Paul P. Cret, 68, A Noted Architect," *New York Times*, Monday, September 10, 1945.

[67]It should be clarified that the program for the Philadelphia Zoo varied somewhat from the other campus/site plans, for the most part simply in the building type, not necessarily its functions. For instance, "residential" accommodations were still required, but, as the Cret Collection illustrates, the "houses" (as they are referred) were for monkeys, apes, lions, etc. Similarities remained in the incorporation of planning for roadways and circulation patterns, landscaping, transportation, and various support facilities.

The successful execution of these early institutional planning efforts led to an abundance of large-scale campus planning commissions, particularly for academic institutions, both public and private. In addition to those already mentioned, Paul Cret laid out substantial plans for: the United States Military Academy at West Point, New York; the United States Naval Academy, Annapolis, Maryland; Bryn Mawr College, Bryn Mawr, Pennsylvania; and Penn State University, State College, Pennsylvania. As noted above, Cret was responsible not only for the design of the individual facilities and structures required, but for their arrangement, placement, and relationship within the larger campus setting. Further supporting the firm's planning abilities was its familiarity with bridge design and construction, a level of expertise from which an understanding of the complex nature of roadways and transportation networks was apparently gained.

It was during the 1930s that Cret's large-scale planning abilities, generally unrecognized as integral to his design career and experience, were displayed. In 1939, Paul Cret had been invited to develop site and expansion plans for the United States Naval Experimental Basin in Carderock, Maryland. Though never executed, these plans proposed the extension of the existing basin, a future basin, construction of officers quarters, storage facilities, a shop extension, boathouse, utility building and other support facilities. This project included an accompanying landscape study also completed by Cret's office. Involvement in a project of this nature illustrates the nature of overall site planning projects the firm was accepting at this time. The scope of work presented for the Naval Basin was almost identical to the scope proposed for the National Naval Medical Center. Exposure to and familiarity with these design challenges made Cret the likely candidate to undertake the design and development of the National Naval Medical Center at Bethesda.[68]

Commissions in the Nation's Capitol

Projects specific to the Washington area, largely completed during the third decade of the twentieth century (with the exception of the OAS Building constructed in 1908), constitute the majority of Cret's most notable and widely recognized works. It is this collection of public building projects that skillfully illustrate Cret's personal expression of classical styling details, elegant interpretation and development of the Beaux Arts, and powerful, yet conservative introduction of modernism. These efforts include: the OAS (Organization of American States/Pan American Union) Building on Constitution Avenue, the Folger Shakespeare Library on East Capitol Street, the Central Heating Plant at 13th and C Streets in southwest Washington, and the Federal Reserve Board Building on Constitution Avenue between 20th and 21st Streets in downtown Washington.

[68]Despite Cret's death in 1945, the firm continued its planning traditions, developing site plans and campus designs for, among many others, numerous United States Naval Air Stations throughout the world.

Paul Cret is responsible for the construction of five of Washington's major bridges; these include the Klingle Valley Bridge, the Calvert Street Bridge, the South Capitol Street Bridge and the Fourteenth Street Bridge. As part of the Independence Avenue project (1943), Cret also designed the Kutz Bridge, extending Independence Avenue across the Tidal Basin.[69] Additionally, Paul Cret is credited as having designed a Peace Carillon in Washington, D.C.[70] and having completed a private residence, executed in the French country style, for Ms. Mary E. Stewart of 24th Street in northwest Washington. It is this handful of projects upon which Cret built his preeminent standing among the Washington architectural community, to include the President of the United States.

Public Service, Associated Memberships, and Honors
President Roosevelt appointed Cret to the Commission of Fine Arts in 1940, where he served as commissioner in charge of consideration and approval of plans for public buildings. Cret served in this capacity, along with his role as Consulting Architect for the American Battle Monuments Commission, until his death in 1945. Organizations and associations of which Cret was also a member included the National Academy of Design, the National Institute of Arts and Letters, the American Philosophical Society, the Society of Beaux-Arts Architects, the T-Square Club, the American Institute of Architects, and the French Benevolent Society, among many others. Throughout his career, Paul Cret received awards for his contributions to city planning, American architecture, and architectural education.[71] Among these honors were the Medal of Honor of the Architectural League of New York, the Bok Award, the American Architectural Prize, the Gold Medal of the American Institute of Architects, the Paris Grand Prix, the Prize of Honor at the 5th Pan American Congress of Architects at Montevideio, and the Award of Merit of the Pennsylvania Alumni Society. Additionally, Cret received honorary degrees from the University of Pennsylvania, and Brown and Harvard universities.

The Continued Dedication and Commitment of Franklin Delano Roosevelt
Franklin D. Roosevelt's personal interest in architecture had encouraged him to become intricately

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[69]After his death in 1945 the Cret firm continued this tradition by completing plans for the East Capitol Street Bridge in 1951.

[70]An article entitled "Franklin D. Roosevelt and Washington Architecture," included in the *Records of the Columbia Historical Society of Washington, D.C., Volume 52 (1989(, p. 132,* indicates that Cret was requested by President Roosevelt in 1940 to design a "peace memorial" to be placed along the 24th Street axis. Though never constructed, Cret did create a design for this peace memorial, drawings of which are on file in the Rare Book Collection of the University of Pennsylvania.

[71]Tatman and Moss, p.173.

involved during his years as President, 1933-1945, in the design and construction of many government properties. William B Rhoads, author of "Franklin D. Roosevelt and Washington Architecture," states: relatively unknown is the extent of Roosevelt's involvement with the design of federal buildings in Washington— an involvement sometimes so deep and direct that governmental commissions and architects found their own schemes thwarted by proposals from the chief executive."[72]

The President is believed to have significantly influenced the design of such buildings as the South Building for the Department of the Interior (the first project implemented under the newly established Public Works Administration Program), the Federal Trade Commission, the Federal Reserve Board, the Jefferson Memorial, the National Gallery of Art, the War Department Building, and Washington National Airport. Certainly, Cret, either in his capacity as project architect for the OAS and the Federal Reserve Board, or as a participant on various review agencies monitoring the above projects, had interacted on a professional basis with the President. Roosevelt is believed to have become an admirer of Cret's during the design of the Federal Reserve Board Building, where on the opening of this new governmental facility in 1937, Roosevelt ranked it "among the foremost of the Capital's architectural achievements."[73] On a more personal note, paths of both men may have crossed years earlier when Cret was commissioned to design the memorial to Quentin Roosevelt. Whatever their prior association, a relationship between the two would clearly emerge through their cooperative efforts to construct the National Naval Medical Center.

Plans for the new Medical Center, prepared prior to Cret's involvement, proposed a group of two- and three-story buildings for the site, to be finished in tapestry brick. Early estimates indicated that this construction would cost close to $4,850,000. At the President's insistence, floor plans and elevations for a building with a tower 40 square feet and 15 stories high were prepared and submitted for his review. Shortly after the President's approval of these plans, in-house Bureau of Yards and Docks designers acknowledged that such dimensions had severe drawbacks. For instance, once the area alloted for elevators, stairs, water tanks, and other requirements were accounted for, there remained only enough space on each level of the building for four rooms — seriously limiting the building program. Thus, two revised sets of plans were prepared, with the President eventually approving a plan that proposed a central shaft 88 by 104 square feet and a rotunda at the main entrance.

Overcoming Opposition

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[72]William B. Rhoads, "Franklin D. Roosevelt and Washington Architecture," *Records of the Columbia Historical Society*, Volume 52 (1989), p. 104.

[73]Rhoads, p. 128.

Design difficulties, however, proved to be the least threatening obstacle to construction. Fervent opposition from the National Capital Park and Planning Commission and the Commission of Fine Arts continued. Correspondence dating to the late summer of 1938 expresses the opinion of each commission. Acknowledging that they were pleased with the location selected for the Medical Center, the National Capital Park and Planning Committee unanimously opposed construction based on the grounds that the proposed 20-story tower violated the 72-foot height limit for buildings prescribed for the District of Columbia and its immediate environs.

> *If we were to approve so great an exception to these restrictions as is suggested in this case, it would open the door to the construction of other high buildings, notably hotels and apartment houses in the nearby country-side, perhaps on prominent sites and probably not on large open spaces of land. The Commission believes a structure of great height in this area or any other area of Washington is unfair to other properties.*[74]

The Commission of Fine Arts had also concluded that the proposed tower was "particularly objectionable and inappropriate in the environs of the National Capital." [75] An additional concern of the Commission of Fine Arts was that the tower would dwarf the buildings of the Public Health Service (NIH) directly across the Pike.

Failure to conduct successful negotiations between the commissions, the President, and the Bureau of Yards and Docks made it necessary for the Judge Advocate of the Navy to determine the exact authority each Commission had, and whether they could take legal action to block construction of the Medical Center. In a decision dated August 16, 1938, the Judge gave the following opinion: "and as the Naval Medical Center is not to be erected in the District of Columbia, no statutory requirement exists for securing the approval of the National Park Service..."[76] In essence, this decision removed the Commission

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[74] Letter from Frederic Delano, National Capital Park and Planning Commission, to Admiral P.S. Rossiter, Navy Department, July 19, 1938. Correspondence records of the Bureau of Yards & Docks on file at the National Archives.

[75] Excerpts from *The Military Surgeon*, October, 1950, "The Navy Builds a Medical Center" by Rear Admiral Lucius W. Johnson, Medical Corps, United States Navy (Retired), p.4. Excerpts courtesy of the Office of the Naval Medical Historian, Bureau of Medicine and Surgery.

[76] *Naval Medical Center, Bethesda, Maryland (1939-1984)*. E. Caylor Bowen, Editor. Transplantation Research Program Center. Naval Medical Research Institute. Naval Medical Command, National Capital Region.

of Fine Arts and the National Capital Park and Planning Commission from the review and approval process, paving the way for the construction of the National Naval Medical Center.

