MARYLAND HISTORICAL TRUST
DETERMINATION OF ELIGIBILITY FORM

NR Eligible: yes ___ no ___

Property Name: Building 316 Inventory Number: HA-1965

Address: Exchange Road Historic district: ___ yes X no

City: Aberdeen Proving Ground (APG) Zip Code: 21005-5001 County: Harford

USGS Quadrangle(s): Spesutie

Property Owner: U. S. Army, Aberdeen Proving Ground Tax Account ID Number: N/A

Tax Map Parcel Number(s): N/A Tax Map Number: N/A

Project: ___ Agency: ___

Agency Prepared By: R. Christopher Goodwin & Associates, Inc

Preparer's Name: Roger Ciuffo Date Prepared: 4/5/2010

Documentation is presented in: ___

Preparer's Eligibility Recommendation: ___ Eligibility recommended X Eligibility not recommended

Criteria: ___A ___B ___C ___D Considerations: ___A ___B ___C ___D ___E ___F ___G

Complete if the property is a contributing or non-contributing resource to a NR district/property:

Name of the District/Property: ___

Inventory Number: ___ Eligible: ___ yes Listed: ___ yes

Site visit by MHT Staff ___ yes X no Name: ___ Date: ___

Description of Property and Justification: *(Please attach map and photo)*

Building 316 is located on Exchange Road. This building was originally constructed as an ordnance storage warehouse in the original post support area of Aberdeen Proving Ground. In 1977, the building was renovated to accommodate a Data Processing and Communications Center (Robinson & Associates 1995; APG, DPW, real property records).

Building 316 was constructed in 1934 as an ordnance storage warehouse with 9,421 square feet of space at a cost of $35,701.60. The building, designed by the Quartermaster Corps, was constructed as a one-story, brick structure on a raised foundation. The building has common bond (5:1) brick walls and originally was topped with an asphalt-shingled, gable roof. Measuring 42' x 223', the building was accessible on the south elevation by concrete stairs leading to the elevated first story. Historic photographs show that on the front gable (north) elevation, large, multi-pane steel windows once flanked a central doorway. This entrance contained a set of double doors, each with a four-light window, and a large multi-pane transom over the doors. Along the east and west elevations, elongated multi-pane windows were set under the eaves. Spaced along these elevations were three large, double-door entrances, accessed by concrete stairs.

Building 316 was altered in 1977, when a large second story structure was added to convert the building to a Data Processing and

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MHT Comments:

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Reviewer, Office of Preservation Services **Date**

Reviewer, National Register Program **Date**

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Communications Center. The new addition was designed and constructed by the U.S Army Corp of Engineers along with the architectural engineering firm of Yule, Jordan & Associates from Philadelphia, Pennsylvania at a cost of $973,300.00 (Robinson & Associates 1995). The addition added a full second story of 10,091 square feet to the top of the original brick building. The addition is rectangular in shape and is clad with metal. The addition radically altered the original design of the building. All original openings on the first floor of the building have been enclosed. The second-story addition contains eleven tall casement windows on the east elevation near the south end. The brick portion of the building on the east elevation is punctured by nine small casement windows near the southeast corner. The west elevation of the building contains eight casement windows on the second story and four small windows on the brick portion of the building. These windows are spread on the southwest corner of the building. Along the west elevation, the building has two, metal off-sets measuring 9' x 18'10" and 10'4" x 16' (Aberdeen Proving Ground, DPW, Real property Records).

History of Aberdeen Proving Ground

Aberdeen Proving Ground was established in October 1917, when the War Department identified the Bush and Gunpowder Necks along the western shore of Chesapeake Bay near Aberdeen, Maryland, as a potential site for an expanded ordnance testing program. Over 950 acres of land located on Bush Neck were owned by Edward Stockham, a West Point graduate and a classmate of Colonel G.L.H. Ruggles, U.S. Army Ordnance, then commanding officer at Sandy Hook Proving Ground, New Jersey (Martin 1953). The peninsulas of Bush Neck and Gunpowder Neck offered sufficient acreage for extensive ordnance testing, and the area was located near both water and railroad connections to facilitate transportation of shipments of ordnance and supplies.

