



US Army Corps
of Engineers
HUNTSVILLE DIVISION

DRAFT

Defense Environmental Restoration Program
for
Formerly Used Defense Sites
Ordnance and Explosives
Chemical Warfare Materials

ARCHIVES SEARCH REPORT

CONCLUSIONS AND RECOMMENDATIONS

Rose Island Naval Torpedo Station

Newport, Rhode Island

Project Number - D01RI041901

OCTOBER 1995

Prepared by
US ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

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Newport County
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TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1-1
1.1 <u>Authority</u>	1-1
1.2 <u>Subject</u>	1-2
1.3 <u>Purpose</u>	1-2
1.4 <u>Scope</u>	1-2
2.0 CONCLUSIONS	2-1
2.1 <u>Summary of Conclusions</u>	2-1
.....	2-1
2.2 <u>Historical Site Summary</u>	2-1
2.3 <u>Real Estate</u>	2-3
2.4 <u>Site Inspection</u>	2-4
2.5 <u>Confirmed Ordnance Presence</u>	2-6
2.6 <u>Potential Ordnance Presence</u>	2-6
2.7 <u>Uncontaminated Areas</u>	2-7
2.8 <u>Site Information Analysis</u>	2-7
.....	2-8
3.0 RECOMMENDATIONS	3-1
3.1 <u>Summary of Recommendations</u>	3-1
3.2 <u>Other Environmental Actions</u>	3-1
3.3 <u>Preliminary Assessment Actions</u>	3-1

APPENDICES

- A RISK ASSESSMENT CODE PROCEDURE FORM
- B GLOSSARY AND ACRONYMS
- C REPORT DISTRIBUTION LIST

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REPORT PLATES

- 1 Vicinity Map
- 2 Site Plan - 1942
- 3 Development Plan - 1958
- 4 Oblique Aerial Photograph - after 1957
- 5 Aerial Photograph - 1942
- 6 Aerial Photograph - 1951
- 7 Aerial Photograph - 1986

1.0 INTRODUCTION

1.1 Authority

In 1980, Congress enacted the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) 42 USC 9601 et seq. Ordnance and explosives are included in the CERCLA definition of pollutants and contaminants that require a remedial response.

In 1983, the Environmental Restoration Defense Account (ERDA) was established by Public Law 98-212. This congressionally directed fund was to be used for environmental restoration at Department of Defense (DOD) active installations and formerly used properties. The DOD designated the Army as the sole manager for environmental restoration at closed installations and formerly used properties. The Secretary of the Army assigned this mission to the Corps of Engineers (USACE) in 1984.

The 1986 Superfund Amendments and Reauthorization Act (SARA) amended certain aspects of CERCLA, some of which were directly related to Ordnance and Explosives (OE) contamination. Chapter 160 of the SARA established the Defense Environmental Restoration Program (DERP). One of the goals specified for the DERP is "correction of environmental damage (such as detection and disposal of unexploded ordnance) which creates an imminent and substantial endangerment to the public health or welfare or to the environment.

The DERP requires that a CERCLA response action be undertaken whenever such "imminent and substantial endangerment" is found at:

A. A facility or site that is owned by, leased to, or otherwise possessed by the United States and under the jurisdiction of the Secretary of Defense.

B. A facility or site that was under the jurisdiction of the Secretary of Defense and owned by, leased to, or otherwise possessed by the United States at the time of actions leading to contamination.

C. A vessel owned or operated by the Department of Defense.

The National Contingency Plan (NCP) was established by the Clean Water Act of 1972. The NCP has been revised and broadened several times since then. Its purpose is to provide the organizational structure and procedures for remedial actions to be taken in response to the presence of hazardous substances, pollutants, and contaminants at a site. Section 105 of the 1980 CERCLA states that the NCP shall apply to all response actions taken as a result of CERCLA requirements.

The March 1990 National Oil and Hazardous Substances Pollution Contingency Plan given in 40 CFR part 300 is the latest version of the NCP. Paragraph 300.120 states that "DOD will

be the removal response authority with respect to incidents involving DOD military weapons and munitions, or weapons and munitions under the jurisdiction, custody, and control of DOD."

The U.S. Army Engineer Division, Huntsville (CEHND) was designated as the USACE Mandatory Center of Expertise (MCX) and Design Center for ordnance and explosive projects. As the MCX and Design Center for OE, CEHND is responsible for the design and successful implementation of all Department of the Army OE remediation actions required by CERCLA. CEHND will also design and implement OE remediation programs for other branches of the Department of Defense when requested. In cooperation with the Huntsville Division, the St. Louis District has been assigned the task of preparing Archive Search Reports for those Formerly Used Defense Sites (FUDS) suspected of ordnance and explosives and chemical warfare materials (CWM) contamination.

1.2 Subject

Rose Island Naval Torpedo Station was situated on an approximately 14 acre island just west of the city of Newport in Narragansett Bay, Rhode Island. Military use of the site began during the American Revolutionary War and the island belonged to the United States Government beginning in 1799. The basic mission of Rose Island has changed over time but has basically revolved around using the island for harbor defense and as an explosive storage, testing and manufacturing facility. The original use of Rose Island was for harbor defense of Narragansett Bay in the American Revolutionary War. Additional defenses were added to the island with the beginning of construction of Fort Hamilton in 1800 but it was never completed. In 1869, a lighthouse was built on the southwestern bastion of the uncompleted Fort Hamilton. From 1883 to 1951, Rose Island was a part of the nearby Naval Torpedo Station, Newport, RI, which was the center of research, design, production and testing of torpedoes for the U.S. Navy. The DOD transferred 1.5 acre for the lighthouse to the Coast Guard in 1958 and excessed the remaining 12.5 acre of the island to GSA in 1959.

1.3 Purpose

This Archives Search Report (ASR) compiles information obtained through historical research at various archives and records holding facilities, interviews with individuals associated with Rose Island Naval Torpedo Station or its operations, and personal visits to the site. All efforts were directed towards determining types of munitions used at the site, possible disposal areas, and any unknown training areas. Particular emphasis was placed on establishing the chemical (agent), the type of munitions or container, quantities and area of disposal. Information obtained during this process was used in developing recommendations for further actions at the former Rose Island Naval Torpedo Station.

1.4 Scope

This investigation focused on the potential that OE and/or CWM contamination could remain

on Rose Island Naval Torpedo Station. The DERP-FUDS project number is D01RI041901. This report presents the history of the sites, description and characterization of the immediate surrounding areas, real estate ownership information, findings of a visual site inspections, confirmed ordnance presence based on available records and the site inspections, and evaluation of potential ordnance or chemical warfare material contamination based on sites ordnance components and site information.

2.0 CONCLUSIONS

2.1 Summary of Conclusions

2.1.1 Conventional Ordnance

Based on the archives searched, interviews, and site inspections, the **Rose Island Naval Torpedo Station** was used by the military primarily for the storage and filling of bulk explosives for torpedoes and mines warheads. The bulk explosives included: guncotton, smokeless powder, TNT, HBX and PTX and primary explosives of lead azide and mercury fulminate. In association with the storage and filling mission, it is highly likely that a demolition area was located on the northern tale of the island. A smokeless powder test range was also present. It is concluded that Rose Island Naval Torpedo Station has a OE potential based on these operations.

The majority of the permanent structures on the island, roughly 75%, were used to store, test, or manufacture explosive items. It is not believed that any of the structures or surrounding areas have been sampled for explosive residue. It is likely that explosive residue remains in at least some of these structures, in particular those used in the melting of TNT and filling of the warheads. The TNT filling house still had equipment and pipes inside from these operations. Periodic wash down of the equipment and buildings may have resulted in the spread of this material to the surrounding soil or groundwater. No evidence was found that indicated that completed warheads for the torpedoes, mines, or bombs were function tested on the island.

Rose Island was also used by the military for the defense of the Narragansett Bay area during times of war. As such, both small arms and large caliber artillery items were present and used. The larger caliber items consisted of various cannon, three inch Naval artillery guns, Naval 5 in/25 anti-aircraft guns, and Army 90mm guns. Smaller caliber weapons would have included rifles, pistols and machine guns up to .50 caliber. The site inspection and people familiar with the site did not find any evidence of these overt ordnance and explosive hazards on the site. Burial of unusable or unwanted ordnance and explosive items is highly unlikely given the probable demolition area and the availability of sea disposal. Still there is an OE potential, albeit minor, that one of these rounds may have been left behind from the over century and a half of military ownership.

2.1.2 Chemical Warfare Materials

There was no evidence found that any chemical warfare materials were stored, used or disposed of at Rose Island Naval Torpedo Station.

2.2 Historical Site Summary

The military reservation at Rose Island has a long history dating back to the American Revolutionary War. The names attached to the military installations on the island include:

Fort Hamilton (1800-1883), U. S. Naval Magazine - Rose Island (1883-1945), and Explosive Storage - Rose Island (1945-1960). The missions assigned to the installations on the island have changed over time but have basically revolved around using the island for harbor defense and as an explosive storage, testing and manufacturing facility. Rose Island was a part of the nearby Naval Torpedo Station, Newport, which was the center of research, design, production and testing of torpedoes for the U.S. Navy from 1869 to 1951. Since Rose Island was separated from civilian populated areas and could be easily secured and controlled, it was an exceptional location for storing explosives. The subparagraphs below provide an overview of the military activities on Rose Island, all of which had an ordnance and explosive element to them. Section 4.1 and 8.0 of Findings Volume this ASR contains a more detailed discussion of the history and ordnance items.

Rose Island's military history begins with the island being fortified during the American Revolutionary War by the British and the French. Fortification were of earth construction and defended by 18-36 pounders cannon. Following the war, the property was acquired by the United States of America by deed in 1799.

It was planned that Rose Island would become the site of Fort Hamilton. Construction was begun on the fort in 1800. The pre-existing fortifications on the island were improved and complimented with stone and brick masonry. Stone bomb proof barracks were constructed and are still standing. Also, the southern wall and the two western bastions were partially finished before work on the fort was halted in 1801. The fort was never completed and it was abandoned by 1819. The military did not actively use the island for the next sixty years, although it remained under the jurisdiction of the War Department. Various plans throughout the nineteenth century proposed additional fortifications to Rose Island, though no significant changes were made until the construction of the lighthouse in 1869 on the southwestern bastion of the uncompleted Fort Hamilton.

