

**Maryland Historical Trust
 State Historic Sites Inventory Form
 Maryland Inventory of Historic Properties**

Survey No. HA-1959
 Magi No. _____
 DOE yes no

1. Name

Historic Name Trench Warfare Range

Common Name and Building Number Building 266, 272, 280, 284

2. Location

Street and Number Aberdeen Proving Ground - Aberdeen Area

City, Town Aberdeen

Congressional District _____

State and Zip Code MD 21005

County Harford

3. Classification

Category	Ownership	Status	Present use
<input type="checkbox"/> District	<input checked="" type="checkbox"/> Public	<input type="checkbox"/> Occupied	<input type="checkbox"/> Agriculture
<input type="checkbox"/> Building(s)	<input type="checkbox"/> Private	<input checked="" type="checkbox"/> Unoccupied	<input type="checkbox"/> Commercial
<input checked="" type="checkbox"/> Structure	<input type="checkbox"/> Both	<input type="checkbox"/> Work in Progress	<input type="checkbox"/> Educational
<input type="checkbox"/> Site	Public Acquisition	Accessible	<input type="checkbox"/> Entertainment
<input type="checkbox"/> Object	<input type="checkbox"/> In Process	<input type="checkbox"/> Yes: Restricted	<input type="checkbox"/> Government
	<input type="checkbox"/> Being Considered	<input type="checkbox"/> Yes: Unrestricted	<input type="checkbox"/> Industrial
	<input type="checkbox"/> Not Applicable	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Military
			<input type="checkbox"/> Museum
			<input type="checkbox"/> Park
			<input type="checkbox"/> Private Residence
			<input type="checkbox"/> Religious
			<input type="checkbox"/> Scientific
			<input type="checkbox"/> Transportation
			<input type="checkbox"/> Other:

4. Owner of Property

Name U.S. Army Aberdeen Proving Ground Support Activitiy (STEHP-DIC)

Street & Number Building 310

Telephone No.: (410) 278-6755

City, Town Aberdeen Proving Ground

State and Zip Code MD 21005-5001

5. Location of Legal Description

Courthouse, Registry of Deeds, etc. Harford County Courthouse, Land Records Office

Liber# _____

Street & Number Main Street

Folio# _____

City, Town Bel Air

State and Zip Code MD 21014

6. Representation in Existing Historic Survey

Yes No

Title _____

Date _____

Federal State County Local

Depository for Survey Records _____

City, Town _____

State and Zip _____

7. Description

Survey No. HA-1959

Condition
 Excellent Deteriorated Unaltered Original Site
 Good Ruins Altered Moved
 Fair Unexposed

SEE ATTACHED CONTINUATION SHEETS

8. Significance

Survey No.

Period	Areas of Significance			
<input type="checkbox"/> Prehistoric	<input type="checkbox"/> Archeology-Prehistoric	<input type="checkbox"/> Community Planning	<input type="checkbox"/> Landscape Architecture	<input type="checkbox"/> Religion
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> Archeology-Historic	<input type="checkbox"/> Conservation	<input type="checkbox"/> Law	<input type="checkbox"/> Science
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> Agriculture	<input type="checkbox"/> Economics	<input type="checkbox"/> Literature	<input type="checkbox"/> Sculpture
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> Architecture	<input type="checkbox"/> Education	<input checked="" type="checkbox"/> Military	<input type="checkbox"/> Social/Humanit
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> Art	<input type="checkbox"/> Engineering	<input type="checkbox"/> Music	<input type="checkbox"/> Theater
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> Commerce	<input type="checkbox"/> Exploration/Settlement	<input type="checkbox"/> Philosophy	<input type="checkbox"/> Transportation
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> Communications	<input type="checkbox"/> Industry	<input type="checkbox"/> Politics/Government	<input type="checkbox"/> Other (specify)
		<input type="checkbox"/> Invention		

Specific Dates	Architect				Builder	Area
Applicable Criteria:	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D		
Applicable Exception	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	<input type="checkbox"/> E	<input type="checkbox"/> F <input type="checkbox"/> G
Level of Significance	<input type="checkbox"/> National		<input type="checkbox"/> State		<input type="checkbox"/> Local	

SEE ATTACHED CONTINUATION SHEETS

9. Major Bibliographical References

Survey No. *HA-1959*

SEE ATTACHED CONTINUATION SHEETS

10. Geographical Data

Verbal Boundary Description

The original Trench Warfare Range was about 1/4 mile long. It is a rectangular plot of land, with buildings along the north and west perimeters of the property. It is bounded on the north by the Trench Warfare Entrance Road, jogging further to the north to encompass the buildings of the site that are located on the north side of the road (such as 263, 264, 265, and 280). On the south and east, the site is bounded by the perimeter of the range. On the west, Michaelsville Road marks the original boundary of the range.