Despite continued opposition from the National Capital Park and Planning Commission, the drawings of the proposed Naval Medical Center, submitted to the Bureau of Medicine and Surgery on September 28, 1938, were approved on October 4, 1938.[77] On December 1, 1938, President Roosevelt prepared a reply to his uncle's unending resistance to proposed plans for the Medical Center. Noting his sincere frustration with the poor and uninspired quality of traditional government-designed hospitals, the President proclaimed that he had personally designed the new Naval Hospital with a large central tower to make it an integral and interesting part of the hospital itself, while at the same time presenting something new — getting away from colonial brick and ultra-modernistic limestone. Responding to continued concern from the commission regarding the height of the building, the President indicated that he had modified the design considerably,[78] removing two entire stories from the central tower. Noting that he would do everything possible to persuade the Maryland [National Capital Park and Planning] Commission not to let private hotels and apartment houses "rise in competition with my Naval Hospital tower," the President confidently concluded with the following statement:

> *the tower is of such great beauty of design that it will be a landmark for generations to come, in what will for generations to come remain a wooded area even if suburbs extend as far out as that.*[79]

Proceeding with the Final Design Scheme

Approval of the site and conceptual plans for the National Naval Medical Center allowed the preparation of final plans to move forward swiftly. Cret's design was larger in scale than Roosevelt's proposal but

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Bethesda, Maryland, 1984, p.6.

[77] Letter from L.B. Combs, Acting Chief of the Bureau of Medicine and Surgery, to Paul P. Cret, Consulting Architect, October 4, 1938.

[78]Roosevelt's dedication and commitment to completing the National Naval Medical Center was a personal one, with him (according to early correspondence records relating to the design and construction of the Center) taking primary responsibility for its design and implementation, giving little if any credit to consulting architect, Paul Cret. A review of Cret's correspondence with Frederick Southworth, Frederic Delano, and agency reviewers indicate Cret's specific involvement and own dedication to this effort.

[79] Memorandum of the President's reply to Mr. Delano's letter of October 3, 1938. December 1, 1938. Records of the Bureau of Yards & Docks on file at the National Archives.

followed the general outlines of the President's original sketch.[80] It soon became apparent that the tower and other characteristics would add greatly to the cost of this complex. Recognizing that the $4,850,000 appropriated for the project would not be sufficient, a letter was written by the Surgeon General to Senator James F. Byrne, of the Senate Appropriations Committee, requesting authority to contract for an additional $992,000.

In August 1939, a meeting was held to discuss materials selection and project financing. At this point, President Roosevelt became intimately involved with the selection of materials and finishes for the complex. Understanding that the Bureau of Yards & Docks had based former estimates on the assumption that brick would be used as the primary building material, the President firmly stated that he would not stand, under any circumstances, for exterior brick walls, and wanted either marble or limestone for the main building — with the walls of subsidiary structures being of brick. Rear Admiral Ben Moreell, Chief of the Bureau of Yards and Docks, stated that such a request would add approximately half a million dollars to the cost of the project and would delay its construction at least six months.

Records of the Bureau of Yards and Docks reveal that it was then suggested at this meeting, by Captain Sutton of the Navy, that consideration be given to precast exposed aggregate concrete panels recently utilized in the construction of the new experimental Model Basin at Carderock, Maryland.[81] After reviewing a series of photographs of the Model Basin, the President indicated his interested in visiting the site and actually using this material if in fact it gave the impression of stone. It is interesting to note that, as explained above, Cret's office had been retained to study this particular site during this same year, with the task of potentially providing site plans for an expansion and new construction campaign.

On August 31, 1939, the President visited the Model Basin and was so impressed by the beauty of the exposed aggregate concrete he ordered that it be incorporated into the design of the main building, even though its added weight would necessitate substantially redesigning the steel framework of the tower. (Exposed aggregate consists of precast concrete panels which have the surface covered with fine chips of quartz or granite.) Acknowledging that the precast exposed aggregate panels were indeed less expensive

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[80]National Register of Historic Places Inventory — Nomination Form for the Bethesda Naval Hospital Tower Block, Building #1, National Naval Medical Center. Form completed by Lawrence P. Earle, United States Navy, 1975.

[81]Known today as the David W. Taylor Ship Model Basin, located just north of Cabin John, Maryland, the 1,300-foot basin and its 900-foot-long office and lab complex was listed in the National Register of Historic Places in 1985.

than limestone, Admiral Moreell again pointed out that the substitution of any material other than brick would further increase the costs of the project. Therefore, a request for an additional $3,000,000 to complete construction was requested from the Senate Appropriations Committee.[82]

Constructing the National Naval Medical Center

Shortly after the final selection of building materials, Rear Admiral Moreell announced that the contract for constructing the foundations of the main building had been awarded to the John McShain Company for $98,000.[83] Final drawings were submitted in 1939 by Paul Cret and William H. Livingston,[84] consulting partners of Cret's Philadelphia office, despite their opposition to the President's decision to use precast concrete panels in place of limestone. Apparently, both Cret and Livingston "feared the porosity of precast concrete and favored buff brick or limestone.[85] Though Cret's design for Building 1was larger in scale than Roosevelt's proposal, it followed the general outlines of the President's sketch, exhibiting a central tower with flanking L-shaped pavilions arranged symmetrically with the bulk of its low mass hidden behind the tower. The design presented bronze sashes alternating with serpentine spandrels to form dark verticals, contrasting with the white concrete panels and heightening the effects of modernized classicism intended by Cret. Within the year, Cret was awarded the American Architectural

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[82] *Naval Medical Center, Bethesda, Maryland (1939-1984)*. E. Caylor Bowen, Editor. Transplantation Research Program Center. Naval Medical Research Institute. Naval Medical Command, National Capital Region. Bethesda, Maryland, 1984.

[83] John McShain is recognized as Washington's most prolific builder of the mid-twentieth-century era. McShain, the son of an Irish carpenter, worked as a foreman for the construction company his father and uncle owned before opting to become a lawyer and enrolling at Georgetown University. During World War II McShain had $150 million of construction projects underway simultaneously. A partial list of Washington area buildings constructed by the McShain Company include: the Jefferson Memorial, the Pentagon, the General Accounting Office, the State Department, Building 10 (Clinical Center) at the National Institutes of Health, the National Naval Medical Center, and the Bureau of Engraving. In addition, McShain constructed the Roosevelt Library in Hyde Park, New York, and renovated the White House for President Truman

[84] William Offutt. *Bethesda. A Social History*. The Innovation Game Publishers, Bethesda, Maryland, 1995, p.427. [It appears that W.H. Livingston was a major contributor to the design and development of the National Naval Medical Center complex. Along with being officially recognized as co-partner on the project with Paul Cret, Livingston's initials appear on the majority of original drawings — as either having been drawn or approved by him.]

[85]William B. Rhoads, "Franklin D. Roosevelt and Washington Architecture," as it appeared in the *Records of the Columbia Historical Society*, Volume 52 (1989), p.155.

Prize by the American Institutes of Architects for the design of the "most beautiful building designed in America" — the Naval Medical Center.

A review of Cret correspondence on file at the Athenaeum of Philadelphia (Paul Cret Collection) revealed that Cret's portion of this overall project cost amounted to approximately $42,000 "for consulting architectural services in connection with Ward Buildings, Nurses Quarters, Hospital Corps quarters and Officers' Quarters at the Naval Medical Center in Washington, D.C." It should be noted that the contract was revised and amended to state: "It is the declared and acknowledged intention and meaning to provide and secure...a main building, subsistence and recreational building, heating and refrigeration plant building, laundry and garage building, nurses quarters, hospital corpsmen quarters, and accessory construction, all complete." The design and construction of the officers' quarters was then referenced and handled separately under a separate contract.

Groundbreaking ceremonies were held on June 29, 1939, with then retired Surgeon General Perceval S. Rossiter marking the beginning of construction for the new National Naval Medical Center at the Bethesda location. In his opening statement, Rear Admiral Moreell, referred to this event as the inauguration of the finest establishment in the world for the teaching and practice of military medicine. The Assistant Secretary of the Navy, Mr. Charles Edison, spoke of the beautiful rural setting, and its suitability to the nature of the institution; Rear Admiral Ross T. McIntire, Surgeon General of the Navy, predicated great accomplishments in the field of military medicine and hygiene; and architect Paul Cret mentioned that he was delighted with the site's possibilities.[86] The cornerstone of the main building was laid on Armistice Day, November 11, 1939, by President Roosevelt, and on February 5, 1942, two months after the Japanese attack on Pearl Harbor, the National Naval Medical Center was commissioned. On August 31, 1942, the 100th anniversary of the Bureau of Medicine and Surgery, President Roosevelt dedicated the National Naval Medical Center, expressing the following sentiments to naval medical personnel:

> *In this hospital, we are dedicating today, in this green and peaceful Maryland countryside, our Navy battles against disease and disability, and death. Those who fight this vital battle are anonymous heroes of this war, the officers, men and women of the Bureau of Medicine and Surgery which today celebrates its 100th anniversary — they are surgeons and nurses, scientists and technicians*

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[86] *Naval Medical Center, Bethesda, Maryland (1939-1984).* E. Caylor Bowen, Editor. Transplantation Research Program Center. Naval Medical Research Institute. Naval Medical Command, National Capital Region. Bethesda, Maryland, 1984, p.17.

who are part of a service extending throughout the world.[87]

It was also announced at these ceremonies, by Assistant Secretary of the Navy Charles Edison, that the National Naval Medical Center complex would include, not only a new naval hospital, but also a medical school, dental school, quarters for medical, nursing, and Hospital Corps personnel, and additional subsidiary and service buildings — setting a new high standard for medical centers of this kind. Secretary Edison acknowledged the President's great personal interest in this project, noting that "without his unfailing encouragement...and vigorous support, this project could not have been brought to its present happy state."[88] All construction of the campus' primary administration, hospital, educational, residential, recreations, research, and service facilities was completed in 1945.

In preparation for the opening of bids to construct the project, the Bureau of Yards and Docks prepared over 200 sets of blueprints, each set containing 327 sheets. The total weight of the plans and specifications mailed out was more than five tons. The eventual winner of the bid was, again, the John McShain Company, for a total of $4,360,000. With the contracts awarded, the Bureau of Yards and Docks hired Commander Hugo C. Fischer, former construction supervisor for the Model Basin at Carderock, Maryland, as the Officer in Charge of the building of the National Naval Medical Center.