On October 6, 1917, an Act of Congress authorized $7,000,000 to expand facilities of the Ordnance Department, including the purchase or condemnation of land for a new proving ground. Initial efforts to acquire the Aberdeen site were met by some resistance from local residents; a local land commission was established to deal directly with landowners. The commission executed agreements to buy the Aberdeen site within a week. The average land price paid by the government was $100 per acre, which was greater than the contemporary market value of comparable property (Sterling 1991:61; National Archives and Records Administration (NARA) RG 77, Entry 391, Box 1, Completion Report 1919).

On October 15, 1917, the Maryland Dredging & Contracting Company signed a contract to construct the new post. The contractor initiated work on the site on October 21, 1917. All design, supervision, and fund disbursement were controlled by Ordnance Department personnel in the Engineering Department headquartered at Sandy Hook Proving Ground, New Jersey. The only civilian on the list of project personnel was B.V. White, architect. B.V. White maintained an architectural practice at 110 E. 23rd Street, New York, and was in charge of the design of the buildings for the new proving ground. Under the direction of then Chief of Ordnance General Crozier, the buildings at APG were designed to accommodate a peacetime proving ground and were "of a permanent type, either all fireproof or slow burning construction" (NARA RG 77, Entry 391, Box 1, Completion Report 1919:6).

On January 18, 1918, the Acting Chief of Ordnance Brig. Gen. C.B. Wheeler submitted to the Secretary of War the drawings for the following permanent buildings: Administration Building, Machine Shop, Storehouse, Store Shed, Instrument Building, Carpenter Shop, Paint Shop, Mobile Powder Weighing Building, Final Assembly Building, and Sea Coast Powder Weighing Building. As described in the transmitting memorandum, the building designs were "as simple and inexpensive as is consistent with the purpose for which they are required and for reasonable durability." Brig. Gen. Wheeler requested construction oversight of the buildings by the Ordnance Department, since the designs were so specialized that the buildings were best understood by Ordnance personnel. The Secretary of War authorized construction on February 25, 1918, but transferred construction oversight to the Cantonment Division of the U.S. Army Quartermaster Corps. A memorandum dated February 22, 1918 from the Officer in Charge of Cantonment Construction to Colonel C.L.H. Ruggles, Commanding Officer, APG, documented that a large percentage of the work was already underway; materials were ordered; and, plans were nearly completed. The Cantonment Division

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Reviewer, National Register Program **Date**

recommended that Colonel Ruggles remain in charge of construction. Ruggles was appointed as Construction Quartermaster at APG, while also serving as Commanding Officer. The Cantonment Division assigned a Quartermaster Corps officer as an Assistant Construction Quartermaster to administer the project, coordinate with the construction contractor to ensure that the work was carried out to the specifications of the Ordnance Department, and to complete the documentation required by the U.S. Quartermaster Corps (NARA RG 77, Entry 391, Box 1, Completion Report 1919:113-117). The dual administrative function of Construction Quartermaster and Commanding Officer transferred to Colonel William A. Phillips, when he replaced Colonel Ruggles as Commanding Officer of APG in March 1918 (U.S. Army Ordnance Museum, Commanding Officers of APG).

Although the construction of the permanent buildings was not finished until December 1918, ordnance testing began at APG in January 1918. On January 2, 1918, Mrs. Edward Stockham, wife of Major Edward Stockham, fired the first artillery round during a blinding snowstorm (Leslie 1951; Jones 1967; NARA RG 77, Entry 391, Box 1, Completion Report 1919). Thereafter, the testing functions of Sandy Hook Proving Ground were transferred to APG. Work at the new proving ground included both the experimental testing of new ordnance designs before quantity production, and acceptance testing of manufacturers' products before use by Army personnel. The intensity of activity at APG was illustrated by the fact that 416,294 rounds were fired at the proving ground during World War I. Prior to the war, an average of only 7,000 rounds per year were fired at Sandy Hook Proving Ground (Sterling 1991:62).

