



U.S. Army Corps of Engineers Proposes Remediation and Requests Public Comments

Former Cape Poge Little Neck Bomb Target
Formerly Used Defense Site (FUDS)

Martha's Vineyard, Massachusetts

November 14, 2014

Text in bold italics indicates that a word/phrase is included in the glossary at the end of this Proposed Plan.

MARK YOUR CALENDAR!

The U.S. Army Corps of Engineers will hold a **public meeting** to explain the preferred remedial alternative and proposed plan with an opportunity to ask questions.

Public Meeting

Date: December 3, 2014

Time: 6:30 – 8:00 p.m.

Place: Lower Level Baylies Room
89 Main St.
Edgartown, MA

We invite your questions and comments at the public meeting or in writing during the public comment period, 17 November to 19 December, 2014.

Public Comment Period

17 November – 19 December, 2014

Comments must be postmarked or e-mailed by midnight 19 December, 2014. You can comment orally at the meeting or in writing by mail or e-mail to:

AMEC Environment & Infrastructure, Inc.

ATTN: Ms. Donna Sharp

9725 Cogdill Road

Knoxville, Tennessee 37932

donna.sharp@amec.com

If you have any questions regarding this project at any time, please feel free to contact the Corps Project Manager, Ms Carol Ann Charette at 978-505-2918.

Project Information Repository

This Proposed Plan is available in the project **information repository**, at the **Edgartown Public Library**. This repository contains technical reports and community outreach material prepared for the **Former Cape Poge Little Neck Bomb Target Land and Inland Water MRSs**.

This Proposed Plan is presented by the USACE to facilitate public involvement to review and comment in the remedy selection process at the Former Cape Poge Little Neck Bomb Target Munitions Response Area. The United States (U.S.) Army Corps of Engineers (USACE) is proposing "***Subsurface Clearance***" as the preferred alternative for two ***Munitions Response Sites (MRSs)*** within the Former Cape Poge Little Neck Bomb Target ***Munitions Response Area (MRA)***, Formerly Used Defense Site (FUDS), Project Number D01MA0595, located on Martha's Vineyard, Massachusetts (see Figure 1). No Action is proposed for the Remaining Land MRS where no risk was identified. The proposed remediation is designed to protect people from coming in contact with ***munitions and explosives of concern (MEC)*** at the Land MRS and the Inland Water MRS.

The FUDS program addresses the potential explosives safety, health, and environmental issues resulting from past munitions use at former defense sites under the Department of Defense (DoD) ***Military Munitions Response Program***, established by the U.S. Congress under the ***Defense Environmental Restoration Program***. The FUDS program only applies to properties that transferred from DoD before October 17, 1986. The Army is the executive agent for the FUDS program, and USACE is the program's lead agency with Massachusetts Department of Environmental Protection (MassDEP) as the regulatory agency. In fulfilling its obligations under FUDS, the first priority of USACE is the protection of human health, safety, and the environment.

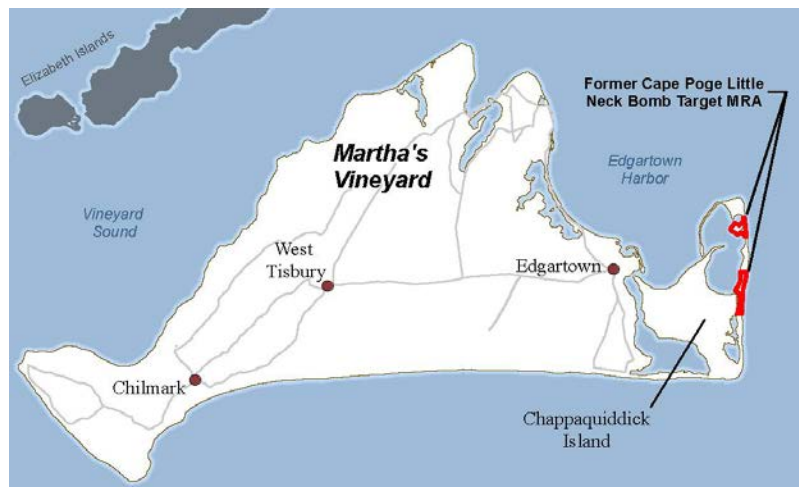


Figure 1 – Site Location

The FUDS program follows the requirements of the ***National Oil and Hazardous Substances Pollution Contingency Plan***¹(NCP) and the ***Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)*** of 1980 and its amendments of 1986. This ***Proposed Plan*** is prepared to be consistent with the requirements of Title 40 Code of Federal Regulations (CFR) Section 117(a) of CERCLA, Section 300.430(f)(2) of the NCP, and the U.S. Environmental Protection Agency (EPA) guidance.