A Tribute to Roosevelt

Just as the National Naval Medical Center received its finishing touches, President Roosevelt was stricken by a cerebral hemorrhage, dying suddenly on April 12, 1945.[89] Within two weeks of his death, a bill, dated April 23, 1945, was presented to Congress proposing that the name of the National Naval Medical Center (then officially named the U.S. Naval Medical Center) be changed to the "Franklin D. Roosevelt Naval Medical Center." Correspondence regarding this proposal was sent from Ross T. McIntire, Vice Admiral of the U.S. Navy, to the Judge Advocate General on May 3, 1945. This letter was sent in response to a request by the Judge Advocate General for additional information, comment,

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[87] Excerpt taken from the actual dedication speech delivered by President Roosevelt at the National Naval Medical Center in August 1942. Speech recorded, in part, in a videotape entitled *National Naval Medical Center*. The videotape, produced by the Medical Center, documents the history and achievements of the NNMC.

[88] Excerpts from *The Military Surgeon*, October, 1950, "The Navy Builds a Medical Center" by Rear Admiral Lucius W. Johnson, Medical Corps, United States Navy, (Retired), p. 6. Excerpts courtesy of the Office of the Naval Medical Historian, Bureau of Medicine and Surgery.

[89] Cret, perhaps the second-most significant player next to Roosevelt influencing the design and development of the National Naval Medical Center, died just five months later on September 8, 1945.

and recommendations from the Bureau of Yards and Docks and the Bureau of Medicine and Surgery. Supporting the initiative, McIntire summarized Roosevelt's dedication, commitment, and deep personal interest in seeing construction of the new National Naval Medical Center through to completion. McIntire writes of Roosevelt:

> *He personally visited several of the proposed sites for the Center and approved the site eventually selected. He suggested the type of architecture to be employed in the construction of the Center and influenced the development of the final design by architect Paul Cret, including adoption of the masonry facings of the tower and other permanent buildings. Many of his suggestions were followed in connection*
>
> *with the landscaping of the Medical Center reservation. The present name "National Naval Medical Center" was chosen by Mr. Roosevelt.*[90]

Though the Bureau of Medicine and Surgery strongly supported the name change, considering it an honor to the Medical Department of the Navy and to the entire Department of the Navy, it appears instead that Congress decided to honor Roosevelt by maintaining the name originally selected for the institution by the President himself.

LANDSCAPE DESIGN AT THE NATIONAL NAVAL MEDICAL CENTER

Similar in process to the design and construction of the original National Naval Medical Center buildings, the landscape design for the site went through a series of changes and revised schemes before becoming final. Initially, the landscape design scheme (laid out prior to Cret's involvement) for the Medical Center called for the creation of a broad, park-like rectangle off the main gateway leading to a Great Mall.[91] The Great Mall, planned as a hedge-lined central thoroughfare, had separate driveways that originated at a main gate and culminated at the entrance of the hospital building. The main gate consisted of an open paved area flanked by two stone obelisks. This original design, likely devised in

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[90] Letter from Ross T. McIntire, Vice Admiral of the U.S. Navy to the Judge Advocate General, May 3, 1945. Received through the Correspondence Files of the Bureau of Medicine and Surgery, National Archives Record Group 52, Box 98, Washington, D.C.

[91] Bowen, Part III (1939-1984), p. 11. This landscape design treatment cannot be directly attributed to any one person or firm at this time.

association with one of the earlier building schemes presented by the Bureau of Yards and Docks for this site, was rejected in favor of the present semicircular access road that approaches Building 1 from the north and from the south.

Insight into the final layout of the site can be gleaned from a letter Paul Cret sent to F.W. Southworth at the Bureau of Yards and Docks on October 11, 1938. The letter indicates that Cret and his staff had conducted a preliminary study of the Medical Center grounds and prepared preliminary sketches of proposed roads and general vehicular and pedestrian circulation patterns. Cret describes the initial plan as follows:

> *We assume the principal entrance to be on Rochville [sic] Pike and the service and supplies entrance on Jones Bridge Road. The main approach serves the Administration Building, the patients and the wards with parking space in close proximity (without blocking the main front). Two lateral roads lead to the future group of residences and to the corpsmen quarters, garages and service building. The layout provides for future addition to the administration (building) or wards. The patients have a large area of garden not visible from the Pike.*[92]

Shortly thereafter, a letter sent to Paul Cret from F.W. Southworth in July 1940 indicates that, very early on in the construction phase, President Roosevelt inquired as to the practicality of forming a small lake in the area in front of the National Naval Medical Center. According to this correspondence, the lake would be formed by carrying a dam across the valley, confining the flow of water from the small spring near the existing spring house. Cret was requested by Southworth to prepare preliminary sketches illustrating this proposed lake. Several months later, in a follow-up letter to Paul Cret dated September 20, 1940, Southworth states that the President reviewed Cret's preliminary sketches and suggested that the lake be relocated to a less conspicuous site — and not placed in the immediate foreground of the hospital — as a lake in this location would detract from the intended effect of the hospital building itself.

In its final form, the landscaping at the National Naval Medical Center included: a small pond,[93] in front

[92] Letter from Paul P. Cret to F.W. Southworth, on October 11, 1939. Correspondence records of the Bureau of Yards and Docks on file at the National Archives.

[93] Records of the U.S. Naval Hospital indicate that an old spring and spring house in the area directly in front of the main building was converted into a beautiful pergola and pond.

of the tower, which was fed by a natural spring; trees native to the area, such as oaks, sycamores, elms, and magnolias; and a nine-hole golf course (no longer extant) that encircled the complex.

Original drawings obtained from the National Naval Medical Center indicate that New York landscape architect, Michael Rapuano, was contracted to prepare drawings and plans for roads, sidewalks, parking and grading features for the new Medical Center site.[94] Plans prepared by Rapuano, which list him as "consulting landscape architect," were approved by the Bureau of Yards and Docks on March 14, 1941. It appears from the file of the National Naval Medical Center's Facilities Management Division, that Cret's office completed a substantial layout of the NNMC site prior to Rapuano's involvement. Plans generated from Cret's firm showed the semicircular entrance road encircling the frontal landscape of Building 1, capped to the west by linear parking areas, flanking either side of the Building 1 pavilions. A primary roadway branched off this entrance road to the north (known today as Palmer Road North) and south (known today as Palmer Road South) of the main hospital core, completing itself as a circular drive that lined the western boundary of the service core (known today as East Palmer Road). This drive continued northward and then east to form a teardrop-shaped loop (known today as Van Reypen Road) lining the Officers' Quarters, and an entrance road to the Naval Medical Research Institute and the National School of Health Sciences (known today as Taylor Road).

One of more interesting and unique aspects of Cret's circulation plan for the NNMC site was a concrete and stone bridge that connected the main hospital core to a recreational and rehabilitation building. This building (known today as Building 23) was set across Stoney Creek in a bucolic and forested setting, intentionally meant to remove NNMC patients and personnel from the daily intensity of the medical complex. The building, also constructed of stone, concrete, and wood, was set into the natural landscape, with its elevations each taking shape based on the patterns of the site. The bridge crossing Stoney Creek from the main hospital core was a pedestrian bridge, designed to carry wheelchair-bound patients across to the recreational facility. The bridge construction stopped just short of the northwestern corner of the building, where it was met by a stone-lined, concrete ramp into the facility. The Cret-designed bridge was demolished as part of the major hospital expansion efforts undertaken in the early 1980s. This building campaign, which resulted in the construction of several new, substantial buildings on the NNMC site, required that the site be significantly regraded. Regrading efforts rerouted several Cret-designed roadways, altering his initial circulation pattern for the site east of the main hospital tower.

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[94]Correspondence files in the Paul Cret Collection at the Athenaeum of Philadelphia revealed no record of a professional association between Paul Cret and Michael Rapuano for this project. It would not have been unlikely, however, for Paul Cret to have subcontracted this work out to Rapuano, a well-known landscape designer with experience in Washington, D.C.

According to historical data prepared by the U.S. Naval Hospital in 1948, considerable landscaping efforts were completed throughout the campus between 1942 and 1943.[95] Over 1,250 trees and shrubs were planted during this period. A number of these trees and shrubs are said to have come from the old naval hospital reservation at 23rd and E Streets, the White House grounds, and other local national parks. In addition, many good-sized trees were supplied from a cluster being cleared at the Gravelly Point Airfield in Virginia, the current site of Washington's National Airport. This donation was said to have been arranged by President Roosevelt, who was not only intimately involved in the design and construction of the airport, but was known for his ability to work diplomatically and in cooperation with various government agencies. In this case, it was Marshall Finnan of the National Park Service with whom the President arranged and carried out this relocation. Along Jones Bridge Road, Rockville Pike and the northwest corner of the site, little has been done to alter these early plantings. In addition, a landscape buffer consisting primarily of pine trees and other evergreens, set in place to shield the Officers' Quarters along Van Reypen Road, remains.

In September 1943, a nursery was begun on the site. The nursery contained a variety of deciduous trees, ornamental shrubs, pines, spruce, and other greens. Fortunately, the majority of these shrubs were obtained from Beltsville, Maryland (most likely the Beltsville Agricultural Research Center), without any additional costs to the government.

During a discussion with representatives of the Department of the Interior regarding planting, landscaping, and fencing for the National Naval Medical Center, President Roosevelt expressed great interest in the matter. The following episode, as told by Rear Admiral Lucius Johnson, the officer in charge of construction at the time, is documented in a report prepared by E. Caylor Bowen on the history of the Center:

> *On a subsequent visit to the Bethesda site, Franklin D. Roosevelt is said to have remarked to Messrs. Finnan and Southworth: "I think an old English sheep fence would be ideal." The three men agreed and Southworth immediately assigned two of his men to work on it. "What is an old English sheep fence?" they asked. "Go look it up," replied Southworth. Several days later the two men reported: "We have searched the textbooks, the manuals, the encyclopedias, and everything in the art and architectural libraries — we cannot find anything about an old sheep fence." "Then draw me something that would look like an old sheep fence," said Southworth. They did, and when the President saw the sketch, he remarked:*

[95]No known designer is associated with this construction.

