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ACTION MEMORANDUM FOR TIME CRITICAL REMOVAL ACTION OF MUNITIONS AND
EXPLOSIVES OF CONCERN AND MATERIAL POTENTIALLY PRESENTING AND
EXPLOSIVE HAZARD MOVING TARGET MORTAR RANGE SOUTH DAM NECK ANNEX NAS
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Naval Air Station Oceana

Action Memorandum for Time Critical Removal Action of Munitions and Explosives of Concern and Material Potentially Presenting an Explosive Hazard Moving Target Mortar Range - South

Naval Air Station Oceana – Dam Neck Annex, Virginia Beach, Virginia

November 2016

Purpose

This Action Memorandum documents, for the Administrative Record, the **Department of Navy (DON)** decision to undertake a **Time-Critical Removal Action (TCRA)** at **munitions response site (MRS) Moving Target Mortar Range – South (MTMR-S), unexploded ordnance (UXO) 07**, located at **Dam Neck Annex (DNA)** of **Naval Air Station (NAS) Oceana** in Virginia Beach, Virginia pursuant to the Navy's authority under CERCLA Section 104. The MTMR-S has been identified for a TCRA in an area where **munitions and explosives of concern (MEC)** and **material potentially presenting an explosive hazard (MPPEH)** were identified in the subsurface during the geophysical survey and subsequent intrusive investigations of subsurface geophysical anomalies. These investigations were completed during the Site Inspection (SI) and Remedial Investigation (RI) conducted between 2010 and 2014. The TCRA is focused on the removal of potential MEC/MPPEH items prior to the military construction (MILCON) activities associated with the building construction (MILCON Project P-815). The TCRA will be performed in an approximately 20 acre area (**Figure 1**), most of which is located within the former MTMR-S firing line and the suspected impact area (**Figure 2**). Within the construction area there is a potential for subsurface munitions to pose an explosive hazard to the construction workers and base personnel.

The TCRA is being implemented under the authority of the **Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)**, as amended. The DON has broad authority under CERCLA Section 104 and Executive Order 12580 to carry out removal actions when the release is on, or the sole source of the release is from a DON installation. This TCRA is being conducted as part of the DON's **Munitions Response Program**.

Site Conditions and Background

NAS Oceana is located along the Atlantic Ocean, within the southeastern portion of the city of Virginia Beach, Virginia (**Figure 1**). The installation encompasses just over 5,300 acres. In addition, NAS Oceana maintains control over several annex properties (including DNA). DNA is located approximately 5 miles southeast of NAS Oceana and covers approximately 1,400 acres. The MTMR-S is an MRS located in the southeastern portion of DNA, as shown in **Figure 2**. The MTMR-S range was used as a small arms firing range

and moving target mortar range in the 1940s and 1950s and comprises 47 acres. Based on the range boundaries and period of use, probable munitions used at the MTMR-S include .30- and .50-caliber small arms ammunition items and 60-millimeter (mm) and 81-mm mortars. The MTMR-S is not surrounded by a gate or fencing, but is within the confines of DNA and general public access is restricted; however, Navy and Department of Defense personnel have access to the MTMR-S.

Current Land Use: MTMR-S currently consists of developed and undeveloped areas. Undeveloped and moderately wooded areas are located on the western and southern portion of the site. Currently, the DNA helicopter pad and supporting facilities are located on the northeastern portion of the site.

Future Land Use: Proposed MILCON construction (MILCON Project P-815) includes a Helo-Pad, Drop Pad, Ready Service Lockers, a Target Maintenance Building, a Range Launch Site, and Center of Gravity Building.

Cultural Resources: There are no cultural resources located within the MTMR-S.

Investigation History: Based on a review of historical documents and information obtained during the Preliminary Assessment (Malcolm Pirnie, 2008), the MTMR-S was identified as a "suspected" MEC area due to previous use as a moving target machine gun range and mortar range. Potential munitions fired in this area include 60-mm and 81-mm projectiles and small arms ammunition (SAA). Calculated Maximum Penetration Depths for a 60-mm and 81-mm in sandy soil are 13.2 inches and 32.4 inches, respectively (USACE, 1998).

