

US Army Corps
of Engineers
Rock Island District



Defense Environmental Restoration Program
For
Formerly Used Defense Sites
Ordnance and Explosives Waste

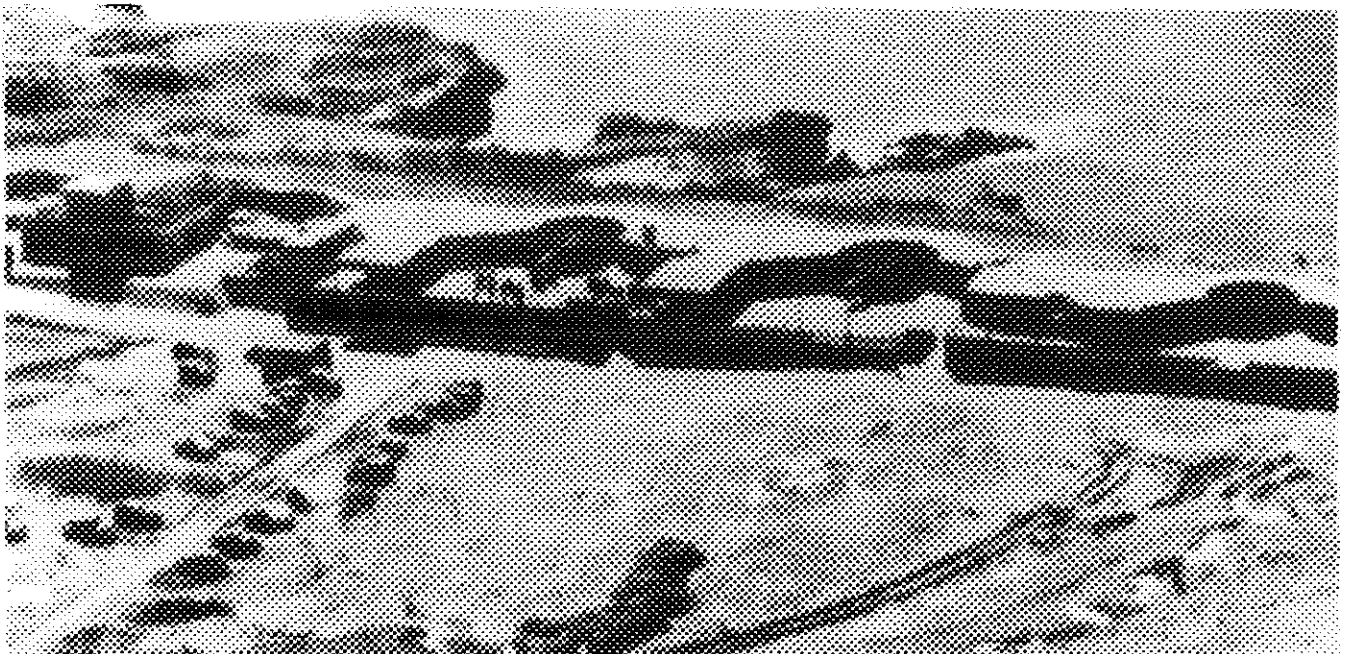
Archives Search Report

FINDINGS

For
FORT WETHERILL

Jamestown, RI
Project Number D01RI033703

March 1995



BATTERY WHEATON - FORT WETHERILL, RI, 1941

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
for
FORMERLY USED DEFENSE SITES

FINDINGS

ORDNANCE AND EXPLOSIVE WASTE
ARCHIVES SEARCH REPORT
FOR
FORT WETHERILL
JAMESTOWN, RI
PROJECT NUMBER D01RI033703

March 1995

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ORDNANCE AND EXPLOSIVE WASTE
ARCHIVES SEARCH REPORT
FOR
FORT WETHERILL
JAMESTOWN, RI
PROJECT NUMBER D01RI033703

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ORDNANCE AND EXPLOSIVE WASTE
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**ORDNANCE AND EXPLOSIVE WASTE
ARCHIVES SEARCH REPORT
FOR
FORT WETHERILL
JAMESTOWN, RI
PROJECT NUMBER D01RI033703**

1. INTRODUCTION

a. Subject and Purpose

(1) This report presents the findings of an historical records search and site inspection for ordnance and explosive waste (OEW) presence located at Fort Wetherill, Jamestown, Rhode Island. The investigation was performed under the authority of the Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS).

(2) The purpose of this investigation was to characterize the site for potential OEW contamination, to include conventional and chemical warfare materiel (CWM). This was achieved through evaluation of all historical records available, interviews, and the on-site visual inspection results.

b. Scope

(1) The investigation focused on approximately 62 acres of land that was used by the U.S. Army as a coastal defense installation from 1902 through the end of World War II to defend the East Passage of Narragansett Bay, including the ports of Newport and Providence, Rhode Island, from enemy naval attack.

(2) This report presents the site history, site description, real estate ownership information, and confirmed ordnance presence based on available records, interviews, and the site inspection. It further provides a complete evaluation of all information to assess potential ordnance contamination where actual ordnance presence has not been confirmed.

(3) For the purpose of this report, OEW is considered unwanted and abandoned ammunition or components thereof, which contains or contained energetic, toxic, or radiological materials, and was manufactured, purchased, stored, used, and/or disposed of by the War Department/Department of Defense.

2. PREVIOUS INVESTIGATIONS

a. Preliminary Assessment

(1) The preliminary assessment of Fort Wetherill was conducted under the Defense Environmental Restoration Program for

Formerly Used Defense Sites (DERP-FUDS) by the Corps of Engineers, New England Division Office, Project Number D01RI033703 (document E-1).

(2) The Findings and Determination of Eligibility (FDE), dated 2 August 1993, concluded that the 62 acre site had been formerly used by the War Department/DOD as a coastal defense gunnery and submarine mine warfare installation by the U.S. Army from the early 1900s to the late 1940s. Consequently, this categorized the area as a Formerly Used Defense Site under the purview of the DERP-FUDS program (document E-1).

(3) Due to the manner in which the site was used, the FDE recommended that an Ordnance and Explosive Waste (OEW) investigation be performed to evaluate the presence of ordnance contamination left in the area. Table 2-1 represents an overview of that preliminary assessment (PA) phase. DERP-FUDS OEW Project Number D01RI033703 is the principal subject of this report (see document E-1 and table 2-1).

b. Other Investigations

No other previous investigations were discovered during the Archive Search.

Table 2-1 DERP-FUDS PRELIMINARY ASSESSMENT PROJECTS				
Project Number	DERP Category	Present Phase	Comments	Location
D01RI033703	OEW	SI	Potential Ordnance or Explosive Contamination	Coastal Defense Battery and Submarine Mine Warfare Station
D01RI033702	BD/DR	RD	Hazardous Structures	Areas A,B,C, and G (see plate 3)
D01RI033701	CON/HTRW	RD	Underground Storage Tanks	Areas A and B (see plate 3)

3. SITE DESCRIPTION

a. Existing Land Usage

(1) The Fort Wetherill site is situated on the southeastern point of Conanicut Island in Newport County, Rhode Island. Conanicut Island sits in the middle of the mouth

of Narragansett Bay, dividing the entrance of the bay into East Passage and West Passage. The fort's location gives it a commanding view of the East Passage of the bay (see plates 1 and 4).

(2) Area A (see plate 3 and drawing L-1) is currently owned by the State of Rhode Island, Department of Environmental Management, Division of Parks and Recreation, and is the most imposing feature of the Fort Wetherill State Park. The area is comprised of five coastal defense batteries: Walbach, Wheaton, Zook, Dickenson, and Crittendon. The manner in which these batteries were constructed makes it difficult to determine where one battery ends, and the next one begins (see photographs J-1, J-2, K-4, and plate 2). This group of batteries was once surrounded by a chain-linked fence but is now accessible to all park visitors (see paragraph 6b(3) and drawing L-1). For the reasons stated above, these emplacements and fortifications have been grouped together into Area A, using the lines where the old chain-linked fence once stood as the boundary.

(3) The land comprising the eastern batteries of Cooke and Varnum, Area B (see plate 3 and drawing L-1), and the site of Fort Dumplings, Area C (see plate 3, drawings L-1, and L-2), is also owned by the State of Rhode Island, Division of Parks and Recreation, but is currently not being used in any capacity (see photographs J-6, J-11, and plate 2). Public access to this land is restricted by use of a "No Trespassing" sign and gate on the only access road to the area. The other three sides of this land are bordered by bayfront cliffs and rocks.

(4) The Anti-Aircraft Battery, Area D (see plate 3), is owned by the State of Rhode Island, Division of Parks and Recreation and is used as part of Fort Wetherill State Park. Although somewhat restricted due to the growth of vegetation, access to this area is open to the public.

(5) The lagoon and wharf of Area E (see plate 3) are owned by the State of Rhode Island, Division of Parks and Recreation. Although previously used as a dumping place for miscellaneous construction debris, the lagoon is currently not used for any purpose. The wharf at Fort Cove, where underwater mine planting operations were conducted, is now a facility for harboring several small boats. Due to its close proximity to a public waterway, this area is accessible to the public (see photograph J-9, plate 2, and drawing L-1).

(6) Area F, the cantonment area (see plate 3), is currently composed of picnic, wooded, and residential areas. Most of Area F lies within the boundaries of the park and is consequently owned by the State of Rhode Island, Division of Parks and Recreation. Two private individuals own residence property in the northwest corner of the subsite. These tracts

total 5.4 acres and were formerly used as officers' quarters (see document G-4, photographs K-1, K-2, and K-3). Evidence points to the fact that this acreage was not specifically addressed or included in the FDE dated 2 August 1993 (see document E-5). The Government acquired these tracts from B.E. Hutchinson on 26 December 1942, with buildings already in place (see document G-3). The Army continued to use those buildings while it retained ownership of the land. When the Government disposed of the land (see document G-6), those same buildings were left standing and are currently being used as residences (see photograph J-12 and plate 2). This additional acreage would consequently increase the size of the site given in the INPR to 66.9 acres.

(7) The remaining lands of the old Fort Wetherill site (Area G and plate 3) constitute the rest of the state park and the highway maintenance facility for the Town of Jamestown. Although the land near the Fort Dumplings site is owned by the State of Rhode Island (see plate 5), it is used by the Jamestown Highway Department, with the state's permission, to store maintenance materials and equipment. The mine storehouses used at Fort Wetherill, are now maintenance garages for the highway department's vehicles (see photograph J-8 and plate 2). The wharf at Fort Cove is now a facility for harboring several small boats (see photograph J-9 and plate 2).

(8) The Artillery Impact Area (Area H and plates 3 and 4) was not part of the original INPR, but is addressed in paragraph 7i(1) as acreage added by this report (see photograph J-4 and plate 4). The acreage for this area lies in the East Passage of Narragansett Bay and in the Atlantic Ocean, within the territorial waters of the United States. This subsite is used for commercial and recreational purposes, allowing unlimited public access (see photograph J-4 and plate 4).

(9) Table 3-1, plates 3, 4, and 5 represent an overview of the areas with their current size, owners, and usage. As noted in paragraph 3a(6), the total acreage for the site does not match that stated in the FDE due to private property (5.4 acres) outside of the park's boundary that comprised the officers' quarters area for the installation. This area was not addressed or included in the FDE.

TABLE 3-1
CURRENT LAND USAGE

AREA	FORMER USAGE	PRESENT OWNER	PRESENT USAGE	SIZE/ ACRES*	COMMENTS
A	Artillery Batteries	State of Rhode Island	State park	5.70*	See plates 3 and 5.
B	Artillery Batteries	State of Rhode Island	Not used	.56*	See plates 3 and 5.
C	Coastal Fortress	State of Rhode Island	Not used	3.50*	See plates 3 and 5.
D	Anti-Aircraft Battery	State of Rhode Island	State park	3.25*	See plates 3 and 5.
E	Lagoon and Wharf	State of Rhode Island	Small boat harbor	1.85*	See plates 3 and 5.
F	Cantonment Area	State of Rhode Island Jane A. Scott Jamestown, RI and George L. and Margaret L. Crawford Ozona, FL	Mixed: State park and residential	23.00*	See plates 3 and 5.
G	All Remaining Lands	State of Rhode Island and Town of Jamestown	Mixed: State park and city utility	29.04*	See plates 3 and 5.
H	Artillery Impact Area/ Mine Fields	Open U.S. territorial waters	Mixed: Commercial and recreational marine traffic	14,733.00*/**	See plate 4.
ACTUAL TOTAL				66.90	
FDE TOTAL				61.50*/***	

* Acreage is approximate

** Acreage added by this ASR and not included in the acreage outlined in the INPR.

*** See paragraph 3a(6) and (9).

b. Climatic Data

(1) Material in paragraphs 3b(2) through (5) was extracted primarily from Soil Survey of Rhode Island, by Dean D. Rector, Craig Ditzler, Anthony Dore, Bruce Laskey, Daniel Spangler, Dale Sprankle, Everett Stuart, and Mark Townsend, July 1981 and Climate of Rhode Island, by the National Oceanic and Atmospheric Administration, June 1982 (references B-5 and B-6).

(2) The start and the end of the summer warm period are influenced by the moderating effect of the Atlantic Ocean. In the winter, the ground is frequently, but not continuously, covered with snow. Of the total annual precipitation, an average of 22 inches of rain falls in the warm season of April through September, and an average of 36 inches of snow during the winter. Usually, 19 days during the winter will have at least one inch of snow on the ground, but the number of those days varies greatly from one year to the next. Thunderstorms occur on about 21 days each year, with most occurring during the summer. Heavy fog occurs on about 50 days per year in the southeastern areas of the bay.

(3) In winter, the temperature averages about 30 degrees F, and the average daily low is around 20 degrees. The lowest temperatures recorded for Rhode Island range between -9 and -18 degrees. Summers are generally pleasant with the normal temperature running around 70 degrees F and the daily high averaging about 80 degrees. The highest temperatures on record for the area peak at 99 degrees.

(4) Rhode Island's relative humidity tends to be lowest in the early spring and highest in the late summer and early fall. The average humidity is normally about 55 percent in midafternoon. It is usually higher at night and averages 75 percent at dawn. The prevailing wind comes out of the southwest and has its highest windspeed in April, averaging 13 miles per hour.

(5) The possibility of sunshine in the summer is usually about 60 percent and lessens only slightly during the winter to about 55 percent.

c. Topography

(1) Most of the land on the Fort Wetherill site is composed of bedrock outcrop, cliffs, and gently sloping land. The land in the northwest corner of the site has a 0 to 8 degree slope toward the oceanfront. This area is occupied by residences surrounded by a considerable amount of vegetation. Wooded areas thicken closer to the ocean from this corner but still cover a

relatively small area. That land slopes more steeply toward the oceanfront (about 45 degrees) and begins to level out in the area of the batteries. In front of the batteries, the bedrock continues its downward plunge, culminating in cliffs that drop 50 to 60 feet into the waters of Narragansett Bay.

(2) The middle of the former cantonment area is high ground, gently sloping north to the road and south toward the five western batteries. In the south, the slope levels out right behind the batteries. Heading east from the high ground in the old cantonment area, the land abruptly descends and levels out again before plunging into Sand Beach Cove (see drawing L-1).

(3) The land between Ocean Street and Sand Beach Cove slopes gently into the waters of the cove and then begins to climb toward the eastern side of the cove. The entrance to the promontory between Sand Beach Cove and West Cove slopes approximately 20 degrees upward toward the ocean. The high ground, which is mostly covered with vegetation, is bordered on its three sides with 60- to 70-foot cliffs that drop off into the ocean.

(4) As the property of Fort Wetherill continues eastward around West Cove, the terrain begins to steadily ascend at a slope of 30 to 40 degrees, culminating in high ground and an old observation post. The eastward descent from this point is almost identical to the ascent. The land evens out near the Fort Cove area and slopes gently from the wharf access road toward the water on either side of the promontory's neck.

(5) Heading toward the casemates of the eastern batteries and the old Fort Dumplings, the ground is flat in the utility area of the Jamestown Highway Department and then inclines steeply upward to high ground and the fortifications. These positions rest on level ground 30 to 40 feet above the highway department and are bordered on the east by cliffs that drop from 60 to 70 feet into the waters of the bay. On the south and west, the promontory ends in the bay with steep rocky slopes of 40 to 60 degrees.

d. Geology and Soils

(1) Material in paragraphs 3d(2) and (3) was extracted from reference B-5.

(2) Regional Geology/Soils

(a) All of what is now Rhode Island was covered by glacial ice sheets several thousand feet thick during the Pleistocene epoch, which began 2.5 to 3 million years ago. As the glacier moved south, it scoured and picked up older glacial deposits, bedrock, and soil. The final deposition of glacial

material occurred during the Wisconsin glaciation, 10,000 to 12,000 years ago. As the glacier melted and receded, it deposited unconsolidated material consisting mainly of unsorted glacial till and beds of meltwater-sorted sand, gravel, and silt. Glacial till is the most extensive of these deposits.

(b) The glacial deposits in Rhode Island are divided into four types, mainly of Pleistocene age.

[1] Upland till plains are the most extensive example of glacial till in Rhode Island.

[2] Narragansett till plains make up the area immediately around Narragansett Bay.

[3] Charlestown and Block Island Moraines are accumulations of glacial drift.

[4] Outwash deposits are widespread in small, scattered areas and broad, level plains.

(c) The bedrock formations of Rhode Island are in four main groups.

[1] The Blackstone series of metamorphic (recrystallized) rock lies along the Blackstone Valley, chiefly in the western parts and southern border of the state.

[2] Older granite rock is composed of considerable variety and possibly from several ages.

[3] Pennsylvanian (coal-age) sedimentary rock lies in the Narragansett Basin in eastern Rhode Island. This is the type of bedrock that lies under the Fort Wetherill site.

[4] Younger granite rock can be found exposed in the Narragansett area, extending west to Westerly.

(3) Site Specific Geology/Soils

(a) There are four soil types found on the site of Fort Wetherill: Rock outcrop, Udorthents-Urban land complex, Poquonock loamy fine sand, and Newport silt loam. The common characteristics typical of the soils in this entire area are that bedrock, for the most part, lies just below the surface and each of these soil types is extremely well-drained. These four soil types are described below.

[1] Rock outcrop consists of exposed bedrock along the shore of Narragansett Bay that is level to very steep in slope. These areas are unprotected from the ocean and are subject to strong wave action during storms. Included in these outcroppings are small areas of well-drained Newport soils as

well as beaches. Small tidal pools are common near the water's edge. The entire eastern portion of Fort Wetherill and the shore of the western area is comprised of this soil type. Areas A, B, C, D, and portions of Areas F and G, are composed of Rock outcrop.

[2] Udorthents-Urban land complex consists of moderately well-drained to excessively-drained soils that have been disturbed by cutting or filling and areas that are covered with buildings or pavement. These are soils that have been cut or filled to a depth of about 2 feet and contain moderately coarse to medium textured soil material. Most areas of this type of soil are intermingled, making it difficult to determine where these different soil types are located. For this reason, the permeability and stability of this soil are variable. This soil type comprises most of Area F and portions of Area G.

[3] Ponquonock loamy fine sand is well-drained to somewhat excessively well-drained soil on the crests of drumlins and hills. This soil is nearly level with a surface layer that is typically dark brown loamy fine sand about 8 inches thick. The subsoil is about 20 inches thick with the upper 10 inches being a dark yellowish-brown loamy fine sand. The lower 10 inches is light olive-brown loamy sand. The substratum is dark gray and gray gravelly loam to a depth of 60 inches or more. The permeability of the soil is rapid in the surface layer and subsoil and slow to very slow in the substratum. Available water capacity is low, and runoff is slow. The acidic quality of the soil ranges from medium to very strong. This soil type comprises only a part of Area F.

[4] Newport silt loam is a gently sloping, well-drained soil that is usually found on the side slopes of drumlins and glacial till plains in southeastern Rhode Island. The slope of this land, as found on this site, lies between 3 and 8 percent. The surface layer is typically very dark-brown silt loam about 8 inches thick. The subsoil is olive-brown and olive silt loam approximately 16 inches thick. The substratum is olive-gray channery silt loam to a depth of 60 inches or more. Small areas of well-drained Poquonock soils can usually be found in close proximity. The permeability of the soil is moderate or moderately rapid in the surface layer and the subsoil. It is slow to very slow in the substratum. Available water capacity is moderate, and runoff is medium. The acidic quality of this soil also ranges from medium to very strong. This soil type can be found in the northwest corner of Area F of this former coastal defense facility.

(b) Any further detailed study with regard to the geology and soil types of the Fort Wetherill site may be accomplished by consulting the Soil Survey of Rhode Island (reference B-5).

e. Hydrology

(1) Portions of paragraphs 3e(2) through 3e(4) were extracted from reference B-5.

(2) Rhode Island can be divided into five drainage basins: the Narragansett Bay Basin, the Pawcatuck River Basin, the Rhode Island Coastal Basin, the Thames River Basin, and the Massachusetts Coastal Basin.

(3) The Narragansett Bay Basin, the most important, includes the system of waterways that discharge into the Atlantic Ocean between Point Judith in Narragansett and Sakonnet Point in Little Compton. Fort Wetherill, on Conanicut Island, lies within the basin's area of drainage. The bay reaches 26 miles inland and has a total water area of 140 square miles. The total shoreline, including that of the islands within the bay, comes to approximately 250 miles. The Narragansett Bay Basin also includes the watershed tributaries to Narragansett Bay and the small waterways that flow into the Atlantic Ocean from Sakonnet Point east to the Rhode Island-Massachusetts state line. The basin area encompasses 1,850 square miles, only 820 of which lie within Rhode Island.

(4) No creeks or significant water conduits drain from any area on the Fort Wetherill site.

(5) Underwater currents in the East Passage may be quite strong due to the tides, according to local inhabitants (see document I-3).

(6) Tidal information for the Fort Wetherill site is summarized in table 3-2.

TABLE 3-2 TIDAL INFORMATION	
TIDE	HEIGHT IN FEET
Mean higher high water	3.9
Mean high water	3.6
Mean low water	0.1
Extreme low water	-3.0

f. Natural Resources

(1) According to the Rhode Island Department of Environmental Management, there are several species of endangered or threatened wildlife that may exist in or migrate into the Fort Wetherill area (see table 3-3). A complete list of those species can be seen in document E-6. Any further detailed information regarding endangered or threatened species may be obtained from the Rhode Island Department of Environmental Management, Division of Fish and Wildlife (appendix A).

(2) Several species of plants listed as endangered or threatened may be found in the Fort Wetherill area (see table 3-3). A complete list of those species can be seen in document E-6. Further questions regarding this subject may be directed to the Rhode Island Department of Environmental Management, Division of Fish and Wildlife (appendix A).

g. Historical/Cultural Resources

(1) The State of Rhode Island Historical Preservation Commission (State Historical Preservation Office [SHPO]) has reported that no further historical site eligibility studies have been done on the Fort Wetherill site since the 19 May 1986 assessment. That study reiterated that the Fort Dumplings site (Area C) was on the National Register of Historic Places and that there was a high probability of finding artifacts on that location. The SHPO mentioned in a letter to the Historical Record Search (HRS) researcher that the Fort Dumplings site may be eligible for the National Register for both above- and below-ground resources (see documents F-2 and F-3).

(2) The study recommended further investigation into the possibility of National and State Register eligibility of the mine storehouses and related buildings at Fort Wetherill due to their age (see document F-2). If those structures qualify for the Register of Historic Places due to their age, then the whole of Fort Wetherill will equally qualify. This is something that must be considered before any remediation project can be started.

TABLE 3-3
NATURAL/CULTURAL RESOURCES

Resource Classification	Type	Comment
Wildlife	American Bittern	Endangered (State)
	American Burying Beetle	Endangered (Federal)
	Atlantic Ridley Turtle	Endangered (Federal)
	Bald Eagle	Endangered (Federal)
	Barrens Bluet Damselfly	Endangered (State)
	Northern Harrier	Endangered (State)
	Peregrine Falcon	Endangered (Federal)
	Piping Plover	Endangered (Federal)
	Upland Sandpiper	Endangered (State)
Plantlife	Yellow Breasted Chat	Endangered (State)
	Blue Cohosh	Endangered (State)
	Podgrass	Endangered (State)
	Rock Sandwort	Endangered (State)
	Sandplain Gerardia	Endangered (Federal)
	Small-whorled Pogonia	Endangered (Federal)
	Stiff Clubmoss	Endangered (State)
	Variable Sedge	Endangered (State)
	Walking Fern	Endangered (State)
Cultural	-	None identified
Historical	Fort Dumplings	National Register of Historic Places (see paragraph 3g(1)).
	Fort Wetherill Structures	May be eligible for National and State Register of Historic Places (see paragraph 3g(2)).

4. HISTORICAL ORDNANCE PRESENCE

a. Chronological Site Summary

(1) Nearly a century before any English settlements were established on the North American continent, the Italian explorer, Giovanni Verazzano, noticed the high cliffs on the eastern side of what was later to be called Conanicut Island and recorded that the rock of freestone, formed by nature, was suitable for the construction of any kind of machine or bulwark for the defense of the harbor (see document F-3). Thus, in 1524, Fort Wetherill's long and illustrious history began (reference B-8).

(2) Over 100 years later, in 1666, Roger Williams, the founder of Rhode Island, recognized the necessity of erecting defenses for the protection of Narragansett Bay and began to establish earthen forts in the bay area (reference B-26).

(3) At the time of the Revolutionary War, earth works were set up on the Fort Dumlplings site, and a battery of artillery was placed there, directly across from Fort Adams. The battery was first named Fort Conanicut and then later named Fort Brown, after its first commander, "General" Abdiel Brown. The post was small but was equipped with eight 18-pounder guns, heavy armament for that time. Brown used those guns to fire on the British warships Scarborough and Scimitar, trying to drive the British fleet out of Newport harbor in December 1776. After the British had fully occupied Newport, they turned their attention to Brown's battery on Conanicut Island. They landed on the other side of the island and attacked the battery from the land, taking it without firing a shot. The British continued to occupy the fort for about two years until 28 July 1778, when a French fleet of 16 ships blockaded the entrance to the bay, and the British were faced with French landing forces. The British abandoned their fortifications on the island and spiked the guns. They also destroyed, by burning and blowing up, all of their armed vessels in the bay, including 212 guns. Early the next month, a British fleet of 36 ships under Lord Howe arrived in the area forcing the French ships to put to sea. Although the British remained in Rhode Island for another year, there was no further Revolutionary War activity at the Conanicut Island fortification (references B-8, B-26, and B-64).

(4) After the War for Independence, most of the fortresses in the Narragansett Bay area were dismantled and fell into a state of disrepair. In 1798, however, French aggression spurred the Government into preparations for war, and the battery was rebuilt under the supervision of Major Louis Toussard, a Frenchman who served with the American forces during the Revolution. The land for the original fortress (6.53 acres) was

acquired from Ebenezer Shearman on 26 November 1799. It was constructed as an oval tower which was 15 to 20 feet higher than its foundation bedrock. The long axis (north-south) of the elliptical tower measured approximately 108 feet long, and the short axis (east-west), 81 feet (see drawing L-2). This fort was never finished, armed, or garrisoned. At first it was called Fort Louis, possibly named for its builder, Major Toussard. Later, it was called Fort Dumplings, named for the nearby rocks in the bay which, from a distance, look like dumplings (see references B-26, B-8, document G-1, picture K-7, and drawing L-2).

(5) Although abandoned for most of the 19th Century, the fort at the Dumplings was activated as a harbor defense position during both the War of 1812 and the Civil War. After each of these conflicts, Fort Dumplings was abandoned and allowed to fall into a state of disrepair. Only at the end of the century did this site regain prominence as a harbor defense post and consideration for the placement of a major, fortified military facility (references B-26 and B-8).

(6) By 1898, the old fort was in ruins. War between the United States and Spain prompted vigorous preparations of the site for use in defense of the bay area. Most of the old fort was dynamited to clear the way for massive, new emplacements there. More land was added to the existing property to expand and upgrade the defense capabilities of the position (see document G-2). To acquire this land, condemnation proceedings were carried out between 1898 and 1906 which added approximately 51 acres to the property, bringing the total land area for the reservation to approximately 62 acres (see reference B-10 and document G-2). Construction of the gun batteries lasted about eight years, ending with Battery Zook in 1905. Battery Varnum was the first to be built in 1898, on the site of the old Fort Dumplings. Battery Cooke followed the next year in the position directly adjacent to Battery Varnum toward the west. Batteries Crittenden and Dickenson were added in 1901-1902 on the land to the west of Sand Beach Cove. Batteries Zook and Wheaton were started in 1903 with Wheaton being completed the next year and Zook in 1905. Battery Walbach was started in 1901 but was not finished until 1904 (see document F-5).

(7) Batteries Cooke and Varnum were the only emplacements completed when the fort was named on 4 April 1900. General Order No. 43 dedicated and renamed the fortification in honor of the late Captain Alexander M. Wetherill, 6th U.S. Infantry, who was killed in action on 1 July 1898, at San Juan Hill, Santiago, Cuba (see document F-4).

(8) When the emplacements were complete, Battery Walbach was armed with three 10-inch Disappearing Rifles (see K-9). Battery Wheaton was armed with two 12-inch Disappearing Rifles (see K-8), and Battery Zook was mounted with three 6-inch Disappearing Rifles (see K-10). Battery Dickenson was armed with two 6-inch Shielded Barbette Rifles (see K-11), and Batteries Crittenden and Cooke each had two 3-inch, 15-pounder, Barbette Rifles. The last battery, Battery Varnum, held two 12-inch Barbette Rifles (see K-12). Numerous tactical buildings added to the support of the emplacements, as well as a submarine mine command facility (reference B-26). The mission of the fortification was to assist in resisting the attempts of hostile vessels trying to gain entrance into the waters of Narragansett Bay (see document F-6). Further information regarding the emplacements may be found in document F-5.

(9) Although armed, the fort had no garrison and was being kept in a caretaker status. A detachment from Fort Adams was overseeing the emplacements at Fort Wetherill, and units drilling and practicing on the site would normally return to Fort Adams after the day's drill. The 130th and 117th Companies of the Coastal Artillery Corps (CAC) had been practicing on the batteries since 1907, with the 128th Mine Company assigned to Battery Crittenden and the harbor mining operations. In 1910, the 102nd Company, CAC, was also assigned to the site but three years later was reassigned to Fort Adams (reference B-26).

(10) By 26 February 1918, Batteries Walbach and Zook were disarmed. Their six guns and carriages were dismounted and shipped to other locations (see document F-7).

(11) In May 1920, it was recommended to the Chief of the Coast Artillery that two Anti-Aircraft Artillery (AAA) positions be set up in fixed emplacements at Fort Wetherill on the promontory about 150 yards west of Battery Varnum (document F-8). Positions No. 1 and 2 were constructed that year and 3-inch AAA guns were mounted on them (see drawings L-1, L-3, L-4, and photograph J-5). In 1937, a third AAA position was made and another 3-inch gun was placed on it (see document F-9).

(12) Shortly after World War I, the installation was put on caretaker status again and remained so for the period of time between the World Wars (see document F-10). During this time Battery Walbach was rearmed and again disarmed by 1932. By the time WW II started, the fortifications consisted of four batteries, Wheaton, Dickenson, Crittenden, and Varnum, with the AAA battery in support. That latter battery's role changed during that period to include defense against motor torpedo boats, so it became an Anti-Motor Torpedo Boat/Anti-Aircraft Artillery (AMTB/AAA) defense position (references B-26 and B-35).

(13) The AMTB/AAA battery's primary mission at the beginning of WW II was changed to that of protecting the East Passage from motor torpedo boats. Anti-aircraft cover for the facility and the East Passage became its secondary mission. In addition, protection of the East Passage mine fields was its responsibility as well. This battery not only contained the three emplacements for the 3-inch guns (see photograph J-5, drawings L-3, and L-4), but it was also supported by .50 cal. machine guns, 37mm and, eventually, 40mm guns later in the war (see photographs D-1, D-2, D-4, and K-15). During the war, the 3-inch AAA guns were replaced with 90mm AAA guns, and the 3-inch positions were modified to fit the 90mm weapons. The plan was to have two fixed and two mobile 90mm weapons deployed there, but the project was never completed (see photographs K-13 and K-14). The AMTB/AAA battery was not the only emplacement on the facility with AAA and other anti-aircraft cover. The other batteries also bristled with support weapons, giving the entire facility complete coverage (references B-26 and B-35, photographs D-2 and D-3, and documents F-11, F-12, F-13, and F-14).

(14) In preparation for war, the 243rd Coastal Artillery (CA) was activated and assembled at Fort Adams. From there, separate batteries were assigned to various forts around the bay area. On 30 September 1940, Battery "C" was assigned to man the 3-inch Barbette Rifles on Battery Crittenden at Fort Wetherill. Battery "D" began drill at the 12-inch Disappearing Rifles of Battery Wheaton, and Battery "E" was given the responsibility of Battery Varnum's 12-inch Barbette Rifles. Battery "F" of the 243rd CA was assigned to the 6-inch Shielded Barbette Rifles of Battery Dickenson. The 10th CA (mine batteries) were given the responsibility for submarine mine operations at Fort Wetherill; however, they did not move into the fort until 10 February 1941. It was October of that year before the fixed AMTB/AAA battery was manned by Battery "G" of the 243rd CA. During the course of the war, the various batteries of the 243rd CA were transferred back and forth to different locations from Fort Wetherill. Practice and certification firing were carried out, much to the displeasure of the local populace (see document F-15 and I-6).

(15) The East Passage of Narragansett Bay was the deepest of the two passages and was mined to preclude enemy vessels from entering the bay. The minefield was to the south of Fort Wetherill between Brenton Point and Newton Rock. It was laid out in two rows and contained eight groups of 19 mines each (see photograph J-4 and drawing L-6). Deep water mines were used in the deepest part of the channel, and shallow water types were used over the remainder of the passage. Variations of the M3A1 floating mine, the T-1 and T-2, were used at first in the minefields; however, these were later replaced by the M4 ground mine which was a cylindrical mine with a truncated cone upper

section (see D-13). This latter type could be planted by surface craft but sat directly on the bottom. They were immune to ordinary sweeping procedures and, if tipped over, they would right themselves. Since Battery Cooke was not used, it had the capacity of storing approximately 15,200 lbs. of mine explosives (references B-25, B-27, and document F-18).

(16) Anti-submarine and anti-torpedo nets were also strung from the cliffs at Fort Wetherill and Fort Cove to the beaches by Fort Adams. These nets were also hung from floats and attached to two boats over the deep channel. These boats controlled the gates in the nets and all boats going into or out of the harbor had to pass through these gates (see photographs J-10 and K-5, drawing L-6, document F-18 and references B-25 and B-27).

(17) The location was very active during the war years. The installation reached its maximum size of approximately 67 acres at this time, and the number of troops at Fort Wetherill reached a total of 1,211. A Prisoner of War (POW) branch camp was also set up there and continued until 19 December 1945. For all of the preparations of the weaponry and the minefields, no shot was ever fired from Fort Wetherill in the national defense (see documents F-16, F-17, and I-8).

(18) By May 1943, it became apparent that the weaponry of the old fortifications was unable to do the job of protecting the bay as well as the later models being brought in to supplement the systems already there. Battery Varnum was recommended for salvage, to be followed by others a short time later. The range of these guns was shorter than that of modern weapons, the accuracy was not as good as the later models, and the troops were leery of firing the big guns due to the weapons' unpredictability (see documents F-19 and I-8).

(19) Units of the 243rd CA were redesignated the 188th CA during their tour at Fort Wetherill. As the war was drawing to a close, many of the batteries were assigned to other installations and later disbanded. Battery Varnum was later abandoned, followed by Battery Wheaton in November 1946. The AAA elements were withdrawn, Batteries Crittenden and Dickenson were all disarmed and dismantled by late 1947. The fort itself was classified "inactive" in October of that same year, and many of the temporary buildings were torn down and disposed of (see documents F-16 and F-20).

(20) On 19 October 1945, the 5.4-acre tract of land in the northwest corner of the installation was declared surplus property and was turned over to the Federal Public Housing Authority (FPHA) on 1 January 1946. This tract was sold to George Lewis Crawford on 24 September of that year, leaving the installation with approximately 61.5 acres (see documents G-4, G-5, G-6, and G-11). On 28 July 1950, the remaining acreage was

declared surplus and turned over to the General Services Administration (GSA) for disposal. On 29 June 1951, the property was withdrawn from the GSA and transferred to the Department of the Navy a month later (see document G-7). The Navy held the fort in a caretaker status, holding it in reserve for national defense, until 19 March 1963, when approximately 51 acres were given back to the Army for the Department of Civil Works. That land included all property except the wharf and old Fort Dumplings areas (see document G-6).

(21) The 51 acres under the control of the Army were given to the State of Rhode Island on 14 August 1973. The Government retained the mineral rights to the land and right to mine to get them if necessary. The State was also restricted to use the land only for the purposes of a public park or recreation area. The deed also contained a recapture clause that the property would revert to Government control if it was needed in case of national emergency (see document G-8).

(22) On 8 November 1974, the Town of Jamestown obtained 3.5 acres of the land that had been controlled by the Navy, next to Fort Cove and West Cove (see plate 5). The Government, again, retained the mineral rights to this property, as well as the right to extract them by whatever means necessary. The land was restricted to use for public health purposes for a period of thirty years, and a recapture clause in the deed ensured that the land would revert to the Government if it was required in case of national emergency (see document G-9).

(23) The last 7-acre parcel of Fort Wetherill was given to the State of Rhode Island by the U.S. Government for the purpose of a public park or recreation area. This tract was the area including the wharf, lagoon, and the site of the eastern batteries. The Government retained the mineral rights to the property, and restricted the lands use to public park purposes. With the granting of this land to Rhode Island in 1984, the Federal Government divested itself of all the property on the site (see documents G-6 and G-10).

b. Ordnance Related Records Review

(1) Research efforts began with a thorough review of all reports, historical documents, and reference material gathered during the archival records search. During this review, an effort was made to focus on the areas of potential OEW contamination, as described in the Inventory Project Report (INPR) (reference B-4), as well as any additional areas that were identified during the research.

(2) No historical or current documents could be found relating to any OEW being discovered on the Fort Wetherill site. Local explosive ordnance detachments (EOD), police departments, fire departments, Fort Wetherill park officials, highway department personnel, and private individuals were interviewed to determine the extent of OEW that could be found on the site (see paragraph 4c and appendix I).

(3) Documents reviewed included the following:

(a) A letter, dated 31 December 1915, to A.O.N.A.D., from O.O.C.D. of Narragansett Bay, asks for and receives information regarding the 10- and 12-inch Taylor Armor Piercing (AP) projectiles.

[1] Will they be replaced without requisition?

[2] Is there any special method to extract Explosive D from the projectiles?

[3] What is the disposition of the Explosive D that was extracted from the projectiles (see document F-21)?

(b) A letter, dated 20 December 1922, to the Chief of Ordnance, Coast Army Artillery, from F.W. Coe, Chief of Coast Artillery, Washington, DC, gives the allowance of 3-inch 15-pounders for the 1st Corps Area. Battery Crittenden at Fort Wetherill was allowed 800 rounds (document F-22).

(c) Memorandum, dated 21 November 1932, to the Chief of Manufacturing Service, Chief of Field Service, and Chief of Technical Staff, from Major William C. Young, Ordnance Department, Chief, War Plans Division. Subject: Harbor Defense Project - New York - Narragansett Bay Area. This memorandum states:

[1] Large caliber weapon ranges are given for each of the four active batteries. A summary of those batteries and their respective ranges is as follows:

Battery Varnum's 12-inch Barbette Rifles
17,300 yards

Battery Wheaton's 12-inch Disappearing Rifles
17,300 yards

Battery Dickenson's 6-inch Barbette Rifles
16,400 yards

Battery Crittenden's 3-inch Barbette Rifles
9,000 yards

[2] The reason for the anti-aircraft positions was to provide protection from air attack for the seacoast armament installations and the locality.

[3] The number of 3-inch anti-aircraft weapons on the site was less than the installation's allowance. The allowance for the installation was for three of these guns. The fort only had two.

[4] Anti-aircraft machine guns were to be provided to protect the AAA batteries from low-flying aircraft (document F-23).

(d) A document with the last entry dated 24 July 1935, states the number of rounds Gun No. 2 of Battery Dickenson had fired, from date the gun was installed until the last entry. A total of 56 rounds were fired from that one emplacement during that period of time (document F-24).

(e) Another document, with the last entry dated 17 December 1943, gives the dates and type of firing that was done at Fort Wetherill during the WW II timeframe. These two documents verify that the weapons at the facility were actually fired (document F-25).

(f) An ammunition turn-in document, dated 4 April 1950, states that all ammunition was turned in, giving the types of ammunition in the stockpile, as well as the quantities on hand and their lot numbers. The storage room type (shell or powder), its number, and its storage capacity are also designated on the chart (document F-26).

(g) Document, dated 1944, lists the types and quantities of ammunition that were on hand, along with their lot numbers and individual weight per item. It lists the room numbers and their capacities, telling which ones were designated for powder. A diagram above the lists shows the configuration of the storage magazines numbering the rooms and spelling out exactly what is to be stored in each room. The direction down the corridor to each gun emplacement is also shown in the diagram (document F-27).

(h) Document, dated 3 April 1950, gives the number and type of magazines per battery and the maximum ammunition capacity for each.

[1] Battery Walbach had a capacity of 200 rounds in each of three shot and shell rooms and 200 rounds in each of three service magazine.

[2] Battery Wheaton had a capacity of 200 rounds in each of two shot and shell rooms and 200 rounds in each of two service magazines.

[3] Battery Zook had a capacity of 500 rounds in each of three shot and shell rooms and 500 rounds in each of three service magazines.

[4] Battery Dickenson had a capacity of 500 rounds in each of two shot and shell rooms and 500 rounds in each of two service magazines.

[5] Battery Crittenden had a capacity of 500 rounds in each of two shot and shell rooms and 500 rounds in each of two service magazines.

[6] Battery Cooke had a capacity of 500 rounds in the combined shot and shell rooms and the service magazines for each of the two emplacements.

[7] Battery Varnum had a capacity of 600 rounds in each of the two shot rooms, 400 rounds in each of the two shell rooms, and 150 rounds in each of the two service magazines (document F-5).

(4) Table 4-1 shows the weapon systems typically used on the Fort Wetherill Military Reservation.

TABLE 4-1 BATTERY ARMAMENTS OF FORT WETHERILL 1909-1945				
BATTERY	GUN	MODEL	QUANTITY	RANGE
Walbach	10-inch DR	1888M11	3	14,100 yards
Wheaton	12-inch DR	1900	2	17,300 yards
Zook	6-inch DR	1903	3	14,400 yards
Dickenson	6-inch BR	1900	2	16,400 yards
	40mm AAA	M1	2	11,000 yards
	.50 caliber MG	M2	2	7,400 yards
Crittenden	3-inch (15-pdr.)	1902	2	9,000 yards
	.50 caliber MG	M2	2	7,400 yards
Cooke	3-inch (15-pdr.)	1898	2	9,000 yards
	40mm AAA	M1	2	11,000 yards
Varnum	12-inch BR	1888	2	17,300 yards
AMTB/AAA	3-inch	1917A2	3	9,000 yards
	.50 caliber MG	M2	4	7,400 yards
	90mm fixed		2	
	90mm mobile	M1	2	
Other Weapons	37mm AAA	M1A2	2	8,900 yards
Used On Site	.30 caliber MG	M1919A4	Unknown	3,500 yards
Mines	Ground Mine	M3A1	152	
	Ground Mine	M4	152	
BR	Barbette Rifle			
DR	Disappearing Rifle			
MG	Machine Gun			
pdr.	Pounder			

c. Interviews with Site Related Personnel

(1) To verify that the War Department used Fort Wetherill as a coastal defense installation during the first half of the 20th century and confirm the presence/absence of OEW contamination, interviews were conducted with individuals who were either connected with the facility in some way or who had knowledge pertaining to certain facets of the investigation. All people interviewed knew that the Government had shore batteries on this site; however, few people knew about the actual operations at Fort Wetherill. Those who did, graciously added their experiences to the information collected.

(2) Mr. Alfred I. Vietri is the highway supervisor of the Jamestown Highway Department which is located near the wharf area of the old Fort Wetherill. The Highway Department facility itself stands on part of the old fort's property.

(a) Mr. Vietri has worked for the Highway Department for 28 years and stated that he has talked to many people through his years of work, but he has never heard of any incidents of OEW discoveries in the area, nor has he found anything of an OEW nature.

(b) He told the team that the highway garage and another building by the wharf were used as storehouses for submarine mines during the WW II timeframe. He said that the wharf and the other mine storehouse were owned by the state, but the Highway Department was allowed to use the old mine storehouse. He continued that mines were used to guard the harbor from enemy shipping at that time, and the operations to plant them were conducted from the wharf area of the fort. He added that the lagoon next to the wharf used to be the dump for the Fort Wetherill facility. When asked if anyone had ever found any mines or ordnance in the buildings, the lagoon, or near the wharf, he replied negatively. Mr. Vietri showed the team around the Highway Department property, and the results of the inspection produced no evidence of OEW contamination (see document I-1).

(3) Mr. Richard McCourt, the maintenance man for Fort Wetherill State Park has worked at the park for 10 years and is very familiar with the physical aspects of the property.

(a) He stated that he had never found any OEW on site, nor did he know of anyone who had. Nothing that looked like ammunition or explosives has ever been found that he knew about.

(b) When the team asked him where the Army might have buried any unwanted ammunition, he said that burying anything here would be almost impossible. The topsoil on the old Fort Wetherill site is extremely thin, covering solid granite bedrock.

(c) Outside of the deer tick/lyme disease problem, the biggest problem confronting park officials is the number of people who come to the park, fall off the structures, and hurt themselves. They then sue the state for having dangerous structures in the park (see document I-2).

(4) Mr. Larry Mouradjian is the Regional Park Manager for several state parks in the southeastern Rhode Island region, including Fort Wetherill. He conducted the site inspection team to the main points of the fort and to the Fort Dumplings site which is also state land but restricted from public access.

(a) He stated that to his knowledge, no ammunition or OEW has ever been found on or around the Fort Wetherill site. No discoveries of ammunition or ordnance have ever been reported to him. Regarding the Fort Dumpings site (Area C, photograph J-11, plates 2, and 3), he said that the use of this location in harbor defense goes back to days before the Revolutionary War. If any military engagements took place there, he did not know, but the location was manned during every major war involving the United States. He said that cannonballs could possibly be found in that area, but it was highly unlikely.

(b) Of greatest concern to Mr. Mouradjian is the amount of illegal drug activity that occurs at the fort and the number of people who hurt themselves by falling off of the structures. According to Mr. Mouradjian, these are the source of many troubles and lawsuits for the state. In addition, the concrete of the fortification is deteriorating and, from time-to-time, breaks off in big chunks. Many metal support beams for the concrete roofs are severely rusted. Together, these two conditions create a potential lethal hazard to park visitors who may be in the wrong place at the wrong time. He said that the state does not have the money to remove the structures or to upgrade and maintain the facility, so it is left as it stands. He worries that someone is going to be seriously injured or killed due to the deteriorating conditions of the structures. He said that he has put up a sign as a disclaimer to protect the Division of Parks and Recreation, but it does not do much good (see photograph J-7 and plate 2). He would really like to see the main parts of each battery removed.

(c) Mr. Mouradjian stated that since the casement entrances have been opened up by vandals, the Fire Department has been using the understructure of the facility to train in. They have probably been in all of the interior rooms and use it quite often. He is sure that the Fire Department personnel do not want to see the structures removed, but Mr. Mouradjian said that he would be glad to get rid of the emplacements, even if it is to the detriment of the Fire Department.

(d) He escorted the team to the position of the anti-aircraft/anti-motor torpedo boat battery (Area D, plate 3) where the gun mounts were seen (see photograph J-5 and plate 2). He also pointed out the coves on either side of the Area D promontory. He said that divers frequently use these waters, but none have ever found anything in the water. He continued that it is really no wonder that nothing is ever found. Due to the tides and the narrow channel, the currents in this area are really strong so that nothing stays in the same underwater location very long. He said that the currents flow south-to-north and north-to-south, depending on the tides.

(e) On the eastern promontory, Mr. Mouradjian pointed out the eastern batteries (Area B, see photograph J-6 and plate 2) and the remains of Fort Dumplings (Area C, see photograph J-11 and plate 2). He stated that the history of the old fort went back to pre-Revolutionary War times and that the fort has been used in every major conflict the United States has been in. He concluded that any OEW found there would probably be of the cannonball variety, but to his knowledge none has ever been discovered.

(f) He guided the team down the hill from the old Fort Dumplings site and over to the wharf and lagoon (see photograph J-9 and plate 2). He said that submarine mine-planting and anti-submarine netting operations were conducted from this wharf. He has never found any mines himself, but he has heard of fishermen turning in mines that had been caught in their nets. These mines did not necessarily come from the Fort Wetherill area. This is because the discoveries have been made all over the coast and bay area. It does not seem to happen as much now as it did 10 years ago. The lagoon was used as a dump for the Fort Wetherill installation, but no OEW has ever surfaced there. He also showed the team the two mine storehouses in the wharf area. Nothing of an explosive nature has ever been discovered inside or around these structures (see document I-3).

(5) Mrs. Mary Miner was the head of the Jamestown Historical Society until September 1994, when she turned the job over to her daughter, Jane Miner. Mrs. Miner was at home when she was telephoned by Mr. Lippman of the inspection team. Mrs. Miner has lived in the Jamestown area for 50 years, but has never heard of anybody finding any ammunition or ammunition-related items in the fort area. She said that people had turned in things to the museum from time-to-time, but none of it was ever ammunition items (see document I-4).

(6) The Dispatcher at the Jamestown Police Department, Mr. Tim O'Connell, said that he had worked in that capacity for 23 years and has never received any reports of people finding OEW, ammunition, or explosive items in the Fort Wetherill area. To his knowledge, no OEW has ever been found and none has been reported since the closure of the facility (see document I-5).

(7) Mr. Arthur Christman has worked with the Jamestown Fire Department for 44 years and is the Department Chief.

(a) When asked if the Fire Department had ever responded to any reports of ammunition or explosives found at the old fort, he replied that there have never been any reports of such items being found near there. He said that he had never found anything like that out there and did not know of anyone who had. He stated that the Fire Department uses the old casemates

for fire rescue training. He has been in almost every room in the structures, and so have most of the rest of the firefighters in their department. None of the department personnel have ever found any items like that.

(b) The team asked him what he knew about the operational history of the fort. He said his knowledge about the fort was very limited. He continued that the battery guns fired very little, but when they did, it was very loud (also see document F-15). It shook the ground and made the windows rattle in Jamestown and vicinity.

(c) He referred the SI team to Mr. Skip Fraley (USAF, Retired) of Jamestown because Mr. Fraley was stationed at Fort Wetherill at one time during his military career (see paragraph 4c(8)). Mr. Christman said that Mr. Fraley could fill the team in on the operations and history of the site (see document I-6).

(8) Mr. Skip Fraley of Jamestown retired from the U.S. military, having spent time in both the Navy and the Air Force. He had spent the first 10 years of his military career in the Navy and during that time was assigned to the submarine mine unit at Fort Wetherill. For that reason, the site inspectors had been referred to him by Chief Arthur Christman of the Jamestown Fire Department (see paragraph 4c(7)). Mr. Lippman, of the SI team, telephoned him at his home to ask him about the operations that were carried out at the old Fort Wetherill.

(a) Mr. Fraley said that he was stationed at the fort sometime around 1949-1951. The fort was operating in a caretaker status at that time, and his unit was responsible for any submarine mine operations in the East Passage of the bay. His unit never performed any operations with explosive-loaded mines, and none were present at their facility. There were a couple of dummy mines in the storehouse next to the wharf so the unit could keep in practice on setting mines up for deployment. His unit's submarine mine operations were conducted from the mine storehouses and the wharf at the fort (see photographs J-8, J-9, K-6, drawing L-1, and plate 2). All explosive mines deployed during the war had been retrieved and accounted for. He stated that the mine operation was controlled by the Army during WW II, and then was turned over to the Navy in the years after the war. Of the 10 people in his unit, 8 were Navy personnel and the other 2 were with the Army. He said that fishing vessels used to come in from time-to-time and turn in underwater mines that they had caught in their fishing nets. The fishermen would bring them to Fort Wetherill because they knew that the fort was a mine station. He said that his unit would notify the responsible personnel, the ordnance people, and they would come and dispose of the turned-in mines. He added that there was no sure way of telling where these marine explosives came from because they were found all over the bay area.

(b) The inspector asked Mr. Fraley about disposal operations at the fort. He responded that they used to use the lagoon as the facility dump site (see photographs J-9, K-6, drawing L-1, and plate 2). When asked if ammunition was ever dumped into the lagoon, he responded that there was no ammunition kept on the facility.

(c) According to Mr. Fraley, the shore battery guns had already been removed by the time he arrived at Fort Wetherill. The battery personnel had removed all of the ammunition from the site, and nothing was left behind. He knew of no discoveries of ammunition items in the entire time he was stationed there. He said that the garrison personnel were very thorough in cleaning out the installation (see document I-7).

(9) Mr. Robert James Bond operates a taxi business from his residence in Portsmouth, RI, and was stationed at Fort Wetherill for a few months during WW II just prior to being sent to the South Pacific. Mr. Lippman telephoned him at his home after being referred to him by his grandson (see paragraph 6a(5)) who was visiting the Fort Wetherill Park on the first day of the inspection.

(a) Mr. Bond was stationed at Fort Wetherill in 1943, and was assigned to the 12-inch guns on Battery Wheaton (see photographs J-2, J-3, K-4, and plate 2). He said that the big guns were never fired in defense, only in practice. The guns were fired for certification or practice, but this was done very rarely (see photographs J-4 and K-12). Although high explosive (HE) rounds were stored there in case of attack, none were ever used in the guns. Inert practice projectiles were all that were ever fired from the Fort Wetherill emplacements (see D-11 and D-12). He added that the gun personnel were leery of firing the weapons. The coastal battery personnel were often uncertain which end of the gun the projectile would come out of. He said that periodically a breech block would unlock and send the projectile backwards out of the weapon. He also mentioned that once, during target practice, his battery fired at a target being pulled by a tug. One shot completely missed the target and hit the tug. The tug crew was furious, the boat was badly damaged, but no one was hurt. When asked what direction the guns were fired when practicing, he replied that they were fired out to sea, always out to sea. Mr. Lippman asked if any gun crew ever fired over the land at targets in the ocean. His answer was negative. They were not allowed to fire over the land (see photographs J-4, K-4, and plate 4).

(b) The inspector asked him if he knew of any instances where ammunition was buried or dumped on the facility. Mr. Bond replied that the fort used a lagoon for dumping trash into, but he never knew of anyone throwing ammunition into it. In addition, it would be nearly impossible to bury ordnance of any type on the fort property. He said that there is a very thin layer of soil in the area, covering solid granite. Digging would be nearly impossible without blasting (see document I-8).

(10) Mr. Walter K. Schroder has lived in the Jamestown area approximately 40 years and is a local historian. He has written a book on the subject of the coastal defenses of Narragansett Bay and is a leading authority on the topic (reference B-61). He met with the inspection team at his home overlooking the West Passage of the Bay and provided them with general information about Fort Wetherill. His archival research into the coastal defenses has been extensive and exhaustive. The team asked him if he had seen or heard of any information regarding the presence of OEW on or around the Fort Wetherill area. He said that he has not heard of anything nor has he found any records to indicate that there could be an explosive contamination problem on the site (see document I-9).

(11) The site inspectors went to the Newport Historical Society and interviewed Mr. Bertram Lippincott III, the society's certified genealogist. Mr. Lippincott has lived in Jamestown all of his life and used to play on the abandoned Fort Wetherill facility as a boy. His family owns property adjacent to the western border of Fort Wetherill. This land has been in his family for several generations, a portion of which was taken by the U.S. Government around 1900 to expand Fort Wetherill. He is also Vice Chairman of the Town Conservation Commission, which monitors activities at the state parks. Consequently, he had a very keen interest in the Site Inspection. He was concerned that the fort had become a location for illegal drug transactions and any number of questionable activities. He said that it was not a place that you would want to take your family often.

(a) Mr. Lippincott said that he had played on the old installation as a boy, playing army with his friends and searching for hours for military souvenirs. For all of his efforts, he could never find anything that was collectable. He could find no buttons, bullets, or anything of an interesting nature. He said that the military must have taken everything that was not nailed down.

(b) The team asked him about the possibility of ammunition, or even electrical transformers, being buried on the old fort property. His answer was that it would be nearly impossible to bury anything there. According to Mr. Lippincott, the soil in the area is quite shallow with solid rock underneath it. He stated that in order to dig in this area, a jackhammer or explosives would have to be used (see document I-10).

5. SITE ELIGIBILITY

a. Confirmed Formerly Used Defense Site

(1) Former War Department/Department of Defense usage of this 62-acre site was confirmed in section 4 of this report. The property was used in whole or in part until the last 7 acres of land were sold to the State of Rhode Island on 26 September 1984. Between 24 September 1946 and 26 September 1984 the Department of Defense divested itself of its holdings on the Fort Wetherill site while retaining the mineral rights to the property and the right to remove those minerals by mining if necessary.

(2) There were recapture clauses on the deeds of all the owners, returning the property to the possession of the United States Government in the event of a national emergency. For the State of Rhode Island, the land use was restricted to recreational use or use as a park. The Town of Jamestown was restricted to using their land for public health or utility purposes for 30 years. No restoration provisions were granted in any deed (documents G-6, G-8, G-9, and G-10).

b. Potential Formerly Used Defense Site

Information obtained during the archives search, site visit, and personal interviews has revealed two private residential tracts in the northwest corner of the Fort Wetherill site which were formerly owned by the United States of America as part of the Fort Wetherill installation (see document G-3). These two tracts total 5.4 acres and were formerly used as officers' quarters and mess (see document G-4). Evidence points to the fact that this acreage was not specifically addressed or included in the FDE dated 2 August 1993 (see document E-1 and plate 3). Other than this property, the site inspection revealed no additional acreage or sites that would be eligible for DERP-FUDS.

6. VISUAL SITE INSPECTION

a. General Procedures and Safety

(1) During the period 25 October through 4 November 1994, members of the Site Inspection (SI) team traveled to Fort Wetherill, Jamestown, RI. The primary task of the SI team was to assess OEW presence and potential due to usage of the site as a coastal defense battery. The site inspection was limited to non-intrusive methods; i.e., subsurface sampling was not authorized or performed.

(2) Real estate rights-of-entry were not obtained due to the willingness of the current owners to allow the team to visit their property. As such, control and jurisdiction of the site remained with the owners during this inspection.

(3) A site safety plan was developed and utilized by the SI team to assure an injury-free site inspection of the former coastal defense facility. A briefing was conducted prior to the SI which stressed that OEW should only be handled by military EOD personnel. Site safety was maintained by the inspection team at all times during the on-site inspection.

(4) Prior to the site visit, a thorough review was made of available reports, historical documents, texts, and technical ordnance reference materials gathered during the ASR historical records search. This review was made to ensure team awareness of the potential ordnance types and their associated hazards.

(5) The visit began on 25 October 1994, at the site of Fort Wetherill State Park, Jamestown, RI. The site inspectors walked around the old fort attempting to determine the exact ground that comprised the former facility with the maps received from the National Archives (appendix A). The team members oriented themselves to the site while matching the names of the batteries on the maps to the actual structures. The orientation started with the western batteries and moved toward the eastern emplacements. A young man was encountered who referred the team to his grandfather who was stationed at the fort during WW II (see paragraph 4c(9)). The installation was briefly checked according to the boundaries given by the INPR dated 2 August 1993, and the team proceeded to contact the Rhode Island Department of Environmental Management, Division of Parks and Recreation. An appointment was made with Mr. Larry Mouradjian, the Regional Park Manager, to guide the team through the facility (see paragraph 4c(4)). A plan of action for the site inspection was formulated, and the actual inspection of Fort Wetherill began on 26 October 1994.

b. Area A: Western Batteries

(1) The western batteries and the park itself is accessed by driving west from Newport, RI, on RI State Highway 138, across the Newport Bridge to the first exit. This exit travels in a loop to the right and ends in Canonicus Avenue. Turning left onto Canonicus Avenue leads into Jamestown. This road goes through Jamestown and intersects with Walcott Avenue at the southern edge of Jamestown. From town, signs directing the traveler to Fort Wetherill State Park adequately point the way to the park's main entrance. Where Walcott Avenue intersects with Ocean Street, turn left and go a short distance to the front gate of Fort Wetherill State Park. Turning into the entrance, go around the front section of the park to the rearmost parkinglot. The casemates are straight ahead within 100 yards, toward the ocean (see photographs J-1, J-2, and plate 2).

(2) The OEW assessment of Fort Wetherill began at this location. The SI team met Mr. Richard McCourt, the park maintenance man (see paragraph 4c(3)), in the former cantonment area of the installation (see photograph J-12 and plate 2). He took the inspectors to the area of the western batteries (Area A) and guided them through portions of those batteries (see photographs J-1, J-2, and plate 2). A short time later, Mr. Larry Mouradjian, the Regional Park Manager, joined the inspection party and added his knowledge and experience to the investigation (see paragraph 4c(4)).

(3) The casemates of the batteries were in a general state of disrepair. The concrete walls were painted with graffiti. Weeds had overgrown the concrete structures in some places, and the wear and tear of the seacoast climate has deteriorated the concrete to the point where large pieces were falling off from time-to-time. Some of the metal support posts and beams had rusted in the salt-sea air to the point where their structural integrity could be in question. The gun emplacements were scrutinized (see photograph J-3 and plate 2), and the land directly in front of the emplacements was checked for evidence of OEW contamination and signs of explosive residue, but nothing was found. Sections of a badly rusted chain-link fence stood on the western side of the batteries, testifying to the fact that the area was once surrounded by restricted-area fencing. Evidence was seen of a parking lot that existed behind Batteries Zook and Wheaton. Mr. Mouradjian showed the team where the State had come in with bulldozers and scraped it up, pushing the blacktop pavement into the lower gallery walkway of the batteries. This action removed the soil in that area down to solid rock. No OEW was found in that location. The ammunition storage areas were inspected and revealed no ammunition or ammunition-related items left behind. Mr. Mouradjian said that the Jamestown Fire Department used the understructure of all the casemates for fire rescue training. He said that they have never reported finding any OEW while in there, a fact that the Fire Department personnel verified (see paragraphs 4c(4) and (7)). No military items other than the fortifications could be found anywhere in the subject area. Only the trash left behind by park visitors remained.

(4) According to both men, the problems of deer ticks and lyme disease, illegal drug activities, deterioration of the fortifications, and lawsuits from people injuring themselves are of far greater concern to them than any potential OEW contamination. There have been no discoveries of ammunition, ordnance, or explosive residue on or around the Fort Wetherill site. For those Rhode Island state park employees, there is no OEW problem.

c. Area B: Eastern Batteries

The inspection party went to the site of Batteries Cooke and Varnum (Area B, see photographs J-6, J-11, plate 2, and drawing L-1). The batteries were in a condition similar to those in Area A mentioned above with the exception of less graffiti. This was due to the restricted nature of this portion of the state's property and its resultant inaccessibility to the public. In the lower portions of the fortifications, pieces of concrete and rusted metal pipes, stairsteps, and beams littered the ground. The structures were thoroughly inspected, revealing no signs of OEW contamination.

d. Area C: Fort Dumplings

(1) Mr. Mouradjian and Mr. McCourt took the team to the site of the ruins of Fort Dumplings (see photographs J-11, K-7, plate 2, and drawing L-2). The minefield command post was situated behind the only remaining earthen wall of Fort Dumplings. The old fort at one time encompassed most of the area where the eastern batteries now stand. The construction of those batteries effectively removed almost all of the dilapidated ruins of the old fort, its foundation, and some of the supporting bedrock. The command post itself is in a state of disrepair with the flooring and main structural supports falling in.

(2) Directly in front of the eastern batteries, down the cliff and near the water, the anchor points for the WW II anti-submarine nets are still embedded in the rock (see drawing L-6, photograph J-10, and plate 2). These anchors help denote part of the mission for this site (see photograph K-5).

(3) Mr. Mouradjian stated that the only ammunition the team would possibly find in the Fort Dumplings area would be cannonballs; however, he did not think that anyone had ever found any (see paragraph 4c(4)(e) and document I-3). The results of the inspection of this area by the SI team were also negative.

e. Area D: Anti-Aircraft Battery

The inspection team drove to the promontory between Sand Beach Cove and West Cove where the emplacements for the anti-aircraft/anti-motor torpedo boat (AAA/AMTB) battery were located (Area D, plate 3). The site was heavily overgrown with scrub trees, small bushes, and vines, all typical of the region's rugged seacoast environment. Concrete pads were found which used to serve as mounts for either 3-inch or 90mm AAA/AMTB guns (see photograph J-5, plate 2, drawings L-3, and L-4). Only one foundation of the support or storage buildings could be found in the vegetation. No trace of OEW contamination was evident anywhere on the subsite.

f. Area E: Lagoon and Wharf

(1) The lagoon and wharf area were inspected in the company of Mr. Mouradjian and Mr. Vietri (see documents I-1 and I-3). This location of Area E (plate 3) was used as a dump for the Fort Wetherill installation in accordance with all interviewees who knew anything about the fort's history (see documents I-1, I-3, I-7, and I-8). The size of the lagoon (dump) was considerably smaller than it appeared in earlier years (see photographs J-9 and K-6), but no OEW was evident to the inspection team, and the statements of interviewees bear witness to the fact that none has ever been found in this location.

(2) Submarine mining operations were conducted from the adjacent wharf (see drawing L-1, photograph J-9, and plate 2) and the minefield command post stood on top of the hill overlooking the East Passage (see drawing L-1). There was no evidence of OEW contamination from the operational use of this area. The underwater minefield itself was in such a location (see photograph J-4, plates 2, and 4) as to render inspection impossible. Even though OEW has been found in the Narragansett Bay area, there is no way to be able to determine if any of it came from the operations conducted at Fort Wetherill.

g. Area F: Cantonment Area

This portion of the Fort Wetherill site is comprised of parking lots, mowed grass, and large areas of scrub trees and bushes (see photograph J-12 and plate 2). Most of the areas of vegetation exhibit thick undergrowth and require greater than average effort to penetrate. Inspection of this area revealed no evidence of OEW contamination. The overgrown areas showed signs of human presence, but none of those signs was of an OEW nature.

h. Area G: All Remaining Lands

Low-lying areas, wooded areas, coastal cliffs, and piles of debris were randomly checked for presence of OEW in locations where it was deemed most probable of finding such evidence. This determination was made from the operational usage of the installation derived from the information of those who were interviewed and from existing records. These random searches, performed by visual observation, exposed no further evidence of OEW contamination (see plate 3).

i. Area H: Artillery Impact Area

Due to the lack of time, appropriate equipment, and transportation, the SI team was unable to effectively inspect the vast amount of acreage of Atlantic Ocean floor that lies within the range of the guns emplaced at Fort Wetherill (see plate 4). According to Mr. Robert Bond, the weapons were only allowed to fire out to sea for practice and certification firing (see

document I-8). Since there was no shooting from these positions for national defense, the SI team concluded that all firing was restricted to targets in the open waters of the entrance to Narragansett Bay (see plate 4). The range of the weapons firing from Fort Wetherill reaches nearly 10 miles and, therefore, includes a considerable amount of undersea acreage within the allowable practice firing fan. In addition, the firing fans of Fort Wetherill interlock with many other coastal defense installations from that locale (see drawing L-5). It would be impossible to determine the origin of the vast majority of projectiles that may be found within the boundaries of this fan which comprises the artillery impact area.

7. EVALUATION OF ORDNANCE HAZARDS

a. General Procedures

(1) The site was evaluated to determine confirmed, potential, or uncontaminated ordnance presence. Confirmed ordnance contamination is based on verifiable historical evidence or direct witness of ordnance items. Verifiable historical records evidence consists of ordnance items located on-site since site closure and documented by the local bomb squads, military Explosive Ordnance Demolition (EOD) teams, newspaper articles, correspondence, current findings, etc. Direct witness of ordnance items consists of the inspection team directly locating ordnance items by visual inspection. Additional field data is not needed to identify a confirmed subsite.

(2) Potential ordnance contamination is based on a lack of confirmed ordnance. Potential ordnance contamination is inferred from records or indirect witness. Inference from historical records would include common practice in production, storage, usage, or disposal, at that time, which could have allowed present day ordnance contamination. Potential ordnance contamination could also be based on indirect witness or from present day site features. Additional field data is needed to confirm potential ordnance subsites.

(3) Uncontaminated ordnance subsites are based on a lack of confirmed or potential ordnance evidence. All historical records evidence and present day site inspections do not indicate confirmed or potential ordnance contamination. There is no reasonable evidence, either direct or inferred, to suggest present day ordnance contamination. Additional field data is not needed to assess uncontaminated ordnance subsites.

b. Area A: Western Batteries

The Western Batteries of Fort Wetherill are considered to be **uncontaminated**. There are no indications of any type of OEW contamination ever being found in this area (see plate 3).

c. Area B: Eastern Batteries

The Eastern Batteries are considered to be **uncontaminated** based on a lack of confirmed/potential OEW findings (see plate 3).

d. Area C: Fort Dumplings

There is no indication that OEW has ever been discovered in this area. No ammunition has surfaced on this subsite of either the historical or the modern varieties. Consequently, this area is considered **uncontaminated** for purposes of OEW assessment (see plate 3).

e. Area D: Anti-Aircraft Battery

The Anti-Aircraft Battery area is considered to be **uncontaminated**. Nothing was found in any records, nor was any evidence inferred from interviews with site personnel, that would indicate OEW ever being found in this area (see plate 3).

f. Area E: Lagoon and Wharf

(1) The lagoon and wharf area of the installation is considered to be **potentially contaminated** based on the common disposal practices of the day. Since the lagoon was a dumping site for the Fort Wetherill facility, consideration must be made that the possibility exists of personnel disposing of unwanted ammunition articles by throwing them into the dumping area (lagoon). However, no records reporting OEW discoveries in this area have been found, and site personnel have heard of no incidents of discoveries in the lagoon. Since acquiring the land, the State of Rhode Island has also used the lagoon as a dumping site for construction debris and is aware of the status of the location. For this reason, the State has assumed responsibility for any remedial action involving cleanup of the lagoon area.

(2) The potential for OEW contamination at the wharf is based on the fact that military personnel may have dropped explosive components for underwater mines into the water while performing explosive mine operations on the wharf. Transferring of ammunition items from wharf to boat holds the potential for dropping these items into the water, especially when heaving waves make the boat unstable. Although the chances are remote of the ammunition items still being in the water at that location after 50 years of strong currents (see paragraph 4c(4)(d)), the possibility exists that OEW may be in the area. The large number of military installations and defenses set up to protect the Narragansett Bay area have littered the bay with OEW and other materials of war. For years after WW II, local fishermen caught mines and torpedoes in their nets, but in the past decade, very few items have turned up (see document I-7). Due to this, it should be obvious that OEW still exists in the bay. Tidal action

and currents in the bay affect the underwater landscape so drastically that it must be understood that any OEW found around the wharf in Area E probably did not originate as a result of mining operations conducted from the wharf. There is a high probability that a discovery at this location came from some other area within the bay (see plate 3, drawings L-5, and L-6).

g. Area F: Cantonment Area

The Cantonment Area is considered **uncontaminated** due to its use as a housing area for troops. Since ammunition was not kept in housing areas, this subsite can be considered free of OEW. No OEW has been discovered in this area, and records reveal no evidence that ammunition was being kept in this subsite. The 5.4 acre portion of this project area mentioned in paragraph 3a(6) was used as officers' quarters and is represented as the shaded portion of Area F. It is considered to be uncontaminated for the same reasons mentioned above (see plate 3).

h. Area G: All Remaining Lands

All the rest of the fort property is considered to be **uncontaminated** based on lack of confirmed/potential OEW findings. No documentation, surveys, reports, or interviews with site personnel gave any indication of possible OEW contamination in this area (see plate 3).

i. Area H: Artillery Impact Area

(1) The Artillery Impact Area is considered to be **potentially contaminated** due to the presence of projectiles fired from the gun positions at Fort Wetherill (see paragraph 4c(9)(a)). In addition, the mine field that Fort Wetherill was responsible for, lies within the firing fan of the gun emplacements at the fort (see photograph J-4, plate 4, and drawing L-6). Area H encompasses the entire water expanse of the firing fan that stands within the limits of the entrance to Narragansett Bay, out to the maximum range of the largest guns at the fort, 17,500 yards. The 100-yard limit (beyond mean high tide) as specified in USACE guidance for site criteria, dated 15 March 1994, does not apply to this sea passage area due to the inordinate amount of maritime traffic, both commercial and recreational, that passes through this waterway and down the firing fan (see document F-1). The potential for public exposure to OEW exists, even though the number of submarine mine discoveries in the last decade has diminished to virtually nothing (see paragraphs 4c(4)(f) and 4c(8)(a)). Therefore, a definite public exposure pathway exists in this area, exempting it from the 100-yard limitation (see document F-1).

(2) Mr. Skip Fraley, who was involved with the mining operations at the fort after WW II, stated that all of the mines used in the minefield during that war had been retrieved and accounted for (see paragraph 4c(8)(a)). He did mention that

fishermen turned in mines from time-to-time that became tangled in their fishing nets. Because the bay defenses, including minefields, were so numerous and widespread, ordnance showing up in this section of Area H could have come from any of the installations in the bay area. If any mines had been left in the Fort Wetherill mine field, the strength of the tides and underwater currents would have long ago moved the mines to any area of the bay or even into the Atlantic Ocean. So ordnance that was under the command of Fort Wetherill's mine station could possibly surface in Providence Harbor (see plate 4).

(3) Artillery projectiles fired from the emplacements at Fort Wetherill were of the practice variety, according to Mr. Robert Bond (see paragraph 4c(9)(a)). No high explosive projectiles were used, and the firing was directed toward the open sea. The probability of projectiles being found within Area H is high, but the tidal action and strong underwater currents, coupled with the fact that many of the firing fans for the former coastal defense installations overlap (see drawing L-5), preclude accurate determination of the point of origin for this type of OEW. In addition, 50 years of immersion in saltwater would not only deteriorate projectile casings and seals, but would also neutralize any type of blackpowder spotting charges that may have been used in the ammunition item (see plate 4).

8. SITE ORDNANCE TECHNICAL DATA

a. End Item Technical Data

(1) A comprehensive list of the types/models of ammunition used and stored at Fort Wetherill has been compiled based on data obtained through research of archival records. Table 8-1 is a listing of ammunition used, or possibly used, and maintained on hand at Fort Wetherill, along with any explosive fillers that may have been involved. In addition, no evidence could be found to indicate or imply that chemical warfare materiel (CWM) was ever used or stored on this facility.

(2) Technical data for items listed in table 8-1 can be found in appendix D.

TABLE 8-1
AMMUNITION USED AND EXPLOSIVE/CHEMICAL FILLER

Item	Type/Model	Filler Weight
Small Arms Ammo		
.30 Cal.	M2 Ball	Lead antimony
with gilding	M1 Tracer	Tracer Composition
metal jacket	M2 AP	Tungsten Chrome Steel
Propellant		Single base or Double-base (DB) Powder
Primer	Percussion	Primer Composition
.50 Cal.	M2 Ball	Soft Steel
with gilding	M2 AP	Tungsten Chrome Steel
metal jacket	M1 Tracer	Tracer Composition
	M10 Tracer	Tracer Composition
	M17 Tracer	Tracer Composition
	M21 Tracer	Tracer Composition
Propellant		Single base or Double-base (DB) Powder
Primer	Percussion	Primer Composition
.30 Cal.	M1925 Subcal.	Lead antimony
with gilding		
metal jacket		
Propellant		Single base or Double-base (DB) Powder
Primer	Percussion	Primer Composition
37mm AAA	M55 Practice	Steel
	M54 HE	.1 lb. Tetryl
	M51 APC	Soft and Hard Steel
Propellant	FNH Powder	6 oz. f/M54 and M55 4 oz. f/M51
Fuze	M50 Dummy	Aluminum
	M56	Lead Azide and Tetryl
Primer	M23A2	20 gr. Black Powder plus Primer Composition
Tracer		90 gr. Red Tracer Composition 24.68 gr. Black Powder
40mm AAA	T1 TP-T	Aluminum
	M81 AP-T	Hardened Bar Steel
	MK II HE-T	.15 lb. TNT .005 lb. Black Powder
Propellant	FNH Powder	10.4 oz.
Fuze	M69 Dummy	Aluminum
	No. 251 MK I/L	.93 gr. Lead Azide
	PD	112.14 gr. Tetryl
	M64 PD	2.39 gr. Lead Azide 114.75 gr. Tetryl

TABLE 8-1 (continued)
AMMUNITION USED AND EXPLOSIVE/CHEMICAL FILLER

Item	Type/Model	Filler Weight
Primer	M23A2	20 gr. Black Powder plus Primer Composition
Tracer	MK II/L No. 12 MK I/L	64 gr. Black Powder Tracer and Igniter Composition
3-inch Guns	MK I Shrapnel	Lead Balls and 3 oz. of Black Powder
	MK IX HE	.91 lb. TNT
	M42(A1) HE	.86 lb. TNT
	M42B2 TP	Sand with .25 lb. Black Powder Spotting Charge
Propellant	NH Powder	5 lbs.
Fuze	MK IIIA1 PTT	95 gr. Black Powder
	MK IIIA2 PTT	15 gr. Black Powder
	M43 MT	Black Powder
Primer	M28A1 and A2	300 gr. Black Powder
	M1B1A1	100 gr. Black Powder
90mm AAA	M58 Practice	Sand with .56 lb. Black Powder Spotting Charge
	M58 HE	2.04 lbs. Ammonal
	M71 HE	2.04 lbs. TNT
	M77 AP	Steel
	M82 APC	Explosive D
Propellant	NH Powder	7 lbs.
Fuze	M43A2 MT	Black Powder
	M48 PD	Lead Azide and Priming Mixture
	M68 BD	Lead Azide and Tetryl
Primer	M28 series	300 gr. Black Powder
Tracer		Tracer and Igniter Composition
6-inch Guns	MK II HE	13.69 lbs. TNT
	MK IIA1 HE	13.69 lbs. TNT
	MK XXXIII AP	2.17 lbs. Explosive D
	M1911 AP	4.53 lbs. Explosive D
	MK 29 TP	Cast Iron
	M1911 Practice	Cast Iron
	MK II Empty	Cast Iron and Sand
Propellant	NH Powder for 90 & 108 lb. Projectiles	32 lb. charge plus 10 oz. Black Powder
	NH Powder for MK XXXIII AP	37 lb. charge plus 10 oz. Black Powder Igniter
	NH Powder for MK II or IIA1	30 lb. charge plus 7 oz. Black Powder Igniter

TABLE 8-1 (continued)
AMMUNITION USED AND EXPLOSIVE/CHEMICAL FILLER

Item	Type/Model	Filler Weight
Fuze	M47 PD	Lead Azide and Black Powder
	M51 PD	Lead Azide and Black Powder
	M60 BD	448 gr. Tetryl and No. 70 Primer Mixture
	MK V BD	12 gr. Fulminate Composition and 116 gr. TNT and Tetryl
Primer	M30 Electric	Primer Composition and Black Powder
	M1914 Friction	Primer Composition and Black Powder
Subcaliber Round	1.457-inch	.07 lbs. FNH Powder
10-inch Guns	Practice	Cast Iron
	Taylor AP	Explosive D
	High Explosive	Explosive D
Propellant Fuze	NH Powder	
	BD or PD	Tetryl or Picric Mercury Fulminate Black Powder Lead Azide Primer Mix
Primer	M30 Electric	Primer Composition and Black Powder
	M1914 Friction	Primer Composition and Black Powder
12-inch Guns	Practice	Cast Iron
	Taylor AP	Explosive D
	High Explosive	Explosive D, TNT, Amatol
Propellant	NH Powder	Charge plus 3-6 oz. Black Powder Igniter
Fuze	BD or PD	Tetryl or Picric Mercury Fulminate Black Powder Lead Azide Primer Mix
Primer	M30 Electric	Primer Composition and Black Powder
	M1914 Friction	Primer Composition and Black Powder
Submarine Mine	M3A1	3000 lbs. TNT
Ground Controlled Mine	M4	3000 lbs. TNT

b. Chemical Data of Ordnance Fillers

Table 8-2 provides a summary of the chemical data for the explosive fillers or components. Drawings of the items can be found in appendix D.