That's exactly it!

When the fence was completed, it stretched the entire length of the Center's grounds that fronted Rockville Pike — over 2,300 feet.[96]

Though the fence currently surrounding the site appears to be a later version, of new and improved materials, it retains the simplicity, character, and feeling that historical documents suggest was intended by Roosevelt.

As noted above, early correspondence indicate Roosevelt's interest in placing, in addition to the pond set within the frontal landscape, a man-made lake within the NNMC site. It was not until 1954 that the lake, known as Stone Lake, was constructed in the southeastern portion of the site. The focal point of a planned recreational facility, Stone Lake and its surrounding picnic pavilions, were central to the recreation, relaxation, and sports activities of NNMC patients and personnel for years. Later construction of the Armed Forces Radiobiology Research Institute (AFRRI) and the Uniformed Services University of the Health Sciences (USUHS) obscured these once forested and open spaced areas.

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[96] *Naval Medical Center, Bethesda, Maryland, Part III (1939-1984).* E. Caylor Bowen, Editor. Transplantation Research Program Center. Naval Medical Research Institute. Naval Medical Command, National Capital Region. Bethesda, Maryland, 1984, p.19.

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HISTORIC CONTEXT:

MARYLAND COMPREHENSIVE HISTORIC PRESERVATION PLAN DATA

Geographic Organization:
Piedmont

Chronological /Developmental Period(s):
Modern Period A.D. (1930-Present)

Prehistoric/Historic Period Themes:
Architecture, Landscape Architecture and Community Planning, Government and Law, Military, Education

Resource Type:
Category: District
Historic Environment: Rural/Suburban

Historic Function(s) and Use(s):
Defense/naval facility/naval base
Health Care/hospital/medical research facility
Education/research facility/laboratory

Known Design Source:

Architect/Frederick W. Southworth
Consulting Architect/Paul P. Cret

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GEOGRAPHICAL DATA

Verbal Boundary Description

Beginning at the southwest corner of the National Naval Medical Center site at the intersection of Jones Bridge Road and Rockville Pike (also, farther south, referred to as Wisconsin Avenue) and continuing northward along Rockville Pike to a point just past North Wood Road, the northernmost entry to NNMC along Wisconsin Avenue. From said point proceed in an easterly direction following the natural contours of the site along the rear elevations of Buildings 60 and 61 to a point directly along the rear lot line of Officer Quarters 36. From said point continue in a northeasterly direction to a point directly between Officer Quarters 37 and 38. From said point proceed southward to Taylor Road, crossing Taylor Road and following the contours of the land as they slope downward until the land meets the bed of Stoney Creek. Follow Stoney Creek along its contoured path, moving in a southwesterly direction as it flows to the south of the complex of buildings (17, 17A, 17B) of the Naval Medical Research Institute. Continue along Stoney Creek until the point at which East Rixey Road meets Stone Lake Road. From said point move southward along Stone Lake Road to its intersection with Palmer Road South. Follow Palmer Road South in an eastward direction until it intersects with Stokes Road. Proceed south and westerly along Stokes Road to encircle Building 23. Proceed northward on East Palmer Road until it reaches Palmer Road South. Follow Palmer Road South westward to Building 12 and move southward to include it within the boundary. Continue southward to Jones Bridge Road. From this point proceed westward along Jones Bridge Road until the boundary completes at the intersection of Jones Bridge Road and Rockville Pike.

Boundary Justification

The historic district recommended for nomination to the National Register encompasses approximately 125 acres, more than half of the remaining 242-acre National Naval Medical Center site. The boundaries of the district are drawn to include the collection of original NNMC buildings erected between 1940 and 1945, and to encompass the surrounding landscape and its associated features that remain integral to the site. To a great extent, the boundaries follow distinct and definitive lines, along both Rockville Pike (western boundary), Jones Bridge Road (southernmost boundary), and the site's northern property line (northernmost boundary). The eastern boundary of the site, to a great extent, largely follows natural contours, using Stoney Creek as a major point of definition. This approach reflects and complements the original layout of the NNMC campus — also originally guided by the site's natural contours. An examination of historic maps and early aerial photographs of the site literally illustrate how Cret's buildings were selectively set into and around the existing landscape, contained for the most part within areas of the site west of Stoney Creek. Though the original 264-acre NNMC site

extended farther east to what is now Perimeter Road (almost immediately adjacent to I-495), this eastern portion, until the 1970s and 1980s remained largely undeveloped, used strictly for recreational activities. Recreational facilities, including a large man-made lake known to NNMC personnel as Stone Lake, were built out as part of an improvement campaign in the late 1950s. Later construction on the NNMC site, in particular the facilities built for the Armed Forces Radiobiology Research Institute (AFRRI) and the Uniformed Services University of the Health Sciences (USUHS), has since obscured these once forested and open spaced areas. The only forested area in which some of the site's earliest construction efforts were undertaken was the section of property that accommodated Building 23; the building was set purposefully into this setting in conjunction with its function as a recreational and rehabilitative facility. Building 23 was intended to provide an opportunity for NNMC patients and personnel to remove themselves from the confines of the intense hospital core. Its bucolic setting was meant to ease suffering and aid in the process of healing. Where not defined by natural contours or defined property lines, the district boundaries follow existing roadways and circulation patterns original to the site.

It is important to clarify the decision to exclude certain sections of the NNMC site from the boundaries, and define the reasoning behind the decision to include facilities that have suffered a loss of integrity and been designated as noncontributing to the district. Buildings 39, 40, and 41, noncommissioned officer housing quarters designed in 1950, are located in the farther southeastern part of the site along Geier Road. Planned several years before their construction, these buildings were evaluated for their potential significance and possible relation to initial construction efforts, as well as their potential to have been designed by Paul Cret. Investigations revealed that the buildings were not planned as part of the original construction campaign, designed by Paul Cret, and did not meet the requirements for exceptional significance. In addition, the buildings did not reflect, in material or design, the aesthetic intent and characteristics of the original NNMC scheme. All three buildings had also undergone significant renovation and alteration since their construction. Buildings 39, 40, and 41 were, therefore, excluded from the historic district boundaries.

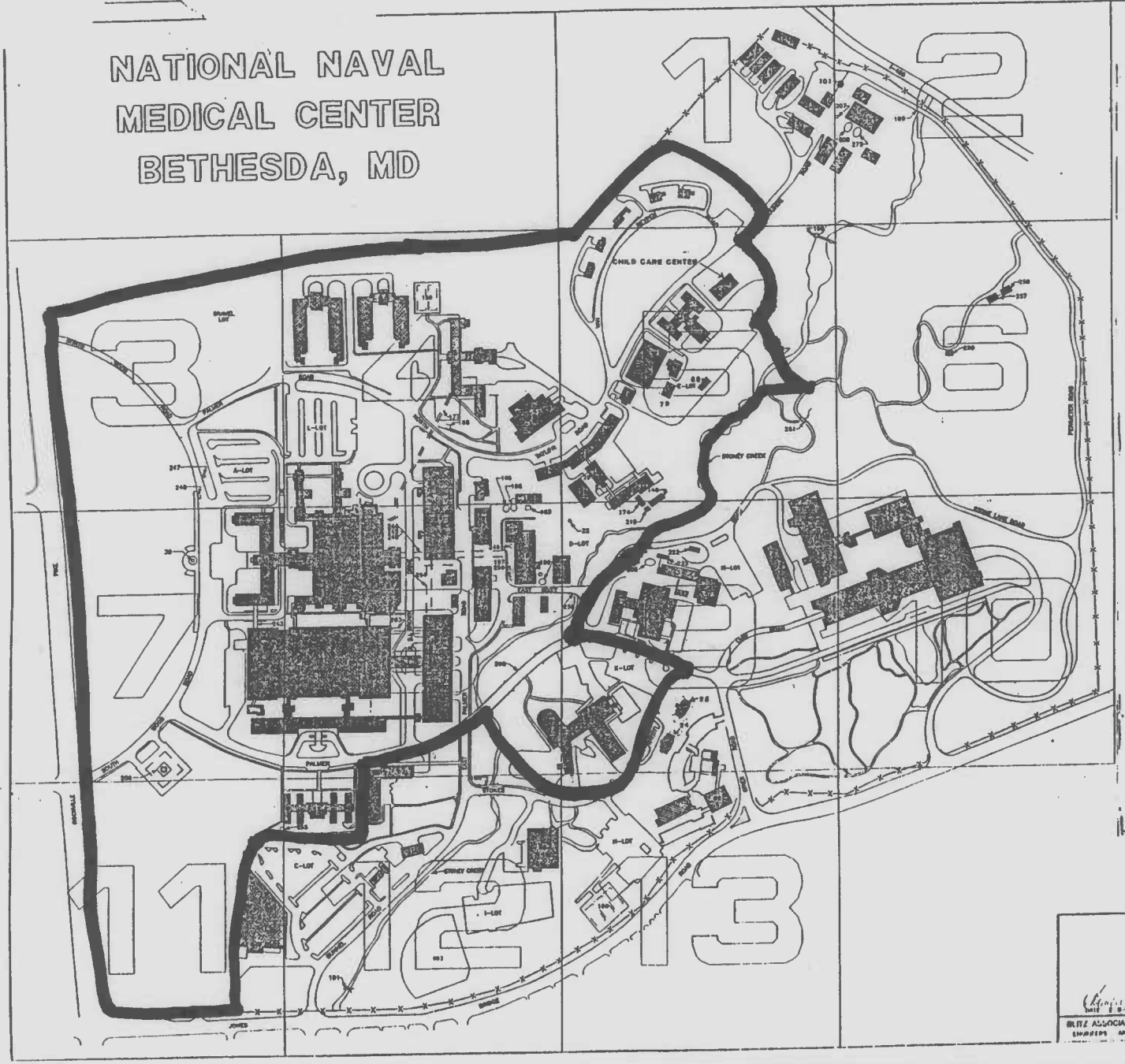
The warehouse facilities located in the northeastern corner of the NNMC site are a collection of buildings used for storage and waste-management purposes. While several of these warehouses were constructed as early as 1949 (Buildings 147, 148, and 149), it was concluded by on-site evaluation and examination of original drawings that these structures were not substantial enough in size and scale to warrant inclusion in the district boundaries, nor were they representative of the mission, function, and/or character of the NNMC. The warehouse facilities did not display exceptional significance, were identified as noncontributing, and excluded from within the district boundaries.