On 18 October 1883 the site was designated the "U.S. Naval Magazine-Rose Island", a guncotton storage facility of the Naval Torpedo Station Newport. This Naval Torpedo Station primarily consisted of three islands: Goat, Rose, and Gould established in 1869, 1883, and 1918 respectively. In 1885 two large magazines for the storage of guncotton were established in bomb proof barracks. In 1889 all of Rose Island was granted to the Navy by the Secretary of War, with the exception of the lighthouse area. On 20 April 1889 the Navy was granted use of the island as a rifle range. The exact location of the rifle range was never specified in the discovered historical documents. The manufacture of smokeless powder was begun in 1891 at the Navel Torpedo Station on Goat Island. In 1894 proof testing of the powder was begun at Rose Island. A smokeless powder range was established in the bomb proof casements of Fort Hamilton though it's exact layout is unknown. In 1907 the smokeless powder factory was closed and it is assumed the testing mission left Rose Island.

In the early twentieth century, Rose Island continued as a explosive storage facility while becoming a more integral part of the torpedo manufacturing process. In 1913, a period of facility expansion was begun, most of which was ordnance related. Newly constructed

features included several magazines to store guncotton (a high explosive), guncotton primers, mines, torpedoes and a railroad to connect these structures with the wharf at the eastern end of the island. An improvised fill house was erected to facilitate the loading of guncotton into munition items. In 1918 the construction of a second fill house was designed and constructed for TNT melt down and pour operation for torpedo warheads. Harbor defense guns were also mounted on the island and remained in position all during World War I. The location or types of these weapons is unknown but no permanent gun emplacements appear to have been established. Following World War I, the Naval Torpedo Station, Newport became the sole source of torpedoes for the Navy and Rose Island mission of support for this facility continued.

Expansion of the Naval Torpedo Station at Newport was again made in 1934. Construction activities on Rose Island escalated to prepare for its contribution to torpedo manufacturing for the Navy and the defense of Narragansett Bay during World War II. Between 1940 to 1945, \$485,000 of new construction was done on the island. The additions to Rose Island included a water storage tank and numerous quonset huts, as well as upgrades to the railroad spurs, utility lines, roads, and walkways. During World War II, Rose Island regained a harbor defense mission for Narragansett Bay. In October 1942, three large Naval gun batteries were established. Early in 1943, the Army took over this mission and replaced the Navy guns with standard Army coastal defense weapons. Constructed in association with the gun emplacements were four additional storage magazines and a generator house. By November 1944, all anti-aircraft gun emplacements on the island were dismantled. In June 1945, the U.S. Naval Magazine, Rose Island, R. I. was disestablished by the direction of the Secretary of the Navy and henceforth was to be known as "Explosive Storage, Rose Island." The site continued to operate as part of the Naval Torpedo Station, Newport which was redesignated under a commanding officer to U.S. Naval Underwater Ordnance Station on 13 December 1951. The island was finally exceded by the Navy and sold to the city of Newport in 1960.

Investigation of historical records did not indicate the use or storage of chemical warfare materials at the site or the existence of any certificates of ordnance clearance, decontamination or dedudding.

2.3 Real Estate

The property was acquired by the United States of America by deed in August and September 1799 from three owners. The property has been transferred between the different US military organizations such as the army and navy but all the records of such were not located. On 29 July 1869, the War Department granted a permit to the Treasury Department for the construction of the light house. A permanent boundary line was established between the Light House Establishment and the Navy Department in 1904. The Army transferred 1.5 acres, containing the lighthouse to the Coast Guard on 3 July 1958. The remaining 12.5 acres were exceded to GSA on 18 May 1959.

While reviewing different property records for Rose Island, discrepancies were noted in the stated acreage of the island. The discrepancies seem mostly due to whether the northern tail of the island is included or not. When the northern tail is exposed during low tide, there are several more acres to Rose Island. This area was not included in the above figures.

The current property owners of the former Rose Island Naval Torpedo Station are the city of Newport, Rhode Island and a development partnership. A 1.5 acre portion is owned by Newport and contains the lighthouse and small recreational park. The other 12.5 acre portion is owned by CMTS Properties (a partnership of the following: James L. Carroll, John F. Maloney, Terrance Toppa and James J. Shea).

Rose Island was used by the military for a number of purposes since the United States of America acquired it in 1799. Specific deeds transferring the property amongst the historical military predecessors of the DOD were not found.

2.4 Site Inspection

A site inspection was by three St. Louis District Corps of Engineers personnel: Kirk James, Jennifer J. James, and Randal S. Curtis. They performed a site survey of the former Rose Island Naval Torpedo Station, on 20 June 1995. Photographs and inspection visit memorandum from the site survey are included as Appendix I and L-2 of the Findings Volume of this ASR. A synopsis of the visit is contained in the subparagraphs that follow.

The ASR inspection team had made arrangements to meet with Charlotte E. Johnson, the Executive Director of the Rose Island Lighthouse Foundation at 0830. She had volunteered to ferry the team out to Rose Island, the site of the former Naval Torpedo Station. She has been actively involved with the island since approximately 1984 and is very knowledgeable about the entire area. The team arrived on the island via the dock along the southern end of the island.

The team began the site visit with a tour of the lighthouse property owned by the city of Newport. Charlotte accompanied the site survey team for the first portion their visit. The lighthouse is currently being operated as an early 19th century lighthouse which is rented out to the public on a daily or weekly basis. Although it lacks modern conveniences such as running water, the facility seems to have a high occupancy rate during the summer months. Electricity is generated for the lighthouse by a windmill tower which is placed on the southwestern anti-aircraft gun emplacement. The majority of the island's property is owned by the CMTS & Atlantic Investment Corporation. There is no distinct physical boundary between the land owned by the two different parties such as a fence or signs. There is possible public access to the entire island from the visitors at the lighthouse as well as transient boaters in the area.

The grounds of the lighthouse portion of the property are fairly well maintained (i.e. there's grass and it is mowed regularly). The remainder of the island is in a more natural state, which could be considered a property boundary of sorts. The extent of the rest of the site

inspection was severely limited due to the extremely thick vegetative cover across the majority of the site. The shrubs were up to 8' tall and did not allow access to many areas of OE related interest. Numerous nesting sea gulls and other birds also provided a deterrence to inspecting the site. Charlotte mentioned that it was much easier to get around the island during the winter months when all the vegetation was down and the birds were not nesting.

The team looked at the two western most bomb proof storehouses (magazines) #1-9, both of which are empty. The thick vegetation obstructed further investigation of the other magazines. Numerous lightening pole arresters were noted surrounding the structures, as is typical Naval practice around explosive storage areas. Charlotte has been through every structure on the island. She believed them to be free from any obvious evidence of ordnance related material. She mentioned that for many years it was not at all uncommon for people to come on to the island and scavenge for souvenirs. During her time there she has not found or known of anyone else finding any "bullet like" items left on the ground. The southwestern position of the anti-aircraft gun emplacement was visited. Except for the metal ready storage doors and various gun mount bolts, all that remains of this feature was concrete.

The team continued on to the southeastern end of the island where the World War II era dock and the TNT filling house are located. The TNT Filling House has all items of obvious value removed but there are many rusting metal items and pipes related to its former use. Inside the building there were two of six TNT cooking kettles and assorted piping. The kettles were estimated to be ≈ 100 gallons in size. An empty torpedo tail body assembly was found located just outside of TNT Filling House. Along the northwest end of the building there are numerous torpedo warhead filling cradles scattered about. There had been no apparent effort made to remove all these types of items from the facility. As with all the explosive related structures on the site, there are lightening arresters surrounding the building. Continuing along the eastern shoreline, the team came to the brick remains of the old incinerator which had a concrete washout slough leading to the bay. Charlotte left the team at this point to ferry the overnight guests back to the main land.

The team continued their traverse around the island in a generally counter clockwise manner which began with the deteriorated seawall along the northeastern portion of the island. Along the seawall in the vicinity of storehouse #34, the team located three $\approx 18"$ diameter by $\approx 3'$ long steel riveted tanks. The tanks purpose was not determined but it is extremely unlikely they were for any ordnance or explosive purposes. In the same general area, the team noted a partially buried concrete box of unknown purposes. The size of the box was approximately 4' by 6' by 5' deep. Along the eastern shoreline are the remains of three series of fences as is evident by rusted posts. The following structures were noted as still standing as the team traversed the island:

- | | |
|-----------------------|---|
| -#15 storehouse | -#26 cordoba magazine |
| -#34 storehouse | -northwest anti-aircraft gun emplacement |
| -#18 magazine | -#13 storehouse |
| -#17 blasting shelter | -#11 storehouse |
| -#24 storehouse | -several unnumbered earth covered magazines |

All these structures appeared to be free of ordnance debris but none of the structures were checked for explosive residues. Storehouses #13, 11 & 24 as well as several unnumbered earth-covered bunkers were not investigated due to the heavy vegetative cover. It should also be noted that the rectangular concrete "ready magazines" attached to the anti-aircraft gun emplacements were not investigated due to their being filled with water.

Remains of the previous forts and military establishments were not readily identified during the site visit. No evidence of ordnance items or explosive components was discovered during the site visit. However, there is a strong potential of TNT residue at the fill house and incinerator which would be an explosive hazard if greater than 12% by weight.

The team returned to the lighthouse to meet back with Charlotte Johnson. She asked the team if they could look at an ≈ 6 " cannonball that some local divers had recovered and given to her. She was keeping the cannon ball submerged in a bucket of water in the lighthouse basement. The team's unexploded ordnance (UXO) authority, Kirk James, recommended that she contact the local police to arrange for the local Explosive Ordnance Disposal (EOD) team to come. He said they could x-ray it on site and dispose of it if it presented a hazard. (Postscript: The EOD team came out that evening and determined that the cannon ball was solid and hence harmless). Following this, Charlotte ferried the team back to the main land.