TABLE 8-2 CHEMICAL DATA OF ORDNANCE FILLERS		
Explosive Materiel	Synonym(s)	Chemical Formula
Amatol		
50%-80% Ammonium Nitrate		NH_4NO_3
50%-20% TNT	2,4,6 Trinitrotoluene	$\text{CH}_3\text{C}_6\text{H}_2(\text{NO}_2)_3$
Ballistite	(see DB powder)	
Black Powder*		
74% Potassium Nitrate	Saltpeter; Niter	KNO_3
11% Sulfur		S
15% Charcoal		C
Double-base (DB) Powder	Ballistite	
60% Nitrocellulose	Guncotton; Pyroxylin	$[\text{C}_6\text{H}_8\text{O}_5(\text{NO}_2)_3]_n$
39% Nitroglycerin		$\text{CH}_2\text{NO}_3\text{CHNO}_3\text{CH}_2\text{NO}_3$
0.75% Diphenylamine	stabilizer DPA	$(\text{C}_6\text{H}_5)_2\text{NH}$
E.C. Blank Powder	(single-base compound powder)	
80.4% nitrocellulose	Guncotton; Pyroxylin;	$[\text{C}_6\text{H}_8\text{O}_5(\text{NO}_2)_3]_n$
8.0% potassium nitrate	Saltpeter; Niter	KNO_3
8.0% barium nitrate		$\text{Ba}(\text{NO}_3)_2$
3.0% starch		
0.6% diphenylamine	stabilizer DPA	$(\text{C}_6\text{H}_5)_2\text{NH}$
Explosive D	Ammonium Picrate	$\text{C}_6\text{H}_2(\text{NO}_2)_3\text{ONH}_4$
	Ammonium Carbonate	
	Ammonium Ciconite	
FNH Powder, Type II		
Nitrocellulose	Guncotton; Pyroxylin;	$[\text{C}_6\text{H}_8\text{O}_5(\text{NO}_2)_3]_n$
Dibutylphthalate	gelling agent	$\text{C}_6\text{H}_4(\text{CO}_2\text{C}_4\text{H}_9)_2$
Dinitrotoluene	DNT	$\text{C}_6\text{H}_3\text{CH}_3(\text{NO}_2)_2$
Diphenylamine	stabilizer DPA	$(\text{C}_6\text{H}_5)_2\text{NH}$
Guncotton	(see nitrocellulose)	
13% nitrogen		N_2
*Most frequently used chemical compositions and their major ingredients.		

TABLE 8-2 (continued)
CHEMICAL DATA OF ORDNANCE FILLERS

Explosive Materiel	Synonym(s)	Chemical Formula
Igniter Compositions*		
I-136 & I-136A		
10% Calcium Resinate		
90% Strontium Peroxide		SrO_2
I-194		
94% Igniter Composition I-136		
6% Magnesium Powder		Mg
I-276		
84% Barium Peroxide		BaO_2
16% Magnesium Powder		Mg
I-280		
85% Igniter Composition I-136A		
15% Magnesium Powder		Mg
I-508		
79% Barium Peroxide		BaO_2
14% Magnesium Powder		Mg
1% Chlorinated Rubber		
Lead Azide		PbN_6
Mercury Fulminate	Mercuric Cyanate	$\text{Hg}(\text{CNO})_2$
Mercury Fulminate Composition	(See Primer Mixture)	
Nitrocellulose	Guncotton; Pyroxylin; Nitrocotton; Cellulose Nitrate	$[\text{C}_6\text{H}_8\text{O}_5(\text{NO}_2)_3]_n$
Primer Composition*		
FA-90A (for percussion primers)		
25% Lead Thiocyanate		$\text{Pb}(\text{SCN})_2$
12% Antimony Sulfide		Sb_2S_3
10% PETN		$\text{C}(\text{CH}_2\text{ONO}_2)_4$
53% Potassium Chlorate		KClO_3
FA-70		
25% Lead Thiocyanate		$\text{Pb}(\text{SCN})_2$
17% Antimony Sulfide		Sb_2S_3
5% TNT	2,4,6-trinitrotoluene	$\text{CH}_3\text{C}_6\text{H}_2(\text{NO}_2)_3$
53% Potassium Chlorate		KClO_3
Primer Mixture		
Mercury Fulminate	Mercuric Cyanate	$\text{Hg}(\text{CNO})_2$
Potassium Chlorate		KClO_3
Antimony Sulfide		Sb_2S_3
*Most frequently used chemical compositions and their major ingredients.		

TABLE 8-2 (continued)
CHEMICAL DATA OF ORDNANCE FILLERS

Explosive Materiel	Synonym(s)	Chemical Formula
Primer Mixture for M1914		
9% Sulfur		S
52% Potassium Chlorate		KClO ₃
27% Antimony Sulfide		Sb ₂ S ₃
12% Ground Glass		
Smokeless Powder*	(see nitrocellulose)	
Flashless-nonhygroscopic (FNH)		
Nonhygroscopic (NH)		
Tetryl	2,4,6 Trinitrophenyl-methylnitramine	(NO ₂) ₃ C ₆ H ₂ N(NO ₂)CH ₃
TNT	2,4,6 Trinitrotoluene; Triton; Trotyl; Trilite; Trinol; Tritolo	CH ₃ C ₆ H ₂ (NO ₂) ₃
Tracer Compositions*		
R-256		
8.3% Calcium Resinate		
26.7% Strontium Peroxide		SrO ₂
26.7% Magnesium Powder		Mg
33.3% Strontium Nitrate		Sr(NO ₃) ₂
R-284		
17% Polyvinyl Chloride		
28% Magnesium Powder		Mg
55% Strontium Nitrate		Sr(NO ₃) ₂
R-321		
16% Polyvinyl Chloride		
26% Magnesium Powder		Mg
52% Strontium Nitrate		Sr(NO ₃) ₂

*Most frequently used chemical compositions and their major ingredients

9. OTHER ENVIRONMENTAL HAZARDS

a. Hazardous, Toxic, and Radiological Waste

(1) According to the INPR dated 2 August 1993 (see Document E-1), one underground storage tank (UST) in Area B and three UST's in Area A are considered to be potential for **CON/HTRW contamination** due to petroleum influence on the environment. No sign of soil or water contamination was evident to the inspection

team during the course of the inspection. In addition, no site personnel mentioned anything about UST's or problems caused by leakage of petroleum products into the soil or groundwater. The SI team saw nothing during the inspection that would indicate the presence of UST's on the former fort property. Remediation of this potential contamination is being addressed by the Corps of Engineers, New England Division, under DERP-FUDS CON/HTW Project No. D01RI033701.

(2) There is a possibility of **HTRW contamination** in the lagoon of Area E, due to its use as a dump site for the Fort Wetherill facility. The State of Rhode Island also used it as a dump site for construction debris. The State Department of Environmental Management is aware of the situation and has accepted the responsibility for any required cleanup of the lagoon.

b. Building Demolition/Debris Removal

Even though this property was given up after WD/DOD usage through quitclaim deed to the State, local municipality, and private owners, considerations for **BD/DR remediation** are being studied for areas of the site that present considerable risk to public safety. According to Rhode Island Division of Parks and Recreation officials, many of the structures on this former facility pose a threat to the safety and well-being of the public (see paragraphs 4c(4)(b) and 6d(4)). These hazards are being addressed by the Corps of Engineers, New England Division, under DERP-FUDS BD/DR Project No. D01RI033702.

ORDNANCE AND EXPLOSIVE WASTE
ARCHIVES SEARCH REPORT
FOR
FORT WETHERILL
JAMESTOWN, RI
PROJECT NUMBER D01RI033703

APPENDIX A
REFERENCE SOURCES

REFERENCE SOURCES

The following organizations/personnel are acknowledged for their support.

Organizations	Name	Telephone	Support
GOVERNMENT SOURCES			
FEDERAL AGENCIES			
<u>DEPARTMENT OF DEFENSE</u>			
Defense Library on Disk Pentagon Room 1A518 Washington, DC 20319-6000	System Librarian (DLOD)	(202) 287-9474	Automated search.
Defense Logis Studies Information Exchange U.S. Army Logistics Management College Fort Lee, VA 23801-6043	On-Line (DLSIE)	(804) 765-4007	Automated search.
Defense Technical Information Center Cameron Station Alexandria, VA 22304-6145	On-Line (DTIC)	(800) 225-3842	Automated search.
ARMY			
Center of Military History Attn: DAMH-RAS 1099 14th NW Washington, DC 20536	Hannah Zeidlik	(202) 504-5416	Background information (reference B-41).
U.S. Military History Institute Carlisle Barracks Building 22 Carlisle, PA 17013-5008	Dennis Vetock	(717) 245-3611	Real estate information.

REFERENCE SOURCES

The following organizations/personnel are acknowledged for their support.

Organizations	Name	Telephone	Support
ARMY cont.			
Corps of Engineers Office of History 7701 Telegraph Road Alexandria, VA 22310-3865	Martin K. Gordon PH.D	(703) 355-3558	Real estate information (references B-9 and B-21).
Corps of Engineers New England Division ATTN: CENED-RE-AM 424 Trapelo Road Waltham, MA 02254-9149	Mr. Dan Stenstream	(617) 647-8551	Background information.
Office of History Bldg. 110 Rock Island Arsenal Rock Island, IL	Dr. Herb LaFore	(309) 794-1276	No information.
Rock Island Arsenal Museum Rock Island Arsenal Rock Island, IL	Chris Leinicke	(309) 794-5021	Old technical manuals.
Army Safety Management Information System Fort Rucker, AL 36322	Computer search	(205) 255-6485	No information.
Historical Information Data Base USATCES Attn: SMCAC-ESM Savanna, IL 61074-9639	Computer search (DDESB)	(703) 325-8624	No information.

REFERENCE SOURCES

The following organizations/personnel are acknowledged for their support.

Organizations	Name	Telephone	Support
ARMY cont.			
Army Chemical and Biological Defense Command Aberdeen Proving Ground, MD 21010-5423	Kathleen Ciolfi	(410) 679-4430	No evidence of chemical contamination at this site.
U.S. Army Construction Engineering Research Lab (CERCL) Champaign, IL	Pat Lacey	(217) 373-7217	No information.
Aberdeen Proving Ground Ordnance Museum ATSL-DOS-M, Bldg. 2601 Aberdeen Proving Ground, Maryland 21010	Roger Godin	(410) 278-3602	No information.
542nd EOD Fort Dix, NJ	Specialist Ballard	(609) 563-5940	No information.
54th EOD Fort Monmouth, NJ	SFC Johnson	(908) 532-6876	Referral.
NAVY			
Naval Construction Bn. Attn: Code 10H 1 Pleasant Valley Rd. Port Hueneme, CA 93043-4300	Vince Transano	(805) 982-5913	No information.

REFERENCE SOURCES

The following organizations/personnel are acknowledged for their support.

Organizations	Name	Telephone	Support
NAVY cont.			
Naval Construction Bn. ATTN: Code 1564B 1000 23 Ave. Port Hueneme, CA 93043-4300	Robert Brickey	(805) 982-5593	No information.
Navy History Yards Washington Navy Yard 901 M Street, SE Bldg. 57 Washington, DC 20374	Gina Akers	(202) 433-3170	Background information.
Naval Undersea Warfare Center Division Newport Technical Library, Bldg. 103 Newport, RI 02840	Mary Barravecchia	(401) 841-4421	Background information.
U.S. Naval War College Library Mahan Hall Newport, RI 02841	Dr. Evelyn Cherpak	(401) 841-2435	Historical information and photographs.
U.S. Naval War College Museum Coasters Harbor Island Newport, RI 02841	Anthony S. Nicolosi	(401) 841-4052	Journal of a Fort Wetherill veteran (reference B-27).
EODMIS 2 DET, Newport 1176 Howell Street Newport, RI	Ray Corridon	(401) 841-3301	Nothing found on site.

REFERENCE SOURCES

The following organizations/personnel are acknowledged for their support.

Organizations	Name	Telephone	Support
NAVY cont.			
EODMU 2 DET, Newport 1176 Howell Street Newport, RI	Ray Fratus	(401) 841-3301	Local incident list.
<u>GENERAL SERVICES ADMINISTRATION</u>			
Civil Reference Branch Pennsylvania, 7th & 9th Sts. Washington, DC 20408	Record Group 270	(202) 501-5395	Background information.
National Archives Cartographic and Architectural Branch 8601 Adelphi Rd. College Park, MD 20740-6001	Robert Richardson	(301) 713-7040 Ext. 742	Background information.
National Archives Still Photo Branch 8601 Adelphi Rd. College Park, MD 20740-6001	Contractor Resource	(202) 501-5455	Background information.
National Archives Military Reference Br., Penn. Ave., 7th & 9th Sts. Washington, DC 20408	Contractor Resource Record groups 153, 160, 165, & 407	(202) 501-5385	Background information (references B-10, B-11, B-12, B-13, B-14, B-17, B-36, B-38, B42, and B-44).

REFERENCE SOURCES

The following organizations/personnel are acknowledged for their support.

Organizations	Name	Telephone	Support
<u>GENERAL SERVICES ADMINISTRATION</u> cont.			
National Archives Suitland Branch 4205 Suitland Rd. Suitland, MD 20409	Becky Collier Record gps. 77, 92, 153, 156, 338, & 394	(301) 763-7410	Historical information (reference B-37).
National Archives Mid-Atlantic Region 9th and Market Sts. Room 1350 Philadelphia, PA 19107	Dr. Robert Plowman Record Groups 30, 71, 77, 92, & 270	(215) 597-3000	Background information.
National Archives New England Region 380 Trapelo Road Waltham, MA 02154	Stan Tozeski Record Group 270	(617) 647-8100	Background information.
National Personnel Records Center 9700 Page Blvd. St. Louis, MO 63132	Bill Siebert	(314) 538-4085	No information.
<u>DEPARTMENT OF INTERIOR</u>			
U.S. Geological Survey Reston VA, 22092	Dave Keys	(703) 648-5956	Sent aerial photograph information.
USGS Branch of Distribution Box 25286, Bldg. 810 Denver Federal Center Denver, CO 80225	Staff	(303) 236-7476	Topographical maps.

REFERENCE SOURCES

The following organizations/personnel are acknowledged for their support.

Organizations	Name	Telephone	Support
<u>DEPARTMENT OF THE INTERIOR</u> cont.			
National Park Service North Atlantic Region 15 State Street Boston, MA 02109	Richard Tourangeau	(617) 223-5199	No information.
NOAA/National Ocean Service 1305 E-W Highway Silver Spring, MD 20910	Ray Smith	(301) 713-2812	No information.
NOAA/National Climatic Data Center Federal Bldg. Asheville, NC 28801	Yolanda Goosch	(704) 271-4272	Local climatological data reports.
Wildlife Refuge System Region #5 300 Westgate Drive Hadley, MA 01035	Don Frickie	(413) 253-8568	Referral.
<u>SMITHSONIAN INSTITUTE</u>			
National Air and Space Museum Historical Research Div. Washington, DC 20560	Dan Hagedorn	(202) 357-3133	Historical photographs.
<u>LIBRARY OF CONGRESS</u>			
Geography and Map Division Washington, DC 20408	Thomas DeClair	(202) 707-5522	Background information.

REFERENCE SOURCES

The following organizations/personnel are acknowledged for their support.

Organizations	Name	Telephone	Support
<u>DEPARTMENT OF AGRICULTURE</u>			
USDA Soil Conservation Service 747 Aquidneck Avenue Middletown, RI 02842	Tim Pindell	(401) 847-9196	Soil Survey and aerial photos (reference B-5).
<u>ENVIRONMENTAL PROTECTION AGENCY</u>			
Environmental Protection Library South Ferry Road Narragansett, RI 02882-1198	Rose Ann Gamache	(401) 782-3025	Referral.
STATE AGENCIES			
Metropolitan District 20 Somerset Street Boston, MA 02108	Al Schroder	(617) 727-5250 (617) 323-5119	Aerial photographs.
Rhode Island Army National Guard ATTN: TAGRI-PAO 1051 North Main Street Providence, RI 02904-5717	Lt. Vashon, Historian	(401) 457-4150	Referral.
Rhode Island Department of Environmental Management Division of Fish and Wildlife 4808 Tower Hill Road Wakefield, RI 02879	Marlene Franklin	(401) 789-3094	Endangered species list (reference B-7).

REFERENCE SOURCES

The following organizations/personnel are acknowledged for their support.

Organizations	Name	Telephone	Support
STATE AGENCIES cont.			
Rhode Island Department of Environmental Management Division of Natural Heritage 83 Park Street Providence, RI 02903	Carolyn Wemuth	(401) 277-3434 Ext. 4422	No information.
Rhode Island Department of Environmental Management Division of Parks and Recreation 2321 Hartford Avenue Johnston, RI 02919	Steve Wright Linda Cawley	(401) 277-2632	Historical information.
Rhode Island Department of Environmental Management Division of Parks and Recreation Ives Road Warwick, RI 02818	Larry Mouradjian Richard McCourt	(401) 884-2010 (401) 884-2023	Historical information and interviews and I-2 and I-3.
Rhode Island Department of Environmental Management Division of Water Resources 83 Park Street Providence, RI 02903	Alicia Good	(401) 277-3961	No information.
Rhode Island Department of State Library 300 Richmond Street Providence, RI 02903	Staff	(401) 277-2726	Referral.

REFERENCE SOURCES

The following organizations/personnel are acknowledged for their support.

Organizations	Name	Telephone	Support
STATE AGENCIES cont.			
Rhode Island Historical Society Library 121 Hope Street Providence, RI 02906	Richard Stattler	(401) 331-8575	Real estate information.
Rhode Island State Archives 337 Westminster Street Providence, RI 02903	Margot McLaren	(401) 277-2353	No information.
Rhode Island State Historic Preservation Office 150 Benefit Street Providence, RI 02903	Mack Woodward (SHPO)	(401) 277-2678	Background information and Fort Dumplings register listing (reference B-8).
Rhode Island State Library State House, Room 208 Providence, RI 02903	Kathy Alves	(401) 277-2473	Referral.
University of Rhode Island Library Kingston, RI 02881	Debra Mangeau David Masland	(401) 792-2594	Maps and referral.
LOCAL AGENCIES			
Chamber of Commerce Jamestown, RI 02835	Staff	(401) 847-1600	Background information.
City Hall Clerk's Office 93 Narragansett Avenue Jamestown, RI 02835	Sue Brayman	(401) 423-7200	Real estate information (references B-15, B-16, B-18, B-19, and B-20).

REFERENCE SOURCES

The following organizations/personnel are acknowledged for their support.

Organizations	Name	Telephone	Support
LOCAL AGENCIES cont.			
Jamestown Fire Department 50 Narragansett Avenue Jamestown, RI 02835	Arthur Christman	(401) 423-0062	Interview I-6
Jamestown Highway Department Jamestown Highway Department Garage Fort Wetherill Jamestown, RI 02835	Alfred I. Vietri	(401) 423-7290	Interview I-1
Jamestown Historical Society 790 East Shore Road Jamestown, RI 02835	Mary Miner Jane Miner	(401) 423-0937	Background information and interview I-4.
Jamestown Philomenian Library 26 North Road Jamestown, RI 02835	Judith Bell	(401) 423-7280	Background information (reference B-64).
Jamestown Police Department 250 Conanicus Avenue Jamestown, RI 02835	Tim O'Connell	(401) 423-1212	Interview I-5
Middletown Public Library 700 West Main Road Middletown, RI 02840	Joann Gorman	(401) 846-1573	No information.
Providence Public Library 225 Washington Street Providence, RI 02903	Susan Shoaf	(401) 455-8000	Background information.

REFERENCE SOURCES

The following organizations/personnel are acknowledged for their support.

Organizations	Name	Telephone	Support
LOCAL AGENCIES cont.			
Tiverton Library 238 Highland Tiverton, RI 02878	Dorothy Cable	(401) 625-6796	No information.

NON-GOVERNMENT SOURCES**NATIONAL AGENCIES**

Knight-Ridder Information, Inc. 2440 El Camino Real Mountain View, CA 94040	Automated search	(415) 254-8800	No information.
Online Computer Library Center 6565 Frantz Road Dublin, OH 43017-3395	Automated search (OCLC)	(800) 848-5878	No information.
Scientific and Technical Information Library Auto System 689 Discovery Dr. Huntsville, AL 35806	Automated search (STILAS)	(205) 922-9820	No information.

REFERENCE SOURCES

The following organizations/personnel are acknowledged for their support.

Organizations	Name	Telephone	Support
COUNTY AGENCIES			
Newport Historical Society 82 Touro Street Newport, RI 02840	Bertram Lippincott III	(401) 846-0813	Interview I-10
LOCAL			
Brown University Rockefeller Library Box A, Prospect Street Providence, RI 02912	Duane Davies	(401) 863-2167	No information.
Newport Daily News 101 Malbone Road Newport, RI 02840	Staff	(401) 849-0813	Referral.
The Public Archaeology Laboratory, Inc. 210 Lonsdale Avenue Pawtucket, RI 02860	Jim Garman, Jr. Archaeologist	(401) 728-8780	Historical information.
LOCAL INDIVIDUALS			
112 Beech Street P.O. Box 404 Wretham, MA 02093-1515	Mr. Joseph J. MacDougald	(508) 384-3251	Historical information.
56 Columbia Avenue Jamestown, RI 02835	Mr. Skip Fraley	(401) 423-0009	Interview I-7

REFERENCE SOURCES

The following organizations/personnel are acknowledged for their support.

Organizations	Name	Telephone	Support
LOCAL INDIVIDUALS cont.			
9248 Eden Drive King George, VA 22485	Mr. Robert Zink	(703) 775-7929	Technical information (reference B-24).
13 Scotty Drive Portsmouth, RI 02871	Mr. Robert James Bond	(401) 683-3042	Interview I-8
39 Seaside Drive Jamestown, RI 02835	Mr. Walter K. Schroder	(401) 423-0806	Background information and Interview I-9 (reference B-61).

ORDNANCE AND EXPLOSIVE WASTE
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APPENDIX B
GENERAL REFERENCES AND ABSTRACTS

APPENDIX B

GENERAL REFERENCES AND ABSTRACTS

- B-1 Mandatory Plan for Ordnance and Explosive Waste (OEW) Mandatory Center of Expertise (MCX) and Design Center, CEHND, 1105-3-9, U.S. Army Corps of Engineers, Huntsville Division, 10 August 1992.
- B-2 Defense Environmental Restoration Program for Formerly Used Defense Sites, Ordnance and Explosive Waste, Archives Search Report Manual, Version 2.1 with changes, U.S. Army Corps of Engineers, Rock Island District, 28 February 1994.
- B-3 Site Safety Plan for OEW Investigations (appendix B-12), U.S. Army Corps of Engineers, Rock Island District, 25 October 1994.
- B-4 Inventory Project Report: Includes the Site Survey Summary Sheet for DERP-FUDS Site No. D01RI033700, dated 16 July 1993 (document E-1); the Project Summary Sheet for OEW Project No. D01RI033703 dated 25 June 1993 (document E-2); the Project Summary Sheet for CON/HTRW Project No. D01RI033701 dated 25 June 1993 (document E-3); the Project Summary Sheet for BD/DR Project No. D01RI033702 dated 25 June 1993 (document E-4); and the Findings and Determination of Eligibility, dated 2 August 1993 (document E-5 and drawing L-1).
- B-5 Soil Survey of Rhode Island, by Dean D. Rector, Craig Ditzler, Anthony Dore, Bruce Laskey, Daniel Spangler, Dale Sprankle, Everett Stuart, and Mark Townsend, dated July 1981.
- B-6 Climate of Rhode Island, by the National Oceanic and Atmospheric Administration, dated June 1982.
- B-7 New England's Rare, Threatened, and Endangered Plants, from the Rhode Island Department of Environmental Management, date unknown (document E-6).
- B-8 National Register of Historic Places, State: Rhode Island, County: Newport, by the United States Department of the Interior, National Park Service, dated 16 March 1972 (document F-3).
- B-9 Military Reservations, from the War Department, Washington, DC, dated 1948 (document G-1).
- B-10 Petition to U.S. Circuit Court, Rhode Island District, dated 29 November 1901. Document petitions for condemnation of specific properties for the expansion of Fort Wetherill.

- B-11 General Order No. 182 from the War Department dated 17 November 1908. Document defines the expanded boundaries of Fort Wetherill (document G-2).
- B-12 Document dated 6 September 1945. Document lists private property acquired for Fort Wetherill and shows its location (document G-3).
- B-13 Document, "Declaration of Surplus Real Property" dated 19 October 1945. Document declares 5.4 acres of Fort Wetherill's officers' quarters to be surplus to the needs of the installation (document G-4).
- B-14 Document dated 6 September 1946. Letter to Mr. C. Russell Cravens, Assistant Commissioner for Real Estate and Disposition, Federal Public Housing Authority, 301 Longfellow Building, Washington, DC, from David C. McPherson, Assistant Deputy Administrator, Office of Real Property Disposal, recommends sale of 5.4 acre tract at Fort Wetherill at the highest offer (document G-5).
- B-15 Quitclaim Deed to George Lewis Crawford dated 24 September 1946 (document G-6).
- B-16 Deed to the United States of America from B. Edwin Hutchinson dated 26 December 1942. Deed transfers 5.4 acres of private land next to Fort Wetherill for Government use.
- B-17 Document dated 4 August 1953. Letter to the Department of the Navy at Fort Wetherill Military Reservation from H. O'Neill, Acting Chief, Management Land Disposal Division, Real Estate, transfers control of Fort Wetherill from the Department of the Army to the Department of the Navy (document G-7).
- B-18 Quitclaim Deed to the State of Rhode Island, Department of Natural Resources dated 14 August 1973 (document G-8).
- B-19 Quitclaim Deed to the Town of Jamestown, Rhode Island, dated 8 November 1974 (document G-9).
- B-20 Quitclaim Deed to the State of Rhode Island dated 26 September 1984 (document G-10).
- B-21 Document, Realty Control File Summary, date unknown. Document gives total acreage of reservation and a brief real estate history since 1946 (document G-11).
- B-22 Tidal Current Tables, Atlantic Coast of North America, by U.S. Department of Commerce, dated 1994.
- B-23 Tide Tables, East Coast of North and South America, by U.S. Department of Commerce, dated 1994.

- B-24 Report of Completed Works, Harbor Defenses of Narragansett Bay, Fort Wetherill, Rhode Island, AA Battery dated 5 October 1937 (document L-4).
- B-25 Supplement to Harbor Defense Project, Harbor Defenses of Narragansett Bay, prepared by Harbor Defenses of Narragansett Bay, dated 1 February 1945 (documents L-5, L-6, and F-13).
- B-26 Fort Record Book, Fort Wetherill, Records of U.S. Army Commands, 1942, dated 3 April 1950 (documents F-4, F-5, F-6, F-14, F-20, F-24, F-25, F-26, and F-27).
- B-27 Journal of Joseph J. MacDougald, 243rd Coastal Artillery dated 1941-1945.
- B-28 Memorandum for commanders, major subordinate commands dated 15 March 1994. Subject: Defense Environmental Restoration Program (DERP) - Site Eligibility Policy Clarification for Ordnance and Explosive Waste (OEW) at Formerly Used Defense Sites (FUDS) (document F-1).
- B-29 Letter dated 23 August 1994. Subject: Status of Fort Wetherill site on the National Register of Historic Places (document F-2).
- B-30 Encyclopedia of Historic Forts, By Robert B. Roberts, dated 1988.
- B-31 Document dated 26 February 1918. Document is First Indorsement to the Chief of Engineers, U.S. Army, listing the batteries that had been disarmed at Fort Wetherill (document F-7).
- B-32 Document dated 7 May 1920. Document is First Indorsement to the Chief of Coast Artillery, Washington, DC, recommending the establishing of two anti-aircraft positions at Fort Wetherill (document F-8).
- B-33 Report of Completed Works, Harbor Defenses of Narragansett Bay, Fort Wetherill, Rhode Island, AA Battery dated 1 July 1938 (document F-9).
- B-34 Letter to the Commanding General, First Corps Area, from the District Commander, dated 13 December 1921. Letter gives status of inspection at the forts associated with Fort Adams (document F-10).
- B-35 Summary of information on Fort Wetherill, by Robert D. Zink of the Coastal Defense Study Group, dated 3 September 1994.
- B-36 Document, "Harbor Defense of Narragansett Bay, Anti-Aircraft Automatic Weapons," dated 23 October 1940. Document states the types and quantities of automatic AAA weapons used on different sites (document F-11).

- B-37 Document to Commanding General, New England Sector, 150 Causeway Street, Boston, MA, dated 23 February 1944. Subject: Request For Construction (document F-12).
- B-38 Letter to the Secretary of War, from Mr. Neville Leary, Jamestown, RI, dated 10 June 1940. Subject: Damage caused to household effects by firing 12-inch guns at Fort Wetherill (document F-15).
- B-39 *Coastal Defense Study Group Journal*, Vol. 8, Issue 4, dated November 1994.
- B-40 Seacoast Fortifications of the United States: An Introductory History, by Emanuel Raymond Lewis, dated 1970.
- B-41 Document, Historical Data Card of Fort Wetherill, last dated 15 February 1950. Document gives statistics and record of classification of the fort (document F-16).
- B-42 Document to Commanding Generals, Eastern Defense Command, First Service Command, The Provost Marshal General, and the Chief of Engineers, dated February 1946. Subject: Discontinuance of Prisoner of War Branch Camp, Wetherill, RI (document F-17).
- B-43 Document, "Defensive Sea Areas, Defensive Coastal Areas, and Underwater Defenses, Narragansett Bay," date unknown. Document describes coastal and underwater defenses of the bay area (document F-18).
- B-44 Letter to Headquarters, Army Services Forces, Washington, DC, from Brig. General W.A. Wood, Jr. and Colonel C.E. Cotter, dated 7 May 1943. Subject: Salvage of Battery Varnum, 12-inch B.C. Fort Wetherill, RI (document F-19).
- B-45 Letter to A.O.N.A.D., from O.O.C.D. of Narragansett Bay, dated 31 December 1915. Subject: Withdrawal from service of T.I.&S.Co., 10-inch and 12-inch Armor Piercing Shells (document F-21).
- B-46 Letter to the Chief of Ordnance, Coast Army Artillery, from F.W. Coe, Chief of Coast Artillery, Washington, DC, dated 20 December 1922. Subject: Assignment of Ammunition 3-inch 15-pounder Guns, Coast Defense, First Corps Area (document F-22).
- B-47 Memorandum to the Chief of Manufacturing Service, Chief of Field Service, and Chief of Technical Staff, from Major William C. Young, Ordnance Department, Chief, War Plans Division, dated 21 November 1932. Subject: Harbor Defense Project - New York - Narragansett Bay Area (document F-23).

- B-48 OS 9-20 Vol. 1 Artillery Ammunition, Volume 1, Prepared by The Ordnance School, Aberdeen Proving Ground, MD, dated November 1942 (documents D-7, D-8, D-9, and D-10).
- B-49 OS 9-20 Vol. 2 Artillery Ammunition, Volume 2, Prepared by The Ordnance School, Aberdeen Proving Ground, MD, dated February 1943 (document D-7).
- B-50 TM 9-1990 Small-Arms Ammunition, by the War Department, dated 23 May 1942 (document D-5, D-6, and D-7).
- B-51 TM 9-1901-1 Ammunition For Aircraft Guns, by the Department of the Army, dated December 1957 (document D-6).
- B-52 TM 9-1904 Ammunition Inspection Guide, by the Department of the Army, dated 2 March 1944 (document D-5, D-6, D-7, D-8, D-9, and D-10).
- B-53 ST 9-159 Handbook of Ordnance Materiel, Prepared by The Ordnance School, Aberdeen Proving Ground, MD, dated February 1951 (documents D-1, D-2, D-3, and D-4).
- B-54 Coast Artillery, by the Military Service Publishing Company, dated 1942 (document D-9 and D-12).
- B-55 TM 9-424 6-inch Seacoast Materiel: Gun M1900 Mounted on Barbette Carriage M1900, by the War Department, dated 20 March 1945 (document D-11).
- B-56 TM 9-428 6-inch Seacoast Materiel: Guns M1903A2 and M1905A2; Barbette Carriage M1, by the War Department, dated 12 June 1943 (document D-11).
- B-57 TM 4-205 Coast Artillery Ammunition, by the War Department, dated 17 February 1940 (document D-12).
- B-58 The United States Army in World War II. The Technical Services, The Ordnance Department: Planning Munitions for War, Center of Military History, United States Army, dated 1990 (document D-13).
- B-59 Controlled Mines, A History of Their Use by the United States, by Charles H. Bogart, dated 1986 (document D-13).
- B-60 Handbook of Ordnance Data, by the War Department, dated 15 November 1918.
- B-61 Defenses of Narragansett Bay in World War II, by Walter K. Schroder, dated 1980.
- B-62 Modern American Harbor Defenses, Military Reservations, and Concrete Gun Emplacements 1890-1950, by Mark A. Berhow, dated 1 June 1992.
- B-63 TM 9-2900 Military Explosives, by the War Department, dated 29 August 1940.

B-64 Revolutionary Defense in Rhode Island, by Edward Field,
dated 1898.

ORDNANCE AND EXPLOSIVE WASTE
ARCHIVES SEARCH REPORT
FOR
FORT WETHERILL
JAMESTOWN, RI
PROJECT NUMBER D01RI033703

APPENDIX C

GLOSSARY

APPENDIX C

Glossary

AAA	Anti-Aircraft Artillery
AMTB	Anti-Motor Torpedo Boat
AP	Armor Piercing
AP-T	Armor Piercing, Tracer
ASCS	Agricultural Stabilization and Conservation Service
BD	Base Detonating
BD/DR	Building Demolition/Debris Removal
BR	Barbette Rifle
CA	Coastal Artillery
CAC	Coastal Artillery Corps
CEHND	U.S. Army Corps of Engineers, Huntsville Division
CENCR	U.S. Army Corps of Engineers, North Central Region
COE	Corps of Engineers
CWM	Chemical Warfare Materiel
DA	Department of Army
DB	Double-based (propellant)
DERP	Defense Environmental Restoration Program
DOD	Department of Defense
DR	Disappearing Rifle
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
EXO	Explosive Ordnance
FDE	Findings and Determination of Eligibility
FPHA	Federal Public Housing Authority
FUDS	Formerly Used Defense Site(s)
gm	Gram

gr	Grain
GSA	General Services Administration
HD	Harbor Defense
HE	High Explosive
HE-I	High Explosive-Incendiary
HQ	Headquarters
HRS	Historical Record Search
HTW	Hazardous and Toxic Waste
IAW	In accordance with
INPR	Inventory Project Report
lbs.	Pounds or # (measurement of weight)
M	Model Number
MG	Machine Gun
MK	Mark
mm or MM	Millimeter
MT	Mechanical Time
OEW	Ordnance and Explosive Waste
PA	Preliminary Assessment
PD	Point Detonating
pdr.	Pounder
PN	Project Number
POC	Point of Contact
POW	Prisoner of War
PTT	Powder Time Train (fuze)
QASAS	Quality Assurance Specialist (Ammunition Surveillance)
RD	Remedial Design
SAB	Same As Above

SCBA	Self-Contained Breathing Apparatus
SHPO	State Historical Preservation Office
SI	Site Investigation or Site Inspection
TNT	Trinitrotoluene
T or TR	Tracer
TP	Target Practice
TP-T	Target Practice, Tracer
USA	U.S. Army
USACE	U.S. Army Corps of Engineers
USADACS	U.S. Army Defense Ammunition Center and School
USAEDH	U.S. Army Engineer Division, Huntsville
USATCES	U.S. Army Technical Center for Explosives Safety
UST	Underground Storage Tank
UXO	Unexploded Ordnance
WAA	War Assets Administration
WD	War Department
WW II	World War II

ORDNANCE AND EXPLOSIVE WASTE
ARCHIVES SEARCH REPORT
FOR
FORT WETHERILL
JAMESTOWN, RI
PROJECT NUMBER D01RI033703

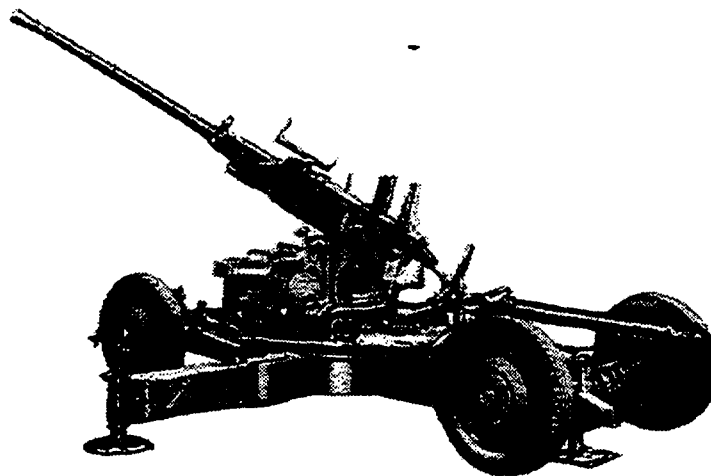
APPENDIX D
TEXTS/MANUALS

APPENDIX D

TEXTS/MANUALS

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- D-1 M1 40mm Mobile Automatic Anti-Aircraft Gun as used at Fort Wetherill (reference B-53).
- D-2 Typical M2 Heavy Barrel Browning .50 cal. Machine Gun for position defense and anti-aircraft use (reference B-53).
- D-3 Typical M1919-series Browning .30 cal. Machine Gun, used primarily for position defense but were also used in close anti-aircraft role (reference B-53).
- D-4 M1A2 37mm Mobile Automatic Anti-Aircraft Gun paired up with twin-50's (.50 cal. MG). This weapon was mounted on an M3 mobile mount when used at Fort Wetherill (reference B-53).
- D-5 .30 cal. Small Arms Ammunition (references B-50 and B-52).
- D-6 .50 cal. Small Arms Ammunition (references B-50, B-51, and B-52).
- D-7 37mm Ammunition and Subcaliber Ammunition for the M1A2 AAA Gun (references B-48, B-49, B-50, and B-52).
- D-8 40mm Ammunition for the M1 Mobile AAA Gun (references B-48 and B-52).
- D-9 3-inch Ammunition for fixed AAA Guns (references B-48, B-52, and B-54).
- D-10 90mm Ammunition for AAA Guns (references B-48 and B-52).
- D-11 6-inch Ammunition and Subcaliber Ammunition for the 6-inch coastal defense artillery guns (references B-55 and B-56).
- D-12 10-inch and 12-inch Ammunition for coastal defense artillery guns (references B-54 and B-57).
- D-13 Controlled Submarine Ground Mines M3A1 and M4 (references B-58 and B-59).



GUN, AUTOMATIC, 40-MM, M1; CARRIAGE, M2A1
(Gun, Standard; Carriage, Limited Standard)

GENERAL. Purpose: for use against low-flying high speed aircraft such as dive bombers & other attack planes Weight: 5,850 lb Length: 18' 9.5" Width: 72" Height: 6' 7.5" Dist Char: flash hider on muzzle, cartridge-case ejection tube, curved from rear of breech to bottom of carriage; feed mech cover above & to rear of breech

GUN. Type: AA Length: 8' 8" Weight: 1,051 lb Muzzle Vel: 2,870 f/s HE Range: HE, vert 7,500 yd max, 3,000 yd eff; horiz 11,000 yd max Rate of Fire: 120 rd/min Breech: vert slid wedge, auto or manual Firing Mech: footpedals Feed: autoloading mech, mech rammer Recoil Mech: hydro-spring Ammo: fixed HE w/SDT; AP Basic Model: M1 (S), for use on M3 mount (deck mount) Modifications: M1A1 (S), minor

modification to accommodate computing sight M19 **CARRIAGE.** Type: 4-W, 2-axle, w/chassis of longitudinal girders & 2 traverse outriggers equipped w/4 adjustable leveling jacks Elev: 90° Dep: level 6°, w/jacks 11° Trav: 360° Tires: 6.00 x 20 Brakes: elec service, hand parking Fire Control Equip: computing sight M19A1; dir M5A3; genr unit M17 Prime Mover: 2-1/2 ton 6 x 6 truck Basic Model: M1 (obs) Modifications: M1A1 (obs); M2 (obs); M2A1 (LS), new-type traversing gear assembly; M2A2 (S), minor modification to accommodate computing sight M19; M3 (S), no rear firing pedal, elev & trav mech entirely man operated, for mounting on vessel, railroad car or other vehicle

REFERENCES. SNL A-50; TM 9-252, 9-1252, 9-1253

D-1 M1 40MM MOBILE AAA GUN

D-1



GUN, MACHINE, CAL .50, BROWNING, M2, HEAVY BARREL, FLEXIBLE
(Standard)

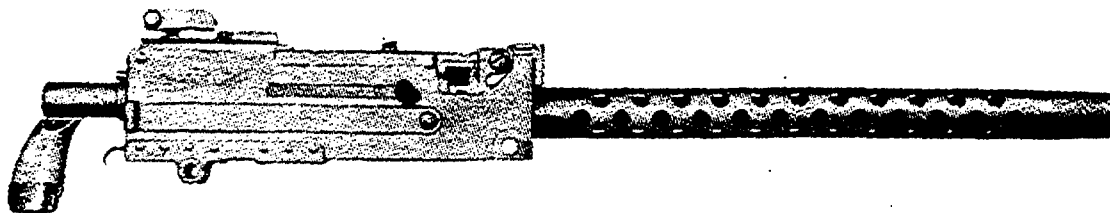
GENERAL. Purpose: for ground, AA, & vehicle use Weight: 84 lb Length: 65.1" Length of Barrel: 45" Sight: blade & leaf, w/elev & windage adjustments Dist Char: from fixed gun by bolt latch, back plate with spade grips and trigger, and barrel carrier assembly

FUNCTIONING. Type: short recoil, auto, air-cooled Support: AA, tripod, or vehicle mount Feed: link belt Muzzle Vel: 2,930 f/s Range: 7,400 yd max Cyclic Rate: 450-550 rd/min Ammo: AP, API, API-T, ball, dummy, I, tracer

REFERENCES. SNL A-39; FM 23-65; TM 9-1225

D-2 TYPICAL M2 HEAVY BARREL BROWNING .50 CALIBER MACHINE GUN

D-2



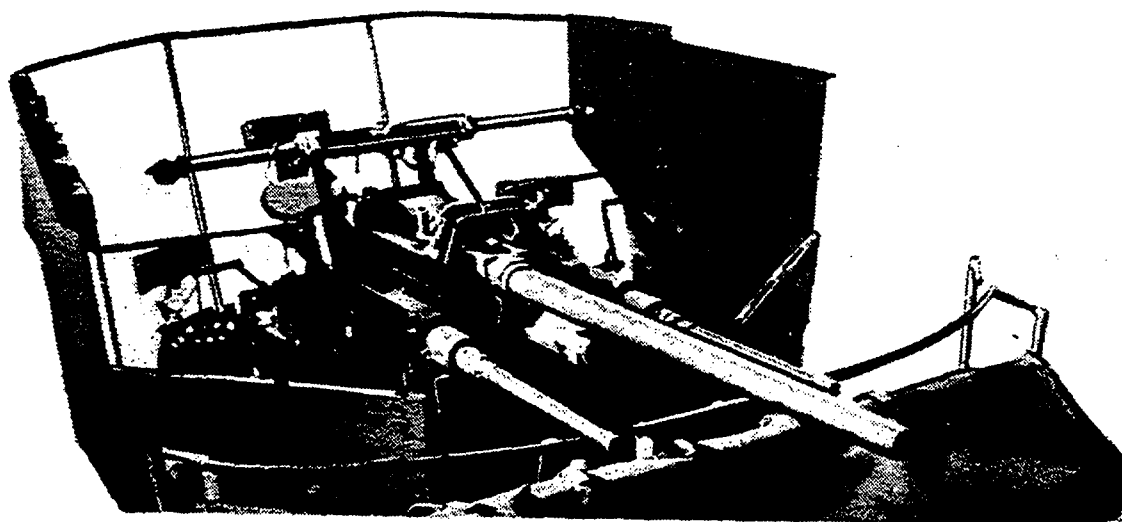
GUN, MACHINE, CAL .30, BROWNING, M1919A4, FLEXIBLE
(Standard)

GENERAL. Purpose: for ground or vehicle use
Weight: 31 lb Length: 41.1" Length of Barrel: 24"
Sight: blade & leaf, w/sliding peep mounted on leaf,
calibrated to 2,400 yd, elev & windage adjustments
Dist Char: vehicle MG, single pistol grip & trigger
Basic Model: M1919 (obs)

FUNCTIONING. Type: short recoil, auto, air-cooled
Support: mounted in combat vehicles or on ground
Feed: fabric or linkbelt Muzzle Vel: 2,800 f/s Range:
3,500 yd max Cyclic Rate: 400-550 rd/min Ammo:
AP, API, ball, blank, dummy, tracer
REFERENCES. SNL A-6, A-35; FM 23-55; TM 9-1205

D-3 TYPICAL M1919-SERIES BROWNING .30 CALIBER MACHINE GUN

D-3



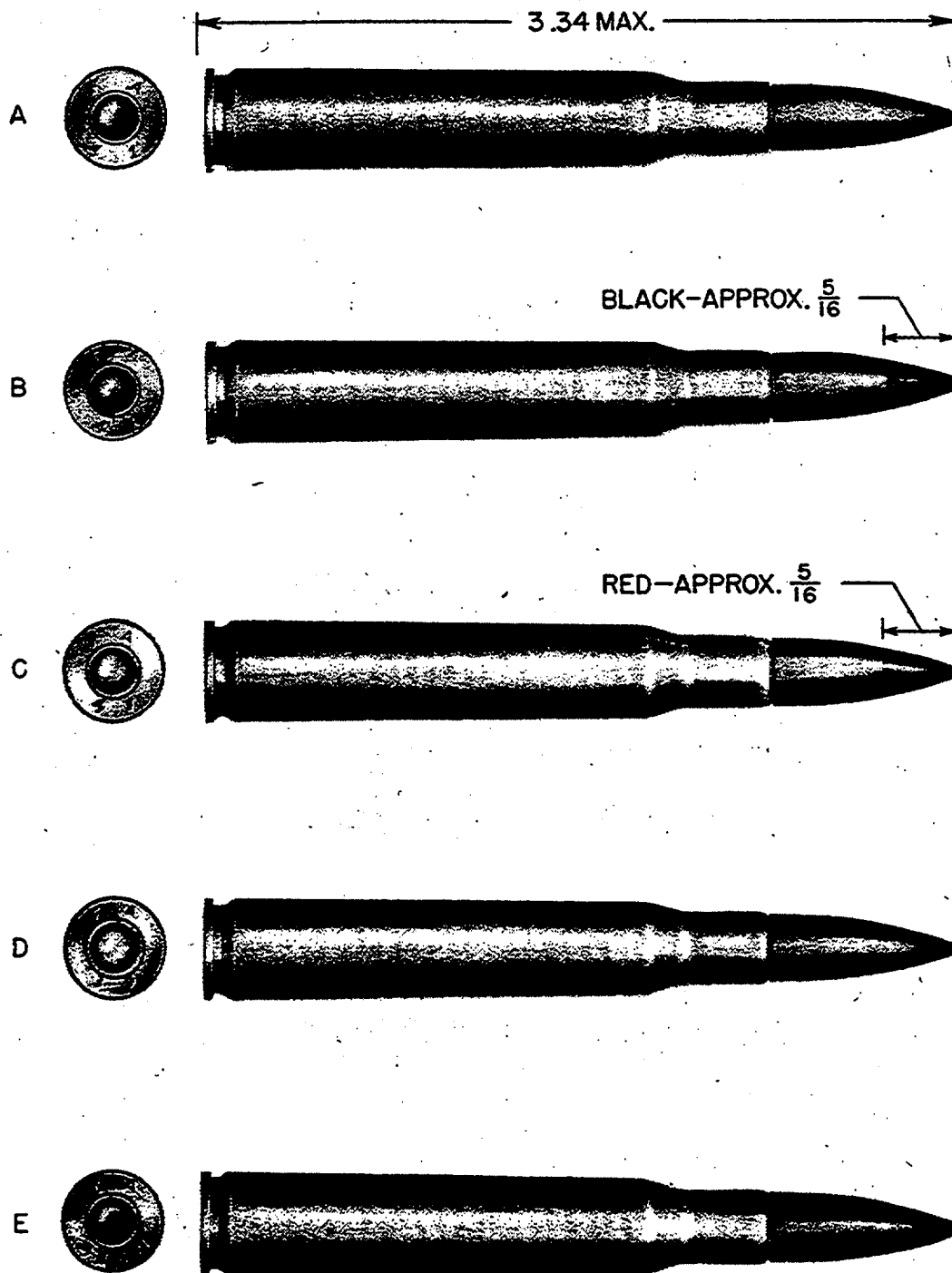
GUN, AUTOMATIC, 37-MM, M1A2; COMBINATION MOUNT, M54
(Limited Standard)

GENERAL. Purpose: for defense against low-flying high speed aircraft; for front-line troops, truck convoys, & fixed installations
Dist Char: one 37-mm gun fixed HE-T; APC-T; TP-T
M1A2 to which are attached 2 cal .50, MG, mounted on combination gun motor carriage M15A1
GUN. Type: AA Length: 8' 8" Weight: 365 lb Muzzle Vel: 2,600 f/s HE-T; 2,050 f/s APC-T Range: 6,200 yd HE-T (max), 3,500 yd HE-T w/SDT; horiz
Rate of Fire: 120 rd/min Breech: vert slid wedge Firing Mech: foot pedals Ammo: fixed HE-T; APC-T; TP-T
MOUNT. Type: comb Elev: 85° Dep: 5° Trav: 360° Recoil Mech: hydrospring Fire Control Equip: reflex sight M23 & M24 Pert Equip: 2 Browning cal .50 MG, M2, HB
REFERENCES. SNL A-29; TM 9-235, 9-1235

D-4 M1A2 37MM MOBILE AAA GUN (SEE PHOTOGRAPH K-15)

D-4

SMALL ARMS AND TRENCH WARFARE



A—CARTRIDGE, ARMOR-PIERCING, CAL..30, M2

B—CARTRIDGE, BALL, CAL..30, M2

C—CARTRIDGE, TRACER, CAL..30, M1

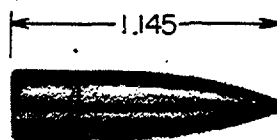
D—CARTRIDGE, BALL, CAL..30, M1

E—CARTRIDGE, BALL, CAL..30, M2, NATIONAL MATCH

RA PD 4522

Figure 79a — Cartridges, Cal. .30

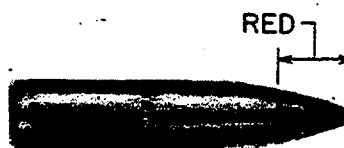
SMALL ARMS AND TRENCH WARFARE



BULLET, BALL, CAL. .30, M2



BULLET, ARMOR-PIERCING, CAL. .30, M2



BULLET, TRACER, CAL. .30, M1

RA PD 4521

Figure 78a — Bullets, Cal. .30

ling charge when the cartridge is fired. The tracer composition burns with a bright red flame which enables the course of the bullet to be followed by the gunner. The mouth of the cartridge case is crimped into the knurled cannelure at assembly, and a minimum pull of 45 pounds is required to remove the bullet from the case.

Exterior ballistics, maximum range (approx.).....3,450 yd

Range of trace.....trace begins at a distance not greater than 125 yd from the weapon, and bullets continue tracing to 750 yd from the weapon

Average maximum pressure.....50,000 lb per sq in.

Velocity:

At 78 ft.....2,650 ft per sec

At muzzle2,715 ft per sec

Accuracy. Average of mean radii of all targets at 600 yards less than 15 inches.

Trajectory. This ammunition is designed so that the bullet's trajectory will cross the trajectory of Ball M2, and AP, M2 Ammunition of the same caliber at approximately 600 yards.

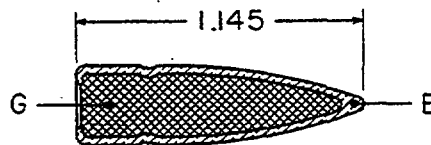
CARTRIDGE, Incendiary, Cal. .30, M1.

General. This cartridge is a standard item of issue for machine guns.

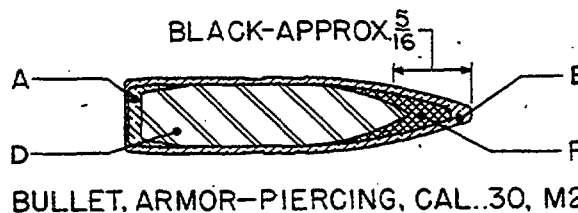
D-5

AMMUNITION INSPECTION GUIDE

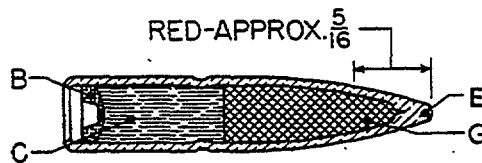
- A-BASE FILLER-GILDING METAL
- B-COMPOSITION, IGNITER
- C-COMPOSITION, TRACER
- D-CORE-TUNGSTEN CHROME STEEL
- E-JACKET-GILDING METAL
- F-POINT FILLER-LEAD "T" SHOT
- G-SLUG-LEAD WITH ANTIMONY



BULLET, BALL, CAL. .30, M2



BULLET, ARMOR-PIERCING, CAL. .30, M2



BULLET, TRACER, CAL. .30, M1.

RA PD 4511A

Figure 78b — Bullets, Cal. .30 — Sectioned

Visual identification. The cartridge resembles the CARTRIDGE, ball, cal. .30, M2, in outward appearance, but it may be identified by the light blue paint on the tip of the bullet.

Components. The cartridge consists of a cartridge case, primer, propelling charge, and bullet.

The bullet consists of four parts: a gilding metal jacket, a hollow steel cylindrical core, an incendiary composition, and a lead base filler. The mouth of the cartridge case is crimped into the knurled cannellure at assembly and a minimum pull of 45 pounds is required to remove the bullet from the case.

CARTRIDGE, Rifle Grenade, Cal. .30, M3.

General. This cartridge is used in cal. .30 Rifles, M1, M1903, M1903A1, and M1917, for discharging antitank rifle grenades. This

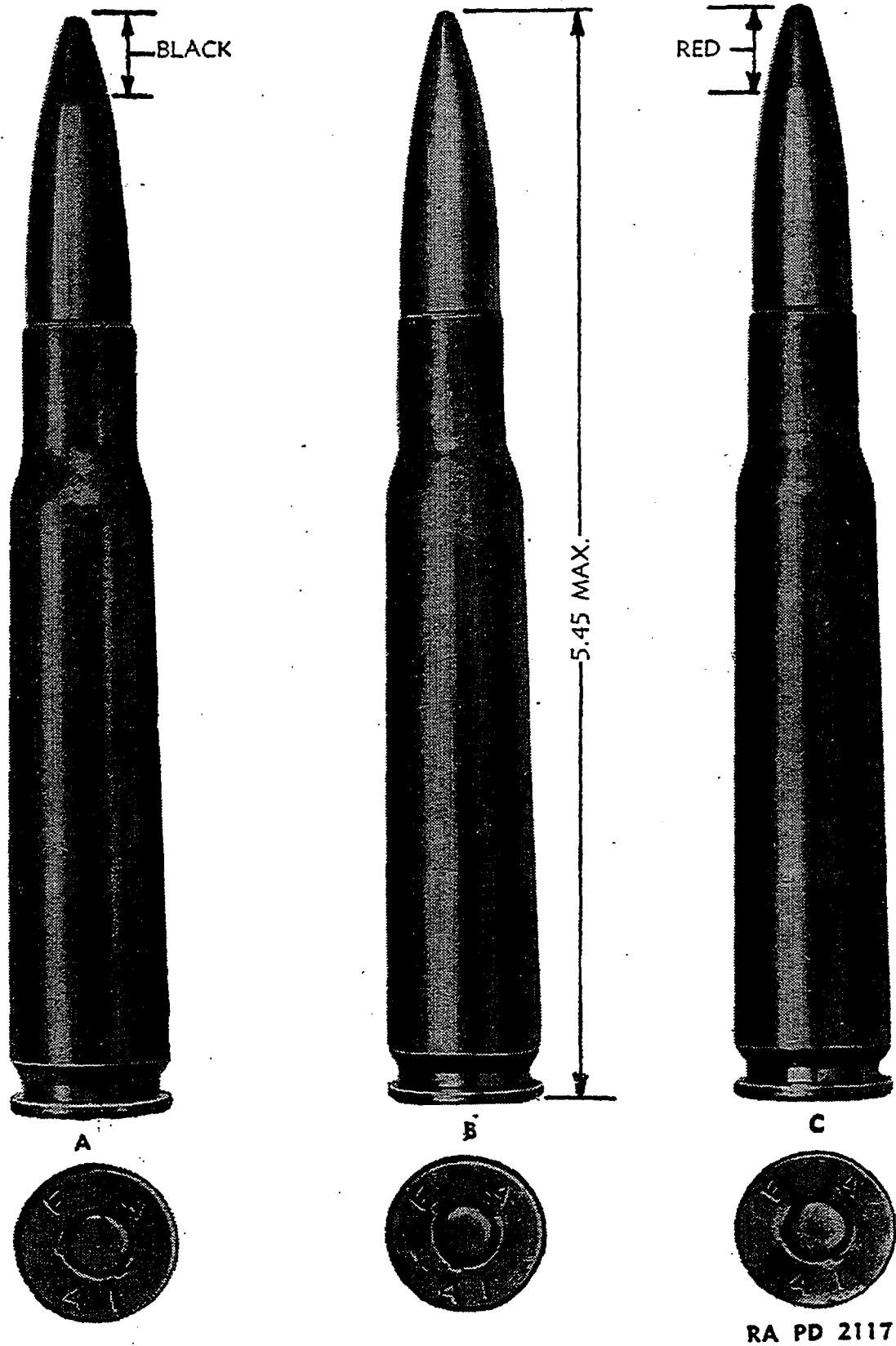


FIGURE 23.—Armor-piercing, ball, and tracer cartridges, caliber .50.

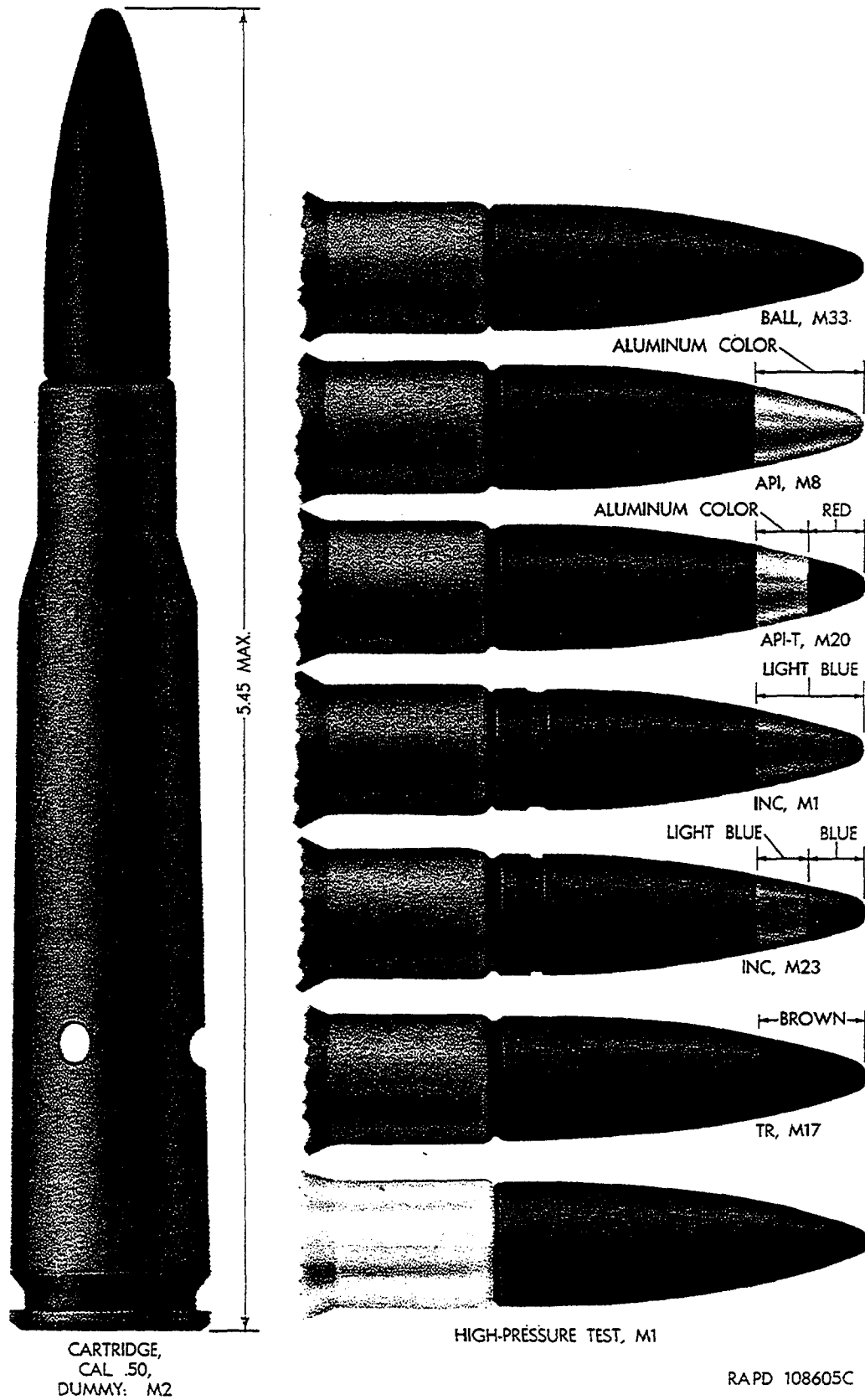
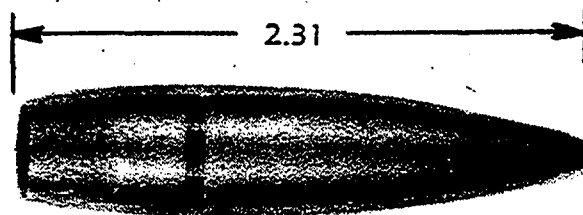
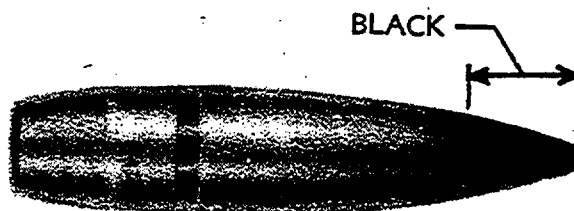


Figure 4. Caliber .50 cartridges.

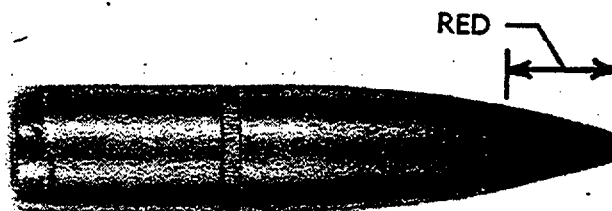
AMMUNITION INSPECTION GUIDE



BULLET, BALL, CAL. .50, M2



BULLET, ARMOR-PIERCING, CAL. .50, M2



BULLET, TRACER, CAL. .50, M1

RA PD 4526

Figure 82a — Bullets, Cal. .50

The bullet consists of three parts: a gilding metal jacket; a tungsten-chrome steel core; and a point filler of lead hardened with antimony. The over-all length of the bullet is 2.29 inches and the point is blackened for approximately $\frac{9}{16}$ inch. The base has a 9-degree taper beginning 0.386 inch from the base. The mouth of the case is crimped into the cannelure at assembly, and a minimum pull of 100 pounds is required to extract the bullet from the case.

Exterior ballistics, maximum range (approx.) 7,200 yd

Maximum pressure 52,000 lb per sq in.

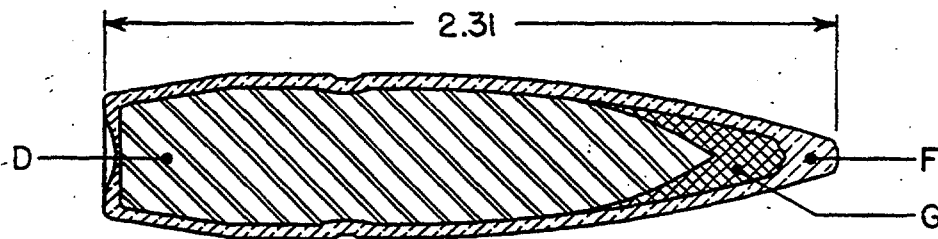
Velocity:

At 78 ft. 2,900 ft per sec

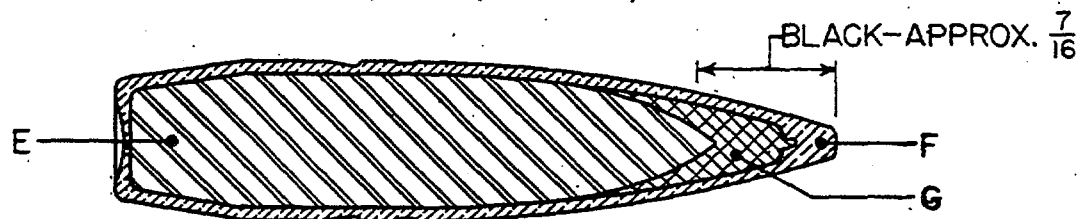
At muzzle 2,935 ft per sec

SMALL ARMS AND TRENCH WARFARE

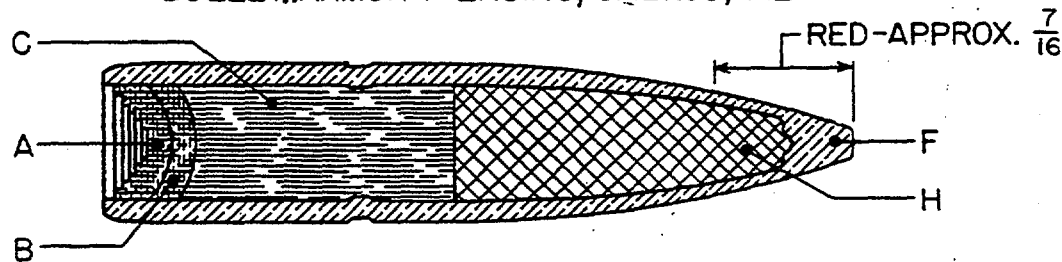
- A-COMPOSITION, IGNITER
- B-COMPOSITION, SUB-IGNITER
- C-COMPOSITION, TRACER
- D-CORE-STEEL
- E-CORE-TUNGSTEN CHROME STEEL
- F-JACKET-GILDING METAL
- G-POINT FILLER-LEAD WITH ANTIMONY
- H-SLUG-LEAD WITH ANTIMONY



BULLET, BALL, CAL..50, M2



BULLET, ARMOR-PIERCING, CAL..50, M2



BULLET, TRACER, CAL..50, M1

RA PD 4512

Figure 82b — Bullets, Cal. .50 — Sectioned

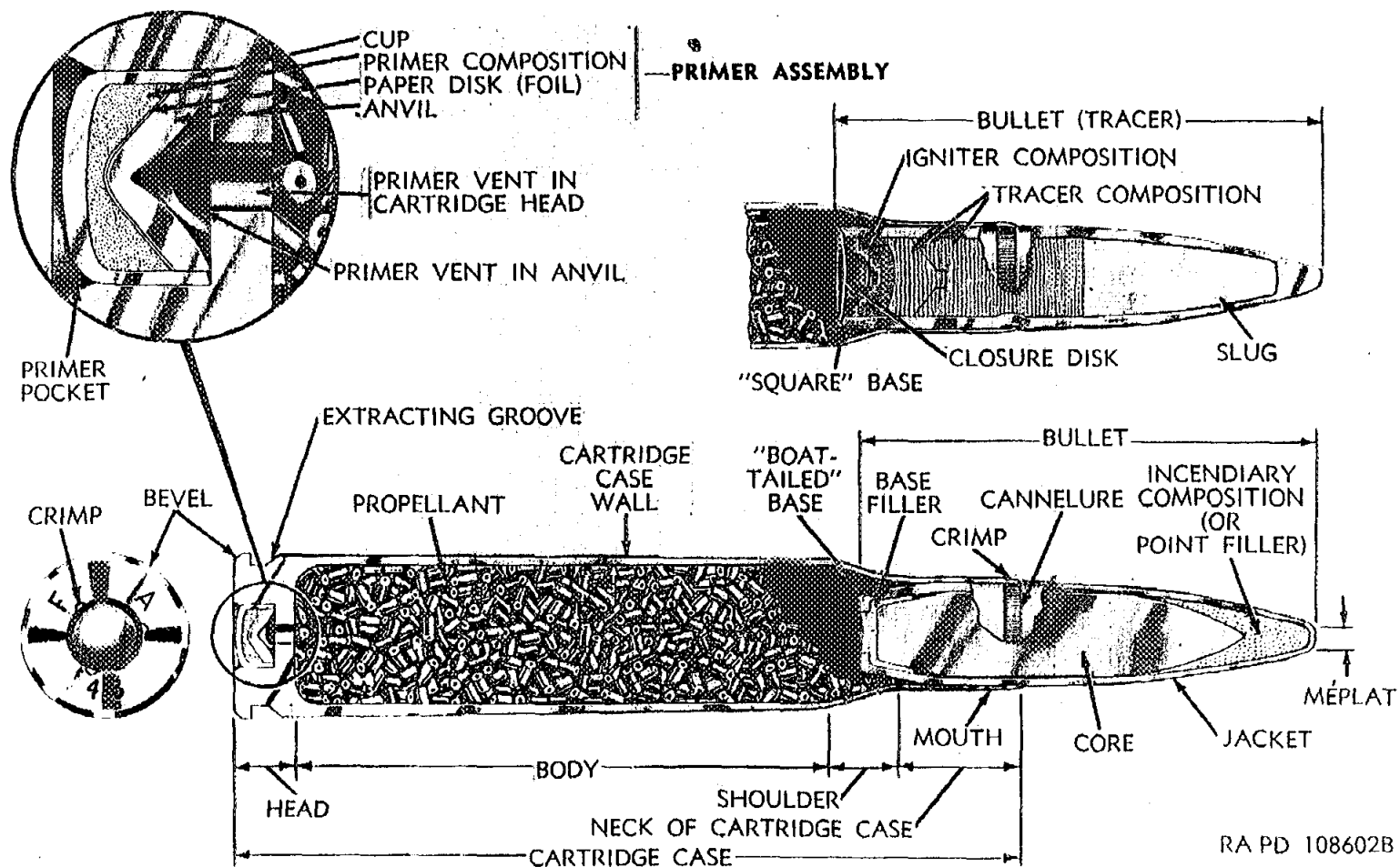


Figure 3. Cartridge terminology.

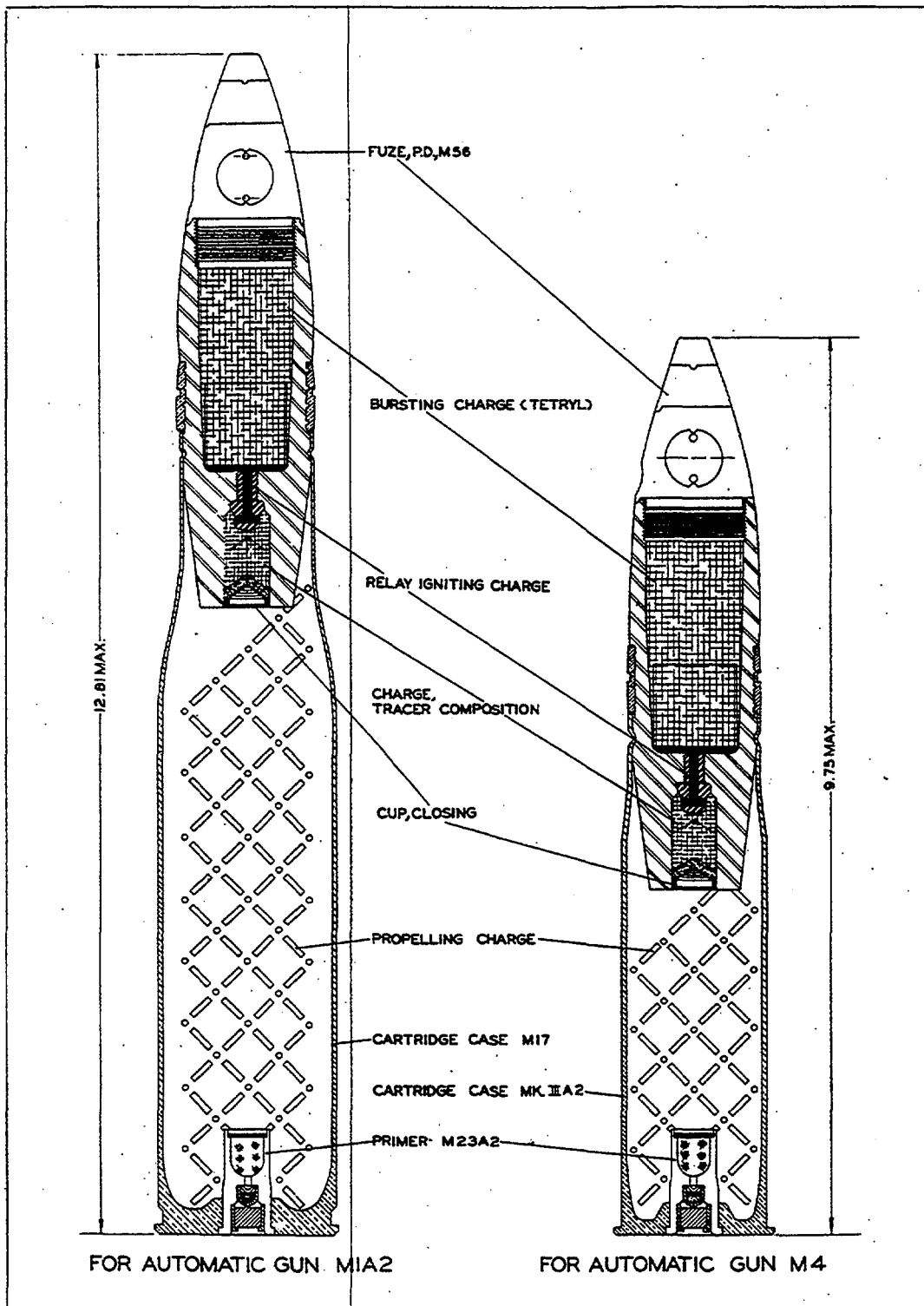
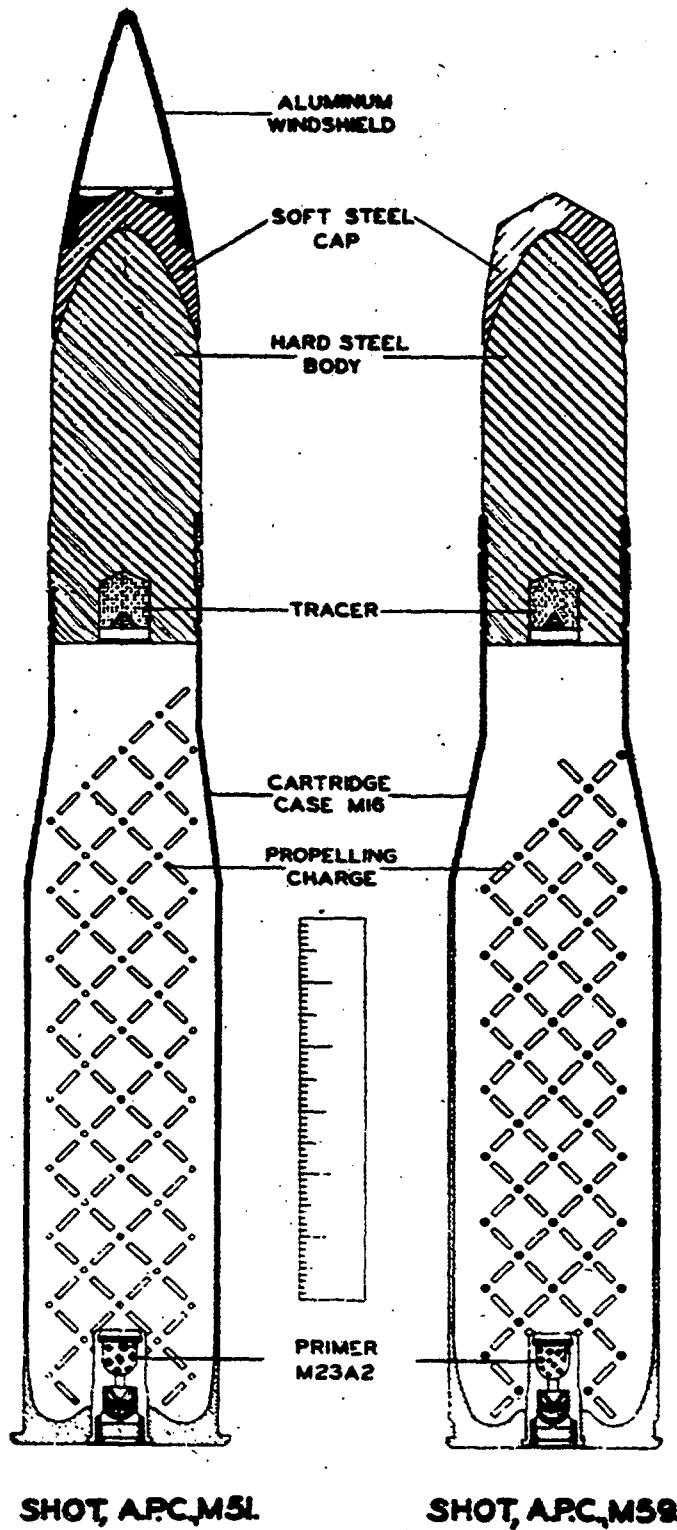


FIGURE 58. - SHELL, H.E., 37-MM, M54, FOR AUTOMATIC GUNS, M1A2 (LEFT), AND M4 (RIGHT).

AMMUNITION INSPECTION GUIDE



RA PD 22923

Figure 136 — SHOT, APC, M51 (M1A2 Guns), and SHOT, APC, M59 (M3, M3A1, M5, and M6 Guns)

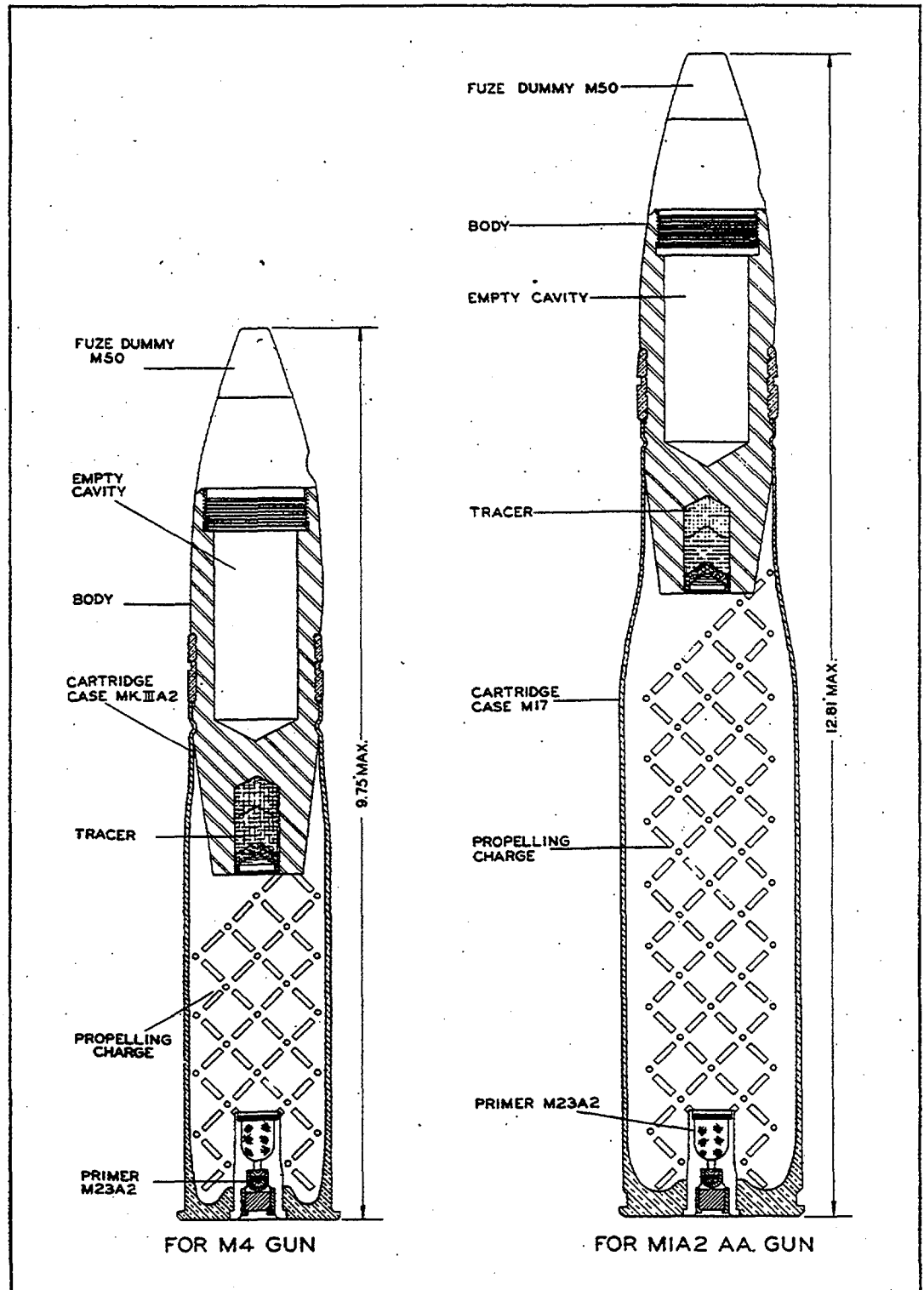


FIGURE 60. - SHELL, PRACTICE, M55A1, FOR 37-MM GUNS, M4 AND M1A2.