Finally, Building 23, though identified on the NNMC Historic District Building Inventory as noncontributing, has remained included within the defined boundaries. Justification for this decision

includes the following: 1) this particular section of the site was part of the original boundaries drawn for the NNMC campus; 2) the building and its intended purpose were directly related to the mission of the Medical Center, and its siting within a forested, removed part of the site was integral to its specific purpose; 3) the building, originally, thoughtfully and handsomely executed, was designed by Paul Cret; and finally, maintaining the building within the boundaries provides a clear indication and definition of what was once a very carefully planned and interrelated site.

DRAFT

NATIONAL NAVAL MEDICAL CENTER BETHESDA, MD



REVISIONS

SYM	DESCRIPTION	DATE	APPROVED

BLDG. NO. | OSD CD. | 04 CD | USCG | BLDG. NO | OSD CD. | BLDG. SUBCT

00 | 00 | ADMINISTRATION DENTAL CLINIC TELINE BLDG
00 | 00 | HYDROGEN RESEARCH FACILITY/AMES
00 | 00 | ADMINISTRATION AND SUPPORT
01 | 04 | OFFICES/BLDG SPACE
00 | 00 | DRIVEWAY/PARKING AREA
00 | 00 | OFFICES/BLDG SPACE OTH MINOR & INCIDENTAL DENTAL CLINIC
00 | 00 | OFFICES/BLDG SPACE
01 | 00 | ADMINISTRATION AND CLINICAL SPACE
00 | 00 | ADMINISTRATION AND CLINICAL SPACE
00 | 00 | HOSPITAL
00 | 00 | HOSPITAL
11 | 00 | O. O. D.
12 | 19 | P.O. TOBACCO
19 | 00 | P.O. SHOPS AND MARSHAL OFFICE
14 | 00 | P.O. SHOP AND ADMINISTRATION
15 | 00 | P.O. SHOP
16 | 00 | UTILITY PLANT
11 | 00 | RESEARCH/MED
20 | 00 | RESEARCH/MED
20 | 00 | LABORATORY
21 | 00 | ANIMAL HOUSE/ANS
22 | 00 | LABORATORY 24,000/MED
23 | 00 | OFFICERS, BOQ & O.D. CLUB, BARRACKS FOOD, LAUNDRY AND PACKAGE STORE
00 | 00 | FLAGPOLE
00 | 07 | FLAGPOLE
34 | 01 | SCHOOL GENERAL 4096
33 | 03 | GUARD/P.C.O.
00 | 00 | GARAGE/SERVICE
31 | 03 | GUARD/SERVICE
00 | 00 | GUARD/SERVICE
00.4041 | 00 | GARAGE/SERVICE
77 | 00 | RESEARCH/MED BEACON
07 | 00 | RESEARCH/MED ANIMAL
04 | 00 | RESEARCH/MED HOSPITAL
05 | 00 | RESEARCH/MED P&D BLDG
06 | 00 | RESEARCH/MED ANX BLDG.
03 | 00 | RESEARCH/MED ANIMAL
00 | 00 | GAS/VAULT FACILITY/MED
00 | 00 | USO OF STORAGE ANX
00 | 00 | O.N. BACHLOR QUARTERS
31 | 10 | RADIO EXCHANGE SERVICE STATION
32 | 12 | NAVY GUEST LODGE
77 | 00 | ENVIRONMENTAL BEACON PROTECT ANX
34 | 00 | NORTH GARAGE/WAREHOUSE AND ADMINISTRATION
31 | 00 | USO BK. GARAGE/MEN CLUB AND BARRACKS
34 | 12 | USO, USC MAINT
01 | 12 | NAVY EXCHANGE BLDG.
00 | 12 | NAVY EXCHANGE ANX POOL
00 | 00 | DRIVING TANK/MED
00 | 04 | TYPE BLDG.
01 | 00 | USO BLDG.
00 | 00 | HYDROGEN RESEARCH FACILITY/AMES
00 | 00 | BOWLING/RECREATIONAL SERVICES AND GARAGE
02 | 00 | STORAGE
03 | 00 | STORAGE
04 | 00 | STORAGE STORAGE FACILITY
00 | 04 | P.O. SHOP PIPE CHEMICAL
00 | 00 | P.O. SHOP CALF STORAGE
00 | 05 | P.O. SHOP/USO RESEARCH
00 | 00 | NAVY TRAINING CENTER
00 | 00 | CENTRAL WAREHOUSE (LONDON)
00 | 00 | NAV BOOK BLDG./MED
01 | 04 | GENERAL WAREHOUSE (MALE)
00 | 04 | GENERAL WAREHOUSE
00 | 00 | NAVY EXCHANGE
00 | 00 | P.W. GENERAL PAINT/MAINT
00 | 00 | GENERAL WAREHOUSE (MALE)
00 | 00 | GENERAL WAREHOUSE (MALE)
00 | 04 | P.W. WAREHOUSE & MAINTENANCE
00 | 00 | FIRE HOUSE FACILITY
00 | 00 | P.W. VEHICLE MAINTENANCE
00 | 00 | TENNIS COURT
00 | 00 | TENNIS COURT - -
12 | 12 | SOFTBALL FIELD
00 | 00 | UTILITY STATION AND PUMPS
00 | 00 | GENERAL STORAGE/MAINT
00 | 00 | PENSTONE TOWER U. P. OR II
00 | 12 | STRUCTURE BRIDGE (PEDESTRIAN)
00 | 12 | PEDESTRIAN BRIDGE
00 | 12 | BANDSTAND BRIDGE AT FIELD
00 | 04 | WATERFRONT SHELTER
00 | 00 | VEHICLE BRIDGE
00 | 00 | ROAD/PEDESTRIAN BRIDGE
00 | 00 | GASOLINE TANK
00 | 00 | GASOLINE TANK
00 | 00 | DIESEL HEATING FUEL STORAGE
00 | 00 | DIESEL HEATING FUEL STORAGE
00 | 07 | WELL/MAINT
00 | 00 | ELECTRICAL SWITCHING STATION
00 | 00 | WAREHOUSE/ARMS
00 | 00 | PUMPHOUSE/ARMS
00 | 00 | ROAD METER/MED
00 | 00 | PELICAN PEDESTRIAN CROSSING
00 | 03 | GENERATOR TANK
00 | 00 | RESEARCH/MED
00 | 00 | ELECTRICAL SWITCHING STATION
00 | 03 | CHANGING STORAGE BLDG.
00 | 01 | GENERAL WAREHOUSE BULK
00 | 03 | ELECTRICAL SWITCHING BLDG. I
00 | 03 | O.N.E.C.O.T GROUNDS BLDG.
00 | 03 | SPECIAL SERVICES
00 | 07 | DRILL TANK ELECTRICAL
00 | 00 | ELECTRIC TUNNEL
00 | 00 | PUMP HOUSE
00 | 00 | CHILLER WATER TUNNEL
00 | 00 | BBQ SHELTER
00 | 00 | BBQ SHELTER
00 | 00 | OIL STORAGE 1000 GL BLDG. II
00 | 00 | OIL STORAGE 1000 GL BLDG. 00
00 | 12 | NON-POTABLE WATER WELL
00 | 00 | COOLING TOWER
00 | 00 | OXYGEN & CARBON MONOXIDE TANKS
00 | 10 | WATER METER UNDERGROUND BLDG
00 | 10 | 10,000 METER HOUSE AT BLDG. 17
00 | 02 | PCS STORAGE BLDG.
00 | 00 | RECREATION PAVILION
00 | 00 | RECREATION PAVILION
00 | 00 | GUARDHOUSE ROAD
00 | 00 | MEDICINE BUILDING
00 | 00 | PEDESTRIAN BRIDGE
00 | 00 | SUPPLY TUNNEL BLDG. P1 TO 00
00 | 00 | NATIONAL NAVAL MED. TUNNEL
00 | 00 | BETHESDA BLDG. No. 1 BLDG. 53
00 | 00 | VEHICULAR BRIDGE (ARMY DIRTY)
00 | 05 | PEDESTRIAN BRIDGE
00 | 00 | DIESEL GAS PUMP (VEHICLE)

"If this drawing is a reduction, graphic scale must be used."