Prior to leaving the area, the ASR team visited with Terry Toppa of CMTS and Charlotte Johnson of the Rose Island Lighthouse Foundation. They provided the team access to their files and information they had gathered at the National Archives and other places on Rose Island. Both Terry Toppa and Charlotte Johnson were extremely helpful and cooperative with the efforts of ASR team. They both were very willing and forthcoming in providing information and whatever assistance we required.

2.5 Confirmed Ordnance Presence

The archive search confirmed that a wide variety of explosive items were known to have been stored and used at Rose Island Naval Torpedo Station including small arms, large caliber artillery items (various cannon, three inch Naval artillery guns, Naval 5 in/25 anti-aircraft guns, and Army 90mm guns), bulk explosives (guncotton, smokeless powder, TNT, HBX and PTX), primary explosives (lead azide and mercury fulminate) and torpedoes warheads, mines and counter mines (mine clearing devices), depth bombs, and aero bombs.

The archive search **did not** confirm any overt evidence of an OE hazard at the former Rose Island Naval Torpedo Station.

2.6 Potential Ordnance Presence

Based on this archive search, the former Rose Island Naval Torpedo Station is thought to have an OE potential in the form of explosive residue resulting from the explosive storage, filling and testing operations. The structure with the highest expected OE potential is the TNT filling house (#31), which still had the TNT melting kettles and piping present.

Standing buildings numbers 1-9, 12, 13, 15, 17, 18, 24, 26, 30, 31, 35, the three anti-aircraft gun emplacements and the four earth covered magazines have all been identified as having an OE use in the past, as have the demolished buildings 10, 11, 16, and 34. The area around the two filling houses (#16 & 31), the incinerator, the blasting shelter room (#17) and the smokeless powder test range (two of the bombproof buildings #1-9) are thought to have a explosive residue potential based on washing out or burning of explosives.

No indication was discovered that any ordnance materials was disposed of on site and the OE potential from complete ordnance items is thought to be minor.

2.7 Uncontaminated Areas

Based on the investigation of historical records reviewed, the results of the site survey, interviews, and aerial photography and map analysis, the 1.5 acre portion of Rose Island which has been used as a light house since 1869 is thought to be free of ordnance and explosive hazards. There is no evidence of chemical warfare materials ever being stored, used or disposed of at this site.

2.8 Site Information Analysis

Based on the results of the archive search, conventional ordnance was both stored and utilized at Rose Island. The ordnance consisted of the of a wide variety of explosive items from the American Revolutionary War to World War II period. A complete inventory of all ordnance items at Rose Island could not be exactly constructed. However, it is known to have included small arms and large caliber artillery items for defense of the island and Narragansett Bay. The larger caliber items consisted of various cannon, three inch Naval artillery guns, Naval 5 in/25 anti-aircraft guns, and Army 90mm guns. Smaller caliber weapons would have included rifles, pistols up to .50 caliber machine guns.

As part of the manufacturing process, Rose Island stored bulk explosives including: guncotton, smokeless powder, TNT and in later years explosive mixtures such as HBX and PTX. These bulk explosives were used for filling warheads for torpedoes, mines and counter mines (mine clearing devices), depth bombs, and aero bombs. Once the warheads were filled, completed rounds were also stored at Rose Island.

Some of these explosive items were also used on Rose Island. There was a rifle range present in the late nineteenth century as well as a smokeless powder test range. A demolition area was not identified but the presence of a "Blasting Shelter Room" and "House of Doubtful Powder" imply this was the case. Standard practice is to periodically test fire artillery weapons used for defensive purposes. No evidence was found that indicated that completed warheads for the torpedoes, mines, or bombs were function tested on the island. Testing of these items took place elsewhere in Narragansett Bay as part of the Newport Naval Station complex.

This archive search did not locate any overt ordnance and explosive hazards at Rose Island. Historical records did not indicate that ordnance was buried on site. Interviews with people familiar with the site did not expose any specific incidents of OE hazards being found. Additionally, the site inspection did not find any evidence of overt ordnance and explosive hazards being present.

The majority of the permanent structures on the island, roughly 75%, were used to store, test, or manufacture explosive items. The brick TNT filling house still has melting kettles and associated piping present, indicating that site was not completely dismantled prior to closing. Standard practice at these types of facilities was to periodically wash down the equipment and buildings. No records were found to indicate that any of these structures or surrounding areas had been sampled for explosive residue.

Based on the investigation of historical records reviewed, the results of the site survey and interviews, there is no evidence of chemical warfare materials ever being stored, used or disposed of at Rose Island Naval Torpedo Station.

3.0 RECOMMENDATIONS

3.1 Summary of Recommendations

The Risk Assessment Procedures for Ordnance and Explosives Sites Form, dated 18 April 1994, has been prepared for and is included in Appendix A. Based on the best available data a score of **RAC 1** has been determined for Rose Island Naval Torpedo Station. Given that the site is an island, a Hazard Probability rating of "Probable" might make more sense. The RAC scoring system doesn't really take this into account. A RAC score of 2 seems more appropriate.

RAC 1 or 2 indicates further consideration by CEHND. It is recommended that further attention into ordnance and explosives at Rose Island Naval Torpedo Station be accomplished. Sampling for explosive residue in the standing buildings and equipment identified with an ordnance related function would confirm or disprove the presence of an OE hazard. Sampling of the soil around the structures, particularly those with a washout function would also be warranted. Section 2.6 delineates these areas. The scope and extent of any future sampling or other related OE remediation work should be based on CEHND judgment.

3.2 Other Environmental Actions

The New England Division of the Corps of Engineers has identified several Hazardous, Toxic and Radiological Waste (HTRW) projects relating to the military's use of the site. These projects all involve the removal of fuel storage tanks. CENED is managing further investigation and work on this aspect of Rose Island Naval Torpedo Station.

TNT, lead azide and mercury fulminate and other chemical items were stored throughout the island. If still present, they could pose a serious OE hazard to any future remediation work. Prior to further work, CEHND should be consulted to assure appropriate consideration of potential OE hazards is exercised. Additionally, if released in the environment, these items could present a possible soil or groundwater contamination source.

3.3 Preliminary Assessment Actions

No additional preliminary assessment actions were identified being required as a result of this ASR of Rose Island Naval Torpedo Station.

APPENDIX A

RISK ASSESSMENT CODE PROCEDURE FORM

RISK ASSESSMENT PROCEDURE FOR
ORDNANCE AND EXPLOSIVES (OE) SITE

Site Name Rose Island Nav. Torp. Stat. Rater's Name Randal S. Curtis
 Site Location Newport County, RI Phone No. 314-331-8786
 DERP Project# DO1RI041901 Organization CELMS-PM-M
 Date Completed 26 October 1995 RAC Score 1, w/recommendation for 2

OE RISK ASSESSMENT:

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The RAC score will be used by CEHND to prioritize the remedial action at Formerly Used Defense Sites. The OE risk assessment should be based upon best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) detachment actions, and field observations, interviews, and measurements. This information is used to assess the risk involved based upon the potential OE hazards identified at the site. The risk assessment is composed of two factors, hazard severity and hazard probability. Personnel involved in visits to potential OE sites should view the CEHND videotape entitled "A Life Threatening Encounter: OEW."

Part I. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible mishap resulting from personnel exposure to various types and quantities of unexploded ordnance items.

TYPE OF ORDNANCE
(Circle all values that apply)

A. Conventional Ordnance and Ammunition	VALUE
Medium/Large Caliber (20 mm and larger)	10
Bombs, Explosive	10
Grenades, Hand and Rifle, Explosive	10
Landmines, Explosive	10
Rockets, Guided Missiles, Explosive	10
Detonators, Blasting Caps, Fuzes, Boosters, Burstern	6
Bombs, Practice (w/spotting charges)	6
Grenades, Practice (w/spotting charges)	4
Landmines, Practice (w/spotting charges)	4
Small Arms (.22 cal - .50 cal)	1
Conventional Ordnance and Ammunition (Select the largest single value)	<u>0</u>

What evidence do you have regarding conventional OE? The ASR indicates that large caliber, small arms and detonators were stored and used on site. Additionally torpedoes, mines and bombs were stored on site. No evidence was found that these OE items remain on Rose Island.

B. Pyrotechnics (For munitions not described above)

VALUE

Munitions (Container) containing
White Phosphorus or other
Pyrophoric Material (i.e.,
Spontaneously Flammable) 10

Munitions Containing A Flame
or Incendiary Material (i.e.,
Napalm, Triethylaluminum Metal
Incendiaries) 6

Flares, Signals, Simulators, Screening
Smokes (other than WP) 4

Pyrotechnics (Select the largest single value) 0

What evidence do you have regarding pyrotechnics? None. There is no evidence that this sort of material was ever stored or used on this site.

C. Bulk High Explosives (Not an integral part of conventional ordnance; uncontainerized.)

VALUE

Primary or Initiating Explosives
(Lead Styphnate, Lead Azide,
Nitroglycerin, Mercury Azide,
Mercury Fulminate, Tetracene, etc.) 10

Demolition Charges 10

Secondary Explosives
(PETN, Compositions A, B, C
Tetryl, TNT, RDX, HMX, HBX,
Black Powder, etc.) 8

Military Dynamite 6

Less Sensitive Explosives
(Ammonium Nitrate, Explosive D, etc.) 3

High Explosives (Select the largest single value) 10

What evidence do you have regarding bulk explosives? Rose Island was a bulk storage facility for guncotton, TNT, HBX and PTX. No overt evidence was found of these items but explosive residue is probable in the remaining buildings and equipment (TNT melting kettles and associated piping). Demolition charges and primary explosives of mercury fulminate and lead azide were also stored and possibly used on site.

D. Bulk Propellants (Not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized)

VALUE

Solid or Liquid Propellants 8

Propellants 6

What evidence do you have regarding bulk propellants? Rose Island was a bulk storage facility for smokeless powder. No overt evidence was found of this item but explosive residue is possible in the remaining buildings.

E. Chemical Warfare Material and Radiological Weapons

	VALUE
Toxic Chemical Agents (Choking, Nerve, Blood, Blister)	25
War Gas Identification sets	20
Radiological	15
Riot Control and Miscellaneous (Vomiting, Tear)	5
Chemical and Radiological <u>(Select the largest single value)</u>	<u>0</u>

What evidence do you have regarding chemical/radiological OE? None.
There is no evidence that this sort of material was ever stored or used on
this site.