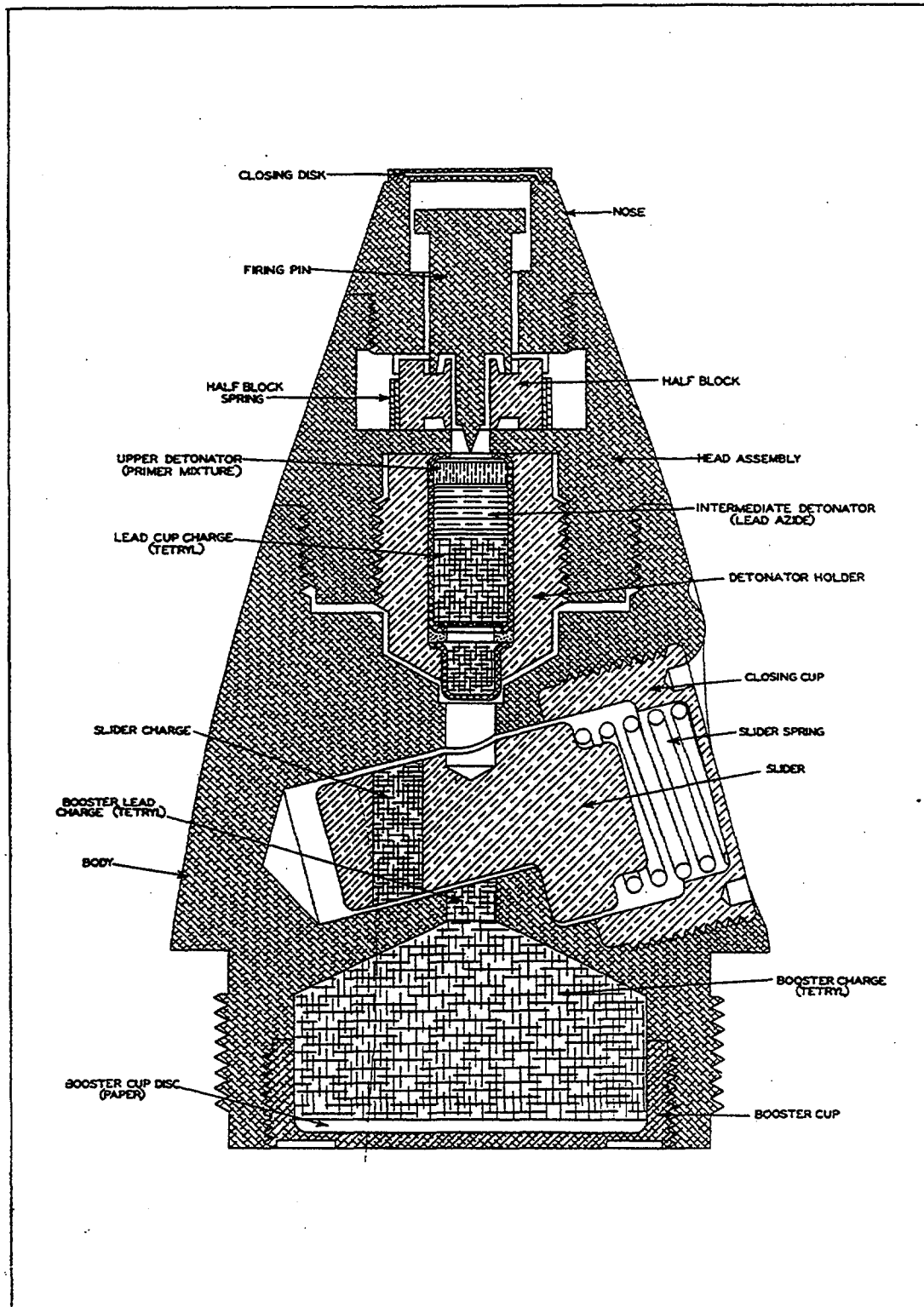


FIGURE 28. - FUZE, POINT-DETONATING, M56.

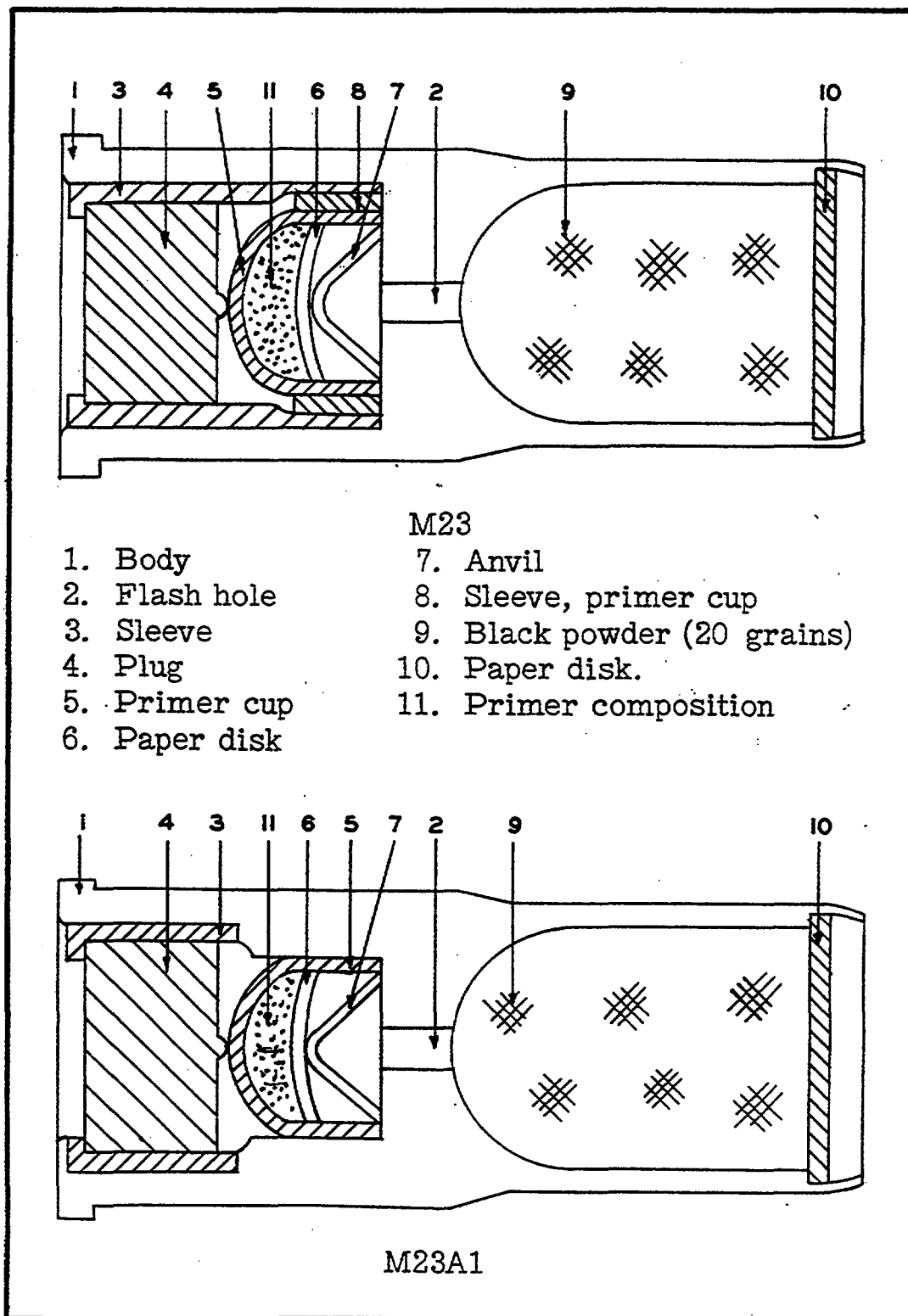


FIGURE 15. - PRIMER, PERCUSSION, 20-GRAIN, M23 AND M23A1.

anvil, causing this composition to explode. The flame from the explosion passes through a hole and ignites the black powder auxiliary charge which, in turn, ignites the propellant.

✓ d. Modification. - The primer, percussion, M23A2 has supplanted the M23A1 as standard. The only difference is that the former has a firing plug with a boss, increasing the over-all height of the plug to approximately 0.229 inches.

53. PRIMER, PERCUSSION, 21-GRAIN, MK. IIA1. - a. Use. - This primer is used in many field guns using separate-loading ammunition. The small charge of black powder contained in this primer is sufficient to ignite the igniting pad attached to the propelling charge. This pad in turn ignites the propellant. The Mk. IIA1 primer is principally used in ammunition for the 155-mm gun, 155-mm howitzer, 8" howitzer, 240-mm howitzer and 4.5" gun. (See fig. 16.)

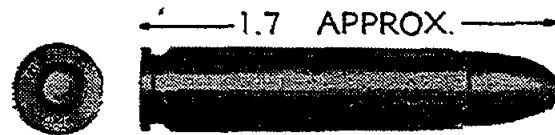
b. Action. - The firing pin of the gun strikes the primer cup directly, there being no firing plug as in the M23A1 20-grain primer. Upon this action, the pin indents the cup and crushes the percussion composition against the anvil, causing this composition to explode. The flame from the explosion of the percussion composition passes through a flash hole and ignites the powder charge, which, in turn, sets off the igniter of the propelling charge.

c. Precautions. - The percussion composition is sensitive, and care must be taken that the cup is not hit by any hard object. A blow simulating that of a firing pin attached to a 10-pound weight and dropped through a height of three inches may cause it to function.

d. Shipment. - These primers are shipped packed in waterproof tin packing cans, 50 primers to each can, 48 of these cans (2,400 primers) to a box. See SNL R-3. They are affected by moisture, and care should be taken that they are kept dry after the can has been opened. See paragraph 5, OFSB 3-3.

54. PRIMER, PERCUSSION, 75-GRAIN, M22A1. - a. Description. - (1) This primer is assembled in fixed 75-mm H.E. shell using reduced and normal propelling charges. The case was originally made of sufficient length (approximately seven inches) to accommodate over 200 grains of black powder, but it was found that better performance could be obtained in some rounds with a primer of the same length but with reduced charge. The reduced charge is held in the end of the primer tube adjacent to the primer head by means of a cardboard cup.

(2) The empty portion of the tube has many small vents and is lined on the inside with a paper liner. This liner serves a dual purpose,



CARTRIDGE, CARBINE, CAL. .30, M1



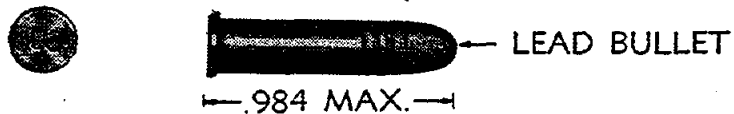
CARTRIDGE, SUBCALIBER, CAL. .30, M1925

RA PD 4532

FIGURE 25.—Cartridges, carbine and subcaliber.



CARTRIDGE, BLANK, CAL. .22, FIELD ARTILLERY TRAINER,
M2 AND M2A1

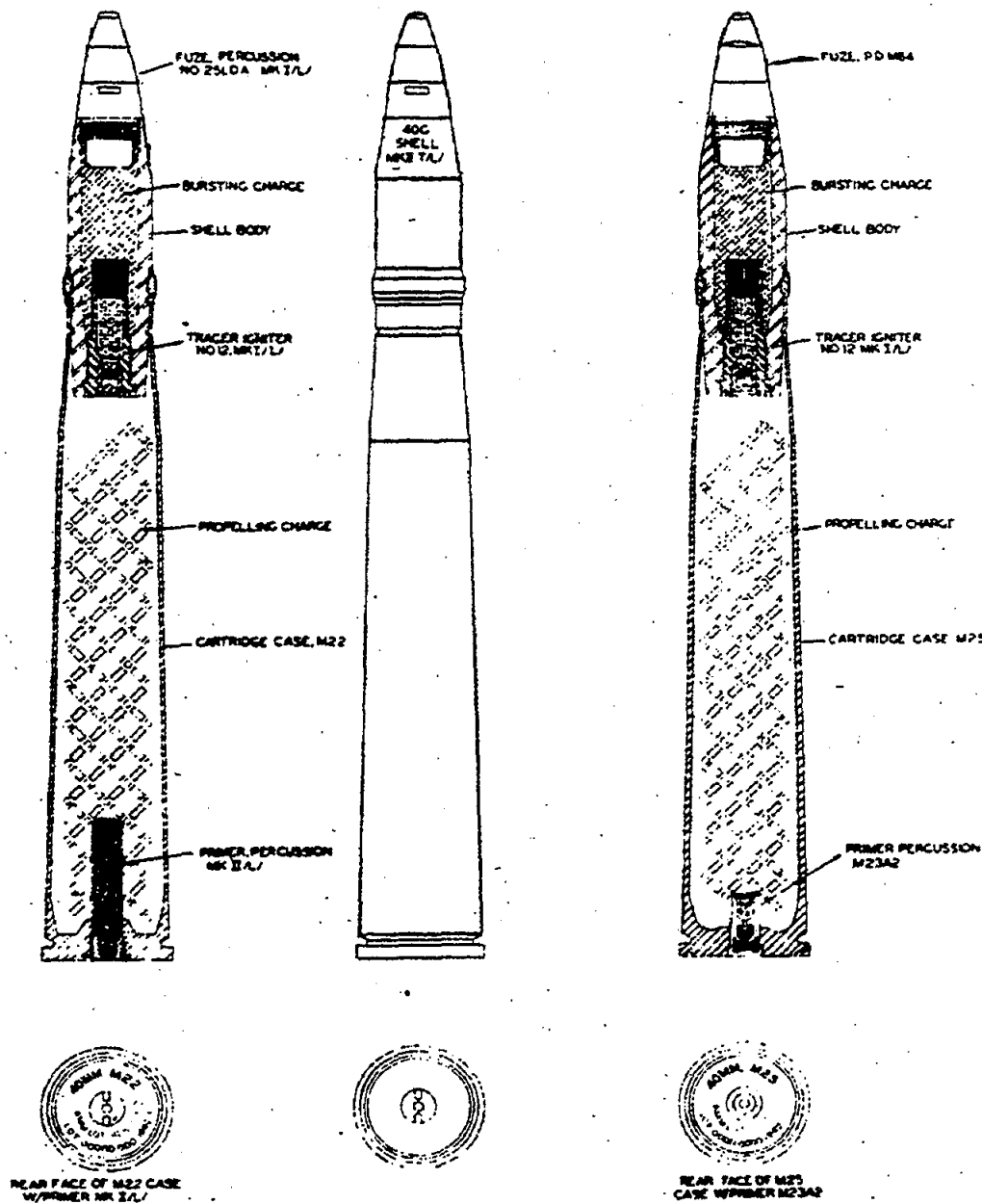


CARTRIDGE, BALL, CAL. .22, LONG RIFLE

RA PD 4531

FIGURE 26.—Cartridges, caliber .22.

ARTILLERY AMMUNITION

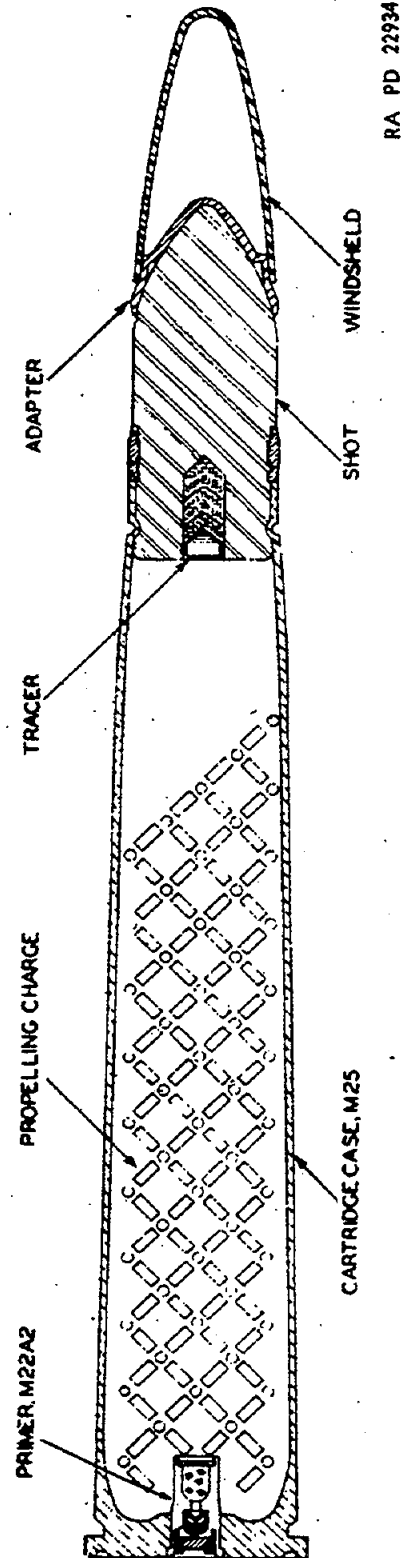
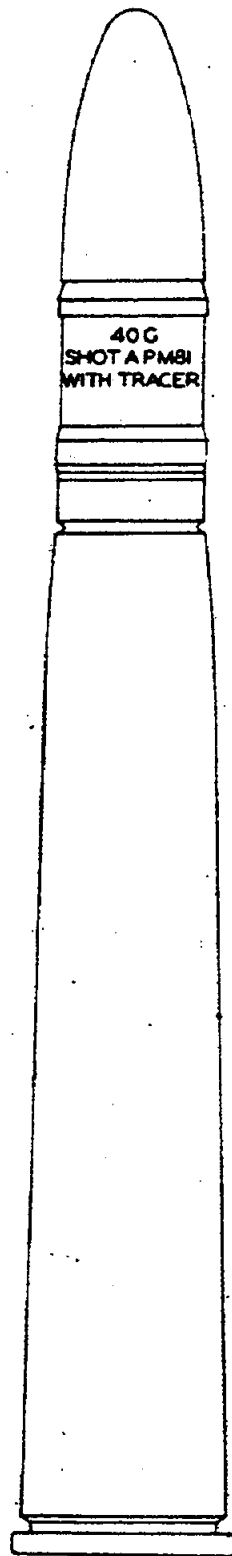


RA PD 22929

**Figure 143 — Alternate Assemblies of Cartridge, H.E.-T (SD)
40-mm, Mk. II, T/L/**

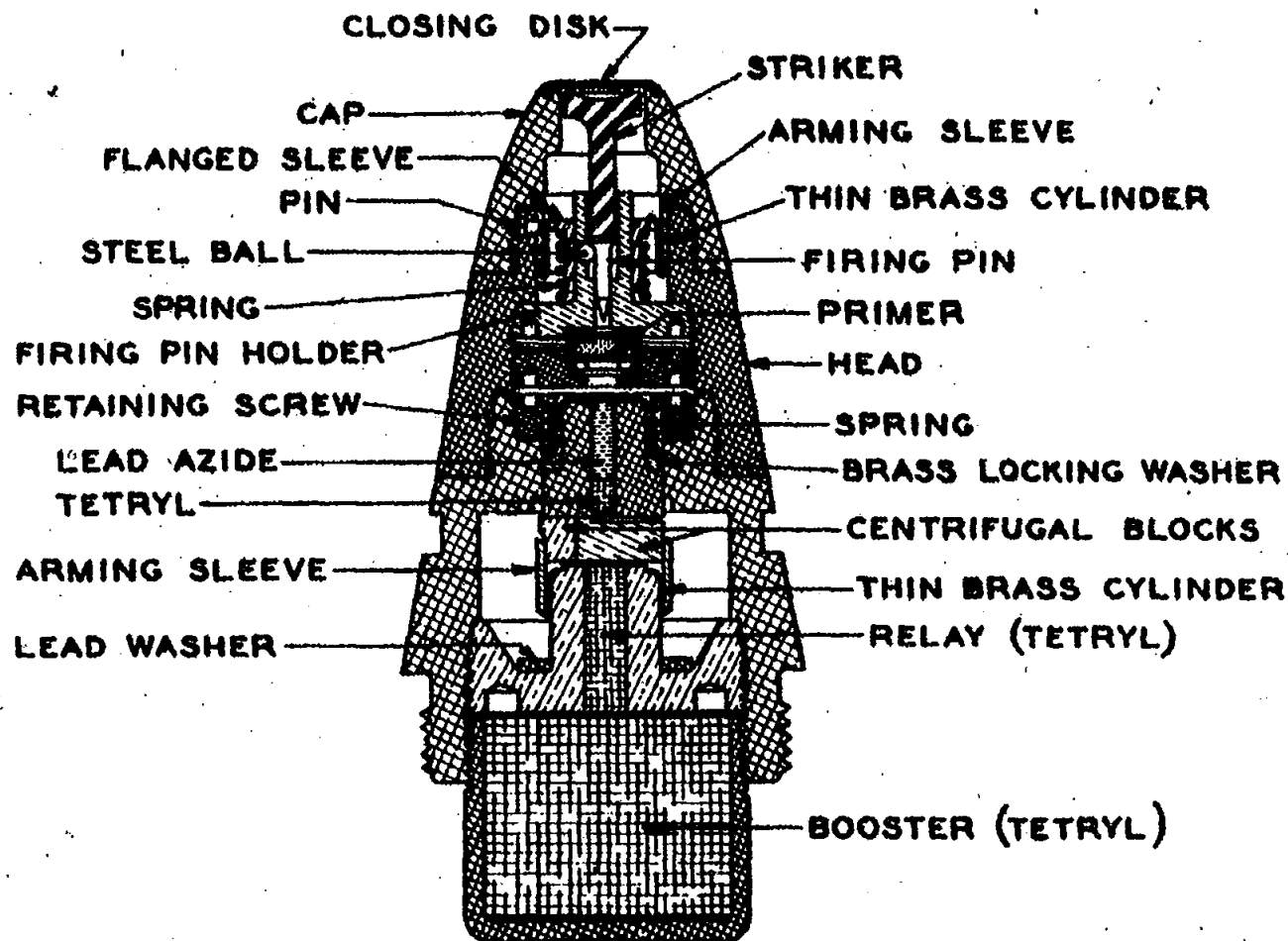
rear of the body is shaped and threaded to take the Tracer Igniter No. 12, Mk. I/L/. The nose end of the filler cavity is threaded to take Point-detonating Fuzes No. 251, Mk. 27 or M64A1. A knurled or ribbed recess 0.642 inch wide is machined into the body 1.745 inches above the base to receive a copper rotating band. A cannellure is cut into the shell about 0.5 inch behind the rotating band to receive the cartridge case crimps. The ogive of the projectile is tapered rather than curved. The taper is 7 degrees 15 minutes. The base is also cylindrically tapered to an angle of 7 degrees 45 minutes.

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RA PD 22934

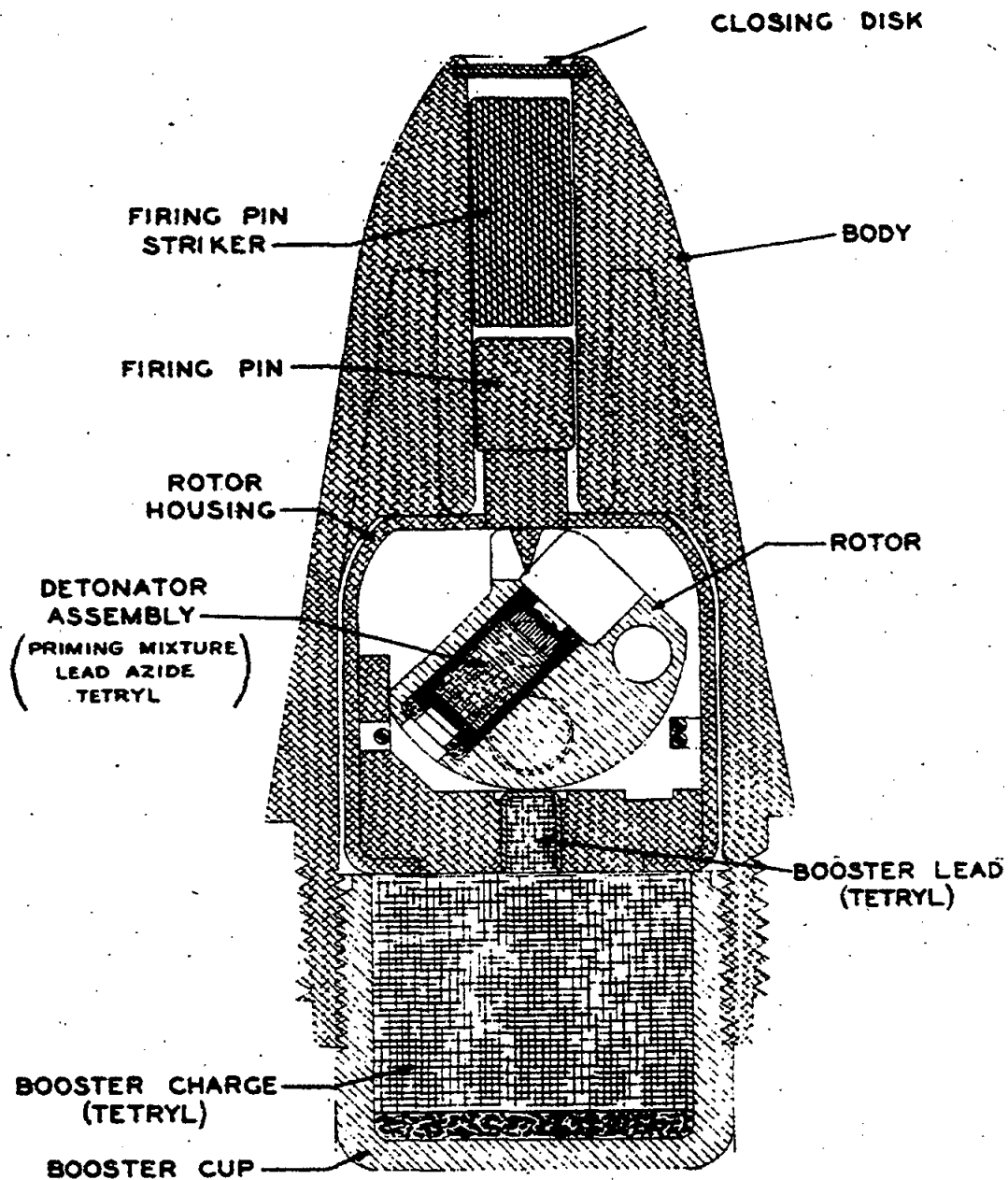
Figure 148 — Cartridge, AP-T, 40-mm, M81



RA PD 22931

Figure 145 — FUZE, Percussion, D.A., No. 251, Mk. I/L/

ARTILLERY AMMUNITION



RA PD 22933

Figure 147 — FUZE, P.D., M64A1
375

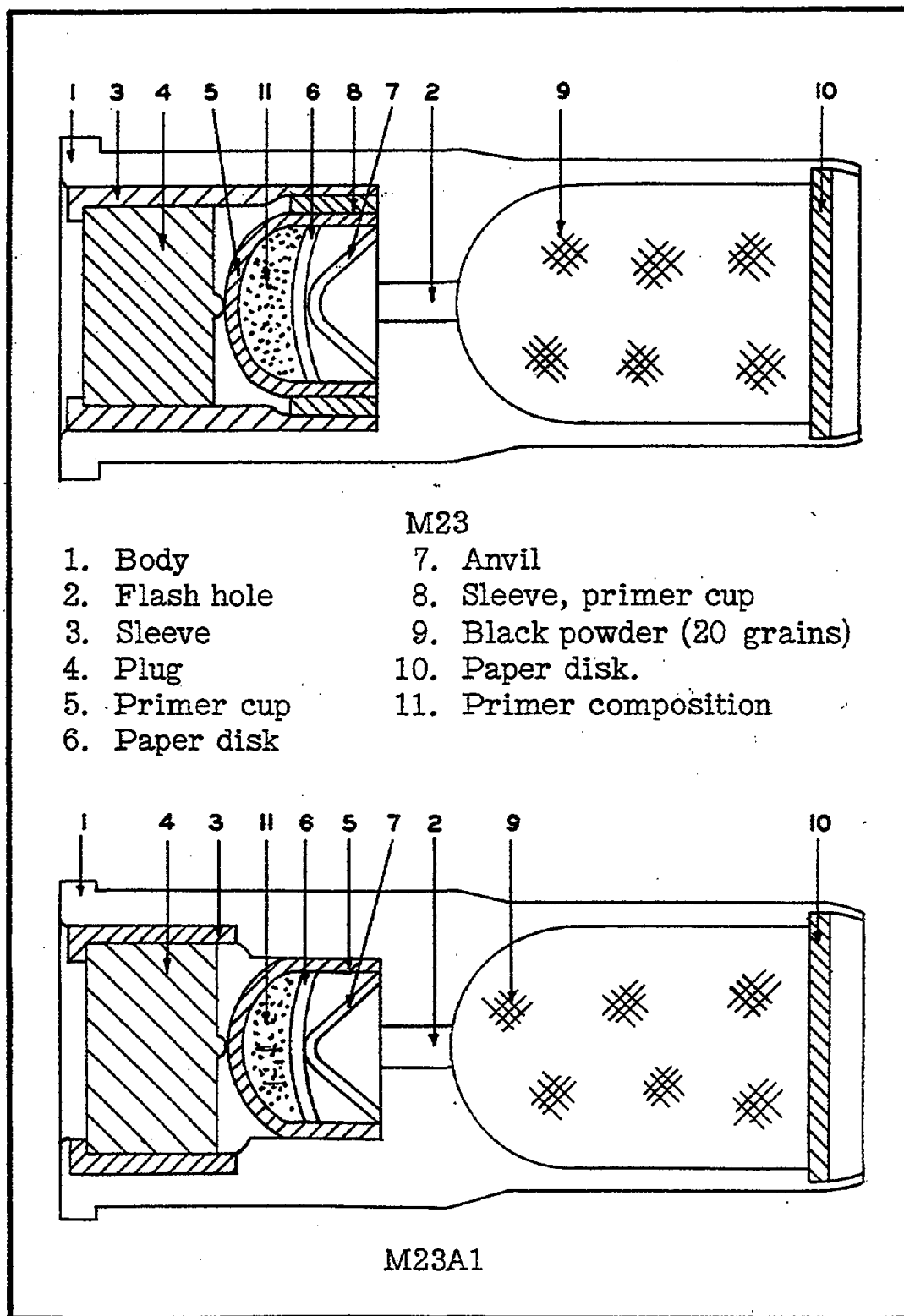


FIGURE 15. - PRIMER, PERCUSSION, 20-GRAIN, M23 AND M23A1.

anvil, causing this composition to explode. The flame from the explosion passes through a hole and ignites the black powder auxiliary charge which, in turn, ignites the propellant.

✓ d. Modification. - The primer, percussion, M23A2 has supplanted the M23A1 as standard. The only difference is that the former has a firing plug with a boss, increasing the over-all height of the plug to approximately 0.229 inches.

53. PRIMER, PERCUSSION, 21-GRAIN, MK. IIA1. - a. Use. - This primer is used in many field guns using separate-loading ammunition. The small charge of black powder contained in this primer is sufficient to ignite the igniting pad attached to the propelling charge. This pad in turn ignites the propellant. The Mk. IIA1 primer is principally used in ammunition for the 155-mm gun, 155-mm howitzer, 8" howitzer, 240-mm howitzer and 4.5" gun. (See fig. 16.)

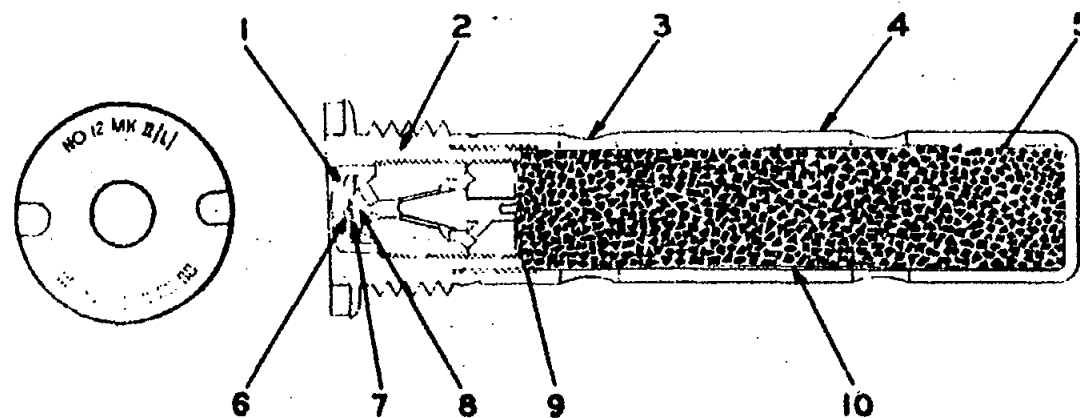
b. Action. - The firing pin of the gun strikes the primer cup directly, there being no firing plug as in the M23A1 20-grain primer. Upon this action, the pin indents the cup and crushes the percussion composition against the anvil, causing this composition to explode. The flame from the explosion of the percussion composition passes through a flash hole and ignites the powder charge, which, in turn, sets off the igniter of the propelling charge.

c. Precautions. - The percussion composition is sensitive, and care must be taken that the cup is not hit by any hard object. A blow simulating that of a firing pin attached to a 10-pound weight and dropped through a height of three inches may cause it to function.

d. Shipment. - These primers are shipped packed in waterproof tin packing cans, 50 primers to each can, 48 of these cans (2,400 primers) to a box. See SNL R-3. They are affected by moisture, and care should be taken that they are kept dry after the can has been opened. See paragraph 5, OFSB 3-3.

54. PRIMER, PERCUSSION, 75-GRAIN, M22A1. - a. Description. - (1) This primer is assembled in fixed 75-mm H.E. shell using reduced and normal propelling charges. The case was originally made of sufficient length (approximately seven inches) to accommodate over 200 grains of black powder, but it was found that better performance could be obtained in some rounds with a primer of the same length but with reduced charge. The reduced charge is held in the end of the primer tube adjacent to the primer head by means of a cardboard cup.

(2) The empty portion of the tube has many small vents and is lined on the inside with a paper liner. This liner serves a dual purpose,

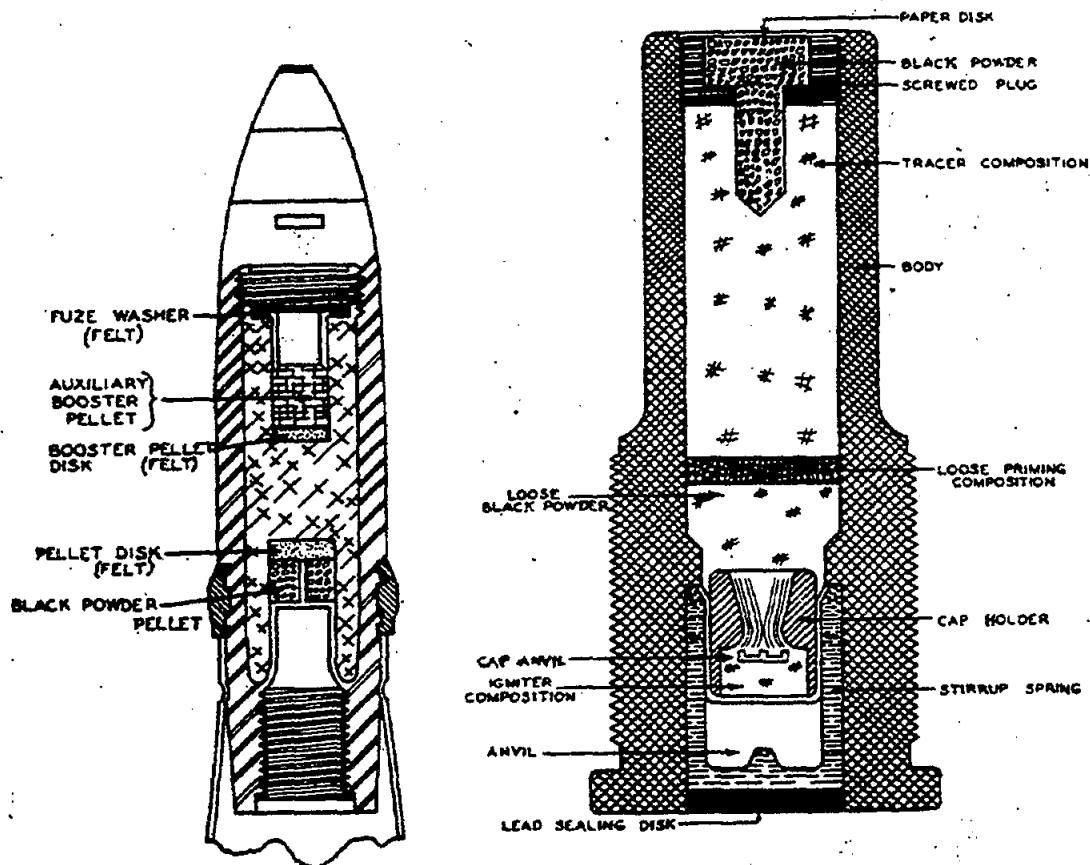


- | | |
|--------------------------------|----------------------------------|
| 1. PERCUSSION CUP | 6. 1.2 GRAINS #70 PRIMER MIXTURE |
| 2. PERCUSSION HEAD | 7. ONION SKIN PAPER |
| 3. FLASH HOLE | 8. ANVIL |
| 4. PRIMER BODY | 9. ONION SKIN PAPER |
| 5. 64 GRAINS ARMY BLACK POWDER | 10. FOILING PAPER WRAPPER |

RA PD 22928

Figure 142 — PRIMER, Percussion, No. 12, Mk. II/L/

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RA PD 22930

Figure 144 — Tracer and Igniter, Shell No. 12, Mk. I/L/

Filler. The filler consists of 0.15 pound of TNT and 0.005 pound of black powder in the form of a pellet with a hole in the center. The filler of the American projectile is drilled out at the top to accommodate the booster of the fuze. This drilling leaves the fuze booster surrounded by TNT. The British filler is drilled deeper at the nose to accommodate an auxiliary booster pellet of tetryl. A cavity is also drilled into the TNT at the bottom leaving a surround. A felt disc fits into the top of this cavity. The black powder pellet is inserted behind this disc and is held in place by the tracer igniter assembly.

Tracer assembly. The proper nomenclature for the tracer assembly is "Tracer and Igniter, Shell, No. 12, Mk. I/L/ Internal," the British designation. The assembly is contained in a steel shell which threads into the base of the projectile so that only a paper disc separates the T-shaped relay igniter charge of loose black powder from the black powder pellet in the bursting charge. This relay igniter is surrounded by tracer composition which extends rearward to a layer of priming composition. Between the priming composition and the cap holder

COAST ARTILLERY AMMUNITION

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Chapter IV. Fuzes, Boosters, and Adapters	51-65
Chapter V. Packing, Storage, and Care of Ammunition	66-83

CHAPTER I

AMMUNITION AND EXPLOSIVES—GENERAL

1. **Introduction.** A round of service ammunition consists of the three component parts necessary to fire one shot. These parts are the projectile, the propelling charge that drives the projectile out of the gun, and the primer that ignites the propelling charge.

2. **Types of Ammunition.** *a. Fixed.* In fixed ammunition (Plate 1), the powder, cartridge case, primer, and projectile are assembled as a unit. The powder charge is therefore loose in the cartridge case, and the amount may not be varied in the field for different range zones. An igniting charge of black powder is included in the primer, which is inserted in the base of the cartridge case.

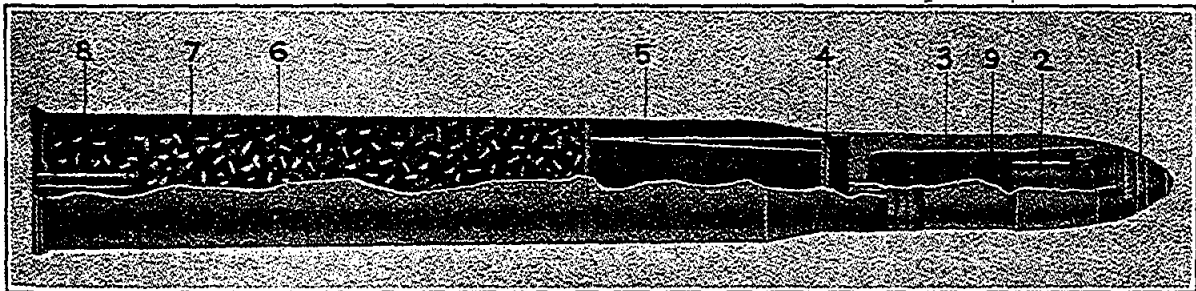


Plate 1. Complete Round of Fixed Ammunition (3-Inch Antiaircraft).

- | | | |
|------------------------------------|----------------------|--------------------------------|
| 1. Antiaircraft time fuze, Mk. III | 4. Diaphragm | 7. Cartridge case |
| 2. Antiaircraft booster, Mk. X | 5. Distance wad | 8. 110-grain percussion primer |
| 3. Common steel shell, Mk. IX | 6. Propelling charge | 9. Bursting charge (TNT) |

b. Semifixed. In semi-fixed ammunition, the projectile is fitted loosely in the cartridge case and may readily be removed in the field. The powder is loaded in a base charge and a number of increments contained in zone bags. The charge for a specified zone is obtained by removing a proper number of these increments. An igniting charge of black powder is contained in the primer.

c. Separate loading. In separate loading ammunition, the projectile, the primer, and the propelling charge are separately loaded in the piece. For ease in handling, all future propelling charges for guns above 8 inches in caliber will consist of a number of equal sections (Plate 3) varying from 2 for the 10-inch gun to 8 for the 16-inch gun. A separate bag igniter of black powder is attached to the rear end of the rear section of the charge.

The prevailing system of mortar and howitzer fire involves the use of a number of overlapping zones, each requiring a different muzzle velocity and powder charge. For these cannon, the charge is assembled in zone increments corresponding to the zones of the weapon. Just prior to firing, the increments not required for the zone being used are removed. An igniter of black powder is contained in a pad on the rear end of the rear section. For guns using a supercharge or a reduced charge, the powder is assembled in a base charge and an increment, (Plate 2). The two together form the supercharge, the reduced charge being obtained by removal of the increment.

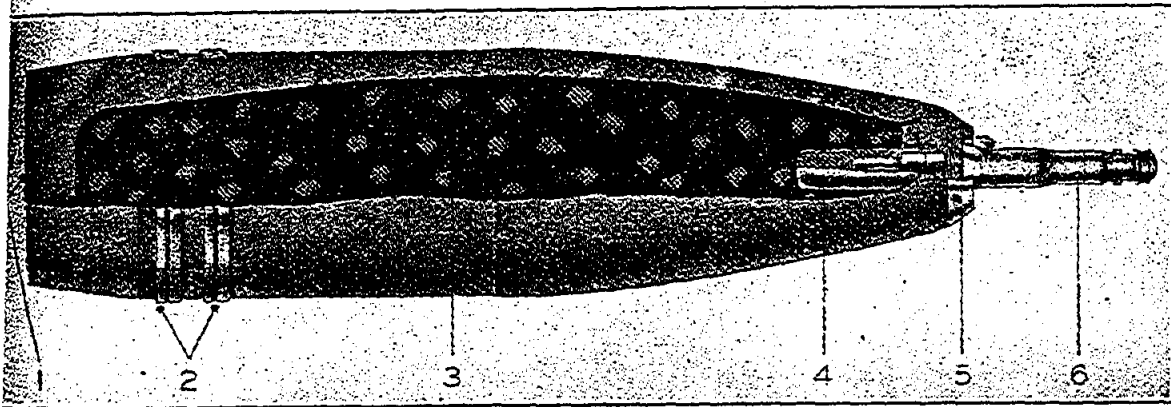


Plate 15. 155-mm High-Explosive Shell, Mark III.

- | | | |
|-------------------|--------------------|------------|
| 1. Base cover | 3. Bursting charge | 5. Adapter |
| 2. Rotating bands | 4. Booster | 6. Fuze |

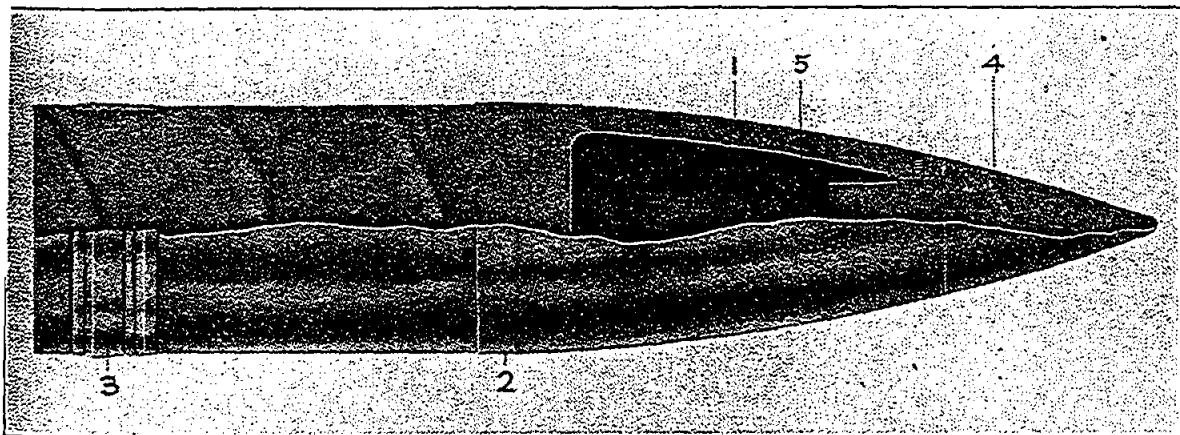


Plate 16. Target Practice Projectile.

- | | | |
|-------------------|------------------|-----------------|
| 1. Cast-iron body | 3. Rotating band | 5. Empty cavity |
| 2. Bourrelet | 4. Nose plug | |

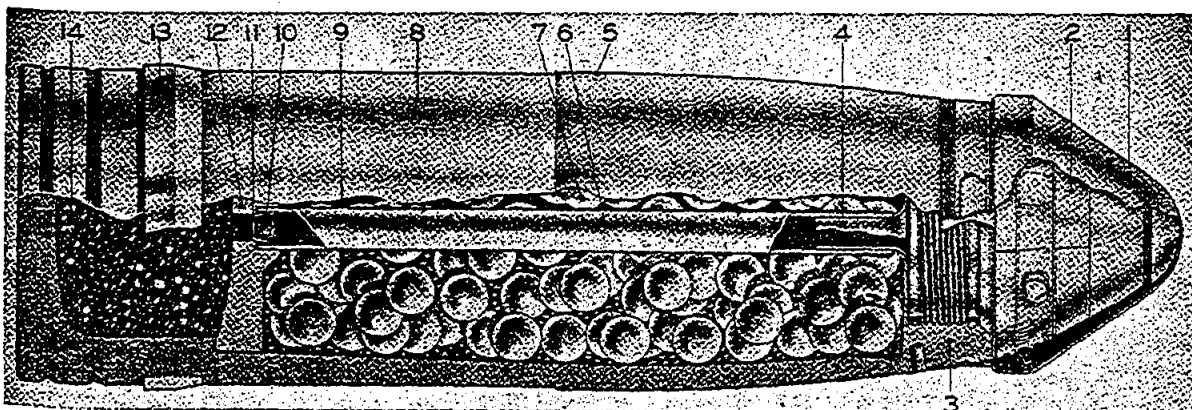
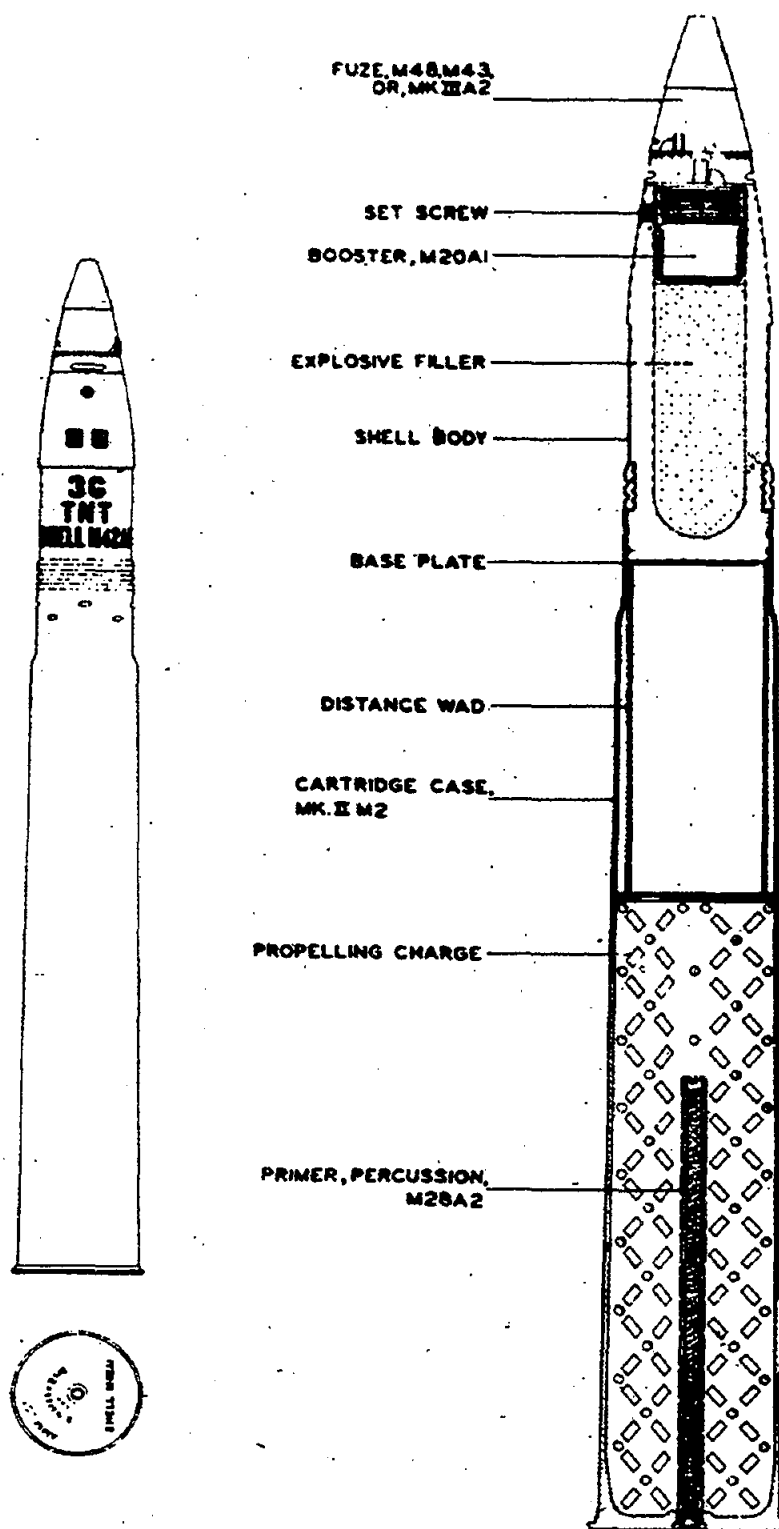


Plate 17. 3-Inch Antiaircraft Shrapnel, Mark I.

- | | | |
|---------------------------|---------------------|--------------------------------|
| 1. Waterproof cover | 6. Central tube | 11. Cloth disc |
| 2. Antiaircraft time fuze | 7. Balls | 12. Diaphragm |
| 3. Head | 8. Shrapnel case | 13. Rotating band |
| 4. Inner tube | 9. Matrix (resin) | 14. Base charge (black powder) |
| 5. Bourrelet | 10. Fiber paper cup | |

ARTILLERY AMMUNITION

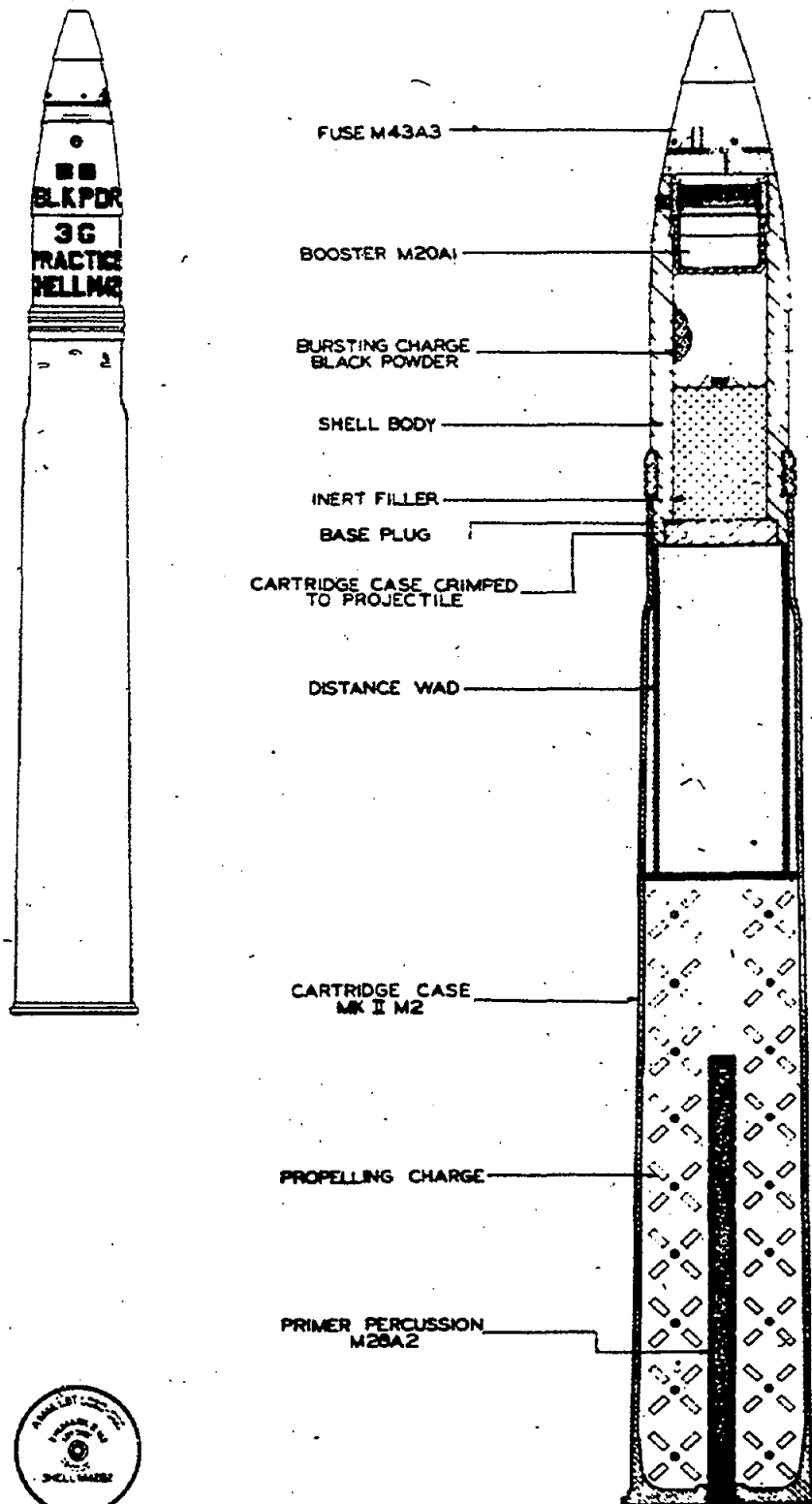


A. A., ANTITANK, AND TANK GUNS.

RA PD 22962

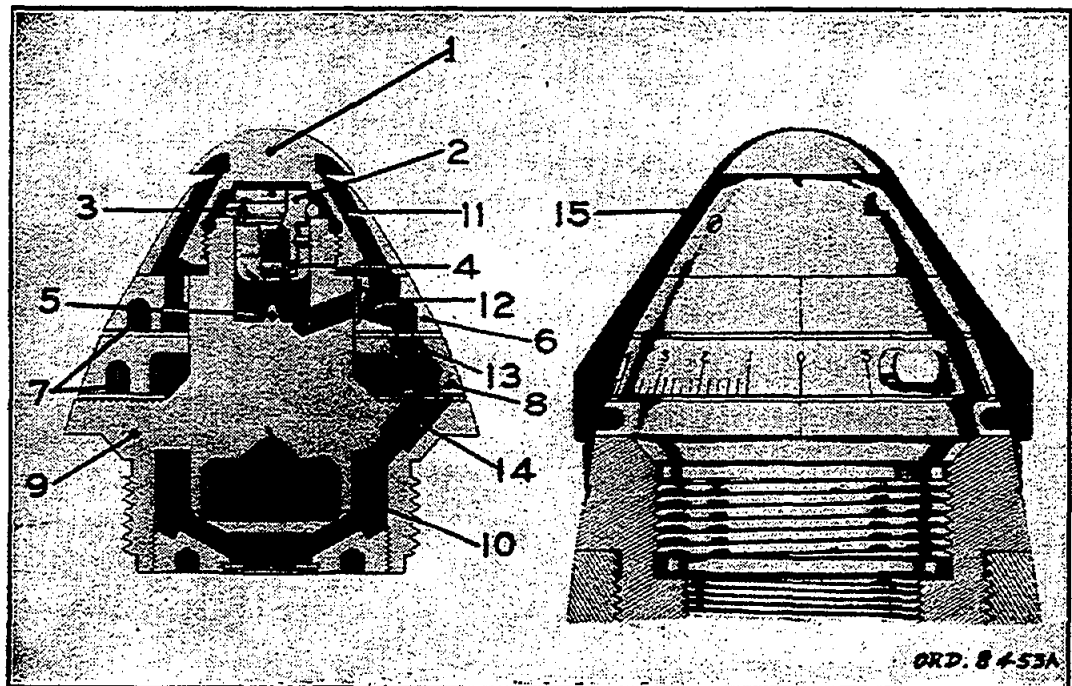
Figure 179 — SHELL, H.E., 3-inch, M42A1

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Figure 182 — SHELL, Practice, 3-inch, M42B2



- | | |
|--|-------------------------------------|
| 1. Closing cap. | 9. Body. |
| 2. Concussion plunger. | 10. Magazine charge (black powder). |
| 3. Resistance ring. | 11. Vents. |
| 4. Concussion primer. | 12. Powder pellet. |
| 5. Concussion firing pin. | 13. Powder pellet. |
| 6. Upper time-train ring. | 14. Powder pellet. |
| 7. Powder train. | 15. Waterproof cover. |
| 8. Lower or graduated time-train ring. | |

FIGURE 36. - FUZE, ANTIAIRCRAFT, 21-SECOND, MK. III.

126. ACTION. - a. Zero setting. - These fuzes can be set and reset for any time from 0 to 21.2 seconds, the maximum setting, each graduation on the lower time-train ring representing approximately 1/5 second of burning time.

(1) When the setting is at zero, as shown in figure 36, the action is as follows:

(a) When the gun is fired, the concussion plunger will slip through the resistance ring due to inertia or set-back action in the projectile. The concussion primer, which is held in the concussion plunger, is thus fired by striking the firing pin.

(b) The flame from this primer passes through a hole in the fuze

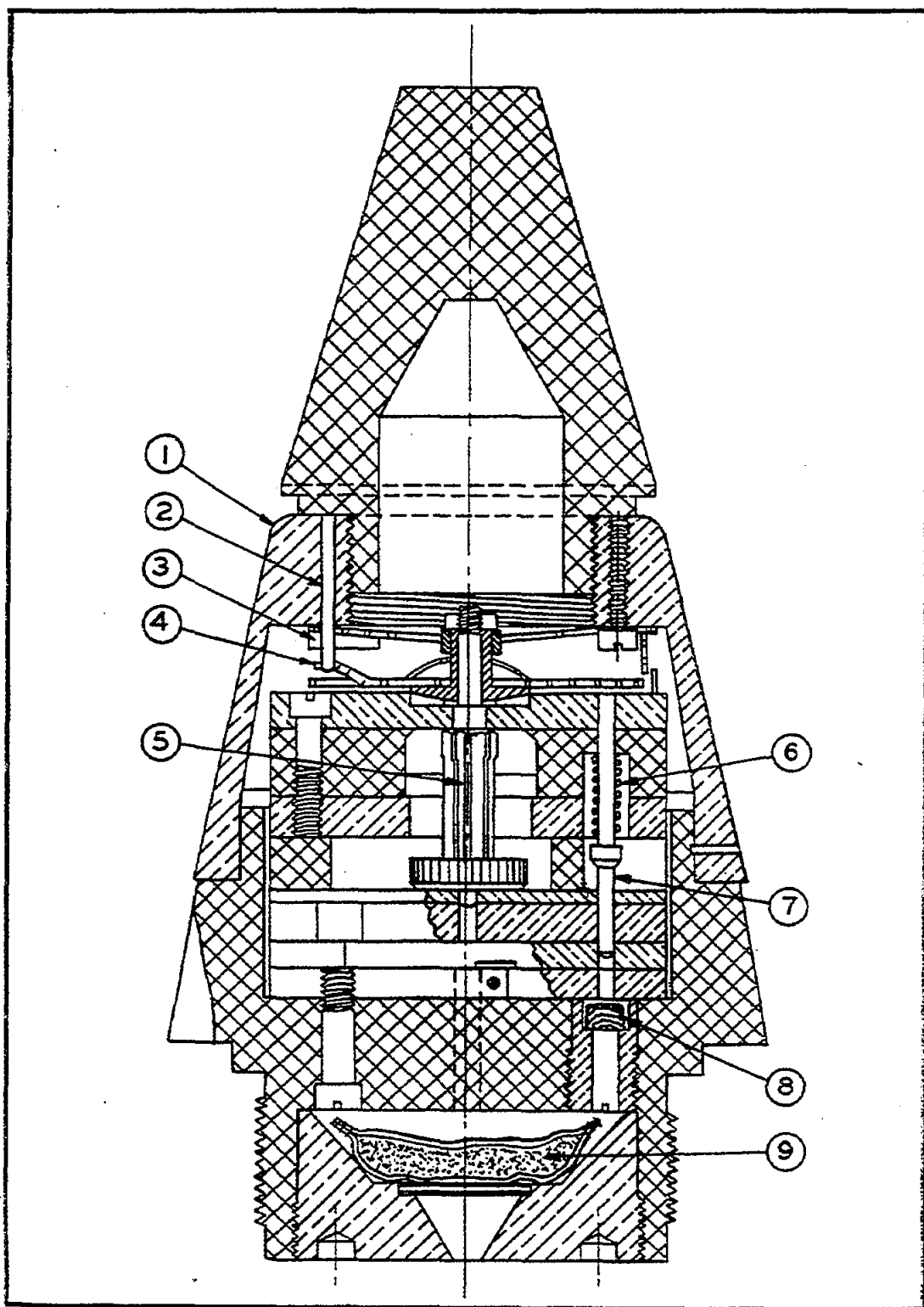


FIGURE 40. - FUZE, MECHANICAL TIME, M43.

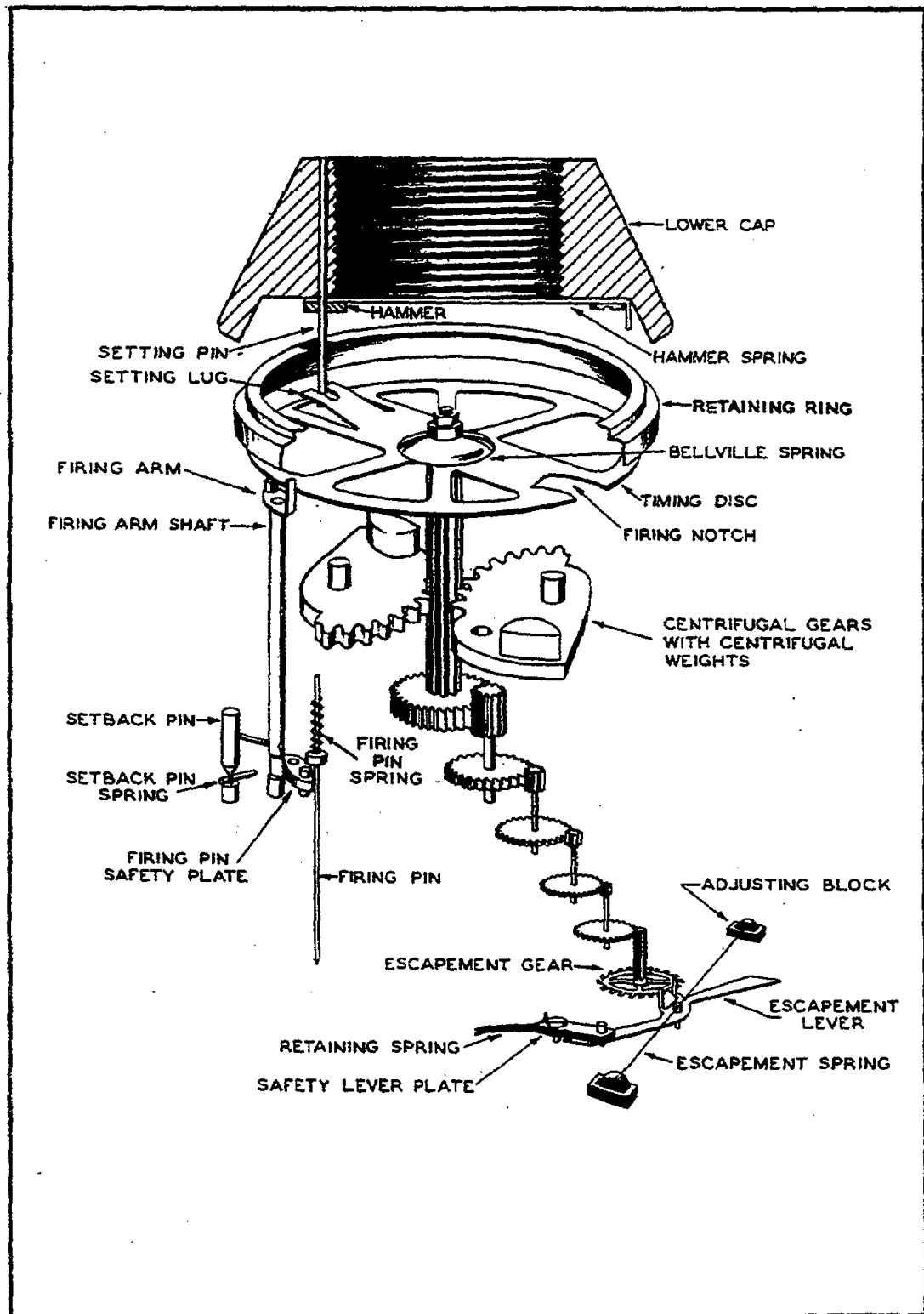


FIGURE 41. - TIMING MECHANISM OF MECHANICAL TIME FUZE.

(b) The M1B1 was then developed, this model differing from the M1 in the design of the brass tube that screws onto the primer head. The M1 had a drawn brass case that is open at one end, the other end slotted to receive a screwdriver. The M1B1 had a brass tubing closed on one end by a plug which is rolled crimped in place after being screwed in.

(c) The M1B1 with the modified head became the M1B1A1, and is now in general use.

c. Action. - The head being identical to that of the 20-grain M23A1, this primer functions as described before. (See par. 52.) The black powder completely fills the case, and ignites the propellant charge through the vents in the body of the primer.

56. PRIMER, PERCUSSION, 150-GRAIN, M31. - a. Use. - Recently adopted supercharges of propellant powder for use with some rounds of high-explosive shell in 75-mm field guns require a primer of higher black powder capacity than the 75-grain M22A1 or the 100-grain M1B1A1. Similarly, this larger black powder auxiliary charge is used in igniting the propellant of 75-mm armor-piercing shot.

b. Description. - This primer is similar to the M22A1, with the exception that the tube is necessarily without vents to such a distance from the head as to accommodate the increased black powder auxiliary charge.

c. Action. - Reference to the functioning of the M23A1, 20-grain, primer, will explain the firing of the M31, the heads being identical. (See par. 52.)

57. PRIMER, PERCUSSION, 300-GRAIN, M28A1. - a. Use. - This is the largest percussion primer in use today. It is standard in 3" sea-coast ammunition and in the various calibers of AA. fixed cartridges. Among the latter are included the 3", 90-mm and 105-mm AA. projectiles.

b. Development. - The M28A1 has superseded the 330-grain percussion primer, M21, which previously had supplanted the 100-grain M1 for use in antiaircraft ammunition. The principal change is in substitution of the new type head with the firing plug in the M28A1.

c. Action. - The M28A1 primer functions identically with the 20-grain M23A1. (See par. 52.) It is similar in construction to the 100-grain M1B1A1, except for the length of the tube, which is designed to contain more powder. ✓

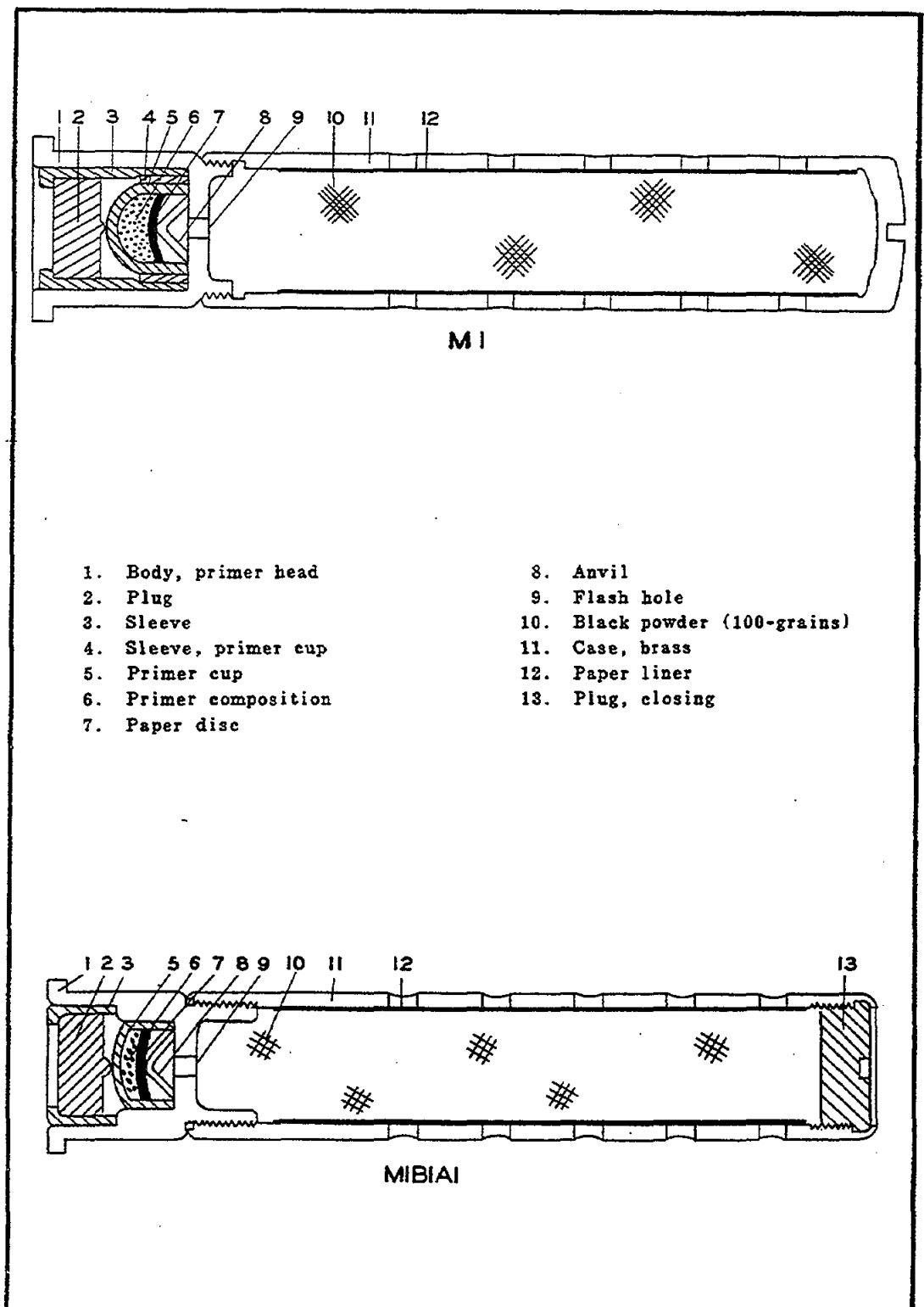


FIGURE 18. - PRIMER, PERCUSSION, 100-GRAIN, M1 AND M1B1A1.

COMPLETE ROUNDS FOR 3-INCH SEACOAST GUNS

Complete Round	Status	Projectile	Filler	Fuzes	Booster	Cartridge Case	Primer
Shell, H.E., M1915	S	M1915	Explosive "D"	Mk.V	.....	Mk.IA1 Mk.IIA1	M28A1
Shell, H.E., M42A1	S&M	M42A1	TNT	M48	M20	Mk.IM2 Mk.IIM2	M28A1
Shell Practice, Mk.VIIA1	S&M	Mk.VIIA1 Cast Iron	Inert	.....	.....	Mk.IM2 Mk.IIM2	M28A1
Cartridge, Drill, M3 and M4	S&M	Cast Bronze	.....	M42A1 Dummy	.....	Cast Bronze	Inert
Ammunition, Blank M12 and M13	S&M	.....	.....	.....	.....	Cut-down Mk.IM2 Mk.IIM2	M1B1A1

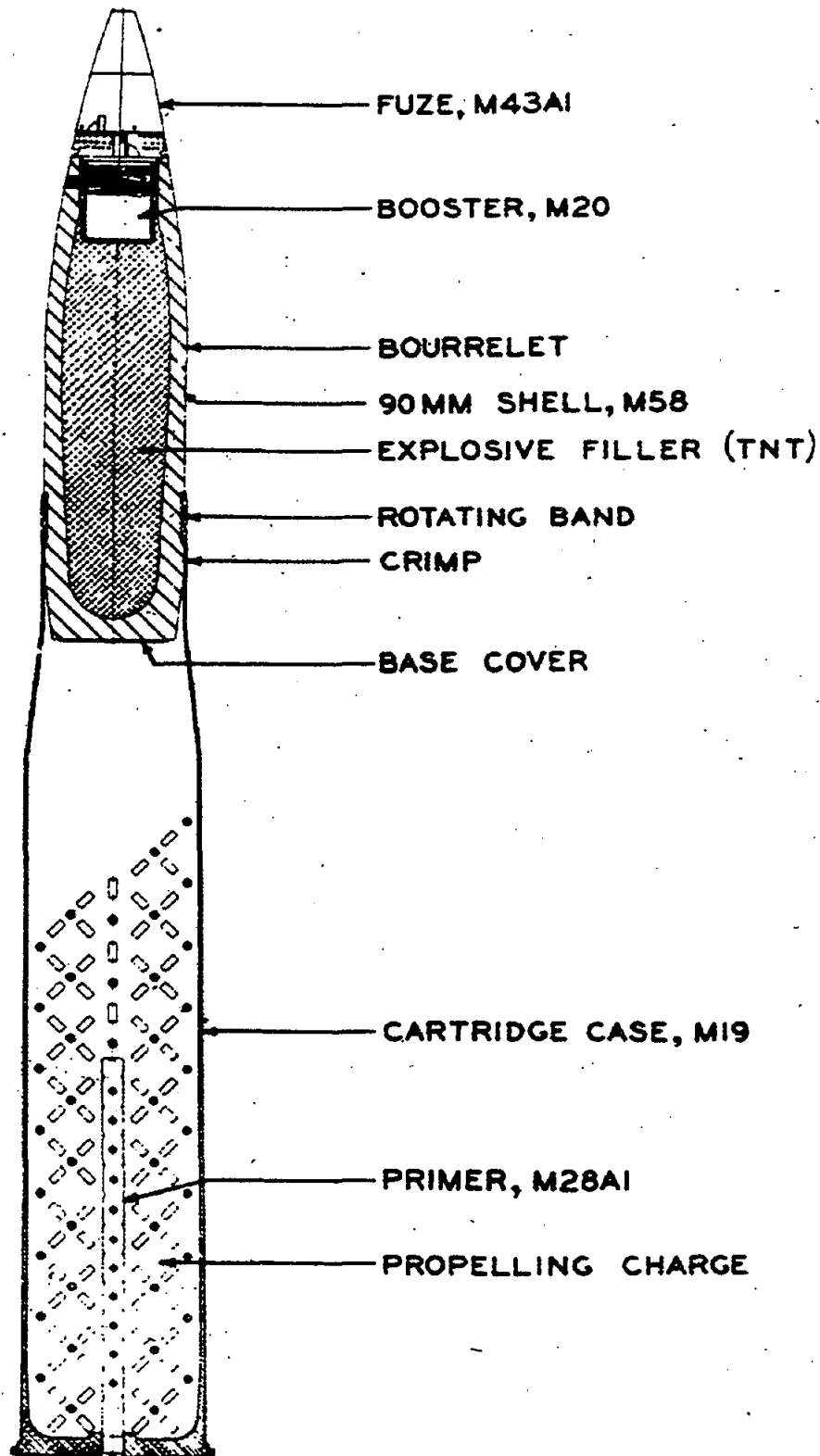
COMPLETE ROUNDS FOR THE 3-INCH AA GUNS (FIXED AND MOBILE)

Complete Round	Status	Projectile	Filler	Fuze	Booster	Cartridge Case	Primer	Gun Mounts
Shrapnel, Mk.I	S	Mk.I	Lead balls, Bl. P. Base charge	Mk.IIIA1	.....	Mk.IA1, Mk.IIA1	M28A1	Fixed mobile
Shell, H.E., Mk.IX	S	Mk.IX	TNT	M43 (all mod.)	M23	Mk.IM1, Mk.IIM1	M28A1	Fixed mobile
Shell, H.E., M42A1	S&M	M42A1	TNT	Mk.IIIA2 M43 (all mod.)	M20	Mk.IM2, Mk.IIM2	M28A1	Fixed mobile
Proj., A.P.C., M62, w/fuze, B.D., M66A1	S&M	M62	Explosive D	M66A1	.....	Mk.IIM2	M28A2	Mobile
461 Proj., A.P.C., M62	S&M	M62	.....	.....	.....	Mk.IIM2	M28A2	Mobile
Shot, A.P., M79	S&M	M79	.....	.....	.....	Mk.IIM2	M28A2	Mobile
Shot, T.P., M85	S&M	M85	.....	.....	.....	Mk.IIM2	M28A2	Mobile
Shell, prac., M42B2	S&M	M42B2	Sand	M43 (all mod.)	M20A1	Mk.IM2	M28A2	Fixed
Shell, prac., M42B2	S	M42B2	Sand	M43 (all mod.)	M20A1	Mk.IIM2	M28A2	Mobile
Cart., drill, M9 and M10	S&M	Cast bronze	.....	M42A1 dummy	.....	Cast bronze	Inert	Fixed mobile
Ammunition, blank, M12 and M13	S&M					Cut-down Mk.IM2 Mk.IIM2	M1B1A1	Fixed mobile

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Figure 185 — SHELL, H.E., 90-mm, M58

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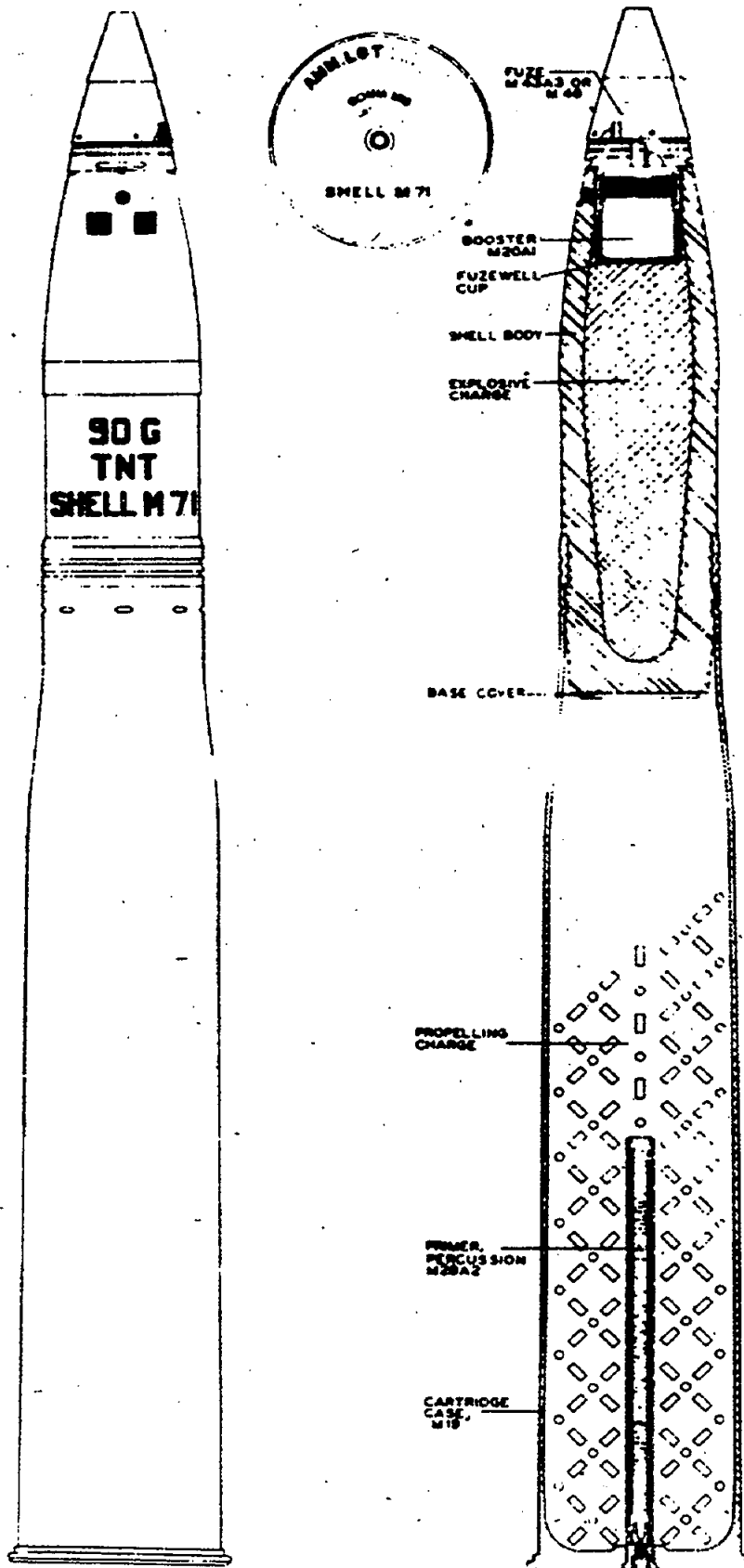


Figure 184 — SHELL, H.E., 90-mm, M71

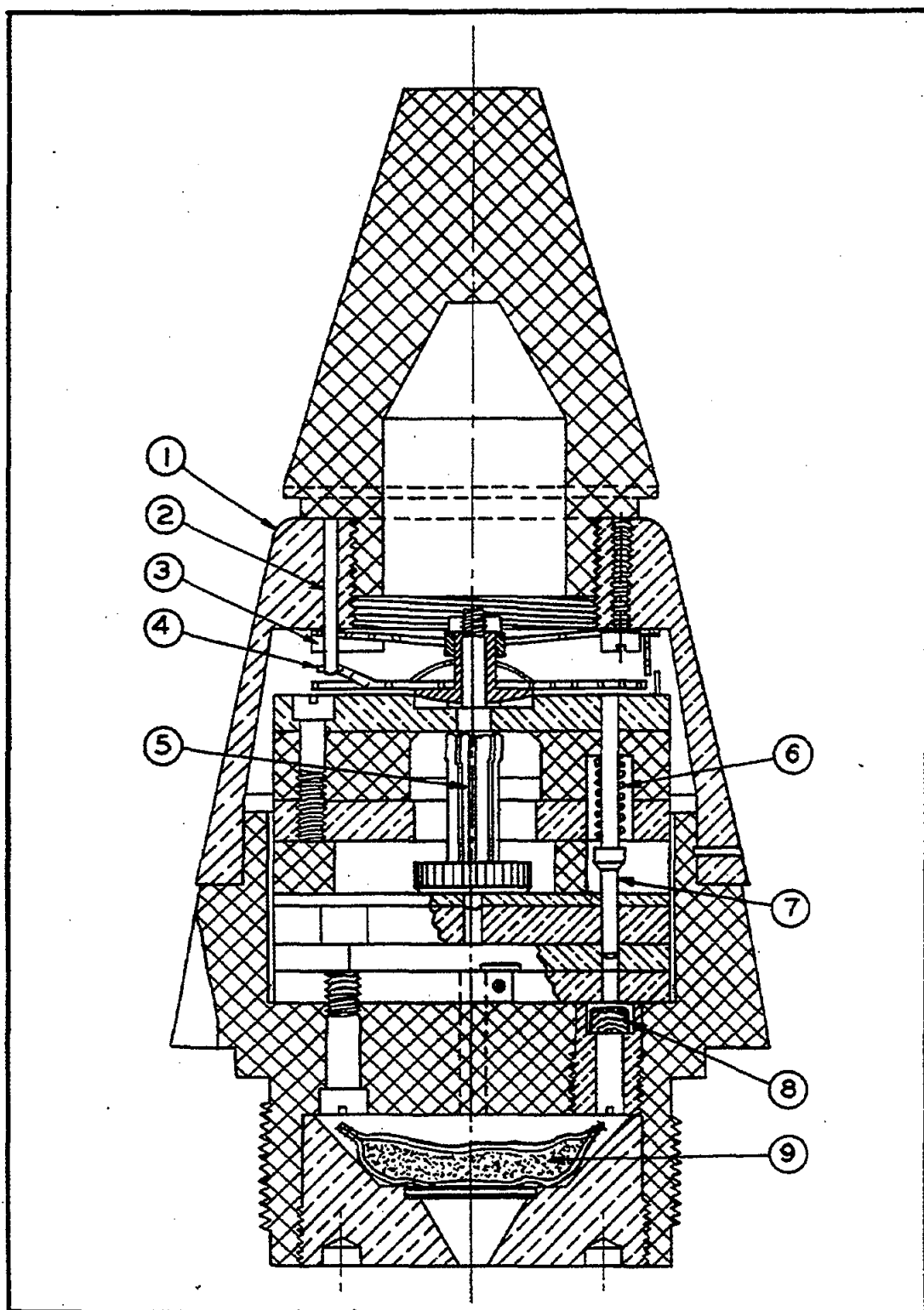


FIGURE 40. - FUZE, MECHANICAL TIME, M43.