¹ *Section 300.430(f)(1)(ii) and 300.430(f)(4)(i) of the NCP requires public participation in the process of approving a proposed decision document. This Proposed Plan summarizes the technical documents available in the project information repository located at the Edgartown Public Library [58 North Water Street, P.O. Box 5249, Edgartown, MA 02539].

USACE will select a final remedy for the Former Cape Poge Little Neck Bomb Target MRA after considering all state and public comments. The public is also encouraged to review supporting technical documents and community outreach material that are available in the project **information repository**, located at the Edgartown Public Library. This project information repository provides copies of documentation included in the **Administrative Record file** for the MRA. The official Administrative Record file for the Former Cape Poge Little Neck Bomb Target MRA is located at the USACE, New England District 696 Virginia Road, Concord, Massachusetts 01742-2751, and is maintained by USACE. The selected remedy will be announced in a local newspaper public notice and in the final **decision document**.

The Proposed Plan describes the remedial alternatives considered for the Land MRS and the Inland Water MRS (shown below on Figure 2) and identifies the remedial alternatives. The public has until 19 December, 2014, to comment on the Proposed Plan. See the Mark your Calendar! box on Page 1 to find out how to submit your opinion.

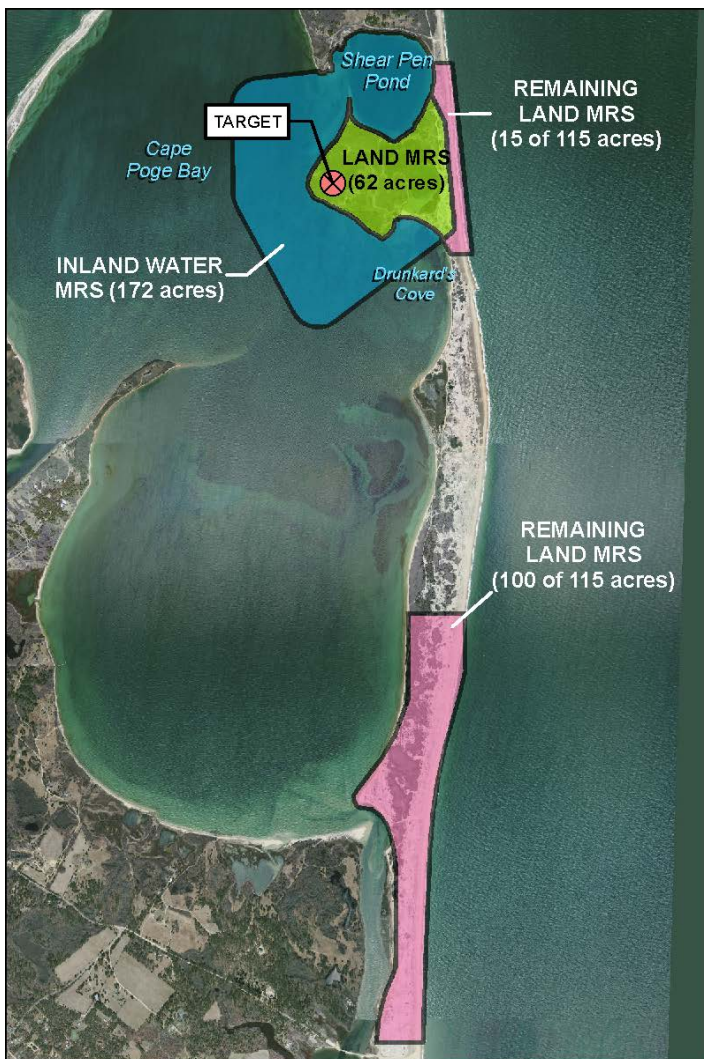


Figure 2 – Former Cape Poge Little Neck Bomb Target Site Land and Inland Water MRSs

ABOUT THE FORMER CAPE POGE LITTLE NECK BOMB TARGET LAND AND INLAND WATER MRSs

Between 1944 and 1947, the target was used for day and night practice bombing activities using water-filled bombs, miniature bombs, and flares. Practice bombs were used with signals (also called spotting charges) that would permit pilots to observe bombing accuracy. The signals contained expelling charges and marker charges composed of pyrotechnic mixtures. Upon impact with water or land, the signal would detonate, producing a flash and a large puff of smoke. Since the end of military operations in 1947, practice bombs, primarily consisting of the AN-Mark (MK) 23 containing spotting charges have been found at the MRA by the public. Due to the practice bomb spotting charges, a potential explosive hazard to the public exists at the MRSs.