After World War I, military appropriations for construction were stopped; however, some construction projects at APG were completed because the War Department planned to keep the installation permanently. In addition, little money was available to develop new ordnance during the 1920s and early 1930s. Consequently, activity at APG slowed. Personnel assigned to the installation diminished to 914 in 1922, and to 526 by 1929. During the 1930s, employment stabilized at about 600 military and civilian personnel. Despite the diminished level of activity, some important research and development work continued; most notable was the development of the 105mm howitzer. A less successful effort came with the attempt to mount a 240mm howitzer on a caterpillar tractor (Green 1955:60, 186 189). Other work at APG included the development of powder, projectiles, bombs, and railway and seacoast artillery. Workers at APG studied ballistics and prepared firing tables. During the late 1930s, the Army Ordnance School was consolidated into APG (Sterling 1991:71, 74, 68).

During the 1930s, construction projects resumed at APG. The Army's inter-war construction program was begun in 1926, after the passage of Public Law No. 45 that allowed the Army to establish the "Military Post Construction Fund" to improve living conditions for personnel. During the 1930s, monies provided by the National Industrial Recovery Act (NIRA) and Public Works Administration (PWA) were used to continue the Army construction program. The Construction Division of the Quartermaster Corps, led by a professional group of military and civilian architects and planners, organized all aspects of the nationwide construction program. The overall goal of the program was to develop efficient, cohesive, and pleasant environments within reasonable expenditures. The Quartermaster Corps issued new standardized building plans that responded to local climate conditions and reflected local architectural history. By 1940, 1,091 sets of quarters had been completed at 64 installations (Cannan et al. 1995:211).

At APG, new construction projects included permanent officer and non-commissioned officer housing. The houses were sited on Plumb Point along the shoreline. A golf course occupied the resulting central open space. This area also included a 163-man barracks, a fire station, and a guardhouse. The Army also constructed many permanent utilitarian buildings in the administrative area and along Main Front. Buildings located along the Main Front included a garage, a carpentry shop, a paint shop, a gasoline station, warehouses, ordnance magazines, improved proofing facilities, a tank firing range, and related buildings. Most construction at the installation remained focused north of the main firing ranges and included Building 316 for ordnance storage. However, as additional activities were added to the installation, new construction was located on available land in nonimpact ranges east and west of the Main Front. During this time, paved runways, a permanent hangar, barracks, anoil and paint house, and

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a garage were constructed at the airfield.

Until the commencement of World War II, APG functioned as the Army's sole proving ground. As pace of development and production of military ordnance increased in the months leading up to the formal declaration of war, the Army opened other proving grounds to perform acceptance testing of munitions and ordnance equipment. The focus of the work accomplished at APG shifted from proof testing to increased ordnance research and development and experimental testing of new ordnance equipment (Cannan et al. 1995). In November 1943, APG was designated as the Ordnance Research Center. Throughout the war, workers at APG conducted research on ammunition, armor, aviation armament, ballistics, rockets, and automotive engines (NARA, RG 156, Entry 646A, Box A776, Ordnance Proving Grounds).

Some interesting statistics illustrate the scope of activity in a few divisions at APG. During the second half of 1944, the Arms and Ammunition Division completed 1,466 test projects and submitted 183 formal reports. The division completed 11,583 record fires, expending 5,545 tons of ammunition. During this same six month time period, the Automotive Division tested vehicles for a total of 825,963 miles: 662,229 miles for transport vehicles; 141,338 for combat vehicles; and 22,396 miles for gun mounts. Construction between 1940 and 1944 cost nearly $58,000,000.00. At the beginning of 1945, 27,295 military and 4,867 civilian personnel worked at APG (NARA, RG 156, Entry 646A, Box 776, Ordnance Proving Grounds).

The scope of weapons research and development at APG during World War II was impressive. Soldiers and civilians at APG performed research and testing on components of most weapons. They developed new armor plating methods, new artillery weapons, tanks, and other equipment. Refinements were made as a result of testing, and new models were developed. A rocket research division was established to develop various forms of rockets, including the bazooka, an infantryman's antitank weapon. Of the 1,860 major ordnance items in use by 1945, only 350 were designed prior to 1940 (NARA, RG 156, Entry 646A, Box 777, History of Ordnance Research and Development in World War II).