A Site Inspection (SI) was conducted in 2010 to evaluate the potential presence of MEC at the MTMR-S (CH2M, 2011). Four fragments of munitions (munitions debris [MD]) from 81-mm projectiles were discovered in the subsurface (18 inches below native ground surface maximum depth) in the southeast corner of the MTMR-S and were classified as **material documented as safe (MDAS)**. Based on these findings, the results of the SI recommended that an RI be performed.

In 2013 and 2014, a digital geophysical mapping (DGM) survey was conducted during the RI and identified 2,496 anomalies indicative of subsurface metallic material. A total

of 735 anomalies were selected for intrusive investigation. The following MEC/MPPEH and SAA were discovered during RI activities:

- One Projectile, 60-mm, M49A2 (fuzed) classified as MEC (10 inches below native ground surface)
- 49 expended Projectiles, 60-mm, M49A2 (munitions debris) classified as MDAS (16 inches below native ground surface maximum depth)
- Two Bombs, 25-pound, Practice, BDU-33 classified as MDAS (18 inches below native ground surface maximum depth)
- 119 expended SAA classified as MDAS (19 inches below native ground surface maximum depth)

In 2015, an Advanced Geophysical Classification (AGC) Survey was conducted to support MILCON activities. The following MEC/MPPEH and SAA were discovered during the AGC activities:

- Six Projectile, 60-mm, high explosive (HE) (fuzed) classified as MEC (13 inches below ground surface (includes subgrade) maximum depth)
- Five expended Projectile, 60-mm, M49A2 (munitions debris) classified as MDAS (15 inches below ground surface (includes subgrade) maximum depth)
- Seven expended SAA classified as MDAS (17 inches below ground surface (includes subgrade) maximum depth)

The location of MEC/MPPEH discovered during RI and AGC activities (excludes SAA) is presented in Figure 3. The MEC removed during these activities were destroyed through controlled, intentional detonations. The resulting munition debris (MD) as well as the additional MD removed was inspected and classified as MDAS prior to disposal at an offsite recycling facility.

The focus of the TCRA identified herein will be the intrusive investigation, removal, and disposal of MEC/MPPEH based on the results of geophysical surveys within an approximate 20-acre portion of the MRS.

Role of State and Local Authorities

The Navy will be the lead agency; the **U.S. Environmental Protection Agency (USEPA)** and the **Virginia Department of Environmental Quality (VDEQ)** will continue to be consulted as part of the NAS Oceana Munitions Response Program Team until actions addressing the MRS are complete.

Threats to Public Health or Welfare or the Environment, and Statutory and Regulatory Authorities

In accordance with the National Contingency Plan, the following threat applies to conditions at the MTMR-S:

[Title 40 of the **Code of Federal Regulations (CFR)**, Part 300.415(b)(2)(vi)] – Threat of fire or explosion. MEC/MPPEH,

if present, may pose an immediate explosive safety threat for the public and construction workers at the site if the removal action is not taken.

Endangerment Determination

The potential presence of MEC/MPPEH poses an imminent explosive safety threat to the construction workers and base personnel.

The DON is conducting this TCRA to remove the identified threat from MEC/MPPEH items before the start of activities associated with the MILCON P-815 Project.

Proposed Actions and Estimated Costs

Proposed Action

Under Executive Order 12580, the President delegates authority to undertake CERCLA response actions to the DoD. Congress further outlined this authority in the Defense Environmental Restoration Program (DERP) Amendments, under 10 United States Code (USC) Sections 2701 through 2705. This TCRA will be implemented by the DON, using their removal action authority under CERCLA Section 104 and Executive Order 12580. The removal action objective established for the TCRA at the MTMR-S is the removal and disposal of subsurface MEC and MPPEH.

Proposed Action Description

The overall scope of the proposed action is to perform intrusive investigations, removal, and disposal of MEC/MPPEH from anomalies identified utilizing electromagnetic (EM)/magnetometer (Mag) detection techniques. The scope of removal activities includes: 1) support site preparation activities employing anomaly avoidance; 2) perform a subsurface anomaly detection and removal operation (utilizing EM/Mag and Dig) to a total depth of 36 inches below grade of native soil; 3) manage and dispose of recovered MEC and MPPEH; and 4) certify 'clean' soil prior to disposal offsite. The TCRA will include reporting, management, and disposition of MEC, MPPEH, MDAS, and non-munitions-related debris.