In July 2008, USACE established the projects eligibility of 141 acres around the target as a FUDS property in an Inventory Project Report. As a result of establishing the area as a potential MEC hazard, a visual survey was conducted by USACE in November 2008. The survey, conducted by qualified **Unexploded Ordnance (UXO)** technicians, covered approximately 15,300 linear feet (ft) of beach, which was approximately 31 ft wide. A metal detector was used to assist with the visual search, clear flooded blast holes, and help identify unknown items. The visual survey resulted in the discovery, identification, removal, and storage of practice bomb debris, which were safe to move and did not require demilitarization.

In February 2009, the USACE, St. Louis District prepared a Draft Preliminary Assessment (PA) for the Former Cape Poge Little Neck Bomb Target Site. The PA was compiled through research and analysis of historical text, maps, and photographs from various archives and records holding facilities. Additionally, property visits and interviews were conducted to collect information concerning the subject property. This assessment was performed to obtain information regarding historical for usage of the site.

Between 18 April and 25 September 2009, a **Time Critical Removal Action (TCRA)** was conducted at the Former Cape Poge Little Neck Bomb Target. The

removal action was conducted on approximately 46 acres within the MRA. During clearance operations, 127 *munitions debris (MD)* items were removed to a depth of 1 foot.

From April 2010 to 2014, USACE has responded to multiple emergency calls associated with potential ordnance. Items discovered were determined to be free of explosive hazard (MD) and were removed and secured.

The 2011 FUDS *Remedial Investigation (RI)* conducted in accordance with CERCLA identified MEC in the form of MK 23s and a significant amount of MD in the vicinity of the target. During the RI, metallic items were identified within the subsurface of the MRA and then determined to either pose an explosive hazard or deemed safe. The RI was conducted on upland, shoreline and offshore areas to collect data necessary to determine the nature and extent of potential MEC, MD, and *munitions constituents (MCs)* resulting from historical military activities conducted within the MRA. To achieve the RI goals, various field investigative activities were conducted including: geophysical mapping, intrusive investigations, and environmental sampling for analysis for MCs consisting of explosives compounds and metals.

Based upon these results, it was recommended that the Cape Poge Little Neck Bomb Target MRA be subdivided into the following three MRSS (Figure 2 above):

- Land MRS (62 acres);
- Inland Water MRS (172 acres); and,
- Remaining Land MRS (115 acres).

MEC and MD items were recovered during intrusive investigations within the Land and Inland Water MRSS. No MD or MEC items were identified during intrusive investigations performed in the Remaining Land MRS outside the target area. No action is recommended for the Remaining Land MRS because no evidence of munitions has been discovered in this area.

Currently, the Land MRS, owned by The Trustees of Reservations (TTOR) is part of the Cape Poge Wildlife Refuge and the Inland Water MRS is owned by the Commonwealth of Massachusetts. Activities regularly conducted on the property include, but are not limited to, sunbathing, swimming, camping, four-wheel driving, picnicking, hiking, commercial and recreational fishing, Quahogging, scalloping, and crabbing. It is anticipated that the future land use will remain the same.

The general landscape of the Land MRS is best described as gently rolling topography with low-lying vegetation (scrub oak) and sandplain grasslands, dunes, and beach. The elevation of the MRS property is relatively flat with elevations ranging from 0 to approximately 24 ft above mean sea level (msl). Interdunal swales are found in

small depressions in the upland areas. The swales are ephemeral and form when winds scour sand until the water table is reached. Dune erosion on the western beach adjacent to Cape Poge Bay occurs routinely exposing practice bombs.