=====
 Total Hazard Severity Value
 (Sum of the Largest Values for A through E--Maximum of 61) 16
 Apply this value to Table 1 to determine Hazard Severity Category.

TABLE 1

HAZARD SEVERITY*

Description	Category	Hazard Severity Value
CATASTROPHIC	I	21 and greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	IV	1 to 4
**NONE		0

* Apply Hazard Severity Category to Table 3

**If Hazard Severity Value is 0, you do not need to complete Part II. Proceed to Part III and use a RAC Score of 5 to determine your appropriate action.

Part II. Hazard Probability. The probability that a hazard has been or will be created due to the presence and other rated factors of unexploded ordnance or explosive materials on a formerly used DOD site.

AREA, EXTENT, ACCESSIBILITY OF OE HAZARD
(Circle all values that apply)

A. Location of OE Hazards

	VALUE
On the surface	☒
Within Tanks, Pipes, Vessels or Other confined locations	☒
Inside walls, ceilings, or other parts of Buildings and Structures	☒
Subsurface	2
Location (Select the single largest value)	<u>5</u>

What evidence do you have regarding location of OE? The source of the potential OE hazard is from explosive residue which may be contained within buildings and equipment or on the ground surface.

B. Distance to nearest inhabited locations or structures likely to be at risk from OE hazard (roads, playgrounds, and buildings).

	VALUE
Less than 1250 feet	☒
1250 feet to 0.5 miles	4
0.5 miles to 1.0 miles	3
1.0 miles to 2.0 miles	2
Over 2 miles	1
Distance (Select the single largest value)	<u>5</u>

What are the nearest inhabited structures? The Rose Island lighthouse is operated as overnight guest lodging.

C. Numbers of buildings within a 2 mile radius measured from the OE hazard area, not the installation boundary.

	VALUE
26 and over	☒
16 to 25	4
11 to 15	3
6 to 10	2
1 to 5	1
0	0
Number of Buildings (Select the single largest value)	<u>5</u>

Narrative The lighthouse is the only inhabited building on Rose Island although the island itself is less than 1 mile from the city of Newport, Rhode Island.

D. Types of Buildings (within a 2 mile radius)

	VALUE
Educational, Child Care, Residential, Hospitals, Hotels, Commercial, Shopping Centers	5
Industrial, Warehouse, etc.	4
Agricultural, Forestry, etc.	3
Detention, Correctional	2
No Buildings	0
Types of Buildings (Select the largest single value)	5

Describe types of buildings in the area. Downtown Newport, filled with shopping, restaurants, hotels and residents is less than 1 mile away from the island.

E. Accessibility to site refers to access by humans to ordnance and explosives. Use the following guidance:

BARRIER	VALUE
No barrier or security system	5
Barrier is incomplete (e.g. in disrepair or does not completely surround the site). Barrier is intended to deny egress from the site, as for a barbed wire fence for grazing.	4
A barrier, (any kind of fence in good repair) but no separate means to control entry. Barrier is intended to deny access to the site.	3
Security guard, but no barrier	2
Isolated site	1
A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the facility; or An artificial or natural barrier (e.g., a fence combined with a cliff), which completely surrounds the facility; and a means to control entry, at all times, through the gates, or other entrances to the facility (e.g., an attendant, television monitors, locked entrances, or controlled roadway access to the facility).	0
Accessibility (Select the single largest value)	5

Describe the site accessibility. There are no barriers to the site except for the natural one of ≈0.9 miles of water. This limits access to most people. However the overnight guests at the lighthouse have free access to the buildings, as does anyone coming up in a boat.

F. Site Dynamics - This deals with site conditions that are subject to change in the future, but may be stable at the present. Examples would be excessive soil erosion by beaches or streams, increasing land development that could reduce distances from the site to inhabited areas or otherwise increase accessibility.

	VALUE
Expected	5
None Anticipated	0
Site Dynamics (Select largest value)	5

Describe the site dynamics. The current owners of the majority of the island are attempting to sell the property, describing the potential for future development as a couple of private residences.

=====

Total Hazard Probability Value
 (Sum of Largest Values for A through F--Maximum of 30) 30
 Apply this value to Hazard Probability Table 2 to determine
 Hazard Probability Level.

TABLE 2

HAZARD PROBABILITY

Description	Level	Hazard Probability Value
FREQUENT	A	27 or greater
PROBABLE	B	21 to 26
OCCASIONAL	C	15 to 20
REMOTE	D	8 to 14
IMPROBABLE	E	less than 8

* Apply Hazard Probability Level to Table 3.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table 3. Enter with the results of the hazard probability and hazard severity values.

TABLE 3

Probability Level		FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
Severity Category:						
CATASTROPHIC	I	1	1	2	3	4
CRITICAL	II	1	2	3	4	5
MARGINAL	III	2	3	4	4	5
NEGLIGIBLE	IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

- RAC 1 Expedite INPR, recommending further action by CEHND - Immediately call CEHND-ED-SY--commercial (205) 955-4968 or DSN 645-4968.
- RAC 2 High priority on completion of INPR - Recommend further action by CEHND.
- RAC 3 Complete INPR - Recommend further action by CEHND.
- RAC 4 Complete INPR - Recommend further action by CEHND.
- RAC 5 Usually indicates that no further action (NOFA) is necessary. Submit NOFA and RAC to CEHND.

=====
Part IV. Narrative. Summarize the documented evidence that supports this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

The RAC score assigned to Rose Island Naval Torpedo Station is 1.

This is based on an Hazard Severity rating of "Critical" as determined from Part I. An Hazard Probability rating "Frequent" as determined from Part II.

Given that the site is an island, an Hazard Probability rating of "Probable" might make more sense. The RAC scoring system doesn't really take this into account. A RAC score of 2 seems more appropriate.

The OE potential is based on explosive residue resulting from the storage, filling and testing of bulk explosives. Standing buildings have been identified as having an OE use in the past, as have the demolished ones. The areas around the buildings where explosives were washed out or burned are thought to have an explosive residue potential also.

It is possible, but considered very unlikely, that any of the small arms, and large caliber ordnance items stored and used on Rose Island, remained on site. Additionally, there is no evidence to indicate chemical warfare materials was ever stored or used at Rose Island Naval Torpedo Station.

APPENDIX B

GLOSSARY AND ACRONYMS

Ordnance and Explosives
Chemical Warfare Material
Archives Search Report

CONCLUSIONS AND RECOMMENDATIONS

Rose Island Naval Torpedo Station
Newport, Rhode Island
Newport County

Project Number - D01RI041901

GLOSSARY AND ACRONYMS

AAF	Army Air Field
AA	Anti-Aircraft
AEC	Army Environmental Center
AGO	Adjutant General's Office
AP	Armor Piercing
APDS	Armor Piercing Discarding Sabot
APERS	Antipersonnel
APT	Armor Piercing with Tracer
ASR	Archive Search Report
Aux	auxiliary
BAR	Browning Automatic Rifle
BD	Base Detonating
BD/DR	Building Demolition/Debris Removal
BE	Base Ejection
BGR	Bombing and Gunnery Range
BLM	Bureau of Land Management
BRAC	Base Realignment and Closure
CADD	Computer-Aided Drafting and Design
Cal	Caliber
CBDA	Chemical and Biological Defense Agency
CBDCOM	Chemical and Biological Defense Command
CE	Corps of Engineers
CEHND	Corps of Engineers, Huntsville Division
CELMS	Corps of Engineers, St. Louis District
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act - 1980
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
COE	Chief of Engineers

Ordnance and Explosives
Chemical Warfare Material
Archives Search Report

CONCLUSIONS AND RECOMMENDATIONS

Rose Island Naval Torpedo Station
Newport, Rhode Island
Newport County

Project Number - D01RI041901

COMP	Composition
CTG	Cartridge
CSM	Chemical Surety Material
CSM	Command Sergeant Major
CWM	Chemical Warfare Material
CWS	Chemical Warfare Service
DA	Department of the Army
DARCOM	Development and Readiness Command
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DERP-FUDS	Defense Environmental Restoration Program-Formerly Used Defense Sites
DOD	Department of Defense
DOE	Department of Energy
DOI	Department of Interior
EE/CA	Engineering Evaluation/Cost Analysis
EIS	Environmental Impact Statement
EOD	Explosives Ordnance Disposal
EPA	Environmental Protection Agency
ERDA	Environmental Restoration Defense Account
FDE	Findings and Determination of Eligibility
FFMC	Federal Farm Mortgage Corporation
FLCH	Flechette
FS	Feasibility Study
FWS	U. S. Fish and Wildlife Service
FUDS	Formerly Used Defense Sites
GIS	Graphic Information System
GSA	General Services Administration
HE	High Explosive
HEAT	High Explosive Anti-Tank
HEI	High Explosive Incendiary
HEP	Plastic
HE-S	Illuminating

Ordnance and Explosives
Chemical Warfare Material
Archives Search Report

CONCLUSIONS AND RECOMMENDATIONS

Rose Island Naval Torpedo Station
Newport, Rhode Island
Newport County

Project Number - D01RI041901

HTRW	Hazardous Toxic and Radioactive Waste
HTW	Hazardous and Toxic Waste
IAS	Initial Assessment Study
INPR	Inventory Project Report
IRP	Installation Restoration Program
MCX	Mandatory Center of Expertise
MG	Machine Gun
MG	Major General
mm	Millimeter
MT	Mechanical Time
MTSQ	Mechanical Time Super Quick
NARA	National Archives and Records Administration
NAS	Naval Air Station
NCDC	National Climatic Data Center
NCP	National Contingency Plan
NFS	National Forest Service
NG	National Guard
NGVD	Net Geodetic Vertical Datum
NOAA	National Oceanic and Atmospheric Administration
NOFA	No Further Action
NPRC	National Personnel Records Center
NRC	National Records Center
OE	Ordnance and Explosives
OSHA	Occupational Safety and Health Act
PA	Preliminary Assessment
PD	Point Detonating
PIBD	Point Initiating, Base Detonating
PL	Public Law
QASAS	Quality Assurance Specialist Ammunition Surveillance
RA	Removal Action
RAC	Risk Assessment Code
RD	Remedial Design