11. Form Prepared by

Name/Title Heather Ewing and Judith Robinson, Architectural Historians

Organization Robinson & Associates, Inc.

Date March 20, 1996

Street & Number 1909 Q Street, NW, #300

Telephone (202) 234-2333

City or Town Washington, D.C.

State 20009

Concurrence of State Preservation Officer

The Maryland Historic Sites Inventory was officially created by an Act of the Maryland Legislature to be found in the Annotated Code of Maryland, Article 41, Section 181 KA, 1974 supplement.

The survey and inventory are being prepared for information and record purposes only and do not constitute any infringement of individual property rights.

Return to: Maryland Historical Trust
DHCP/DHCD
100 Community Place
Crownsville, Maryland 21032-2023
(410) 514-7600

Overview

The Trench Warfare Range is composed of a number of small structures whose construction dates from World War I to the Cold War, span the active life of the Proving Ground. The course was originally established during 1918 to provide a testing area that closely imitated the European terrain that was being encountered by American troops abroad. During World War II, although new warfare tactics necessitated that different tests be conducted on this range, the World War I-era name "Trench Warfare Range" remained intact. This district is located in the northern section of Aberdeen Proving Ground, to the southeast of the Main Front.

Architectural Descriptions

Building 266

Building 266 is one of a number of shelters constructed at the trench warfare range during 1941, as war-related testing activities at Aberdeen Proving Ground increased. The shelter is virtually identical to the others in the row. It is a small, one-story structure made of reinforced concrete, with no rear (or southwest) wall. Originally, the rear was shaded by a wooden shed roof, which is now missing. The northeast wall, facing the range, is punctuated by two apertures for viewing the tests. Stencilled on this wall are the questions, "Do you have ear plugs? ear muffs? firing clearance? S.O.P.?" Mounted on this wall is a wooden box with a gabled top.

Building 266 is located in a row of similar shelters that are all oriented towards the testing range. Like many of the others in this row, Building 266 shows evidence of concrete spalling, particularly on the ceiling and upper walls; it appears that the non-galvanized metal used as an internal frame has corroded. Originally, there were freestanding concrete walls adjacent to these shelters to provide additional protection from the tests being conducted. Today, these shelter walls no longer exist. In addition, these shelters no longer contain any of the equipment that was used in connection with the testing, such as the chronographs.

Building 272

Building 272 is a camera tower that was constructed in 1959, in conjunction with Cold War tests that were conducted on the Trench Warfare Range. A camera mounted on the top of the tower would have recorded test activities on the range. The tower is constructed of concrete block, in two sections, one slightly lower than the other, creating a staggered formation. It is mounted on stilts. The viewing stand or camera location is located on the roof of the tower, and is enclosed by a metal railing. It is accessed by an open stair. A vertical middle section in each wall of the tower is open. The tower is no longer in use; it was not accessed.

Building 280

Building 280 is a small-scale magazine built in 1934, during the interwar years. It is constructed of red brick bearing walls upon a concrete foundation. It is situated at the end of a row of concrete viewing shelters, erected in 1941, that lines the northern perimeter of the testing range. Building 280 is a simple rectangular block, measuring 10'x12', with a flat, built-up roof. In front of the northeast facade of the building, there is a thick poured-concrete, free-standing protection wall, which is the same height as the shed. This shelter wall, which was designed to protect the contents of the storage building from the tests being conducted on the range, was added during the World War II buildup at the range (ca. 1941-44).

The interior was not accessed.

Building 284

Building 284 is one of a group of observation towers that were constructed for the Trench Warfare Range in 1942. Built during the great increase of activity at the test range following America's entry into the war, these towers were designed as temporary structures and, at present, many have been demolished. They are wooden structures with gabled roofs and concrete foundations. Each tower is located along the range at 500-yard increments. Building 284, the first of these towers in the line, stands at the 500-yard mark. The observation station at the top of the tower is a simple plywood cabin, open on all sides to enable the viewing of tests being conducted on the range. The viewing area can be closed by means of simple wood flanges or shutters, that, when open, lie parallel to the ground, supported by brackets. The structural support of the tower consists of two levels of crossed beams. The tower, accessed by an exterior stair, is no longer in use.