Following World War II, activities at APG continued to shift and expand in response to the Army's changing roles. During the Cold War era, APG functioned as a national Army center for basic scientific research, materiel development and testing (ordnance), and education (ordnance). Each activity actually was established at APG prior to World War II, but was greatly expanded during the Cold War era.

Assessment

Building 316 was evaluated applying National Register of Historic Places Criteria for Evaluation (NRHP) to assess if it retained those qualities of significance and integrity necessary for listing in the NRHP. Surviving records do not document important events (Criterion A) or individuals (Criterion B) associated with this building. The building does not possess any significance for its design applying National Register Criterion C due to extensive exterior and interior alterations during the 1970s. This building has been radically altered so that it no longer retains sufficient integrity of design, materials, and workmanship to illustrate its original period of design or construction. Hence, the building does not possess the qualities of significance or integrity for listing in the NRHP.

References

Aberdeen Proving Ground
n.d. Real property records and drawing files on file at Directorate of Public Works, APG, Maryland.

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"Arch Club"
2003 History available at etc.Princeton.edu/Campus. Accessed online February 2003.

Cannan, Deborah, Leo Hirrel, Katherine Grandine, Kathryn Kuranda, Bethany Usher, Hugh B. McAloon, and Martha Williams
1995 National Historic Context for Department of Defense Installations, 1790-1940. Prepared by R. Christopher Goodwin & Associates, Inc., Frederick, Maryland, for the U.S. Army Corps of Engineers, Baltimore District, Baltimore, Maryland.

Goodwin, R. Christopher, & Associates, Inc.
2008 Aberdeen Proving Ground Integrated Cultural Resources Management Plan. Prepared for APG through Weston Solutions, Inc.

Green, Constance McLaughlin, Harry C. Thomson, and Peter C. Roots
1955 The Ordnance Department: Planning Munitions for War. Government Printing Office, Washington, D.C.

Jones, H. Dan, Marian Heifrin, and Harvey Ivins
1967 Aberdeen Jubilee Historical Program. Historical Program Committee, Aberdeen, Maryland.

Leslie, Walter G.
1951 History of Harford County. Aberdeen Proving Ground. Ms. on file at the Maryland Historical Society, Baltimore, Maryland.

Martin, Stephen J.
1953 Recollections Concerning Installation of Aberdeen Proving Ground and Growth of Aberdeen. Ms. available at the Harford County Historical Society, Bel Air, Maryland.

National Archives and Records Administration, College Park, Maryland
Record Group 77, Entry 391, Completion Reports, Aberdeen Proving Ground
Record Group 92, Construction Division, Completion Reports
Record Group 156, Entry 646A, Box A776, Ordnance Proving Grounds
Record Group 156, Entry 646A, Box 777, History of Ordnance Research and Development in World War II
Record Group 156, Entry 646, Box A638, Aberdeen Ordnance School

Rapid Fire
1917-18 Aberdeen Proving Ground. Published for and by Aberdeen Proving Ground, Public Affairs Office.

Robinson & Associates, Inc. and Baker Civil
1995 Warehouse Survey Aberdeen Proving Ground Maryland Historical Trust Inventory Forms, December 22, 1995.

Sterling, Keir
1991 Aberdeen Proving Ground: The Early Years. Harford Historical Bulletin 49:55 86.

U.S. Army Ordnance Museum, Aberdeen Proving Ground
n.d. Commanding Officers of APG in Historical Files; Photographic collections and vertical files; Historical Bulletins.