There are several sensitive environments present within the MRSS. The sensitive environments are located in the Massachusetts Coastal Zone and includes two types of *wetlands*, including estuarine and marine wetlands and freshwater forested/shrub wetlands. Surface water runoff within the Land MRS flows toward Cape Poge Bay. There are no groundwater wells within the Land MRS boundary due to brackish conditions.

The MRS provides habitat for a variety of plants and animals. Federally-listed threatened and endangered species, state-listed endangered species, state-listed threatened species, and state-listed special species of concern may be present within the MRS. Specific species of concern observed within the MRS include Piping Plovers and Roseate Terns.

Cape Poge is archaeologically sensitive and likely contains areas of cultural significance to the Wampanoag Tribe. Shipwreck debris was identified during the RI in the Remaining Land that is proposed for No Action. However, no cultural or archeologically significant findings were documented within the Land or Inland Water MRS.

NATURE AND EXTENT OF MEC, MD, AND MC CONTAMINATION

During the RI, 88 MEC items and 325 MD items were recovered. Recovered items included intact and expended AN-MK23 3-pound practice bombs and the remnants of a 100-pound practice bomb. In the Land MRS, The 83 MEC items and 279 MD items recovered during intrusive investigations during the RI were recovered between 6 inches and 3 feet below ground surface (bgs), with an average depth of recovery observed at 2 ft bgs on land. No MEC or MD was recovered from the surface of the Land MRS. In the Inland Water MRS, 5 MEC items and 46 MD items were recovered during intrusive investigations during the RI between 1 and 3 feet bgs. No MEC or MD was recovered from the surface of the Inland Water MRS. No MD or MEC items were identified during intrusive investigations performed in the Remaining Land MRS.

Figure 2 (on page 2) depicts the MRS boundary lines encompassing a total area of 234 acres around the former bomb target, which captures the extent of MEC and MD found within the MRSS during the RI. No evidence of munitions was found beyond this demarcation.

Sampling performed during the RI assessed MC

concentrations in surface and subsurface soil associated with the highest densities of MD and groundwater outside of the MRS boundary to the north where nearby residences have groundwater wells. Levels of metals and explosive residues in soil and groundwater were low and below screening levels established to protect human health. Zinc was detected in soil at concentrations below the 50th percentile of natural background and was not found to pose an ecological risk. Antimony and lead were identified in soil above ecological screening criteria but were screened out by food chain modeling (antimony) and the refined screening level ecological risk assessment (lead). Therefore, no ecological risks were identified during the RI.

SCOPE AND ROLE OF RESPONSE ACTION

This Proposed Plan addresses only the remediation selected by USACE to manage the risks that have been identified specifically at the Former Cape Poge Little Neck Bomb Target Site Land and Inland Water MRSs. Based on the information and data collected for these MRSs, USACE anticipates that this proposed remediation will be the final action needed at the Land and Inland Water MRSs.

SUMMARY OF RISKS

Based on the results of the TCRA and RI, a significant amount of MEC was found during characterization in the vicinity of the Former Cape Poge Little Neck Bomb Target. Therefore, an *explosive safety hazard* exists at the Former Cape Poge Little Neck Bomb Target Site Land and Inland Water MRSs. An explosive safety hazard is the possibility that a MEC item will explode and potentially cause harm if handled or disturbed. Based on the presence of MEC identified during the TCRA and RI, a *MEC Hazard Assessment (HA)* was performed. Under current conditions, the Land MRS received a hazard level category of 2 that indicates high potential explosive hazard conditions are present. A baseline risk assessment was conducted and did not identify a risk to potential receptors. Because no risk was identified in the Remaining Land MRS, the preferred alternative is No Action.

Currently, the 62 acre Land MRS and the 172 acre Inland Water MRS boundaries where MEC has been confirmed to be present includes parcels owned by TTOR and the Commonwealth of Massachusetts. The areas are primarily undeveloped and used for commercial and recreational purposes. Current activities may include surface and subsurface soil disturbance. Recreational use would typically involve foot and vehicle traffic, with limited intrusive activities (e.g., children digging in the sand, camping) within the Land MRS and recreational and commercial fishing, clamming, and scalloping within the Inland Water MRS

where sediment may be dredged. MEC has been found up to 3 feet on land and within the inland water. Due to dune erosion, removal of MEC to 3 feet would provide adequate protection to the public.

It is USACE's opinion that the preferred alternative identified in this Proposed Plan for the Land MRS and Inland Water MRS is necessary to protect public health and welfare from explosive hazards remaining within the two MRSs.