Overview

The Trench Mortar Battery, as it was originally identified, was 1/4 mile long when first constructed. It was one of the five so-called batteries and, along with three detonating ranges, comprised the initial facilities at Aberdeen Proving Ground (APG) in 1918. In later years, this range continued to be used for testing. Although the weapons tested changed, the range retained its name as "Trench Warfare."

Aberdeen Proving Ground, located along the western shore of the Chesapeake Bay, about thirty miles north of Baltimore, was established in 1917 as the Army's principal ordnance center for proof-firing of weapons and ammunition. Prior to that time the Army had tested weapons and equipment at Sandy Hook Proving Ground in New Jersey; the increasingly sophisticated and mechanized military equipment developed at the onset of World War I necessitated a testing facility with larger ranges. From its creation until World War II, Aberdeen served as the U.S. Army's primary location for the acceptance testing of new weapons and development testing for new types of weapons. During the years prior to World War II, a single proving ground adequately met the military's needs; however, with the onset of the war, the greatly expanded activities necessitated other locations. New proving grounds were established in Ohio, Indiana, and Arkansas. These new areas for the acceptance testing of weapons enabled Aberdeen to focus in particular on the developmental testing of new weapons and equipment.¹

World War I

The Trench Warfare Section was organized under the Ordnance Department in April 1917, shortly after the United States entered the war. The Section was charged with the production of such weapons as the hand grenade and mortar shell, as well as bombs to be dropped from airplanes. For a brief period of time, the Section also handled the manufacture of implements that were to be used with poison gas; in the summer of 1917, the Chemical Warfare Service was created and took over this operation.²

The weapons used in fighting from the trenches were entirely new to American industry. Entrenched opposing forces needed to be able to kill from below ground; the hand grenade and mortar became weapons of choice. The testing range thus devised took its cue from the fields of Europe, with barbed wire fences lacing the landscape, trenches dug, and some of the original farmhouses of the area left abandoned on the range.

By the spring of 1918, the first completed trench mortars were sent to the proving ground for testing. The trench mortar was a light steel tube which was placed on the ground with its front end angled

¹Goodwin *Aberdeen Proving Ground, Cultural Resource Management Plan* (1995), p. 91; *Historic Context for AMC's WW2 Facilities* (1994), p. 195.

²Crowell, *Armies of Industry*, p. 256.

upwards. Two steel legs supported its weight in the front, creating a tripod formation. Loaded shells were dropped in to the muzzle of the mortar in which a firing pin set off a propellant charge located in the base of the shell. The resulting explosion launched a projectile whose trajectory was high and slow, but, when placed accurately, extremely detrimental. During World War II, the 3-in. Stokes mortar, with an overall weight of 110 lbs. and a projectile range of 750 yards, was the most prominent model of this type of firing device. For those initial mortars sent to Aberdeen, tests revealed that detonation deformed the barrels and broke the metal bases of these weapons. Research eventually resulted in the substitution of a different propellant, which permitted the range of fire without damage to the mortar.³

Interwar Years

Activities at Aberdeen during the interwar years proceeded at a greatly slowed pace. Testing continued in a limited way, however, on the Trench Warfare Range, and in 1936, the range was connected by telephone. One of the principal concerns at the proving ground following the war involved storage. Building 280, a small magazine, was the only structure constructed at the Trench Warfare Range during the interwar years.

World War II

The Trench Warfare Range greatly expanded with the onset of World War II. A row of viewing shelters was constructed along the northern end of the range. These appear to have replaced a row of earlier structures that had been built when the range was first completed.

Chronographs were used in conjunction with the shelters for measuring the tests. These chronographs had their origins in other areas of testing at Aberdeen Proving Ground. During World War I, the Boulenger Chronograph was developed by a Belgian captain to measure the velocity of projectiles in the air. This instrument was essentially a laboratory instrument only, requiring precise mounting to prevent extra vibrations. Between 1918 and 1919 another chronograph was developed at Aberdeen for use as a portable or fieldtype instrument.⁴ Throughout the interwar years developments continued to be made with these instruments, such that the World War II-era chronographs in use at the Trench Warfare Range would have been considerably more sophisticated than the original 1919-era ones.