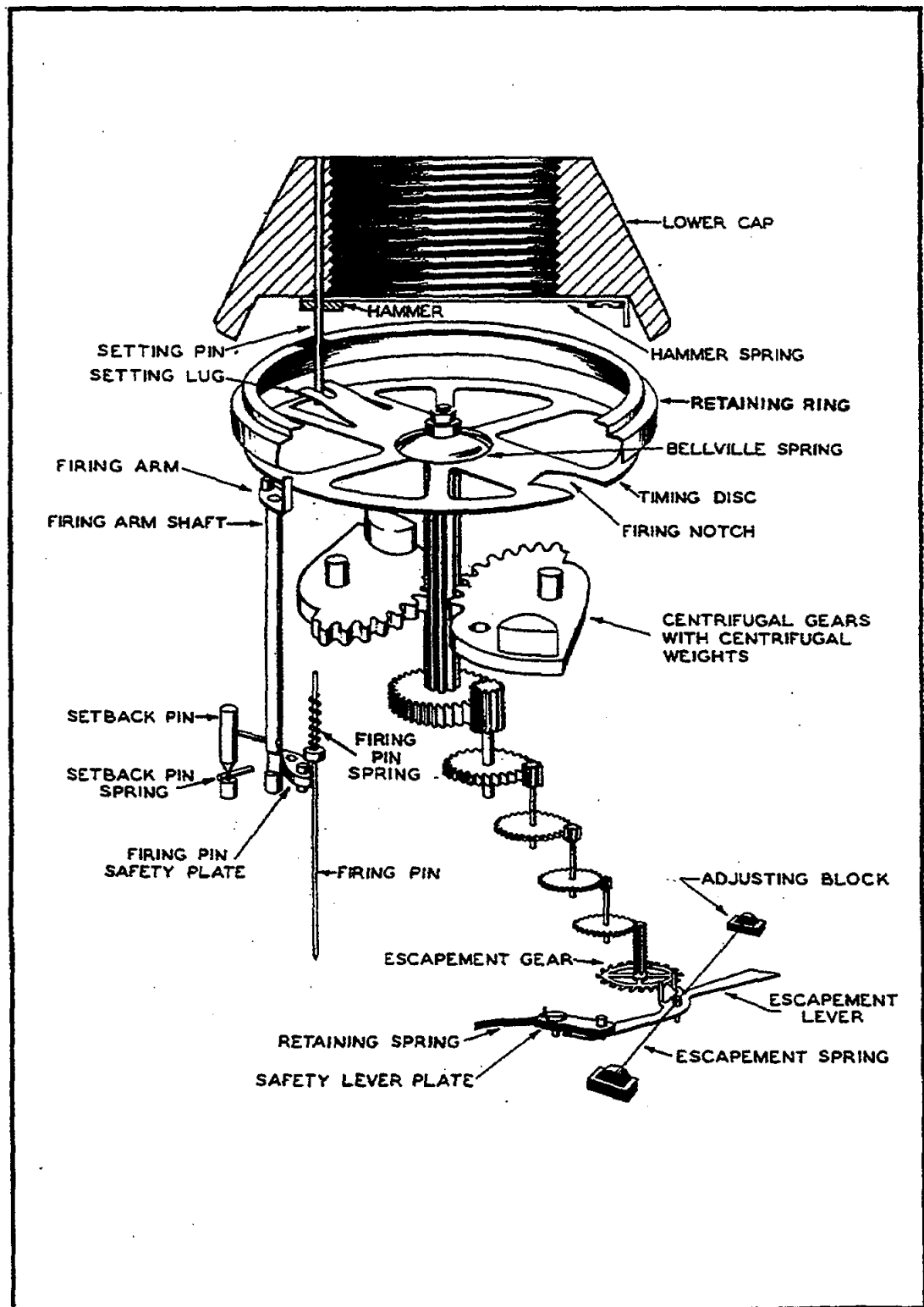


FIGURE 41. - TIMING MECHANISM OF MECHANICAL TIME FUZE.

c. Description. - Externally this fuze is identical with the PDF M46 except for the marking (see fig. 30). The stampings on the body of the fuze naturally differ with types and lots. In addition, the head of the M47 fuze is black as compared with the white head of the M46. The mechanisms of the two fuzes are alike except that, for the M47 fuze, a delay element is inserted in the central channel at the rear of the body.

d. Safety features. - The safety features are identical with those of the PDF M46.

e. Action. - During flight the interrupter is actuated. On impact the percussion mechanism in the head operates in the same manner as the M46 fuze. Flame and fragments from the explosion of the upper detonator pass down the central channel and set off the delay primer. The primer in turn sets off a delay pellet, which is constructed to burn for the desired length of time (.05-sec.). The flame of the delay pellet ignites the relay pellet, which in turn sets off the lower detonator.

117. FUZE, POINT-DETONATING, M48 (figs. 31 and 32). - a. General. - This is a selective superquick-delay point-detonating fuze; that is, it may be set at will to give superquick functioning on impact or to function with .05-second delay after impact. It is of the new type with standard weight of 1.41 pounds, standard streamlined contour, and standard location of the center of gravity. Bore-safety is obtained with this fuze when used in conjunction with the M20 booster.

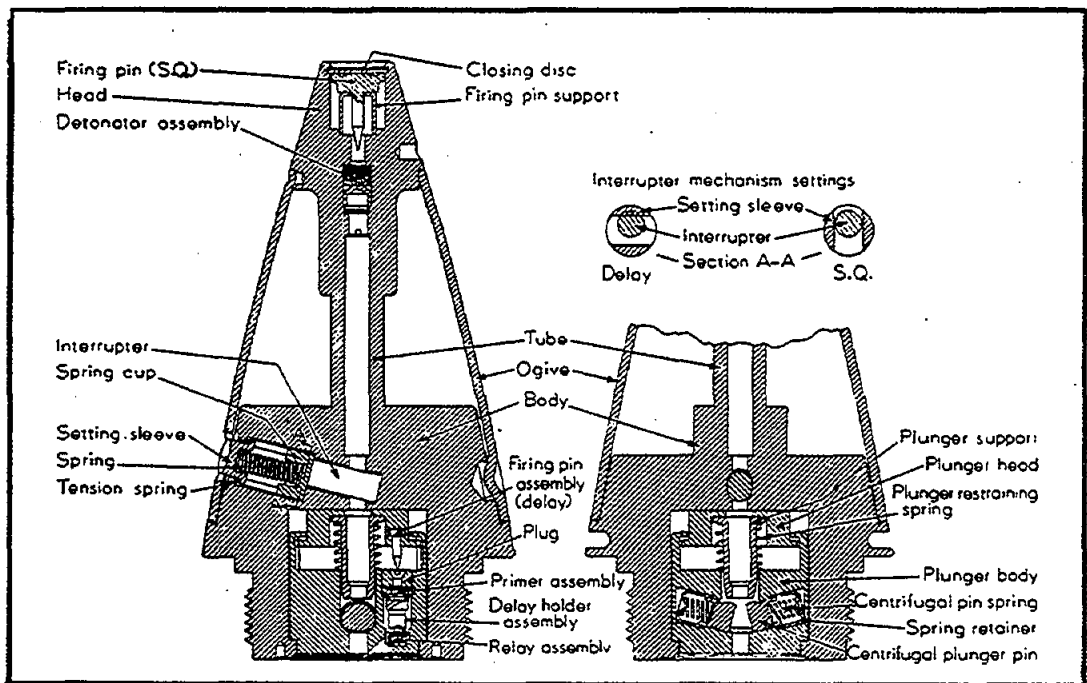
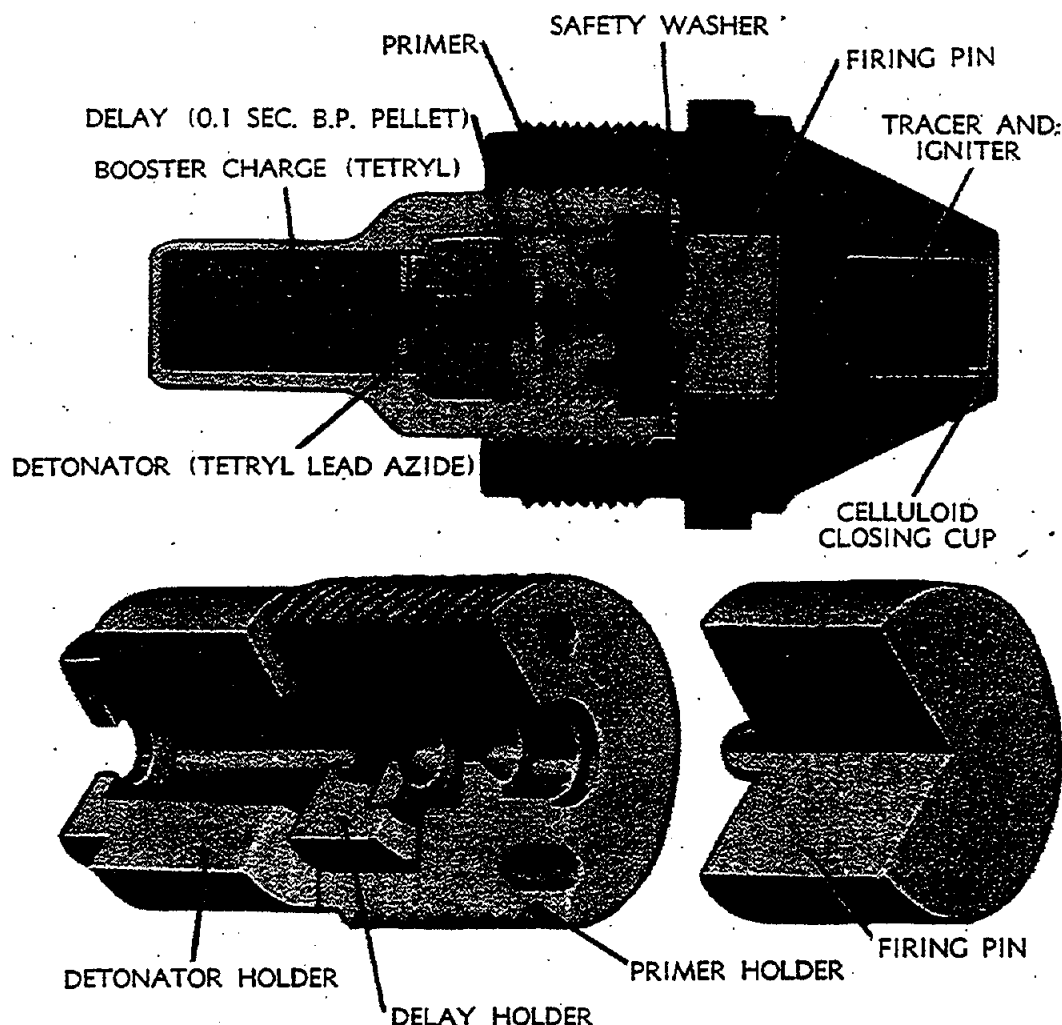


FIGURE 31. - FUZE, POINT-DETONATING, M48, (NOMENCLATURE).

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RA PD 22941

Figure 156 — FUZE, B.D., M66A1

the graduated time-train ring so that the desired reading in seconds or fraction of seconds coincide with the fixed setting line on the body. A shoulder is milled in the graduated time train ring between the ends of the scale, and another shoulder is milled in the body for turning the graduated ring in the fuze setter.

Superquick action. The nonsetting interrupter used with this fuze moves to its outward or armed position as soon as linear acceleration is overcome by centrifugal force. Provided the fuze is set on safe or with a time of burning in excess of time of flight, the fuze will function on impact in exactly the same manner as P.D. Fuze M57.

Time action. When the gun is fired, set-back force causes the concussion plunger to shear its shear pins and bend the primer striker

(b) The M1B1 was then developed, this model differing from the M1 in the design of the brass tube that screws onto the primer head. The M1 had a drawn brass case that is open at one end, the other end slotted to receive a screwdriver. The M1B1 had a brass tubing closed on one end by a plug which is rolled crimped in place after being screwed in.

(c) The M1B1 with the modified head became the M1B1A1, and is now in general use.

c. Action. - The head being identical to that of the 20-grain M23A1, this primer functions as described before. (See par. 52.) The black powder completely fills the case, and ignites the propellant charge through the vents in the body of the primer.

56. PRIMER, PERCUSSION, 150-GRAIN, M31. - a. Use. - Recently adopted supercharges of propellant powder for use with some rounds of high-explosive shell in 75-mm field guns require a primer of higher black powder capacity than the 75-grain M22A1 or the 100-grain M1B1A1. Similarly, this larger black powder auxiliary charge is used in igniting the propellant of 75-mm armor-piercing shot.

b. Description. - This primer is similar to the M22A1, with the exception that the tube is necessarily without vents to such a distance from the head as to accommodate the increased black powder auxiliary charge.

c. Action. - Reference to the functioning of the M23A1, 20-grain, primer, will explain the firing of the M31, the heads being identical. (See par. 52.)

57. PRIMER, PERCUSSION, 300-GRAIN, M28A1. - a. Use. - This is the largest percussion primer in use today. It is standard in 3" sea-coast ammunition and in the various calibers of AA. fixed cartridges. Among the latter are included the 3", 90-mm and 105-mm AA. projectiles.

b. Development. - The M28A1 has superseded the 330-grain percussion primer, M21, which previously had supplanted the 100-grain M1 for use in anti-aircraft ammunition. The principal change is in substitution of the new type head with the firing plug in the M28A1.

c. Action. - The M28A1 primer functions identically with the 20-grain M23A1. (See par. 52.) It is similar in construction to the 100-grain M1B1A1, except for the length of the tube, which is designed to contain more powder. ✓

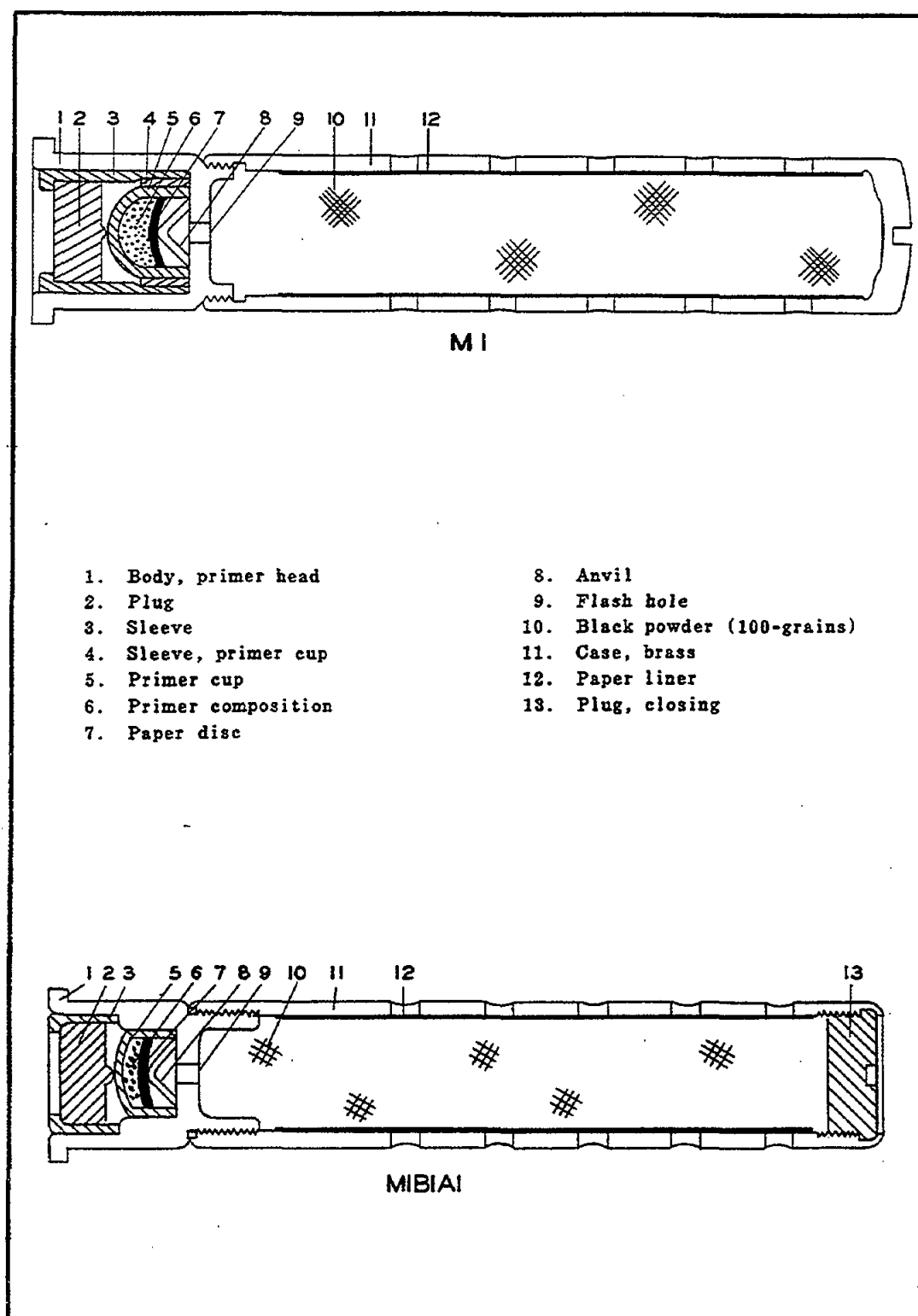


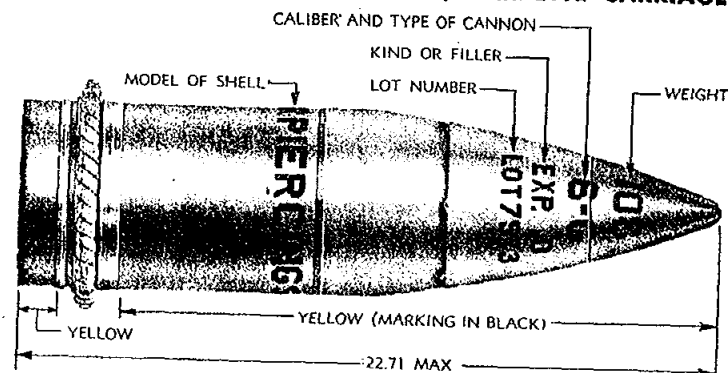
FIGURE 18. - PRIMER, PERCUSSION, 100-GRAIN, M1 AND M1B1A1.

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COMPLETE ROUNDS FOR 90-MM GUNS

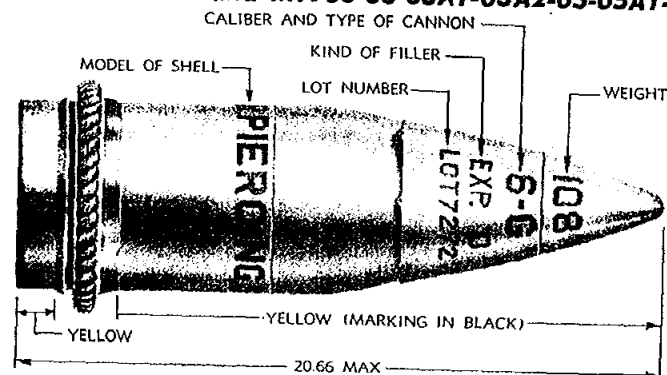
Complete Round	Status	Projectile	Filler	Fuze	Booster	Cartridge Case	Primer
Shell, Prac., M58	S	M58	Sand	Inert M43A2	Inert M20	M19	M28A1
Shell, H.E., M71	S&M	M71	TNT	M43A2 M48 M48A1	M20A1	M19	M28A1
Shell, H.E., M58	S	M71	Ammonal	M43	M20A1	M19	M28A1
Shot, A.P., M77	S&M	M77	.....	.....	.....	M19	M28A1
Projectile, A.P.C., M82	S&M	M82	Exp. "D"	M68	.....	M19	M28A1
Cartridge, Drill, M12	S&M	Cast Bronze	.....	M44A2 Dummy	.....	Cast Bronze	Inert

**6-INCH SEACOAST MATERIEL:
GUNS M1903A2 AND M1905A2; BARBETTE CARRIAGE M1**



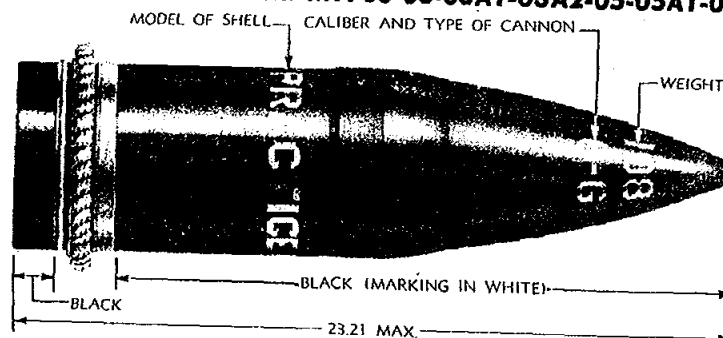
RA PD 5308

Figure 77—SHELL, A.P., 108-lb, M1911, 6-inch Guns, M1897MI-08-08MI-08MII and M1900-03-03A1-03A2-05-05A1-05A2



RA PD 5309

Figure 78—SHOT, A.P., 108-lb, M1911, 6-inch Guns, M1897MI-08-08MI-08MII and M1900-03-03A1-03A2-05-05A1-05A2

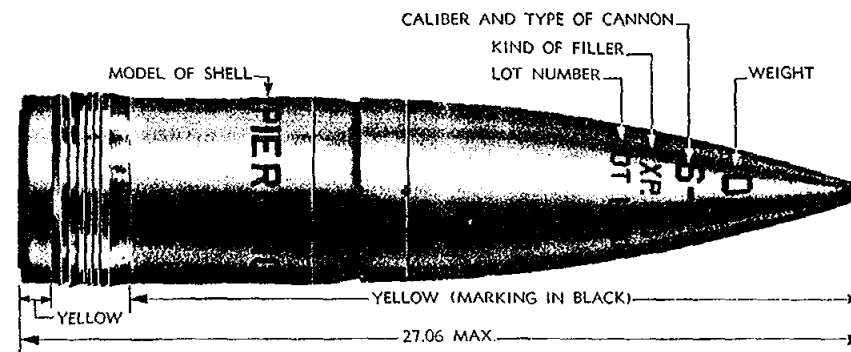


RA PD 5310

Figure 79—SHELL, C.I., 108-lb, M1911, 6-inch Guns, M1897MI-08-08MI-08MII and M1900-03-03A1-03A2-05-05A1-05A2

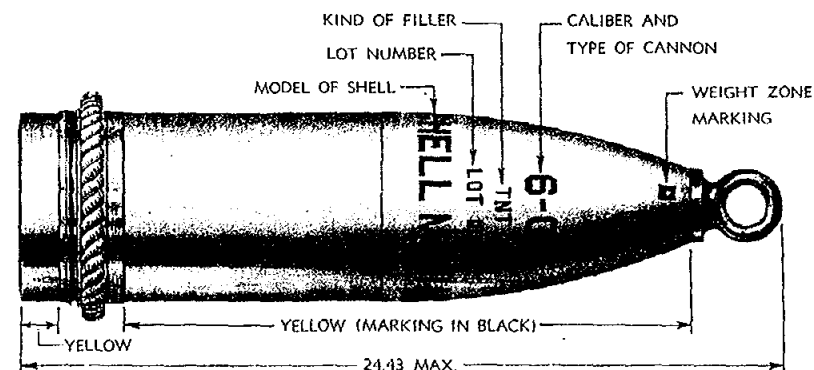
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AMMUNITION



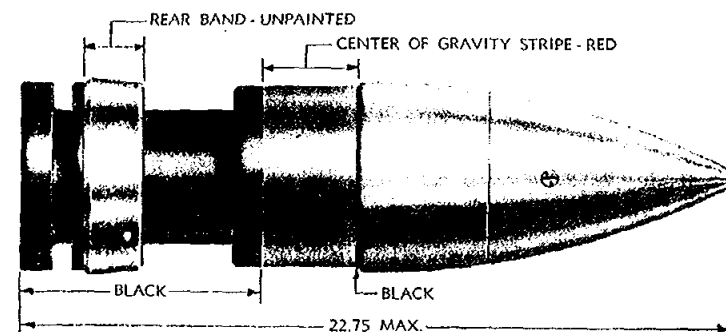
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Figure 80—SHOT, A.P., 105-lb, MK. XXXIII, w/FUZE, B.D., M60, 6-inch Guns, M1900-03-03A1-03A2-05-05A1-05A2



RA PD 5307

Figure 81—SHELL, H.E., 90-lb, MK. IIA1, Unfuzed, 6-inch Guns, M1897MI-08-08MI-08MII and M1900-03-03A1-03A2-05-05A1-05A2 (Adapted for Fuze, P.D. M51, w/Booster, M21, or M51A1, w/Booster, M21A1)

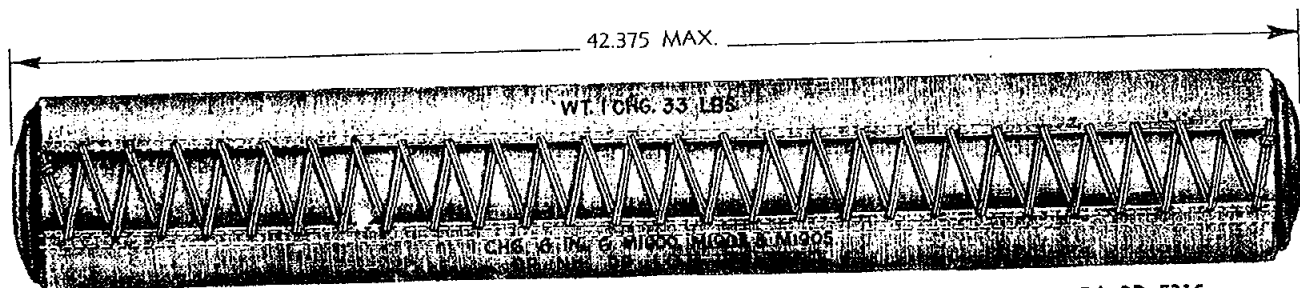


RA PD 5313

Figure 82—PROJECTILE, dummy, 108-lb, MK. IIA1, 6-inch Gun

TM 9-428
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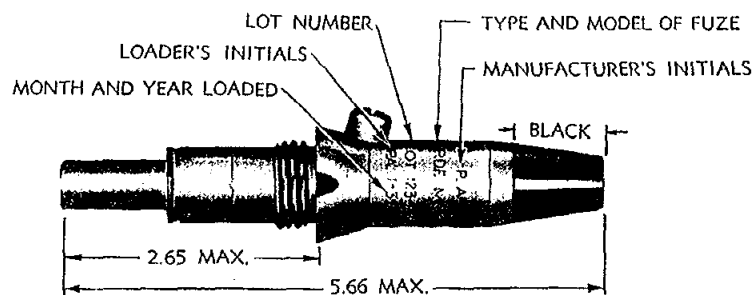
AMMUNITION



RA PD 5316

Figure 83—CHARGE, Propelling, Single Section, NH Powder, 6-inch Guns,
M1900-03-03A1-03A2-05-05A1-05A2, 90-lb and 108-lb Projectile

**6-INCH SEACOAST MATERIEL:
GUNS M1903A2 AND M1905A2; BARBETTE CARRIAGE M1**



RA PD 1278A

Figure 84—FUZE, P.D., M47

sive train is so interrupted that, prior to firing and while the projectile is still in the bore of the gun, premature action of the bursting charge is prevented should any of the more sensitive elements malfunction.

d. **FUZE, B.D., Mk. V.** This base-detonating fuze is used with high-explosive projectiles in which nondelay action is required. It is classified as boresafe. As issued, it is assembled to the projectile and covered by the base cover, hence it is not visible.

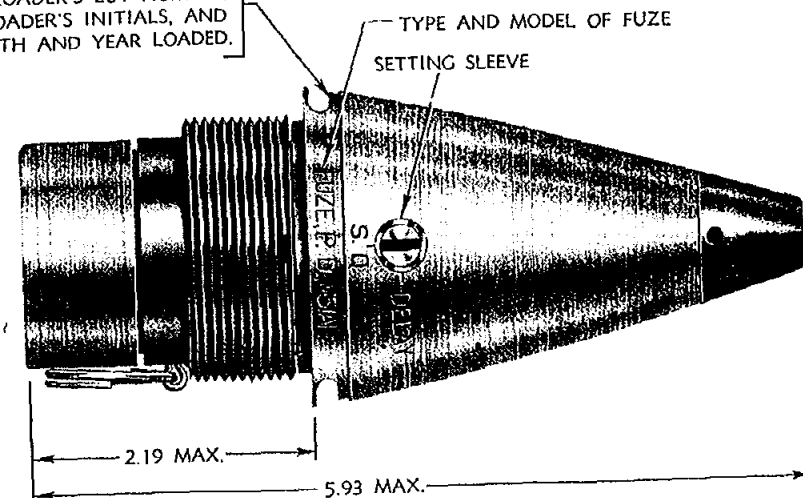
e. **FUZE, B.D., M60.** This fuze is of the base-detonating delay type. Due to arrangement of the explosive elements, it is classified as a boresafe fuze. This fuze is authorized for SHOT, A.P., 105-lb., Mk. XXXIII, w/FUZE, B. D., M60. This projectile is shipped with fuze and base cover assembled, hence the fuze is not visible.

f. **FUZE, P.D., M47.** This point-detonating fuze (fig. 84), is of the delay type. It is used with high explosive projectiles. It is not classified as boresafe but may be fired under the same conditions as boresafe fuzes. It may be identified by the stamping on the body and the black paint on the head.

g. **FUZE, P.D., M51A1, w/BOOSTER, M21A1.** This fuze is shown in figure 85. The booster, instead of being a component of the loaded projectile, is permanently attached to the fuze at the time of manufacture. The fuze contains two actions, superquick and delay, and is classified as boresafe. Both actions are initiated on impact, the functioning of the shell depending upon the setting of the fuze. When the

AMMUNITION

STAMPED ON REVERSE SIDE
LOADER'S LOT NUMBER,
LOADER'S INITIALS, AND
MONTH AND YEAR LOADED.



RA PD 1031A

Figure 85—FUZE, P.D., M51A1, w/Booster, M21A1

that, if the superquick action malfunctions when the fuze is set "S.Q.," the projectile will function with delay action. On the side of the fuze near the base is a slotted "setting sleeve" and two registration lines; the one parallel to the axis is marked "S.Q.," the other "DELAY." As shipped, the fuze is set "S.Q." To set the fuze for delay action it is only necessary to turn the setting sleeve so that its slot is alined with "DELAY." (A delay pellet—0.05 second—incorporated in the delay action train provides for the delay action). The setting may be made or changed with a screwdriver or similar instrument at any time before loading, even in the dark. If superquick action is desired the slot should be parallel to the fuze axis; if delay action is desired the slot should be at right angles to the fuze axis. A cotter pin with pull ring is assembled to the booster to prevent accidental movement of the detonator during shipment. This cotter pin is to be withdrawn just prior to assembling the fuze with booster to the projectile.

h. **FUZE, P.D., M51, w/BOOSTER, M21.** With the exception of

**6-INCH SEACOAST MATERIEL:
GUNS M1903A2 AND M1905A2; BARBETTE CARRIAGE M1**

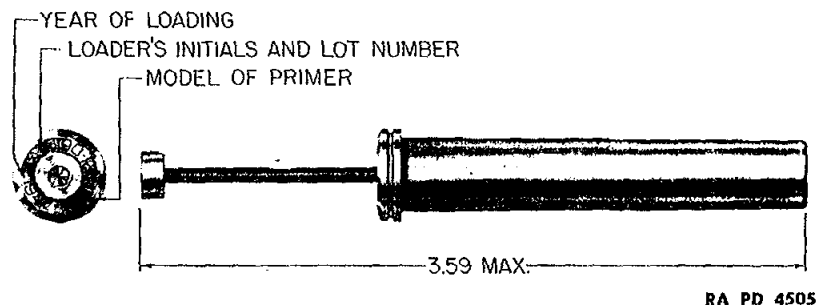


Figure 86—PRIMER, Electric, M30

70. PRIMERS.

a. **General.** The primer is the component used to fire the propelling charge. It consists, essentially, of a small quantity of sensitive explosive and a large quantity of black powder within a brass container. The primer is designed for insertion into the breechblock and, dependent upon the type, is fired by an electric current or by friction. The symbol of the loader and the lot number of the primer are stamped on the head.

b. **PRIMER, Electric, M30.** This primer (fig. 86) is used with all guns in emplacements fitted with electrical equipment. It is fired by the heat generated by an electric current passing through a resistance wire embedded in the sensitive explosive. The black powder charge intensifies and transmits the flame to the igniter, which is sewed to propelling charge. This primer may be distinguished from the friction primer, described below, by the presence of black insulation on the wire and the presence of a groove around the head of the case. A live primer is supplied for dummy rounds; it is to be fired by the service and retained for use with the dummy (drill) ammunition.

c. **PRIMER, Friction, M1914.** This primer (fig. 87) is similar in appearance to the electric primer, described in subparagraph b, above, with the exceptions stated. It is used for all 6-inch guns where electric power is not available either from lack of facilities or from temporary power failure. It is ignited by the heat generated when a serrated plug is pulled through a friction mixture.

71. PACKING.

a. Complete packing data covering dimensions, volume and weight

AMMUNITION

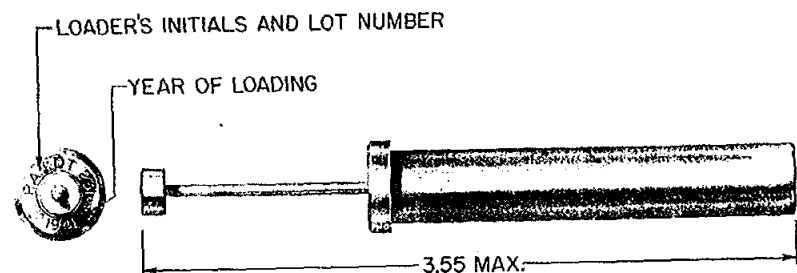


Figure 87—PRIMER, Friction, M1914

type and model, and propelling charges vary likewise, dependent upon the particular powder charge, the following data are considered representative for estimating weight and volume requirements:

	Weight (pounds)	Volume (cubic feet)
6-inch gun projectile as shipped:		
High-explosive, uncrated*	90	0.77
Over-all dimensions (inches):		
24.43 x 7.37 (diam.)		
Armor-piercing Shot, Mk. XXXIII, packed		
1 per box	124	1.52
Over-all dimensions (inches):		
31 1/8 x 9 3/16 x 9 3/16		
Armor-piercing Shell, M1911, packed 1 per		
crate	115	1.77
Over-all dimensions (inches):		
28 7/16 x 10 3/8 x 10 3/8		
Practice, uncrated*	108	0.73
Over-all dimensions (inches):		
23.21 x 7.37 (diam.)		
Propelling charge:		
Packed 1 charge per cartridge storage case,		
2 cases per crate	108	4.87
Over-all dimensions of crate (inches):		
43 3/8 x 17 3/4 x 9 3/4		
Dummy propelling charges are packed and		

Ammunition

TABLE I. AUTHORIZED ROUNDS

PROJECTILE	FUZE FOR WHICH ADAPTED	PROPELLING CHARGE	PRIMER
Service Ammunition			
SHELL, AP, 108-lb, M1911, 6-in. guns	—	CHARGE, propelling, single section, NH powder, 6-in. guns, M1900-03-03A1-03A2-05-05A1-05A2 and M1, 90-lb and 108-lb proj.	PRIMER, electric, M30
SHELL, HE, 90-lb, Mk. 2, unfuzed, 6-in. guns	FUZE, PD, M47		
SHELL, HE, 90-lb, Mk. 2A1, unfuzed, 6-in. guns	FUZE, PD, M51† series, w/BOOSTER, M20 or M21 series*		
SHOT, AP, 105-lb, Mk. 33, w/FUZE, BD, M60, 6-in. guns, M1900-03-03A1-03A2-05-05A1-05A2 and M1	—	CHARGE, propelling, single section, NH powder, 6-in. guns, M1900-03-03A1-03A2-05-05A1-05A2 and M1, 105-lb proj.	
SHOT, AP, 108-lb, M1911, 6-in. guns	—	CHARGE, propelling, single section, NH powder, 6-in. guns, M1900-03-03A1-03A2-05-05A1-05A2 and M1, 90-lb and 108-lb proj.	
Practice Ammunition			
PROJECTILE, target practice, 105-lb (Navy), Mk. 29, 6-in. guns, M1900-03-03A1-03A2-05-05A1-05A2 and M1	—	CHARGE, propelling, single section, NH powder, 6-in. guns, M1900-03-03A1-03A2-05-05A1-05A2 and M1, 105-lb proj.	PRIMER, electric, M30
SHELL, CI, 108-lb, M1911, 6-in. guns	—	CHARGE, propelling, single section, NH powder, 6-in. guns, M1900-03-03A1-03A2-05-05A1-05A2 and M1, 90-lb and 108-lb proj.	
SHELL, empty, for sand loading, 90-lb, Mk. 2, unfuzed, 6-in. guns	FUZE, inert, PD, M47		
Dummy (Drill) Ammunition			
PROJECTILE, dummy, 90-lb, Mk. 1 or Mk. 1A1, 6-in. gun	—	CHARGE, propelling, dummy, single section, 32-lb, M1917, 6-in. guns, M1900-03-03A1-03A2-05-05A1-05A2 and M1	PRIMER, electric, M30**
PROJECTILE, dummy, 108-lb, Mk. 2 or Mk. 2A1, 6-in. gun			
Subcaliber Ammunition			
See paragraph 68.			

*FUZE, PD, M51, w/BOOSTER, M20A1 or M21; M51A1, w/BOOSTER, M20A1 or M21A1; M51A3, w/BOOSTER, M21A2; or M51A4, w/BOOSTER, M21A4.

**A fired service primer is used for drill purposes.

†The following limitations apply to the M51 fuze, and modifications: FUZE, PD, M51 or M51A1, w/BOOSTER, M20A1, are authorized for service and practice purposes. Their use for service firing will be discontinued when sufficient supply of Fuzes M51A3 with Boosters M21A2, or Fuzes M51A4 with Boosters M21A4 become available. FUZE, PD, M51, w/BOOSTER, M21, or FUZE, PD, M51A1, w/BOOSTER, M21A1, for emergency combat use only; must be drop-tested before use.

**6-INCH SEACOAST MATERIEL:
GUNS M1903A2 AND M1905A2; BARBETTE CARRIAGE M1**

TABLE I

AMMUNITION FOR 6-INCH GUNS M1903A2 AND M1905A2

Nomenclature of Projectile	Propelling Charge (Type)	Primer (Model)
SERVICE AMMUNITION		
SHELL, H.E., 90-lb, Mk. II, unfuzed, 6-inch guns, M1897-MI-08-08MI-08-MII and M1900-03-03A-03A2-05-05A1-05A2 (adapted for PDF Mk. IV-Star or M47)	Single section 32-lb*	M30**
SHELL, H.E., 90-lb, Mk. IIA1, unfuzed, 6-inch guns, M1897MI-08-08MI-08MII and M1900-03-03A1-03A2-05-05A1-05A2 (adapted for FUZE, P.D., M51, w/BOOSTER, M21, or M51A1, w/BOOSTER, M21A1)	Single section 32-lb*	M30**
SHELL, A.P., 108-lb, M1911, 6-inch guns, M1897MI-08-08MI-08MII and M1900-03-03A1-03A2-05-05A1-05A2	Single section 32-lb*	M30**
SHOT, A.P., 108-lb, M1911, 6-inch guns, M1897MI-08-08MI-08MII and M1900-03-03A1-03A2-05-05A1-05A2	Single section 32-lb*	M30**
SHOT, A.P., 105-lb, Mk. XXXIII, w/FUZE, B.D., M60, 6-inch guns, M1900-03-03A1-03A2-05-05A1-05A2	Single section 37-lb*	M30**
PRACTICE AMMUNITION		
SHELL, C.I., 108-lb, M1911, 6-inch guns, M1897MI-08-08MI-08MII and M1900-03-03A1-03A2-05-05A1-05A2	Single section 32-lb*	M30**
DRILL AMMUNITION		
PROJECTILE, dummy, 90-lb Mk. I, 6-inch gun	Single section 32-lb‡	M30** Inert
PROJECTILE, dummy, 108-lb Mk. II, 6-inch gun	Single section 32-lb‡	M30** Inert
PROJECTILE, dummy, 108-lb Mk. IIA1, 6-inch gun	Single section 32-lb‡	M30** Inert

SUBCALIBER AMMUNITION

See paragraph 72.

B.D.—Base-detonating
C.I.—Cast iron

H.E.—High explosive
P.D.—Point-detonating

PDF—Point-detonating fuze

* For designation of propelling charges, see paragraph 68. The actual weight of the charge may vary from the nominal weight shown, dependent upon the particular powder lot.

** Service primer is designated PRIMER, electric, M30. If electric power fails, PRIMER, friction, M1914, will be used.

*** A fired service primer is used for drill purposes.

† If not available, SHELL, H.E., 90-lb, Mk. II or Mk. IIA1, may be issued.

‡ Dummy charge, see paragraph 68.

§ Includes projectiles originally designated SHELL, A.P., 108-lb, M1898, SHELL, A.P., 108-lb, M1903, and SHELL, A.P., 108-lb, M1904, which are stored, issued and reviewed as SHELL, A.P., 108-lb, M1911.

§ Includes projectiles originally designated SHOT, A.P., 108-lb, M1898, SHOT, A.P., 108-lb, M1903, and SHOT, A.P., 108-lb, M1904, which are stored, issued and reviewed as SHOT, A.P., 108-lb, M1911.

TABLE II

Type and kind	Model	Nominal weight (pounds)	Fuze		Length (inches)	Rotating band Inches from base	Width in inches	Filler		Shipped
			Model	Action				Weight (pounds)	Type	
SHELL, H.E.	Mk. II	90	*	Delay	24.50	1.25	2.00	13.69	TNT	Unfuzed, uncrated
SHELL, H.E.	Mk. IIA1	90	**	S.Q. or Del.	24.43	1.25	2.00	13.69	TNT	Unfuzed, uncrated
SHELL, A.P.	M1911	108	B.D., Mk. V	Nondelay	22.71	1.25	2.00	4.53	EXP.D	Fuzed, one per crate
SHOT, A.P.	M1911	108	B.D., Mk. V	Nondelay	20.66	1.25	2.00	1.54	EXP.D	Fuzed, one per crate
SHOT, A.P.	Mk. XXXIII	105	B.D., M60	Delay	27.06	1.00	2.50	2.17	EXP.D	Fuzed, one per crate
SHELL, C.I.	M1911	108	.....	.....	23.21	1.25	2.00	.....	.....	Uncrated
PROJ., dummy	Mk. I	90	.....	.....	23.00	Sliding ring	1.19	.....	.....	One per crate
PROJ., dummy	Mk. II	108	.....	.....	22.75	Sliding ring	1.19	.....	.....	One per crate
PROJ., dummy	Mk. IIA1	108	.....	.....	22.75	Sliding ring	1.86	.....	.....	One per crate

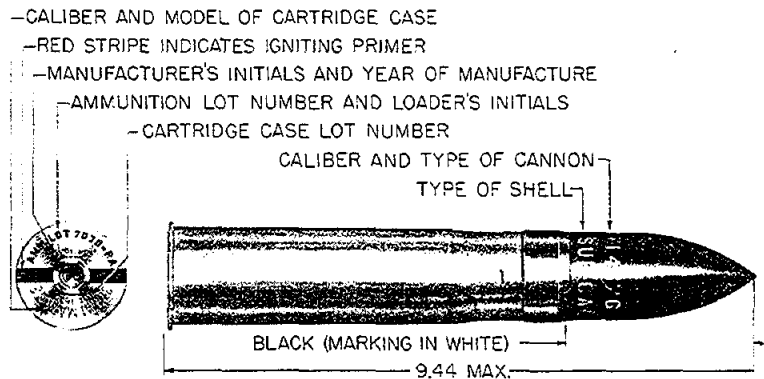
S.Q.—Superquick.

* Either FUZE, P.D., M47 or Mk. IV—Star may be used.

** Either FUZE, P.D., M51, w/BOOSTER, M21, or M51A1, w/BOOSTER, M21A1 may be used.

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**6-INCH SEACOAST MATERIEL:
GUNS M1903A2 AND M1905A2; BARBETTE CARRIAGE M1**



RA PD 5290

Figure 88—SHELL, Fixed, Subcaliber, 1.457 inch

	Weight (pounds)	Volume (cubic feet)
Fuzes:		
FUZE, P.D. M47, packed in metal-lined box, 50 fuzes per box	50.7	0.86
Over-all dimensions (inches): $18\frac{3}{16} \times 9\frac{3}{16} \times 8\frac{29}{32}$		
FUZE, P.D., M51A1, w/BOOSTER, M21A1, packed in individual fiber containers, 25 containers (25 fuzes) per wooden box	77.0	1.46
Over-all dimensions (inches): $17\frac{7}{16} \times 15\frac{7}{8} \times 9\frac{1}{32}$		
Primers:		
Packed 20 per metal container, 25 containers (500 primers) per box	47.8	1.06
Over-all dimensions (inches): $17\frac{9}{16} \times 16 \times 6\frac{17}{32}$		

72. SUBCALIBER AMMUNITION.

a. **General.** SHELL, fixed, subcaliber, 1.457 inch (fig. 88), is authorized for use in the GUN, subcaliber, 1.457 (1-pdr.), when this gun is used for subcaliber practice in 6-inch seacoast guns. This ammunition is issued in the form of fixed complete rounds. "Fixed" ammunition refers to complete rounds in which the propelling charge is fixed, that is, not adjustable, and which are loaded into the gun as a unit. The projectile, which is made of steel, is inert and weighs 1.06

CHAPTER III

PROJECTILES

26. **Projectiles.** *a. Development.* The first projectiles to be employed after the introduction of cannon appear to have been metal arrows, but by about 1300 these had been superseded by spherical stones, which continued to be standard for many years. In about 1520, after the development of methods of casting iron, solid spherical cast-iron projectiles came rapidly into use. These projectiles were called shot, and it was early recognized that shot would be much more valuable if they could be made hollow, so that they might be filled with an explosive or an incendiary material which could be carried to and burst among the enemy. Earthen shell, filled with an incendiary material, were tried in the fourteenth and fifteenth centuries, and wrought-iron shell were used for a time. These, in turn, were succeeded in the fifteenth century by spherical cast-iron shell, which, together with the spherical shot, remained in use until well after the American Civil War.

b. With the adoption of rifled cannon came the elongated projectile. While muzzle loading weapons continued in use, considerable difficulty was encountered in the design of a projectile which could be loaded from the muzzle but which, when fired, would engage the grooves of the rifling. Many and ingenious were the devices used, but the evolution of the breech loading cannon brought with it the modern projectile in which a ring of copper, larger in diameter than the projectile, is added to the projectile to engage in the grooves of the rifling and thereby cause the projectile to rotate. The adoption of the elongated projectile greatly increased the efficiency of the cannon in weight of metal thrown, in accuracy of fire, and in ranges attained. In recent years, much attention has been devoted to the design of the projectile, particularly as concerns its exterior form, and ranges and accuracy of fire have thereby been further increased.

27. **Definition.** A projectile is a missile made to be discharged from a gun. Projectiles now in use in the coast artillery may be classified as *armor piercing projectiles*, *high explosive shell*, *deck piercing shell*, *chemical shell*, *shrapnel*, *target practice projectiles*, *subcaliber projectiles*, and *dummy projectiles*.

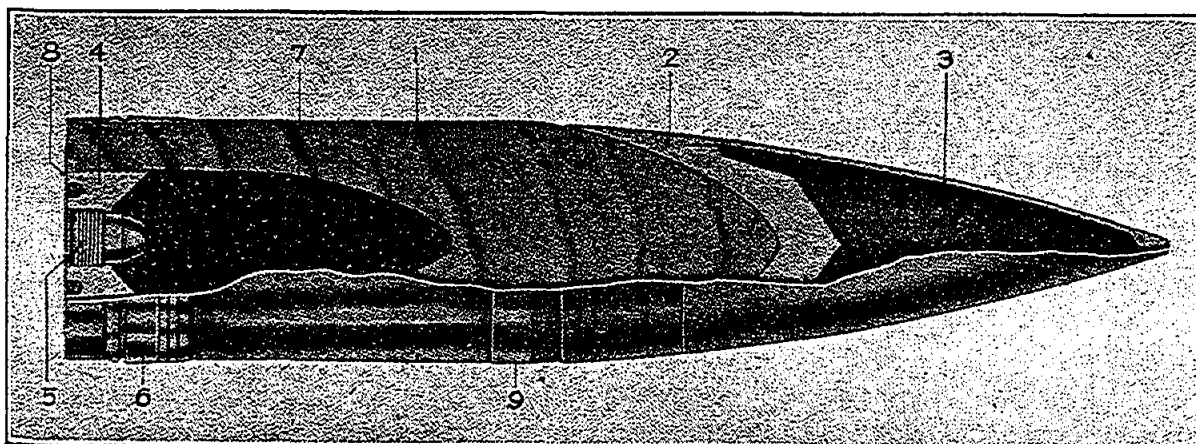


Plate 11. Armor Piercing Projectile.

- | | | |
|-----------------------|------------------|----------------------------------|
| 1. Body | 4. Base plug | 7. Bursting charge (explosive D) |
| 2. Armor piercing cap | 5. Fuze | 8. Base cover |
| 3. Windshield | 6. Rotating band | 9. Bourrelet |

28. **Nomenclature.** All modern projectiles are of the same general shape in that they possess a cylindrical body and an ogival head. The length of projectiles varies from 2 to 5 calibers, capped projectiles being from 4 to 4½ calibers long. The principal parts of all projectiles (Plate 11) are *ogive*, *bourrelet*, *body*, *rotating band*, *base*, and *cavity*. Projectiles are designed to contain a bursting charge with a base fuze and base plug, fuze hole, and fuze plug. When the projectile is fuzed, the fuze plug is removed and bursting charge, booster, fuze, and base cover are added. All armor piercing projectiles are provided with *windshields* and *caps*.

the air, with a consequent increase in range. It is made of sheet steel and is screwed to the cap, which is provided with threads for that purpose.

39. Armor Piercing Projectiles. *a.* The projectiles intended for the piercing of armor (Plate 11) are specially designed heat-treated projectiles made from the finest quality of high-carbon nickel-chrome steel and provided with armor piercing caps and windshields. In the process of manufacture, the projectile is heat-treated so as to make it very hard throughout, and the rear portion is then tempered to make it less brittle. This leaves the head very hard so that it may do the required work in the penetration of armor and the body tough so that it may withstand the strains imposed by the twisting action characteristic of armor attack at angles oblique to normal. Armor piercing projectiles are base-fuzed.

b. The projectile now being manufactured for the attack of armor is known simply as the armor piercing projectile. Until recently, armor piercing projectiles were classified as armor piercing shot and armor piercing shell. The shot was a projectile with relatively thick walls and a correspondingly small bursting charge and was intended for use against vertical armor at ranges at which perforation could be expected. The shell was a projectile with thinner walls and a greater bursting charge and was intended for use at ranges at which perforation of the main armor could not be expected but at which perforation of the lighter armor of the superstructure and other upper works was possible. A large supply of armor piercing shot and shell is still on hand, but that for the primary armament will eventually be replaced by the armor piercing projectile and that for the secondary armament by the high-explosive shell. The armor piercing projectile closely resembles the armor piercing shot.

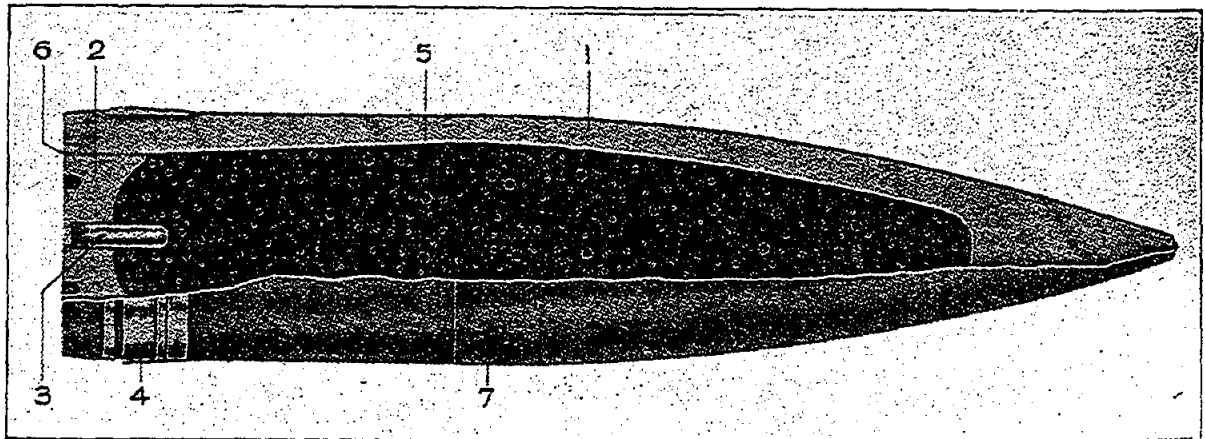


Plate 14. High-Explosive Shell.

- | | | |
|--------------|--------------------|---------------|
| 1. Body | 3. Fuze | 6. Base cover |
| 2. Base plug | 4. Rotating band | 7. Bourrelet |
| | 5. Bursting charge | |

40. High-Explosive Shell. High-explosive shell (Plates 14 and 15) are used in all types and calibers of cannon for the demolition of targets which do not require armor piercing projectiles, as personnel, and material targets, against light unarmored naval craft, field fortifications, and aircraft. They are made of common steel, have comparatively thin walls, and contain more explosive than armor piercing projectiles of the same caliber. Shell for the secondary armament use a point detonating fuze; those for the primary armament a base detonating fuze.

41. Deck Piercing Shell. These are designed for use in mortars for the attack of the protective decks of capital ships. They are similar in design to the old armor piercing shell. The walls are thicker and tougher than those of the high-explosive shell and they consequently contain less explosive.

42. Target Practice Projectiles. Target practice projectiles (Plate 16), are generally made of cast iron and are much less expensive than service projectiles. They have the same exterior dimensions, weight, center of gravity, and ballistic characteristics as the service projectiles they represent. The 155-mm gun uses common steel high-explosive shell loaded

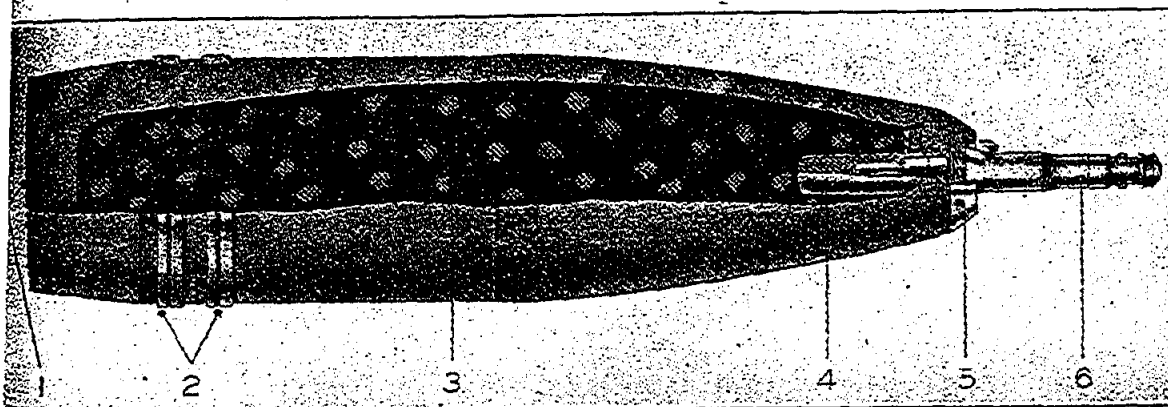


Plate 15. 155-mm High-Explosive Shell, Mark III.

- | | | |
|-------------------|--------------------|------------|
| 1. Base cover | 3. Bursting charge | 5. Adapter |
| 2. Rotating bands | 4. Booster | 6. Fuze |

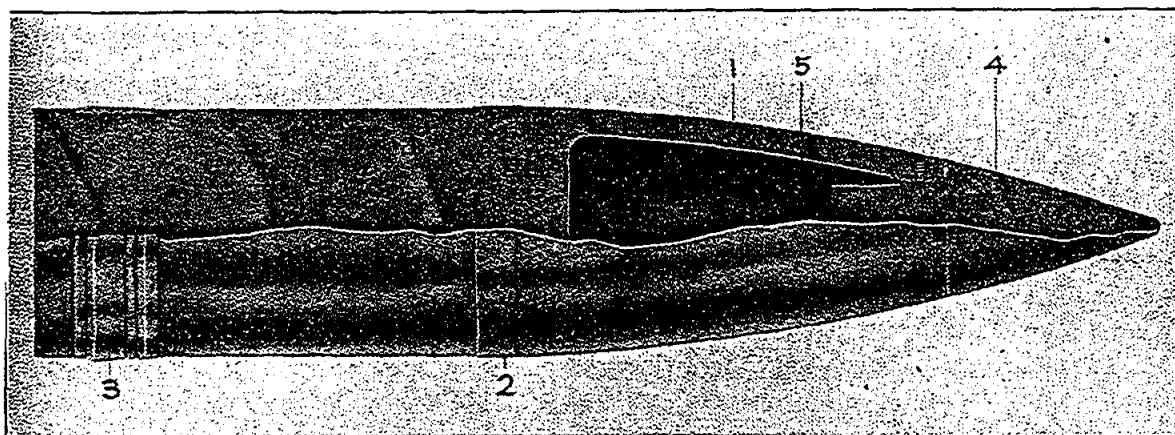


Plate 16. Target Practice Projectile.

- | | | |
|-------------------|------------------|-----------------|
| 1. Cast-iron body | 3. Rotating band | 5. Empty cavity |
| 2. Bourrelet | 4. Nose plug | |

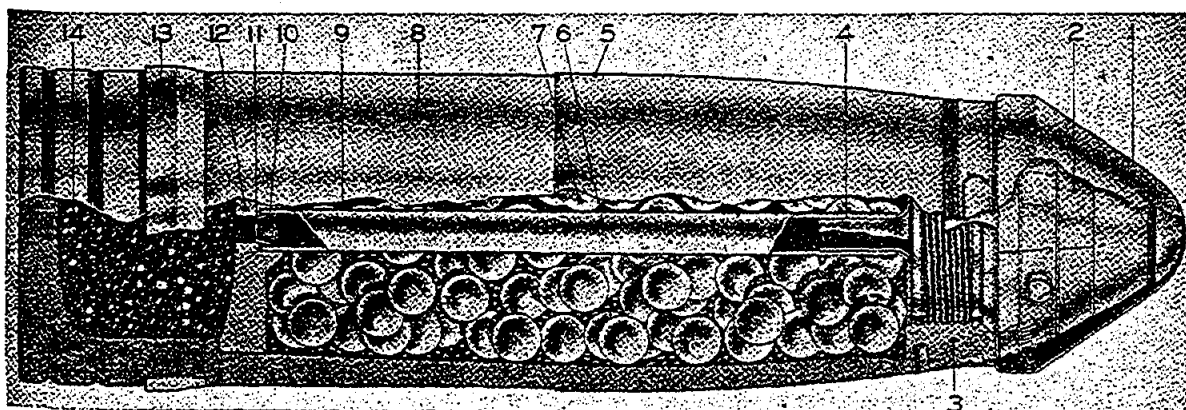


Plate 17. 3-Inch Antiaircraft Shrapnel, Mark I.

- | | | |
|---------------------------|---------------------|--------------------------------|
| 1. Waterproof cover | 6. Central tube | 11. Cloth disc |
| 2. Antiaircraft time fuze | 7. Balls | 12. Diaphragm |
| 3. Head | 8. Shrapnel case | 13. Rotating band |
| 4. Inner tube | 9. Matrix (resin) | 14. Base charge (black powder) |
| 5. Bourrelet | 10. Fiber paper cup | |

TYPICAL PROPELLING CHARGE FOR THE 10-INCH
AND 12-INCH COASTAL DEFENSE GUNS.

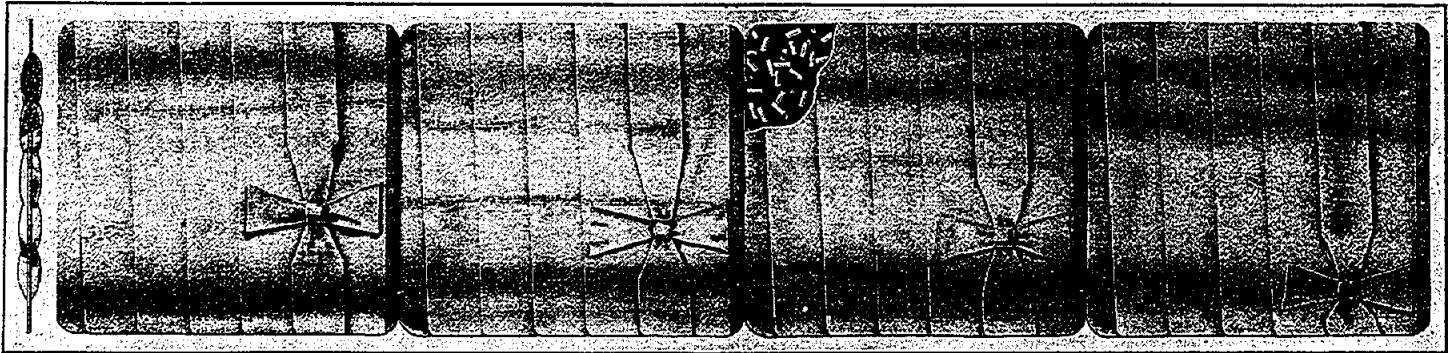


FIGURE 4.—Aliquot part propelling charge.

of equal sections. One igniter is used for each round of ammunition.

b. Base and Increment Type. This type consists of a base section with one or more increments. The increments may be of the same or different weights, but all weigh less than the base section. The igniter is attached only to the base end of the base section.

c. Unequal Section Type. This type consists of one full charge either divided in separate bags of unequal portions to the whole or divided into separate bags of fractional proportions to the whole, such as three one-quarter sections and two one-eighth sections. In the former an igniter pad is formed in one end of the base section only, while in the latter an igniter pad is formed in one end of each section.

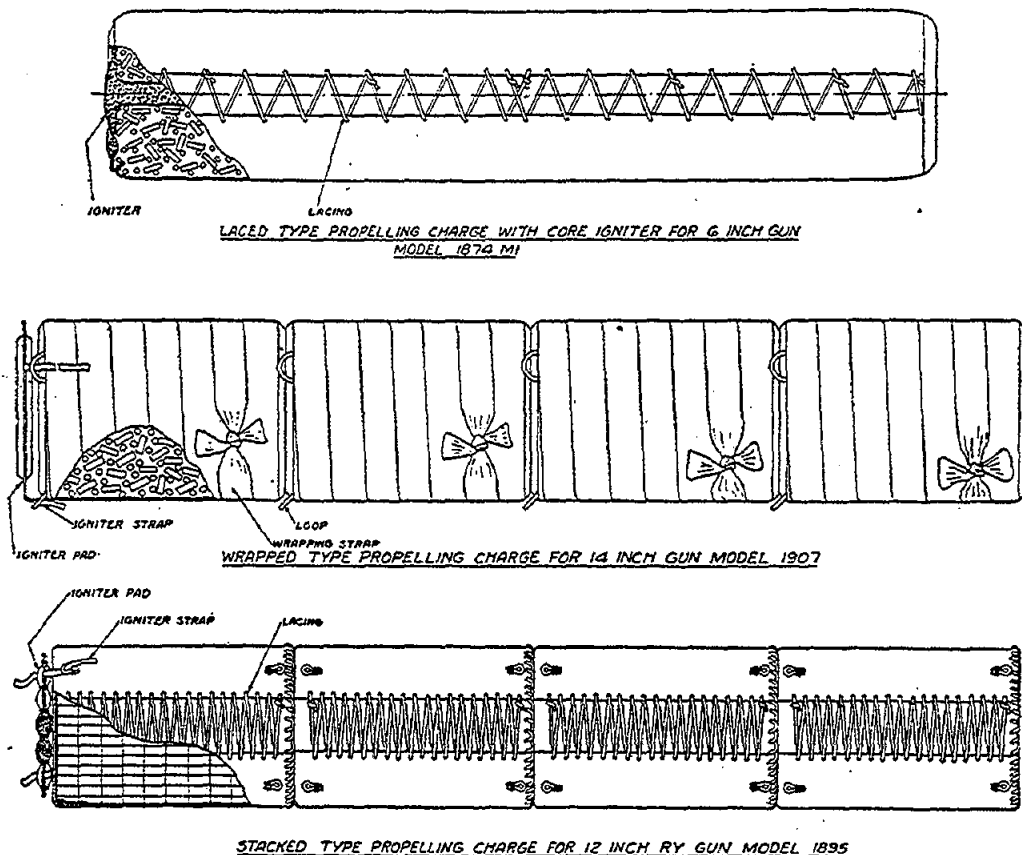


Plate 5. Propellant Charges, Laced, Wrapped, and Stacked for Major Caliber Cannon
(Reprinted by permission from *Elements of Ordnance*, by Hayes, published by John Wiley and Sons, Inc.)

d. Recently another variation has been introduced into the packing of powder charge for major cannon. It is the stacking of powder. Any of the above types may be of the stacked type. Stacking a charge consists of arranging all the grains of the powder end to end throughout the charge, instead of the random arrangement used previously (Plate 5). The stacked charge is more rigid, deforms less in handling, can be packed to a smaller diameter, and gives more uniform results in firing.

18. Marking. *a.* Each complete charge has a tag attached to it, usually tied to one of the tying straps, containing the following information:

Name of loading plant.

Date of loading (day, month, and year).

Caliber and model of gun, mortar, or howitzer.

Weight of projectile.

Powder lot number.

Name of manufacturer of powder.

Size and model of gun, mortar, or howitzer for which the powder was made in case of a lot of powder being used in a different gun, mortar, or howitzer from the one for which it was originally intended.

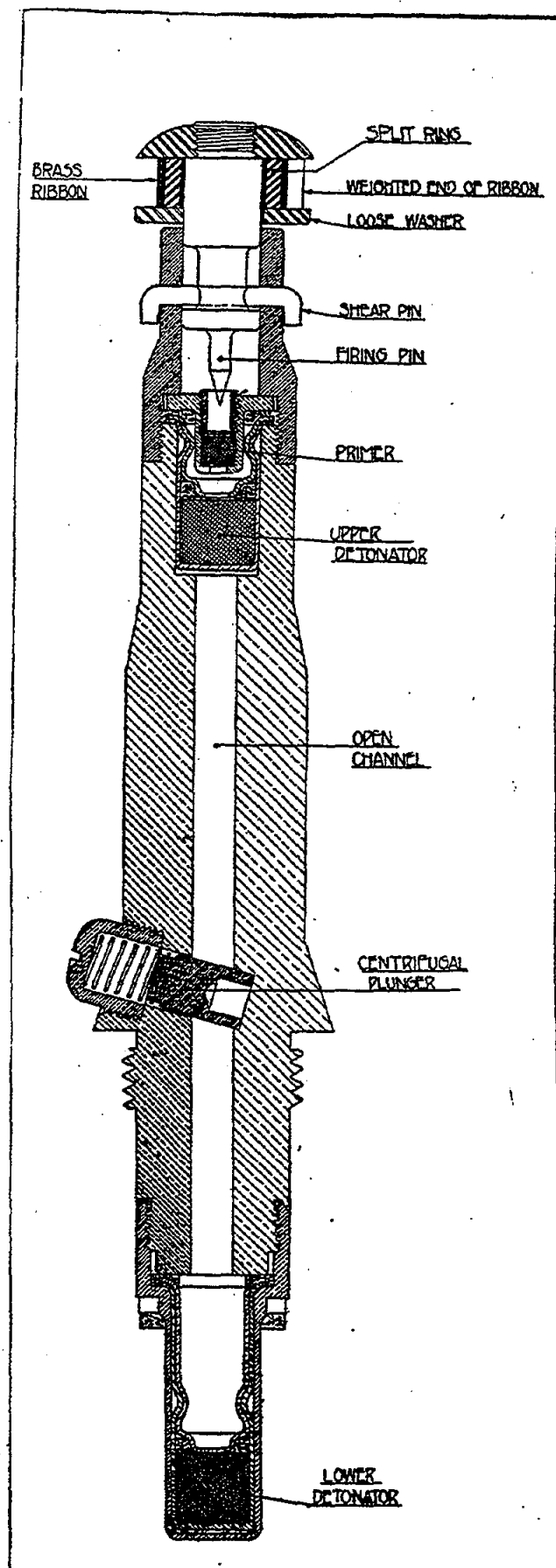


Plate 22. Point Detonating Fuse, Mark III.

rotational acceleration, the weighted end of the spiral tends to wrap the ribbon more tightly about the firing pin and prevents any movement. After the projectile leaves the bore and the rotational acceleration becomes negative, the weighted end of the spiral, under the influence of centrifugal force, unwinds the ribbon and draws the split ring with it. The fuze is thus armed, but the shear pin holds the firing pin in position during the flight of the projectile.

The centrifugal plunger interrupts the open channel in the fuze until it is withdrawn by centrifugal force. It is set at an angle so that linear acceleration tends to oppose the centrifugal force. While the projectile is being accelerated in the gun, inertia holds the plunger in the safe position, even against centrifugal force, and makes the fuze bore-safe by preventing any possible premature explosion of the primer from reaching the lower detonator. As soon as linear acceleration becomes negative (that is, after the projectile has left the gun), inertia tends to cause the plunger to creep forward, thereby permitting centrifugal force to move the plunger outward. This opens the channel between the upper and the lower detonators.

Upon impact with the target, the firing pin head is driven back to the washer, the shear pin bends or breaks, and the firing pin strikes the primer. The ignition of the primer causes the explosion of the upper detonator, from which the flame passes through the open channel to the lower detonator. This detonation is transmitted to the booster and thence, in turn, to the bursting charge of the projectile. These successive detonations follow each other with such rapidity that the bursting of the projectile occurs practically simultaneously with the first impact of the firing pin head.

This fuze may be used in 155-mm high-explosive and chemical shell and in 8-inch, 240-mm, 10-inch and 12-inch point-fuzed high-explosive shell.

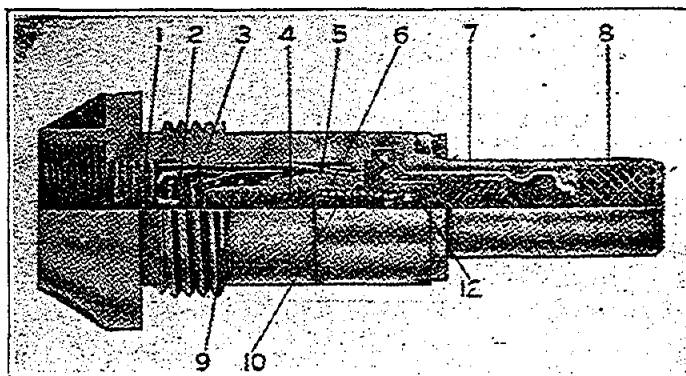


Plate 23. Point Detonating Fuze, Mark IV-Star.

- | | | |
|------------------------|-----------------------|----------------------|
| 1. Firing pin | 5. Safety casing | 9. Percussion primer |
| 2. Arming casing | 6. Percussion plunger | 10. Retard spring |
| 3. Arming spring | 7. Relay powder | 12. Delay pellet |
| 4. Black powder pellet | 8. Detonator | |

57. Point Detonating Fuze, Mark IV and Mark IV-Star. The Mark IV-Star fuze (Plate 23) is made primarily for use in guns of comparatively high muzzle velocity, where a slight delay is desired to permit some penetration of the target before detonation occurs, as in the point-fuzed high-explosive shell of the 155-mm, 6-inch, 8-inch, 10-inch, and 12-inch guns. The point detonating fuze Mark IV is made primarily for use in mortars and howitzers when delay action is desired. It may be used with point-fuzed high-explosive shell in 12-inch mortars and 240-mm howitzers. These fuzes are exactly alike except that the Mark IV-Star fuze has a stronger retard spring. To distinguish the Mark IV-Star fuze it is painted green on the bevel edge of its head and a star is stamped on the head immediately after the fuze number. The following types have been manufactured: (1) Nondelay (white head), (2) Short delay (black head), and (3) Long delay (black head and violet detonator socket).

At the shock of discharge of the gun, the arming casing, through inertia, compresses the arming spring. The sides of the arming casing disengage the prongs of the safety

casing from the percussion plungers, while the prongs of the arming casing engage the collar on the sides of the percussion plunger. The arming casing is thus held back, exposing the percussion primer and completing the arming of the fuze. The percussion plunger is restrained by the retard spring from creeping forward during the flight of the projectile.

On impact, the percussion plunger moves forward and the primer is exploded by the firing pin. The flame of this explosion is transmitted to the powder pellet below the primer and to the delay pellet or to the relay powder in case of nondelay. The gases from the powder pellet are necessary to carry the ignition to the relay powder after the delay pellet has burned. The relay powder explodes the detonator of fulminate of mercury. This detonates the booster, which, in turn, detonates the bursting charge.

The short delay fuze is the only one authorized for use in 155-mm guns.

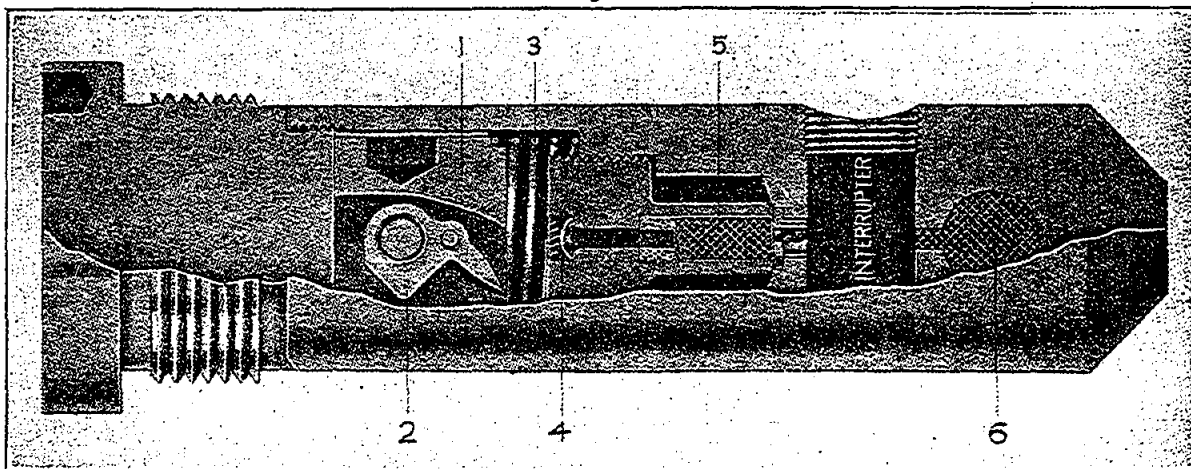


Plate 24. Base Detonating Fuze, Mark V.

- | | | |
|-----------------------|-----------------------|-------------------|
| 1. Percussion plunger | 3. Restraining spring | 5. Detonator |
| 2. Firing pin | 4. Percussion primer | 6. Booster charge |

58. Base Detonating Fuze, Mark V. The Mark V base detonating fuze (Plate 24) is a bore-safe fuze which is used in base-fuzed high-explosive shell when nondelay action is desired and in armor piercing shot and shell of the secondary armament. Two types of this fuze, called medium caliber and major caliber, are in service, the only difference between them being in the size of the head. Mark V major caliber base detonating fuzes may be assigned temporarily to some armor piercing projectiles.