REMEDIAL ACTION OBJECTIVE

A *feasibility study (FS)* was performed after the RI Report was completed in August 2014. A feasibility study is a detailed analysis that develops viable remediation alternatives and examines the pros and cons of applying the alternatives to a specific MRS to achieve a desired *remedial action objective (RAO)*. The RAO established for the Former Cape Poge Little Neck Bomb Target Site Land MRS is to protect recreational users, visitors, and workers at the MRS from explosive hazards associated with MEC exposure in the top three feet of soil during intrusive activities and by dune erosion. The RAO established for the Former Cape Poge Little Neck Bomb Target Site Inland Water MRS is to protect recreational users, visitors, and workers at the MRS from explosive hazards associated with MEC exposure in the top three feet of sediment during intrusive activities. The FS was finalized in November 2014.

SUMMARY OF REMEDIATION ALTERNATIVES

USACE conducted a detailed analysis of four alternatives for the Land MRS and three alternatives for the Inland Water MRS. The alternatives were evaluated against seven of the nine criteria required by CERCLA and the NCP (*see criteria explanation on page 8*). Since criteria 8 and 9 are dependent on state and community acceptance, they will be considered after the public comment period closes. The alternatives for each MRS are summarized below. Additional details are available in the technical documents provided for public information in the project information repository located at the Edgartown Public Library.

Land MRS Alternative 1 - No Action

CERCLA requires that a "no action" alternative be evaluated for the purpose of comparison to the other proposed alternatives. This alternative means no action would be taken to locate, remove, and dispose of MEC. In addition, no public awareness or education training would be initiated with regard to the risk of MEC. For the No Action alternative, it is assumed that no change to the current land use of the Land MRS would occur. There would be no *applicable or relevant and*

appropriate requirements (ARARs) associated with this alternative. **Cost - \$0**

Land MRS Alternative 2 – Land Use Controls

Alternative 2 would consist of various **land use control (LUC)** components to prevent humans from encountering MEC remaining at this MRS. Examples of LUCs appropriate for this MRS include awareness components such as posting signs at public access locations and distribution of brochures and fact sheets notifying the public of explosive safety hazards when encountering MEC and the Army's 3Rs policy (i.e., Recognize, Retreat, Report - *see last page of this Proposed Plan for more information on the 3Rs*), and an educational component to provide site-specific awareness training for the local community. Although legal mechanisms of control cannot be imposed by the federal government on the privately-owned parcels included within the MRS boundary, the implementation of a LUC alternative based on public awareness and education components would provide a means for USACE to coordinate an effort to reduce munitions handling by private residents, TTOR personnel, contractor/maintenance personnel, and recreational users/visitors (i.e., unqualified/untrained personnel) through behavior modification. Alternative 2 will achieve the RAO (to protect recreational users, visitors, and workers at the MRS from explosive hazards associated with MEC exposure in the top three feet of subsurface soil during intrusive activities and by dune erosion) through exposure controls as long as the LUCs remain in place. The LUC components can be readily implemented as there are no associated technical difficulties, and the materials and services needed to implement this alternative are available. There are no ARARs associated with Alternative 2 and since this alternative reduces the exposure to MEC rather than the amount of MEC, it is contingent upon the cooperation and active participation of the local government with the existing property owner (TTOR), local responders, and the public using the MRS. Approximately 6 months would be required to establish LUCs associated with Alternative 2. Since this remedial alternative will not allow for unlimited use and unrestricted exposure, a five-year review is required by the NCP (40 CFR 300.430(f)(4)(ii)). Five year reviews will continue until any contaminants remaining on-site are at levels at or below those allowing for unlimited use and unrestricted exposure. **Cost - \$684,000**

Land MRS Alternative 3 – Partial Subsurface Clearance with LUCs

Alternative 3 includes removal of subsurface MEC to approximately 3 feet below ground surface in the open areas of the Land MRS (31 acres) where ground surface is accessible (excludes portions of the MRS with dense

woody vegetation), including within the dunes along the Land MRS boundary. LUCs would be implemented on the remaining 31 areas that are heavily vegetated, as described in Alternative 2. The RAO (to protect recreational users, visitors, and workers at the MRS from explosive hazards associated with MEC exposure in the top three feet of subsurface soil during intrusive activities and by dune erosion) would be achieved to a high degree of certainty in the open areas and would allow recreation activities that could involve intrusive activities to occur. The RAO will also be achieved through exposure control in the 31 acres utilizing LUCs. The 31 acres designated for clearance under this alternative would require vegetation removal to gain access during the clearance and to support equipment and staging areas, although the remediation activities would be considered light removal since the heavily vegetated areas of the MRS are excluded from the alternative.