The TCRA activities will be performed in accordance with an Explosives Safety Submission approved by the Department of Defense Explosives Safety Board. A TCRA Closeout Report will be provided at the completion of the TCRA to document findings and the removal and disposition of MEC/MPPEH. The removal action activities will be evaluated by the NAS Oceana Munitions Response Program Team to determine future actions at the MRS.

Applicable or Relevant and Appropriate Requirements

In accordance with 40 CFR 300.415(j), the TCRA documented in this Action Memorandum will comply with **Applicable or Relevant and Appropriate Requirements (ARARs)** to the extent practicable, considering the exigencies of the situation. Waivers of these requirements may also be obtained, if appropriate. ARARs are promulgated and enforceable federal and state regulations that address on-site

circumstances and actions only. Offsite actions are subject to all applicable regulation and are not addressed in this section. There are three types of ARARs - chemical specific, location specific, and action specific. No chemical-specific ARARs were identified for this removal action. Activities performed on-site and in compliance with CERCLA are not subject to administrative review or permitting. The following location-specific ARARs have been identified:

- The Migratory Bird Treaty Act [Title 16 of the **United States Code (USC)**, Section 703] is applicable because the MRS is located within the Atlantic Migratory Flyway. If migratory birds, or their nests or eggs are identified at the site, operations will not destroy the birds, nests, or eggs.
- The Endangered Species Act Regulations (50 CFR 402) are applicable for this action since portions of the MRS are habitat for protected species and evidence of protected species has been observed. Since protected species have been identified on the installation, the Department of Navy will enter into an informal consultation in regards to this action to protect any Federally listed species that may be on site.
- The Coastal Zone Management Act Regulations [15 CFR 930.33(a)(1), (a)(2), (b); .35(a), (b); .36(a)] are applicable because this site is located within the coastal zone of the state of Virginia. Activities that will affect Virginia's coastal zone will be consistent to the maximum extent practicable with Virginia's enforceable policies. Activities performed on-site and under the authority of CERCLA are not subject to administrative review; however the substantive requirements of making a consistency determination will be met.
- The Coastal Primary Sand Dune Protection Act regulations [Title 4 of the **Virginia Administrative Code (VAC)** Section 20-44-10(C)(2), (3), and (4)] are relevant and appropriate in the area of the MRS that is within the Dune Management Area. Access to the dunes within this area will be limited to non-vehicular, temporary traffic. No cuts will be made through to dunes and no roads or trails will be constructed. Sand will not be relocated to the extent practicable. Activities performed on-site and under the authority of CERCLA are exempt from permitting.

The following action-specific ARARs have been identified:

- The Nationwide Permit Program regulations [33 CFR 330.4(a)] combined with the substantive requirements of Nationwide Permit 38 are applicable for the excavation and backfill of 0.5 acres of wetland that will be required during the action. Activities taken entirely by authority of CERCLA are not required to obtain permits or authorizations, however the substantive requirements will be met. Nationwide Permit 38 is a type of general permit that authorizes wetland

disturbance associated with the containment, stabilization, or removal of hazardous or toxic waste when such removals are performed, ordered, or sponsored by a government agency with established legal or regulatory authority. Excavated wetland areas will only be backfilled with suitable material that is free from toxic pollutants in toxic amounts as defined by Section 307 of the Clean Water Act. Erosion and Sediment controls will be utilized where appropriate to maintain water quality both in impacted and downstream areas. Excavated wetland areas will be returned to their pre-excavation conditions such that there is no net loss of onsite wetland area.