Upon firing the gun, no action takes place in the fuze until the projectile leaves the gun. The percussion plunger is a Semple type of plunger, in which the firing pin is unlocked and rotated to the armed position by centrifugal force. On impact, the plunger is driven forward against the resistance of the restraining spring, the firing pin strikes and explodes the primer, and this explodes the fulminate detonator. The detonator, in turn, detonates the booster charge of TNT and tetryl, which detonates the bursting charge in the projectile. An interrupter prevents the transmission of any action of the primer to the booster until it has been withdrawn by centrifugal force after the projectile has left the bore of the gun.

59. Base Detonating Fuze, Mark X. The Mark X base detonating fuze (Plate 25) is a delay-action, bore-safe fuze, which has been adopted as the standard fuze for armor piercing projectiles and for high-explosive shell of the primary armament. It will replace the Mark V and the older major caliber base detonating fuzes which may now be assigned to armor piercing projectiles. It contains the booster charge, rotor, delay pellet, primer, Semple centrifugal plunger, and closing plug. The Semple plunger arms in the same manner as the plunger in the Mark V base detonating fuze. The rotor, pivoted eccentrically with respect to its center of gravity, is rotated counterclockwise with reference to the rotating projectile until stopped by a stop pin. In the armed position of the rotor, a rotor lock pin aligns with a hole in the fuze body and, under the influence of centrifugal force,

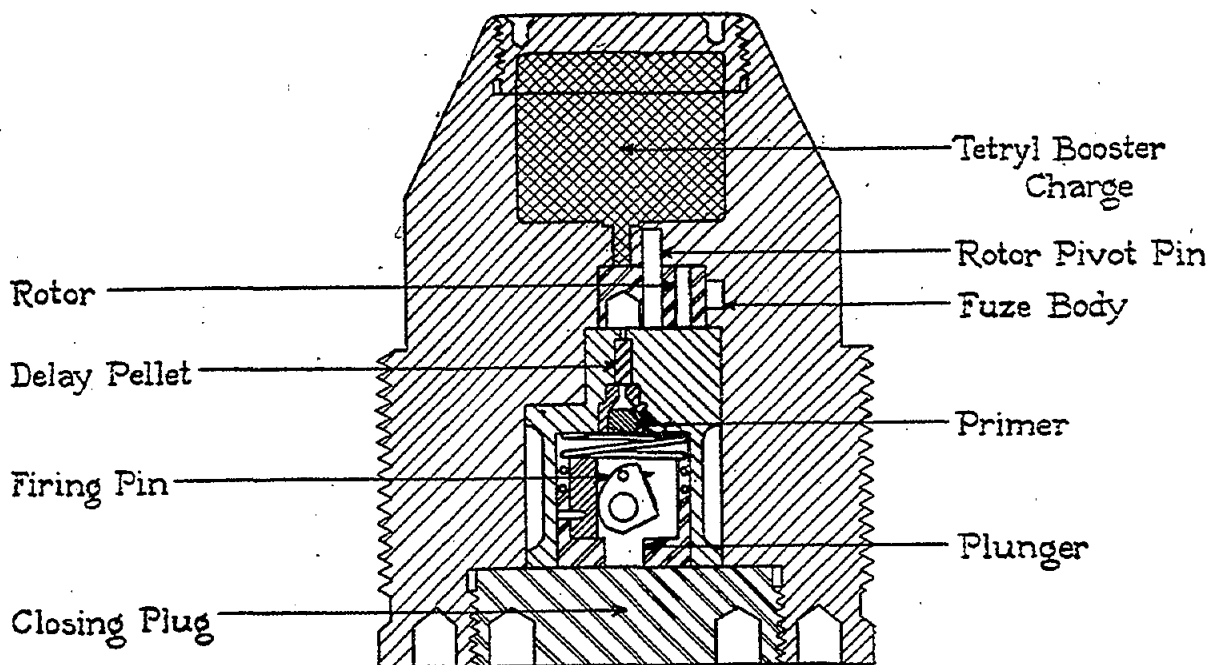


Plate 25. Base Detonating Fuze, Mark X.

moves partly into the hole and locks the rotor in the armed position. On impact, the flame from the primer ignites the delay pellet, which burns a predetermined time and then explodes the detonator of fulminate of mercury. From the detonator, the explosion is transmitted to the tetryl booster and hence to the bursting charge of the projectile. This fuze arms at 1300 r.p.m. and is therefore suitable for use in mortars, howitzers, or guns.

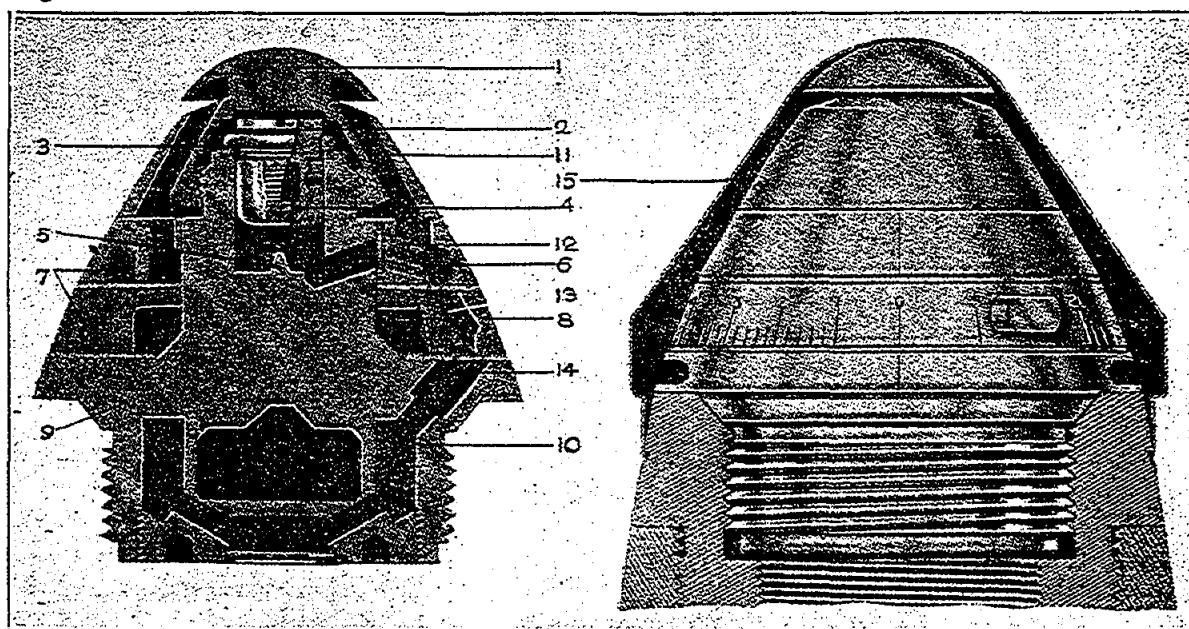


Plate 26. Antiaircraft Time Fuze, Mark III.

- | | | |
|--------------------------|---------------------------------------|----------------------|
| 1. Closing cap | 6. Upper time train ring | 11. Vents |
| 2. Concussion plunger | 7. Powder train | 12. Powder pellet |
| 3. Resistance ring | 8. Lower or graduated time train ring | 13. Powder pellet |
| 4. Concussion primer | 9. Body | 14. Powder pellet |
| 5. Concussion firing pin | 10. Magazine charge (black powder) | 15. Waterproof cover |

60. Antiaircraft Time Fuze, Mark III. The antiaircraft time fuze (Plate 26) is made of brass and bronze and can be set, and reset, for any time from 0 to 21.2 seconds for use in antiaircraft shell and shrapnel. It lacks a percussion element and will not function

Weight of charge, weight of igniter, and velocity and pressure for each particular weight of projectile or for each increment of powder.

b. The caliber and model of the gun, lot number of the powder, and name of the manufacturer of the powder are stenciled on the cartridge bag, also on the increment of the charge or the zone increment. In the case of multisection charges, the fractional part of the charge ($\frac{1}{2}$, $\frac{1}{4}$, or $\frac{1}{8}$) represented by the section is included.

Igniters are stenciled with the words "igniting powder" together with the weight, grade, and lot number of the igniting powder and caliber of gun.

19. **Primers.** Primers are devices employed to ignite propelling charges in cannon. They should be certain in action, safe in handling, simple in construction, and inexpensive to manufacture. In fixed and semifixed ammunition, the primer is inserted in the base of the cartridge case; in separate loading ammunition, it is inserted in the breechblock of the cannon. Primers are classified according to the method by which they are fired, as friction, electric, percussion, and igniting primers. Combination primers combine any two of these methods of operation.

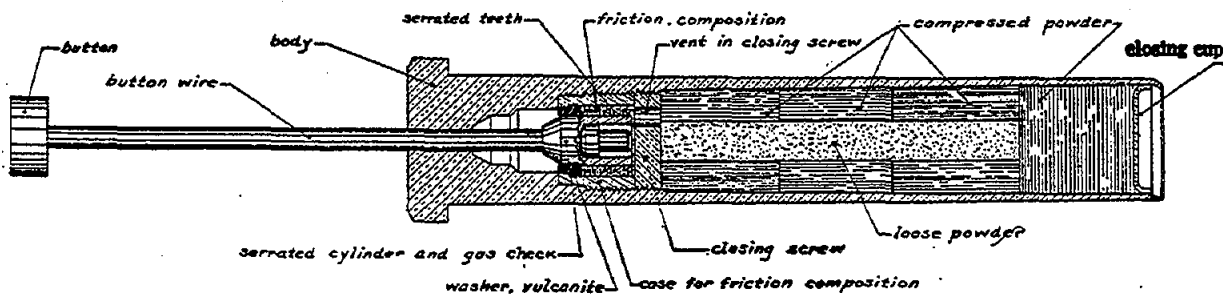


Plate 6. Friction Primer, M1914.

20. **Friction Primer, M1914.** This primer (Plate 6) may be used in fixed and railway artillery employing separate loading ammunition. The friction composition is contained in a threaded housing and is covered by a closing cup drilled with three holes to permit the passage of the flame from the friction composition to the primer charge. The friction pellet is a composition of approximately 9% sulphur, 52% chlorate of potash, 27% sulphide of antimony, and 12% ground glass.

The primer is inserted in the breechblock of the gun and is held in place by the slide. The firing leaf engages the button, which is attached to the primer wire. When the lanyard, attached to the firing leaf, is pulled, the gas check, which is fitted with serrated teeth, is drawn through the friction composition, causing it to ignite. The flame passes through the holes in the closing cup and ignites the loose black powder and powder pellets. The primer, being a close fit in its seat in the obturator spindle, expands sufficiently to prevent the escape of gas to the rear around the primer body, and the gas check is forced back into its seat so as to prevent the escape of gas through the head of the primer. The gases force out the closing cup and pass through the vent of the breechblock, thus igniting the propelling charge or the igniting primer when a metallic cartridge case is used.

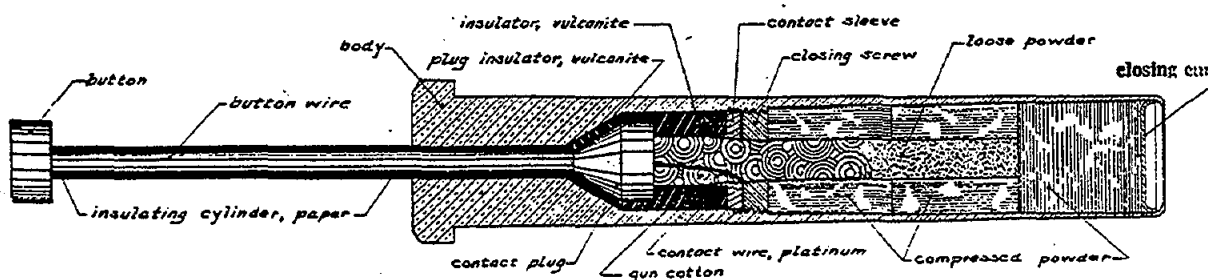


Plate 7. Electric Primer.

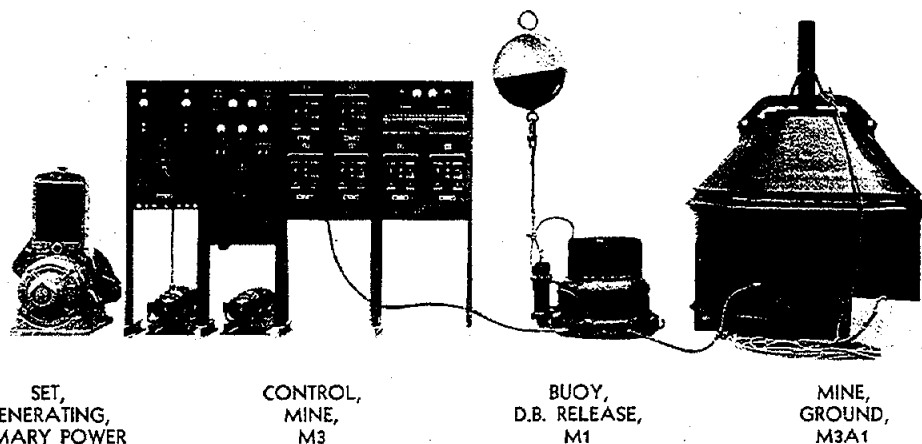
21. **Electric Primer.** The electric primer (Plate 7) is used in all fixed and railway guns using separate loading ammunition and equipped with the combination electric and

Submarine Mine
Virginia, was as-
Division of Ord-
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ntrol units for the
tériel required to
of mines weighed
, and there might
a large harbor.⁵⁹

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(2) Ltr, Chief of Tech
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of Col Bouchier, OO
emo, William Beasley,
ansport Div, R&D, to
sub: Exploder Mines,
and 2 Sep 44, OO
CM 25031, 7 Sep 44;

(2) Ord Off Memo
bmarine Mine Depot,
Mines, 1943, pp. 6-8,



CONTROLLED MINE SYSTEM AND THE M3A1 MINE

electrically selecting, testing, or firing any mine in the group it controlled. The buoy-
ant mine cases, which were connected by
wire rope and electrical cable to cast-iron
anchors, contained from 300 to 500 pounds
of granular TNT and housed a firing de-
vice that was actuated by the impact of a
vessel. When a ship struck a buoyant mine,
a signal appeared on the mine control
panel in the casemate ashore and the mine
could then be fired by closing the proper
firing switch. The shore installations con-
sisted of the mine casemate, a storehouse,
a loading room, a cable tank for storage of
cable, a mine wharf and derricks, trackage
or roads, a group commander's station,
base end stations, a plotting room, and
cable terminal huts.⁶⁰

The greatest advantage of the M3 system
over European systems was in firing single
mines rather than whole groups. This
method left small gaps of less than 300 feet
in a line of mines, instead of 500 yards or
more.⁶¹ Most British harbors used the loop

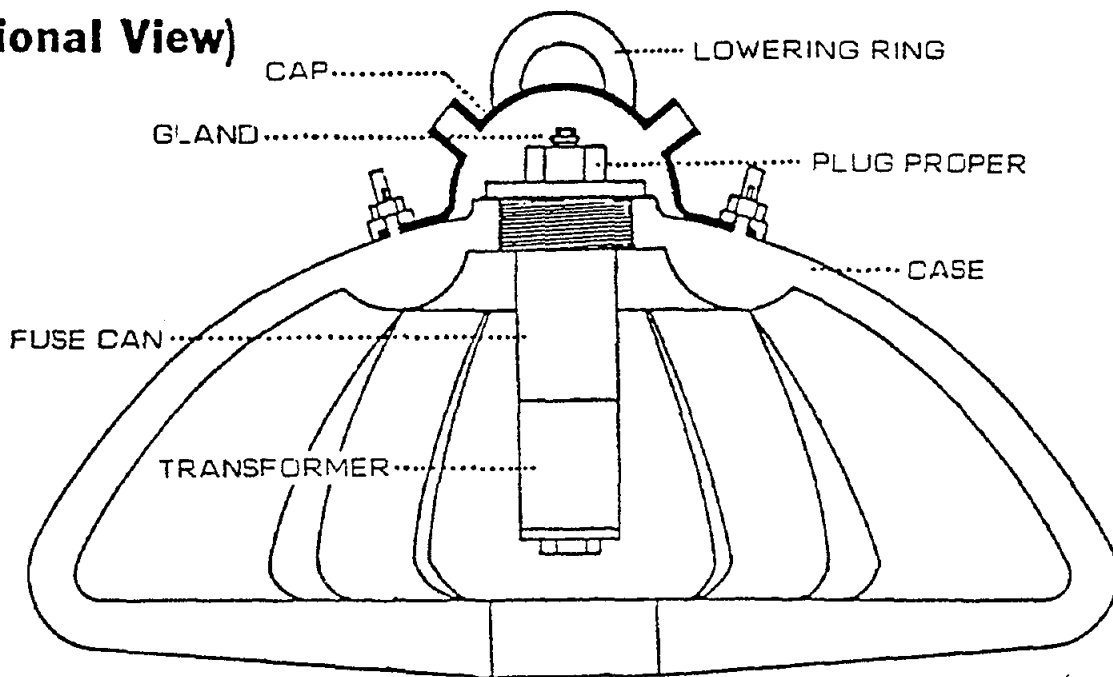
system, consisting of a loop of electric cable
in which a current set up by a passing steel
ship would be carried to shore by a "tail"
cable. The loop enclosed a row of moored
mines, the sinkers of which were also con-
nected to the shore by the tail cable. All
mines in a group had to be fired simultane-
ously, leaving a large gap in the defenses.⁶²
The Germans did not employ controlled
mines until after the raids at Dieppe on 19
August 1942 and at St. Nazaire on 27
March 1943 had demonstrated the weak-
ness of net and boom defenses. Thereafter,
they converted offensive magnetic needle
mines into defensive mines, connecting
them to a shore station by cable. The short-

⁶⁰ (1) Catalogue of Standard Ord Items, II, 231-54.
(2) Morland King, Submarine Mines, Record of
Army Ord R&D, September 1945 (hereafter cited as
Sub Mines), p. 22, OHF.

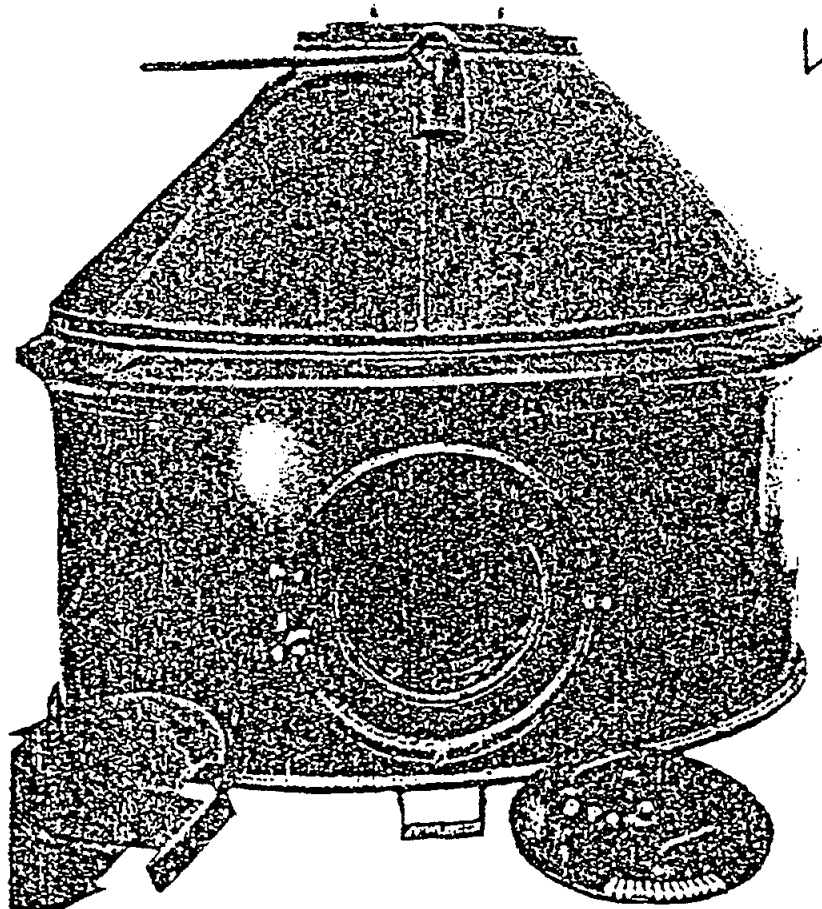
⁶¹ Rpt, Col H. C. Reuter, A Summary of Historical
Information Pertaining to Controlled Submarine
Mining, 5 Sep 49 (hereafter cited as Reuter Rpt),
filed at Submarine Mine Depot, Fort Monroe, Va.

⁶² J. S. Cowie, *Mines, Minelayers and Minelaying*
(London, 1949), pp. 103-05, 138.

Ground Mine Case (Sectional View)



Army Controlled Mine M4



ARMY CONTROLLED MINE M4 (Cover plates removed)

Ground, controlled mine, laid by surface craft.
Shape: Cylindrical with truncated cone upper section.
Search coil: protrudes from top of case.
Color: Black.
Diameter: 90 in.
Height: 60-72 in.
Charge: 3,000 lbs. TNT.

Defensive mine for use against surface craft or submarines.

Identification features: Extraordinarily large case and unique shape. Search coil rod may extend 30 in. above case.

Note: U.S. Army has used moored controlled mines although none are in use at the time of this writing.
 [From: U.S. Ground Mines]

ORDNANCE AND EXPLOSIVE WASTE
ARCHIVES SEARCH REPORT
FOR
FORT WETHERILL
JAMESTOWN, RI
PROJECT NUMBER D01RI033703

APPENDIX E
REPORTS/STUDIES

APPENDIX E
REPORTS/STUDIES

Table of Contents

- E-1 Site Survey Summary Sheet for DERP-FUDS Site No. D01RI033700, dated 16 July 1993 (reference B-4).
- E-2 Project Summary Sheet for OEW Project No. D01RI033703, dated 25 June 1993 (reference B-4).
- E-3 Project Summary Sheet for CON/HTRW Project No. D01RI033701, dated 25 June 1993 (reference B-4).
- E-4 Project Summary Sheet for BD/DR Project No. D01RI033702, dated 25 June 1993 (reference B-4).
- E-5 Findings and Determination of Eligibility, dated 2 August 1993 (reference B-4).
- E-6 New England's Rare, Threatened, and Endangered Plants, from Rhode Island Department of Environmental Management, date unknown (reference B-7).

SITE SURVEY SUMMARY SHEET
FOR
DERP-FUDS SITE NO. D01RI0337
PROPERTY OF THE STATE OF RHODE ISLAND, ET AL.
(FORT WETHERILL)
JAMESTOWN, RHODE ISLAND
16 July 1993

SITE NAME: Fort Wetherill; a/k/a Component of Newport Naval Base.

LOCATION: Conanicut Island, Jamestown, Rhode Island; site map attached.

SITE HISTORY: The site, consisting of approximately 62 acres, more or less (61.5 acres fee and approximately 0.5 acre easement), was acquired in the late 1890's. The method of acquisition is not known. The Army used the site to protect the east passage of Narragansett Bay. The Army constructed seven batteries and three anti-aircraft emplacements between 1899 and 1920. A command post building and several observations stations were built. By the end of World War II, there were numerous temporary non-tactical structures at Fort Wetherill. These structures included barracks and officers' quarters, day rooms, administration buildings, mess halls, storehouses, gatehouses, an infirmary, a chapel, a recreation building, a post exchange, a guard house, a fire house, a grease rack and motor repair shop, and at the wharf area, there was a gas station. The Army transferred the entire 62-acre site to the Navy in 1953. The Navy used the site for harbor defense and for the service and deployment of mines to protect the east passage of Narragansett Bay. In March 1963, the Navy retransferred 51 acres fee to the Army and in January 1966, retransferred 8.8 acres fee to the Army. In January 1966 the Army transferred custody of 1.7 acres fee to the Navy. At this point the Army had custody over 58 acres fee, and the Navy had custody over 3.5 acres fee. CENED does not know the custodian of the 0.5 acre easement. In 1973, the Army reported 51 acres fee excess to General Services Administration (GSA). The Bureau of Outdoor Recreation conveyed 51 acres fee to the State of Rhode Island in August 1973. In November 1975, the Navy reported 3.5 acres fee excess to GSA. The Department of Health, Education, and Welfare (HEW) conveyed 3.5 acres fee to the Town of Jamestown in November 1974. In 1984 the remaining 7.0 acres fee was reported excess to GSA. In September 1984, the National Park Service conveyed 7.0 acres fee to the State of Rhode Island. CENED believes the easement over 0.5 acre was conveyed to the owners of the underlying fee. The site is currently owned by the State of Rhode Island and the town of Jamestown. The site is used for park and recreation purposes. A portion of Fort Wetherill is eligible for the National Register of Historic Places.

SITE VISIT: A site visit was conducted on 9 August 1991 by Ben Piteo and Simone Shields of CENED. They were accompanied by Larry Mouradjian (401) 277-2632 (Rhode Island Bureau of Parks) and

SITE NO. D01RI0337

Walter Nebiker (Rhode Island Historical Preservation Commission). A second site visit was performed on 16 September 1991 by David Larsen and Robert Martin of CENED. An off-site meeting was conducted on 8 June 1992. Attendees were Judy Benedict, 401-277-2776 (Rhode Island DEM), Rick Greenwood (Rhode Island Historical Preservation Commission), Steve Wright, Superintendent of Parks and Larry Mouradjian, Regional Park Manager of Rhode Island Bureau of Parks, Walter Schroeder (local historian), and Ben Piteo and David Larsen (CENED).

CATEGORY OF HAZARD: CON/HTW, BD/DR, OEW, HTW.

DESCRIPTION OF HAZARDS:

a. **CON/HTW.** There is one 10,000-gallon (estimated) buried railroad tank car located at the gas station in the wharf area. There is one 600-gallon (estimated) UST located at the Battery Varnum power plant. At Battery Zook there is a 600-gallon (estimated) UST. At Battery Wheaton, there may be a possible 600-gallon (estimated) UST. At Battery Walbach there may be a possible 600-gallon (estimated) UST. The tanks are a potential source of environmental contaminants.

b. **BD/DR.** In the wharf area are the ruins of a wooden building and a wooden shack that are structurally unsound. Also, there is an opening (greater than 8" x 8") in a concrete slab in front of an underground storehouse/mine casement which presents a falling hazard. The roof of the Command Post Building is deteriorated and the floor has collapsed. This building is structurally unsound. Battery Varnum, Battery Dickenson, and Battery Wheaton each have two ammunition shell hoist shafts that are open at the gun platform level and a manhole opening in the coverface. Battery Walbach has three ammunition shell hoist shafts that are open at the gun platform level and a manhole opening in the coverface. The nine shafts and four manholes are larger than 8" x 8" and are at least 25 feet deep. They present falling hazards. There are areas at Battery Varnum, Battery Cooke, Battery Crittendon, Battery Dickenson, and Battery Zook where there are no rail sections to protect from drops to the next level down. These drops are over six feet and present a falling hazard. At Battery Wheaton and Battery Walbach, there are many walls with a drop over six feet that present falling hazards. At Battery Wheaton, the floor slab of a booth at gun emplacement No. 2 has failed, leaving sharp metal concrete reinforcement bars exposed. There have been numerous falls from the concrete emplacements at this location. At Battery Walbach, concrete fragments of six inches or larger are spalling off. There have been numerous personal injuries due to falls from the concrete emplacements at this location. The spalling concrete presents a miscellaneous debris hazard.

SITE NO. D01RI0337

c. OEW. There were seven batteries, various magazines, an ordnance storehouse, and shell rooms at the site. There is a possibility that OEW remains at the site.

d. HTW. No further action. There is a lagoon between the wharf and the buildings that the Town of Jamestown and the State of Rhode Island used as a disposal area for miscellaneous construction debris. The Rhode Island DEM is aware of this site, and accepts the responsibility for any remedial work that is required.

AVAILABLE STUDIES AND REPORTS: None identified.

DIVISION POC: Anne Laster, CENED-RE-AM, 617-647-8584.

PROJECT SUMMARY SHEET
FOR
DERP-FUDS OEW PROJECT NO. D01RI033703
FOR
PROPERTY OF THE STATE OF RHODE ISLAND, ET AL.
(FORT WETHERILL)
JAMESTOWN, RHODE ISLAND
DERP-FUDS SITE NO. D01RI033703
25 June 1993

DESCRIPTION OF OEW HAZARD: There were seven batteries, various magazines, an ordnance storehouse, and shell rooms at the site. There is a possibility that OEW remains at the site.

PROJECT ELIGIBILITY: During DOD control of the site, the Army stored ammunition at the site. The Navy used the site for harbor defense and for the service and deployment of mines to protect the east passage of Narragansett Bay.

POLICY CONSIDERATIONS: The owner has not brought any ordnance onto the site. If any ordnance is present, it is likely the result of DOD use. The site is eligible for the National Register of Historic Places.

PROPOSED PROJECT: This INPR will be referred to CEHND-PM-OT for further action.

RAC: Attached.

DIVISION POC: Anne Laster, CENED-RE-AM, 617-647-8584.

PROJECT SUMMARY SHEET
FOR
DERP-FUDS CON/HTW PROJECT NO. D01RI033701
FOR
PROPERTY OF THE STATE OF RHODE ISLAND, ET AL.
(FORT WETHERILL)
JAMESTOWN, RHODE ISLAND
DERP-FUDS SITE NO. D01RI0337
25 June 1993

DESCRIPTION OF CON/HTW HAZARDS: There is one 10,000-gallon (estimated) buried railroad tank car located at the gas station in the wharf area. There is one 600-gallon (estimated) UST located at the Battery Varnum power plant. At Battery Zook there is a 600-gallon (estimated) UST. At Battery Wheaton, there is a possible 600-gallon (estimated) UST. At Battery Walbach there is a possible 600-gallon (estimated) UST. The tanks are a potential source of environmental contaminants.

PROJECT ELIGIBILITY: The tanks were installed and used by DOD while operating Fort Wetherill.

POLICY CONSIDERATIONS: The 10,000-gallon buried railroad tank car located at the gas station has been beneficially used by the Town of Jamestown. The remaining tanks have not been utilized subsequent to the Department of Defense disposal of the site. The site is eligible for the National Register of Historic Places.

PROPOSED CON/HTW PROJECT: The project consists of removing and disposing of four 600-gallon USTs, their contents, associated piping and contaminated soil, if any; backfilling, loaming and seeding the area.

DD FORM 1391: Attached.

DIVISION POC: Anne Laster, CENED-RE-AM, 617-647-8584.

PROJECT SUMMARY SHEET
FOR
DERP-FUDS BD/DR PROJECT NO. D01RI033702
FOR
PROPERTY OF THE STATE OF RHODE ISLAND, ET AL.
(FORT WETHERILL)
JAMESTOWN, RHODE ISLAND
DERP-FUDS SITE NO. D01RI0337
25 June 1993

DESCRIPTION OF BD/DR HAZARDS: In the wharf area are the ruins of a wooden building and a wooden shack that is structurally unsound. Also, there is an opening (greater than 8" x 8") in a concrete slab in front of an underground storehouse/mine casement which presents a falling hazard. The roof of the Command Post Building is deteriorated and the floor has collapsed. This building is structurally unsound. Battery Varnum, Battery Dickenson, and Battery Wheaton each have two ammunition shell hoist shafts that are open at the gun platform level and a manhole opening in the coverface. Battery Walbach has three ammunition shell hoist shafts that are open at the gun platform level and a manhole opening in the coverface. The nine shafts and four manholes are larger than 8" x 8" and are at least 25 feet deep. They present falling hazards. There are areas at Battery Varnum, Battery Cooke, Battery Crittendon, Battery Dickenson, and Battery Zook where there are no rail sections to protect from drops to the next level down. These drops are over six feet and present a falling hazard. At Battery Wheaton and Battery Walbach, there are many walls with a drop over six feet that present falling hazards. At Battery Wheaton, the floor slab of a booth at gun emplacement No. 2 has failed, leaving sharp metal concrete reinforcement bars exposed. There have been numerous falls from the concrete emplacements at this location. At Battery Walbach, concrete fragments of six inches or larger are spalling off. There have been numerous personal injuries due to falls from the concrete emplacements at this location. The spalling concrete presents a miscellaneous debris hazard.

PROJECT ELIGIBILITY: Records indicate that buildings and batteries were installed and utilized by the Department of Defense as part of Fort Wetherill. The falling hazards, unsound structure hazards, miscellaneous debris (sharp metal), and spalling concrete throughout the batteries appear to have existed at the time DOD's use of the property ceased.

POLICY CONSIDERATIONS: The site has not been owned by a private interest since DOD usage. The batteries and buildings have not been beneficially used by the State or Town subsequent to DOD use. The State and Town have requested remediation of the falling hazards and unsafe conditions at Fort Wetherill. The proposed BD/DR project does not involve asbestos-containing materials (ACM). The site is eligible for the National Register of Historic Places.

SITE NO. D01RI0337

PROPOSED PROJECT: The project consists of demolishing one 300 s.f. wooden building and one 100 s.f. wooden shack; filling an open vault with gravel and capping the opening with concrete; demolishing the command post building; installing a barricade rail fence, sealing shell hoist shaft openings, and filling a manhole at Battery Varnum; installing a barricade rail fence at Battery Cooke; installing a barricade rail fence, sealing magazine openings, and sealing door openings at Battery Crittendon; installing a barricade rail fence, sealing shell hoist shaft openings, door openings, window openings and air space at Battery Dickenson; installing a barricade rail fence, sealing openings, window openings and air space openings at Battery Zook; sealing shell hoist shaft openings, door openings, and window openings, burying the structure to within three feet of the top of the wall at Battery Wheaton; sealing shell hoist openings, door openings, window openings, and air space openings, and burial of the structure to within three feet of the top of the wall at Battery Walbach. Any project activities must be coordinated with the State Historic Preservation Officer.

DD FORM 1391: Attached.

DIVISION POC: Anne Laster, CENED-RE-AM, 617-647-8584.

CENED-RE-AM (200-1a)

2 August 1993

MEMORANDUM FOR

HQ, USACE, ATTN: CEMP-R
COMMANDER, MRD-ED-HT
COMMANDER, HND-PM-EP

SUBJECT: DERP-FUDS Inventory Project Report (INPR) for Site No. D01RI0337, Property of The State of Rhode Island and the Town of Jamestown (Former Fort Wetherill Military Reservation), Jamestown, Rhode Island

1. Forwarded is the INPR for the former Fort Wetherill Military Reservation, Jamestown, Rhode Island. The site is eligible for DERP-FUDS. The proposed CON/HTW, BD/DR, and OEW projects are eligible for DERP-FUDS.

2. Recommend that CEMP-R approve the proposed CON/HTW and BD/DR projects and assign them to this headquarters (CENED-PD-L) for RD/RA. Due to the potential for OEW at the site, CEHND clearance will be obtained prior to any RA work being initiated.

3. CENED will forward the proposed OEW project to CEHND-PM-OT for further action.

Encl

BRINK P. MILLER
COL, EN
Commanding

CF:
CENED-PM-OT
Proj Mgt (Mr. Holtham)
Eng Dir (Mr. Riccio)
RE Dir File
Mr. Batt
Ms. Laster

WJL
DE
DDE-PM

DDE

CH-PD-L

CH, HTW-PB

DIR-RE

CH-RE-AM

LASTER



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

CENED-RE-AM (200-1a)

2 August 1993

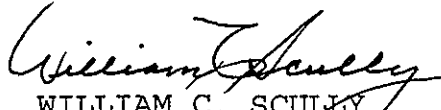
MEMORANDUM FOR

HQ, USACE, ATTN: CEMP-R
COMMANDER, MRD-ED-HT
COMMANDER, HND-PM-EP

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3. CENED will forward the proposed OEW project to CEHND-PM-OT for further action.

Encl


WILLIAM C. SCULLY
Acting Division Engineer

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
FOR
FORMERLY USED DEFENSE SITES
FINDINGS AND DETERMINATION OF ELIGIBILITY
DERP-FUDS SITE NO. D01RI0337
PROPERTY OF THE STATE OF RHODE ISLAND, ET AL.
(FORT WETHERILL)
JAMESTOWN, RHODE ISLAND

FINDINGS OF FACT

1. The site, consisting of approximately 62 acres, more or less (61.5 acres fee and approximately 0.5 acre easement), was acquired in the late 1890's. The method of acquisition is not known.
2. The site was known as Fort Wetherill by the Army and as a Component of Newport Naval Base by the Navy. The Army used the site to protect the east passage of Narragansett Bay. The Army constructed seven batteries and three anti-aircraft emplacements between 1899 and 1920. A command post building and several observations stations were built. By the end of World War II, there were numerous temporary non-tactical structures at Fort Wetherill. These structures included barracks and officers' quarters, day rooms, administration buildings, mess halls, storehouses, gatehouses, an infirmary, a chapel, a recreation building, a post exchange, a guard house, a fire house, a grease rack and motor repair shop, and at the wharf area, there was a gas station. The Army transferred the entire 62-acre site to the Navy on 11 July 1953. It is not known if the Navy built any structures. The Navy used the site for harbor defense and for the service and deployment of mines to protect the east passage of Narragansett Bay. On 19 March 1963, the Navy retransferred 51 acres fee to the Army and on 28 January 1966, retransferred 8.8 acres fee to the Army. On 28 January 1966 the Army retransferred custody of 1.7 acres fee to the Navy. At this point the Army had custody over 58 acres fee, and the Navy had custody over 3.5 acres fee. CENED does not know who had custody over the 0.5 acre easement. The site was not under other than DOD control during the period of DOD use.
3. Sometime in 1973, the Army reported 51 acres fee excess to General Services Administration (GSA). The Bureau of Outdoor Recreation conveyed 51 acres fee to the State of Rhode Island on 17 August 1973 for public park purposes in perpetuity. The deed reserved to the United States all oil, gas, and other minerals and the right to mine and remove them. The deed also contained the conditions that the State would provide continuous water service to other lands of the Navy; the State would erect a permanent sign or marker near the point of principal access; the State would not dispose of the property without written approval of the Department of the Interior (DOI); and the State would submit biennial reports to DOI setting forth the use made of the property. In the event of a breach of any of the conditions the property

would revert to the United States at its option. The deed contained a recapture clause in the event of a national emergency. The deed did not contain a restoration clause. Sometime in 1974, the Navy reported 3.5 acres fee excess to GSA. The Department of Health, Education, and Welfare (HEW) conveyed 3.5 acres fee to the Town of Jamestown on 8 November 1974. The deed contained the provisions that for thirty years, the Town would use the property for public health purposes; the town would not dispose of the property without written authorization from HEW; and the Town would file annual operation and maintenance reports to HEW. In the event of a breach of any of the conditions, title to the property would at its option, revert to the United States. The Town could secure abrogation of the conditions by payment to the United States and permission of HEW. During the thirty year period, the Town would hold in trust for the United States any mineral lease royalties received by the Town. The United States reserved the right, at its option, to revert title to any mineral interests during the thirty year period. The deed contained a recapture clause in the event of a national emergency. The deed did not contain a restoration clause.

Sometime in 1984 the remaining 7.0 acres fee were reported excess to GSA. On 26 September 1984, the National Park Service conveyed 7.0 acres fee to the State of Rhode Island for public park and recreation purposes in perpetuity. The deed contained the restriction that the structures must be maintained to preserve the qualities which qualify it for the National Register of Historic Places, and all plans for maintenance, restoration, alteration or demolition of the existing structures and all plans for new construction, must be reviewed by the State Historic Preservation Officer. The United States reserved all oil, gas, and other minerals and the right to enter and mine the same. The deed contained the conditions that the property be maintained exclusively for public purposes; the State would erect a permanent sign near the principal access; the State would not dispose of the property with written authorization from the Department of Interior (DOI); and the State would submit biennial reports to DOI setting forth the use made of the property. In the event of a breach of any condition, title to the property would revert to the United States at its option. The deed contained a recapture clause in the event of a national emergency. The deed did not contain a restoration clause. CENED believes the easement over 0.5 acre was conveyed to the owner of the underlying fee. The language of the document is not known.

In danger of being lost forever

Rhode Island law forbids buying or selling, storing, transporting, importing or exporting plants or animals, or parts of plants or animals, which are on either the federal or state lists of endangered species.

Of approximately 1,400 native plant species documented as existing in Rhode Island, three percent are considered to be endangered. That is, they occur at only one or two locations in the state, or occur at three or more locations here but 100 sites or fewer throughout their whole global range. The state list of endangered plants also includes species being considered for inclusion on the federal list.

State endangered species include these plants:



*Small-whorled
pogonia*



*New England
boneset*

Stiff clubmoss	Lizard's tail
Foxtail clubmoss	Dwarf mistletoe
Mountain spleenwort	Smooth sandwort
Walking fern	Rock sandwort
Purple cliffbrake	Purple clematis
Podgrass	Blue cohosh
Slender arrowhead	Climbing fumitory
Collins' sedge	Long's bitter cress
Variable sedge	Thread-leaved sundew
Walter's sedge	Dewdrop
Black-fruited spike rush	Canadian burnet
Three-angled spike rush	Sessile-leaved tick-trefoil
Umbrella grass	Sandplain flax
Long-beaked bald rush	Grooved flax
Inundated horned rush	Bushy rockrose
Torrey's beaked rush	Toothcup
Untubercled bulrush	Round-fruited false
Long's bulrush	loosestrife
Few-flowered nut rush	Spikenard
Tall nut-rush	Saltpond pennywort
Golden club	Bog rosemary
Showy orchis	Plymouth gentian
Green adder's mouth	Hyssop-leaved hedge-nettle
Yellow fringed orchid	Long-leaved bluets
Pale green orchid	New England boneset
Hooker's orchid	Northern blazing star
Little ladies' tresses	Sclerolepis



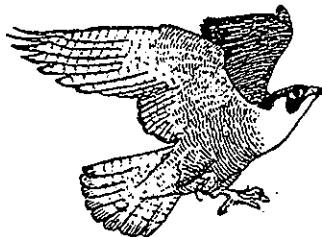
*Long's
bitter cress*



Plymouth gentian

Federally listed endangered plants found in Rhode Island include the small-whorled pogonia and sandplain gerardia.

There are five endangered vertebrate animals in the state, all of them birds:



Peregrine falcon

American bittern
Upland sandpiper
Northern harrier
Black-throated blue warbler
Yellow-breasted chat

Rhode Island's endangered
invertebrates are:

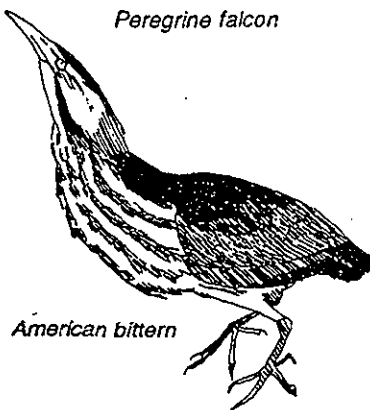
Barrens bluet damselfly
Banded bog skimmer dragonfly
Regal fritillary butterfly



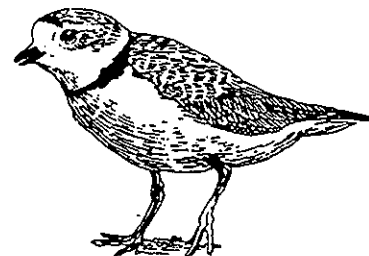
American burying beetle

The following Rhode Island
species are on the
federal endangered list:

American burying beetle
Atlantic loggerhead
Atlantic green turtle
Atlantic leatherback turtle
Atlantic ridley turtle
Bald eagle
Peregrine falcon
Piping plover
Roseate tern



American bittern



Piping plover

One Rhode Island bird was taken off the state's endangered list last year, according to Richard Enser, coordinator of the state's Natural Heritage Program. "We removed the vesper sparrow from the list because no one can find it nesting any more." It has moved into another category, called State Historical.

ORDNANCE AND EXPLOSIVE WASTE
ARCHIVES SEARCH REPORT
FOR
FORT WETHERILL
JAMESTOWN, RI
PROJECT NUMBER D01RI033703

APPENDIX F
LETTERS/MEMORANDUMS/MISCELLANEOUS

APPENDIX F

LETTERS/MEMORANDUMS/MISCELLANEOUS

Table of Contents

- F-1 Memorandum for commanders, major subordinate commands dated 15 March 1994. Subject: Defense Environmental Restoration Program (DERP) - Site Eligibility Policy Clarification for Ordnance and Explosive Waste (OEW) at Formerly Used Defense Sites (FUDS) (reference B-28).
- F-2 Letter dated 23 August 1994. Subject: Status of Fort Wetherill site on the National Register of Historic Places. Enclosures question why many of the buildings on the site are not on the national register (reference B-29).
- F-3 Document dated 16 March 1972. Document lists Fort Dumplings site as a national historic place (reference B-8).
- F-4 General Order No. 43 dated 4 April 1900. Document names fort in honor of the late Captain Alexander M. Wetherill, 6th U.S. Infantry killed in action 1 July 1898, at San Juan Hill, Santiago, Cuba (reference B-26).
- F-5 Document dated 3 April 1950. Document states the statistics for each battery at Fort Wetherill (reference B-26).
- F-6 Document dated 3 April 1950. Document gives the types of weapons and the mission for the Fort Wetherill Military Reservation (reference B-26).
- F-7 First Indorsement to the Chief of Engineers, U.S. Army, from U.S. Engineers Office, Newport, RI, dated 26 February 1918. Document names the batteries that had been disarmed (reference B-31).
- F-8 First Indorsement to the Chief of Coast Artillery, Washington, DC, from HQ. N.A.C.A. District, Boston, MA, dated 7 May 1920. Document recommends anti-aircraft positions at Fort Wetherill (reference B-32).
- F-9 Document dated 1 July 1938. Document gives the battery statistics for the AMTB/AAA battery (reference B-33).
- F-10 Letter to the Commanding General, First Corps Area, from the District Commander, dated 13 December 1921. Letter gives status of inspection at the forts associated with Fort Adams (reference B-34).
- F-11 Document, "Harbor Defense of Narragansett Bay, Anti-Aircraft Automatic Weapons," dated 23 October 1940. Document states the types and quantities of automatic AAA weapons used on different sites (reference B-36).

- F-12 Document to Commanding General, New England Sector, dated 23 February 1944. Subject: Request For Construction (reference B-37).
- F-13 Document, "Antiaircraft Automatic Weapons," dated 1 February 1945. Document gives types and quantities of automatic AAA weapons at different sites (reference B-25).
- F-14 Document, "Moveable Armament On Hand, July 1944." Document states types and quantities of weapons, their location, and their missions (reference B-26).
- F-15 Letter to the Secretary of War, from Mr. Neville Leary, Jamestown, RI, dated 10 June 1940. Subject: Damage caused to household effects by firing 12-inch guns at Fort Wetherill (reference B-38).
- F-16 Document, Historical Data Card of Fort Wetherill, last dated 15 February 1950. Document gives statistics and record of classification of the fort (reference B-41).
- F-17 Document to Commanding Generals, Eastern Defense Command, First Service Command, The Provost Marshal General, and the Chief of Engineers, dated February 1946. Subject: Discontinuance of Prisoner of War Branch Camp, Wetherill, RI (reference B-42).
- F-18 Document, "Defensive Sea Areas, Defensive Coastal Areas, and Underwater Defenses, Narragansett Bay," date unknown. Document describes coastal and underwater defenses of the bay area (reference B-43).
- F-19 Letter to Headquarters, Army Services Forces, Washington, DC, from Brig. General W.A. Wood, Jr. and Colonel C.E. Cotter, dated 7 May 1943. Subject: Salvage of Battery Varnum, 12-inch B.C. Fort Wetherill, RI (reference B-44).
- F-20 Document, "Fortifications," dated 3 April 1950. Document lists the chronology of the dismantling of the batteries at the fort (reference B-26).
- F-21 Letter to A.O.N.A.D., from O.O.C.D. of Narragansett Bay, dated 31 December 1915. Subject: Withdrawal from service of T.I.&S.Co., 10-inch and 12-inch Armor Piercing Shells (referenced B-45).
- F-22 Letter to the Chief of Ordnance, Coast Army Artillery, from F.W. Coe, Chief of Coast Artillery, Washington, DC, dated 20 December 1922. Subject: Assignment of ammunition 3-inch 15-pounder Guns, Coast Defense, First Corps Area (reference B-46).

- F-23 Memorandum to the Chief of Manufacturing Service, Chief of Field Service, and Chief of Technical Staff, from Major William C. Young, Ordnance Department, Chief, War Plans Division, dated 21 November 1932. Subject: Harbor Defense Project - New York - Narragansett Bay Area (reference B-47).
- F-24 Document, "Battery Dickenson," last entry dated 24 July 1935. Document lists the dates, reasons, and number of rounds actually fired by Gun No. 2 (reference B-26).
- F-25 Document, "Records of Firing," with last entry dated 3 April 1950. Document lists the dates and the type of firing at Fort Wetherill (reference B-26).
- F-26 Document, "Ammunition Supply (ammunition turn-in document)," dated 4 April 1950. Document lists ammunition types, quantities, and lot numbers on hand that were turned in (reference B-26).
- F-27 Document, dated 1944. Document lists the ammunition types, quantities, and lot numbers that were kept on hand in the casemate storage magazines. Document included a planograph of the magazine (reference B-26).



DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

15 MAR 1994

CEMP-RF (200-1a)

MEMORANDUM FOR COMMANDERS, MAJOR SUBORDINATE COMMANDS (EXCEPT CETAD)

SUBJECT: Defense Environmental Restoration Program (DERP) - Site Eligibility Policy Clarification for Ordnance and Explosive Waste (OEW) at Formerly Used Defense Site (FUDS)

1. Huntsville Division and others have raised policy issues regarding eligibility of ordnance remediation at sites where ordnance resulted from acts of war, or live fire training exercises or disposal on property which was never owned but was clearly used by DoD.

2. Accordingly, the following clarification was developed and is authorized for implementation:

a. As current policy on DERP-FUDS site eligibility states: "Sites which were used for the disposal of DoD materials or wastes where the installation or activity responsible for the materials or waste is inactive may be considered eligible." However, only "sites within the fifty states, districts, territories, commonwealths, and possessions over which the United States has jurisdiction are eligible for the FUDS program."

b. Sites meeting the above criteria, even though never owned, but obviously used by DoD either for ordnance firing or disposal, are eligible sites and will be added to the DERP-FUDS inventory as discovered. (Note: "off-shore" ordnance sites, beyond 100 yards of mean high tide, will not be added to the inventory database except in special cases where a public exposure pathway exists.)

c. At an eligible site, cleanup of foreign ordnance may be proposed as an eligible project.

d. Sites contaminated by acts of war are not authorized for DoD remediation under DERP, and will not be proposed unless the site was "owned by, leased to, possessed by, or otherwise under the jurisdiction of the Secretary of Defense at the time of activities which resulted in hazard."



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

HISTORICAL PRESERVATION COMMISSION

Old State House
150 Benefit Street
Providence, Rhode Island 02903
401-277-2678 • FAX 401-277-2968 • TDD 401-277-3700

23 August 1994

Ms Shirley Daniels
USATCES
Attention: SMCAC-ESL
Savanna, Illinois 61074-9639

Dear Ms Daniels:

I checked through our above- and below-ground files for both the Newport Naval Station Support Facility on Prudence Island and Fort Wetherill.

Enclosed is the material in our National Register file for Fort Wetherill; nothing further has been accumulated since 1986, and I am not sure that the proposed activity even happened. Our archaeologist notes that the likelihood for the presence of cultural artifacts at this site is quite high but noted that no investigation has occurred.

At Prudence Island we have documented four archaeological sites, two historic (including a nineteenth-century farm site and a possibly-seventeenth-century farm site) and two pre-historic. All sites appear heavily disturbed and probably retain little integrity.

I'd say the upshot is that Fort Wetherill is probably eligible for the National Register of Historic Places for both above- and below-ground resources.

Please let me know if I may be of further assistance.

Very truly yours,

Mark Woodward

Wm McKenzie Woodward
Planning and Land Use Coordinator



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

HISTORICAL PRESERVATION COMMISSION

Old State House
150 Benefit Street
Providence, R.I. 02903
(401) 277-2678

May 19, 1986

*AD Please
see to it*

Mr. Calvin Dunwoody, Chief
Division of Planning and Development
22 Hayes Street
Providence, RI 02903

Re: Proposed marine fisheries lab
Fort Wetherell State Park, Jamestown

Dear Mr. Dunwoody:

Thank you for meeting on site with Virginia Fitch, Martha L. Werenfels and me to discuss a DEM proposal to construct a marine fisheries laboratory at Fort Wetherill State Park, Jamestown, using federal funds through the Department of Interior, Division of Fish and Wildlife. The plans are very preliminary at this time, but include proposed demolition of three concrete World War I buildings, constructed in 1909, 1910 and 1911, and several small buildings for construction of a new laboratory facility facing Fort Cove.

As we discussed, several issues need to be addressed before the proposal and its effect on significant cultural resources can be adequately evaluated. Specifically, the cultural resources need to be evaluated for their eligibility for listing in the State Register and National Register of Historic Places; the structural condition of the buildings needs to be assessed; more specific information on the space and financial requirements of the laboratory program needs to be generated; and the possibility of reusing existing buildings should be considered.

The area of high land on the point just south of the proposed site is the site of Fort Dumpling, a Revolutionary War fort, and is listed in the National Register of Historic Places. Fort Dumpling itself was destroyed c. 1898 when Fort Wetherill was constructed and the site now contains concrete gun emplacements and a look out structure dating from World War II.

May 19, 1986

Based on the limited information presently available it appears that the buildings proposed for demolition may also be historically significant for their role in Rhode Island's coastal defense system and may be eligible for National Register listing as a group or as part of a nomination for Fort Wetherill itself. We recommend, therefore, that DEM study these buildings in the context of the Fort to define and evaluate the significance and boundaries of the resource, and request a determination of eligibility from the Keeper of the National Register. We can provide names of qualified consultants to undertake the study or may be able to do it ourselves, under contract to DEM.

We understand that DEM will examine in more detail the space requirements of the laboratory and the condition of the buildings and we look forward to reviewing that information when it is available. We appreciate the importance of creating a modern marine lab and believe that a laboratory facility may be an ideal new use for these now vacant buildings.

Very truly yours,



Edward F. Sanderson
Executive Director
Deputy State Historic
Preservation Officer

/db

cc: Mr. John Cronan
Mr. Lee Whitaker

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
INTER-OFFICE MEMO

DATE: 22 April 1986

TO: Ted Sanderson
FROM: Walter Nebiker
SUBJECT: Storehouse buildings (1909, 1940) at Fort Cove, Fort
Wetherill, Jamestown
CC: Ginny Fitch, Pamela Kennedy

Re. our meeting yesterday to discuss the possible destruction of four buildings at Fort Wetherill, three built in 1909, one erected in 1940, and used to store cables, mines, and other military equipment, by the Department of Environmental Management, I had a phone conversation with Walter Schroeder, author of Defenses of Narragansett Bay in World War II. He told me that on a recent tour with a group of military buffs, one of the informed/knowledgable members was pleasantly surprised when he saw the buildings here at Fort Cove, particularly the one with vats, or tanks, which were used to soak the cables that were laid across Narragansett Bay. It was, in his opinion, a relatively rare building of this type. Schroeder is presently contacting some members of his organization to get more information to better assess the significance of the buildings and site.

Wsn

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

(Type all entries - complete applicable sections)

STATE: Rhode Island	
COUNTY: Newport	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE
MAR 16 1972	

1. NAME	
COMMON: Fort Dumpling Site	
AND/OR HISTORIC:	

2. LOCATION			
STREET AND NUMBER: Ocean Street			
CITY OR TOWN: Jamestown			
STATE Rhode Island, 02835	CODE 111	COUNTY: Newport	CODE 005

3. CLASSIFICATION			
CATEGORY (Check One)	OWNERSHIP	STATUS	ACCESSIBLE TO THE PUBLIC
☐ District ☒ Site ☐ Building ☐ Structure ☐ Object	☒ Public ☐ Private ☐ Both	☒ Occupied ☒ Unoccupied ☐ Preservation work in progress	Yes: ☐ Restricted ☒ Unrestricted ☐ No
PRESENT USE (Check One or More as Appropriate)			
☐ Agricultural ☐ Commercial ☐ Educational ☐ Entertainment	☐ Government ☐ Industrial ☐ Military ☐ Museum	☐ Park ☐ Private Residence ☐ Religious ☐ Scientific	☐ Transportation ☒ Other (Specify) Unused

4. OWNER OF PROPERTY			
OWNER'S NAME: United States Government (General Services Administration)			
STREET AND NUMBER:			
CITY OR TOWN: Washington	STATE: District of Columbia	CODE 11	

5. LOCATION OF LEGAL DESCRIPTION			
COURTHOUSE, REGISTRY OF DEEDS, ETC: Town Clerk			
STREET AND NUMBER: 71 Narragansett Avenue			
CITY OR TOWN: Jamestown	STATE: Rhode Island, 02835	CODE 111	

6. REPRESENTATION IN EXISTING SURVEYS			
TITLE OF SURVEY: Not so represented			
DATE OF SURVEY:	☐ Federal	☐ State	☐ County
☐ Local			
DEPOSITORY FOR SURVEY RECORDS:			
STREET AND NUMBER:			
CITY OR TOWN:	STATE:	CODE	

Source: US Dept Interior, National Park, Natl Register of Historic Places
SEE INSTRUCTIONS

STATE:
COUNTY:
ENTRY NUMBER
DATE

7. DESCRIPTION	
CONDITION	(Check One)
	☐ Excellent ☐ Good ☐ Fair ☐ Deteriorated ☒ Ruins ☐ Unexposed
	(Check One) ☐ Altered ☐ Unaltered (Check One) ☐ Moved ☒ Original Site
DESCRIBE THE PRESENT AND ORIGINAL (if known) PHYSICAL APPEARANCE At the southeastern tip of the main part of Conanicut Island three great thrusts of granite extend into the channel from Narragansett Bay to the ocean. The 80-to-100-foot cliffs are some of the most southerly outcroppings of this sort along the eastern seaboard and are unique in lower New England. Mariners as early as Verazzano in 1524 have remarked on the way in which these land forms serve as a natural location for the defense of the whole of Narragansett Bay. The center "finger" of land, between what are called today West Cove, to the west, and Fort Cove, to the east, was for one hundred years the site of Fort Dumpling, built 1798-1800 under direction of an important French military engineer, a veteran of our Revolutionary War, Major Louis Tousard. The fort and its original siting can be observed in old photographs: the land, overgrown with scrubby weeds where granite is not exposed, rises slowly from the island to a plateau just large enough, it appears, for the fort. The granite is more in evidence and the incline steeper, of course, down to the water. The fort was built on the 50-foot promontory out of stone masonry in the form of an ellipse, whose axes were 81 feet (easterly) and 180 feet (northerly) respectively. An old elevation shows two rows of small square windows in the 26-foot-high wall, and descriptions tell of four brick-arched casemates on the channel side. These forms as described probably correspond to a kind of corridor with arched openings that was built inside the fort along the wall and which appears in old photographs. These old photographs show that the fort had become by then truly a "picturesque ruin," as General Cullum called it, and the island lost a notable work of architecture when it was <u>declared unsafe and subsequently dynamited in March, 1898.</u> Today one approaches the site on land from Jamestown's Ocean Street. The 52 acres that have been a naval reservation are stark and rough and generally unspoiled: the dark, resilient vegetation --mostly weeds, berry bushes, and evergreen trees--covering the rolling landscape is often enshrouded by the fog which slips in from the ocean. As one nears Fort Dumpling's site, fairly modern military and maritime buildings dominate the scene. A submarine-mine storehouse facing Fort Cove, and a large pier area, begun before 1896, have considerably altered the physical character of the cove. Nothing structural remains of Fort Dumpling itself; the hill on which it stood has been isolated by the paved areas behind it, and there is a World War II concrete hut at the top, behind a bunker. From the top of the mound there is a splendid vista--Fort Adams, and Trinity Church's spire dominating the Newport skyline, both to the east; Castle Hill to the southeast; and Kettlebottom Rock, Beaver Tail, Point Judith, and Block Island, all to the southwest. The plateau on the hill still measures about the same as when it accommodated the fort; but immediately south and adjacent to the site, the land has been built up to hold a dug-in World War II fortification. Originally, the land dropped directly down to rugged granite shoreline formations over which the waves break. (See Continuation Sheet.)	

SEE INSTRUCTIONS

X

X

X = incorrect marking

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

(Continuation Sheet)

STATE Rhode Island	
COUNTY Newport	
FOR NPS USE ONLY	
ENTRY NUMBER MAR 16 1972	DATE

(Number all entries)

7. Description.

The coves nearby are "bold"--they are deep and thus accommodate deep-keeled boats and are excellent places for fishing--and they have small sandy beach areas.

8. Significance.

World Wars I and II--at which latter time additional concrete defences were built into the cliff--until the entire emplacement was finally abandoned by the military.

Arrangements are just now (January, 1972) in the making for transfer of the Fort Dumpling site from the General Services Administration to the State of Rhode Island, its future use to be that of a park or "passive" recreation area, differing somewhat from the park, museum and educational uses planned for its companion, Fort Adams, across Narragansett Bay's east channel. So, both on land and from the sea, people can use, see and appreciate this promontory which for so long has formed a New England landmark and and natural local harbour defence. It will be fortunate for Jamestown and for Rhode Island that there is such a plan to preserve this location for public use, recognition and appreciation; and that it will thus escape certain other less desirable uses and constructions which had been proposed for the site.

SIGNIFICANCE			
PERIOD (Check One or More as Appropriate)			
☐ Pre-Columbian	☐ 16th Century	☒ 18th Century	☐ 20th Century
☐ 15th Century	☐ 17th Century	☒ 19th Century	
SPECIFIC DATE(S) (If Applicable and Known) 1798-1800			
AREAS OF SIGNIFICANCE (Check One or More as Appropriate)			
☐ Aboriginal	☐ Education	☐ Political	☐ Urban Planning
☐ Prehistoric	☐ Engineering	☐ Religion/Philosophy	☐ Other (Specify) _____
☐ Historic	☐ Industry	☐ Science	_____
☐ Agriculture	☐ Invention	☐ Sculpture	_____
☐ Architecture	☐ Landscape Architecture	☐ Social/Humanitarian	_____
☐ Art	☐ Literature	☐ Theater	_____
☐ Commerce	☒ Military	☐ Transportation	_____
☐ Communications	☐ Music		
☐ Conservation			
STATEMENT OF SIGNIFICANCE			
For over four hundred years the advantages of the Fort Dumpling location have been noticed and/or employed, beginning first with the observation by the Italian explorer Giovanni Verazzano, who in 1524 wrote "In the midst of the harbour's east entrance there is a rock of freestone, formed by nature, and suitable for the construction of any kind of machine or bulwark for the defence of the harbor." Later, in 1636, Roger Williams remarked in his letters that Governor Winthrop of Massachusetts wished Narragansett Bay and Conanicut (Jamestown) Island settled and protected, as any attack through that area would "lead to the back door of Boston." In 1764 or 1765, the British military officer and colonial official Robert Melville wrote, regarding "points of defence by forts and batteries," that "nature has done her part, every point, height and Island being placed in the very best place for effectual defence." For these reasons, British forces at the time of the American Revolution were quick to over-run and hold Conanicut Island, and a detachment was posted on "that part called the Dumplings," lest the Americans instead have control over the entrance to Newport Harbour. Finally, in 1798-1800, when maritime relations with France were strained, Fort Dumpling was actually constructed under the direction of Major Louis Tousard, who also superintended the building of its larger neighbour, Fort Adams in Newport. Behind walls, and an elliptical tower 180 by 81 feet on the ground, of stonework, a gun battery in casemates was well protected and was activated as a vital part of harbour defence in the War of 1812 and in the Civil War. The existence and dominating position of this fortification were reasons why an enemy never dared approach--never penetrated the inner bay--and why the artillery placed there was never obliged to go into serious action. By 1898 the old fort had become ruinous, and the remains were demolished by dynamiting in order that Fort Wetherell, hurriedly required on account of the Spanish-American War, could be constructed on the strategic site. The name Fort Wetherell remained throughout and after			
(See Continuation Sheet.)			

9. MAJOR BIBLIOGRAPHICAL REFERENCES U. S. Works Progress Administration. Federal Writers' Project: <u>Rhode Island. A Guide ...</u> (Boston, 1937), p. 432. Field, Edward: <u>Revolutionary Defences in Rhode Island</u> (Providence, Rhode Island, 1896), p. 143.
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10. GEOGRAPHICAL DATA				
LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY		O R	LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN TEN ACRES	
CORNER	LATITUDE Degrees Minutes Seconds		LONGITUDE Degrees Minutes Seconds	LATITUDE Degrees Minutes Seconds
NW	° ' "	° ' "	41° 28' 38.43"N	71° 24' 3.07"W
NE	° ' "	° ' "		
SE	° ' "	° ' "		
SW	° ' "	° ' "		
APPROXIMATE ACREAGE OF NOMINATED PROPERTY: <u>Less than one acre</u>				
LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES				
STATE:	CODE	COUNTY:	CODE	
STATE:	CODE	COUNTY:	CODE	
STATE:	CODE	COUNTY:	CODE	
STATE:	CODE	COUNTY:	CODE	

11. FORM PREPARED BY:	
NAME AND TITLE: <u>B. Christopher Bene, Surveyor-Researcher</u> <u>Richard B. Harrington, Consultant</u>	
ORGANIZATION <u>Rhode Island Historical Preservation Commission</u>	DATE <u>January 29, 1972</u>
STREET AND NUMBER: <u>State House, 90 Smith Street</u>	
CITY OR TOWN: <u>Providence</u>	STATE <u>Rhode Island, 02903</u>
	CODE <u>44</u>

12. STATE LIAISON OFFICER CERTIFICATION As the designated State Liaison Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service. The recommended level of significance of this nomination is: National ☐ State ☒ Local ☐ Name <u>Frederick C. Williamson</u> Title <u>State Liaison Officer</u> Date <u>February 14, 1972</u>	NATIONAL REGISTER VERIFICATION I hereby certify that this property is included in the National Register. <u>Amant A. Connolly</u> Chief, Office of Archeology and Historic Preservation <u>MAR 16 1972</u> Date _____ ATTEST: <u>William J. Hurd</u> Keeper of The National Register <u>MAR 7 1972</u> Date _____
--	---

SEE INSTRUCTIONS

F-3

4596000m.N.

Jamestown

JAMESTOWN

CONAN ISLAND

The Dumplings

Bull Pt.

Fort Wetherill

Southwest Pt.

GEOGRAPHICAL COORDINATES

Latitude: $41^{\circ} 28' 38.43''$ N

Longitude: $71^{\circ} 24' 3.07''$ W

Castle Cove

Light

Rams Head

Ragged Pt.

Butter Ball Rock

U.S. COAST GUARD RESERVATION

WINANS AVE

ATLANTIC AVE

OCEAN AVE

Graves Pt.

Brenton Pt.

Seal Rock

Rose Island

Fort Hamilton

Light

Mitchell Rock

FERRY

FERRY

Light

Dolphin

Fort Adams

Brenton Village

RES.

Newport Country Club

Graves Pt.

Brenton Pt.

FORT WETHERILL, R.I.

EXTRACT COPY OF ORDER NAMING FORT WETHERILL, RHODE ISLAND.

General Orders,)

No. 43.)

Headquarters of the Army,

Adjutant General's Office,

Washington, April 4, 1900.

The following order from the War Department is published to the Army for the information and guidance of all concerned:

War Department, Washington, March 24, 1900.

By direction of the President, and under the provisions of paragraph 198, Army Regulations, names to new batteries which have recently been constructed and sites for works to be constructed along the seacoast of the United States are hereby announced as follows:

NARRAGANSETT BAY, RHODE ISLAND.

Reservation at the Dumplings, Conanicut Island, FORT WETHERILL, in honor of the late Captain Alexander M. Wetherill, 6th U. S. Infantry killed in action, July 1, 1898, at San Juan, Santiago, Cuba.

Elihu Root,

Secretary of War.

By command of Major General Miles.

H. C. Corbin,

Adjutant General.

DECLASSIFIED PER EXECUTIVE ORDER 12356, SECTION 3.3, NND PROJECT
NUMBER Dod Di 740520/301 RR/VSW, DATE 8/26/94

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BATTERY WALBACH

No. 3. Date of construction: 1901-04.

Whether constructed under contract or not: No.

Name of constructing engineer: Major Geo. W. Goethals, C.E.

Date of receipt by artillery from engineers, giving name of receiving officer:

May 7, 1908. - Major J.C.W. Brooks, C.A.C.

Caliber of gun: 10-inch.

Model: 1888M11.

Serial number: 50.

Place and date of fabrication: Bethlehem, Pa. - 1902.

Carriage: Model 1901, disappearing, L.F., Ser. no. 1, Mfg. at Bethlehem, Pa. - 19 ?.

Dates of mounting gun and carriage: October and November 1909 under supervision of

Captain C.R. Smith, C.A.C.

Limits of elevation of gun as mounted and emplaced: Unknown. (When determined will furnish information
(Letter Capt. Smith 4/15/10)

Limiting azimuths of field of fire: 300° - 50°

Height above mean low water of axis of gun trunnions:

Capacity of shot and shell rooms: 1776 cu. ft. 200 rounds.

Capacity of service magazines: 2784 cu. ft. 200 rounds.

Condition of magazines with regard to moisture: Dry.

(Guns Dismounted.)

BATTERY WHEATON

(d) EMPLACEMENTS. -

(shown separately in numerical order).

No. 1. Date of construction: 1903-04.

Whether constructed under contract or not: Not constructed under contract.

Name of constructing engineer: Major Geo. W. Goethals, Capt. C.E. Gillette and
Lieutenant Colonel J.E. Willard, C.E.

Date of receipt by artillery from engineers, giving name of receiving officer:
May 7, 1908. Major J.C.W. Brooks, C.A.C.

Caliber of gun: 12-inch.

Model: 1900.

Serial No. 11.

Place and date of fabrication: Watervliet Arsenal, N.Y.: 1904.

Carriage: Model 1901, Disappearing, Limited fire, ser. No. 2.

Manufactured at Watertown Arsenal, in 1904.

Date of mounting gun and carriage: May to June 1905 under supervision of Lieut.,
Colonel J.E. Willard, C.E.

Limits of elevation of gun as mounted and emplaced: $9^{\circ} 50'$

Limiting azimuths of fields of fire: $290^{\circ} - 60^{\circ}$.

Height above mean low water of gun trunnions: 86.134'.

Capacities of shot and shell rooms: 2420 cu. ft. - 200 rounds.

Capacity of service magazine: 4640 cu. ft. - 200 rounds.

Condition of magazines with regard to moisture: Summer: Dry. Winter: Dry.

No. 2. Date of construction: 1903-04.

Whether constructed under contract or not: Not constructed under contract.

Name of constructing engineer: Major Geo. W. Goethals, Capt. C.E. Gillette and
Lieutenant Colonel J.E. Willard, C.E.

Date of receipt by artillery from engineers, giving name of receiving officer:
May 7, 1908 - Major J.C.W. Brooks, C.A.C.

Caliber of gun: 12-inch.

Model: 1900.

Serial number: 10.

Place and date of fabrication: Watervliet Arsenal, N.Y. - 1904.

Carriage: Model 1901, disappearing, L.F. - Serial No. 11.

Manufactured at Watertown Arsenal in 1904.

Date of mounting gun and carriage: July 1905 - April 1906. under supervision of
Lieutenant Colonel J.E. Willard, C.E.

Limits of elevation of gun as mounted and emplaced: $9^{\circ} 50'$

Limiting azimuths of fields of fire: $300^{\circ} - 60^{\circ}$

Height above mean low water of axis of gun trunnions: 86.147'.

Capacities of shot and shell rooms: 2420 cu. ft. 200 rounds.

Capacities of service magazines: 5000 cu. ft. 200 rounds.

BATTERY 200K

(d) EMPLACEMENTS. -

(Shown separately in numerical order).

No. 1. Date of construction: 1903-05.

Whether constructed under contract or not: Not constructed under contract.

Name of constructing engineer: Major Geo. W. Goethals, Capt. C.E. Gillette and Lt.

Colonel J.H. Willard, C.E.

Date of receipt by artillery from engineers, giving name of receiving officer:

May 7, 1908. Major J.C.W. Brooks, C.A.C.

Caliber of gun: 6-inch.

Model: 1903.

Serial Number: 23.

Place and date of fabrication: Watervliet Arsenal, 1905.

Carriage: Model 1903, disappearing, L.F., serial no. 18.

Manufactured by Morgan Engineering Company.

Dates of mounting gun and carriage: March - November 1905, under supervision of

Lieut., Colonel J.H. Willard, Corps of engineers.

Limits of elevation of gun as mounted and emplaced: 0° - 15°

Limiting azimuths of field of fire: 300° - 60°

Height above mean low water of axis of gun trunnions: 82.76'.

Capacity of shot and shell rooms: 2190 cu. ft. - 500 rounds.

Capacity of service magazine: 2548 cu. ft. - 500 rounds.

Condition of magazines with regard to moisture: Dry.

No. 2. Date of construction: 1903-05.

Whether constructed under contract or not: Not constructed under contract.

Name of constructing engineer: Major Geo. W. Goethals, Capt. C.E. Gillette and

Lt. Colonel J.H. Willard, Corps of Engineers.

Date of receipt by artillery from engineers, giving name of receiving officer:

May 7, 1908. Major J.C.W. Brooks, C.A.C.

Caliber of gun: 6-inch.

Model: 1903.

Serial Number 4.

Place and date of fabrication: Watervliet Arsenal, 1905.

Carriage: Model 1903, disappearing, L.F., Serial Number 17, manufactured by

Morgan Engineering Company.

Date of mounting gun and carriage: March - November 1905, under the supervision of

Lieut., Colonel J.H. Willard, Corps of Engineers.

Limits of elevation of gun as mounted and emplaced: 0° - 15°

Limiting azimuths of fields of fire: 300° - 60°

Height above mean low water of axis of gun trunnions: 82.75'

Capacity of shot and shell rooms: 1090 cu. ft. - 500 rounds.

Capacity of service magazines: 1274 cu. ft. - 500 rounds.

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NUMBER DOD D720520230 RB/VSW, DATE 8/26/94

BATTERY ZOOK

No. 3. Date of construction: 1903-05.

Whether constructed under contract or not: Not constructed under contract.

Name of constructing engineer: Major Geo. W. Goethals, Capt. C.E. Gillette and
Lieutenant Colonel J.H. Willard, Corps of Engineers.

Date of receipt by artillery from engineers, giving name of receiving officer:
May 7, 1908. Major J.C.W. Brooks, C.A.C.

Caliber of gun: 6-inch.

Model: 1903.

Serial Number: 2.

Place and date of fabrication: Watervliet Arsenal, 1905.

Carriage: Model 1903, disappearing, L.F., ser. No. 15.

Manufactured by Morgan Engineering Company.

Dates of mounting gun and carriage: March to November 1905.

Limits of elevation of gun as mounted and emplaced: 0° - 15°

Limiting azimuths of fields of fire: 300° to 60°

Height above mean low water of axis of gun trunnions: 82.74 feet.

Capacity of shot and shell rooms: 500 rounds.

Capacity of service magazines: 500 rounds.

Condition of magazines with regard to moisture: Dry.

Guns and carriages dismounted 1918?.

BATTERY DICKENSON

(d) EMPLACEMENTS.

(Shown separately in numerical order).

No. 1. Date of construction: 1901-02.

Whether constructed under contract or not: No.

Name of constructing engineer: Major Geo. W. Goethals, C.E.

Date of receipt by artillery from engineers, giving name of receiving officer: May 7, 1908, Major, J.C.W. Brooks, C.A.C.

Caliber of gun: 6-inch.

Model: 1900.

Serial number: 40.

Places and dates of fabrication: Watervliet Arsenal, 1903.

Carriage: Model 1900, serial number 35, Barbette, mfg. at Watervliet Ars. 1903.

Dates of mounting gun and carriage: April and June 1905, under supervision of Lieutenant Colonel J.H. Willard, C.E.

Limits of elevation of gun as mounted and emplaced: $0^{\circ} 16^{\circ}$

Limiting azimuths of fields of fire: $290^{\circ} - 50^{\circ}$

Height above mean low water of axis of gun trunnions: 103.04'

Capacities of shot and shell rooms: 2500 cu. ft. 500 rounds.

Capacities of service magazines: 1449 cu. ft. 500 rounds.

Condition of magazines with regard to moisture: Dry.

No. 2. Date of construction: 1901-02.

Whether constructed by contract or not: No. Constructed by engineers.

Name of constructing engineer: Major Geo. W. Goethals, C.E.

Date of receipt by artillery from engineers, giving name of receiving officer, May 7, 1908. Major, J.C.W. Brooks, C.A.C.

Caliber of gun: 6-inch.

Model 1900.

Serial number: 36.

Places and dates of fabrication: Watervliet Arsenal, 1903.

Carriage: Model 1900, Barbette, ser. no. 36, mfg. at Watervliet Arsenal, 1903.

Dates of mounting gun and carriage: April and June 1905, under supervision of Lieutenant Colonel J.H. Willard, C.E.

Limits of elevation of gun as mounted and emplaced: $0^{\circ} 16^{\circ}$

Limiting azimuths of field of fire: $280^{\circ} 60^{\circ}$

Height above mean low water of axis of gun trunnions: 102.935.

Capacity of shot and shell rooms: 2500 cu. ft. 500 rounds.

Capacity of service magazine: 1400 cu. ft. 500 rounds.

Condition of magazines with regard to moisture: Dry.

Elevation increased to 20 degrees April 27, 1923. Azimuth Circle marked April 27, 1923.

January 1, 1943.

Btry. Dick.

AMMUNITION SUPPLY

Capacity of Magazines No. 1	1449	Cub.ft.	No.2	1400	Cub. Ft.
" " shell rooms No. 1	2500	" "	No.2	2500	" "

Conditions of magazines with regard to moisture : when turned over to Artillery. May 9, 1908

Capacity of shot and shell rooms : designd for 500 rounds for gun - . .

Capacity of magazine : " " " " " "

Condition of Magazine regard to moisture , when turned over to 16th. C.O. DRY

Hoist in # 2 magazine does not work right do to the shell carrier hiting against the cement walls
going up to loading platform, May 15th. 1923.

BATTERY CRITTENDON:

(a) POSITION FINDING SYSTEM: (C.R.F.) Constructed 1901-02.

Beavertail Light 41.574° 4727.05 yds.

Castle Hill Light. 354.256° 1995.18 "

Height of Concrete Pier. 91.32 ft.

Height of instrument above top of Concrete Pier. 4.4 ft.

(b) BATTERY COMMANDER'S STATION: None.

(c) COMMUNICATIONS: Battery Commander's Telephone installed in rear of Battery, 1909.

(d) EMPLACEMENTS:

(Shown separately in numerical order)

No. 1 Date of Construction: 1901-02.

Whether constructed under contract or not: No.

Name of constructing engineer: Major Geo. W. Goethals, C.E.

Date of receipt by artillery from engineers, giving names of receiving officer:

May 7, 1908, Major J.C.W. Brooks, C.A.C.

Calibre of Gun: 3-inch 15 pdr. Model 1902.

Serial Number: 28.

Places and dates of fabrication: Bethlehem, Pa., 1905.

Carriage Model: 1902, Serial Number: 28, manufactured at Bethlehem, Pa.

by Bethlehem Steel Co., in 1905.

Dates of mounting guns and carriages: June 1905, under supervision of Lieut. Col.

J.H. Willard, C.E.

Limits of elevation of gun as mounted and emplaced: 0° - 15°

Limiting azimuths of field of fire: 290° - 45°

Height above mean low water of axis of gun trunnions: 84.88. ft.

Capacity of shot and shell room:)

Capacity of service magazine:) 877 cu. ft. 500 rds. per gun.

Condition of magazine with regard as to moisture: Dry

No. 2 Date of construction: 1901-02.

Whether constructed under contract or not: No.

Name of constructing engineer: Major Geo. W. Goethals, C.E.

Date of receipt by artillery from engineers, giving name of receiving officer:

May 7, 1908, Major J.C.W. Brooks, C.A.C.

Calibre of gun: 3-inch, 15 pdr. Model: 1902.

Serial Number: 29.

Place and Date of fabrication: Bethlehem, Pa. 1905.

Carriage, Barbette, Model 1902, Serial Number 29, manufactured at Bethlehem, Pa.

by Bethlehem Steel Co., in 1905.

DECLASSIFIED PER EXECUTIVE ORDER 12356, SECTION 3.3, NND PROJECT
 NUMBER Dod Di 7425202/301 RR/VSW, DATE 8/26/94

BATTERY CRITTENDEN

Date of mounting gun and carriage: June 1905, under supervision of

Lieut. Colonel J.H. Willard, Corps of Engineers.

Limits of elevation of gun as mounted and emplaced:

Limiting azimuths of field of fire: 281° - 52.30°

Height above mean low water of gun trunnions: 84.81'

Capacity of shot and shell room)

: 877 cu. ft. 500 rounds.