Post War

The use of this range continued past World War II. In 1959, Building 272, a camera tower, was constructed in conjunction with Cold War rocket tests that were being conducted on the range.

³ Carl Dreher, "America's Artillery Might," *Popular Science*, p. 56-57; Crowell, *Armies of Industry*, p. 272.

⁴Ford, "Instruments for Making Ballistic Determinations and Some Results Obtained at Aberdeen Proving Ground," *Army Ordnance*, September-October 1926.

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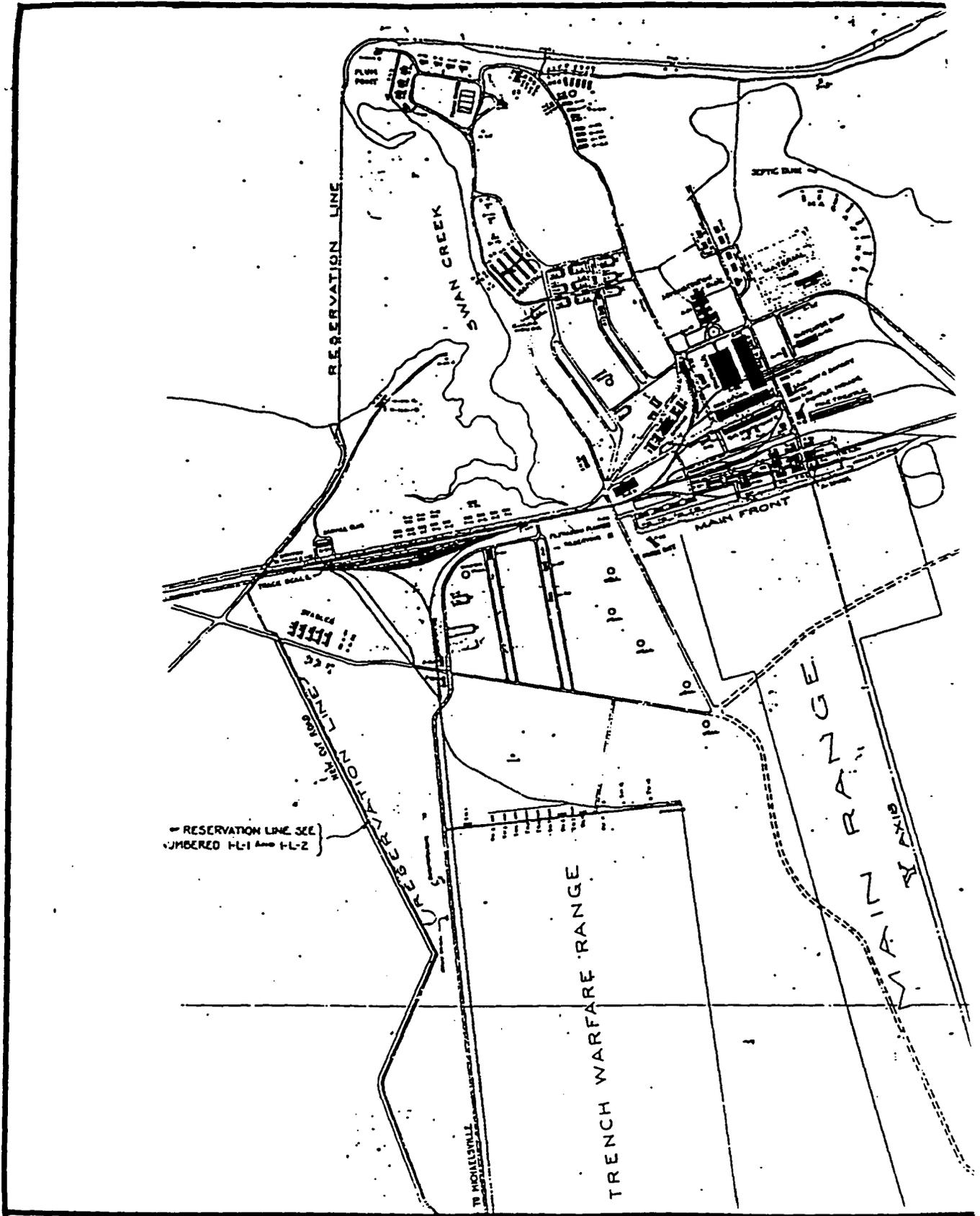
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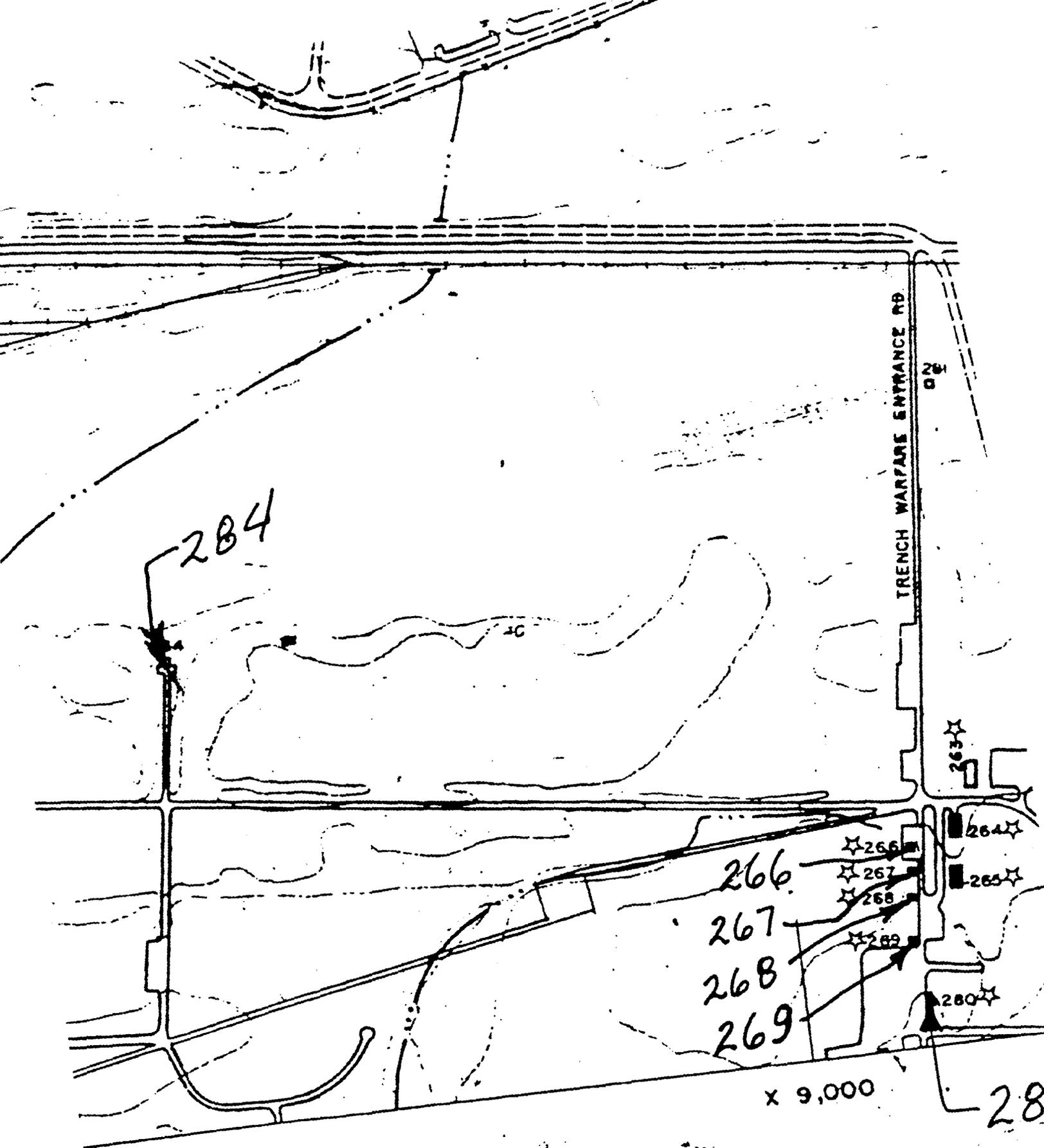
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AK-1759

Trench Warfare Range, 1921
 Engineers Department Map of
 Aberdeen Proving Ground, Northern Portion