- Virginia Solid Waste Management Regulations [9 **Virginia Administrative Code (VAC)** 20-81-95(D)(10)(b)] are applicable for this action and identify the standards for managing non-hazardous solid wastes. Once MEC/MPPEH has been demilitarized on-range and is declared MDAS, it becomes subject to these rules. MDAS will be stored in appropriate containers and will be shipped offbase for recycling at a properly permitted facility. Other nonhazardous wastes that may be generated will be containerized and disposed of offsite. All non-hazardous waste will be shipped offsite for disposal or recycling within 90 days.
- Regulations for the Control of Fugitive Dust/Emissions (9 VAC 5-50-90) are applicable to this action. Reasonable dust control measures will be implemented, while conducting any activity that may cause particulate matter to become airborne.
- Virginia Erosion and Sediment Control Regulations [9 VAC 25-840-40(1); (2); (3); (4); (17); (18); (19)(h), (i)] are applicable for the removal action, because more than 10,000 square feet of land will be disturbed during the work. Appropriate erosion control measures will be implemented for the construction activities in order to prevent the migration of soil during the removal action.
- The Virginia Stormwater Management Program Regulations [9 VAC 25-870-54(A), (B), and (D); 55 (B)(1-8)] are applicable for this action because one acre or more of land will be disturbed during the work. Therefore, storm water pollution prevention best management practices will be implemented during construction. Activities performed on-site and in compliance with CERCLA are not subject to administrative reviews or permitting; however the substantive requirements of the regulations and permit will be followed.
- The Virginia State Water Control Law Regulations [9 VAC 25-210-116(C)(2)(d)] are applicable for this work because 0.5 acres of wetland area will be excavated during the action. The area will be restored to pre-excavation conditions such that there is no net loss of wetlands at the site.

Project Schedule

The intrusive activities associated with the TCRA at the MTMR-S are expected to begin in November 2016 with completion dependent on the ongoing building demolition and removal of existing structures onsite. Completion of the TCRA is anticipated by January 2019.

Estimated Costs

The estimated costs for the proposed TCRA, borne by the DON, are \$1,038,000 including work planning documents, field work, and reporting.

Following completion of the TCRA, the results regarding the intrusive investigation, removal and disposal of MEC/MPPEH will be presented within a TCRA Closeout Report. In addition, the TCRA results will be included as part of the future remedial investigation for the overall MRS.

Expected Change in the Situation Should Action Be Delayed or Not Taken

If no action is taken or if the action is delayed, MEC/MPPEH potentially present at the MTMR-S will present an explosive safety hazard to current and future onsite workers. The future land use is same as current use; however, the tenant command is expanding and updating its facilities to support its mission.

Outstanding Policy Issues

There are no outstanding policy issues.

Enforcement

The DON has taken responsibility for development and implementation of the TCRA. The TCRA at the MTMR-S meets the substantive requirements of the ARARs and governing regulations.

Recommendation

The purpose of this Action Memorandum is to recommend a TCRA to protect the health and safety of the construction workers and base personnel by the removal of MEC/MPPEH at the Moving Target Mortar Range, South prior to MILCON construction activities associated with expanding and updating its current facilities.