SCALE 1" = 150'

Graphic Scale

DESIGNED BY:	
DRAWN BY:	Y.Z
CHECKED BY:	C.P.K
ARCH.	
CIVIL	
MECH.	
ELEC.	
1390 PROJ.	
PDCC	
APPROVED	

BLITZ ASSOCIATES, P.A.
ENGINEERS ARCHITECTS

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
NATIONAL NAVAL MEDICAL CENTER
BETHESDA, MD 20814

NATIONAL NAVAL MEDICAL CENTER
MASTER SITE PLAN

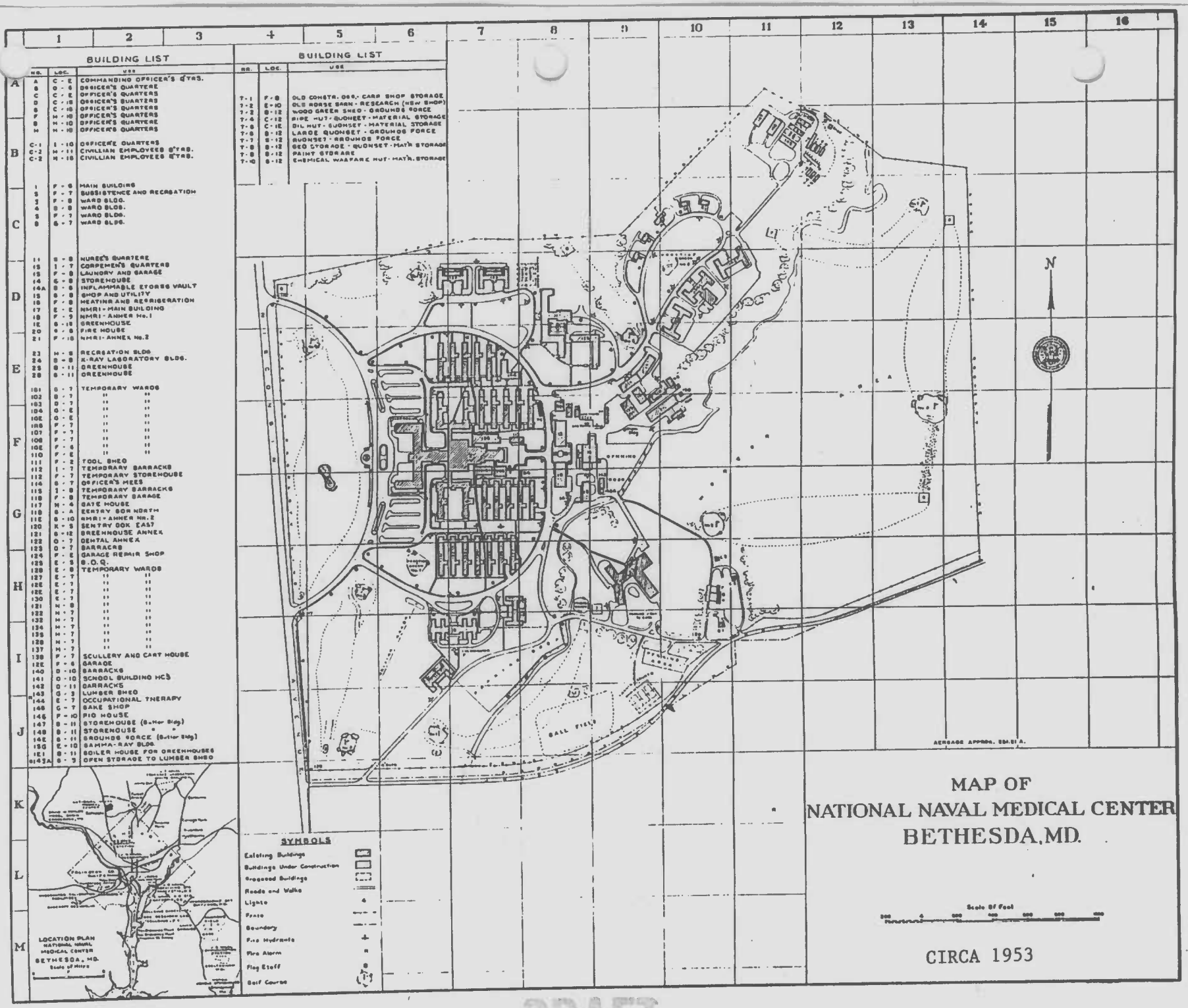
PART PLANS 1-13

DWG NO. 80701 | SHEET NO. 1 OF 14 | CONTRACT NO. 3145776

SCALE 1" = 150' | DATE

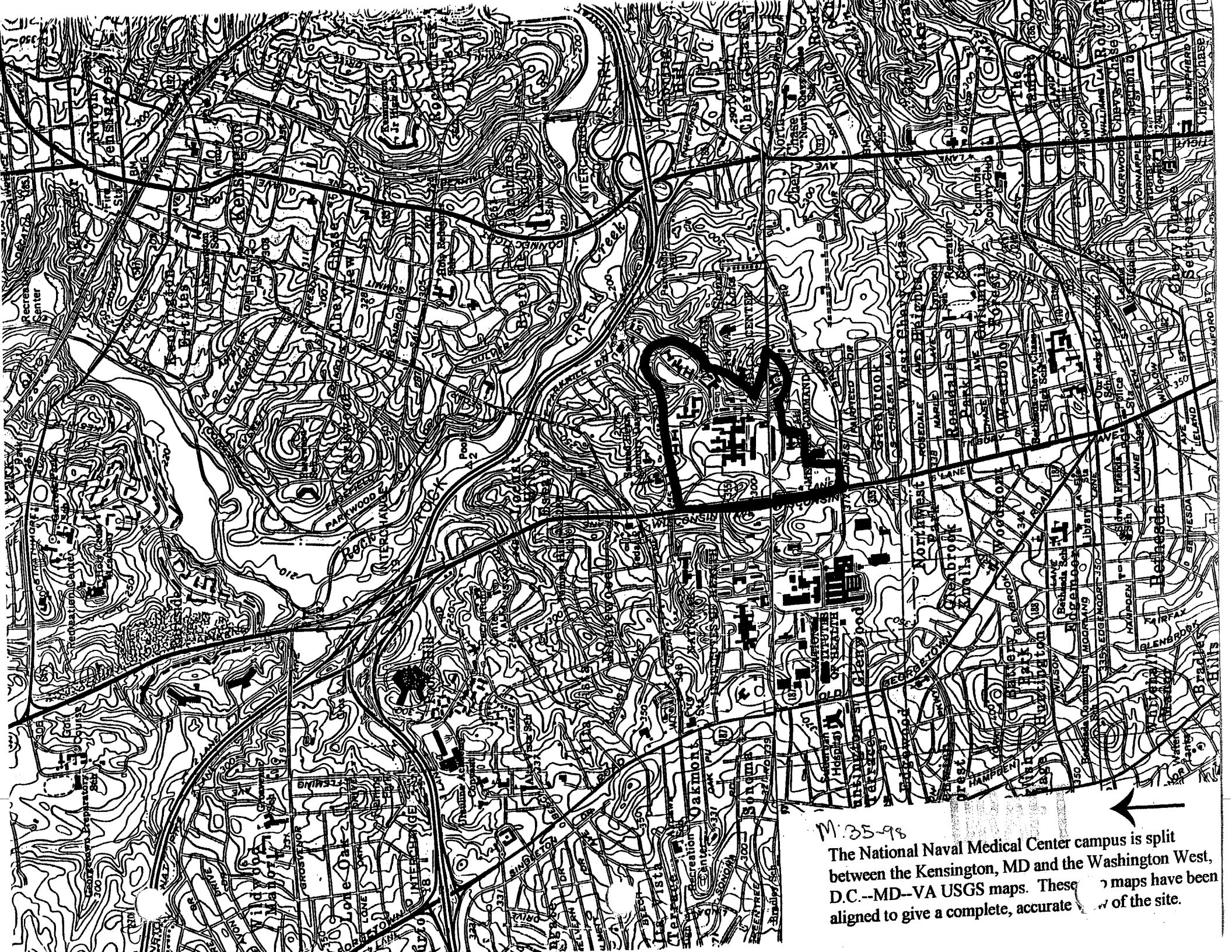
site Plan

M135-98


BUILDING LIST
NO. LOC. USE
A C - 2 COMMANDING OFFICER'S QTRS.
B O - 6 OFFICER'S QUARTERS
C C - 2 OFFICER'S QUARTERS
D C - 10 OFFICER'S QUARTERS
E C - 10 OFFICER'S QUARTERS
F H - 10 OFFICER'S QUARTERS
G H - 10 OFFICER'S QUARTERS
H H - 10 OFFICER'S QUARTERS
C-1 I - 10 OFFICER'S QUARTERS
C-2 H - 11 CIVILLIAN EMPLOYEES Q'TRS.
C-2 H - 10 CIVILLIAN EMPLOYEES Q'TRS.
1 F - 6 MAIN BUILDING
2 F - 7 SUBSISTENCE AND RECREATION
3 F - 8 WARD BLDG.
4 G - 8 WARD BLDG.
5 F - 7 WARD BLDG.
6 G - 7 WARD BLDG.
11 G - 8 NURSE'S QUARTERS
12 I - 7 CARPENTER'S QUARTERS
13 F - 8 LAUNDRY AND GARAGE
14 G - 8 STOREHOUSE
14A G - 8 INFLAMMABLE STORES VAULT
15 G - 8 SHOP AND UTILITY
16 F - 8 HEATING AND REFRIGERATION
17 E - 2 NMRI - MAIN BUILDING
18 F - 9 NMRI - ANNEX No. 1
19 G - 10 GREENHOUSE
20 G - 8 FIRE HOUSE
21 F - 10 NMRI - ANNEX No. 2
23 H - 8 RECREATION BLDG.
24 G - 8 X-RAY LABORATORY BLDG.
25 G - 11 GREENHOUSE
26 G - 11 GREENHOUSE
101 G - 7 TEMPORARY WARDS
102 G - 7 " "
103 D - 7 " "
104 G - 2 " "
105 G - 2 " "
106 F - 7 " "
107 F - 7 " "
108 F - 7 " "
109 F - 6 " "
110 F - 2 " "
111 F - 2 TOOL SHED
112 I - 7 TEMPORARY BARRACKS
113 F - 7 TEMPORARY STOREHOUSE
114 G - 7 OFFICER'S MESS
115 I - 8 TEMPORARY BARRACKS
116 F - 8 TEMPORARY GARAGE
117 H - 4 GATE HOUSE
118 G - A SENTRY BOX NORTH
119 G - 10 NMRI - ANNEX No. 2
120 K - 5 SENTRY BOX EAST
121 G - 12 GREENHOUSE ANNEX
122 O - 7 DENTAL ANNEX
123 O - 7 BARRACKS
124 F - 2 GARAGE REPAIR SHOP
125 E - 5 B.O.Q.
126 E - 8 TEMPORARY WARDS
127 E - 7 " "
128 E - 7 " "
129 E - 7 " "
130 E - 7 " "
131 H - 8 " "
132 H - 7 " "
133 H - 7 " "
134 H - 7 " "
135 H - 7 " "
136 H - 7 " "
137 H - 7 " "
138 F - 7 SCULLERY AND CART HOUSE
139 F - 6 GARAGE
140 D - 10 BARRACKS
141 D - 10 SCHOOL BUILDING HCS
142 D - 11 BARRACKS
143 G - 3 LUMBER SHED
144 E - 7 OCCUPATIONAL THERAPY
145 G - 7 BAKE SHOP
146 F - 10 PIG HOUSE
147 G - 11 STOREHOUSE (Butler Bldg.)
148 G - 11 STOREHOUSE " "
149 G - 11 GROUNDS FORCE (Butler Bldg.)
150 E - 10 GAMMA-RAY BLDG.
151 G - 11 BOILER HOUSE FOR GREENHOUSES
143A G - 3 OPEN STORAGE TO LUMBER SHED
BUILDING LIST
NO. LOC. USE
T-1 F - 8 OLD CONSTR. DEP. - CARP SHOP STORAGE
T-2 E - 10 OLD HORSE BARN - RESEARCH (NEW SHOP)
T-2 G - 12 WOOD GREEN SHED - GROUNDS FORCE
T-4 C - 12 PIPE HUT - QUONSET - MATERIAL STORAGE
T-6 C - 12 OIL HUT - QUONSET - MATERIAL STORAGE
T-6 G - 12 LARGE QUONSET - GROUNDS FORCE
T-7 G - 12 QUONSET - GROUNDS FORCE
T-8 G - 12 BED STORAGE - QUONSET - MAT'R STORAGE
T-8 G - 12 PAINT STORAGE
T-10 G - 12 CHEMICAL WARFARE HUT - MAT'R. STORAGE
N
BALL FIELD
AVERAGE APPROX. 250.51 A.
SYMBOLS
Existing Buildings
Buildings Under Construction
Proposed Buildings
Roads and Walks
Lights
Fence
Boundary
Fire Hydrants
Fire Alarm
Flag Staff
Golf Course
LOCATION PLAN
NATIONAL NAVAL MEDICAL CENTER
BETHESDA, MD.
Scale of Miles
Scale Of Feet
MAP OF
NATIONAL NAVAL MEDICAL CENTER
BETHESDA, MD.
CIRCA 1953