Ordnance and Explosives
Chemical Warfare Material
Archives Search Report

CONCLUSIONS AND RECOMMENDATIONS

Rose Island Naval Torpedo Station
Newport, Rhode Island
Newport County

Project Number - D01RI041901

RG	Record Group
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
SARA	Superfund Amendments and Reauthorization Act
SCS	Soil Conservation Service
SLD	St. Louis District, Corps of Engineers
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
SWMU	Solid Waste Management Units
TECOM	Test Evaluation Command
TEU	Technical Escort Unit
TNT	Trinitrotoluene
TP	Target Practice
USA	United States of America
USACE	U.S. Army Corps of Engineers
USADACS	U.S. Army Defense Ammunition Center and School
USAED	U.S. Army Engineer District
USAEDH	U.S. Army Engineer Division, Huntsville, AL
USATHMA	U.S. Army, Corps of Engineers, Toxic and Hazardous Materials Agency
USC	United States Code
USDA	U.S. Department of Army
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UXO	Unexploded Ordnance
WAA	War Assets Administration
WD	War Department
WNRC	Washington National Records Center

APPENDIX C
REPORT DISTRIBUTION LIST

Ordnance and Explosives
Chemical Warfare Material
Archives Search Report

CONCLUSIONS AND RECOMMENDATIONS

Rose Island Naval Torpedo Station
Newport, Rhode Island
Newport County

Project Number - D01RI041901

APPENDIX C

REPORT DISTRIBUTION LIST

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Commander, U.S. Army Chemical & Biological Defense Command ATTN: AMSCB-CIH, Bldg. E5183 Aberdeen Proving Ground, MD 21010-5423	1
U.S. Army Technical Center for Explosives Safety ATTN: SMCAC-ESM Savanna, IL 61074-9639	1
U.S. Army Engineer District - St. Louis CELMS-ED-G	1
-ED-H	1
-PD	1
-PM-M	1

PLATES

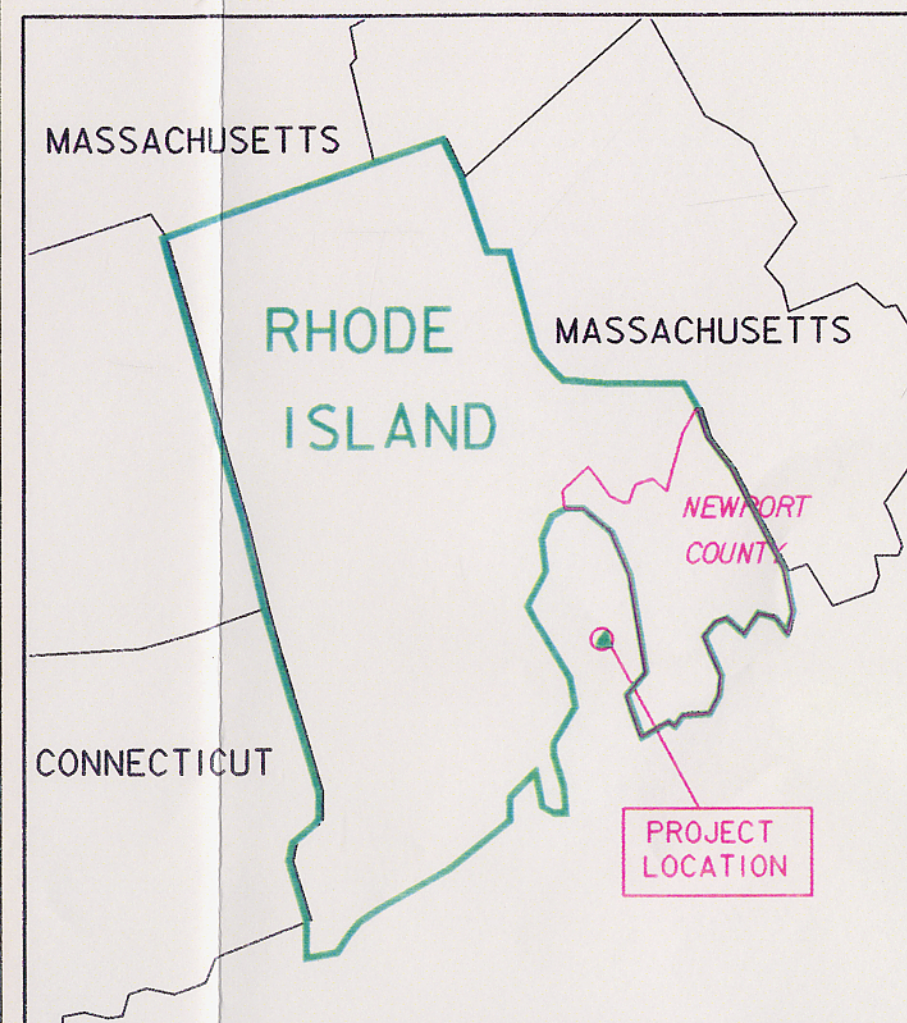
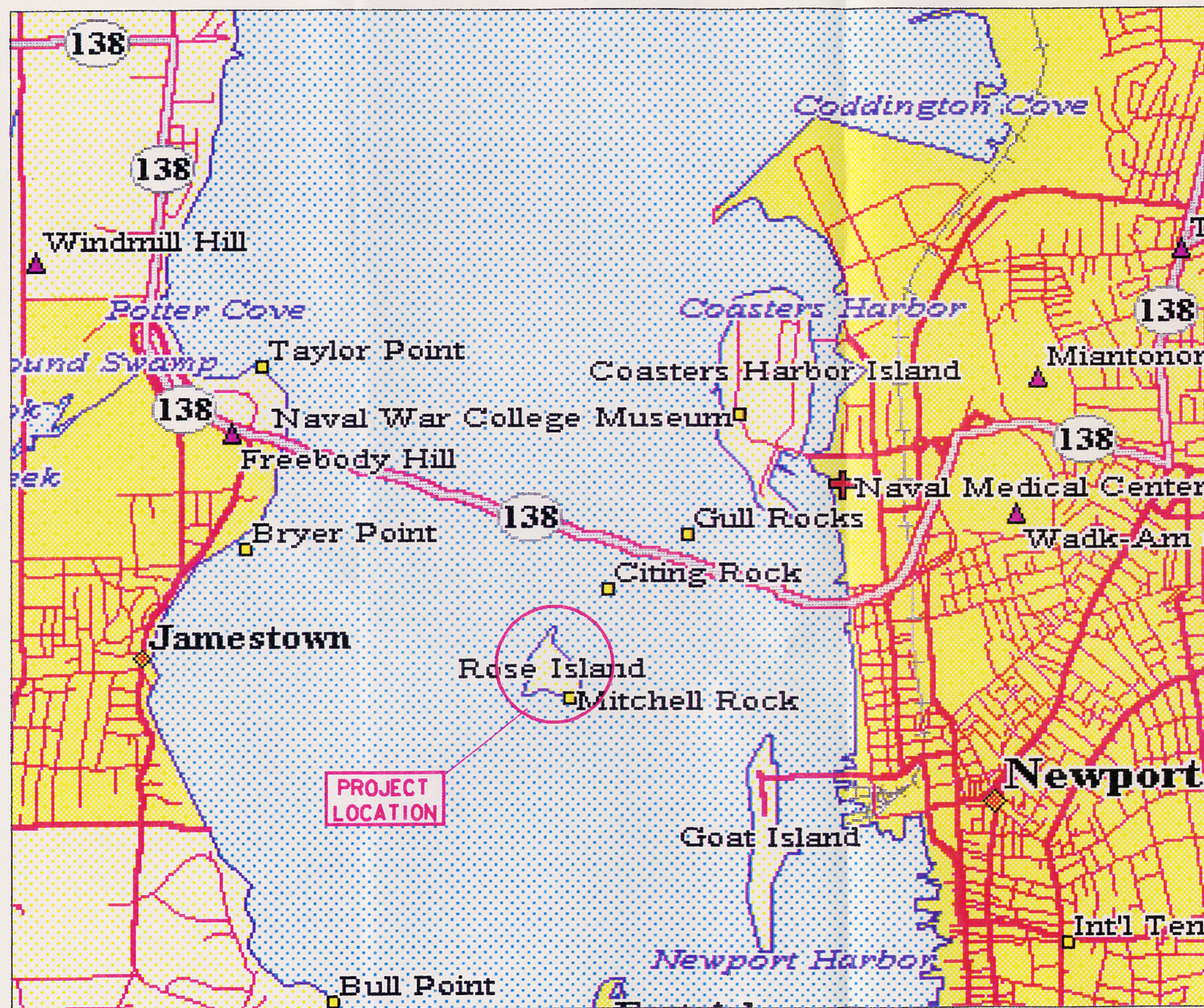
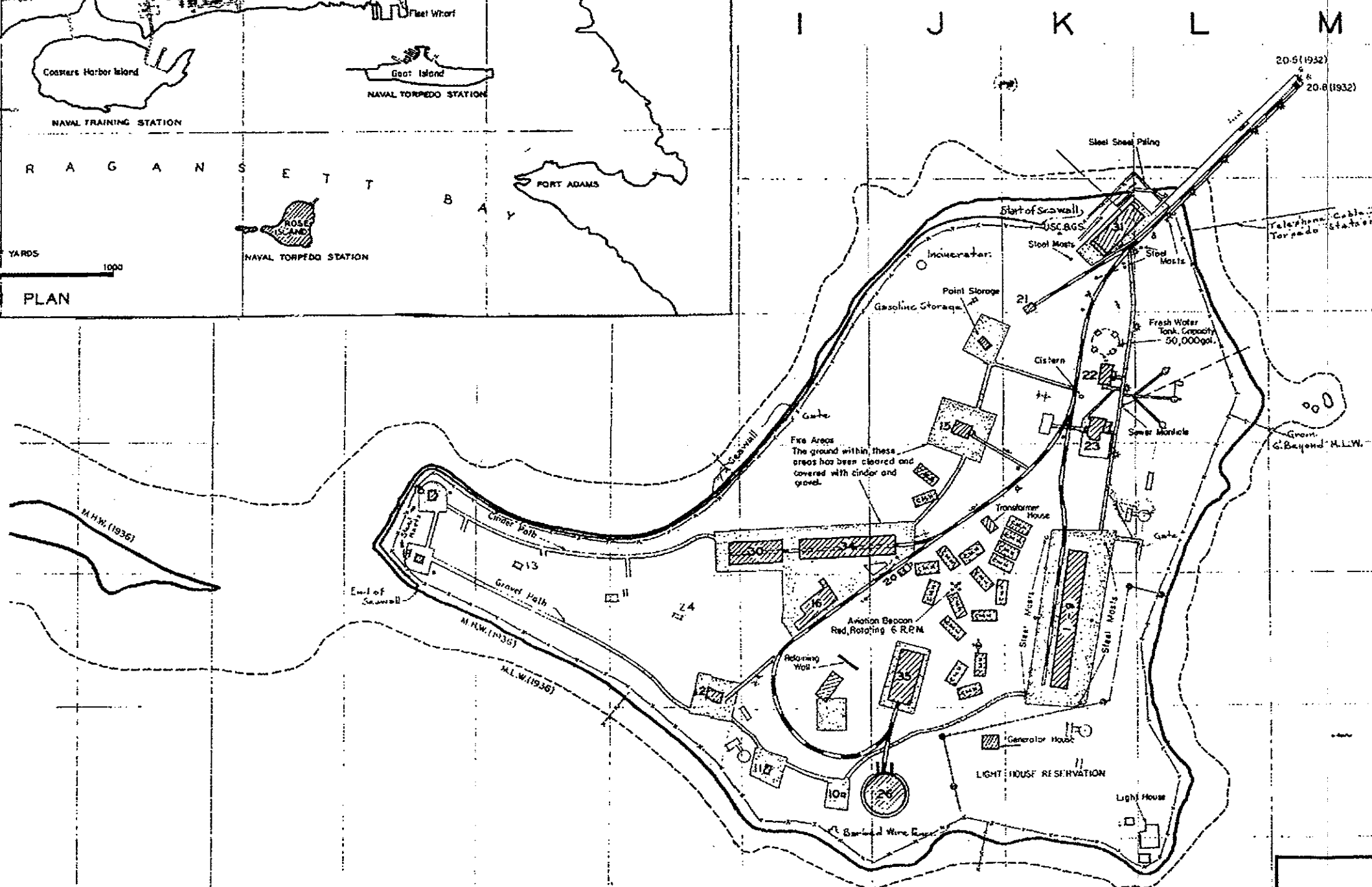
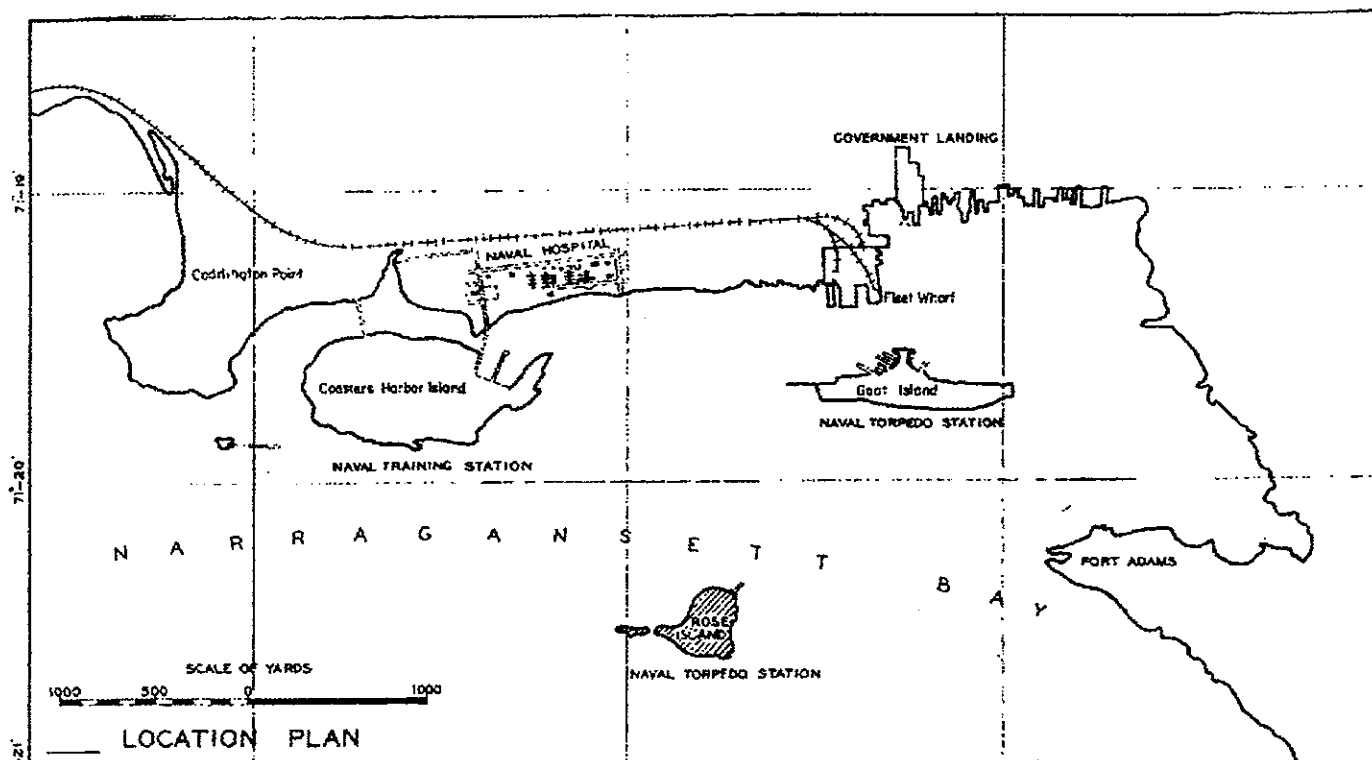