Detection of MEC would be performed using digital detection instrumentation, proven to work effectively at the site during the RI. Once identified, munitions would be dug using hand-tools. All munitions would require inspection prior to removal to determine if they present an explosive hazard or if they are safe to move. If potentially explosive, the munitions would be detonated in place using standard operating procedures to minimize risks to workers. Items identified as safe would be removed and taken off-site for recycling. After completion of the subsurface clearance, the site would be re-vegetated with native grasses and post-construction monitoring of re-vegetated areas would occur for three years or until vegetation has been successfully restored.

Since sensitive species are known to exist within the MRS, this alternative would require coordination with MA NHESP and TTOR and a rare plant and wildlife habitat evaluation would be conducted during development of the work plan in accordance with MA NHESP guidelines. The field work would be scheduled to avoid sensitive species as much as possible. Work would also be coordinated with the Massachusetts Historical Commission and the Wampanoag Tribal Historic Preservation Office.

Two ARARs were identified for this alternative: 40 CFR 264.601 and 16 U.S.C. §1538(a)(1). Land MRS Alternative 3 would be implemented to comply with the identified ARARs.

This alternative would also include LUC components and would require Five Year Reviews. It is estimated that partial clearance under Alternative 3 would require approximately 3 months of field work to implement. Approximately 6 months would be required to establish LUCs associated with Alternative 3. **Cost - \$2,353,000**

Land MRS Alternative 4 –Subsurface Clearance
Alternative 4 includes subsurface remediation of MEC to 3 feet below ground surface over the entire 62 acre MRS. This alternative would involve vegetation clearance of the MRS including clearance of 31 acres of vegetation.

The RAO (to protect recreational users, visitors, and workers at the MRS from explosive hazards associated with MEC exposure in the top three feet of subsurface soil during intrusive activities and by dune erosion) would be achieved to a high degree of certainty.

As with Alternative 3 for the Land MRS, detection of MEC would be performed using digital detection instrumentation and munitions would be dug using hand-tools. Intrusive activities are anticipated to occur within the top three feet of soil. However, if anomalies are detected below three feet, they will be removed. All munitions would require inspection prior to removal to determine if they present an explosive hazard or if they are safe to move. If potentially explosive, the munitions would be detonated in place using standard operating procedures to minimize risks to workers. Items identified as safe would be removed and taken off-site for recycling. After completion of the subsurface clearance, the site would be re-vegetated with native grasses and post-construction monitoring of re-vegetated areas would occur for three years. After completion of the subsurface clearance, LTM would continue at this MRS to include awareness components such as posting signs at public access locations and distribution of brochures and fact sheets notifying the public of explosive safety hazards when encountering MEC and



**Figure 3 –Land MRS Alternative 4:
Subsurface Clearance**

Army's 3Rs policy (i.e., Recognize, Retreat, Report - see last page of this Proposed Plan for more information on the 3Rs), and an educational component to provide site-specific awareness training for the local community.

Coordination with MA NHESP and TTOR would be required due to the sensitive species known to exist within the MRS, and a rare plant and wildlife habitat evaluation would be conducted during development of the work plan in accordance with MA NHESP guidelines. Work would also be coordinated with the Massachusetts Historical Commission and the Wampanoag Tribal Historic Preservation.

Two ARARs were identified for this alternative: 40 CFR 264.601 and 16 U.S.C. §1538(a)(1). Land MRS Alternative 4 would be implemented to comply with the identified ARARs.