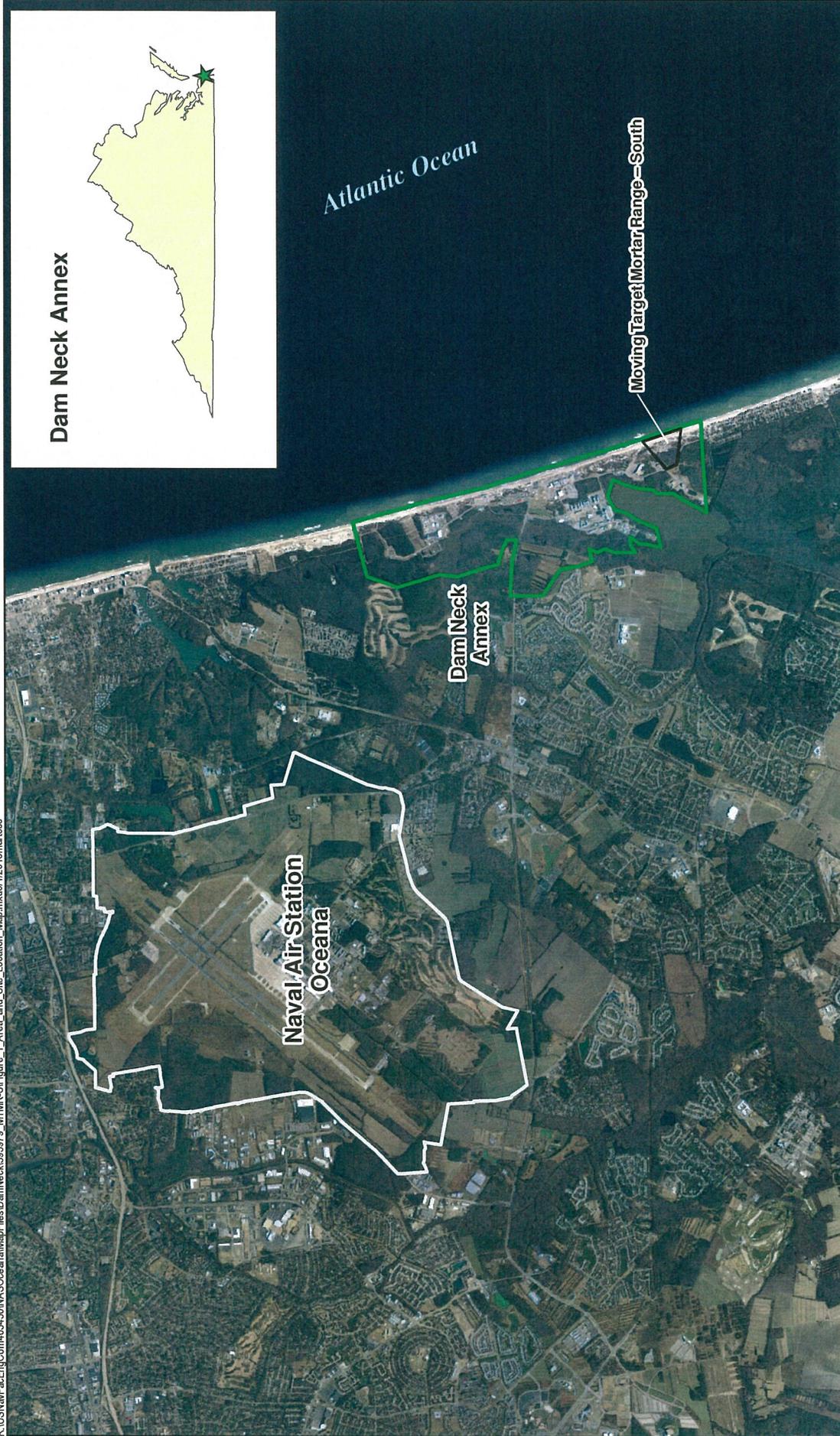
This decision document was developed in accordance with the CERCLA and is not inconsistent with the National Contingency Plan. This decision is based on information available in the Administrative Record for the munitions response.



Richard J. Meadows
Captain, U.S. Navy
Commander, Naval Air Station Oceana

14 NOV 2016
Date

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Dam Neck Annex

Naval Air Station
Oceana

Dam Neck
Annex

Moving Target Mortar Range - South

Atlantic Ocean

Legend

-  MRS Site
-  NAS Oceana Boundary
-  Dam Neck Annex Boundary



Figure 1
Area and Site Location Map for the MTMR-S
Dam Neck Annex - Naval Air Station Oceana
Virginia Beach, Virginia