PLATE I

ROSE ISLAND
NAVAL TORPEDO STATION
NEWPORT, RHODE ISLAND
NEWPORT COUNTY
DERP-FUDS #DOIR1041901
VICINITY MAP

NOT TO SCALE

PROJ. DATE: JULY 1995	DATE OF MAP: 1993
19-JUL-1995 12:31	N:\OE\95C\C45\PHOTO\ROSILVIC.DGN



BUILDINGS			
DEPT	NO.	LOC.	DESIGNATION
E	1-9	K-5	Bomb Proof Storehouses
E	10	J-6	Overflow Magazine
E	11	H-5	Storehouse
E	12	H-5	Storehouse
E	13	G-4	Storehouse
E	14	J-3	Storehouse
Ma	15	J-3	Storehouse
Ma	16	J-3	Storehouse
E	17	F-4	Blasting Shelter Room
E	18	F-4	Magazine
Ma	20	J-4	Fire Plug & Chemical Cart
Ma	21	K-2	Transformer House
Ma	22	K-3	Office & Marine Quarters
Ma	23	K-3	Gunnery Quarters
E	24	H-5	Storehouse
E	25	J-6	Magazine
E	26	J-6	Magazine
E	27	J-4	Storehouse
E	28	K-2	T.N.T. Filling House
E	29	J-4	Storehouse
E	30	J-5	Storehouse
Ma	31	J-3	Paint Storage
CMH	J-5		Corrugated Metal Huts

ELEVATIONS	
Extreme High Water	+6.7
Mean High Water	+5.7
Mean Low Water	0.0
Extreme Low Water	-2.0
Land Area	14 ± Acres

LEGEND	
Electric Manhole	□
Electric Light	○
Electric Light on Power Pole	○
Power Pole	○
Hydrant	○
Sewer Line	—
Railroad (Standard Gauge)	—
E=Explosive	Ng=Maintenance
Ma=Maintenance	Mil=Military

PLATE 2

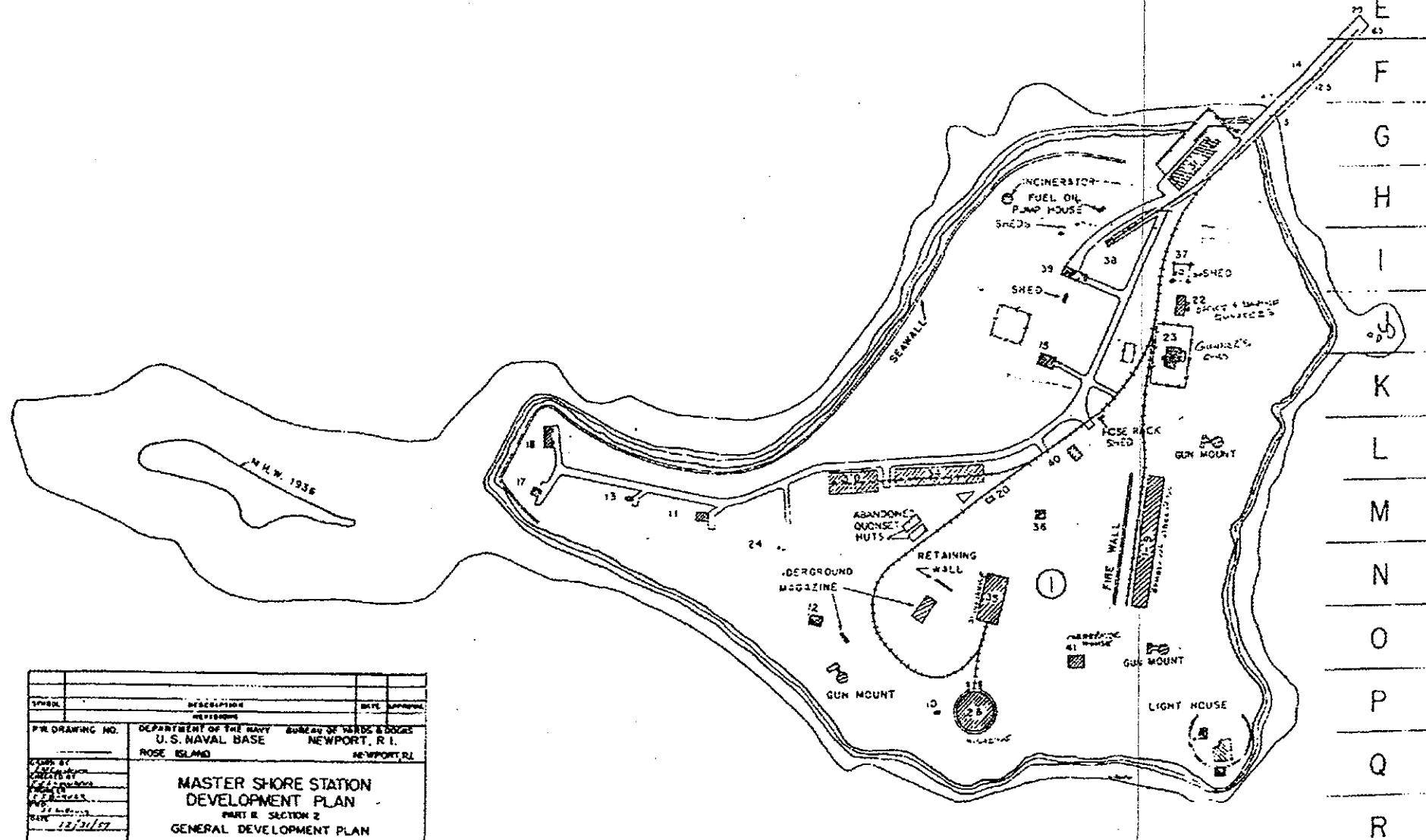
ROSE ISLAND
NAVAL TORPEDO STATION
NEWPORT, RHODE ISLAND
NEWPORT COUNTY
DERP-FUDS *DOIR1041901
SITE PLAN