M:35-98

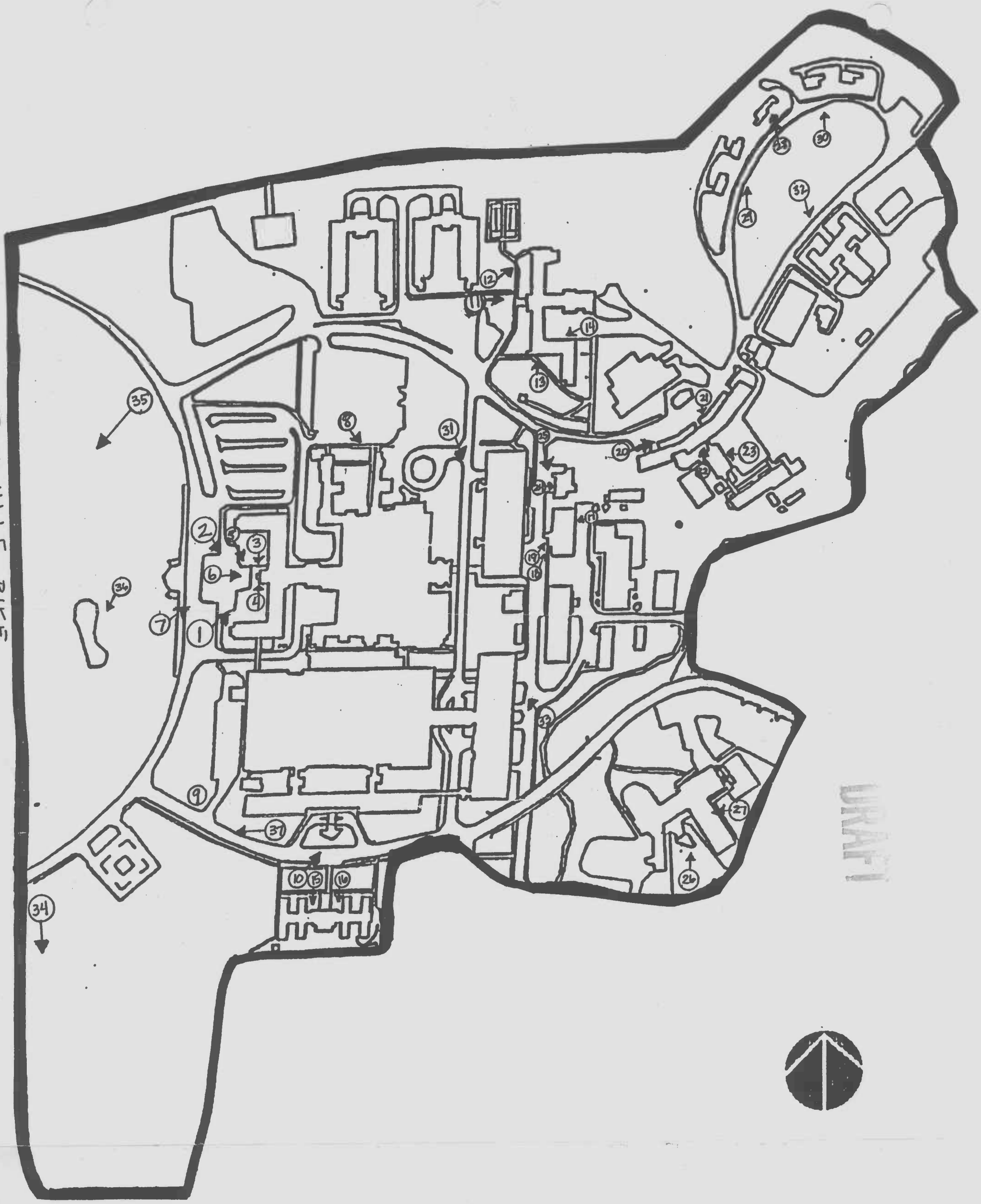
DRAFT



M-35-98

The National Naval Medical Center campus is split between the Kensington, MD and the Washington West, D.C.--MD--VA USGS maps. These maps have been aligned to give a complete, accurate view of the site.

ROCKVILLE PIKE



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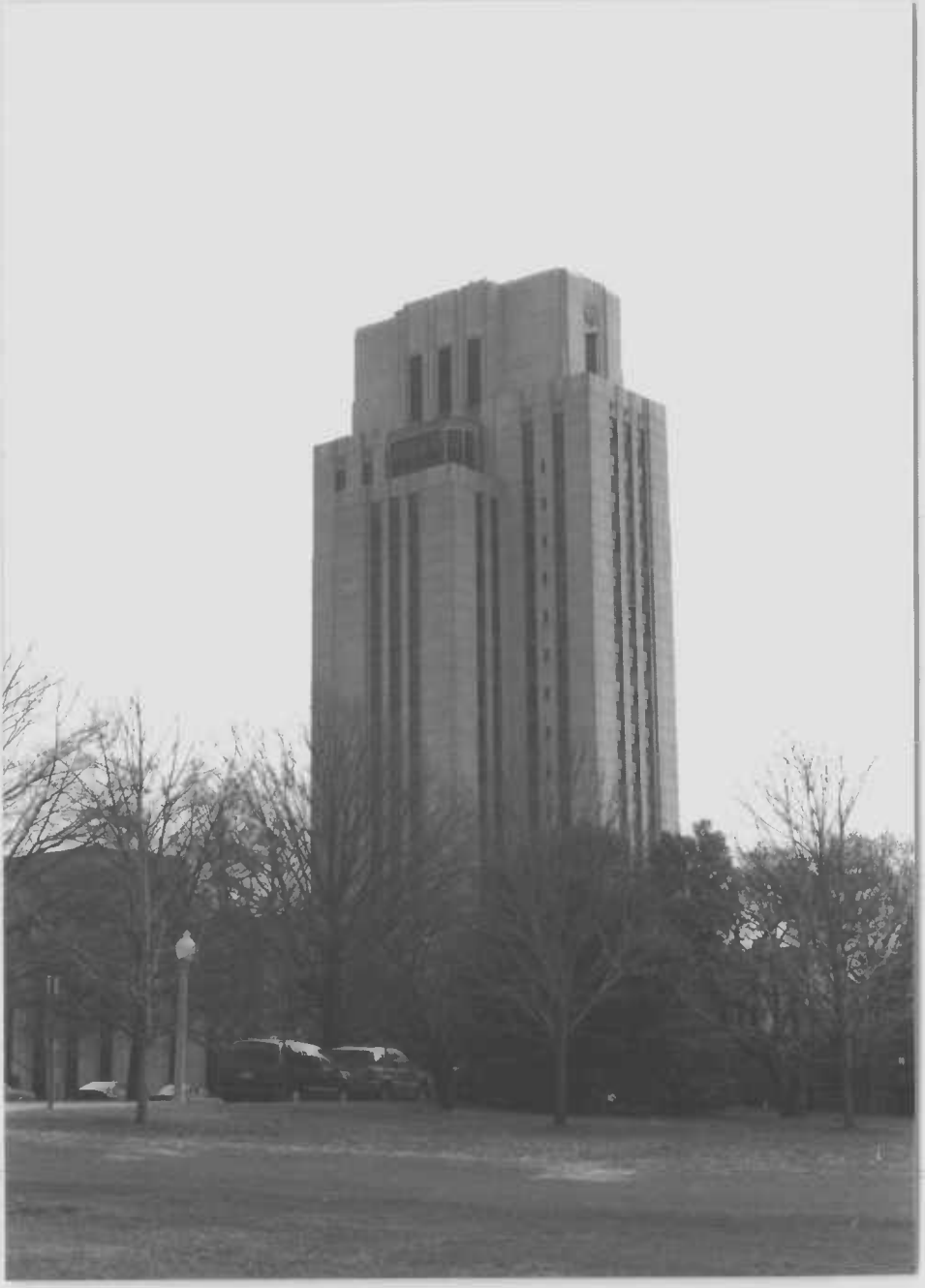
NATIONAL NAVAL MEDICAL CENTER - BETHESDA, MARYLAND