Capacity of service magazine)

Condition of magazine with regard to moisture: Dry.

Guns and Carriages, model 1902, dismantled and placed in storage

3" (15-pdr.) Model 1903, Nos: 30-31 on B.C. carriage model 1903

Nos: 24-25, removed from Battery Belton, Fort Adams, R.I. April 12,

1925 and mounted at Battery Crittenden. Authority see Letter 371.3,

7th Ind., December 19, 1924, A.G.O.

January 2, 1940.

Date of above entries on page unknown.

A.M.S.
P.M.S.

BATTERY COOKE (out of commission)

(a) POSITION FINDING SYSTEM.--

(b) BATTERY COMMANDER'S STATION.--

(c) COMMUNICATIONS.--

(d) EMPLACEMENTS.--

(Shown separately in numerical order).

No. 1. Date of construction: April to September 1899.

Whether constructed under contract or not: Not constructed by contract.

Name of constructing engineer: Major D.W. Lockwood, C.E.

Date of receipt by artillery from engineers, giving name of receiving officer: Capt. George F.E. Harrison, A.C., February 15, 1901.

Caliber of gun: 3-inch, 15-pdr.

Model: Driggs-Seabury, 1898.

Serial Number: 54.

Place and date of fabrication: Derby, Conn., 1900.

Carriage: Model Driggs-Seabury, 1898, Serial number 54, Manufactured at Derby, Conn., 1900.

Dates of mounting gun and carriage: 1900-01, under supervision of Major G.W. Goethals, Corps of Engineers.

Limits of elevation of gun as mounted and emplaced: 0° to 12.30°

Limiting azimuths of fields of fire: $305^{\circ} 53'$ - $85^{\circ} 53'$

Height above mean low water of axis of gun trunnions: 44.18'

Capacity of shot and shell room)
: Fixed ammunition: - 500 rounds.
Capacity of service magazine)

Condition of magazine with regard to moisture: Dry.

(Guns and carriages dismounted).

October 1, 1940

Date of above entries on this page unknown, but this Battery had been Completely dismantled at the time I assume command of Fort Wetherill

DECLASSIFIED PER EXECUTIVE ORDER 12356, SECTION 3.3, NND PROJECT
NUMBER DAD D:740522/301 RB/VSW, DATE 8/26/94

BATTERY COOKE

No. 2. Date of construction: April to September 1899.

Whether constructed under contract or not: No.

Name of constructing engineer: Major D.W. Lockwood, C.E.

Date of receipt by artillery from engineers, giving name of receiving officer: February 15, 1901, Capt. Geo. F.E. Harrison, A.C.

Caliber of gun: 3-inch, 15-pdr.

Model: Driggs-Seabury 1898, Serial Number 56, manufactured at Derby, Connecticut, in 1900.

Date of mounting gun and carriage: 1900-01, under supervision of Major, G.W. Goethals, Corps of Engineers.

Limits of elevation of gun as mounted and emplaced - 0° - 12.30°

Limiting of azimuths of fields of fire: $305^{\circ} 53'$ - $85^{\circ} 53'$

Height above mean low water of axis of gun trunnions: 44.18'

Capacity of shot and shell room)
: Fixed ammunition. 500 rounds.
Capacity of service magazine)

Condition of magazines with regard to moisture: Dry.

BATTERY VARNUM

Speaking tubes were installed when the battery was built in 1898. Temporary telephone system was installed under the direction of Captain A.P.S. Hyde, C.A.C. Battery Commander, in August 1907.

Date of each modification of the original installation:

Authority for each modification:

(d) EMPLACEMENTS.

(Shown separately in numerical or alphabetical order).

No. 1. Date of construction: 1898.

Whether constructed under contract or not: No. Constructed by Engineers.

Name of constructing engineer: Major D.W. Lockwood, C.E.

Date of receipt by artillery from engineers, giving name of receiving officer:

March 25, 1905, Colonel William Ennis, Artillery Corps.

Caliber of gun: 12-inch.

Model: 1888.

Serial No. 5.

Places and dates of fabrication: Watervliet Arsenal, 1893.

Carriage, model 1892, ser. No. 23, Manufactured at Niles, Ohio, in 1899 by

Morgan Engineering Company.

Dates of mounting gun and carriage: 1899 under the supervision of Major, Lockwood,

C.E., and L.D. Johnson, Junior Engineer.

Limits of elevation of gun as mounted and emplaced: $+15^{\circ}$ to 7°

Limiting azimuths of fields of fire: From $318^{\circ} 50'$ to $92^{\circ} 50'$.

Heights above mean low water of axis of gun trunnions: 46.66 feet.

Capacities of shot and shell rooms: Shot room - 600 rds. Shell room 400 rds.

Capacity of service magazines: 150 rounds.

Condition of magazines with regard to moisture: Summer - damp; Winter - dry.

No. 2. Date of construction: 1898.

Whether constructed under contract or not: No.

Name of constructing Engineer: Major D.W. Lockwood, C.E.

Date of receipt by artillery from engineers: giving name of receiving officer:

March 25, 1905, Colonel William Ennis. Artillery Corps.

Caliber of gun: 12-inch.

Model: 1888.

Serial Number: 14.

Place and date of fabrication: Watervliet Arsenal, 1893.

Carriage model: 1892, Ser. No. 24, Manufactured at Niles, Ohio. in 1899 by

Morgan Engineering Company.

Dates of mounting gun and carriage: 1899 under the supervision of Major Lockwood,

Corps of Engineers, and L.D. Johnson, Junior Engineer.

DECLASSIFIED PER EXECUTIVE ORDER 12356, SECTION 3.3, NND PROJECT
 NUMBER DAD Di740520/304 RR/VSW, DATE 8/26/94

LONG AGENTS: 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

BATTERY VARNUM

Limiting azimuths of fields of fire: From $230^{\circ}50'$ to $91^{\circ}50'$.

Heights above mean low water of axis of gun trunnions: 46.66 feet.

Capacities of shot and shell rooms: Shot room - 600 shot; Shell room: 400 shell.

Capacity of service magazine: 150 rounds.

Condition of magazines with regard to moisture: Winter dry; Summer: damp.

Extract from Battery Varnum Emplacement Book which was destroyed 4 April 1945.

Capacity of Shot and Shell Rooms.

<u>Emplacement #1</u>	<u>Emplacement #2</u>
Shotroom size 411 sq ft. 4 Ft. high	442 Sq Ft. 8 Ft. high
Shell room 291 sq ft 8 ft high	291 sq ft 8 ft high
Cap of Service Magazine 527 sq ft 8 ft high	527 sq ft 8 ft high

JNS.
 F.N.S.
 4 Apr 45

3. FORTIFICATIONS.

A general summary of the several works, including their armament:

BATTERY VARNUM,	Two 12-inch, barbette;
BATTERY WHEATON,	Two 12-inch, disappearing;
BATTERY WALBACH,	Three 10-inch, disappearing;
BATTERY ZOOK,	Three 6-inch, disappearing, R.F.G.
BATTERY DICKENSON,	Two 6-inch, pedestal, R.F.G.
BATTERY COOKE,	Two 3-inch, Bal. Pillar, R.F.G.
BATTERY CRITTENDEN,	Two 3-inch, pedestal, R.F.G.

Object of the fortifications; their relation to adjacent forts. The fortifications at Fort Wetherill are, in relation to the other seacoast defenses of Narragansett Bay, centrally located. They constitute the main defense of the Eastern Channel; some of them could be used advantageously in rendering untenable the position of parties advancing to the attack of Fort Adams and Newport. In general, the guns of the fort, being in part located on relatively high ground, command a considerable area of the waters to the approach of Eastern and Western Channels and are, in conjunction with the other forts, designed to resist, by gun fire alone or in connection with the mine fields, attempts of hostile vessels to gain entrance into the waters of Narragansett Bay.

Organization in fire commands, mine commands, and battle commands:

Tentative, G. O. #1, H.Q.A.D.N.B., Feb. 2, 1910.

Second Fire Command.

(Fort Wetherill, R. I.)

Battery WHEATON,

" WALBACH,

" ZOOK,

Fire Commander, Major S. A. Kephart, C.A.C.

Second Mine Command.

(Fort Wetherill, R. I.)

Battery CRITTENDEN,

Mine Commander, Capt. H. J. Watson, C.A.C.

BATTLE COMMAND.- All Fire and Mine Commands in Artillery District of Narragansett Bay were organized, tentatively, into one Battle Command, April 9, 1910; per G. O. #8, A.D.N.B., 1910.

(SAFE) FM 4-243

1st ind.

NHB-

U.S.E.O., Newport, R.I., February 26, 1918.- To the Chief of Engineers,
U.S. Army.

1. Batteries and armament now at the defenses of Narragansett Bay, R.I., and not included in the above list are:

Fort Adams:

Battery Greene
Battery Edgerton
Battery Reilly

4 12-inch mortars and carriages.
3 12-inch mortars and carriages.
2 10-inch D.C. guns and carriages.
Guns are dismounted, now on
dock awaiting shipment.

Fort Wetherill:

Battery Walbach

3 10-inch D.C. guns and carriages. All guns are dismounted and are on dock awaiting shipment. One carriage being shipped.

Battery Zook

3 6-inch D.C. carriages (guns have been shipped).

Fort Getty:

Battery House

A part of each 6-inch pedestal carriage remains (guns and part of carriages shipped).

Fort Greble:

Battery Hale
Battery Mitchell

3 10-inch D.C. guns and carriages.
3 6-inch D.C. carriages (guns have been shipped).

Fort Kearny:

Battery French

4 6-inch D.C. carriages (guns have been shipped).

W. H. Miller
Colonel, U.S. Army, Retired.

472.93

1st Ind.

EWN/fb

HQ. N.A.C.A. DISTRICT, Boston, Mass., May 7, 1920. - To the Chief of Coast Artillery, Washington, D.C.

1. With reference to Par. 1 (c) above, the site recommended is not on Government owned property and it is not believed that the advantage of its being on the crest of the hill warrants the expense and delay of acquiring the necessary land. A satisfactory site can be found on the reservation at Fort Kearney about 200 yards east of the recommended site.

2. With reference to Par. 1 (d) above, the site recommended is not on Government owned property and although this is a very satisfactory position for anti-aircraft guns, yet it is believed that the expense of acquiring the necessary land is not warranted. It is believed that a better plan would be to place the two fixed anti-aircraft guns on the reservation at Fort Greble and use this recommended position for trailer mounts in time of war.

3. The following positions for the fixed anti-aircraft guns are recommended:

(a) Two (2) fixed mounts on the Old Redoubt near the south line of the Fort Adams reservation.

(b) Two (2) fixed mounts at Fort Wetherill on a point about 150 yards west of Battery Varnum.

(c) Two (2) fixed mounts near the west boundary of the Fort Kearney reservation and on the reservation.

(d) Two (2) fixed mounts on the Fort Greble reservation.

4. It is recommended that the positions for the trailer mounts be approved under the condition that these positions might be changed under possible changing conditions in the future.

John W. Ruckman
JOHN W. RUCKMAN,
Brigadier General, U.S.A.
Commanding
C.W.M.

1 RECEIVED MAY 10 1920 O.C.A. *Inc.*

This sheet supersedes sheet dated Oct. 5, 1937

SEND THIS TO
Ed J. R. R. W.
Glen W.

See Note XX
NPT

REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS.
(Gun and Mortar Batteries)

HARBOR DEFENSES OF Narragansett Bay.....
FORT Methuen, R.I.....
BATTERY Anti-aircraft
No. of Guns..3..... Caliber..3"..... Carriage A Mount

Form 1 Corrected to July 1, 1938

Nos. 1&2		No. 3	
Battery commenced	Dec. 1920	June 1937	Sources of electric light
Battery complete	Feb. 1920	Aug. 1937	Max. kw. required for lights
Date of transfer	Oct. 9, 1921	Oct. 5, 1937	
Material of construction	Concrete	Concrete	
Portland or Rosendale cement	Portland	Portland	
Cost to date of transfer	\$2682.28	\$1,005.55	
Connected to water supply	No	No	Present condition of battery
Connected to sewer	No	No	Rooms wet or dry
Type of latrine	None	None	
Type of data transmission	"	"	How ventilated
Trunion elevation in No. 1-54.3,		Remarks-	
battery	No. 2-54.26	No. 3-54.21	
Datum plane	E.L.W.		

** Modified to provide
gun emplacements for 2-
90mm field guns.
See Dir. Cons. No. 53 10/24.
See also 667 (Ann. Bn.) 9/25/37
Notice

ARMAMENT

Emplacement or mortar No.	Cal.	Length	Model	Ser. No.	Manufacturer	Mounted	Type	Model	Ser. No.	Manufacturer	Motor
1	3"	174.65"	17A-2	57	Watervliet	Ars. 1921	A.A.	1917	46	Watertown	Ars.
2	"	"	"	110	"	"	"	"	47	"	"
3	"	"	1917A-2	63	"	"	"	"	45	"	"
4	:	:	:	:	:	:	:	:	:	:	:
5	:	:	:	:	:	:	:	:	:	:	:
6	:	:	:	:	:	:	:	:	:	:	:
7	:	:	:	:	:	:	:	:	:	:	:
8	:	:	:	:	:	:	:	:	:	:	:

HOISTS

Emplacement Number	Type	Delivery	Motor	Ser. No.	Maker	H.P.	Volts	RPM	Type of control	Date of transfer	Remodeled for long points

December 13, 1921.

FROM: The District Commander.

TO: The Commanding General, First Corps Area.

SUBJECT: Tactical Inspection, Coast Defenses of Narragansett Bay.

1. Under the provisions of paragraph 4, Special Orders No. 282, Hq. 1st Corps Area, dated December 5, 1921, I proceeded to the Coast Defenses of Narragansett Bay, for the purpose of making the formal tactical inspection of these Coast Defenses as required by Army Regulations 265-10.

2. I arrived at Fort Adams, R. I., on December 7, 1921, and found conditions there as follows:-

(a) Efficiency of Military Instruction.

The troops are working on indoor instruction with a schedule which is well laid out and is satisfactory.

The Infantry work as shown by the ceremonies and drills observed is very satisfactory. The absentees from these drills are shown and accounted for in the attached lists marked Exhibits "A" and "B".

The Signal and Intelligence details are being instructed; the trained men had all been recently discharged from the service and it is necessary to instruct and train new details which is being done.

A careful inspection of all batteries, storehouses, casements, position finding stations, etc., show that these elements have all been well cared for as is evidenced by their condition.

The course of instruction in the Unit School complies with existing regulations and capable instructors are available.

All men have completed small arms practice and instruction has been given with the automatic rifle and machine gun.

(b) Military Efficiency of Units.

The troops of the Coast Defenses of Narragansett Bay are now concentrated at Fort Adams. The remaining elements of the Coast Defenses, Forts Greble, Wetherill, Getty and Kearney are in the hands of caretaking detachments.

13331/Other
X33235 (CD Narragansett Bay)

REPRODUCED AT THE NATIONAL ARCHIVES

82

The garrison of Fort Adams consists of the 7th Band C.A.C. (15 men); the C.A.C. 1st Company, Narragansett Bay, (97 men); and the C.A.C. 2nd Company, Narragansett Bay, (119 men).

The total strength of these Coast Defenses on December 7, 1921, was 366 present and absent.

The caretaking detachments are as follows:

Fort Greble

1 warrant officer
6 C. A. C.
4 Q. M. C.
5 Ordnance Dept.
1 Medical Dept.
17 Total

Fort Getty

5 C. A. C.

Fort Kearney

4 C. A. C.

Fort Wetherill

8 C. A. C.
4 Ordnance Dept.
12 Total

The results obtained during the recent Artillery target practices held in these Coast Defenses show that the efficiency of the C.A.C. 1st Company, Narragansett Bay, in artillery is "Excellent"; and that of the C.A.C. 2nd Company, Narragansett Bay, is "Satisfactory". No artillery drills were observed during this inspection as the guns and other elements of the armament have been housed for the winter.

Recruiting activities are obtaining good results and this command should show a considerable gain in strength within a few months.

(c) Military Efficiency of Officers.

The Coast Defense Commander, Colonel William R. Doores, C.A.C., is a capable officer of long service whose services are entirely satisfactory.

The Coast Defense staff officers are efficient and are rendering satisfactory service in their respective departments.

The junior officers, Captains and Lieutenants, are interested in their profession and are taking full advantage of the excellent instruction they are receiving.

~~SECRET~~

29. Annex E.

H. D. of Narragansett Bay

ANTI-AIRCRAFT AUTOMATIC WEAPONS

The authorized antiaircraft automatic weapon defense is disposed as in the following tabulation and the indicated exhibits. Authority: A, Letter Subject: "Revision of AA Annex HD Projects", WD - OCCA (Sec) Oct. 23, 1940 (Reference No. 10)

No. of	Loc. No.	Site	Exhibit	Battle		Ammunition		On	Re-
				All.	Place of	Place of	On		
Guns	and Place	No.		Amm.	Storage	Hand	squired		
2	32 A Matunuck	1		7200	Ft. Greene	0	7200		
2	33 Pt. Judith	1		7200	Ft. Greene	0	7200		
2	34 Ft. Greene	1		7200	Ft. Greene	0	7200		
2	34 Ft. Greene	1		7200	Ft. Greene	0	7200		
2	34 A Gunning Rk	1		7200	Ft. Greene	0	7200		
2	35 Boston Neck	1		7200	Ft. Greene	0	7200		
2	40 Prospect Hill	1		7200	Ft. Getty	0	7200		
2	41 Beavertail	1		7200	Ft. Getty	0	7200		
2	41 Beavertail	1		7200	Ft. Getty	0	7200		
2	43 Ft. Wetherill	1		7200	Ft. Getty	0	7200		
2	47 Ft. Church	1		7200	Ft. Church	0	7200		
2	47 Ft. Church	2		7200	Ft. Church	0	7200		
2	48 Sakonnet	1		7200	Ft. Church	0	7200		
2	49 Warren Pt.	1		7200	Ft. Church	0	7200		
Total								100,800	
2	33 Pt. Judith Const. 211	1		28800	Ft. Greene	0	28800		
4	34 Ft. Greene Const. 109	1		57600	Ft. Greene	0	57600		

Exhibit

ANNEX G

ANTIAIRCRAFT AUTOMATIC WEAPONS

The authorized antiaircraft automatic weapon defense is disposed as in the following tabulation and the indicated exhibits.

No. of Guns	Cal	Loc. No. and Place	Site No.	Exhibit No.	Battle All. Amm.	Ammunition		On Hand	Re-quired
						Place of Storage			
10	Cal 4	34 Ft. Greene Const 108	2		57600	Ft. Greene		0	57600
10	Cal 2	35 Boston Neck House	1		28800	Ft. Greene		0	28800
10	Cal 2	35 Boston Neck Armistead	1		28800	Ft. Greene		0	28800
10	Cal 2	41 Beavertail Whiting	1		28800	Ft. Getty		0	28800
10	Cal 2	41 Beavertail Const 213	1		28800	Ft. Getty		0	28800
10	Cal 4	41 Beavertail Const 110	1		57600	Ft. Getty		0	57600
10	Cal 2	43 Ft. Wetherill Dickenson	1		28800	Ft. Getty		0	28800
10	Cal 2	43 Ft. Wetherill Critendon	1		28800	Ft. Getty		0	28800
10	Cal 2	43 Ft. Wetherill AA Btry #3	1		28800	Ft. Getty		0	28800
10	Cal 8	44 Ft. Adams	1		115200	Ft. Adams		0	115200
10	Cal 2	44 Ft. Adams AA Btry #4	1		28800	Ft. Adams		0	28800
10	Cal 4	47 Ft. Church Gray	1		57600	Ft. Church		0	57600
10	Cal 2	47 Ft. Church 8" Sak	2		28800	Ft. Church		0	28800
10	Cal 2	48 Sakonnet Pt. Const 212	1		28800	Ft. Church		0	28800

SECRET

HEADQUARTERS HARBOR DEFENSES OF NARRAGANSETT BAY

FORT ADAMS, RHODE ISLAND

600.1

NOTE: THIS COPY RECEIVED WITH COPY FOR O.C.E.
OF 8TH INDORSEMENT --- April 10, 1944 B.W.

23 February 1944

SUBJECT: Request For Construction.

TO: Commanding General, New England Sector, 150 Causeway Street
Boston 14, Mass.

1. Request authorization of funds for project to accomplish modification of two of the existing 3-inch AA gun emplacements of AA Battery No. 1 (3-3"AA fixed) at Fort Wetherill, Rhode Island, to accommodate 90mm fixed-mounts. The inclosed plan (Inclosure 1) and NED Form 128 (Inclosure 2) were furnished by the Providence District Engineer. This request is submitted in order to permit resiting of AMTB No. 3 (Brenton Point) in accordance with the recommendations submitted herewith.

2. The plan for the reorganization of these harbor defenses under the provisions of Category of Defense "A" contemplates the reduction of the command to one Type "B" Regiment and includes a requirement for manning one 90mm AMTB battery to cover the West Passage and one 90mm AMTB battery to cover the East Passage. There are three 90mm AMTB batteries in these harbor defenses; the locations of these batteries are shown in Inclosure 3. AMTB No. 1, which consists of 2-90mm fixed guns at Fort Tamm and 2-37mm guns at Fort Kearney, is to be manned in order to provide coverage for the West Passage. AMTB No. 2, which consists of 2-90mm fixed guns at Fort Getty and 2-37mm guns at Fort Burnside, is not to be manned. AMTB No. 3, which consists of 2-90mm fixed guns, 2-90mm mobile guns, and 2-37mm guns at Brenton Point, is to be manned in order to provide coverage for the East Passage. The plan for reorganization also contemplates placing AA Btry No. 1 (3-3"AA fixed) at Fort Wetherill in Maintenance Classification "C".

3. It is recommended that the 3" AA guns of AA Battery No. 1 at Fort Wetherill be dismounted and that the following disposition then be made of the armament of AMTB No. 3 at Brenton Point:

a. The 2-90mm fixed guns to be sited on the modified gun emplacement of AA Battery No. 1 at Fort Wetherill (Inclosure 4).

b. The 2-90mm mobile guns to be placed in local storage.

Files for
- 1 -

SECRET

F-12

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ANTIAIRCRAFT AUTOMATIC WEAPONS

Tabulation by battery, for allowance of antiaircraft automatic weapons as authorized by T O & # 4-260-1 with changes 1 to 3.

CALIBER	NO. OF GUNS	BATTERY	LOC.	AMMUNITION	
				BATTLE ALLOWANCE *	STORAGE
50 cal MG	2	Cons. #212	48		
50 cal MG	4	AA #1	44#		
50 cal MG	4	AA #2	44		
50 cal MG	4	AMTB #1	35		
50 cal MG	4	AMTB #2	39		
50 cal MG	4	AMTB #3	43		
50 cal MG	2	1 USAMP			
Exhibit 6-E shows Battle Assignment of 40mm AA Guns.					
*NOTE:	See Paragraph 11 Annex E. Ammunition will be stored at Battery site in every case.				
#NOTE:	AA #1 in storage at Location 44.				

Par. 5 Automatic Weapons Defense:

ANTIAIRCRAFT AUTOMATIC WEAPONS					
Tabulation by battery, for allowance of antiaircraft automatic weapons as authorized by T O & E 4-260-1 with changes 1 to 3.					
CALIBER	NO. OF GUNS	BATTERY	LOC.	AMMUNITION	
				BATTLE ALLOWANCE *	STORAGE *
40mm	4	Cons #109	34		
40mm	4	Hamilton	34		
40mm	2	Cons #211	33		
40mm	2	House	35		
40mm	2	Cons #213	41		
40mm	2	Dickenson	43		
40mm	4	Gray	47		
40mm	2	Reilly	47A		
40mm	2	Cons. #212	46		
50 cal MG	4	Cons. #109	34		
50 cal MG	4	Hamilton	34		
50 cal MG	2	Cons. #211	33		
50 cal MG	2	House	35		
50 cal MG	2	Whiting	41		
50 cal MG	2	Cons. #213	41		
50 cal MG	2	Dickenson	43		
50 cal MG	2	Crittenden	43		
50 cal MG	4	Gray	47		
50 cal MG	2	Reilly	47A		
Exhibit 6-E shows Battle Assignment of 40mm AA Guns.					
*NOTE:	See Paragraph 11 Annex E Ammunition will be stored at Battery site in every case.				

Note: (not on hand, 2/27/29.) Initialed: E. R. B.

Movable Armament On Hand, July 1944

Number	Caliber	Model	Serial Number	Manufacturer:	Date of receipt on Post	Place of storage	Position and use contemplated in scheme of defense.
2	90mm	M-1	553 560	Wheland Co. Wheland Co.	1 July 1944 1 July 1944		HIGH HILL Primary: AMTB, East Passage Secondary: AA
2	40mm	M-1	20347 1013	Chrysler Corp. Chrysler Corp.	1 July 1944 1 July 1944		PORT BROWN Primary: AMTB, East Passage Secondary: AA

E. R. B.

Removed; Date Unknown, BHS, 3 April 1950

F-14

AG 553.17-~~86~~
Wetherill (6-10-40) R

THE ADJUTANT GENERAL'S OFFICE

RECORD OF COMMUNICATION RECEIVED

From: Mr. Neville Leary, Jamestown, R. I.

Dated: 6-10-40

To: Secretary of War

Rec'd A. G. O. 6-15-40

Subject: Damage caused to household effects by firing 12 inch guns at Fort Wetherill.

I beg to advise you that the firing of the 12 inch guns at Fort Wetherill has made my house at Jamestown, R. I. unliveable due to the fact that we have to dismount all the furnishings and ~~move them~~ leave the house.

I regret to advise you of this, but as this is our only home and stands us thirty thousand dollars it has caused us no end of worry, over the damage and expense that has been caused.

Of course you must realize the full situation. No cooking, heating, all decorations, china, glass, pictures and personal effects put on the floor, in other words unliveable.

I am writing to you so that you will take the necessary steps in this matter.

Thanking you in advance for your trouble that you may be put to.

I beg to remain

Yours very truly,

(Signed) Neville Leary

WETHERILL

HISTORICAL DATA - POST, CAMP, STATION OR AIR FIELD

NAME: Fort Wetherill

Location: $1\frac{1}{2}$ miles west of Fort Adams, R.I. by water; 2 miles west of Newport, R.I. by water; 2 miles southeast of Jamestown, Rhode Island

Post Office: Jamestown, R. I.

Telegraph Office: Newport, R. I.

Radio available: Yes ☒ No ☐

Through Ft. Adams, R.I.

Railroad Station: Newport, R. I.

Express Station: Newport, R. I.

Acquired by: Purchase

Class Installation: I Sub

Assignment: GF ☐ SF ☐ AF ☐ WD ☒

Capacity: Troops 1211

Adm. Control: First Army Command

Hospital Beds

Storage (Sq. Ft.)

Land Acres 67

Date Occupied

Nearest Landing Field:

HISTORY:

Named Fort Wetherill by General Orders, No. 43, Headquarters of the Army, AGO, 1900, in honor of Captain Alexander M. Wetherill, U. S. Infantry, killed in action July 1, 1898, at San Juan, Santiago, Cuba. This reservation was formerly known as The Dumplings.

A Fort within the Narragansett Harbor Defense, and a sub-post of Fort Adams, R. I.

Fort Wetherill is a sub-post of Fort Adams, R.I., per 1st Ind., Hqs, EDC, CA-322, 4 Sep 44, on letter AG (322) 29 Aug 44)OB-I, 29 Aug 44, Subj: Harbor Defenses.

Effective 12 June 1946 Fort Wetherill, Jamestown R.I. is reclassified as a Class I activity under the jurisdiction of the CG First Army in accordance with WD Cir. # 138, 1946 - per WD Cir. # 169 dated 11 June 1946. Forgoing is rescinded. Effective 25 Sept. 1946, Fort Wetherill, Jamestown, R.I. (Sub-post of Ft. Adams, R.I.), is reclassified as a class I Sub-installation under the jurisdiction of the CG, First Army, in accordance with WD Cir. #138, 1946 - per WD Cir. #292, dated 25 Sept. 1946.

Effective as of 31 July 1947, Fort Wetherill (HD of Narragansett Bay, R.I.) was placed in an inactive status in accordance with the provisions of Cir. #2, WD, 1947 - per Cir. #23, Dept of the Army, dated 16 Oct 1947.

Effective as of 31 December 1949, Fort Wetherill, Jamestown, Rhode Island (Harbor Defenses of Narragansett Bay), is excess to the needs of the Department of Defense with the exception of that portion of which the Department of the Navy has expressed an interest in acquiring. - per AGAO-S 602 (2 Feb 50)OSGLD/C2, AGAO-I, dated 10 February 1950.

Effective as of 31 December 1949, Fort Wetherill, Jamestown, Rhode Island, a subpost of Fort Adams, R.I., is declared excess to the needs of the Department of the Army. - per Circular #8, Department of the Army, dated 15 February 1950.

HISTORICAL DATA REFERENCE:

Military Reservations, Rhode Island, Section II dated June 2, 1941

Construction and Real Estate Progress Report, C. of E, dated 4-30-43

Chief of Transportation Routing Instructions 10-15-42

Headquarters Army Air Forces

Headquarters Army Service Forces Housing Report for EM, 1 Oct 1943

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SUBJECT: Discontinuance of Prisoner of War Branch Camp,
Wetherill, Rhode Island.

TO: Commanding Generals,
Eastern Defense Command
First Service Command
The Provost Marshal General
Chief of Engineers

Effective as of 19 December 1945, Prisoner of War Branch Camp,
Fort Wetherill, Rhode Island, is discontinued.

BY ORDER OF THE SECRETARY OF WAR:

Copies furnished,

Commanding Generals,

Army Air Forces (Attn: Air Instal Div, Asst. Chief of AS, M & S)

Army Ground Forces

Army Service Forces

Chiefs of Technical Services

The Quartermaster General

The Surgeon General

Chief of Ordnance

Chief of Transportation

Chief Signal Officer

Chief, Chemical Warfare Service

Directors,

Plans and Operations (Attn: Mob Div & Demob Br)

Personnel (Attn: Mil Pers Div & Indust Pers Div)

Supply (Attn: Storage Div, Maint Div & Dist Div)

Material (Attn: Readjustment Div, and Procurement Div)

Military Training (Attn: Training Requirements Div)

Army Motion Picture Service

The Fiscal Director

Deputy Chief of Staff for Service Commands

Division Engineer, New England Division, 75 Federal

St., Boston, Mass.

Asst. Chief of Staff, G-3, WDGS

Asst. Chief of Staff, G-4, WDGS

Chief, Legislative and Liaison Division, WDSS

Asst. Chief of Staff, Opns, WDGS (3 copies)

Al Johnson
Adjutant General.

DEFENSIVE SEA AREAS, DEFENSIVE COASTAL AREAS, AND UNDERWATER DEFENSESNARRAGANSETT BAYDEFENSIVE COASTAL AREA:

- Outer Limit: - The arcs of two circles, one with center at DUTCH ISLAND, radius 19,000 yards, the other centered at SAKONNET POINT, radius 17,000 yards. (After the installation of present approved project armament, - The arc of a circle centered at SAKONNET POINT with a radius of 41,000 yards.)
- Inner Limit: - The shore line between the points of intersection with the arc defining the outer limit of the Defensive Coastal Area, including bays, rivers, and estuaries as far inland as is considered desirable by local commanders.

NOTE: - The Defensive Coastal Areas for NEW BEDFORD and NARRAGANSETT BAY are overlapping. The measures necessary to effect coordination between these harbor defenses, insofar as relates to the coexisting portion of the Defensive Coastal Areas, will be prescribed in local joint plans.

UNDERWATER DEFENSES: -

Specific war plans, from a consideration of available personnel and materials and the estimate of the enemy situation, will prescribe the part to be installed, and take cognizance of the time factors involved. The lowest category of defense in any war plan should include the laying of nets and booms, the installation or the manning of underwater detection devices, and the preparations necessary for laying mine fields.

EASTERN PASSAGE: -MINE PROJECT: -

Controlled Mines: - Eight groups of 19 mines each, in two lines, between BRUNTON POINT and NEWTON ROCK.

NET AND BOOM PROJECT: - A double line of anti-submarine net from CASTLE HILL LIGHT to opposite shore; an anti-motor boat boom in combination with the outer line of anti-submarine nets; main, emergency and side gates; fixed obstructions in shoal water to complete the end closures; two double baffles of anti-torpedo net normal to the channel axis, one extending from FORT WETHERILL, the other from FORT ADAMS, each 30 feet deep and 1200 feet long.

WESTERN PASSAGE: -MINE PROJECT: -

Controlled Mines: - Four groups of 19 mines each, in four lines,

SECRET

Authority NND 7600 26
by UCM: 8/11/94

staggered between BEAVER TAIL POINT and JONES LEDGE.

NET AND BOOM PROJECT:- An anti-motor boat boom between BEAVER HEAD and SOUTH FERRY, with a gate for small vessels, and with fixed obstructions in shoal water to complete the end closures.

C. & G.S. No. 1210

Approved by the Chief of Staff of the Army _____

Approved by the Chief of Naval Operations _____

SUBJECT: Salvage of Battery Varnum, 12-Inch B.C., Ft. Wetherill, R.I.

SPRMS 400.7 (4-22-43)

1st Ind.

WLM/mls

Ext. 71656

MAY - 7 1943

Headquarters, Army Service Forces, Washington, D. C.

TO: Assistant Chief of Staff, Operations Division, War Department
General Staff.

1. The "outmoded" status and the armament characteristics of Battery Varnum are in agreement with information available in this office.

2. It is recommended that:

a. The Commanding General, Army Service Forces be authorized to dispose of the guns, carriages, ammunition and accessory equipment of Battery Varnum, Harbor Defenses of Narragansett Bay, in accordance with current War Department policies relative to salvage procedure.

b. The Commanding General, Eastern Defense Command, be informed of the action taken.

For the Commanding General:

W. A. WOOD, JR.,
Brigadier General, General Staff Corps,
Director, Requirements Division.

C. E. Cotter,
Colonel, General Staff Corps,
Chief, Seacoast Defense Projects Branch.

1 Incl. n/c

FOR RECORD ONLY

1. By basic D/F subj: "Salvage of Battery Varnum, 12" BC, Ft. Wetherill, R.I." dtd. OPD, WDGS, May 8, 1943 file OPD 400.74(4-22-43); SP 400.7 (4-22-43) AC/S, OPD, WDGS fws to CG, ASF (SPRMS) for remk. and rec. secret ltr. same subj. dtd. Hq. HDN Bay, April 22, 1943, 400.93; Hq. N.E. Sec., 400.93; EDC, CA-400.93.

662/7-D

MAY 7 1943

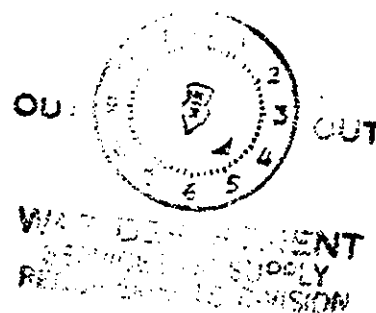
FOR RECORD ONLY Cont'd.

a. By cited basic ltr. CG, HDN Bay requests authority to salvage guns and carriages of subj. btry. stating it is now in Class B and not included in Mod. Prog. for these H.D.'s. C.G., N.E.Sec. by 1st Ind. describes armament as sliding mount, low rate of fire, and short range. States no tac. situation can be foreseen where employment would be required since its field of fire is more effectively covered by modern elements; and recs. approval of abandonment at this time and that guns, carriages, amn. and accessories be disposed of to best interest of govt.

b. By 2nd Ind. CG., EDC requests authority for abandonment of subj. btry and disposal of carriages of scrap and gun tubes to best advantage of govt.

2. Btry. Varnum is an outmoded battery to be abandoned on completion of Mod. Prog., ltr. subj: "Modernization of H.D. Projects, Continental United States" dated The Adjutant General's Office, Sept. 25, 1940, AG 660.2(9-11-40)M-WPD-M.

MAY 7 1943



Fortifications. (Continued)

30 May, 1944.

Battery #3 changed to Battery #1 per annex to HD Project (Not yet approved by WD).

Battery	Armament	Tactical Organization	Project Status
Vernum	2 - 12 inch B.C.	None	Abandoned
Authority: 3d Ind to letter Subject: "Salvage of Btry Varnum, 12" B.C., Fort Wetherill" file 400.93, dated 22 April, 1943.			
Dickinson	2 - 6 inch B.C.	None	Class "C"
Authority: Paragraph 1, G.O. #12 Hq HD Narr Bay dated 18 March, 1944 (Confidential).			
Crittendon	2 - 3 inch B.C.	None	Class "C"
Authority: Per Par 3, Change 1, dated 31 March, 1944 to G.O. #27, Hq HD Narr Bay 31 December, 1943 (Confidential).			
Wheaton	2 - 12 inch B.C.	None	To be salvaged on completion HD Modernization project <i>EGW</i>
Authority: Per Par 1, Change 1, dated 31 March, 1944 to G.O. #27 Hq HD Narr Bay 31 December, 1943 (Confidential).			
Btry #1	2 - 3 inch AA	None	Auth: Ltr. HDNB File 333 Dismantled dated 23 Apr. 1945 <i>EGW</i>
Authority: 8th Ind (from Secretary of War) to secret letter, Hq HD Narr Bay, Subject: "Request for Construction", file 600.1, dated 23 February, 1944.			
ATE #3 <i>W.D.</i>	2 - 90mm	Group II	Removed: Date Unknown, 3 April 50, BHS 30 May 1944 <i>F.N.S.</i> 15 May 1945 F.N.S.

Battery Dickenson demilitarized and disposed of as scrap - Authority: 1st Ind, Dept of Army, Chief of Ordnance, 18 Dec 47, File 40.0/718 to ltr subj, "Ordnance Equipment Excess to Needs", HDNB, Ft Adams, Hq. AGF, 23 July 47, File 602. Dated 3 April 1950 B, H.S.

Battery Crittendon demilitarized and disposed of as scrap - Authority: 1st Ind, Dept of Army, Chief of Ordnance, 18 Dec. 47, File 40.0/718 to ltr subj., "Ordnance Equipment Excess to Needs" HDNB, Ft Adams, Hq, AGF, 23 July 47, file 602. Dated 3 April, B.H.S.

Battery Wheaton removed ~~xx~~ by scraping Oct. and Nov. 46, Authority Unknown. Dated 3 April 1950, B, H, S.

O.O. 397-1

HEADQUARTERS, COAST DEFENSES OF NARRAGANSETT BAY

FORT ADAMS, R. I.

December 31, 1915.

From: O.O.C.D. of Narragansett Bay.

To: A. O. N. A. D.

Subject: Withdrawal from service of T.I.&S.Co., 10" and 12" A.P.Shell.

1. Referring to the instructions contained in letter 2347206, O.O. dated December 3, 1915 relative to unloading of 10" and 12" A.P.Shell of Taylor manufacture; information is requested in regard to the following points;

- (a) Will the Taylor projectiles be replaced without requisition?
- (b) Is any special method to be used in unloading projectiles loaded with Explosive "D"?
- (c) What is to be the disposition of Explosive "D" removed from Taylor projectiles?

2. An early reply would be appreciated.

L. H. Norton
1st Lieut., C.A.C.

1st Ind.

TLC-MH
26-2224

Watertown Arsenal, January 11, 1916. To Chief of Ordnance.

1. Forwarded in connection with O.O. 471.3-701/1 (W.A. 66-1720 in regard to the withdrawal from service of 10" and 12" A. P.Shell manufactured by the Taylor Iron and Steel Company.

2. Instructions are requested.

C. B. Thayer
Colonel, Ord. Dept., Armt. Officer.

471.3-701
Taylor & Steel
10" & 12" A.P. Shell
Narragansett Bay

WAR DEPARTMENT
Office of the Chief of Coast Artillery
Washington

December 20, 1922.

Subject: Assignment of ammunition 3" 15-pdr. Guns, Coast Defenses,
First Corps Area.

To: Chief of Ordnance.

1. Reference 6th Indorsement, O.O. 471.3/919, September 8, 1922,
the following allocation of 3" 15-pdr. ammunition to batteries of fixed
defenses as listed below is recommended:

Coast Defenses of Portland

Fort Baldwin
Battery Cogan ----- 500 rounds.
Fort Preble
Battery Mason ----- 100 rounds.
Fort Williams
Battery Keyes ----- 800 rounds.
Fort Lyon
Battery Abbott ----- 600 rounds.

Coast Defenses of Portsmouth

Fort Constitution
Battery Hackelman --- 500 rounds.
Fort Foster
Battery Chapin ----- 800 rounds.
Fort Stark
Battery Hays ----- 800 rounds.
Battery Lytle ----- 800 rounds.

Coast Defenses of Narragansett Bay

Fort Adams
Battery Belton ----- 400 rounds.
Fort Getty
Battery Whiting ----- 500 rounds.
Fort Wetherill
Battery Crittenden --- 800 rounds.
Fort Kearney
Battery Armistead --- 500 rounds.

Coast Defenses of Long Island Sound

Fort H. G. Wright
Battery Hopcock ----- 600 rounds.
Battery Hoffman ----- 600 rounds

Coast Defenses of Long Island Sound (Continued).

Fort Terry

Battery Eldridge	-----	400 rounds.
Battery Dalaba	-----	500 rounds.
Battery Wagner	-----	400 rounds.
Battery Campbell	-----	500 rounds.
Battery Greble	-----	500 rounds.

Fort Michie

Battery Pasco	-----	300 rounds.
---------------	-------	-------------

2. Baritan Arsenal, N. J., is recommended as the storage point for reserve ammunition for 3" 15 pdr. guns in the 1st Corps Area.

F. W. COE,
Chief of Coast Artillery.

NUMBER

725005

ALL COMMUNICATIONS SHOULD BE ACCOMPANIED BY CARBON COPY AND ADDRESSED TO

TO INSURE PROMPT ATTENTION
IN REPLYING REFER TO

WAR DEPARTMENT
OFFICE OF THE CHIEF OF ORDNANCE
WASHINGTON

WGY/led

No.
ATTENTION OF

November 21, 1932.

MEMORANDUM TO: Chief of Manufacturing Service
" " Field Service,
" " Technical Staff.

Subject: Harbor Defense Project - New York -
Narragansett Bay Area.

660.2/144

1. A revised Harbor Defense Project for the harbor defenses included in the New York - Narragansett Bay Area, has been approved by the Secretary of War, in 1st Ind. AG 660.2 (5-6-32) (Misc.) E., O.O. 660.2/142, dated August 11, 1932, subject to submission and approval of the several Annexes to be prepared.

2. Seacoast Armament Required. The following seacoast batteries are approved as necessary to carry out the mission of the Harbor Defenses in this area:

Fort	Battery	No. of Guns	Caliber	Type of Car.	Max. Range	Maint. Class	Remarks
H.D. of New Bedford							
Rodman	Milliken	2	12"	BC	29300	B	
	Walcott	1	8"	DC	12900	C	
	Barton	1	8"	DC	12900	C	
		4	155mm	Mobile	17400		Concrete platform for wide field of fire to be provided.
Narragansett Bay							
Adams	Greene	4	12"	Mortar	14650	B	
	Edgerton	4	12"	"	14650	B	
Getty	House	2	6"	BC	16400	C	
	Whiting	2	3"	BC	9000	C	
Wetherill	Varnum	2	12"	BC	17300	B	
	Wheaton	2	12"	DC	17300	B	
	Dickenson	2	6"	BC	16400	B	
	Crittenden	2	3"	BC	9000	B	
Kearney	Cram	2	6"	DC	14400	B	
	Armistead	2	3"	BC	9000	B	
Sakonnet Point Peninsula		2	16"N.	DC	44500		To be installed
		2	8"N.	DC	30000		" " "
		4	155mm	Mobile	17400		Concrete plat-

11/21/32.

Fort	Battery	No. of Guns	Cal-iber	Type of Gun	Max. Range	Maint. Class	Remarks
Point Judith Peninsula							
Near Narragansett Pier		2	8"N.	Ry.	33000		forms wide field of fire to be provided.
Point Judith		4	155mm	Mobile	17400		
H.D. of Long Island Sound							
H.C. Wright	Clinton	4	12"	Mortar	14650	A	
	Butterfield	2	12"	DC	17300	A	
	Dutton	3	6"	DC	14400	A	
	Hoppeck	2	3"	BC	9000	B	
	Stoneman	4	12"	Mortar	14650	B	
Terry	Bradford	2	6"	DC	14400	B	
	Eldridge	2	3"	BC	9000	B	
	Dalliba	2	3"	BC	9000	B	
Michie	J.M.K.Davis	1	16"	DC	38700	B	
	Palmer	2	12"	DC	17300	B	
	Benjamin	2	6"	BC	14400	B	
	Maitland	2	6"	BC	14400	B	
Near Montauk, L.I.		2	*14"N.	Ry.	44500)		Concrete emplace-ments for 14" Ry. and 155 mm guns for wd. field of fire to be pro-vided.
		2	8"N.	Ry.	33000)		
Position to cover							
Fisher's Island Sound		4	155mm	Mobile	17400)		
H.D. of Sandy Hook							
Hancock	Richardson	2	12"	DC	17300	B	
	Bloomfield	2	12"	DC	17300	B	
	Mills	2	12"	BC	29300	B	
	Kingman	2	12"	BC	29300	B	
	Peck	2	6"	BC	16400	B	
	Gunnison	2	6"	DC	14400	C	
	Morris	4	3"	BC	9000	B	
Tilden	Harris	2	16"	BC	44500	B	
	West	2	6"	BC	16400	B	
	East	2	6"	BC	16400	B	
H.D. of Southern N.Y.							
Hamilton	Doubleday	2	12"	DC	17300	C	
	Brown	2	12"	DC	17300	C	
	Livingston	2	6"	BC	14400	B	
	Johnson	2	6"	DC	14400	B	
	Griffin	2	3"	BC	9000	B	
Wadsworth	Dix	2	12"	DC	17300	B	
	Mills	1	6"	DC	14400	C	
	Catlin	6	3"	BC	9000	B	
	Turnbull	6	3"	BC	9000	C	
H.D. of Eastern N.Y.							
Totten	Burns	2	3"	BC	9000	C	
	Baker	2	3"	BC	9000	C	

(*) While the approved project states 14" Navy Ry., the cannon and mount to be provided are the latest model of 14" Ry. Gun and Mount.

11/21/32.

3. Seacoast Armament No Longer Required. The following seacoast armament now installed is no longer required to carry out the mission of the Harbor Defense. The Secretary of War, in his approval of the harbor defense project for this Area, directed the Chief of Coast Artillery and the Chief of Ordnance to submit joint recommendations concerning the disposition of the armament and accessories which are eliminated.

Fort	Battery	No. of Guns	Caliber	Type of Car.	Max. Range	Maint. Class	Remarks
H.D. of Narragansett Bay							
	Getty	Toussard	3	12"	DC	17300	
	Greble	Sedgewick	4	12"	Mortar	14650	
		Hale	3	10"	DC	14100	
	Wetherill	Walbach	2	10"	DC	14100	
H.D. of Long Island Sound							
	H.C. Wright	Barlow	2	10"	DC	14100	Should any of these batteries be required for training of civilian components, they will be maintained in Class B, but no manning party need be provided for war time. Expenditures will be held to a minimum.
		Hoffman	2	3"	BC	9000	
	Terry	Steele	2	10"	DC	14100	
		Campbell	2	3"	BC	9000	
		Greble	2	3"	BC	9000	
	Michie	Pasco	2	5"	BC	9000	
		Hagner	2	3"	BC	9000	Already abandoned and is to be dismantled.
H.D. of Sandy Hook							
	Hancock	Alexander	2	12"	DC	17300	
		Halleck	2	10"	DC	14100	
		Granger	2	10"	DC	12500	
		Urmston	2	3"	BC	9220	
H.D. of Southern N.Y.							
	Hamilton	Piper	4	12"	Mortar	14650	
		Neary	2	12"	BC	17300	
		Gillmore	4	10"	DC	16200	
	Wadsworth	Richmond	2	12"	DC	17300	
		Ayres	2	12"	DC	17300	
		Hudson	2	12"	DC	17300	
		Upton	2	10"	DC	14300	
H.D. of Eastern N.Y.							
	Totten	King	8	12"	Mortar	14650	To be retained until additional armament has been installed.
	Schuyler	Cansevoort	1	12"	DC	17300	
		Hazzard	2	10"	DC	14100	

11/21/32.

Total guns not required -

12" DC	12	
12" BC	2	
12" Mortar	16	
10" DC	21	
3" BC	12	(includes 2 at Btry. Hagner already abandoned)
Total	63	

4. Additional Seacoast Armament Required. The following seacoast armament is listed in Par. 2 as required but is not yet provided.

Position	Caliber	Type	Mount	No.	Remarks
H.D. of New Bedford Rodman	155mm		Mobile	4	Platforms to be constructed to permit wide field of fire.
H.D. of Narragansett Bay Sakonnet Point Peninsula	16"	Navy	BC	2	
" "	8"	"	BC	2	
" "	155 mm		Mobile	1	Platform to be constructed to permit wide field of fire.
Point Judith Peninsula	16"	Navy	BC	2	
" "	155 mm		Mobile	4	Platform to be constructed to permit wide field of fire.
Near Narragansett Pier	8"	Navy	Ry.	2	
H.D. of Long Island Sound Near Montauk, L.I.	14"		Ry.	2	To be procured and plans made for construction of platform when needed.
" " "	8"	Navy	Ry.	2	

5. Antiaircraft Defense. The antiaircraft guns provided are designed primarily for the protection of the seacoast armament installations from attack from the air. They constitute a part of the general antiaircraft defense of the locality. The following antiaircraft guns are considered necessary and are part of the approved project for this harbor defense area:

3" Guns Install- ed.	Locality	Batteries	Sound Locators Est.	3" Guns Required in addition to present installa- tions.	Remarks
	H.D. of New Bedford Fort Rodman -	1 Btry. 3-3" Guns or 2 - 105 mm.	4	3	Fixed
	H.D. of Narragansett Bay Sakonnet Point	2 Btrys. 3-3" Guns or 2 - 105 mm.	6	6	"
	Point Judith and Narragansett Pier	2 Btrys. 3-3" Guns or 2 105 mm	6	6	1 Btry to have limited mobility.

11/21/32.

3" Guns install- ed.	Locality	Batteries	Sound Locat- ors Est.	3" Guns Required in addition to present installa- tions.	Remarks
2	Fort Adams	1 Btry. 3-3" Guns	3	1	Fixed
2	" Greble	1 Btry. 3-3" Guns	3	1	
2	" Wetherill	1 Btry. 3-3" Guns	3	1	
<u>H.D. of Long Island Sound</u>					
	Montauk Point	2 Btrys. 3-3" Guns	6	6	Limited mobil- ity.
2	Ft. H.G. Wright	1 Btry. 3-3" Guns	3	1	Fixed
2	Ft. Terry	1 Btry. 3-3" Guns	3	1	
	Ft. Michie	1 Btry. 3-3" Guns	3	3	
<u>H.D. of Sandy Hook</u>					
8	Fort Hancock	2 Btrys. 3-3" Guns	6		(2 surplus guns fixed)
2	Fort Tilden	1 Btry. 3-3" Guns	3	1	
<u>H.D. of Southern N.Y.</u>					
4	Ft. Wadsworth	1 Btry. 3-3" Guns	7	1	(1 surplus gun fixed)
2	Ft. Hamilton	1 Btry. 3-3" Guns			
<u>H.D. of Eastern N.Y.</u>					
2	Ft. Totten	1 Btry. 3-3" Guns	4	1	Fixed
2	Ft. Schuyler	none	0	0	2 surplus guns
TOTAL		19 Btrys. 3-3" Guns	60	27	
		(57 - 3" guns)			

The Local Board will provide for the exact number of antiaircraft searchlights and sound locators required.

The Local Board will also provide for antiaircraft machine guns to furnish protection from attack by low flying planes on seacoast and antiaircraft gun batteries in the harbor defenses, fire control installations, such as observation stations, and searchlights. Machine guns required for these purposes will be shown in the Antiaircraft Gun Defense Annex of each harbor defense project.

Antiaircraft guns should have atleast the same degree of mobility as the installations they are designed to protect.

6. Fire Control Installations. The policy for the revision of existing fire control projects necessary is shown in the approved Harbor Defense project on file in the War Plans Division, General Office.

7. Priorities.

a. General. The priority among various harbor defense areas is as follows:

(1) The New York - Narragansett Bay area has first priority over all other areas with the exception of 2 - 16" guns for San Francisco.

(2) The following priority is given by the War Department, in the original direction for these projects, for the additional

11/21/32.

16" guns to be installed, subject to change as the result of the approval of the various projects:

San Francisco	2 guns
Narragansett Bay Area	6 guns
San Francisco	2 guns
Chesapeake Bay Area	2 guns

It will be noted that the approved project for the New York - Narragansett Bay Area contains 4 - 16" guns instead of six as originally contemplated by the War Department.

b. Priority for additional installations in the New York - Narragansett Bay Area. The following priority will govern in establishing installations provided for in these projects:

(1) Fire control equipment for one fixed antiaircraft battery at the Harbor Defenses of Sandy Hook and one at the Harbor Defenses of Long Island Sound.

(2) Fire control installations for seacoast guns now emplaced.

- (a) Harbor Defenses of Sandy Hook.
- (b) Harbor Defenses of Long Island Sound.
- (c) Harbor Defenses of New Bedford

(3) Submarine mine materiel.

(4) Searchlights to complete searchlight projects in the following order of priority:

- (a) Harbor Defenses of Sandy Hook
- (b) Harbor Defenses of Narragansett Bay.
- (c) Harbor Defenses of Long Island Sound
- (d) Harbor Defenses of Southern New York
- (e) Harbor Defenses of New Bedford.

(5) Fire control equipment for all antiaircraft batteries now emplaced.

(6) Installation at Sakonnet Point of the 16" and 8" guns with necessary fire control, and installation of concrete platforms for 155 mm guns.

(7) Installation at Point Judith Peninsula of the 16" guns with necessary fire control, and installation of concrete platforms for 155 mm guns.

(8) Procurement of 14" railway armament.

(9) Procurement and installation of additional antiaircraft guns, searchlights and fire control in the same order of priority as that described in paragraph d above.

11/21/52.

(10) Installation of concrete platforms for 155 mm guns in the Harbor Defenses of New Bedford and Long Island Sound.

(11) Additional shore installations necessary in the upkeep and operation of the underwater defense in the following order of priority:

- (a) Harbor Defenses of Sandy Hook
- (b) Harbor Defenses of Narragansett Bay
- (c) Harbor Defenses of Southern New York.

8. Status of material required for Additional Installations:

Item	No. Required	Guns Available	Mounts Available	Fire Control Available
16" Navy B.C.	4	4	1 incomplete	none
14" Railway	2	2 *	0	"
8" Navy B.C.	4	4	0	"
8" Navy Railway	2	2	0	"
155 mm Guns	9	9	9 (except platforms)	9 partial sets available
3" A.A. Guns (Limited Mobility)	9	0	0	none
3" A.A. Guns (fixed)	18	0	0	"

(*) Less recoil bands.

9. The Harbor Defense Project for this area as approved by the War Department is on file in the War Plans Division, General Office.

Wm. C. Young,
Major, Ord. Dept.,
Chief, War Plans Division.

Btry. Dick.

EMPLACEMENT

Date of Construction 1901--1902
 Reference of Crest. 102.95' or 101.48'

Gun #2.

Caliber 6 inch.
 Model 1900
 Serial No. 36
 Place and Date of Fabrication. 1903 Watervliet Arsenal,
 ✓ Date of mounting April-June 1905, Col. J.H. Willard, C.A.C.
 Under whose supervision
 ✓ Limits of elevation of gun as mounted. - 6° + 20°
 Total serial Number of shots fired.

		Total
Proof fired - 6/19/06	5	8
Motar Btry. Officers - 5/8/23	12	17
Annual Target practice - 5/17/23. ✓	25	42
Proof Fired 2 shots 8/17/25	2	44
C.M.T.C. practice 6, shots. 7/25/34	6	50
" " " " 7/24/35.	6	56
Limiting Az. Right 62° Left 336°.		

10.

RECORDS OF FIRING

<u>Date</u>	<u>Kind of Service Practice</u>
25 September 1943	Special Service
11 October 1943	Calibration
18 19 October 1943	Special Service
4 December 1943	Special Service
17 December 1943	Record Service

AMMUNITION SUPPLY

PROJECTILE ROOMS AND POWDER ROOMS:

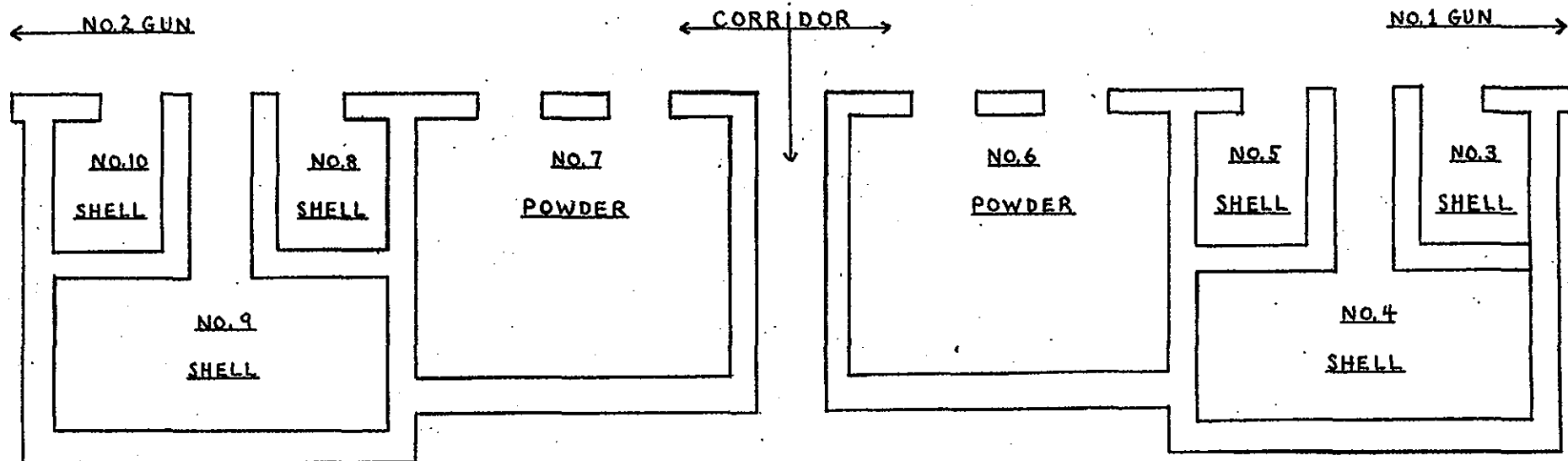
<u>No. of Room</u>	<u>Capacity</u>	<u>On Hand</u>	<u>Lot No.</u>
3 (shell)	100	64 HE 36 HE	ROP 3 - 2 ROP 3 - 1
4 (shell)	400	0	0
5 (shell)	100	35 AP 40 AP	GR - 8 WT 105 GR - 8 WT 106
6 (powder)	600	64 136	5833 8520
7 (powder)	600	150 150 15	10670 7089 7089
8 (shell)	100	36 AP 39 AP	GR - 8 WT 105 GR - 8 WT 106
9 (shell)	400	82 AP 68 AP 15 CI	GR - 20 WT 105 GR - 20 WT 106 None
10 (shell)	100	63 HE 37 HE	ROP 3 - 2 ROP 3 - 1

PRIMERS AND FUZES:

	<u>No. of Room</u>	<u>On Hand</u>	<u>Lot No.</u>
Primers	4	550	MKXV - 1
Fuzes	4	200	13 - 7993 - 93

All ammunition turned in: Date Unknown, B.H.S., 4 April 1950

AMMUNITION SUPPLY



<u>NUMBER</u>	<u>CAPACITY</u>	<u>ON HAND</u>	<u>LOT NO.</u>	<u>WEIGHT</u>
		64 HE	ROP 3-2	90 LBS.
3	100	36 HE	ROP 3-1	90 LBS.
4	400	550 PRIMERS	MK XV-1	
		200 FUZES	13-7993-93	105 LBS.
5	100	35 AP	GR-8	106 LBS.
		40 AP	GR-8	
6 (POWDER)	600	64	5833	
		136	8520	
7 (POWDER)	600	150	10670	
		165	7089	
8	100	36 AP	GR-8	105 LBS.
		39 AP	GR-8	106 LBS.
9	400	82 AP	GR-20	105 LBS.
		68 AP	GR-20	106 LBS.
10	100	63 HE	ROP 3-2	90 LBS.
		37 HE	ROP 3-1	90 LBS.

ORDNANCE AND EXPLOSIVE WASTE
ARCHIVES SEARCH REPORT
FOR
FORT WETHERILL
JAMESTOWN, RI
PROJECT NUMBER D01RI033703

APPENDIX G
REAL ESTATE DOCUMENTS

APPENDIX G

REAL ESTATE DOCUMENTS

Table of Contents

- G-1 Military Reservations, from the War Department, Washington, DC, dated 1948 (reference B-9).
- G-2 General Order No. 182 from the War Department dated 17 November 1908. Document defines the expanded boundaries of Fort Wetherill (reference B-11).
- G-3 Document dated 6 September 1945. Document lists private property acquired for Fort Wetherill in 1942 and shows its location (reference B-12).
- G-4 Document, "Declaration of Surplus Real Property" dated 19 October 1945. Document declares 5.4 acres of land used for officers' quarters to be surplus to the needs of Fort Wetherill (reference B-13).
- G-5 Document dated 6 September 1946. Letter recommends sale of the 5.4 acre tract at Fort Wetherill at the highest offer (reference B-14).
- G-6 Quitclaim Deed to George Lewis Crawford dated 24 September 1946. Deed transfers a 5.4 acre tract to private ownership (reference B-15).
- G-7 Document dated 4 August 1953. Letter transfers control of Fort Wetherill from the Department of the Army to the Department of the Navy, giving information as to when, from whom, and how the property was acquired (reference B-17).
- G-8 Quitclaim Deed to the State of Rhode Island, Department of Natural Resources dated 14 August 1973. Deed transfers 51.0 acres of land to be used as a park (reference B-18).
- G-9 Quitclaim Deed to the Town of Jamestown, Rhode Island, dated 8 November 1974. Deed transfers 3.5 acres of land to be used for public health purposes (reference B-19).
- G-10 Quitclaim Deed to the State of Rhode Island dated 26 September 1984. Deed transfers 7.0 acres of land to be used as a park (reference B-20).
- G-11 Document, Realty Control File Summary, date unknown. Document gives total acreage of reservation and a brief real estate history since 1946 (reference B-21).

History.—No record of official naming has been found.

Reservation acquired in 1905 by condemnation for water supply for Fort Greble.

Jurisdiction.—Exclusive jurisdiction over the original reservation vested in the United States under the provisions of the 17th clause, section 8, Article I of the Constitution of the United States, and section 1, chapter 2 of the General Laws as amended by the act approved April 16, 1903, set out in section 1 under General legislation.

Easements, etc.—None.

Metes and bounds.—This reservation comprises the following described land:

Beginning at the northwest corner, at a monument, set in the dividing line between lands of Emma W. Casey and of the Sea View Railroad, and running S. 30°48' W. along the easterly side of land of said railroad, a distance of 691 feet, more or less; thence, in a curved line, bearing to the westward, along lands of said railroad, about 286 feet to a monument; thence turning and running S. 79°47' E. a distance of 30 feet, more or less, to a point where the first line prolonged intersects this southerly boundary line, thence S. 79°47' E., a distance of 1195.5 feet, more or less, to a monument; thence S. 70°47' E., a distance of 56 feet, more or less, to mean high water in Narragansett Bay; thence turning and running northeasterly, in the line of mean high water, a distance of 795 feet, more or less, bounded easterly by Narragansett Bay; thence turning and running N. 70°02' W., in the northerly boundary line, a distance of 183 feet, more or less, to a monument; thence continuing N. 70°02' W., a distance of 1188.2 feet, more or less, to the point of beginning. (A. G. 600.93 (2-21-38).)

FORT WETHERILL

Location.—Situated on the eastern shore of Conanicut Island near Jamestown in Newport County about 2 miles from Newport.

Area.—61.50 acres, more or less.

History.—Named Fort Wetherill by General Orders, No. 43, Headquarters of the Army, Adjutant General's Office, 1900, in honor of Captain Alexander M. Wetherill, U. S. Infantry, killed in action July 1, 1898, at San Juan, Santiago, Cuba. This reservation was formerly known as The Dumplings.

Original reservation acquired by purchase, with the consent of the Governor, in 1799, subject to condition set out below under *Easements, etc.* Additional lands acquired by condemnation in 1898-1902.

By instrument dated November 10, 1930, the Town Council of Jamestown granted permission to the United States to continue and maintain an armored communication cable across a portion of the isthmus between Mackerel Cove and Dutch Island Harbor.

By instrument dated November 12, 1930, the State Board of Public Roads granted permission to the United States to continue and maintain an armored communication cable under a part of the highway known as Beaver Tail Road.

Jurisdiction.—Exclusive jurisdiction over that part of the reservation acquired in 1799 vested in the United States under the provisions of the 17th clause, section 8, Article I of the Constitution of the United States, and the act passed at the March session, 1794, set out in Section I under General legislation.

Exclusive jurisdiction over the land acquired in 1898-1902 vested in the United States under the provisions of the 17th clause, section 8, Article I of the Constitution of the United States, and section 1, chapter 2 of the General Laws

as amended by the act approved May 13, 1896, set out in section I under General legislation.

Easements, etc.—(1) Condition in deed dated November 26, 1799, recorded in Jamestown Book of Land Evidence No. 4, pages 88, 89, and 90, at Jamestown, from Ebenezer Shearman, that the United States erect and forever maintain a fence between granted land and other land of grantor.

(2) License April 22, 1913, to the Newport Electric Corporation to construct and maintain an electric cable line.

(3) License January 8, 1924, amended August 26, 1929, to New England Telephone and Telegraph Co., to extend, operate, and maintain telephone system.

Metes and bounds.—This reservation comprises the following described land:

Beginning on the line of mean high water of Narragansett Bay at the corner of lands of Joseph Wharton; thence N. 3°13'43" E., along the east line of land of said Wharton, 20 feet, more or less, to an iron bolt in the ledge; thence, continuing in the same direction, 499.56 feet to a stone bound in the easterly line of Highland Drive; thence N. 25°00'11" E., in the east line of Highland Drive, 208.98 feet, to a stone bound; thence in a curved line in the southerly side of said drive to a stone bound bearing N. 72°49'29" E. and 15.01 feet distant, measured in a straight line; thence in a straight line, in the southerly side of said drive, N. 84°42'09" E., 320.78 feet, to a stone bound; thence along the southerly side of said drive in a curved line to a stone bound, distant 192.81 feet, measured in a straight line and bearing S. 70°58'31" E.; thence S. 47°15'14" E. 156.58 feet, in the southerly side of said drive to a stone bound; thence S. 43°25'37" E., still in the southerly side of said drive, 54.73 feet, to a stone bound on the easterly line of Newport Street; thence N. 22°34'05" E. along the east line of Newport Street 673.97 feet, to a concrete bound on the southerly line of Ocean Street; thence running S. 68°04'48" E. along the south line of Ocean Street 565.43 feet, to a concrete bound; thence continuing in same direction 491.78 feet to a concrete bound in the southerly side of Highland Drive; thence easterly and along the southerly side of said drive 92.24 feet to an angle; thence continuing along the southerly side of said drive 120 feet to the intersection of said drive with a road leading from the same to Fort Cove; thence along the southerly and westerly side of said road 1,084 feet, more or less; thence N. 53°58'04" E., 114.11 feet, to a copper bolt in the ledge; thence S. 29°04'36" E. 144.41 feet, to a copper bolt in the ledge; thence continuing in the same direction 6 feet, more or less, to the mean high water line of Narragansett Bay; thence along the mean high water line of Narragansett Bay in a general direction bearing southerly and westerly to the point of beginning. The bearings are true bearings, based on a meridian through the United States Coast and Geodetic Survey Station Dumplin 2. (1218449, M. S. O.)

[A. G. 062.13 (3-26-41).]

BY ORDER OF THE SECRETARY OF WAR:

OFFICIAL:

E. S. ADAMS,
Major General,
The Adjutant General.

G. C. MARSHALL
Chief of Staff.

Military Lands

Rhode Island

Fort Wetherill.

Fort at the Dumpings Jamestown Newport Harbor

Mr. Dwell



[G. O. 182.]

GENERAL ORDERS

WAR DEPARTMENT

No. 182.

WASHINGTON, November 17, 1908.

The following is published to the Army for the information and guidance of all concerned:

The metes and bounds of the Military Reservation of Fort Wetherill, on Conanicut Island, Rhode Island, according to a survey of the same by the United States Engineer Office, Newport, Rhode Island, May, 1908, are as follows:

Beginning on the line of mean high water of Narragansett Bay at the corner of lands of Joseph Wharton; thence N. 3° 13' 43" E., along the east line of land of said Wharton, 20 feet, more or less, to an iron bolt in the ledge; thence, continuing in the same direction, 499.56 feet to a stone bound in the easterly line of Highland Drive; thence N. 25° 00' 11" E., in the east line of Highland Drive, 208.98 feet to a stone bound; thence in a curved line in the southerly side of said Drive to a stone bound bearing N. 72° 49' 29" E. and 15.01 feet distant, measured in a straight line; thence in a straight line, in the southerly side of said Drive, N. 84° 42' 09" E., 320.78 feet to a stone bound; thence along the southerly side of said Drive in a curved line to a stone bound, distant 192.81 feet, measured in a straight line and bearing S. 70° 58' 31" E.; thence S. 47° 15' 14" E. 156.58 feet in the southerly side of said Drive to a stone bound; thence S. 43° 25' 37" E., still in the southerly side of said Drive, 54.73 feet to a stone bound on the easterly line of Newport Street; thence N. 22° 34' 05" E. along the east line of Newport Street 673.97 feet to a concrete bound on the southerly line of Ocean Street; thence running S. 68° 04' 48" E. along the south line of Ocean Street 565.43 feet to a concrete bound; thence continuing in same direction 491.73 feet to a concrete bound in the southerly side of Highland Drive; thence easterly and along the southerly side of said Drive 92.24 feet to an angle; thence continuing along the southerly side of said Drive 120 feet to the intersection of said Drive with a road leading from the same to Fort Cove; thence along the southerly and westerly side of said road 1,084 feet, more or less; thence N. 53° 58' 04" E. 114.11 feet to a copper bolt in the ledge; thence S. 29° 04' 36" E. 144.41 feet to a copper bolt in the ledge; thence continuing in the same direction 6 feet, more or less, to the mean high-water line of Narragansett Bay; thence along the mean high-water line of Narragansett Bay in a general direction bearing southerly and westerly to the point of beginning, containing 61.5 acres, more or less. The bearings are true bearings, based on a meridian through the U. S. C. & G. Survey Station Dumplin 2.

[128449, M. S. O.]

BY ORDER OF THE SECRETARY OF WAR:

J. FRANKLIN BELL,
Major General, Chief of Staff.

OFFICIAL:

HENRY P. MCCAIN,
Adjutant General.

Peter Gorin

Governor of State of N.H. constituted to purchase,
see Deed.

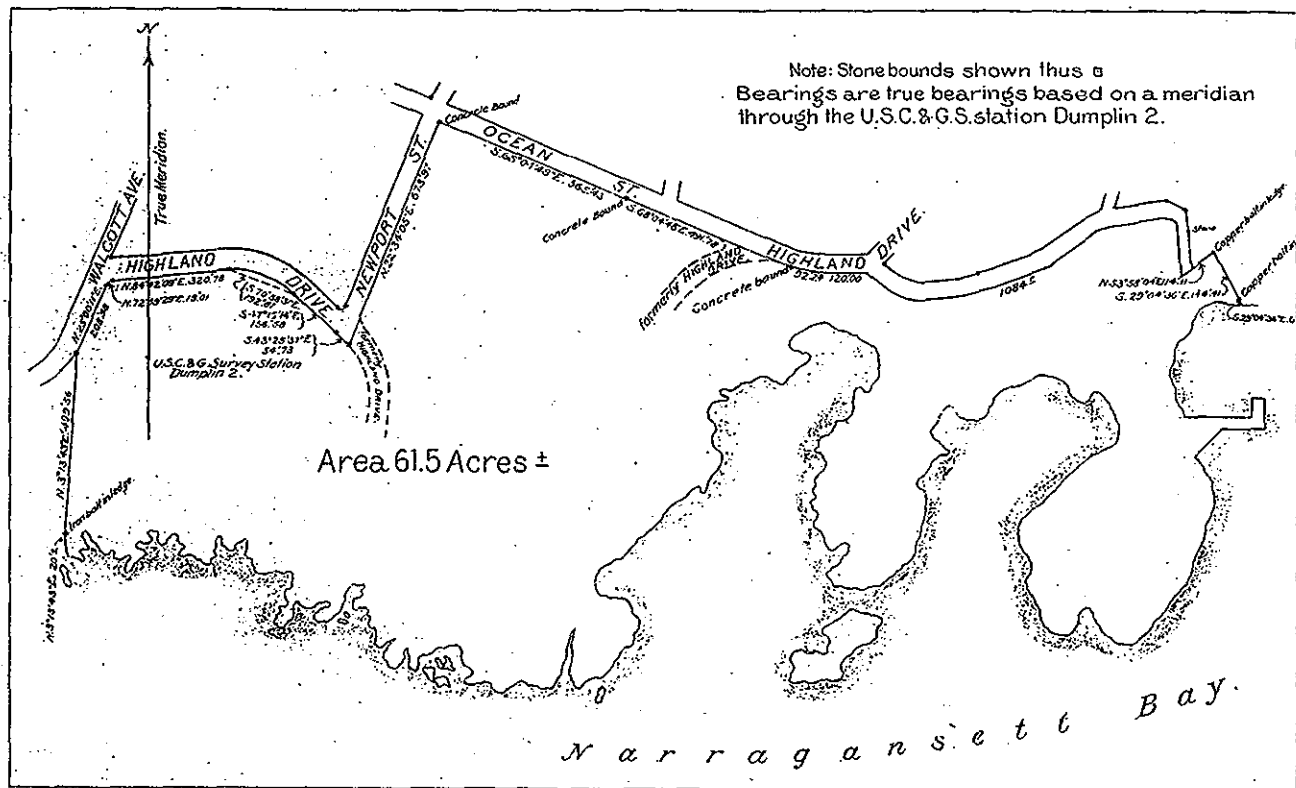
Name changed to Fort Wetherill by G. O. 43. A. G. O., April 4, 1900

G-2

STATE OF

RHODE ISLAND.

Military Reservation Fort Wetherill. Conanicut Island



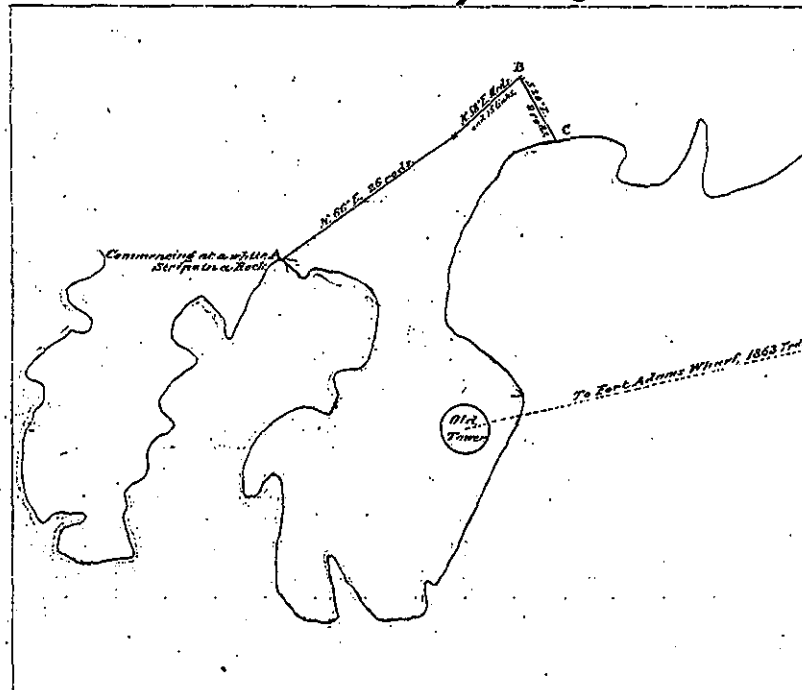
Scale of feet
100 0 100 200 300 400 500 600 700 800 900 1000 1100

Compiled from Gen. O. No. 182 War Dept. 1908 and Sheet 46, Drawer 26.

Sept 20 11.12.5

STATE OF *Fort Wetherill* RHODE ISLAND.

*Military Reservation
at the Dumplings.*



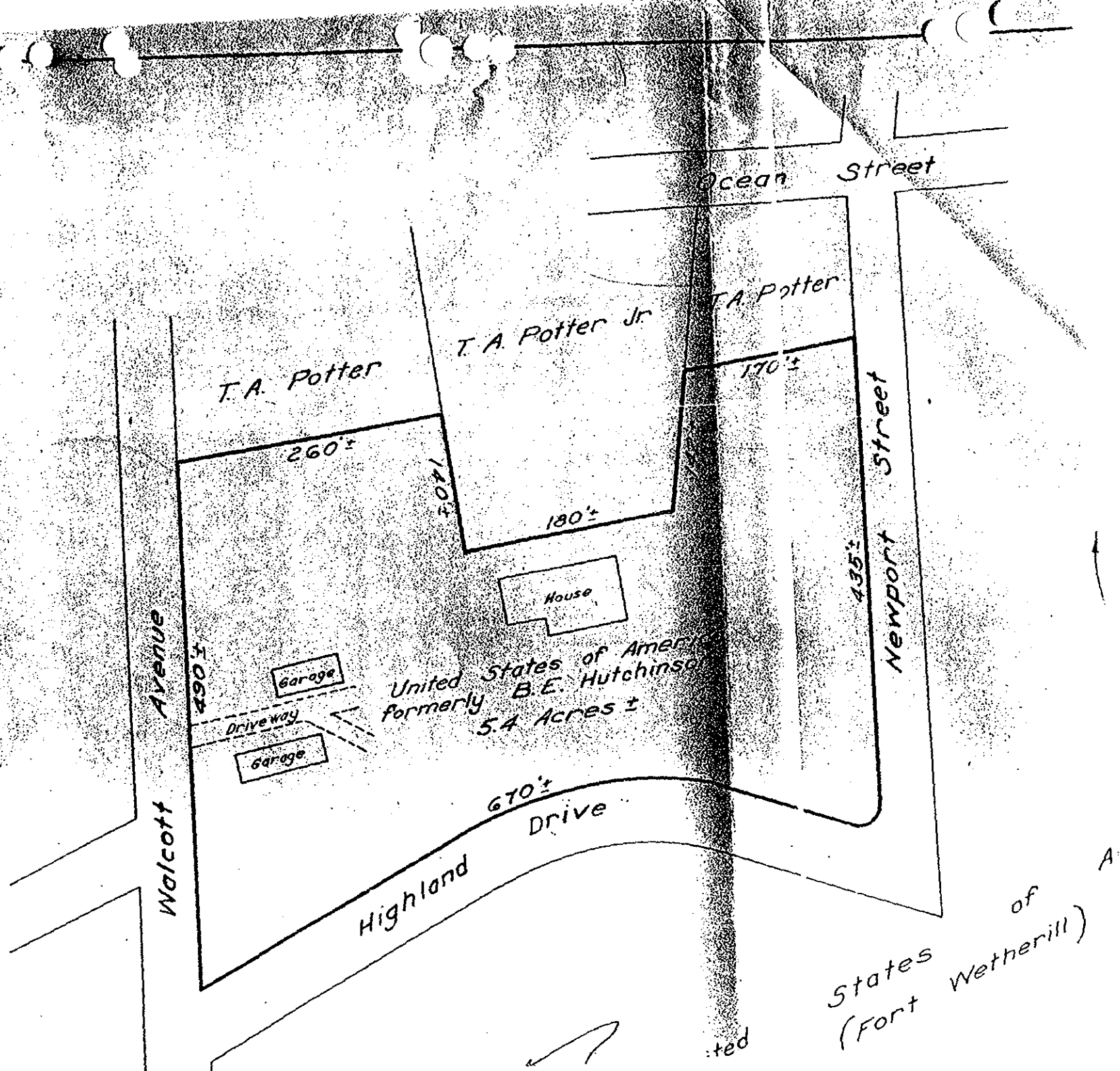
0 100 200 300 400 500 600 700 800 900 1000 Feet.

Superseded by plat of 1908.