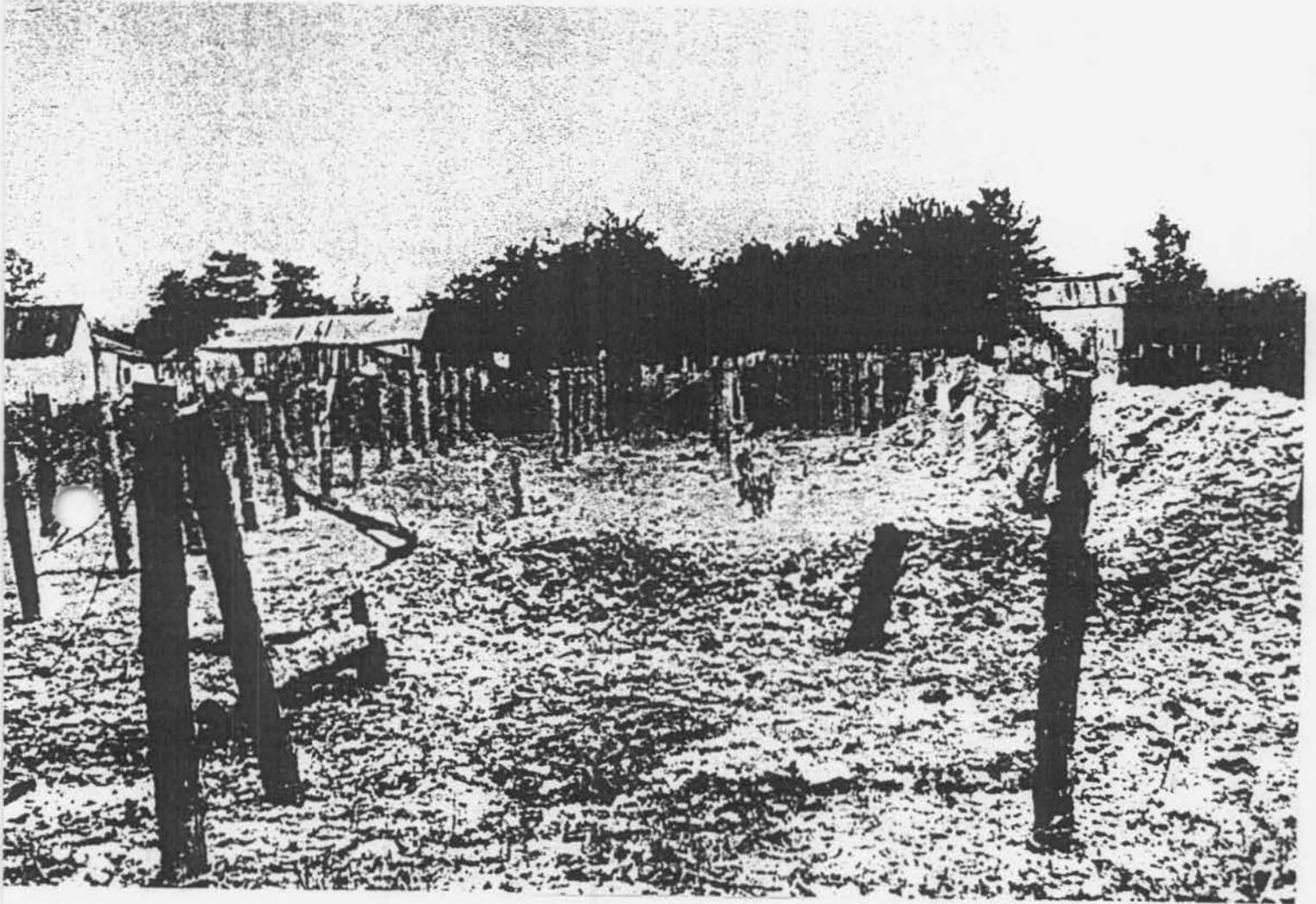
x 9,000

28

44-1959
Northern Portion of the Trench Warfare Range
Aberdeen Proving Ground, MD 1995

NA-1959

MHT Inventory Form
Aberdeen Proving Ground, MD
Robinson & Associates, Inc.