November 2016

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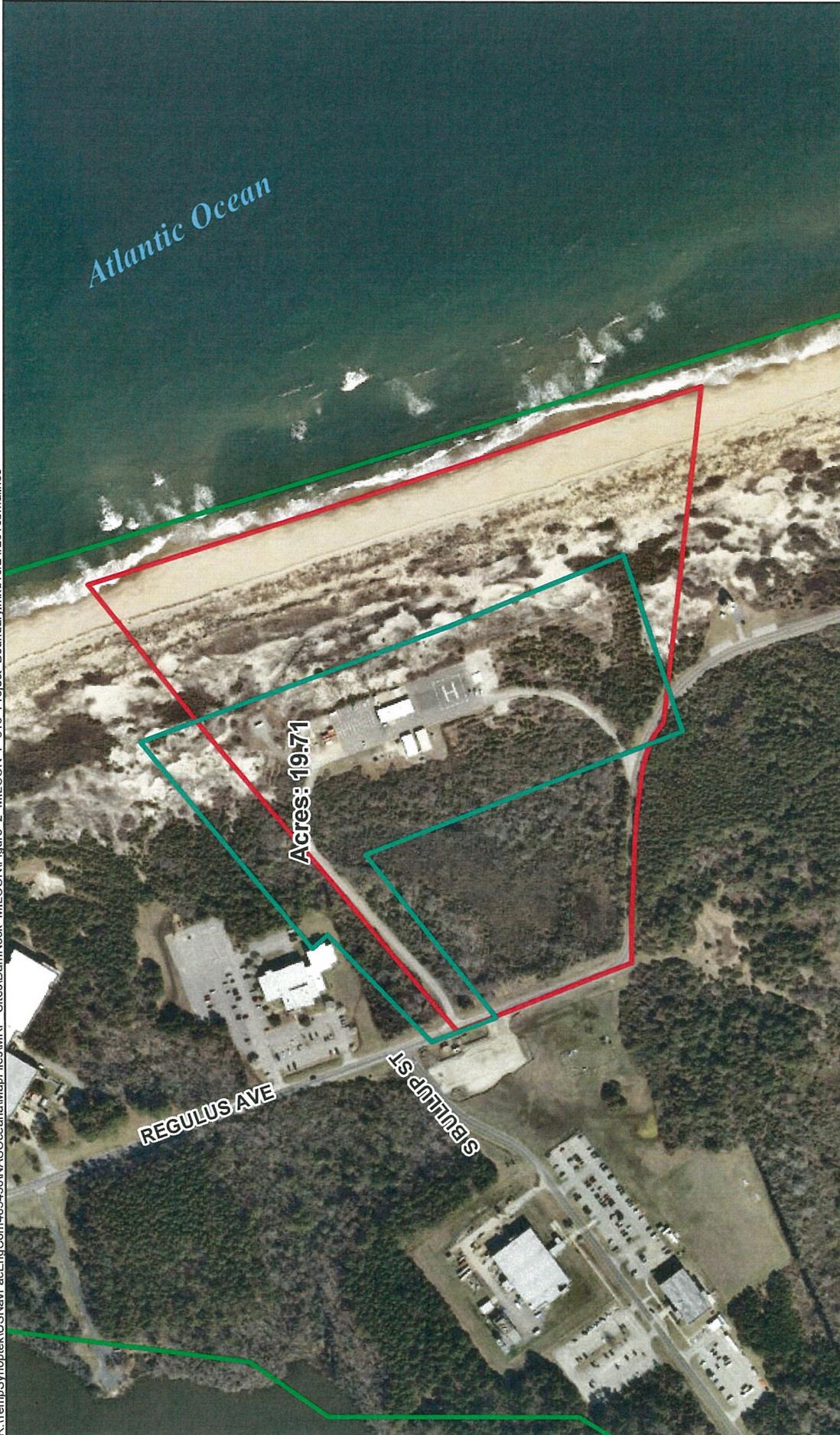


Figure 2
 MILCON P-815 Project Boundary
 Action Memorandum
 NAS Oceana: MTMR-S
 Virginia Beach, Virginia