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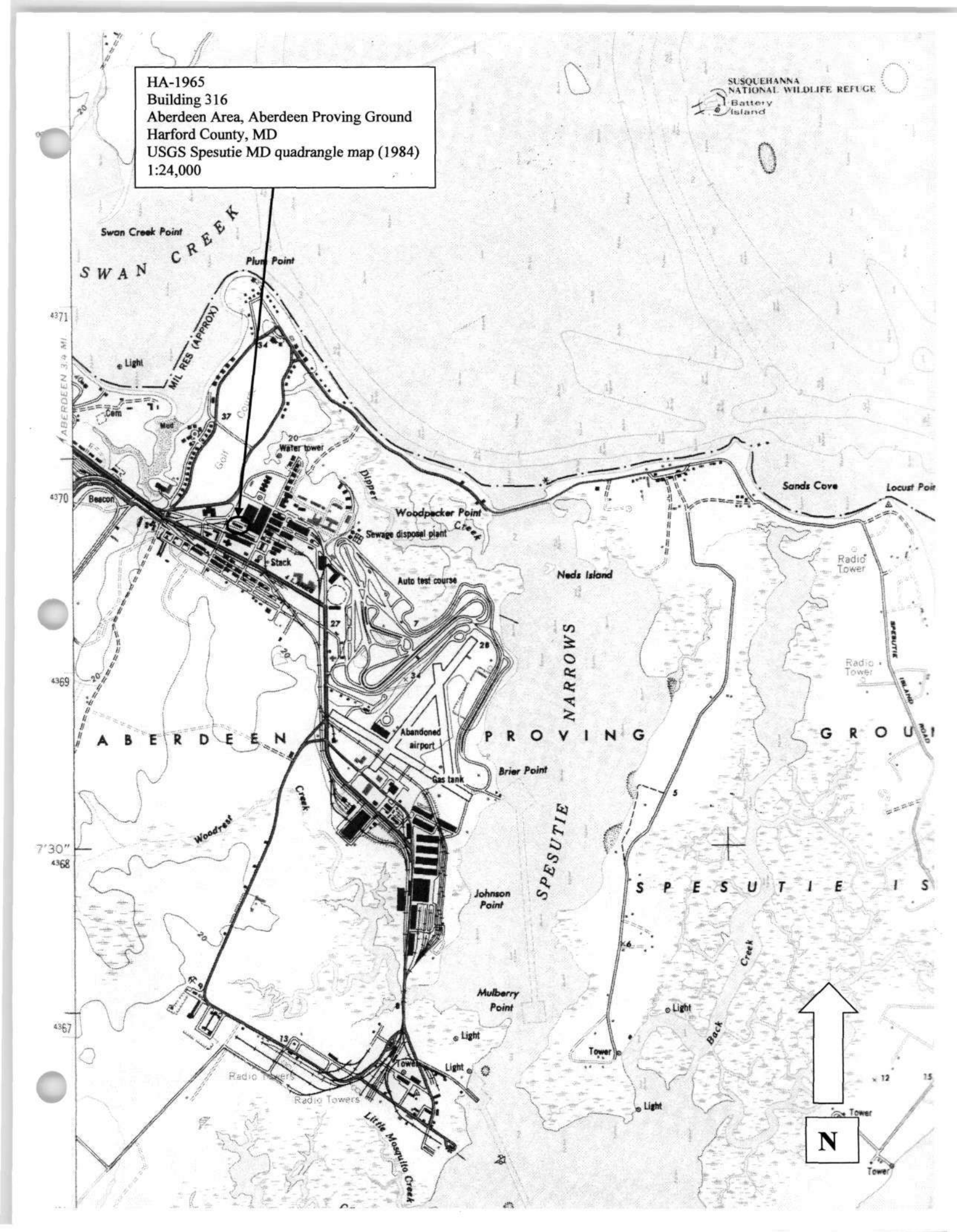
HA-1965
Building 316
Aberdeen Area, Aberdeen Proving Ground
Harford County, MD
USGS Spesutie MD quadrangle map (1984)
1:24,000
SUSQUEHANNA NATIONAL WILDLIFE REFUGE
Battery Island
Swan Creek Point
SWAN CREEK
Plum Point
MIL RES (APPROX)
ABERDEEN 3.4 MI
Light
Com
Mud
Golf
Water tower
Beacon
Stack
Dipper
Woodpecker Point
Creek
Sewage disposal plant
Auto test course
Sands Cove
Locust Point
Neds Island
Radio Tower
SPESUTIE ISLAND ROAD
NARROWS
ABERDEEN PROVING GROUND
Abandoned airport
Gas tank
Brier Point
Woodrest
Creek
Johnson Point
SPESUTIE
SPESUTIE ISLAND
Mulberry Point
Back Creek
Tower
Light
Radio Towers
Little Mosquito Creek
4371
4370
4369
4368
4367
7'30"
N

HA-1965
Building #316
Aberdeen Proving Ground
Aberdeen vicinity
Spesutie Quad.
Harford County