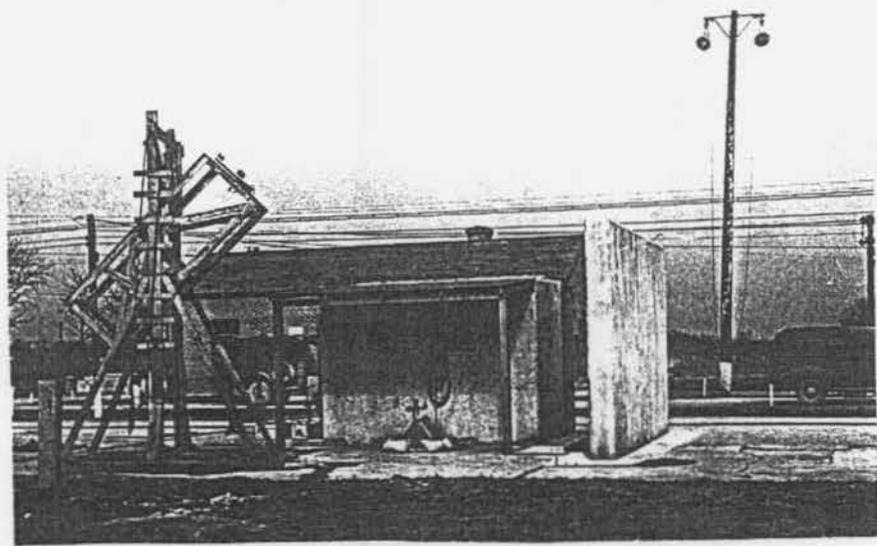
Trench Warfare Range
Aberdeen Proving Ground, MD
c. 1918

HA-1959

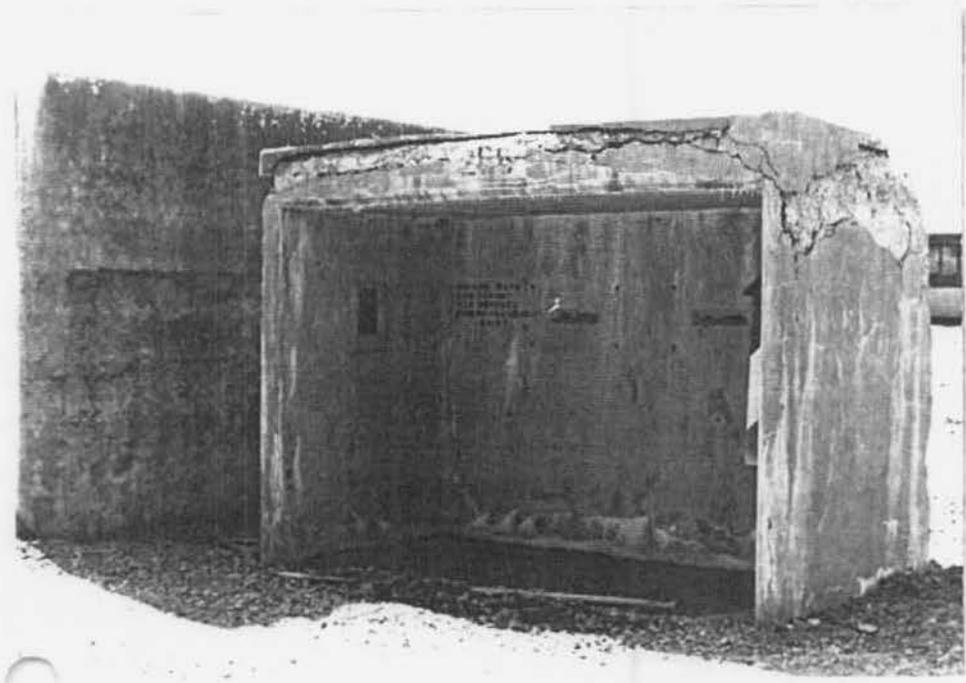
MHT Inventory Form
Aberdeen Proving Ground, MD
Robinson & Associates, Inc.