Legend

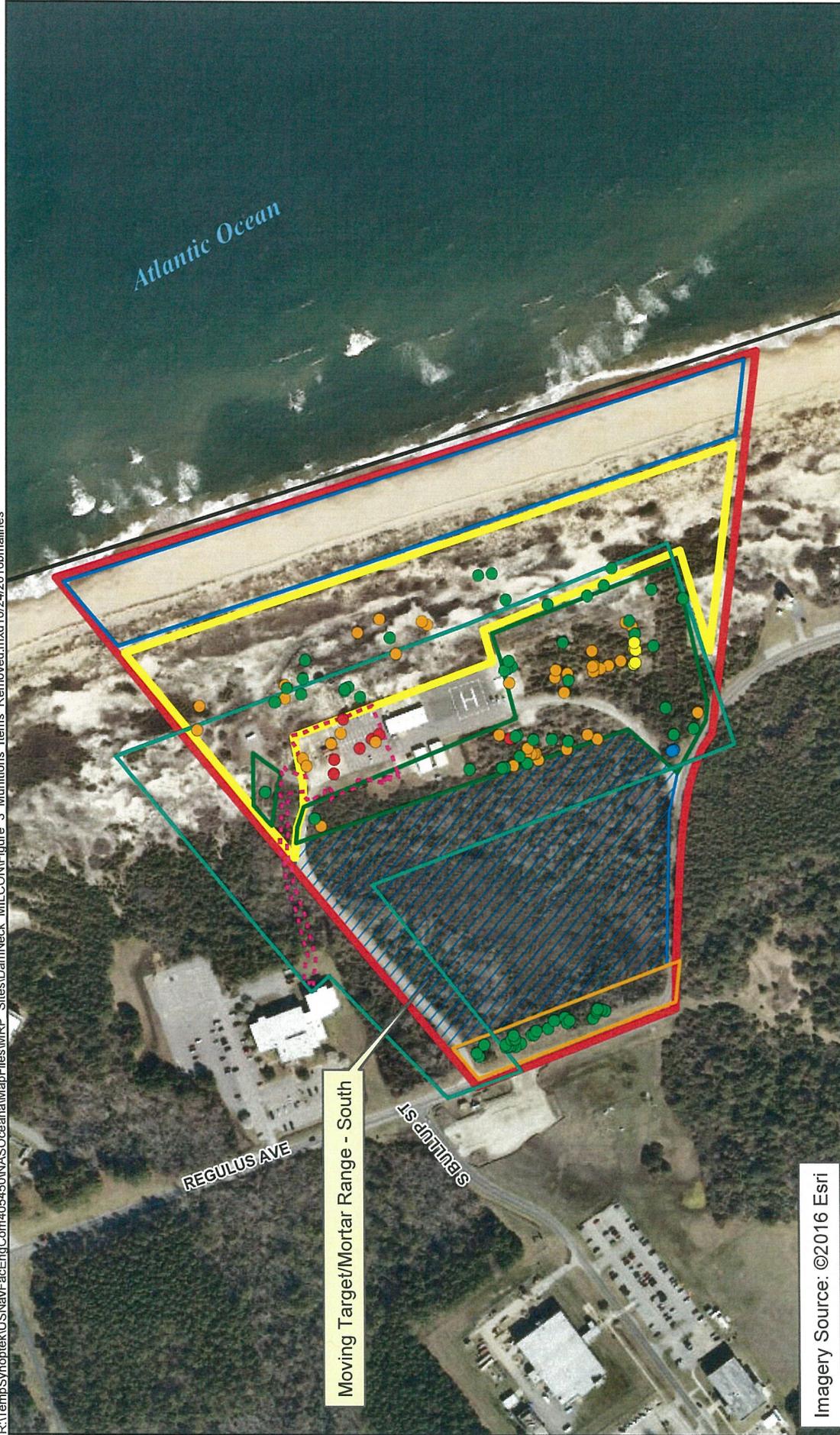
- ▭ MRS Boundary
- ▭ Dam Neck Annex Boundary
- ▭ MILCON P-815 Project Boundary

North Arrow: N, S, E, W

Scale: 0, 200, 400 Feet

Imagery Source: ©2016 Esri

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Imagery Source: ©2016 Esri

- Legend**
- Projectile, 81-mm Debris
 - Projectile, 60-mm, M49A2
 - Small Arms Ammunition, .50 caliber (MDAS)
 - Bomb, BDU 33 (MDAS)
 - Projectile, 60-mm Debris
 - Wetlands
 - MRS Boundary
 - Installation Boundary
 - 2015 Phase 1 Advanced Geophysical Classification Survey Area
 - MILCON P-815 Project Boundary
 - Areas of Investigation
 - Firing Line
 - Suspected Impact Area
 - Grassy Dunes
 - Beach

0 175 350 Feet
 November 2016

Figure 3
 Location of Munitions Items Removed during Previous Investigations
 Action Memorandum
 NAS Oceana: MTMR-S
 Virginia Beach, Virginia