It is estimated that Alternative 4 would require approximately 5 months of field work to implement. A five year review would be conducted to ensure the effectiveness of the remedial action for unlimited use and unrestricted exposure. **Cost - \$3,033,000**

Inland Water MRS Alternative 1 - No Action

The No Action alternative for the Inland Water MRS is similar to the Land MRS Alternative 1 as described previously. **Cost - \$0**

Inland Water MRS Alternative 2 – Land Use Controls

The Land Use Controls alternative for the Inland Water MRS is similar to the Land MRS Alternative 2 as described previously. **Cost - \$684,000**

Inland Water MRS Alternative 3 –Subsurface Clearance

Alternative 3 includes subsurface remediation of MEC to 3 ft below sediment surface (pond floor) over the entire 172 acre MRS (see Figure 4). The RAO (to protect recreational users, visitors, and workers at the MRS from explosive hazards associated with MEC exposure in the top three feet of subsurface soil during intrusive activities and by dune erosion) would be achieved to a high degree of certainty.

As with the clearance alternatives for the Land MRS, detection of MEC would be performed using digital detection instrumentation but would require a boat to tow the instruments. Munitions would be dug using a combination of hand-tools, as successfully accomplished in during the RI, and mechanical methods. Mechanical methods (such as a marsh buggy or similar amphibious excavator with floatation tracks) would be used for deeper items which could require excessive time to dig by hand underwater. Intrusive activities are anticipated

to occur within the top three feet of soil. However, if anomalies are detected below three feet, they will be removed. All munitions would be inspected prior to removal to determine if they present an explosive hazard or if they are safe to move. If potentially explosive, the munitions would be detonated in place using standard operating procedures to minimize risks to workers. Items identified as safe would be removed and taken off-site for recycling.

Since eelgrass, a sensitive habitat, is known to exist within the Inland Water MRS this alternative will require coordination with TTOR and MA NHESP. Field work would be scheduled to avoid and minimize impacts to this sensitive resource.

Two ARARs were identified for this alternative: 40 CFR 264.601 and 16 U.S.C. §1538(a)(1). Land MRS Alternative 3 would be implemented to comply with the identified ARARs.

It is estimated that the subsurface clearance would require approximately 7 months to implement. To ensure the effectiveness of the remedial action, long term management of signs, public education materials and a 5 year review would be conducted. **Cost - \$4,996,000**

EVALUATION OF ALTERNATIVES

USACE evaluated the various remediation alternatives individually for each MRS in a detailed analysis against seven of the nine CERCLA/NCP evaluation criteria (*see Explanation of the Nine Evaluation Criteria*).

Remedial alternatives were developed during the FS in accordance with the NCP, 40 CFR 300.430(e). The NCP nine criteria were used to evaluate the different remedial alternatives individually and against each other in order to select a Preferred Alternative for each MRS. The nine criteria fall into three groups: threshold criteria, primary balancing criteria, and modifying criteria. The detailed screening of alternatives can be found in the FS Report. A description and purpose of the three groups follow:

- *Threshold criteria* are requirements that must be met in order for an alternative to be eligible for selection.
- *Primary balancing criteria* are used to weigh major trade-offs among alternatives.
- *Modifying criteria* are considered to the extent that information is available, but cannot be fully evaluated until after public comment is received on this Proposed Plan.

In the final balancing of tradeoffs among proposed alternatives, modifying criteria are of equal importance as the balancing criteria. More detailed information about the evaluation can be found in the *Feasibility Study Report for the Former Cape Poge Little Neck Bomb Target Munitions Response Area, Formerly Used Defense Site (FUDS) Project Number D01MA0595, Martha's Vineyard, Massachusetts*.

The degree to which the considered alternatives meet the evaluation criteria is shown in Table 1 and is summarized below.

Threshold Criteria

For the Land and Inland Water MRSs, Alternative 1 does not meet the threshold criterion of overall protectiveness. Alternative 2 includes managing risk through establishing LUCs and would achieve protectiveness for the public who use the MRSs. Land MRS Alternative 3 would achieve similar protectiveness over the long term compared to Alternative 2 considering that some level of LUCs and LTM would still be conducted following a partial clearance, and during implementation, environmental protection would be required to maintain short-term effectiveness due to vegetation removal and intrusive activities that would be performed. The Land MRS Alternative 4 and the Inland Water MRS Alternative 3 would be the most protective of human health because the most MEC would be removed.