Key to Photographs

M'35-98

Building 1
National Naval Medical Center
Montgomery County, Maryland
Justin Edgington
February 1998
Negative at MD SHPO
Building 1, Wood Road, West and South elevations
#1 of 37

M:35-98



Building 1
National Naval Medical Center
Montgomery County, MD
Justin Edgington
February 1998
Negative at MD SHPO
Building 1, Wood Road, North and West elevations
#2 of 37

M:35-98

Building 1
National Naval Medical Center
Montgomery County, Maryland
Justin Edgington
February 1998
Negative at MD SHPO
Building 1, Wood Road, North elevation
#3 of 37

M:35-98

Building 1
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Building 1, Wood Road, South elevation
#4 of 37

M:35-98

Building 1
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Building 1, Wood Road, NW elevation
#5 of 37

M:35-98

NAVAL MEDICAL CENTER

Building 1, Entrance
National Naval Medical Center
Montgomery County, Maryland
Justin Edgington
February 1998
Negative at MD SHPO
Building 1 Entrance, West elevation
#6 of 37

M:35-98

Building 1 and Terrace
National Naval Medical Center
Montgomery County, Maryland
Justin Edgington
February 1998
Negative at MD SHPO

Building 1 and Terrace, Looking NE
#7 of 37

M: 35-98

Building 5
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Building 5, Palmer Road, View looking SE
#8 of 37

M:35-98

Building 10
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Building 10, Palmer Road, West elevation
#9 of 37

M:35-98

NATIONAL NAVAL
MEDICAL CENTER

Building 10
National Naval Medical Center
Montgomery County, Maryland
Justin Edgington
February 1998
Negative at MD SHPO
Building 10, S. Palmer Road, South elevation
#10 of 37

M:35-98

Bachelor Offic
Quarters

Building 11 Entrance
National Naval Medical Center
Montgomery County, Maryland
Justin Edgington
February 1998
Negative at MD SHPO
Building 11, N. Palmer Road, West elevation
#11 of 37

M:35-98

Building 11
National Naval Medical Center
Montgomery County, Maryland
Justin Edgington
February 1998
Negative at MD SHPO
Building 11, N. Palmer Road, West elevation
#12 of 37

M.35-98

Building 11
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Building 11, N. Palmer Road, South elevation
#13 of 37

M:35-98

Building 11
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Building 11, Palmer Road, East elevation
#14 of 37

M:35-98

U.S.N

Building 12
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Building 12, Palmer Road, Main entrance, North elevation
#15 of 37

M:35-98

Building 12

National Naval Medical Center

Montgomery County, Maryland

Joan M. Brierton

November 1997

Negative at MD SHPO

Building 12, Palmer Road, North elevation

#16 of 37

M: 35-98

Building 13

M-35-98

National Naval Medical Center

Montgomery County, Maryland

Joan M. Brierton

November 1997

Negative at MD SHPO

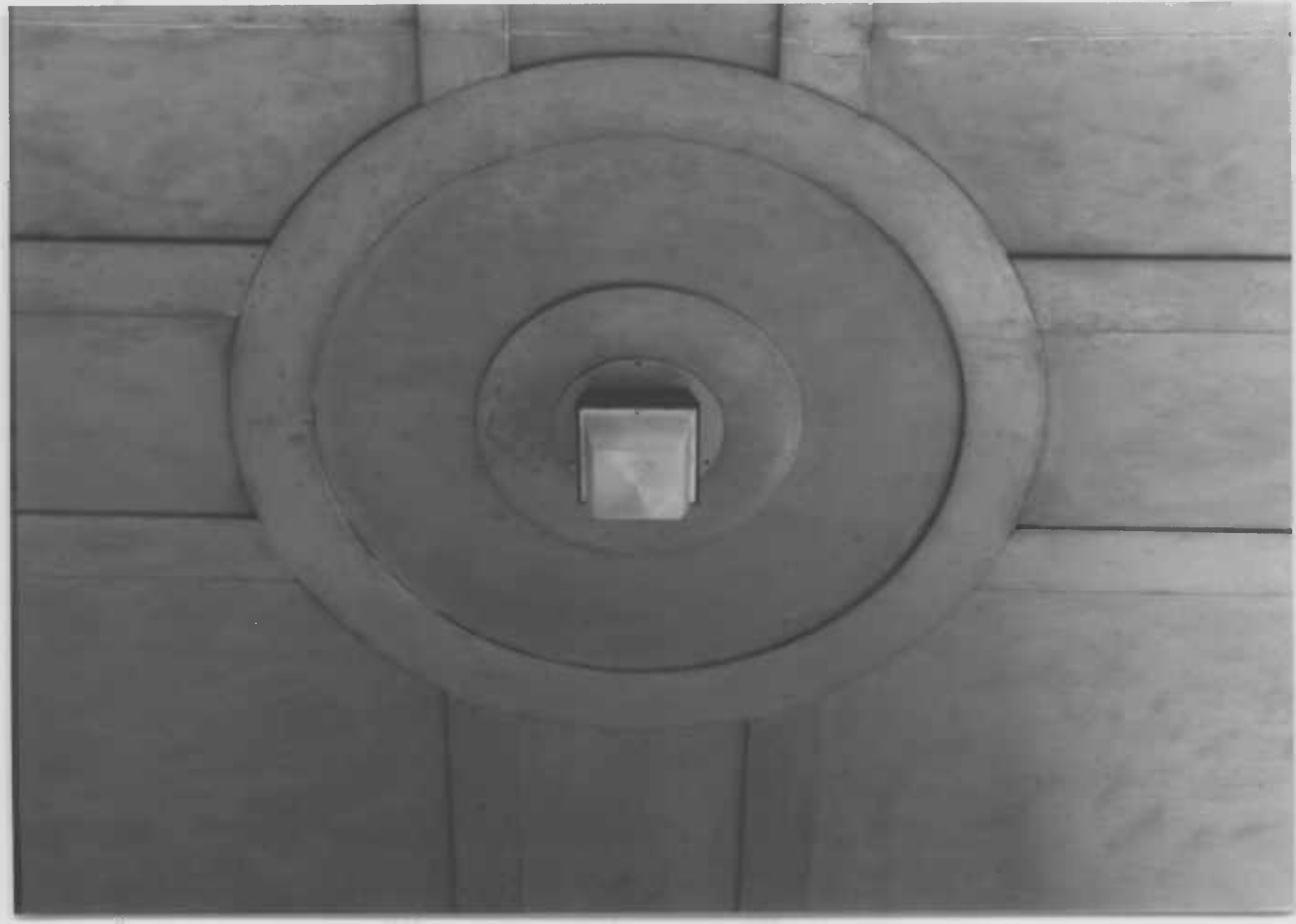
Building 13, Palmer Road, West elevation

#17 of 37

LOADING ZONE

Building 13
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Building 13, Palmer Road, East canopy elevation
#18 of 37

M-35-98



Building 13
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Building 13, Palmer Road, Detail of canopy light
#19 of 37

M-35-98

M-35-98

Building 17
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Building 17, Taylor Road, North elevation
#20 of 37

Building 17
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at SHPO
Building 17, Taylor Road, North elevation
#21 of 37

M-35-98

Building 17 and Building 18
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
South elevation of Building 17 at juncture of Building 18, view looking north
#22 of 37

M-35-98

Building 18

National Naval Medical Center

Montgomery County, Maryland

Joan M. Brierton

November 1997

Negative at MD SHPO

Building 18, Taylor Road, East elevation

#23 of 37

M-35-98

Building 20
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Building 20, Palmer Road, West elevation
#24 of 37

M-35-98

Buildings 20, 13, 14 M-35-98
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Service Buildings (20, 13, 14), Palmer Road, NE elevation
#25 of 37

Building 23

M-35-98

National Naval Medical Center

Montgomery County, Maryland

Joan M. Brierton

November 1997

Negative at MD SHPO

Building 23, Stokes Road, South elevation

#26 of 37

M-35-98

Building 23
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Building 23, Stokes Road, West elevation
#27 of 37

M-35-98

Building 34
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Building 34, VanReypen Road, South elevation
#28 of 37

Buildings 35, 36, 34
National Naval Medical Center
Montgomery County, MD
Justin Edgington
February 1998
Negative at MD SHPO
Buildings 35, 36, 34, Van Reypen Road, Looking North
#29 of 37

M-35-98

Buildings 37, 39
National Naval Medical Center
Montgomery County, Maryland
Justin Edgington
February 1998
Negative at MD SHPO
Buildings 37, 39, Van Reypen Road, Looking North
#30 of 37

M-35-98

Building 55 and Building 54
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at Maryland SHPO
Buildings 55 + 54, East Palmer Road, East Elevation
#31 of 37

M-35-98

OF
HEALTH SCIENCES

Building 141, Entrance
National Naval Medical Center
Montgomery County, MD
Justin Edgington
February 1998
Negative at MD SHPO
Building 141, Taylor Road, North elevation
#32 of 37

M-35-98

Building 1 and Building 55
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Building 1 with Bldg. 55 (Parking Garage)
in foreground, view looking west.
#33 of 37

M-35-98

Rockville Pike
National Naval Medical Center
Montgomery County, Maryland
Justin Edgington
February 1998
Negative at MD SHPO
Rockville Pike, Looking South
#34 of 37

M-35-98

Rockville Pike Landscape
National Natal Medical Center
Montgomery County, Maryland
Justin Edgington
February 1998
Negative at MD SHPO
Rockville Pike Landscape, Looking West
#35 of 37

M-35-98

Pergola
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Pergola, View looking SW
#36 of 37

M-35-98

Palmer Road
National Naval Medical Center
Montgomery County, Maryland
Joan M. Brierton
November 1997
Negative at MD SHPO
Palmer Road, Looking West
#37 of 37

M-35-98