Bldg. 266
Concrete Shelter No. 1 (T-6)
Completed July 1941

A49 (47)



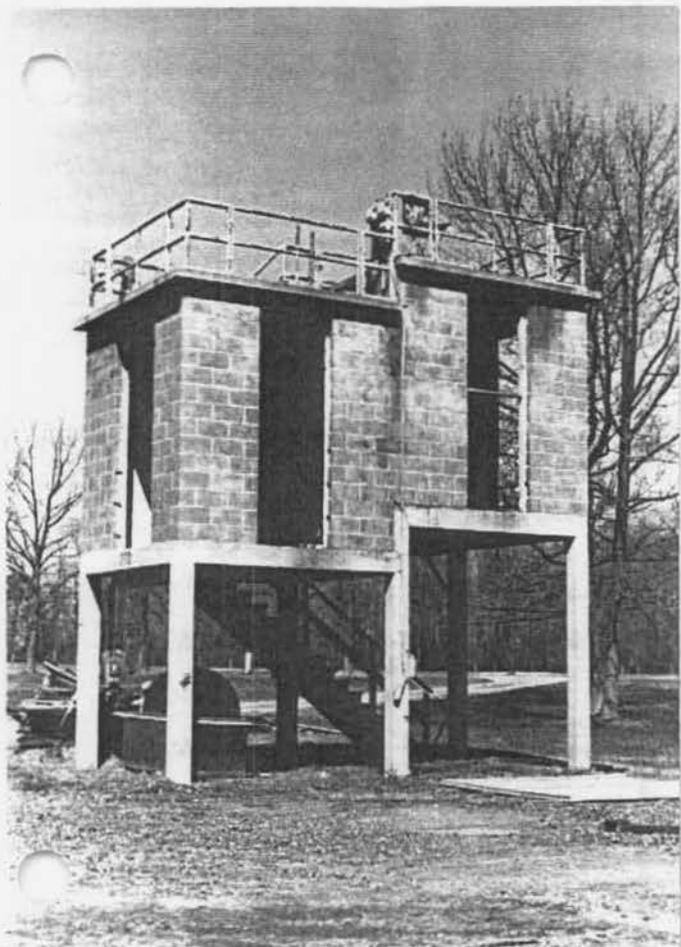
View of Building 266 from Real Property Card, c. 1941



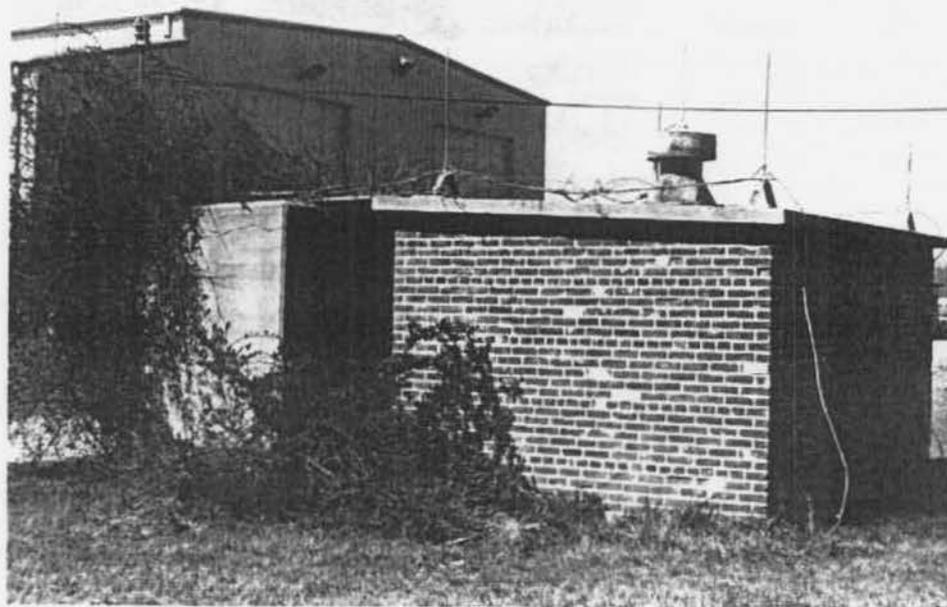
Building 266
Concrete Shelter No. 1 (1941)
Trench Warfare Range
Aberdeen Proving Ground, MD
April 1995

HA-1959

MHT Inventory Form
Aberdeen Proving Ground, MD
Robinson & Associates, Inc.



Building 272
Camera Tower (1959)
Trench Warfare Range
Aberdeen Proving Ground, MD
April 1995



Building 280
Ordnance Facility (1934)
Trench Warfare Range
Aberdeen Proving Ground, MD
April 1995

HA-1959

MHT Inventory Form
Aberdeen Proving Ground, MD
Robinson & Associates, Inc.



View of Building 284 from Real Property Card, c. 1942

Building 284
Observation Tower (1942)
Trench Warfare Range
Aberdeen Proving Ground, MD
April 1995