6 September 1941

BLOCK 6 SCHEDULE D "TRACT REG. T. CO. COMPANY REG. 5"

CHARACTER OF INTEREST HELD BY GOVERNMENT					ACQUISITION		TITLE EVIDENCE	LOCATION OF LAND	
Original Tract No.	Name and Address of Former Owner	Original Acreage	Original cost (estimated if not known) of acreage declared surplus.	Acreage Reported for Disposal	Date	(F) Purchase (D.) Declaration of Taking	(A) Abstract (C) Certificate of Title	Name and Address of Title or Abstracting Company	Outstanding Interest (including those granted to the Government)
1	B. Edwin Hutchinson, et al	5.40	1.00	5.40	12/26/42	F	A	Alice M. Smith New England Division Boston 10, Mass.	



DECLARATION OF SURPLUS REAL PROPERTY
(In the continental United States, its Territories and possessions)
to the Surplus Property Board, Washington 25, D. C.

IMPORTANT.—Instructions for completing this form appear on reverse.

1. FROM: War Dept. Army Service Forces, Corps of Engineers, Washington 25, D. C. *H. H. H. (initials)*
2. LOCATION OF PROPERTY (ATTACH MAP) *Walcott Avenue, Town of Jamestown, County of Newport, State of Rhode Island. (See Block 2 - Schedule A)*
3. REPRESENTATIVES TO CONTACT *Brigadier General J. A. O'Connor, Division Engineer, New England Division, 75 Federal St., Boston 10, Mass. (See Block 3 - Schedule A)*
4. USE OF PROPERTY WHEN ACQUIRED *Private summer residence in an exclusive neighborhood overlooking entire water area leading into Narragansett Bay.*
5. OPINION OF BEST FUTURE USE *Ideal location for summer residence.*

7. DATE NOV 19 1945	8. REPORTING AGENCY NO. WD 277
9. SURPLUS PROPERTY BOARD NO. <i>11-11-1</i>	10. DISPOSAL AGENCY NO.
11. APPROXIMATE AREA 5.4 acres of land	
12. COST OF PROPERTY	
ACQUISITION (Donation):	
BETTERMENTS	\$ 225.00
TOTAL	\$ 225.00
13. PROCEEDS: IF "REIMBURSABLE", GIVE SYMBOL AND TITLE OF APPROPRIATION OR GOVERNMENT CORPORATION.	

6. GENERAL DESCRIPTION OF PROPERTY *The property consists of 5.4 acres of land, more or less, with a 17-room 2½ story building, 4 car garage and combination 3 car garage and stable thereon, and is located on Walcott Avenue, Newport Street and Highland Drive, Town of Jamestown, Newport County, State of Rhode Island. The premises adjoin Fort Wetherill and were used as officer's quarters. (See Block 2 - Schedule A for general layout plan of the land with buildings thereon.)*

This location is called Tract No. 1, Expansion of Fort Wetherill Project in Jamestown, Newport County, R. I.

The former owners of the subject premises are: Mr. and Mrs. B. Edwin Hutchinson, c/o William Stanley, 1626 K Street NW, Washington, D. C.

- See Block 6 - Schedule A for Attorney's Title Certificate.*
- See Block 6 - Schedule B for Description of Improvements.*
- See Block 6 - Schedule C for Comments.*
- See Block 6 - Schedule D for Tract Register.*
- See Block 6 - Schedule E for Recommendations.*

- Includes \$764.58 for repairs necessary due to fire damage.*
- Includes \$62.11 for new screens on doors and windows and furnishing new storm windows.*

DO NOT FILL IN

FORWARDED BY SPB TO:

Date _____ Initials _____

14. AUTHORIZED BY **Chief of Engineers**

ROBERT H. FABIAN

(Name of reporting official (please type))

Major, Corps of Engineers, U.S. Army

(Title (please type))

BY **/s/ Robert H. Fabian**
SPA, COPY (Signature of authorized official)

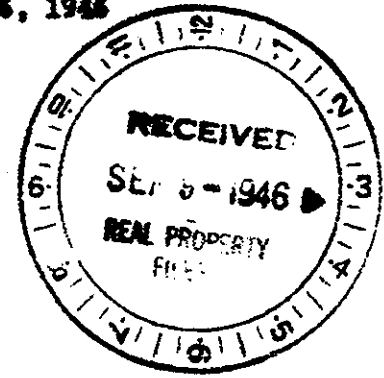
RT-1 ①

RG 270

In reply refer to:
FHA-
U.S.-R.I.-1
Ft. Wetherill (Tract #1)
Jamestown, Rhode Island

September 6, 1946

Mr. C. Russell Cravens
Assistant Commissioner for
Real Estate and Disposition
Federal Public Housing Authority
301 Longfellow Building
Washington, D. C.



Dear Mr. Cravens:

This is in reference to your letter, dated August 6, 1946, wherein you recommended the acceptance of an offer of \$12,000 obtained by your Authority for Tract No. 1 at Ft. Wetherill, Jamestown, Rhode Island.

The property consists of 5.4 acres of land improved with a 17 room house and 2 garages, and your letter sets out that it was appraised in January 1946 and a current market value established at \$18,000; that the 90-day advertising period evoked no offers or expressions of interest; that the present offer of \$12,000 has been obtained from a non-priority holder, which was preceded by several lower offers.

In view of the situation as outlined above and your opinion that \$12,000 is the highest and best price obtainable, this Administration will interpose no objection to the sale.

Sincerely yours,

DAVID C. McPHERSON
Assistant Deputy Administrator
Office of Real Property Disposal

CC
Regional Office, WAA
Property Management

AJBuchanan/mjb/ajo
9-6-46

RECEIVED
SEP 6 1946
REAL PROPERTY
FILE
DISPATCHED
SEP 6 1946
COMM. FOR D.C.

TO ALL PEOPLE TO WHOM THESE PRESENTS SHALL COME, GREETING:

Know ye, that the United States of America, acting by and through the Federal Public Housing Commissioner, under and pursuant to the powers and authority contained in the provisions of the Surplus Property Act of 1944 (58 Stat. 765); S. P. A. Regulation No. 1 (10 F. R. 3764); S. P. A. Regulation No. 5 (10 F. R. 6252) and General Order No. 21-31 of the National Housing Administrator (10 F. R. 1262), for the consideration of Twelve Thousand Dollars (\$12,000), received to its full satisfaction of George Lewis Crawford of the Town of Jamestown, County of Newport and State of Rhode Island, does remise, release and forever quitclaim unto the said George Lewis Crawford, his heirs and assigns forever, all right, title, interest, claim and demand whatsoever as to, the said releasor, has or ought to have in or to the following described property situate, lying and being in the Town of Jamestown, County of Newport, State of Rhode Island, subject to restrictions and conditions and the exception and reservation of fissionable materials and rights hereinafter set out, to wit:

A certain parcel of land with the buildings thereon situated in the Town of Jamestown, County of Newport and State of Rhode Island, being bounded and described as follows:

Beginning at the northeasterly corner of the premises herein conveyed at a point in the northwesterly line of Newport Street, which point is also the southeasterly corner of land now or formerly of one Davis; thence running southwesterly along the northwesterly line of Newport Street 435 feet to the northerly line of Highland Drive; thence running in a general westerly direction along the northerly line of Highland Drive 670 feet to the southeasterly line of Walcott Avenue; thence running northeasterly along the southeasterly line of Walcott Avenue 490 feet to other land now or formerly of said Davis; thence running southeasterly along the land of said Davis 260 feet to land now or formerly of one Potter; thence running the following three courses along the land of said Potter southwesterly 140 feet, south-^{130 feet, and northeasterly} easterly 142 feet to the land of said Davis; first mentioned above; thence running southeasterly along the land of said Davis 170 feet to the point or place of beginning, containing 5.4 acres, more or less.

Subject to the following restrictions and conditions of record pertaining to the use of the above-described property.

No slaughter house, smith shop, steam engine, furnace, forge, bone boiling establishment, iron or brass foundry, no manufacturing of chemicals of any description; of gas, soap, fish, fish oil, kero-

or business whatever shall ever be done, carried on or permitted in or upon said land or any part thereof with the understanding, however, that this shall not exclude from said land any invention, apparatus or machine, appurtenant to a dwelling house for lighting or warming the same or supplying the same with water, and said condition may be at any time enforced, by action, injunction or otherwise by said grantor, its successors and assigns against said grantee and his heirs and assigns forever, and also by the owner or owners, occupant, or occupants for the time being or any portion of the Highlands, in the said plot thereof against any owner or owners, occupant or occupants for the time being of said granted land, or of any part thereof forever, the design being to have the conditions hereof in every deed given by said grantor in the premises and make every portion of said Ocean Highlands subject to said conditions for the benefit of every other portion thereof forever.

Excepting and reserving to the United States of America, in accordance with Executive Order No. 9701, approved on March 4, 1946 (11 F. R. 2369), all fissionable materials in the above-described land, together with the right at any and all times to enter upon the lands and prospect for, mine and remove such materials with all necessary and convenient means of working and transporting the materials and supplies.

By accepting this instrument or any rights thereunder, George Lewis Crawford, the said grantee, hereby releases the United States of America from any and all liability for all claims for losses or damages arising out of the exception and reservation above.

Being the same property acquired by the United States of America by deed from E. Edwin Hutchinson and Helen M. Hutchinson dated December 26, 1942 and recorded in Volume 34 of Land Evidence of Jamestown, Rhode Island at Page 338. Said land was duly declared surplus and was assigned by the Surplus Property Board to National Housing Agency as disposal agent, pursuant to the provisions of the above-mentioned Act and S. P. A. Regulations Nos. 1 and 5.

TO HAVE AND TO HOLD the said premises, with the appurtenances thereof, unto the said releasee, his heirs and assigns, forever, so that neither the releasor nor its assigns, nor any person under it or them, shall hereafter have any claim, right or title in or to the premises or any part thereof but therefrom it and they are by these presents forever barred and excluded, except the restrictions and conditions set forth above and the fissionable materials and rights excepted and reserved above.

IN WITNESS WHEREOF, the United States of America, National Housing Agency, has caused these presents to be signed and sealed by William H. Healey, Assistant Regional Director for Real Estate and Disposition, Region I, Federal Public Housing Authority, this 24th day of September, 1946.

Elizabeth L. Gamble

Daird A. Lupein

(National Housing Agency Seal)

UNITED STATES OF AMERICA

NATIONAL HOUSING AGENCY

By Wm. H. Healey

Assistant Regional Director for

Real Estate and Disposition,

Region I, Federal Public Housing Authority

G-6



DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON 25, D. C.

IN REPLY REFER TO

602.3 Fort Wetherill Military
Reservation, Rhode Island
(Dept/Navy) ENGLM

4 AUG 1953

SUBJECT: Transfer of Fort Wetherill Military Reservation,
Rhode Island to the Department of the Navy.

TO: The Judge Advocate General
Department of the Army
Attn: Lands Division

Inclosed for your files is copy of a memorandum, with
attachment thereto, addressed by the Secretary of the Army to the
Secretary of the Navy on 31 July 1953, effecting the subject
transfer as of 19 January 1951, the date possession was assumed
by the Department of the Navy.

FOR THE CHIEF OF ENGINEERS:

H. O'Neill *was*

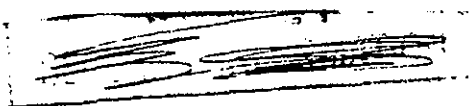
1 Incl
Cy memo dtd 31 Jul 53,
w/att

R. O'NEILL
Chief, Management
Proposal Division
Lands Division

PLO ETC

FORT WETHERILL MILITARY RESERVATION

R. I.



31 July 1953

MEMORANDUM FOR THE SECRETARY OF THE NAVY

SUBJECT: Transfer of Fort Wetherill Military Reservation, Rhode Island to the Department of the Navy

1. In accordance with a request by letter dated 8 June 1953 (Serial: 000512) of the Chief of the Bureau of Lines and Logs, Department of the Navy, addressed to the Chief of Engineers, Department of the Army, the entire Fort Wetherill Military Reservation, Conanicut Island, near Jamestown in the County of Newport, State of Rhode Island, described by the attached document is hereby transferred to the control and jurisdiction of the Department of the Navy, effective 19 January 1951, pursuant to authority contained in Section 640 of the Act of Congress approved 4 August 1949 (63 Stat. 546; 16 U. S. C. 640).

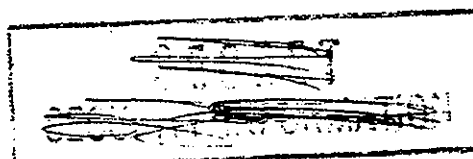
2. The requirements of Section 601 of the Act of Congress approved 26 September 1951 (Public Law 155 - 82nd Congress) as they affect this transfer, have been met.

1 Att:
Transfer
Document

Robert T. Stevens
Secretary of the Army

cc: 3/1 (2)
AS/1 (2)
O/1 (2)
S-1 File
S-1 Comback
S-1 Martins Dr
TAG
JAG
CCE Comback

Regraded UNCLASSIFIED by authority
of COL E. R. Wimer
Lt Col Walker
ACofS, G-4 Src Div
15 July 53



Information as to when, from whom and how the property (Port Jethrell) was acquired by the Government and the estate which the Government has in the land. Reservations and exceptions in and to the Government's title and outstanding interests granted by the Government or reserved or excepted in the acquisition.

(1) 6.53 acres of land acquired in fee simple from Ebenezer Shearman by deed dated 26 November 1799 and duly recorded in Book 4, Page 88, Jamestown Land Evidence Office, R. I. Conveyance subject to the exclusive right of grantor to take and carry away all the seaweed, rockweed or other sea manure and to pile same in convenient heaps for that purpose, with the privilege of a way for carrying the same through the land hereby conveyed. Consideration \$600.00.

(2) 1.584 acres of land acquired in fee simple from Mary Dame et al by deed dated 29 April 1899 and duly recorded in Book 13, Page 350 of above records; also by decree of condemnation entered on 1 September 1898 in Circuit Court of the United States for the District of Rhode Island. Consideration \$160,255.50.

(3) 5.00 acres of land acquired in fee simple from Benjamin H. Shoemaker by deed dated 5 May 1899 and duly recorded in Book 13, Page 352 of referenced records; also by decree of condemnation entered on 3 September 1898 in said court. Consideration included with (2).

(4) 14.512 acres of land acquired in fee simple from William T. Richards by deed dated 29 May 1899 and duly recorded in Book 13, Page 347 of referenced records; also by decree of condemnation entered on 3 September 1898 in said court. Consideration included with (2).

(5) 7.354 acres of land acquired in fee simple from the Ocean Highlands Company by deed dated 4 May 1899 and duly recorded in Book 13, Page 348 of referenced records; also by decree of condemnation entered on 3 September 1898 in referenced court. Consideration \$40,572.44.

(6) 2.00 acres of land acquired in fee simple from Lettie A. Lieber by deed dated 29 April 1899, and duly recorded in Book 13, Page 349, of referenced records; also by decree of condemnation entered on 3 September 1898 in referenced court. Consideration included with (5) above.

(7) .875 acres of land acquired in fee simple from Mabel Russell et al by deeds dated 17 January 1902 and 1 February 1902 and duly recorded in Book 14, Pages 210 and 211 of referenced records; also by decree of condemnation entered on 4 January 1902 in referenced court. Consideration \$9,000.

(8) 1.5 acres of land acquired in fee simple from Henry Stalzell by deed dated 3 March 1902 and duly recorded in Book 14, Page 230 of referenced records; also by decree of condemnation entered on 4 January 1902 in said court. Consideration \$6,500.

(9) 3.088 acres of land acquired in fee simple from Benjamin H. Shoemaker by deed dated 18 January 1904 and duly recorded in Book 15, Page 60 of referenced records; also by decree of condemnation entered in Case 2660 in said court.

EXHIBIT "D"

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Consideration paid \$207,985.46, plus costs \$2,324.60.

(10) 4.743 acres of land acquired in fee simple from Charles W. Stork et al, executors, deed dated 13 January 1904 and duly recorded in Book 15, Page 62 of referenced records; also by decree of condemnation entered in Case No. 2660 in said court. Consideration included with (9) above.

(11) 8.046 acres of land acquired in fee simple from Joseph S. L. Wharton by deed dated 13 January 1904 and duly recorded in Book 15, Page 64 of referenced records; also by decree of condemnation entered in Case No. 2660 in said court. Consideration included with (9) above.

(12) 2.025 acres of land acquired in fee simple from the Ocean Highland Company by deed dated May 14, 1907 and duly recorded in Book 16, Page 14 of referenced records; also by decree of condemnation entered on 12 December 1906 in the said court. Consideration included with (9) above.

(13) Negative easements acquired by the United States through decree of condemnation entered in referenced court, Case Law No. 2570. Consideration \$1,409.45.

(14) Permit dated 12 November 1930 from State of Rhode Island, Board of Public Roads, authorizes the Government to continue and maintain an armored communication cable under Beavertail Road connecting Forts Metherill and Getty.

(15) Permit dated 10 November 1930 from the Town Council of Town of Jamestown authorizes the Government to continue and maintain an armored communication cable across the isthmus between Mackerel Cove and Dutch Island Harbor.

(16) Revocable license dated 8 January 1924 issued by the Department of the Army to New England Telephone & Telegraph Company authorized the telephone company to occupy Government property for the purpose of furnishing commercial telephone service to the general public living in the vicinity of Fort Adams, Rhode Island. Term indefinite. Rental \$12.00 per annum payable 8 January of each year.

Above License was supplemented on 26 August 1929 to permit the licensee to place and maintain on Fort Metherill, Rhode Island, one manhole and underground conduit in order to furnish telephone service to the general public in the vicinity of Fort Metherill, Rhode Island.

(17) Revocable License dated 22 April 1913 issued by the Department of the Army to the Newport and Fall River Street Railway Company (now the Newport Electric Corporation) to construct and maintain an electric cable line, together with necessary land connections, across the Fort Adams Military Reservation, Rhode Island, across Narragansett Bay to Fort Metherill, R. I., and thence across said reservation. Term indefinite. No compensation reserved in subject instrument. Condition 5 provides for the Licensee to sell electric current to Licensor at reduced rates.

QUITCLAIM DEED**Depur**

The UNITED STATES OF AMERICA, acting by and through the Regional Director, Northeast Region, Bureau of Outdoor Recreation, with offices at 600 Arch Street, Philadelphia, Pennsylvania, pursuant to authority delegated by the Secretary of the Interior, and as authorized by the Federal Property and Administrative Services Act of 1949 (63 Stat. 377), as amended, and particularly as amended by Public Law 91-485 (84 Stat. 1084), and regulations and orders promulgated thereunder (hereinafter referred to as Grantor), for and in consideration of the use and maintenance of the property herein conveyed for public park or public recreation purposes in perpetuity by the State of Rhode Island, Department of Natural Resources, (hereinafter referred to as Grantee), does hereby remise, release, and quitclaim to Grantee, its successors and assigns, subject to the reservations, exceptions, restrictions, conditions and covenants hereinafter set forth, all right, title, and interest of the Grantor in and to the following described property, situated on the eastern shore of Conanicut Island in the Town of Jamestown, County of Newport, State of Rhode Island, and more particularly described as follows:

Beginning at a point in the line of mean high water of Narragansett Bay at the corner of land now or formerly of Joseph Wharton;

thence N 3° 13' 43" E, along the east line of said Wharton land, 20 feet, more or less, to an iron bolt in the ledge;

thence continuing in the same direction, 499.56 feet to a stone bound in the easterly line of Highland Drive;

thence N 25° 00' 11" E, in the east line of Highland Drive, 208.98 feet to a stone bound;

thence in the curved line in the southerly side of said Highland Drive to a stone bound bearing N 72° 49' 29" E, and 15.01 feet distant, measured in a straight line;

thence N 84° 42' 09" E, in a straight line in the southerly side of said Highland Drive, 320.78 feet to a stone bound;

thence along the southerly side of said Highland Drive in a curved line to a stone bound, distant 192.81 feet, measured in a straight line and bearing S 70° 58' 31" E;

thence S 47° 15' 14" E, 156.58 feet in the southerly side of said Highland Drive to a stone bound;

thence S 43° 25' 37" E, in the southerly side of said Highland Drive, 54.73 feet to a stone bound in the easterly line of Newport Street;

thence N 22° 34' 05" E, along the said easterly line of Newport Street, 673.97 feet to a concrete bound in the southerly side of Ocean Street;

thence S 68° 04' 48" E, along the said south line of Ocean Street, 565.43 feet to a concrete bound;

thence continuing in the same direction 491.78 feet to a concrete bound in the southerly side of Highland Drive;

thence easterly and along the said southerly side of Highland Drive, 92.24 feet to an angle;

thence continuing along the southerly side of said Highland Drive, 120 feet to the point of intersection of said Highland Drive with a road leading from said point of intersection to Fort Cove;

thence along the southerly side of Fort Cove Road 640 feet to a point;

thence S 8° 52' 00" E, 386 feet, more or less, by remaining land of the United States of America under the jurisdiction of the Department of the Navy to the line of mean high water of Narragansett Bay;

thence along the said line of mean high water of Narragansett Bay in a general northerly, southerly and westerly direction to the point of beginning.

The bearings are true bearings based on a meridian through the United States Coast and Geodetic Survey Station Dumplin 2.

→ The property herein conveyed contains 51.0 acres, more or less, and was formerly a portion of Fort Wetherill Military Reservation, D-RI-463, under the administrative jurisdiction of the Department of the Army, an agency of the United States Government.

TOGETHER WITH the appurtenances, the buildings, and improvements thereon and all the estate and rights of the Grantor in and to the said premises, including 2030 lineal feet, more or less, of 6" cast iron water line, with appurtenances running from the northeasterly intersection of Newport and Ocean Streets to the property line of remaining Government-owned land at Fort Point Cove.

SUBJECT TO any and all outstanding reservations, easements, and rights-of-way, recorded and unrecorded, for public roads, railroads, pipelines, drainage ditches, sewer mains and lines, and public utilities affecting the property herein conveyed.

TO HAVE AND TO HOLD the above premises, subject to the easements, reservations, exceptions, restrictions, conditions, and covenants herein enumerated and set forth, unto the Grantee, its successors and assigns, forever.

There are excepted from this conveyance and reserved to the Grantor all oil, gas, and other minerals in, under, and upon the lands herein conveyed, together with the right to enter upon the land for the purpose of mining and removing the same.

Pursuant to authority contained in the Federal Property and Administrative Services Act of 1949, as amended, and applicable rules, regulations and orders promulgated thereunder, the General Services Administration determined the property to be surplus to the needs of the United States of America and assigned the property to the Department of the Interior for conveyance to the State of Rhode Island.

It is understood and agreed by and between the Grantor and Grantee, and Grantee by acceptance of this deed does acknowledge that it fully understands the terms and conditions set forth herein and does further covenant and agree for itself, and its successors and assigns, forever, as follows:

1. The property shall be used and maintained for the public purposes for which it was conveyed in perpetuity as set forth in the program of utilization and plan contained in the application submitted by Grantee on the 16th day of July, 1971, which program and plan may be amended from time to time at the request of either the Grantor or Grantee, with the written concurrence of the other party, and such amendments shall be added to and become a part of the original application.

2. Grantee shall provide, on a reimbursable basis, continuous and uninterrupted fresh water service from the water main located in Ocean Street and included in this transfer to the remaining lands under the custody and jurisdiction of the Department of the Navy.

3. The Grantee shall within 6 months of the date of this deed erect and maintain a permanent sign or marker near the point of principal access to the conveyed area indicating that the property is a park or recreational area and has been acquired from the Federal Government for use by the general public.

4. The property shall not be sold, leased, assigned or otherwise disposed of except to another eligible governmental agency that the Secretary of the Interior agrees in writing can assure the continued use and maintenance of the property for public park or public recreational purposes subject to the same terms and conditions in the original instrument of conveyance. However, nothing in this provision shall preclude the Grantee from providing related recreational facilities and services

compatible with the approved application, through concession agreements entered into with third parties, provided prior concurrence to such agreements is obtained in writing from the Secretary of the Interior.

5. From the date of this conveyance, the Grantee, its successors and assigns, shall submit biennial reports to the Secretary of the Interior, setting forth the use made of the property during the preceding two-year period, and other pertinent data establishing its continuous use for the purposes set forth above, for ten consecutive reports and as further determined by the Secretary of the Interior.

6. If at any time the United States of America shall determine that the premises herein conveyed, or any part thereof, are needed for the national defense, all right, title and interest in and to said premises, or part thereof determined to be necessary to such national defense, shall revert to and become the property of the United States of America.

7. As part of the consideration for this deed, the Grantee covenants and agrees for itself, its successors and assigns, that (1) the program for or in connection with which this deed is made will be conducted in compliance with, and the Grantee, its successors and assigns, will comply with all requirements imposed by or pursuant to the regulations of the Department of the Interior as in effect on the date of this deed (43 C.F.R. Part 17) issued under the provisions of Title VI of the Civil Rights Act of 1964; (2) this covenant shall be subject in all respects to the provisions of said regulations; (3) the Grantee, its successors and assigns, will promptly take and continue to take such action as may be necessary to effectuate this covenant; (4) the United States shall have the right to seek judicial enforcement of this covenant; and (5) the Grantee, its successors and assigns, will (a) obtain from each other person (any legal entity) who, through contractual or other arrangements with the Grantee, its successors or assigns, is authorized to provide services or benefits under said program, a written agreement pursuant to which such other persons shall, with respect to the services or benefits which he is authorized to provide, undertake for himself the same obligations as those imposed upon the Grantee, its successors and assigns, by this covenant, and (b) furnish a copy of such agreement to the Secretary of the Interior, or his successor; and that this covenant

shall run with the land hereby conveyed, and shall in any event, without regard to technical classification or designation, legal or otherwise, be binding to the fullest extent permitted by law and equity for the benefit of, and in favor of the Grantor and enforceable by the Grantor against the Grantee, its successors and assigns.

8. In the event there is a breach of any of the conditions and covenants herein contained by the Grantee, its successors and assigns, whether caused by the legal or other inability of the Grantee, its successors and assigns, to perform said conditions and covenants, or otherwise, all right, title, and interest in and to the said premises shall revert to and become the property of the Grantor at its option, which in addition to all other remedies for such breach shall have the right of entry upon said premises, and the Grantee, its successors and assigns, shall forfeit all right, title and interest in said premises and in any and all of the tenements, hereditaments and appurtenances thereunto belonging; provided, however, that the failure of the Secretary of the Interior to require in any one or more instances complete performance of any of the conditions or covenants shall not be construed as a waiver or relinquishment of such future performance, but the obligation of the Grantee, its successors and assigns, with respect to such future performance shall continue in full force and effect:

IN WITNESS WHEREOF, the Grantor has caused these presents to be executed in its name and on its behalf this the 14th day of August, 1923.

UNITED STATES OF AMERICA

BY

Deputy

Anthony M. Coluccio
Regional Director
Northeast Region
Bureau of Outdoor Recreation
Federal Building - Room 9510
600 Arch Street
Philadelphia, Pennsylvania 19106

STATE OF Pennsylvania }
COUNTY OF Philadelphia } ss

On this 14th day of August, 1973, before me, the subscriber, personally appeared Anthony H. Barbis, to me known and known to me to be the Regional Director, Northeast Region, Bureau of Outdoor Recreation, of the United States Department of the Interior, a governmental agency of the United States of America, with offices at the Federal Building, Room 9510, 600 Arch Street, Philadelphia, Pennsylvania, 19106, and known to me to be the same person described in and who executed the foregoing instrument as such Regional Director aforesaid, as the act and deed of the United States of America, for and on behalf of the Secretary of the Interior, duly designated, empowered and authorized so to do by said Secretary, and he acknowledged that he executed the foregoing instrument for and on behalf of the United States of America, for the purposes and uses therein described.

Carol Ann Beecher
NOTARY PUBLIC

My Commission expires:
ROL ANN BEECHER, NOTARY PUBLIC
PHILADELPHIA, PHILADELPHIA COUNTY
COMMISSION EXPIRES OCT. 13, 1975
Secretary, Pennsylvania Association of Notaries

The foregoing conveyance is hereby accepted and the undersigned agrees, by this acceptance, to assume and be bound by all the obligations, conditions, covenants, and agreements therein contained.

STATE OF RHODE ISLAND
By Philip W. Noel
Governor
Title

STATE OF RHODE ISLAND }
COUNTY OF Providence } ss

On this the 22nd day of January, 1974, before me, the undersigned officer, personally appeared Philip W. Noel, of the State of Rhode Island, known to me to be the person described in the foregoing instrument, and acknowledged that he executed the same in the capacity therein stated and for the purposes therein contained.

In witness whereof, I have hereunto set my hand and official seal.

Carol Ann Beecher
NOTARY PUBLIC
Title

-6-
Received for record in Jamestown, R. I.
February 13, 1974 at 11:48 A.M.

Rosemond A. Tofft Town Clerk

Nov 8, 1974
3.5a
fuDEED WITHOUT WARRANTY

KNOW ALL MEN BY THESE PRESENTS: That the UNITED STATES OF AMERICA acting by and through the Secretary of Health, Education, and Welfare by the Regional Director of the Department of Health, Education, and Welfare, Region I under and pursuant to the powers and authorities contained in the Federal Property and Administrative Services Act of 1949 (63 Stat. 377), as amended, the Civil Rights Act of 1964, and the regulations promulgated thereunder, and the Department of Health, Education, and Welfare Statement of Organization and Delegation of Authority, Part 1, section 1E-40 A.1.a 1 (35 F.R. 11653) for and in consideration of the observance and performance by the Town of Jamestown a municipality located in the County of Newport, State of Rhode Island, of the covenants, conditions, reservations, and restrictions hereinafter contained and for other valuable consideration grants to the said Town of Jamestown, its successors and assigns, subject to the covenants, conditions, reservations and restrictions hereinafter set forth:

A certain parcel of land with the buildings and improvements thereon situated in the Town of Jamestown, County of Newport and State of Rhode Island bounded and described as follows:

PARCEL "A"

Beginning at a point in the most easterly line of Parcel "A", said point being at the mean high water line of Narragansett Bay, South 29° 04' 36" East, 6 feet more or less from a copper bolt set in ledge;

Thence North 29° 04' 36" West, 150.41 feet to a point marked by a copper bolt set in ledge, bounded easterly by land now or formerly of Todd and Co.;

Thence South 53° 58' 04" West, 114.11 feet to a point marked by a steel spike set in asphalt, bounded northerly partly by land now or formerly of the said Todd and Co. and partly by the southerly end of the entrance road to Fort Wetherill;

Thence North 05° 47' 55" West, 129.40 feet to a point bounded easterly by the said entrance road to Fort Wetherill;

Thence North 48° 22' 54" West, 19.04 feet to a point, bounded northeasterly by the road to Fort Wetherill;

Thence North 72° 41' 04" West, 40.91 feet to a point marked by a concrete bound, bounded northerly by the said road to Fort Wetherill;

Thence South 77° 01' 49" West, 104.73 feet to a point, bounded northerly by the said road to Fort Wetherill;

Thence South 69° 53' 15" West, 49.01 feet to a point, bounded northerly by the said road to Fort Wetherill;

Thence South 56° 21' 11" West, 90.44 feet to a point marked by an iron rod set in the ground, bounded northerly by the said road to Fort Wetherill;

Thence South 04° 21' 57" East, 394.61 feet to a point in the mean high water line of the said Narragansett Bay, said point being marked by a 4 inch gal. fence post, bounded westerly by land now or formerly of the United States of America;

Thence in a southeasterly direction, 70 feet more or less in the line of mean high water of Narragansett Bay to a point, bounded southwesterly by the said Narragansett Bay;

Thence South 88° 03' 56" East, 205 feet more or less, in the northerly line, extended westerly of a stone pier, to a point, bounded southerly by land of the said United States of America;

Thence northerly and easterly in the line of mean high water of the said Narragansett Bay to the point of beginning, containing 3.5 Acres, more or less.

This property is conveyed under and subject to the following restrictions to protect the interest of the United States Navy:

1. The Grantee will erect at no cost or expense to the United States security fences separating the above conveyed land from land retained by the United States, including Buildings No. 55, 56 and 58. The fences shall be installed according to United States Navy specifications.
2. The Grantee has not acquired any rights across the United States retained land and is not permitted to use United States retained boat landings, wharfs and piers.
3. The United States shall have perpetual right of access over all existing roads in the land conveyed herein.
4. The Grantee's use of the property hereby conveyed must be compatible with and in no way interfere with the operations of the Naval Underwater Systems Center, Newport, Rhode Island as determined by the Commanding Officer, Naval Underwater Systems Center, Newport, Rhode Island.

In addition to any easements created by the above restrictions, there is reserved to the United States of America the following described perpetual easements:

EASEMENT NO. 1

A perpetual easement and right-of-way 20 feet in width for access purposes to and from land being retained by the United States of America and shown as Easement No. 1 on the below mentioned plan bearing P.W.C. No. 19197-198, the center line of which is described as follows:

Beginning at a point at the southwest corner of the southerly end of the entrance road to Fort Wetherill;

Thence South 27° 42' 04" West, 222 feet to a point;

Thence South 16° 39' 04" West, 201.6 feet to land being retained by the United States of America.

EASEMENT NO. 2

A perpetual easement 20 feet in width for overhead electric distribution lines and poles shown as Easement No. 2 on the

APPROX
195 AC.
350'

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aforementioned plan bearing P.W.C. No. 19197-198, the center line of which is described as follows:

Beginning at a point in the southerly line of the road to Fort Wetherill, said point being North $56^{\circ} 21' 11''$ East, 81 feet more or less from the northwest corner of the said Parcel "A";

Thence South $14^{\circ} 39'$ East, 352 feet more or less to a point;

Thence South $01^{\circ} 09'$ East, 160 feet more or less to land being retained by the said United States of America.

Together with the right of ingress and egress for the purpose of operating, maintaining, repairing and replacing said overhead lines.

Also reserving ownership to the United States of America of said existing overhead lines located in the above described Parcel "A".

EASEMENT NO. 3

A perpetual easement 20 feet in width for an underground water main shown as Easement No. 3 on the aforementioned plan bearing P.W.C. No. 19197-198, the center line of which is described as follows:

Beginning in the southerly line of the said road to Fort Wetherill, said point being North $56^{\circ} 21' 11''$ East, 40 feet more or less from the northwest corner of the said Parcel "A";

Thence South $33^{\circ} 28'$ East, 60 feet more or less to a point;

Thence South $18^{\circ} 28'$ East, 280 feet more or less to a point;

Thence South $01^{\circ} 32'$ West, 165 feet more or less to land being retained by the United States of America.

Together with the right of ingress and egress for the purpose of operating, maintaining, repairing and replacing said underground water main.

Also reserving ownership to the United States of America of said existing underground water main located in the above described Parcel "A".

There is excepted and reserved for the benefit of the New England Telephone and Telegraph Company, its successors and assigns, an easement 10 feet in width, for the construction, installation, maintenance, operation, repair and replacement of a communication line and appurtenances through, under and across Parcel "A", the center line of which is described as follows:

Beginning at a point in the northerly boundary line of Fort Wetherill, said point bearing North $53^{\circ} 58' 04''$ East and being 40.1 feet distant from the southwesterly corner of Ocean Street;

Thence South $62^{\circ} 19'$ East, 117 feet, more or less, to the mean high water of Narragansett Bay at Bull Point, Jamestown, Rhode Island. Containing 0.03 acres of land, more or less.

The above described easement is shown on a plan entitled "Plan of Proposed Easement to New England Telephone Company, Fort Wetherill, Jamestown, R.I.", dated June 12, 1965 and bearing Northeast Div. Dwg. No. RE-431.

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AC
E.

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The above described property is more fully described on a plan bearing P.W. No. 19197-198, dated 11 December 1972 and entitled, "FORT WETHERILL, JAMESTOWN, R.I. PARCEL 'A' AREA TO BE DECLARED EXCESS - METES & BOUNDS",

Excepting and reserving to the United States of America title to buildings 58, 56 and 55 together with the right of ingress and egress over that part of said Parcel "A" necessary for access to said buildings.

Said property conveyed hereby was declared surplus and was assigned to the Department of Health, Education, and Welfare for disposal for public health purposes pursuant to the provisions of the aforementioned Federal Property and Administrative Services Act of 1949 and of applicable rules, regulations and orders.

This Deed is executed and delivered to the Town of Jamestown, its successors and assigns, without covenants or warranties by or on behalf of the UNITED STATES OF AMERICA whatsoever, either express or implied.

AND this Deed is made and accepted upon each of the following conditions subsequent which shall be binding upon and enforceable against the Town of Jamestown, its successors and assigns, and each of them, as follows:

1. That for period of thirty (30) years from the date of this Deed the above-described property herein conveyed shall be utilized continuously in the manner and for the public health purposes set forth in the approved program and plan contained in the application of the Town of Jamestown dated April 25, 1973, and for no other purpose.

2. That during the aforesaid period of thirty (30) years the Town of Jamestown will resell, lease, mortgage or encumber or otherwise dispose of the above described property, or any part thereof or interest therein only as the Department of Health, Education, and Welfare, or its successor in function, in accordance with its existing regulations, may authorize in writing.

3. That one year from the date of this Deed and annually thereafter for the aforesaid period of thirty (30) years unless the Department of Health, Education, and Welfare, or its successor in function, otherwise directs, the Town of Jamestown will file with the Department of Health, Education, and Welfare or its successor in function, reports on the operation and maintenance of the above-described property and will furnish as requested such other pertinent data evidencing such continuous use of the property herein conveyed for the purposes specified in the above identified application.

4. That for the period during which the above-described property is used for a purpose for which the Federal financial assistance is extended by the Department or for another purpose involving the provision of similar services or benefits, the Town of Jamestown hereby agrees that it will comply with Title VI of the Civil Rights Act of 1964 (P.L. 88-352) and all requirements imposed by or pursuant to the Regulation of the Department of Health, Education, and Welfare (45 C.F.R. Part 80) issued pursuant to that title and as in effect on the date of this deed, to the end that, in accordance with Title VI of that Act and the Regulation, no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation, be denied the benefits of, or be otherwise subjected to discrimination under the program and plan referred to in condition 1 above or under any other program or activity of the Town of Jamestown, its successors or assigns, to which such Act and Regulation apply by reason of this conveyance.

In the event of breach of any of the conditions set forth above, whether caused by the legal or other inability of the Town of Jamestown, its successors or assigns, to perform any of the obligations herein set forth, all right, title and interest in and to the above described property shall, at its option revert to and become the property of the UNITED STATES OF AMERICA, which shall have an immediate right of entry thereon, and the Town of Jamestown, its successors and assigns, shall forfeit all right, title and interest in and to the above-described property and in any and all tenements, hereditaments and appurtenances thereunto belonging; PROVIDED, HOWEVER, that the failure of the Department of Health, Education, and Welfare, or its successor in function to insist in any one or more instances upon complete performance of any of said conditions shall not be construed as a waiver or a relinquishment of the future performance of any such conditions, but the obligations of the Town of Jamestown with respect to such future performance shall continue in full force and effect; PROVIDED FURTHER, that in the event the UNITED STATES OF AMERICA fails to exercise its option to re-enter the premises for any such breach of conditions subsequent numbered 1, 2, and 3, herein within 31 years from the date of this conveyance, conditions numbered 1, 2, and 3, herein together with all rights of the United States of America to re-enter as in this paragraph provided with respect to conditions numbered 1, 2, and 3 herein shall, as of that date, terminate and be extinguished; PROVIDED FURTHER, that

the expiration of conditions 1, 2, and 3, and the rights to re-enter shall not affect the obligation of the Town of Jamestown, its successors and assigns with respect to condition numbered 4 herein or the right reserved to the United States of America to re-enter for breach of said condition.

In the event title to the above-described premises is reverted to the UNITED STATES OF AMERICA for noncompliance or voluntarily reconveyed in lieu of reverter, the Town of Jamestown, its successors and assigns, at the option of the Department of Health, Education, and Welfare, or its successor in function, shall be responsible and shall be required to reimburse the UNITED STATES OF AMERICA for the decreased value of the above-described property not due to reasonable wear and tear, acts of God and alterations and conversions made by the Town of Jamestown to adapt the property to the health use for which the property was acquired. The UNITED STATES OF AMERICA shall, in addition thereto, be reimbursed for such damages including such costs as may be incurred in recovering title to or possession of the above-described property, as it may sustain as a result of the noncompliance.

The Town of Jamestown may secure abrogation of the conditions subsequent numbered 1, 2, and 3 herein by:

a. Obtaining the consent of the Department of Health, Education, and Welfare, or its successor in function; and

b. Payment to the United States of America in accordance with the following conditions:

(i) If abrogation is requested by the Town of Jamestown for the purpose of making the property or a portion thereof available to serve the needs or purposes of a third party, payment shall be based upon the current fair market value, as of the date of any such requested abrogation, of the property to be released from the conditions and restriction less amortized credit at the rate of 3-1/3% of the public benefit allowance granted on the original fair market value for each twelve (12) months during which the property has been utilized in accordance with the purposes specified in the above identified application.

(ii) If abrogation is requested by the Town of Jamestown for the purpose of making the property available as security for

financing of new construction, for acquiring substitute or better facilities, or for relocating elsewhere, all for the purpose of further advancing or promoting the program specified in the above identified application, payment shall be based upon the public benefit allowance granted to the Town of Jamestown, of 100% from the fair market value of sixty-five thousand dollars (\$65,000) as of the date of this instrument, less a credit at the rate of 3-1/3% of the public benefit allowance granted for each twelve (12) months during which the property has been utilized in accordance with the purpose specified in the above identified application; provided, however, the Town of Jamestown shall execute such agreement, supported by surety bond or other security that may be deemed by the Department to be necessary or advisable, to assure that the proceeds of sale obtained by the Town of Jamestown in any disposal of any portion of the property for effectuating ~~one or another of the aforesaid purposes for which abrogat~~ is requested, will be devoted to the program use specified in the above identified application.

The Town of Jamestown by acceptance of this deed covenants and agree for itself, its successors and assigns, and every successor in interest to the property herein conveyed or any part thereof -- which covenant shall attach to and run with the land for so long as the property herein conveyed is used for a purpose for which the Federal financial assistance is extended by the Department or for another purpose involving the provision of similar services or benefits and which covenant shall in any event, and without regard to technical classification or designation, legal or otherwise, be binding to the full extent permitted by law and equity, for the benefit and in favor of and enforceable by the UNITED STATES OF AMERICA and its successors against the Town of Jamestown, its successors and assigns, and every successor in interest to the property, or any part thereof -- that it will comply with Title VI of the Civil Rights Act of 1964 (P.L. 88-352) and all requirements imposed by or pursuant to the Regulation of the Department of Health, Education, and Welfare (45 C.F.R. Part 80) issued pursuant to that title and as in effect on the

date of this deed, to the end that, in accordance with Title VI of that Act and the Regulation, no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under the program and plan referred to in condition 1 above or under any other program or activity of the Town of Jamestown, its successors or assigns, to which such Act and Regulation apply by reason of this conveyance.

The Town of Jamestown by the acceptance of this Deed, covenants and agrees for itself, its successors and assigns, that in the event the property hereby conveyed is sold, leased, mortgaged, encumbered, or otherwise disposed of, or is used for purposes other than those set forth in the above identified program and plan without the consent of the Department of Health, Education, and Welfare, all revenues or the reasonable value, as determined by the Department of Health, Education, and Welfare, of benefits to the Town of Jamestown deriving directly or indirectly from such sale, lease, mortgage, encumbrance, disposal, or use (or the reasonable value as determined by the Department of Health, Education, and Welfare of any other unauthorized use) shall be considered to have been received and held in trust by the Town of Jamestown for the UNITED STATES OF AMERICA and shall be subject to the direction and control of the Department of Health, Education, and Welfare.

The Town of Jamestown by the acceptance of this Deed, further covenants and agrees, for itself, its successors and assigns, that if the Town of Jamestown, its successors and assigns, shall cause any of the building structures, or improvements on the premises hereby conveyed to be insured against loss, damage or destruction, and any such loss, damage or destruction shall occur during the period the Town of Jamestown holds title to said property subject to said conditions 1, 2, and 3, said insurance and all moneys payable to the Town of Jamestown, its successor or assigns, thereunder shall be held in trust by the Town of Jamestown, its successors or assigns, and shall be promptly used by the Town of Jamestown for the purpose of repairing such buildings, structures or improvements and restoring the same to their former condition, or, if not so used, shall be paid over to the Treasurer of the United States in an amount not exceeding the unamortized public benefit allowance of the buildings, structures or improvements lost, damaged, or destroyed

The Town of Jamestown, by the acceptance of this Deed, covenants and agrees for itself, and its successors and assigns that in the event the United States of America exercises its option to revert all right, title and interest in the property to the United States of America, then the Town of Jamestown shall provide protection and maintenance of said property at all times until such time as the title is actually reverted to the United States of America, including the period of any notice of intent to revert. Such protection and maintenance shall, at a minimum conform to the standards prescribed by the General Services Administration in its regulations FPMR 101-47.4913 (41 C.F.R. 101-47.4913) in effect as of the date of this Deed, a copy of which regulations is attached to the Town of Jamestown's application dated April 25, 1973, previously incorporated herein.

During the period of restricted use, all revenues or the reasonable value as determined by the Department of Health, Education, and Welfare of benefits to the Town of Jamestown deriving directly or indirectly from any and all mineral leases or royalties shall be considered to have been received and held in trust by the Town of Jamestown for the United States of America and shall be subject to the direction and control of the Department.

The UNITED STATES OF AMERICA also reserves the right, at its option to revert title to any and all mineral interests herein conveyed at any time during the thirty year period of restricted use.

The Town of Jamestown, by the acceptance of this Deed, further covenants and agrees for itself, its successors and assigns, that the UNITED STATES OF AMERICA shall have the right during any period of emergency declare by the President of the United States or by the Congress of the United States to the full unrestricted possession, control, and use of the property hereby conveyed, or any portion thereof, including any additions or improvements thereto made subsequent to this conveyance. Prior to the expiration or termination of the 30-year period of restricted use by the transferee, such use by the UNITED STATES OF AMERICA may be either exclusive or nonexclusive and shall not impose any obligations upon the Government to pay rent or any other fees or charges during the period of emergency, except that the Government shall (i) bear the entire cost of maintenance of such portion of the property used by it exclusively or over which it may have exclusive possession or con-

(ii) pay the fair share, commensurate with the use, of the cost of maintenance of such of the property as it may use nonexclusively or over which it may have nonexclusive possession or control, (iii) pay a fair rental for the use of improvements or additions to the premises made by the Town of Jamestown without Government aid and (iv) be responsible for any damage to the property caused by its use, reasonable wear and tear and acts of God and the common enemy excepted. Subsequent to the expiration or termination of the 30-year period of restricted use, the obligations of the Government shall be as set forth in the preceding sentence and in addition, the Government shall be obligated to pay a fair rental for all or any portion of the conveyed premises which it uses.

This instrument is intended to take effect as a sealed instrument.

IN WITNESS WHEREOF, the UNITED STATES OF AMERICA has caused these presents to be executed this 8TH day of November, 1974.

UNITED STATES OF AMERICA
Acting by and through the
Secretary of Health, Education,
and Welfare

WITNESSES:

Dorothy H. Trotman

By

Robert Fulton
ROBERT FULTON
Regional Director, Region I
Department of Health, Education,

7.0 acres
SetQUITCLAIM DEED

The UNITED STATES OF AMERICA, hereinafter referred to as Grantor, acting by and through the Regional Director, National Park Service, Mid-Atlantic Region with offices at 143 Third Street, Philadelphia, Pennsylvania, pursuant to authority delegated by the Secretary of the Interior, and as authorized by the Federal Property and Administrative Services Act of 1949 (63 Stat. 377), as amended, and particularly as amended by Public Law 91-485 (84 Stat. 1084), and regulations and orders promulgated thereunder, for and in consideration of the use and maintenance of the property herein conveyed exclusively for public park or public recreation purposes in perpetuity by the State of Rhode Island, hereinafter referred to as Grantee, does hereby remise, release and quitclaim to Grantee, its successors and assigns, subject to the reservations, exceptions, restrictions, conditions and covenants hereinafter set forth, all right, title and interest of the Grantor in and to the following described property situated in the Town of Jamestown, County of Newport, State of Rhode Island, and more particularly described as follows:

All that tract of land, together with the buildings and improvements thereon, situated in the Town of Jamestown, County of Newport, State of Rhode Island, being more particularly bounded and described as follows:

Beginning at a point on the southeasterly corner of a breakwater, said point also being the southwesterly corner of a pier; thence southwesterly along said breakwater to the mean high water line of Narragansett Bay; thence by said mean high water line in a general southerly, southwesterly, westerly, northerly and northeasterly direction to the southerly line of land deeded to the Town of Jamestown by the United States of America; thence along said southerly line S 88 degrees 03' 56" E, 205 feet more or less to a copper bolt on a pier; thence along the perimeter of said pier easterly, northerly, easterly, southerly and westerly to the point of beginning.

All as shown on a U.S. Government General Development Map bearing NAVFAC Dwg. No. 2,008,172, and a Real Estate Summary Map bearing NAVFAC Dwg. No. 2023481, copies of which maps are on file with the Real Estate Division of the Northern Division, Naval Facilities Engineering Command.

The property herein conveyed contains 7.0 acres of land, more or less, and was formerly under the administrative jurisdiction of the United States Naval Facilities Engineering Command, an agency of the United States Government.

THIS CONVEYANCE IS MADE TOGETHER WITH the appurtenances and improvements thereon, and all the estate and rights of the Grantor in and to said premises, but

SUBJECT TO any and all outstanding reservations, easements and rights-of-way, recorded and unrecorded, for public roads, railroads, pipelines, drainage ditches, sewer mains and lines, and public utilities affecting the property herein conveyed.

AND SUBJECT TO the following specified easements reserved in and to the United States of America.

The Grantor reserves for the United States of America (Government), and its authorized representatives, a perpetual and assignable easement and right of way 20 feet in width for access purposes to and from land retained by the United States of America, a perpetual easement 20 feet in width for overhead electric distribution lines and poles, and a perpetual easement 20 feet in width for an underground water main.

AND SUBJECT FURTHER to the following-described covenant and restriction.

The structures will be maintained so as to preserve the qualities which qualify it for the National Register of Historic Places.

To accomplish this goal, all plans for the maintenance, restoration, alteration or demolition of the existing structures, and all plans for new construction, must be reviewed by the State Historic Preservation Officer, to determine whether the proposed action will adversely affect the historic qualities of the site, and to devise means of lessening or eliminating such adverse effects when they occur.

Prior to undertaking any demolition or construction activities within the area to be transferred, the Department of Environmental Management also agrees to conduct a reconnaissance archeological survey to determine the presence and disposition of archeological resources within the areas to be disturbed, and to devise a program to eliminate or minimize the impact of construction upon such resources should they be found. All workscopes for survey and mitigation activities, and all reports produced as a result of such activities shall be reviewed and approved by the Rhode Island State Historic Preservation Officer.

Survey and mitigation activities undertaken in compliance with this condition shall be conducted in accordance with the standards published in 36 CFR Part 66; Recovery of Scientific, Prehistoric, Historic and Archeological Data; Methods, Standards, and Reporting Requirements.

The above restrictions shall be binding on the parties hereto, their heirs, successors, and assigns in perpetuity; however, the Rhode Island State Historic Preservation Officer may, for good cause, modify or cancel any or all of the foregoing restrictions upon written application of the grantee, his heirs or assigns.

TO HAVE AND TO HOLD the above premises, subject to the easements, reservations, exceptions, restrictions, conditions, and covenants herein enumerated and set forth, unto the Grantee, its successors and assigns, forever.

There are excepted from this conveyance and reserved to the Grantor all oil, gas, and other minerals in, under, and upon the lands herein conveyed, together with the right to enter upon the land for the purpose of mining and removing the same.

Pursuant to authority contained in the Federal Property and Administrative Services Act of 1949, as amended, and applicable rules regulations and orders promulgated thereunder, the General Services Administration determined the property to be surplus to the needs of the United States of America and assigned the property to the Department of the Interior for conveyance to Grantee. It is understood and agreed by and between the Grantor and Grantee, and Grantee by acceptance of this deed does acknowledge that it fully understands the terms and conditions set forth herein and does further covenant and agree for itself, and its successors and assigns, forever, as follows:

1. The property shall be used and maintained exclusively for the public purposes for which it was conveyed in perpetuity as set forth in the program of utilization and plan contained in Grantee's application submitted by Grantee on August 4, 1983, which program and plan may be amended from time to time at the request of either the Grantor or Grantee, with the written concurrence of the other party, and such amendments shall be added to and become a part of the original application.

2. The Grantee shall, within six months of the date of this deed, erect and maintain a permanent sign or marker near the point of principal access to the conveyed area indicating that the property is a park or recreational area and has been acquired from the Federal Government for use by the general public.

3. The property shall not be sold, leased, assigned, or otherwise disposed of except to another eligible governmental agency that the Secretary of the Interior agrees in writing can assure the continued use and maintenance of the property for

public park or public recreational purposes subject to the same terms and conditions in the original instrument of conveyance. However, nothing in this provision shall preclude the Grantee from providing related recreational facilities and services compatible with the approved application, through concession agreements entered into with third parties, provided prior concurrence to such agreements is obtained in writing from the Secretary of the Interior.

4. From the date of this conveyance, the Grantee, its successors and assigns, shall submit biennial reports to the Secretary of the Interior setting forth the use made of the property during the preceding two-year period, and other pertinent data establishing its continuous use for the purposes set forth above, for ten consecutive reports and as further determined by the Secretary of the Interior.

5. If, at any time, the United States of America shall determine that the premises herein conveyed, or any part thereof, are needed for the national defense, all right, title and interest in and to said premises or part thereof determined to be necessary to such national defense, shall revert to and become the property of the United States of America.

6. The Grantee further covenants and agrees for itself, its successors and assigns, to comply with the requirements of Public Law 90-480 (82 Stat. 718), the Architectural Barriers Act of 1968, as amended by Public Law 91-205 of 1970 (84 Stat. 49) and regulations and orders promulgated thereunder, to assure that development of facilities on the property makes such facilities accessible to the physically handicapped; and further assure in accordance with Public Law 93-112, the Rehabilitation Act of 1973 (87 Stat. 394) that no otherwise qualified handicapped individual shall, solely by reason of his or her handicap, be excluded from the participation in, be denied benefits of, or be subject to discrimination under any program or activity receiving Federal financial assistance.

7. The Grantee further covenants and agrees to comply with the 1977 Amendments to the Federal Water Pollution Control Act (Clean Water Act of 1977), Executive Order 11988 (May 24, 1977) for Floodplain Management and Executive Order 11990 (May 24, 1977) for Protection of Wetlands where said Amendments and Orders are applicable to the property herein conveyed. In particular, Grantee agrees that the property herein conveyed shall be subject to any use restrictions issued under said Amendments and Orders.

8. As part of the consideration for this deed, the Grantee covenants and agrees for itself, its successors and assigns, that: (1) the program for or in connection with which this deed is made will be conducted in compliance with, and the Grantee, its successors and assigns, will comply with all requirements imposed by or pursuant to the regulations of the Department of the Interior as in effect on the date of this deed (43 C.F.R. part 17) issued under the provisions of Title VI of the Civil Rights Act of 1964; (2) this covenant shall be subject in all respects to the provisions of said regulations; (3) the Grantee, its successors and assigns, will promptly take and continue to take such action as may be necessary to effectuate this covenant; (4) the United States shall have the right to seek judicial enforcement of this covenant; and (5) the Grantee its successors and assigns, will: (a) obtain from each other person (any legal entity) who, through contractual or other arrangements with the Grantee, its successors or assigns is authorized to provide services or benefits under said program, a written agreement pursuant to which such other persons shall, with respect to the services or benefits which he is authorized to provide, undertake for himself the same obligations as those imposed upon the Grantee, its successors and assigns, by this covenant, and (b) furnish a copy of such agreement to the Secretary of the Interior or his successors; and that this covenant shall run with the land hereby conveyed, and shall, in any event, without regard to technical classification or designation, legal or otherwise, be

binding to the fullest extent permitted by law and equity for the benefit of and in favor of the Grantor and enforceable by the Grantor against the Grantee, its successors and assigns.

9. In the event there is a breach of any of the conditions and covenants herein contained by the Grantee, its successors and assigns, whether caused by the legal or other inability of the Grantee, its successors and assigns, to perform said conditions and covenants, or otherwise, all right, title and interest in and to the said premises shall revert to and become the property of the Grantor at its option which, in addition to all other remedies for such breach, shall have the right of entry upon said premises, and the Grantee, its successors and assigns, shall forfeit all right, title and interest in said premises and in any and all of the tenements, hereditaments and appurtenances thereunto belonging; provided, however, that the failure of the Secretary of the Interior to require in any one or more instances complete performance of any of the conditions or covenants shall not be construed as a waiver or relinquishment of such future performance, but the obligation of the Grantee, its successors and assigns, with respect to such future performance shall continue in full force and effect:

IN WITNESS WHEREOF, the Grantor has caused these presents executed in its name and on its behalf this 26th day

Sept., 1984.

UNITED STATES OF AMERICA

By James W. Glenn
Regional Director
National Park Service
Mid-Atlantic Region
143 Third Street
Philadelphia, Pennsylvania

State of Pennsylvania)
 County of Phila) ss

On this 26th day of September, 1984, before me, the subscriber, personally appeared James W. Coleman, to me known and known to me to be the Regional Director, National Park Service, Mid-Atlantic Region, of the United States Department of the Interior, a governmental agency of the United States of America, with offices at 143 Third Street, Philadelphia, Pennsylvania, and known to me to be the same person described in and who executed the foregoing instrument as such Regional Director aforesaid, as the act and deed of the United States of America, for and on behalf of the Secretary of the Interior, duly designated, empowered and authorized so to do by said Secretary, and he acknowledged that he executed the foregoing instrument for and on behalf of the United States of America, for the purposes and uses therein described.

Carol A. Kropp
 NOTARY PUBLIC

My Commission expires:
 CAROL A. KROPP
 Notary Public, Phila., Phila. Co.
 My Commission Expires June 6, 1988

The foregoing conveyance is hereby accepted and the undersigned agrees, by this acceptance, to assume and be bound by all the obligations, conditions, covenants and agreements therein contained.

STATE OF RHODE ISLAND

BY Robert P. Binkley
Title Director

State of RHODE ISLAND)
County of Providence) ss

On this the 11th day of October in the year, 1984, before me, personally came Robert P. Binkley, to me known, and known to me to be the individual described in and who executed the foregoing instrument, and he thereupon acknowledged acknowledged to me that he executed the same.

Robert P. Binkley
Title Director

My Commission Expires

6/2/86

Approved as to Form:

Donald G. Albry
Attorney General

Approved:

Joseph Garrahy
Governor, State of Rhode Island
and Providence Plantations

Approved as to Substance:

Robert P. Binkley
Director of Administration

Approved:

Donald M. Lynch
Chairman
State Properties Committee

RECEIVED FOR RECORD IN JAMESTOWN, R.I.

RECEIVED
NOV. 14, 1984 at 3:06

John E. Coons TOWN CLERK

RESERVATION NAME:

101

Fort Wetherill, Rhode Island

2 vols.

OFFICIALLY DESIGNATED BY:

General Orders # 43, 1900

LOCATION:

In Newport Co., 25 mi South of Providence, Rhode Island

TYPE:

Narragansett Bay Harbor Defenses

LAND OWNERSHIP AND COST DATA

ACQUISITION ACTIONS

Exhibits "A"

DISPOSAL ACTIONS

Exhibits "B"

NET AREA

61.50 acres, net area acquired prior to 1 July 1940

5.40 acres, total area acquired after 1 July 1940

66.90 acres, total area acquired

5.40 acres *

61.50 acres

58.08 acres, fee **

3.12 acres

58.08 acres, fee ***

61.50 acres

61.50 acres ****

0.00

JURISDICTION

Exhibits "C"

GROSS COST

Donation

RELOCATIONS

FINAL PROJECT MAP:

Exhibit "F"

MISCELLANEOUS PAPERS:

Exhibits "D"

REMARKS:

- * Custody assumed by Federal Public Housing Authority, 1 January 1946.
- ** Reported Excess (G.S.A. Form 30) to General Services Adm., 28 July 1950.
- *** Withdrawn from G.S.A., 29 June 1951 (Approved 3 July 1951)
- **** Transferred to Dept. of the Navy by Memorandum from Sec'y Army to Sec'y Navy, dated 31 July 1953, Effective 19 January 1951.

ENG FORM
1 FEB 46

NOTE: 51.50 Acres transferred from D/Navy to D/Army-Civil-Works, 19 Mar 1963.
(Under Narragansett Bay Harbor and Fort Wetherill Project)

ORDNANCE AND EXPLOSIVE WASTE
ARCHIVES SEARCH REPORT
FOR
FORT WETHERILL
JAMESTOWN, RI
PROJECT NUMBER D01RI033703

APPENDIX H
NEWSPAPERS/JOURNALS

(NOT USED)

ORDNANCE AND EXPLOSIVE WASTE
ARCHIVES SEARCH REPORT
FOR
FORT WETHERILL
JAMESTOWN, RI
PROJECT NUMBER D01RI033703

APPENDIX I
INTERVIEWS

APPENDIX I

INTERVIEWS

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- I-10 Interview of Mr. Bertram Lippincott by Inspection Team member.

CONVERSATION RECORD-PERSONAL INTERVIEW

WITH: Mr. Alfred I. Vietri

ORGANIZATION: Jamestown Highway Department

LOCATION: Jamestown Highway Department Garage
Fort Wetherill
Jamestown, RI 02835

TELEPHONE: (401)423-7290

DATE: 26 October 1994

I-1 Messrs. Lippman and Akins met with Mr. Alfred Vietri at the Jamestown Highway Department building, near Area E. Mr. Vietri has worked at the Jamestown Highway Department on Fort Wetherill property for 28 years and is currently the Head Highway Supervisor for the department. The inspection team asked him if he had heard of anybody finding any OEW on or in the vicinity of the old Fort Wetherill property. He stated that in the time he had worked there he has never heard of any incidents of OEW discoveries in the area nor has he found anything. He continued that he has talked with all kinds of people through the years and has never heard of any discoveries mentioned.

The team asked him if he knew anything about the operations or history of the fort. He replied that the building used as a garage by the highway department was one of the Army's storehouses for submarine mines. The mines were used to guard the harbor and the East Passage against attacks from enemy ships during WW II. Another mine storehouse was next to the water, but that was owned by the State. He added that the lagoon next to the wharf used to be the dump for the Fort Wetherill facility. The team asked if he had ever found anything in those buildings or lagoon that might be mines, ammunition, or explosive items. He replied negatively. Mr. Akins asked if the team could look through the buildings and check the lagoon. Mr. Vietri said that he would gladly show them through. The subsequent inspection revealed no OEW or signs of contamination present in either the buildings or the lagoon.

The team thanked him for his time and cooperation, and departed.

GREG LIPPMAN

CONVERSATION RECORD-PERSONAL INTERVIEW

WITH: Mr. Richard McCourt

ORGANIZATION: Rhode Island Department of Environmental
Management, Division of Parks and Recreation

LOCATION: Fort Wetherill State Park
Jamestown, RI 02835

TELEPHONE: (401)423-1771

DATE: 26 October 1994

I-2 Messrs. Lippman and Akins met Mr. McCourt on the site of Fort Wetherill. Mr. McCourt is the maintenance man for the park and has an intimate knowledge of the fort's structure, its grounds, and the surrounding terrain. He has worked at this park for 10 years. The team asked him if he had ever found any OEW at or near the Fort Wetherill location. He replied that he had never found any, nor did he know of anybody who had. He stated that in all the years he had worked there, he had covered every inch of the former fort property and had never discovered anything that even looked like ammunition or explosives. He continued that he has worked in the trees and among the bushes of the grounds, but has never found anything that was not put there by those who visit the park.

The team asked Mr. McCourt if he knew of any places where Army troops may have buried unwanted ammunition. He replied that the ground in the park has very limited topsoil. Most of the land is made up of a thin layer of soil on top of solid granite. He said that it would almost be impossible for anyone to bury anything there.

The biggest problems that the park has to contend with are the dangers posed by the deer ticks and lyme disease, as well as lawsuits from people who go there and hurt themselves. The deer tick/lyme disease problem is bad in the late spring, summer, and early fall. On the other hand, he said that people come here and fall off the structures and hurt themselves and then take the state to court for having dangerous structures in their park. He said that they have a lot more concern with that type of problem than they do with ammunition.

The team members thanked Mr. McCourt for his time and cooperation and departed.

GREG LIPPMAN

CONVERSATION RECORD-PERSONAL INTERVIEW

WITH: Mr. Larry Mouradjian

ORGANIZATION: Rhode Island Department of Environmental
Management, Division of Parks and Recreation

LOCATION: Ives Road
Warwick, RI 02818

TELEPHONE: (401) 884-2010
-2023

DATE: 26 October 1994

I-3 The Site Inspection Team met with Mr. Mouradjian at the Fort Wetherill site. Mr. Mouradjian is the Regional Parks Manager in charge of Fort Wetherill State Park and also controls the operation of several other state parks in the southeastern Rhode Island area. He graciously took the time to show the team the main areas of the fort as well as the state land at the Fort Dumlplings location (Area C, plate 3) which is restricted from public access. The team members proceeded to question him as to whether he knew of any incidents involving the discovery of ammunition or OEW on or around Fort Wetherill State Park. He stated that, to his knowledge, no ammunition or OEW has ever been found on or around the site. He said that he could at least state that nothing has ever been reported to him regarding any discoveries.

Of greater concern to him and his office was the fact that so many "shady" incidents take place at that location. He said that drug transactions used to take place there with great frequency, and that people were always going out there and getting drunk and hurting themselves. The biggest problem arises from the people who hurt themselves due to their own negligence and stupidity and then sue the state for not maintaining a safe environment at the park. These people climb up on the casemates or observation posts and get drunk or take drugs. Because of their state of mind and being, they forget where they are and walk or fall off of the structures onto the ground or concrete below and get injured. He also said that people go out there and turn their children loose. They do not supervise them or watch where they go, and the kids fall off of the fortifications and hurt themselves. Luckily, nobody has been killed yet, but it could easily happen. He said that the Division of Parks tries to maintain the site like all state parks, in as much of its natural state as possible. Unfortunately, fortifications are seldom designed and built with a great deal of safety in mind.

An issue constantly worrying Mr. Mouradjian is the fear that the deteriorating concrete of the structures will break off at some time in the future and will hurt or kill someone. He said that large chunks of concrete fall off of the fortifications from time-to-time, and many metal support beams are severely rusted.

He added that if one of the concrete roofs collapsed with people under it, nobody would survive. Unfortunately, the state does not have the money to either remove the structures or to upgrade and maintain them. He said that because of the hazards inherent to the fortifications, he has put up a sign as a disclaimer to protect the Division of Parks and Recreation from lawsuits, but people still sue the state when they hurt themselves out there (see photograph J-7).

Mr. Mouradjian stated that the Army sealed up all of the doors and windows to the facility when they turned it over to the state for public use. All openings were covered with sheet metal, were bolted in place, and then welded shut. That effort did not keep out kids who were interested in seeing what was inside. They have pried open the doors, thrown their trash everywhere, and put graffiti on every free surface. He said that the Division of Parks and Recreation managed to get enough money together to paint over the graffiti, but within one week there was more drawing and writing on the walls (see photographs J-2, J-3, and J-7). He said that they clean up the place, and people just trash it again. He added that since the understructure entrances have been opened up, the Jamestown Fire Department used this facility to train in. According to Mr. Mouradjian, the Fire Department has been through most, if not all, of the interior rooms in the fortification (see document I-6). He knew that the Fire Department would not like to lose the use of the facility, but he would like to have the main parts of the batteries removed. He said that it would remedy a multitude of evils.

The team was taken to the promontory between Sand Beach Cove and West Cove. There, Mr. Mouradjian pointed out the site of the former anti-aircraft/anti-motor torpedo boat battery (Area D, photograph J-5, plates 2, and 3). He also showed the team the coves on either side. He said that a lot of divers use this area, but none have ever reported finding anything. He continued that because of the tides and the narrow channel, the currents are very strong. A diver may notice something underwater on one dive, and the next time, it would be gone. Nothing stays in the same underwater location very long, not even rocks. He stated that the currents basically flow south-to-north and then north-to-south, depending on the tides.

The party of guide and inspection team drove around to the site of the eastern batteries and old Fort Dumplings (Areas B and C, plate 3). Mr. Mouradjian pointed out the site of the old fort (see photograph J-11) and the casemates of the eastern batteries (see photograph J-6). He stated that the history of the old fort went back to pre-Revolutionary War times and has been used in every major conflict that the United States has been in. He concluded that any OEW found there would probably be of the cannonball variety, but to his knowledge none has ever been discovered.

He took the SI team down the hill to the wharf and lagoon area where submarine mine-planting and anti-submarine netting operations were conducted (see photographs J-9, K-5, and K-6). The inspectors asked him if he had ever found mines or other

ammunition items in this area. He replied that he has never found any mines himself, but he has heard of fishermen getting mines caught in their nets. He said that these mines did not necessarily come from the Fort Wetherill area because there were several minefields, and many discoveries have been made in places all over the bay area where mines were never planted. However, it does not seem to happen much anymore. He continued that up to 10 years ago, fishermen were finding mines and torpedoes frequently. Now, it is very seldom.

He said that the lagoon next to the wharf (see photographs J-9 and K-6) was used by the Army as a dump for a while. Mr. Lippman asked him if any finds of OEW had ever surfaced there, and Mr. Mouradjian said that none had.

Mr. Mouradjian told the team that the mines used in the mining operation were stored in buildings by the wharf. He took the team to see the buildings and said that one is owned by the Town of Jamestown Highway Department and the other is owned by the State of Rhode Island (see photographs J-8 and K-6). He said that to the best of his knowledge, nothing of an explosive nature had ever been found in either building. The party met with Mr. Alfred Vietri, the highway supervisor for the Town of Jamestown Highway Department, and asked him if they could look through the former mine storage buildings and around the lagoon. Mr. Vietri consented. Closer inspection by the team revealed no OEW in the buildings or lagoon (see document I-1).

The team thanked Mr. Mouradjian for taking the time to meet with them and guide them through the site, and then they departed.

GREG LIPPMAN

CONVERSATION RECORD-PERSONAL INTERVIEW

WITH: Mrs. Mary Miner
ORGANIZATION: Jamestown Historical Society
LOCATION: 790 East Shore Road
Jamestown, RI 02835
TELEPHONE: (401)423-0937
(401)423-3419 daughter's home
DATE: 27 October 1994

I-4 Mr. Lippman telephoned Mrs. Miner at her home in Jamestown, RI, on the above date. Mrs. Miner had recently given up her position as head of the Jamestown Historical Society and its associated museum, and her daughter, Jane Miner, was taking her place. Mrs. Miner has lived in Jamestown or the vicinity for 50 years and has been in charge of the Jamestown Museum for 35 years. Mr. Lippman asked her if anyone has ever found any ammunition, mines, or explosives of any type in, around, or associated with the old Fort Wetherill site. She replied that as far as she knew, nobody has ever found anything. Some people have turned in a few old items regarding the fort, but to her knowledge, nobody has ever found anything remotely resembling those items.

Mr. Lippman thanked her for her time and cooperation and said good-bye.

GREG LIPPMAN

CONVERSATION RECORD-PERSONAL INTERVIEW

WITH: Mr. Tim O'Connell
ORGANIZATION: Jamestown Police Department
LOCATION: 250 Conanicus Avenue
Jamestown, RI 02835
TELEPHONE: (401) 423-1212
DATE: 28 October 1994

I-5 Team members, Messrs. Lippman and Akins, visited the Jamestown Police Department and spoke with Mr. Tim O'Connell who has worked in the capacity of police dispatcher for 23 years. The team asked him if the Police Department had received any calls or reports of people finding OEW, ammunition, or explosive items at the Fort Wetherill site since the facility was closed by the Government. He responded that no OEW has been found and none has been reported since closure.

The team members thanked Mr. O'Connell for his time and help and departed.

GREG LIPPMAN

CONVERSATION RECORD-PERSONAL INTERVIEW

WITH: Mr. Arthur Christman

ORGANIZATION: Jamestown Fire Department

LOCATION: Jamestown Fire Department
50 Narragansett Avenue
Jamestown, RI 02835

TELEPHONE: (401)423-0062

DATE: 28 October 1994

I-6 Messrs. Lippman and Akins met with Mr. Christman in front of the Fire Department building in Jamestown, RI. Mr. Christman is the Department Chief and has been working with the Jamestown Fire Department for 44 years. The team asked Mr. Christman if his department had ever responded to any reports of ammunition, or explosives being found on or around the old Fort Wetherill site. He stated that there have never been any reports of ammunition found out near the old fort. He added that he has never found any ordnance items out there and did not know of anyone who had. He told the inspectors that the Fire Department uses the old Fort Wetherill casemates for training with their fire equipment. They put on their Self-Contained Breathing Apparatus (SCBA), enter at one end of the fortifications, find their way through the subterranean areas, and come out of the other end. Mr. Lippman asked him if he had ever found any ordnance inside that may have been left behind when the Army vacated. Mr. Christman replied that neither he nor any of the other firemen have ever found a thing like that in all the times that they have been in there.

The inspectors asked him if he knew anything about the operational history of the fort. He stated that he did not know very much about what went on there, but when they fired those big guns, the ground shook and the windows rattled. The noise was very loud. The team asked for him to verify that the artillery guns were fired on the Fort Wetherill site, to which he replied that they did. Mr. Christman stated that they did not fire them very much, but they did fire them. He referred the team to Mr. Skip Fraley if they wanted to learn a little about what happened there. He said that Mr. Fraley was stationed there and could tell the team a lot about the facility and its operation (see document I-7).

Mr. Lippman and Mr. Akins thanked the Fire Chief for his cooperation and departed.

GREG LIPPMAN

CONVERSATION RECORD-PERSONAL INTERVIEW

WITH: Mr. Skip Fraley
ORGANIZATION: U.S. Air Force, Retired
LOCATION: 56 Columbia Avenue
Jamestown, RI 02835
TELEPHONE: (401)423-0009
DATE: 28 October 1994

I-7 Mr. Lippman spoke with Mr. Fraley by telephone at his place of residence in Jamestown, RI. Mr. Fraley spent the first 10 years of his military career in the Navy and was stationed at Fort Wetherill in the unit responsible for submarine mine operations. Later years saw him change to service in the Air Force, from which he retired.

Mr. Lippman asked Mr. Fraley when he was stationed at the fort, and Mr. Fraley answered that it was in the late 1940s and early 1950s, probably 1949 to 1951. Mr. Lippman asked him what he remembered about operations there and disposal operations of ammunition in particular. Mr. Fraley stated that he worked in the submarine mine unit. His unit was operating strictly in a caretaker status while he was there. They had the responsibility of all mine operations for the East Passage of the bay, but they never conducted any operations with explosive-loaded mines. He continued that there were no "live" (explosive-loaded) mines under their control at that time. All previously deployed mines had been retrieved and accounted for. The only mines that their unit had were a couple of dummies that were used for practice in laying the real thing. Those were kept in the mine storehouse next to the wharf. All Navy mine operations were conducted from the mine storehouses and the wharf (see photographs J-8, J-9, K-5, K-6, plates 2, and 4). He knew of no other ammunition items that were kept on hand. The Army originally was responsible for the mine operations, and then, sometime after the war (WW II), the job was taken over by the Navy. Of the 10 people in their unit, 2 were Army personnel, and the other 8 were Navy. As for disposal operations, Mr. Fraley said that they never had anything to dispose of except underwater mines turned in by fishermen. He said that those were over to the ordnance personnel who were actually responsible for handling them.

Mr. Fraley told the inspector that fishing vessels used to come in from time-to-time and hand in under water mines that had been caught in their nets. The inspector asked him if these mines came from the minefields controlled by Fort Wetherill. He said that there was no way of knowing where the mines had come from. The fishing boats went everywhere, and they turned the mines in to the Fort Wetherill wharf because they knew the fort was a mine station. The ordnance people would take it from there. The inspector asked Mr. Fraley if he knew anything about

the battery guns and storage of ammunition for them. He replied that the guns and ammunition were already gone when he arrived. Mr. Lippman asked him if they had found any ammunition on the site after the battery personnel had removed all of their ordnance. Mr. Fraley answered that they never found anything. He said that the battery personnel were very thorough in cleaning out the installation.

The subject of the lagoon was brought up. Mr. Fraley said that it was a dumping ground where the garrison dumped their trash, but he did not remember anything about OEW being thrown into it, especially since they did not have any ordnance on hand (see photographs J-9, K-6, and plate 2).

Mr. Lippman thanked Mr. Fraley for his time and cooperation, said that he had been most helpful, and said good-bye.

GREG LIPPMAN

CONVERSATION RECORD-PERSONAL INTERVIEW

WITH: Mr. Robert James Bond

ORGANIZATION: B and E Taxi Service

LOCATION: 13 Scotty Drive
Portsmouth, RI 02871

TELEPHONE: (401) 683-3042

DATE: 1 November 1994

I-8 Mr. Lippman telephoned Mr. Bond at his home in Portsmouth, RI, on the above date. The team had been referred to Mr. Bond by his grandson, who was visiting the Fort Wetherill site the first day of the inspection. The team members spoke briefly with the grandson and found that his grandfather had been stationed at the fort.

Mr. Bond said that he had been stationed at Fort Wetherill for a few months in 1943, just prior to being deployed to the South Pacific. He was assigned to one of the 12-inch guns on Battery Wheaton (see photographs J-2, J-3, K-4, drawing L-1, and plate 2).

Mr. Lippman asked Mr. Bond if the guns at Fort Wetherill were ever fired. Mr. Bond replied that the guns were only fired in practice, never in defense. When the inspector asked if any high explosive (HE) projectiles were ever fired from there, he answered that the only ammunition they ever used was practice. The projectiles were inert. He also said that the troops manning the emplacements were leery of firing the big guns. They were never sure which end of the gun the projectiles were going to come out. One time while firing, the breech block flew open, and the projectile came backwards out of the gun, injuring one man. According to Mr. Bond, that happened periodically. He said that nobody liked to shoot them because of that. The troops did not shoot them very much. The guns were only fired for certification or once in a great while for practice. He said that once they were shooting at a practice target being pulled by a tug in the practice area (see photograph J-4, plates 2 and 4). They fired at the target and hit the tug. The tug was badly damaged, and the crew members operating it were very angry. Fortunately, no one was hurt. Mr. Lippman asked Mr. Bond which direction the shore batteries fired when practicing. Mr. Bond answered that they fired toward the sea, always at the sea. The inspector asked him if they ever fired over the land at targets in the ocean. He replied that they were not allowed to do that. They always fired directly out to sea.

The team member asked Mr. Bond if he knew of any occurrences when ammunition was buried or dumped on the Fort Wetherill installation. He said that fort personnel used to dump trash in

the lagoon by the wharf (see photographs J-9, K-6, and plate 2), but he had never heard of anyone throwing ammunition into it. He added that it would be nearly impossible to bury ammunition at the fort. There is a very thin layer of soil covering solid granite over most of the fort property. He said that digging would produce bedrock within a few inches at least, a couple of feet at the most.

According to Mr. Bond, life at Fort Wetherill was rather boring. Routine seemed to be the order of the day. The war consisted of preparing and waiting for an enemy that never came. The rest of Mr. Bond's experiences at the fort were more of a personal nature and did not relate to the issue of concern, so Mr. Lippman thanked him for his time and help and said good-bye.

GREG LIPPMAN

CONVERSATION RECORD-PERSONAL INTERVIEW

WITH: Mr. Walter K. Schroder

ORGANIZATION: Local historian

LOCATION: 39 Seaside Drive
Jamestown, RI 02835

TELEPHONE: (401) 423-0806

DATE: 2 November 1994

I-9 Messrs. Lippman and Akins met with Mr. Schroder at his home overlooking the West Passage to Narragansett Bay. Mr. Schroder had done extensive research in the field of coastal defenses of the Narragansett Bay area and had obtained extensive archival information to aid him in the writing of his book about that subject matter. He also supplied general information about the Fort Wetherill site that was very helpful to the investigation.

The team members asked Mr. Schroder if he had heard or seen any information regarding discoveries of OEW on or around the Fort Wetherill site since its closure. He stated that he has heard nothing and has seen no records to indicate that any OEW has been found. The team asked him if he had run across any records in his searches about the fort that would point to areas where OEW contamination might manifest itself at some future time. His answer was negative.

The inspectors thanked Mr. Schroder for his time and the assistance he had provided and departed.

GREG LIPPMAN

CONVERSATION RECORD-PERSONAL INTERVIEW

WITH: Mr. Bertram Lippincott III

ORGANIZATION: Newport Historical Society

LOCATION: 82 Touro Street
Newport, RI 02840

TELEPHONE: (401) 846-0813

DATE: 3 November 1994

I-10 Mr. Lippman and Mr. Akins arrived at the Newport Historical Society and spoke with the certified genealogist there, Mr. Lippincott. The inspectors told Mr. Lippincott that they were looking for records dealing with OEW contamination discovered on or near the old Fort Wetherill site. He said that he lived in Jamestown and could help somewhat with the investigation. He has lived in Jamestown all of his life and has even played on the fort property as a boy. His parents currently live on the property adjacent to the western side of the fort, where his family has lived for many generations. They even lost land when the Government came in and took it to expand the fort back in the early 1900s. Mr. Lippincott added that he also has a particular interest in the fort because he is Vice Chairman of the Town Conservation Commission which monitors the activities at the state parks.