NOT TO SCALE

PROJ. DATE: JULY 1995 DATE OF MAP: DEC. 31, 1942
02-AUG-1995 13:15 N/0EW95C/C45/MAP/SITEPLAN.DGN & MAINMAP.CIT

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DEPT. SYMBOLS
A ADMINISTRATION
PW PUBLIC WORKS
S STORAGE



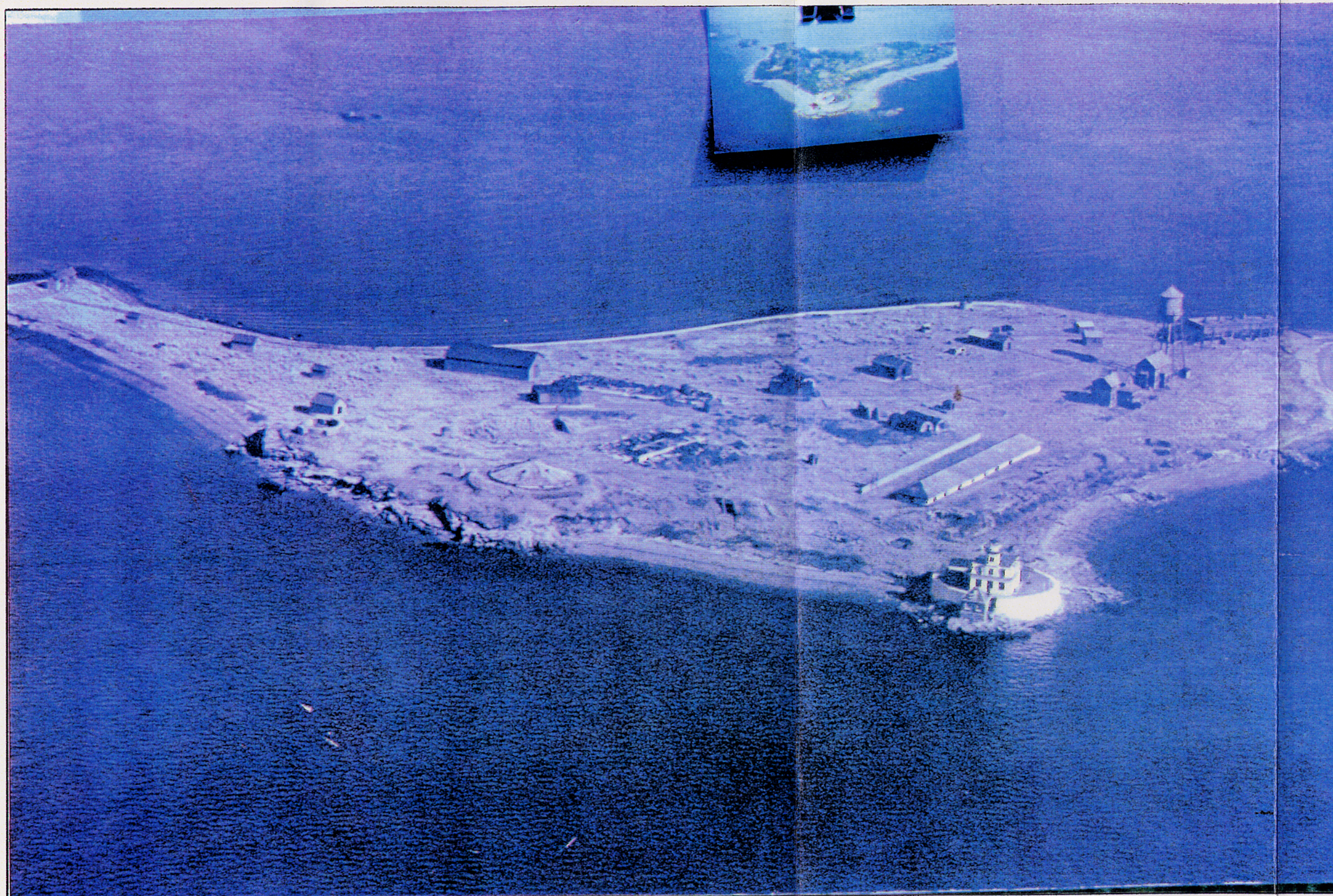
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	REVISIONS	
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COPY TO: NAVY DEPT. BUREAU OF YARDS & DOCKS WASHINGTON D.C. BY DATE 12/31/57	MASTER SHORE STATION DEVELOPMENT PLAN PART B SECTION 2 GENERAL DEVELOPMENT PLAN EXISTING AND PLANNED PEACETIME CONDITIONS AS OF 31 DECEMBER 1957	
APPROVED 11 Feb. 1958 P. J. Newkirk CIC NED CH MGN STA NEW BN	SEAL: GRAPHIC SHEET 1 OF 1 YARDS & DOCKS DWC NO 582037	

PLATE 3

ROSE ISLAND
NAVAL TORPEDO STATION
NEWPORT, RHODE ISLAND
NEWPORT COUNTY
DERP-FUDS #DOIR1041901
DEVELOPMENT PLAN -1958

NOT TO SCALE NOT TO SCALE

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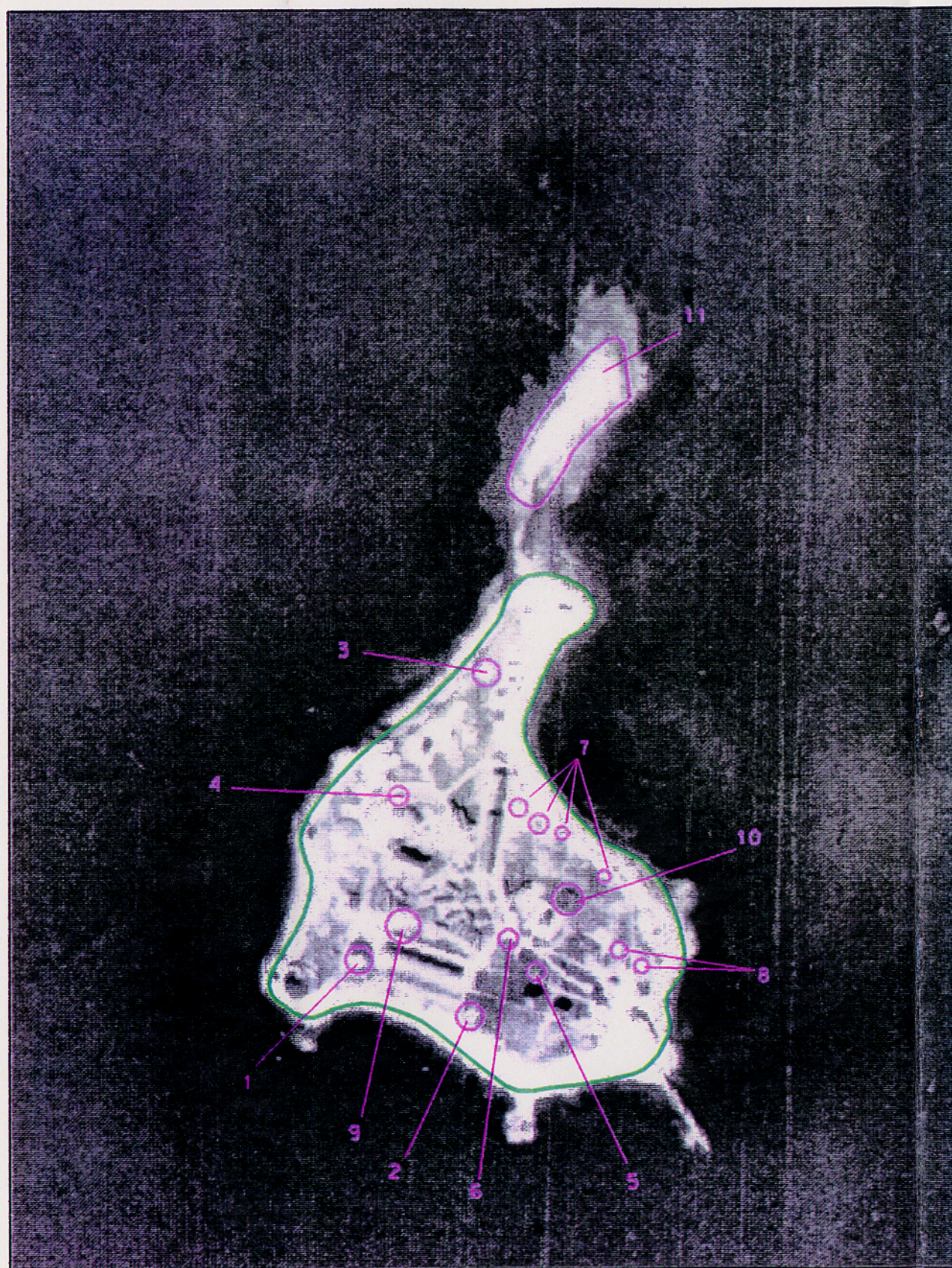
NOTE:
 PICTURE TAKEN OF AERIAL IMAGERY PROVIDED
 BY THE ROSE ISLAND LIGHTHOUSE FOUNDATION.