When asked if he had found any OEW on or around the old fort, he said that he had not. He continued that, as a boy, he used to play on the fort grounds and in the structures with his friends. He and his friends used to search the facility trying to find military items, bullets, clothes, anything they could get their hands on. He stated that they would search for hours at a time but could never even find a button. He said that the military must have taken everything that was not nailed down. To his knowledge, no one has ever found anything there of an OEW nature.

The team questioned him about the possibility of buried ammunition or even electrical transformers existing on the site. Mr. Lippincott stated that it would be nearly impossible to bury anything on the fort property. According to him, the soil in the area is very shallow with solid rock underneath it. He said if you wanted to bury anything you would either have to blast the hole or dig one with a jackhammer.

He was rather concerned about the fort because it is a big place for drug activity. He said that a number of questionable events take place there. It is not a place that you would want

to take your family frequently. The Town Conservation Commission would like to see the illegal activity cease and legitimate use of the park (fort) promoted. However, he did not think that would happen in the near future.

The team thanked Mr. Lippincott for his help and cooperation in the pursuit of the investigation and then departed.

GREG LIPPMAN

ORDNANCE AND EXPLOSIVE WASTE
ARCHIVES SEARCH REPORT
FOR
FORT WETHERILL
JAMESTOWN, RI
PROJECT NUMBER D01RI033703

APPENDIX J
PRESENT SITE PHOTOGRAPHS

APPENDIX J

PRESENT SITE PHOTOGRAPHS

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- J-1 Fort Wetherill coastal defense Batteries Wheaton, Zook, and Dickenson (right to left) overlook the East Passage to Rhode Island's Narragansett Bay. View is toward the southeast.
- J-2 Looking east at Batteries Wheaton (foreground) and Zook.
- J-3 Mount for 12-inch disappearing rifle in western emplacement of Battery Wheaton.
- J-4 View to the SSW of the mouth of Narragansett Bay. Practice firing of Fort Wetherill's shore batteries was directed toward this area. Mine-planting operations were also conducted there.
- J-5 Fixed mount for a 3-inch Anti-Aircraft Artillery gun. This mount is placed at Gun Emplacement Number 2, near West Cove.
- J-6 View to the west of Battery Varnum.
- J-7 Sign put up by the Rhode Island Division of Parks and Recreation notifying all visitors of the hazardous nature of the site. The sign is located on the back of Battery Zook.
- J-8 Northward view of the front of the Mine Storage Building where submarine mines were kept prior to deployment.
- J-9 Lagoon and wharf area at Fort Cove, looking northeast. Submarine harbor mining operations were conducted from this location. The lagoon (lower left) was used as a dump site.
- J-10 Anchor points for anti-submarine nets on the cliffs in front of Batteries Varnum and Cooke.
- J-11 Remains of Fort Dumplings and the Mine Command Post. View is to the northeast from Battery Cooke.
- J-12 Cantonment area and officers' quarters, looking to the northwest from Battery Zook.



J-1 Southeast view of Narragansett Bay across Wheaton, Zook, and Dickenson Batteries (western batteries).



J-2 Looking east at Battery Wheaton with Battery Zook in the background.



J-3 Mount for 12-inch disappearing rifle, western emplacement on Battery Wheaton.



J-4 View of the practice firing fan and submarine mine area, looking SSW from the western batteries.



J-5 Fixed mount for 3-inch Anti-Aircraft Artillery, located between western and eastern batteries.



J-6 Battery Varnum looking west (eastern batteries).



J-7 Sign at the rear of Battery Zook warning visitors of the existence of physical hazards at the site.



J-8 Mine Storage Building at Fort Cove facing north.



J-9 Lagoon and wharf area at Fort Cove where submarine mine-planting operations were conducted.



J-10 Submarine net anchor points on the cliffs in front (south) of Battery Varnum.



J-11 Northeasterly view of the Mine Command Post and the Fort Dumplings area from Battery Cooke.



J-12 Officers' quarters and cantonment area, looking northwest.

ORDNANCE AND EXPLOSIVE WASTE
ARCHIVES SEARCH REPORT
FOR
FORT WETHERILL
JAMESTOWN, RI
PROJECT NUMBER D01RI033703

APPENDIX K
HISTORICAL PHOTOGRAPHS

APPENDIX K
HISTORICAL PHOTOGRAPHS

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- K-1 Fort Wetherill's Western Batteries (Area A), dated 1 July 1924.
- K-2 Cantonment Area (Area F) and Western Batteries (Area A), showing 12-inch Disappearing Rifles mounted on Battery Wheaton, 6-inch Barbette Rifles on Battery Dickenson, and 3-inch Barbette Rifles on Battery Crittendon in March 1941 (see drawing L-1 for battery locations).
- K-3 Eastern Batteries (Area B), showing mounted 12-inch Barbette Rifles in March 1941.
- K-4 Crews manning 12-inch Disappearing Rifles on Battery Wheaton, dated March 1941. Guns are pointed toward the open sea.
- K-5 Anti-submarine nets (foreground) and anti-torpedo nets (background) at Fort Wetherill, circa 1943.
- K-6 Pre-1940 view of Fort Wetherill, showing lagoon and wharf. Note difference in size of lagoon then, and now (see photograph J-9).
- K-7 Old Fort Dumplings circa late 19th Century (see drawing L-2).
- K-8 12-inch Disappearing Rifle like those used on Battery Wheaton.
- K-9 A Disappearing Rifle, typical in design of those 12-inch, 10-inch, and 6-inch used at Fort Wetherill.
- K-10 6-inch Disappearing Rifle in retracted position, similar to those used on Battery Zook.
- K-11 6-inch Shielded Barbette Rifle typical of the weapons used on Battery Dickenson.
- K-12 Firing a 12-inch Barbette Rifle like those used on Battery Varnum.
- K-13 M1 Mobile 90mm AAA Gun in deployed position.
- K-14 Fixed 90mm AAA Gun during practice drill.
- K-15 Mobile 37mm AAA Gun in action.



K-1 Fort Wetherill's Western Batteries, July 1924.



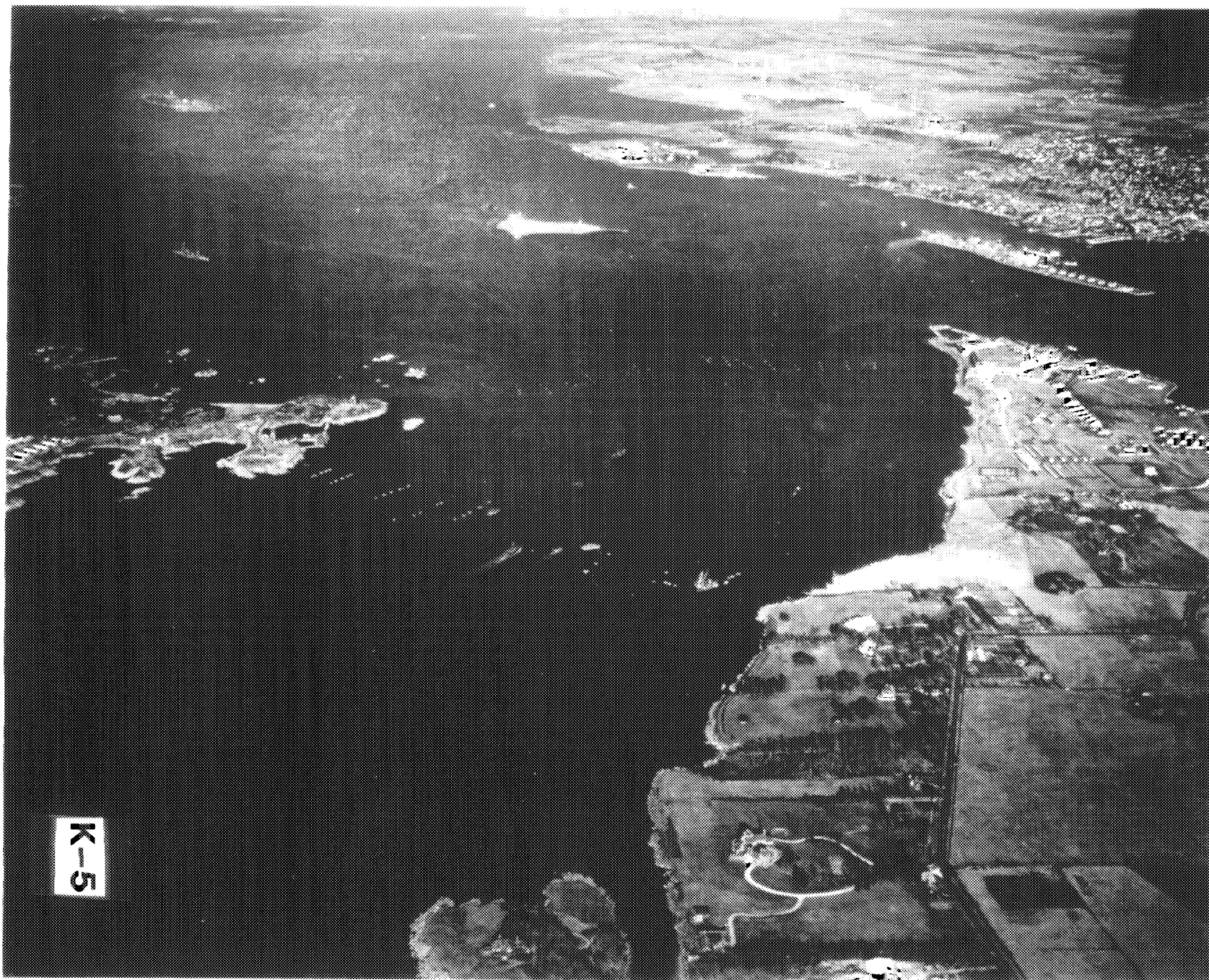
K-2 Cantonment Area (Area F), showing guns mounted on Batteries Wheaton, Dickenson, and Crittendon, March 1941 (see drawing L-1).



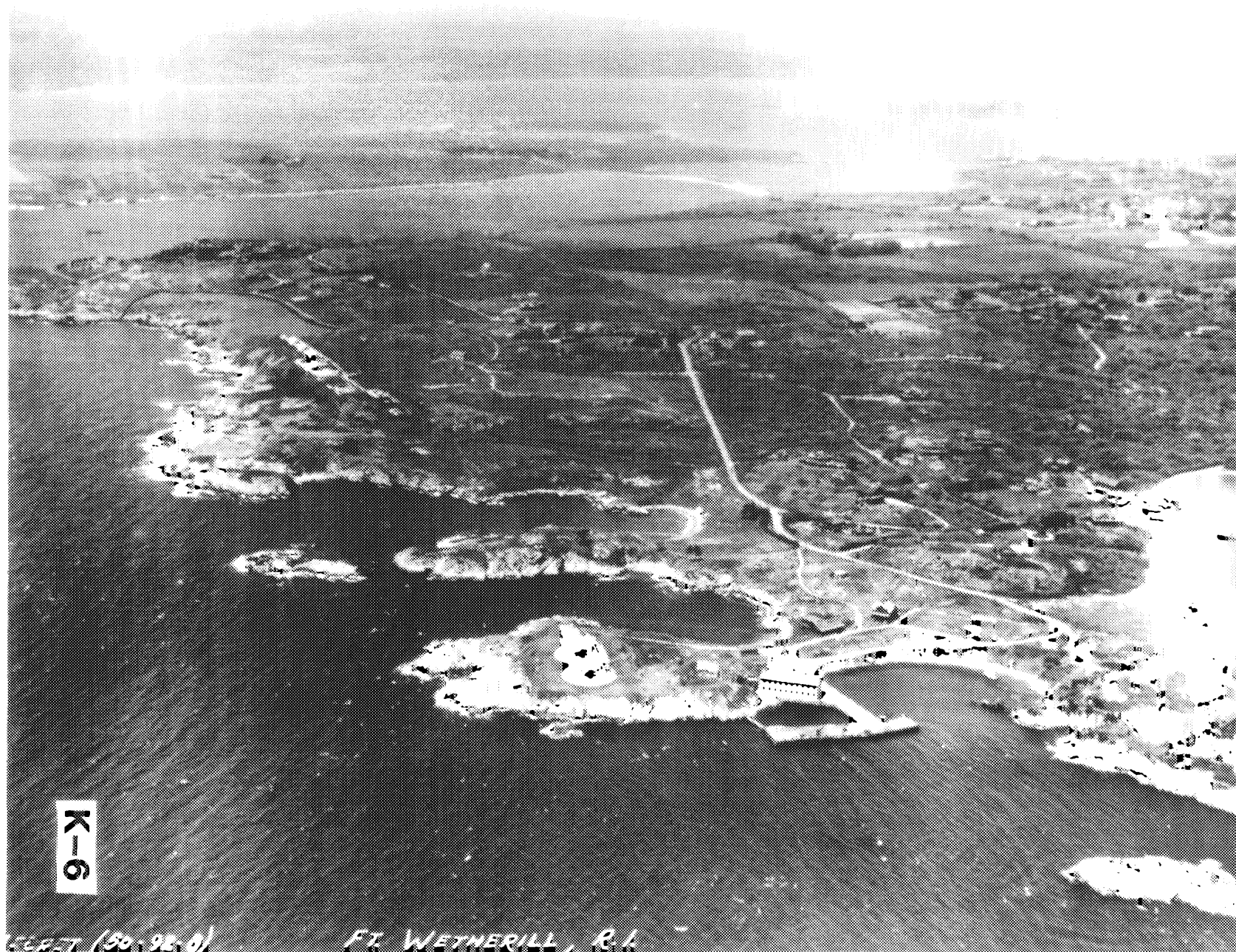
K-3 Eastern Batteries with mounted 12-inch Barbette Rifles, March 1941.



K-4 Battery Wheaton with 12-inch Disappearing Rifles pointed toward the open sea, March 1941.



K-5 Anti-submarine nets (foreground) and anti-torpedo nets (background) at Fort Wetherill, circa 1943.

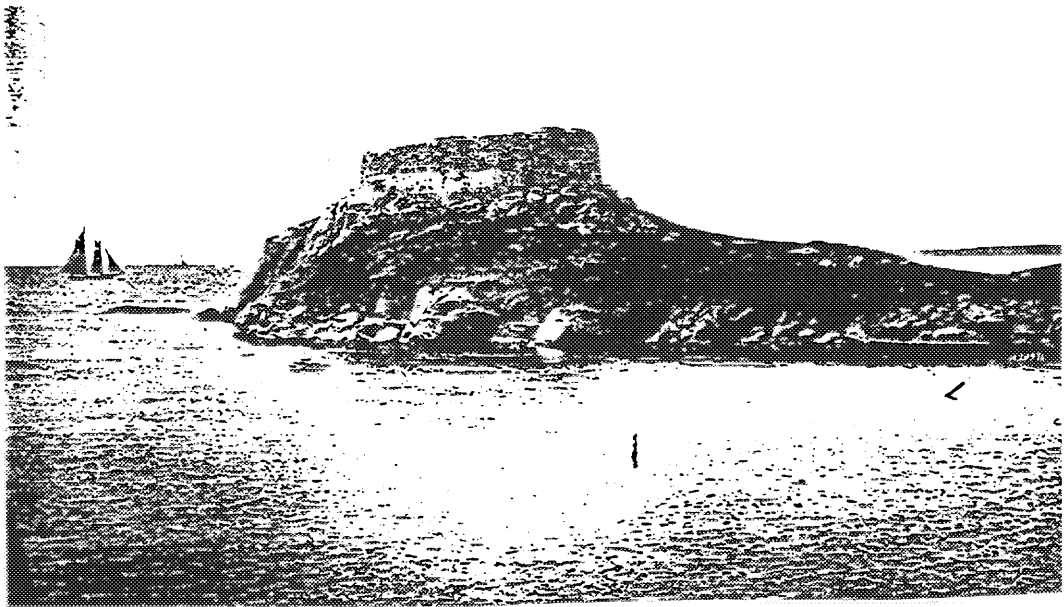


K-6

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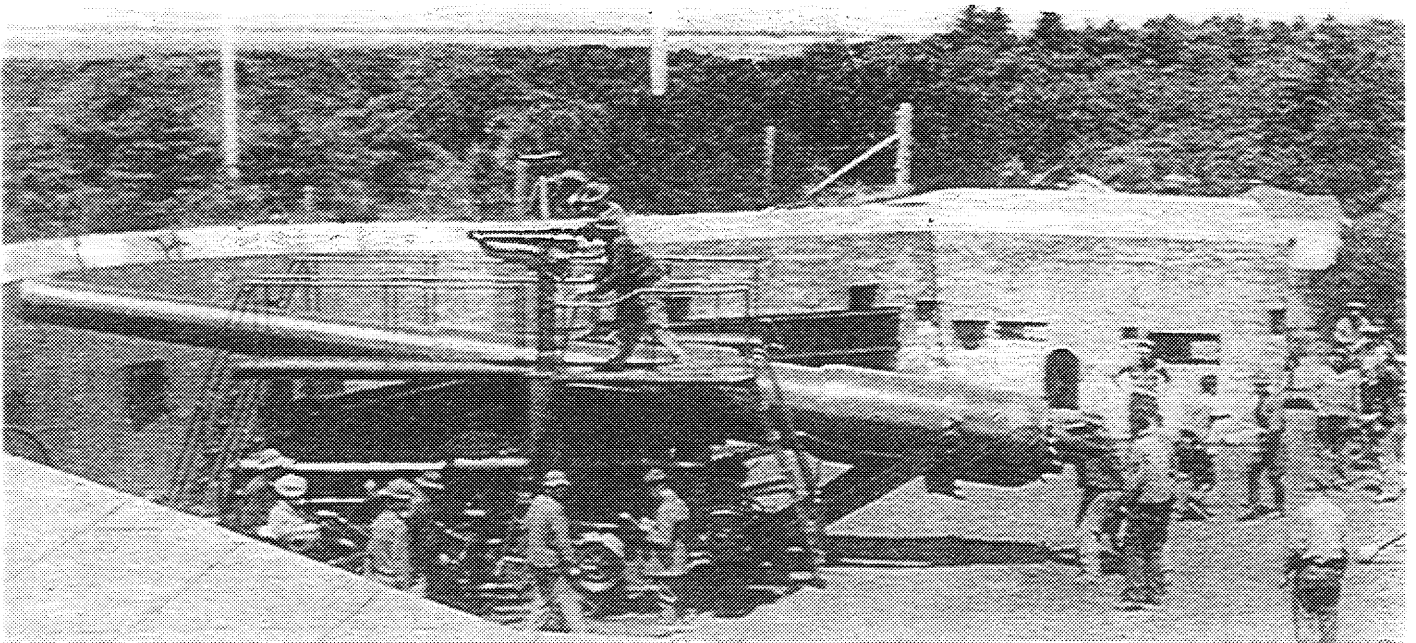
FT. WETHERILL, R.I.

K-6 Pre-1940 Fort Wetherill with lagoon and wharf.



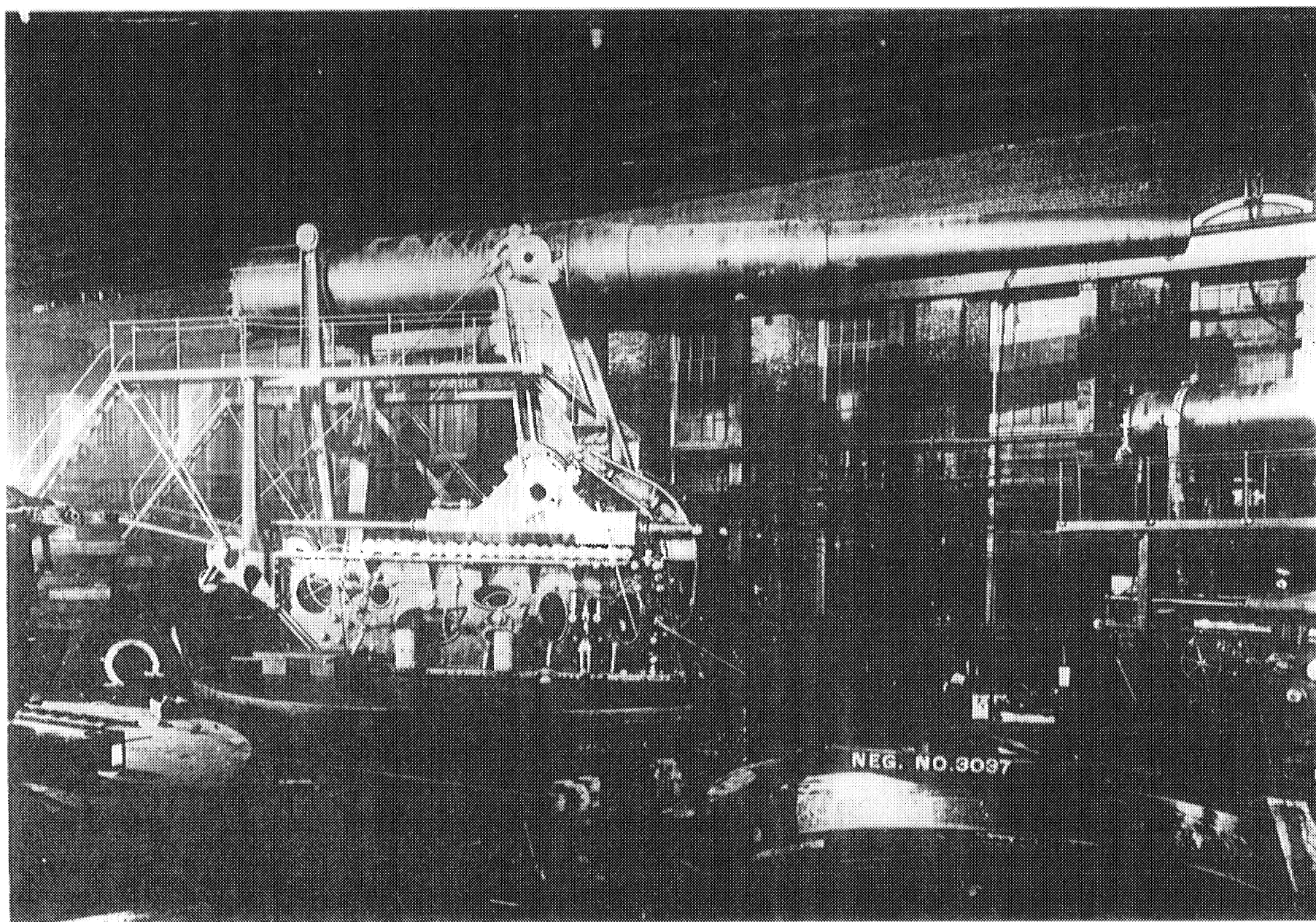
K-7 Old Fort Dumpling

K-7

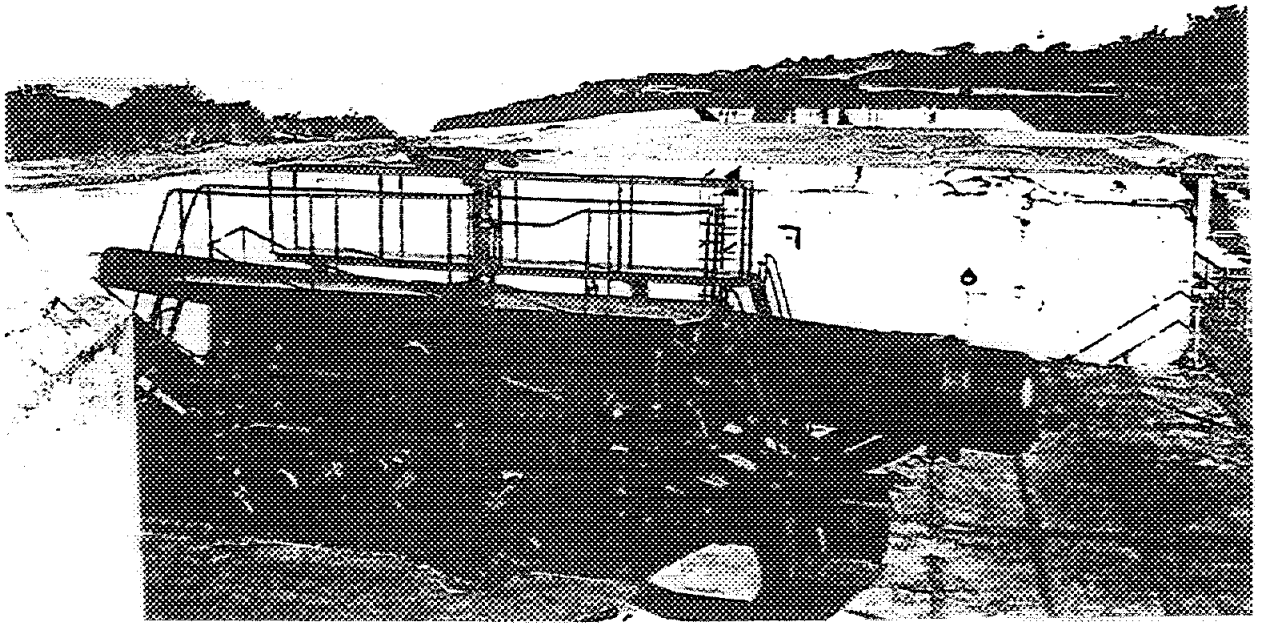


K-8 12-inch Disappearing Rifle

K-8

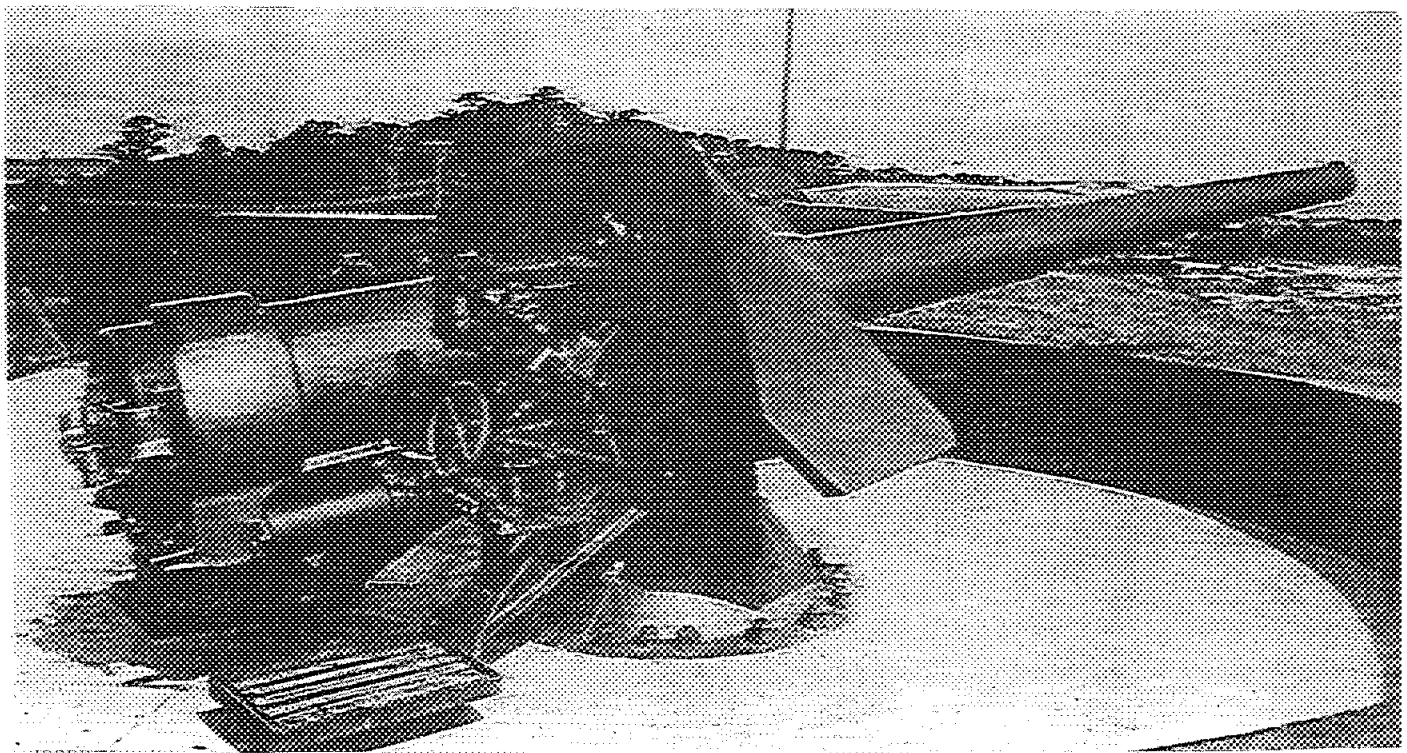


K-9 Typical Disappearing Rifle



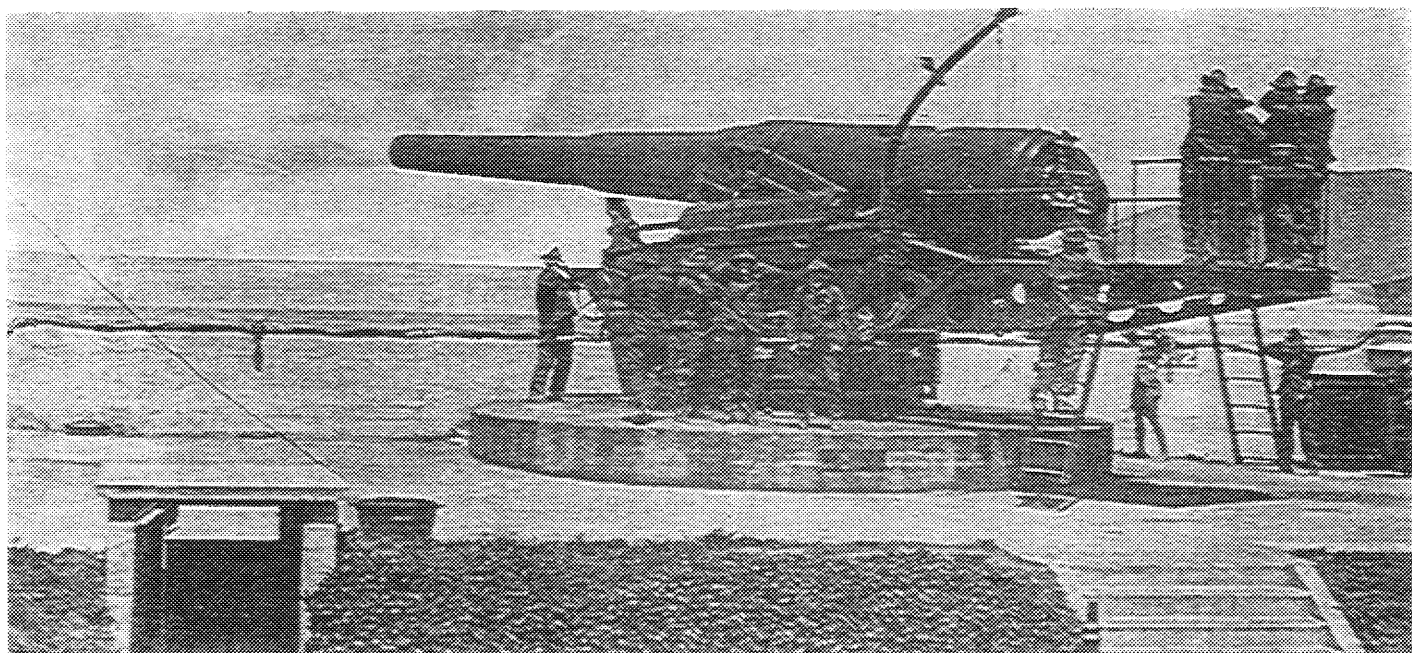
K-10 6-inch Disappearing Rifle

K-10



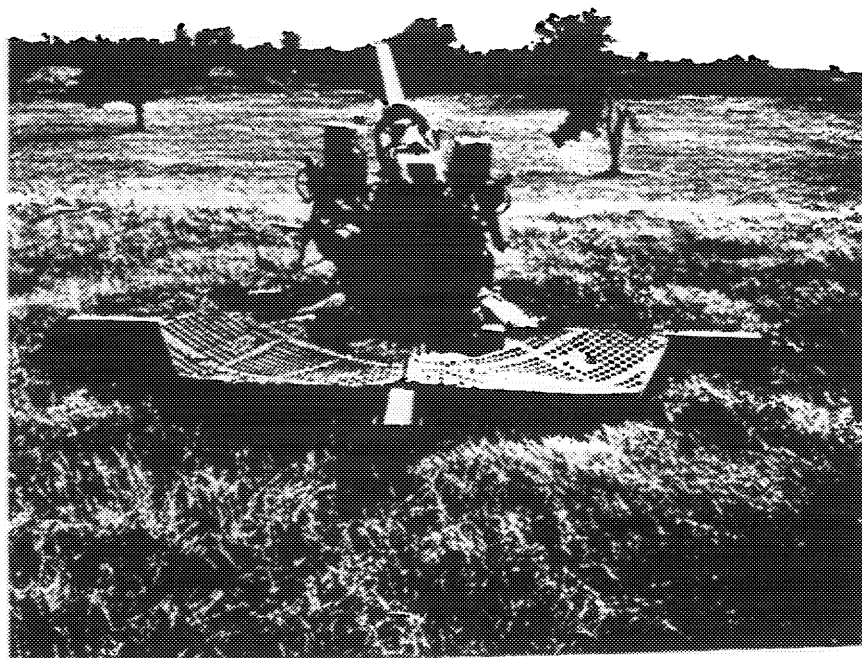
K-11 6-inch Shielded Barbette Rifle

K-11



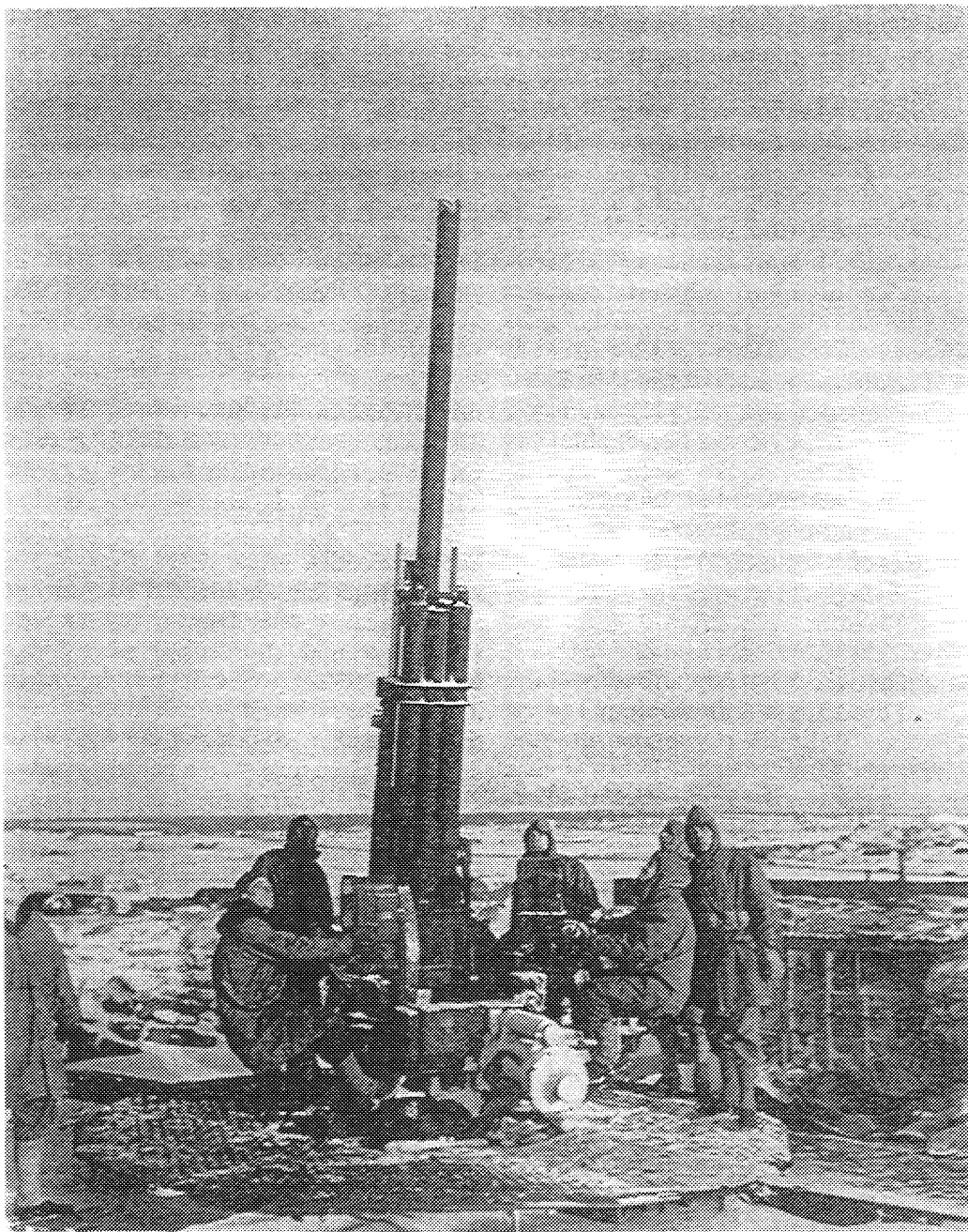
K-12 12-inch Barbette Rifle

K-12

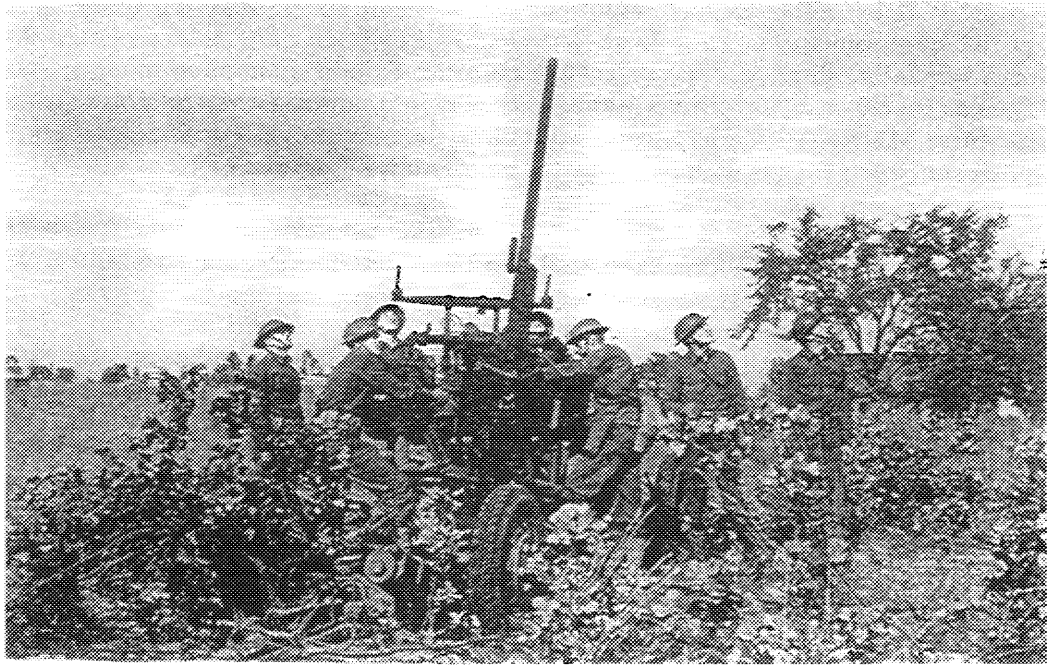


K-13 Mobile M1 90mm AAA Gun

K-13



K-14 Fixed 90mm AAA Gun During Practice Drill



K-15 37mm Mobile AAA Gun in Action

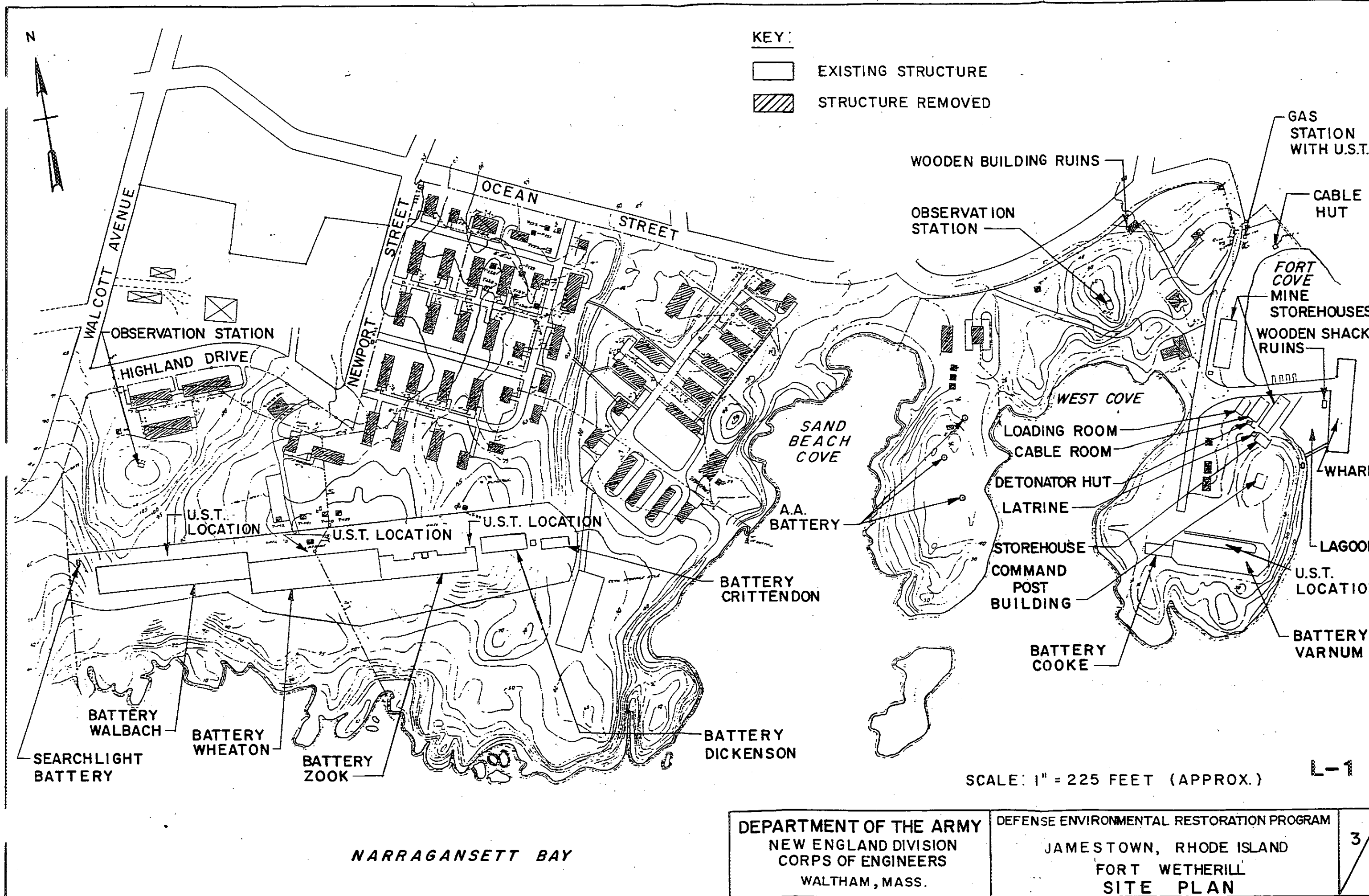
ORDNANCE AND EXPLOSIVE WASTE
ARCHIVES SEARCH REPORT
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APPENDIX L
REFERENCE MAPS/DRAWINGS

APPENDIX L
REFERENCE MAPS/DRAWINGS

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- L-1 Fort Wetherill Site Plan (reference B-4).
- L-2 The Dumplings (Fort Dumplings) (appendix A).
- L-3 Concrete gun-mount base for 3-inch and 90mm AMTB/AAA pedestal guns located on AMTB/AAA Battery (appendix A).
- L-4 Battery Plan for AMTB/AAA Battery dated 5 October 1937 (reference B-24).
- L-5 Overlapping fields of fire in the entrance to Narragansett Bay (reference B-25).
- L-6 Narragansett Bay mine fields, anti-submarine net and anti-torpedo net, dated 11 April 1942 (reference B-25).



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION
CORPS OF ENGINEERS
WALTHAM, MASS.

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
JAMESTOWN, RHODE ISLAND
FORT WETHERILL
SITE PLAN

L-1

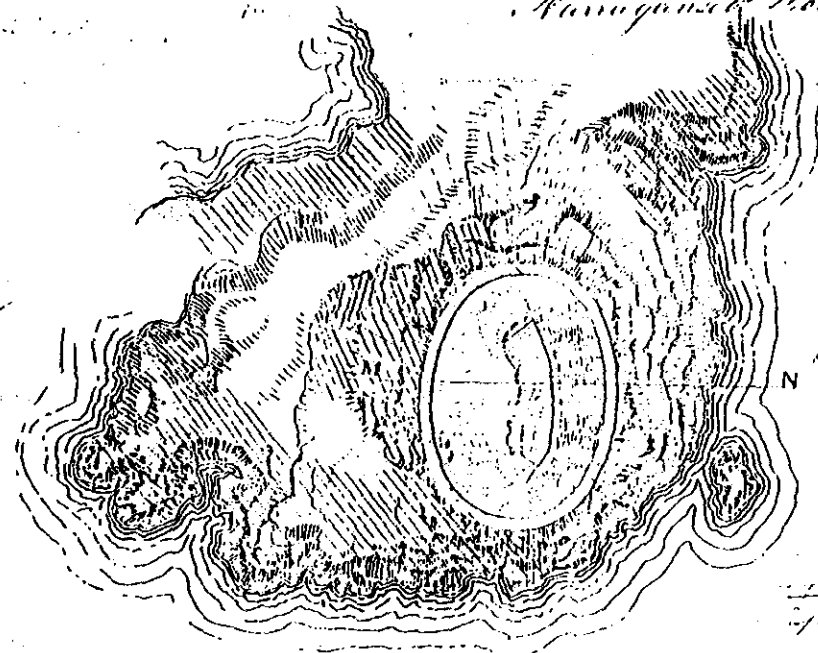
3

National Archives
 Cryptographs

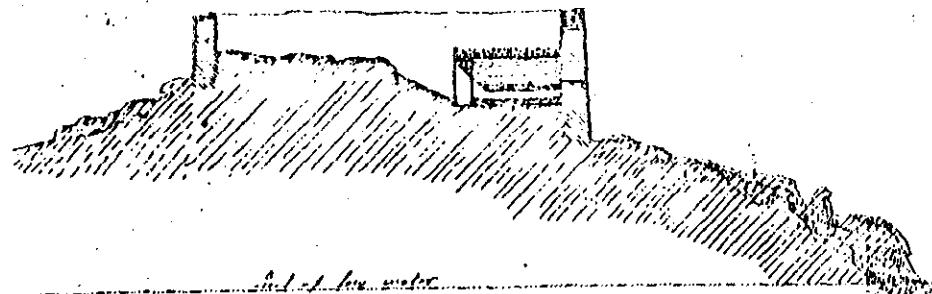
Location:
 Drawer 26.
 Sheet 4.

The Dumplings

Conanicut Island.
 Narragansett Bay.



Drawn by
 Capt. J. B. ...



Profile on the line MN

26-4

Copy sent to ...
 Dec 1, 1890.

Scale of profile 1 inch = 100 feet

Scale of plan 1 inch = 100 feet

L-2 THE DUMPLINGS (FORT DUMPLINGS)

L-2

AMTB-3 on
"3" MAP

~~BASH FOR AMTB-3 A MOUNT~~
~~SHOWN AT FORT HANCOCK & FT. TOTTEN.~~
~~S. FT. SCOTT~~ ~~WRONG~~

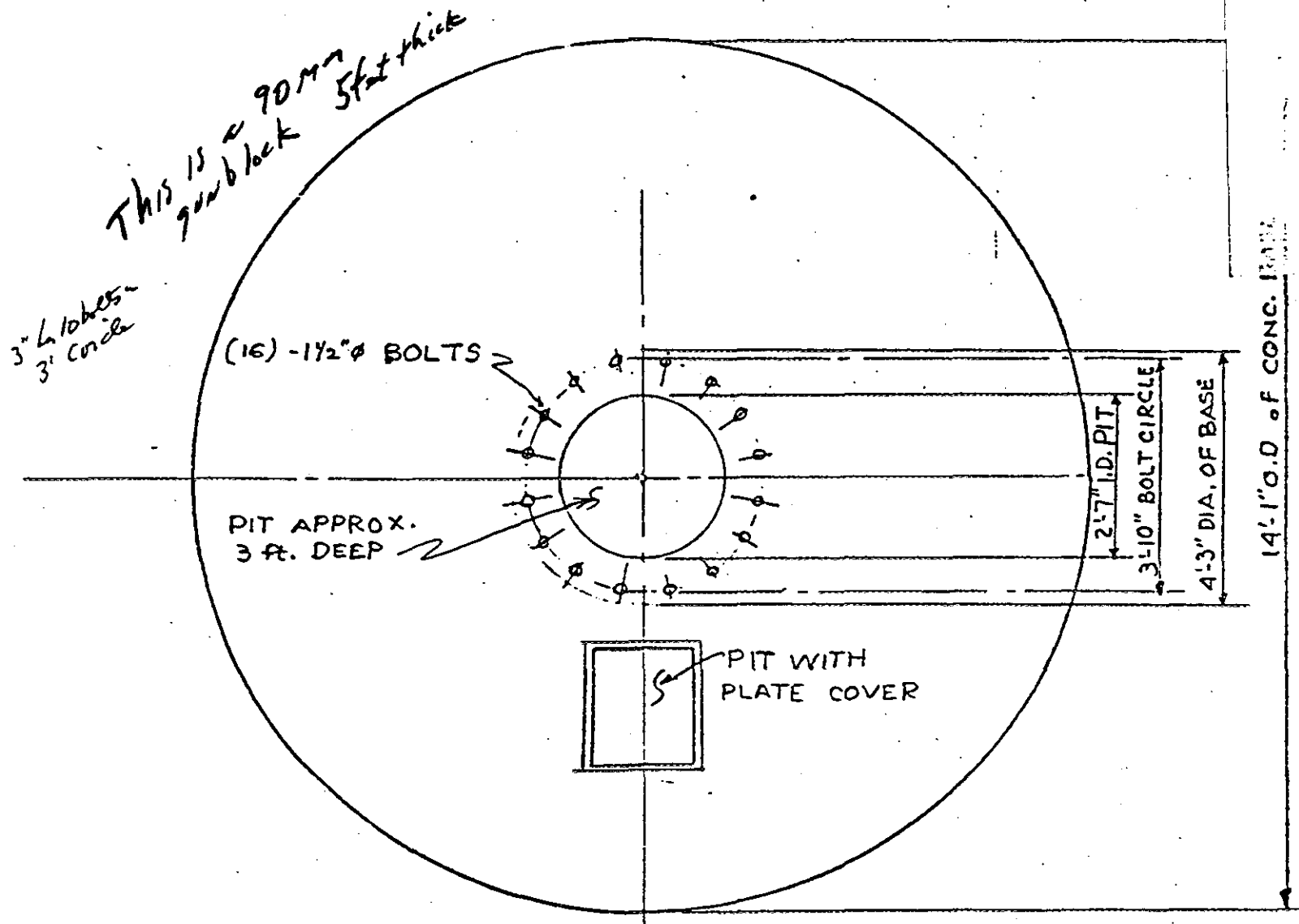


PIT BIGGAM

NOTE KEY
HOLE CONFIG
URATION

DIMENSIONS NOT
TAKEN

90mm
Anti-Motor Torpedo Boat
Gun mount



L-3 CONCRETE GUN-MOUNT BASE FOR 3-INCH
AND 90MM AMTB/AAA PEDESTAL GUNS (SEE
DRAWINGS L-1 AND L-4).

UNIDENTIFIED BASE FOUND @ BRETON POINT, R.I.; CAMP
VARNUM, R.I. & FORT WETHERILL, R.I. in SEPT. 1976

(THE AVERAGE DIMENSIONS SHOWN, EACH ONE VARIED SLIGHTLY)
APPARENTLY BASE FOR 90mm

WHAT ELSE COULD IT BE?

NOT 37mm or 90mm

REPORT OF COMPLETED WORKS

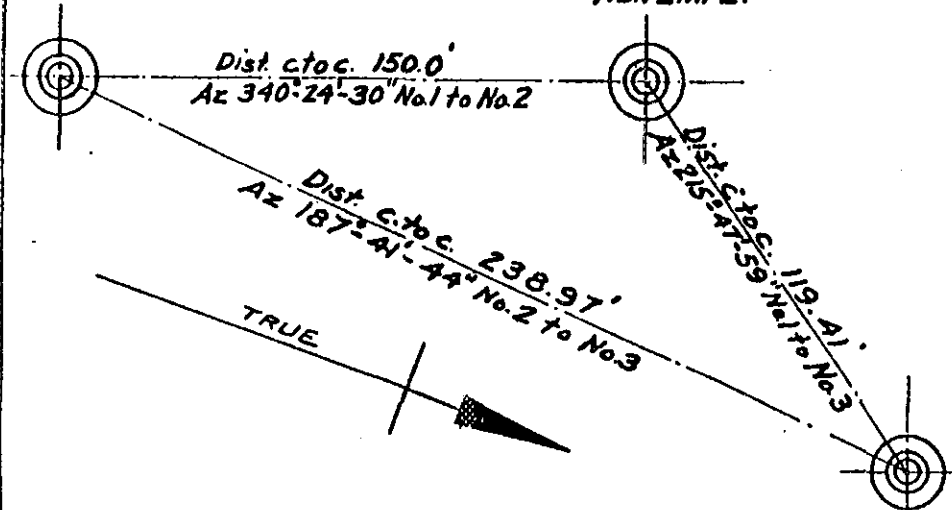
(Battery Plan)

FORM NO. 7

Corrected to Oct. 5, 1937

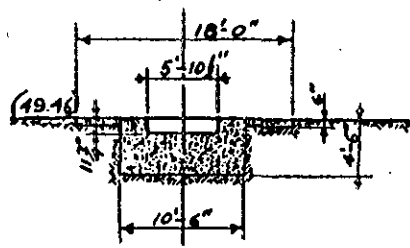
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No. 1 EMPL.

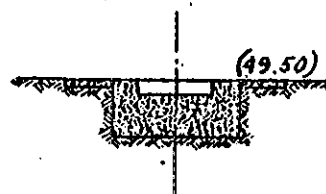


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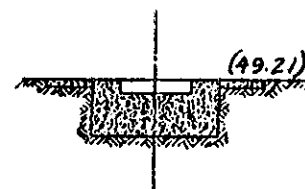
Plots 1 & 2 are shown on these spots
Dec 1, 1925 form No. 7



NO. 1 EMPL.



NO. 2 EMPL.



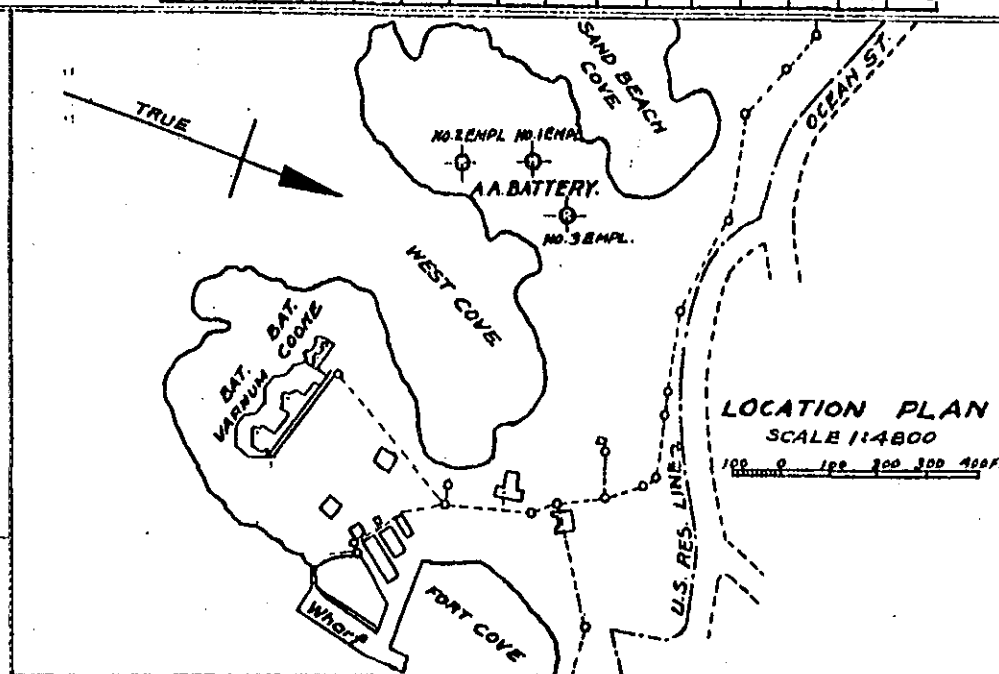
NO. 3 EMPL.

HARBOR DEFENSES OF NARRAGNSETT BAY FORT WETHERILL, R.I.

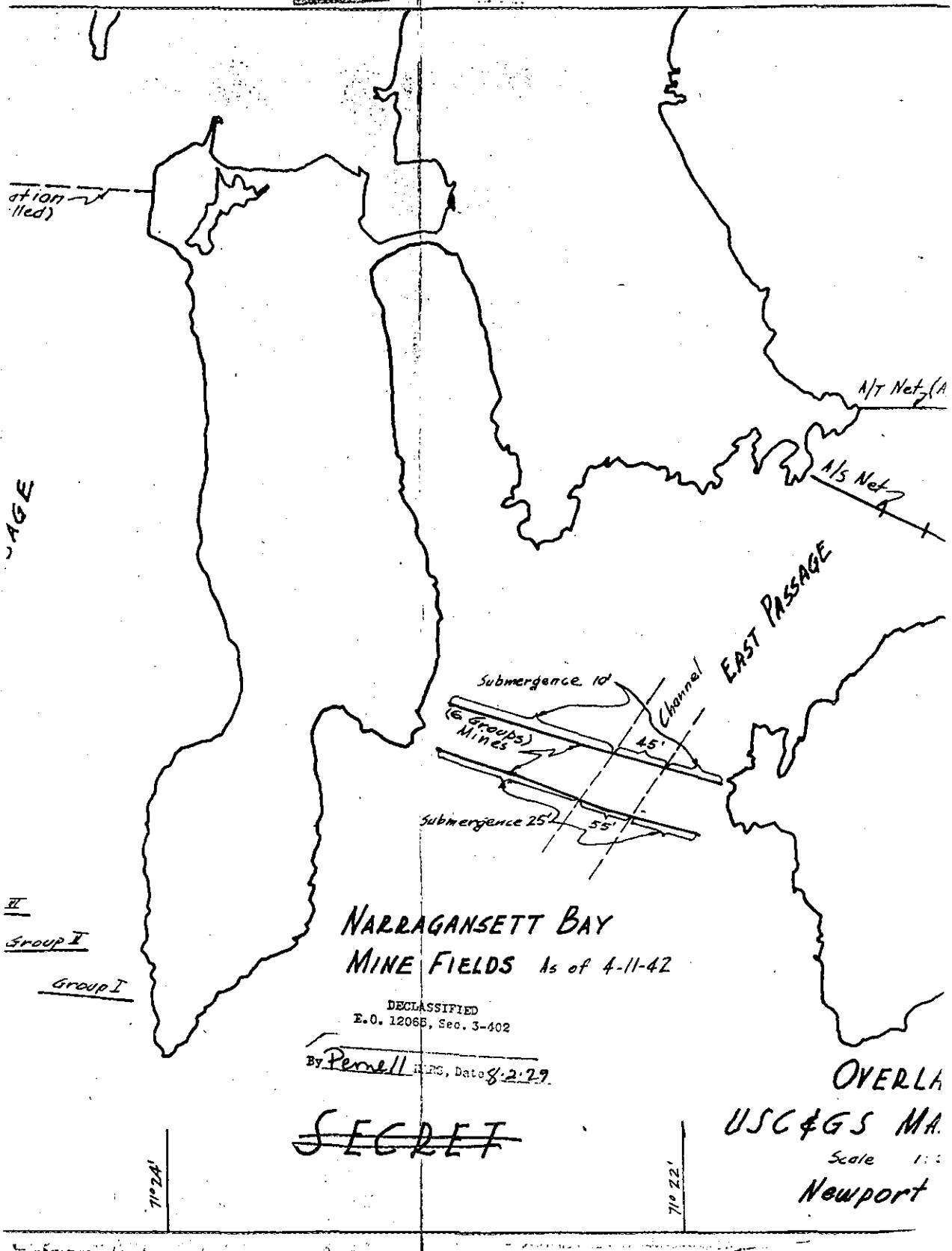
A.A. BATTERY

No. of Guns 2 Caliber 3" Carriage AA.
3 Empl. 1 Gun not mounted

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 FT.



DECLASSIFIED PER EXECUTIVE ORDER 12356, SECTION 3.3, NND PROJECT
NUMBER DAD D-740522-301 RR/VSW, DATE 8/26/94



ORDNANCE AND EXPLOSIVE WASTE
ARCHIVES SEARCH REPORT
FOR
FORT WETHERILL
JAMESTOWN, RI
PROJECT NUMBER D01RI033703

APPENDIX M
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ORDNANCE AND EXPLOSIVE WASTE
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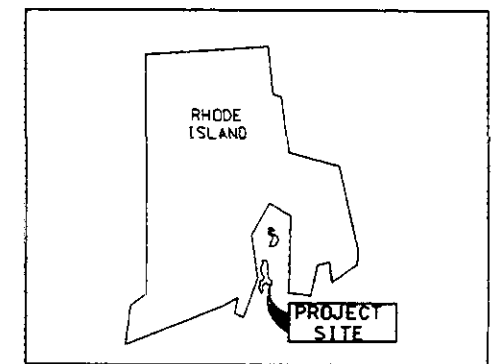
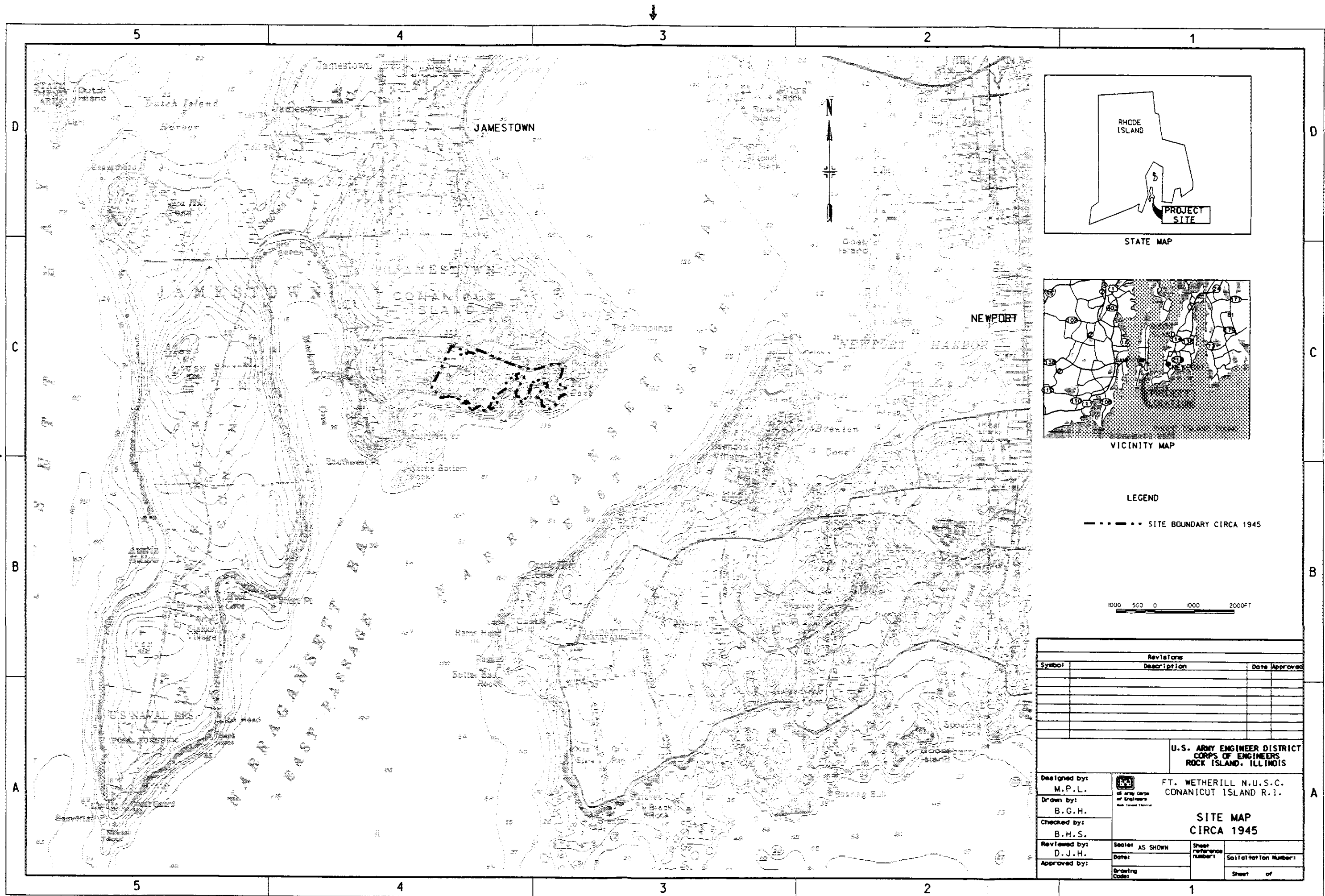
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ORDNANCE AND EXPLOSIVE WASTE
ARCHIVES SEARCH REPORT
FOR
FORT WETHERILL
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PROJECT NUMBER D01RI033703

REPORT PLATES



STATE MAP



VICINITY MAP

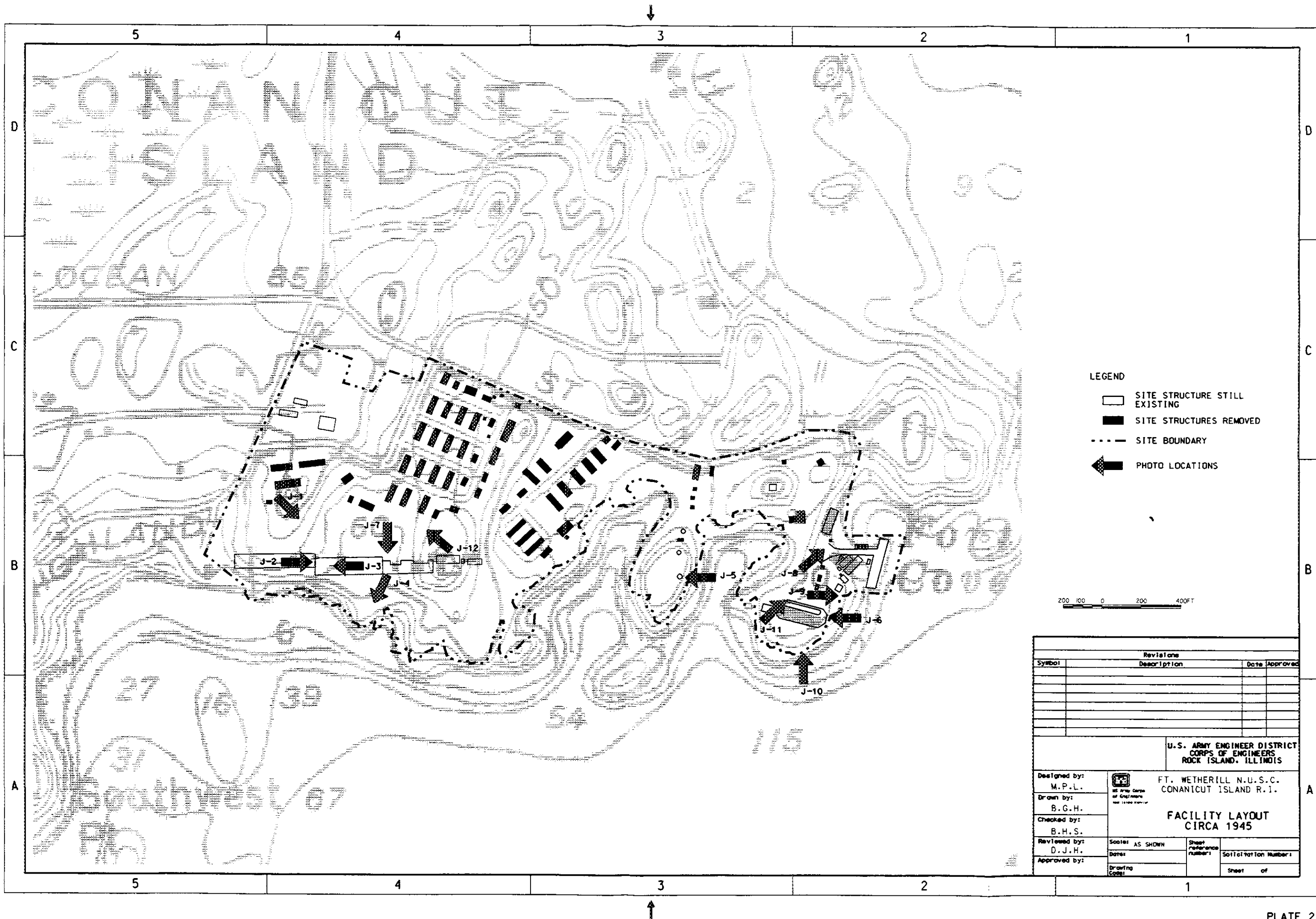
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--- SITE BOUNDARY CIRCA 1945

1000 500 0 1000 2000 FT

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Symbol	Description	Date	Approved

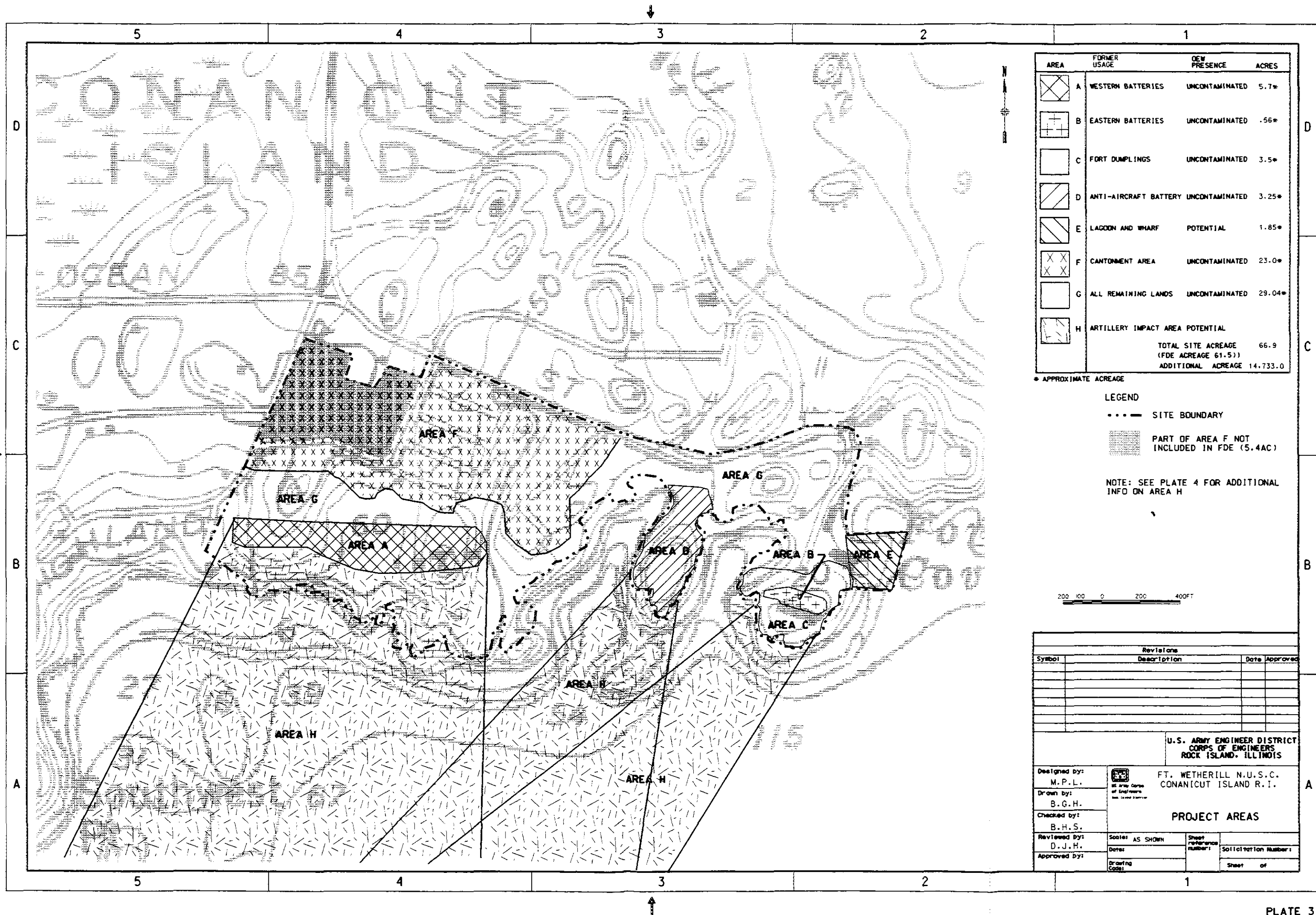
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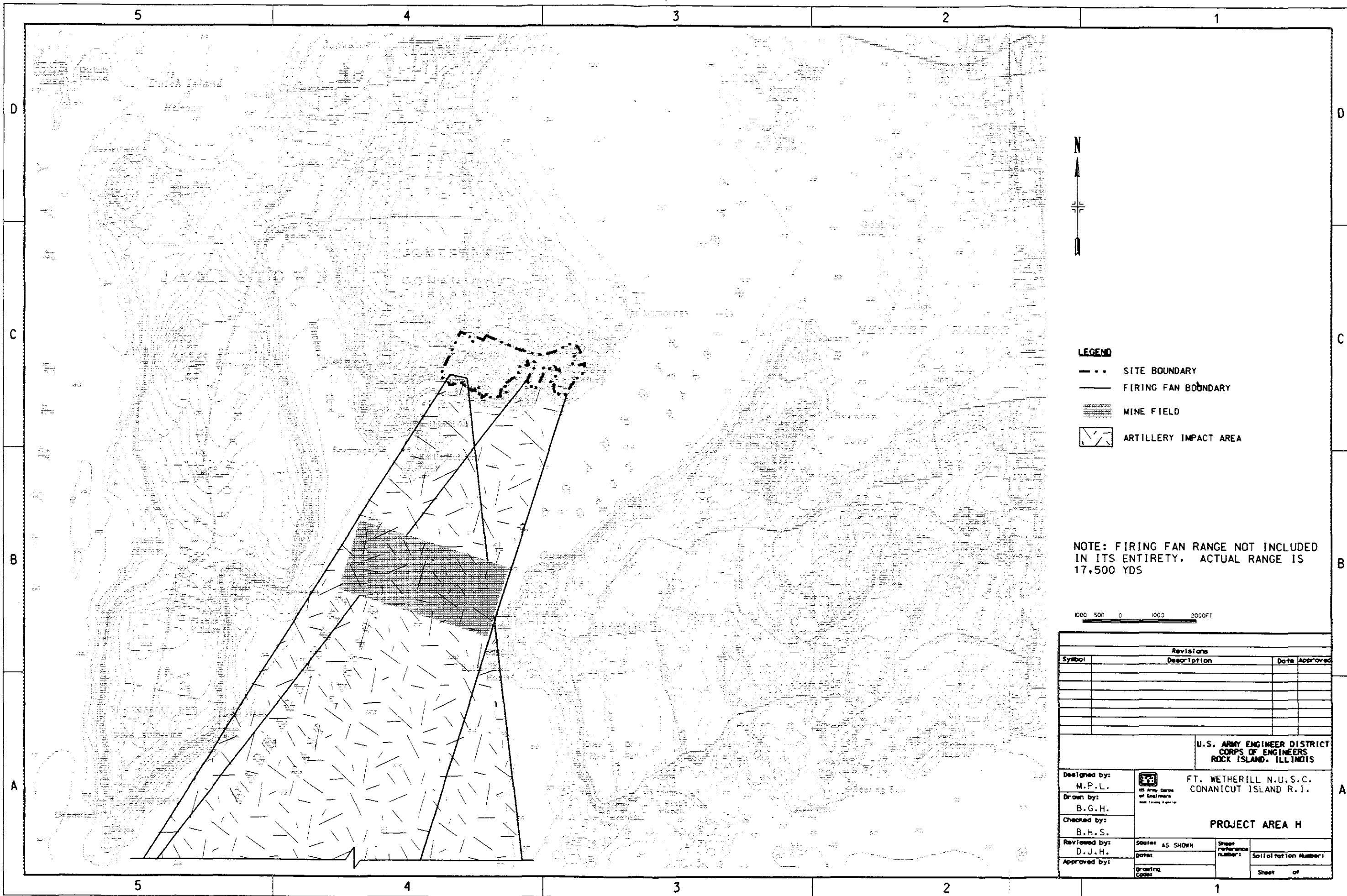


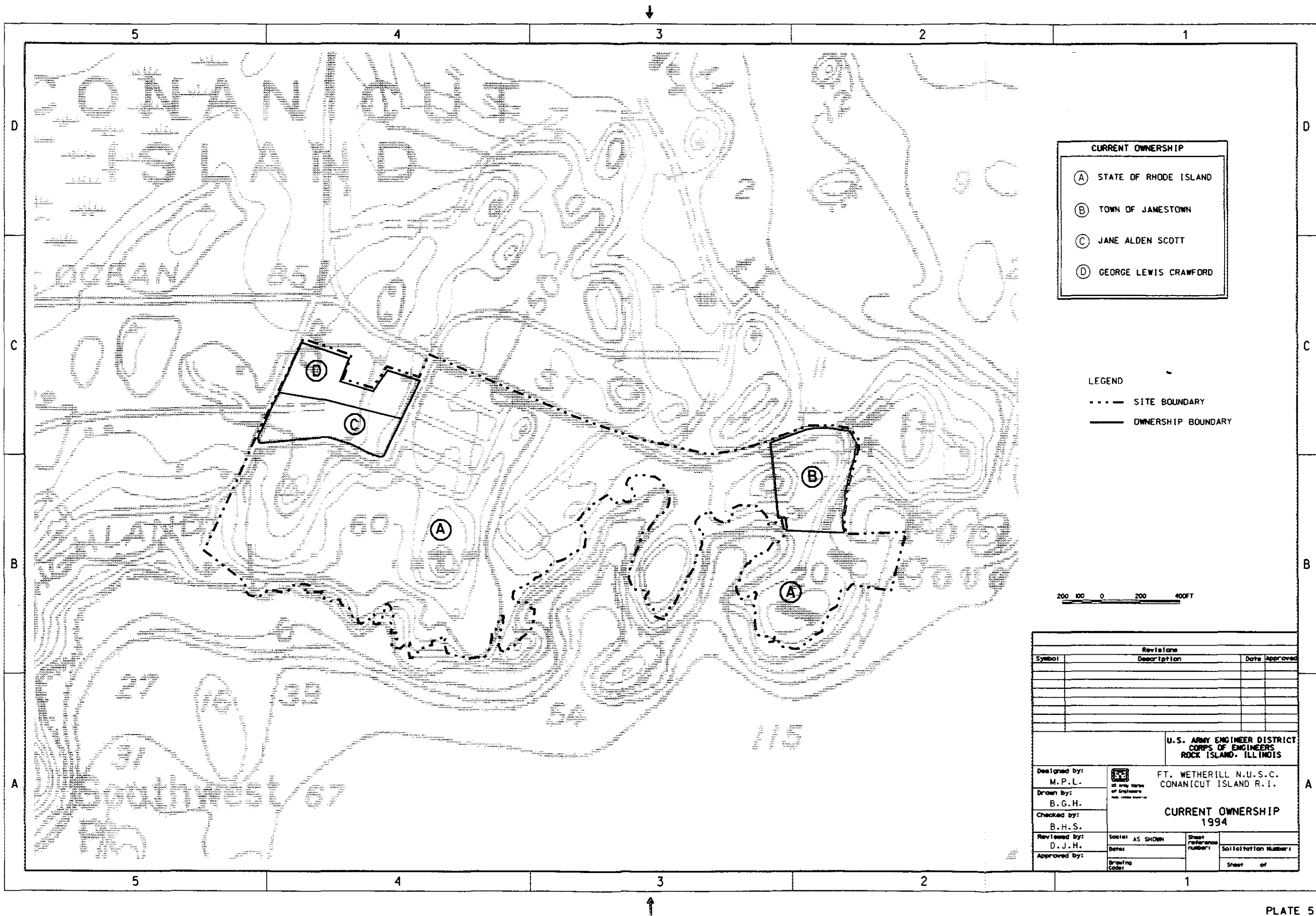
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200 100 0 200 400 FT

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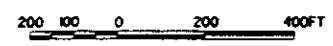


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