NOT TO SCALE

PLATE 4

ROSE ISLAND
 NAVAL TORPEDO STATION
 NEWPORT, RHODE ISLAND
 NEWPORT COUNTY
 DERP-FUDS #DOIR1041901
 OBLIQUE AERIAL PHOTO AFTER 1957

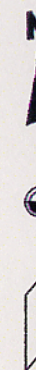
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FEATURE NO.	FEATURE DESCRIPTION
1	SOUTHWESTERN ANTI-AIRCRAFT GUN EMPLACEMENT, READY MAGAZINES IS NOT DISCERNABLE
2	SOUTHEASTERN ANTI-AIRCRAFT GUN EMPLACEMENT, READY MAGAZINES IS NOT DISCERNABLE
3	UNKNOWN STRUCTURE, POSSIBLE 'HOUSE OF DOUBTFUL POWDER' ON 1903 MAP
4	UNKNOWN STRUCTURE, LESS THAN 12' BY 12', LOCATED WEST OF STOREHOUSE #35
5	UNKNOWN STRUCTURE, APPROXIMATELY 20' BY 100' NEAR GUNNERS QUARTERS
6	UNKNOWN STRUCTURE, APPROXIMATELY 15' BY 15' STRUCTURE BETWEEN THE RAIL LINES
7	FOUR UNKNOWN STRUCTURES, LESS THAN 12' BY 12', ALONG UNIMPROVED ROAD; SOUTHEASTERN MOST ONE POSSIBLY A GUN EMPLACEMENT
8	TWO CLEARED PADS NEAR THE TNT FILLING HOUSE (BUILDING #31)
9	SMALL UNKNOWN STRUCTURE, NORTH OF THE FIRE WALL FOR THE BOMB PROOF STOREHOUSE #2
10	GARDEN
11	NORTHERN TAIL OF ISLAND EXPOSED DURING LOW TIDE

LEGEND

- PROJECT BOUNDARY
- FEATURE LOCATION



NOT TO SCALE

PLATE 5

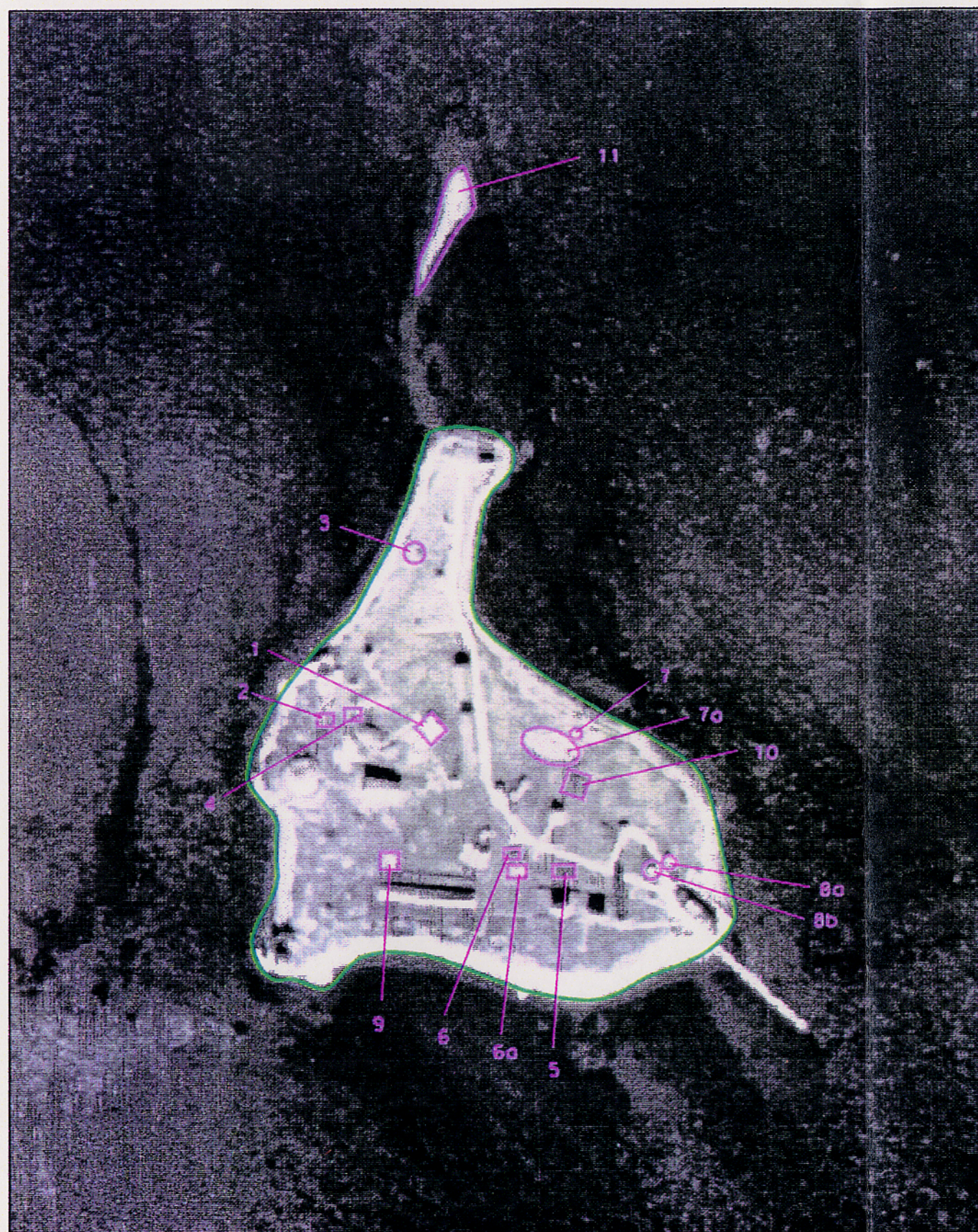
ROSE ISLAND
NAVAL TORPEDO STATION
NEWPORT, RHODE ISLAND
NEWPORT COUNTY
DERP-FUDS #DOIR1041901
AERIAL PHOTO 1942

PROJ. DATE: JULY 1995

DATE OF PHOTO: 1942

9-AUG-1995 08:17

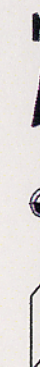
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FEATURE NO.	FEATURE DESCRIPTION
1	TWO QUONSET HUTS WHERE BUILDING 16 WAS
2	FORMER LOCATION OF POSSIBLE DRY GUNCOTTON STRUCTURE (MISLABELED BUILDING *11)
3	UNKNOWN STRUCTURE, POSSIBLE "HOUSE OF DOUBTFUL POWDER" ON 1903 MAP
4	UNKNOWN STRUCTURE, LESS THAN 12' BY 12', WEST OF STOREHOUSE *35.
5	FENCED AREA APPROXIMATELY 30' BY 100' WHERE A UNKNOWN STRUCTURE WAS IN 1942
6	UNKNOWN STRUCTURE, APPROXIMATELY 15' BY 15' STRUCTURE IN BETWEEN THE RAIL LINES
6A	CLEARED AREA
7	UNKNOWN STRUCTURE, LESS THAN 12' BY 12'
7A	IRREGULAR LARGE CLEARED AREA, POSSIBLY BURNED
8A	UNKNOWN STRUCTURE, APPROXIMATELY 20' BY 30' NEAR THE TNT FILLING HOUSE
8B	UNKNOWN STRUCTURE, APPROXIMATELY 30' BY 40' NEAR THE TNT FILLING HOUSE
9	CLEARED AREA NORTH OF THE FIRE WALL FOR THE BOMB PROOF STOREHOUSE, 1942 ERA STRUCTURE MISSING
10	GARDEN, SUNKEN IN THE MIDDLE SEVERAL FEET
11	NORTHERN TAIL OF ISLAND, MOSTLY SUBMERGED

LEGEND

- PROJECT BOUNDARY
- FEATURE LOCATION



NOT TO SCALE

PLATE 6

ROSE ISLAND
NAVAL TORPEDO STATION
NEWPORT, RHODE ISLAND
NEWPORT COUNTY
DERP-FUDS *DOIR1041901
AERIAL PHOTO 1951

PROJ. DATE: JULY 1995

DATE OF PHOTO: 1951

10-AUG-1995 15:11

N/OEW95C/C45/PHOTO/ROSE51.DGN & EXT



FEATURE NO.	FEATURE DESCRIPTION
1	LIGHT HOUSE
2	BOMB PROOF STOREHOUSES (BUILDINGS *1-9)
3	WATER TOWER, ON IT'S SIDE
4	PLANKS OF DOCK MISSING BUT PIERS STILL VISIBLE
5	ROOF OF CIRCULAR MAGAZINE (BUILDING *26) DILAPIDATED
6	NORTHWEST AND SOUTHEAST ANTI-AIRCRAFT GUN EMPLACEMENTS. SOUTHWESTERN GUN MOUNTS NO LONGER VISIBLE
7	AREA OF PONDED WATER, APPEARED DRY ON PREVIOUS IMAGERY DATES
8	FACE OF THE OLD QUARRY, AS SHOWN ON THE 1903 MAP, IS CLEARLY DISCERNABLE
9	METAL DEBRIS AROUND THE NORTHWEST END OF TNT FILLING HOUSE (BUILDING *31)
10	CLEAR AREA SURROUNDED BY TREES

LEGEND

- PROJECT BOUNDARY
- FEATURE LOCATION



NOT TO SCALE

PLATE 7

ROSE ISLAND
NAVAL TORPEDO STATION
NEWPORT, RHODE ISLAND
NEWPORT COUNTY
DERP-FUDS *D0IR1041901
AERIAL PHOTO 1986

PROJ. DATE: JULY 1995

DATE OF PHOTO: 1986

10-AUG-1995 15:25

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