Figure 4 – Inland Water MRS Alternative 3: Subsurface Clearance

EXPLANATION OF THE NINE EVALUATION CRITERIA		
CERCLA and NCP [40 CFR 300.430(e)(9)(iii)(A)-(I)] require the evaluation of each alternative to address the following nine criteria :		
Criteria	Threshold	1. Overall Protection of Human Health and the Environment – Evaluates whether a cleanup alternative provides protection and evaluates how risks are eliminated, reduced, or controlled through treatment, engineering controls, or local government controls.
		2. Compliance with Applicable or Relevant and Appropriate Requirements – Evaluates whether a remedial alternative meets cleanup standards, standards of control, or other requirements related to the contaminant found in other federal and state environmental laws or regulations, or justifies any waivers.
	Primary Balancing	3. Long-Term Effectiveness and Permanence – Considers any remaining risks after cleanup is complete and the ability of a cleanup option to maintain reliable protection of human health and the environment over time once cleanup goals are met.
		4. Reduction of Toxicity, Mobility, or Volume through Treatment – Evaluates a cleanup option’s use of treatment to reduce the harmful effects of the contaminants, their ability to move in the environment, and the amount of contamination present.
		5. Short-Term Effectiveness – Considers the time needed to clean up a site and the risks and adverse effects a cleanup option may pose to workers, the community, and the environment until the cleanup goals are met.
		6. Implementability – The technical and administrative feasibility of implementing a cleanup option, including factors such as the relative availability of goods and resources.
		7. Cost – Includes estimated capital and annual operations and maintenance costs.
	Modifying	8. State Acceptance – Considers whether the state (Massachusetts) agrees with USACE’s analyses and recommendations as described in the proposed plan.
		9. Community Acceptance – Considers whether the local community agrees with USACE’s analyses and proposed cleanup plan. The comments USACE receives on its preferred alternative are important indicators of community acceptance.

Two ARARs were identified for the Land MRS Alternatives 3 and 4, and the Inland Water MRS Alternative 3: 40 CFR 264.601 and 16 U.S.C. §1538(a)(1). Clearance of MEC (including using a consolidated shot approach is needed) would be performed to fulfill all DoD and EPA guidance for munitions response and explosives safety. Work would also be scheduled to comply with 16 U.S.C. §1538(a)(1) by avoiding impacts to threatened and endangered species. Land MRS Alternatives 3 and 4, and Inland Water Alternative 3 would be implemented to comply with the identified ARARs.

Primary Balancing Criteria

The long-term effectiveness and permanence along with the short-term effectiveness were evaluated for each Alternative. For the Land and Inland Water MRSs, Alternative 1 is not effective or permanent in the long-term. Alternative 2 is effective and permanent assuming the cooperation and active participation of the TTOR. Land MRS Alternatives 3 and 4 would increase risk to the public and workers during the short-term due to clearance of MEC and could cause some damage to the environment because of the vegetation clearance required to conduct subsurface activities. Impacts to human health would be mitigated by preparing and following an explosives safety plan. Impacts to the environment would be minimized through coordination with MA NHESP and scheduling field work to avoid sensitive species and habitats. Inland Water MRS Alternative 3 would increase risk to the public and workers during clearance of MEC and could cause some damage to the environment. Impacts to human health would also be mitigated by following an explosives safety plan. Impacts to the environment would be minimized through coordination with MADEP and scheduling field work to avoid sensitive habitats. Land MRS Alternative 4 and Inland Water MRS Alternative 3 would be the more effective and permanent alternative because the depth of clearance and total volume of MEC removed would be greater. MEC would be removed permanently from within the MRS to the greatest extent possible making it the most effective and permanent alternative considered.

Alternative 1 is ranked the lowest relative to the reduction of toxicity, mobility or volume (TMV) criterion as no actions would be taken. Alternative 2 LUC components may reduce the probability of human interaction through education to modify behavior, but would not reduce MEC TMV. Land MRS Alternative 3 also partially meet the TMV criterion relative to the amount of clearance performed, while Land MRS Alternative 4 and Inland Water Alternative 3 would fully meet this criterion.

Alternative 1 would be easily implemented if approved by all stakeholders because it requires no actions be taken. The LUCs recommended as Alternative 2 could also be readily implemented because these activities pose no technical difficulties and the materials and services needed are readily available. However, implementation relies outside the federal government since the property is owned by other entities.

Approximately 6 months would be needed to establish LUCs and achieve the RAO under Alternative 2. The time needed to implement Land MRS Alternative 3 would be slightly longer, requiring 12 to 18 months to perform clearance activities and establish LUCs. Land MRS Alternative 4 and Inland Water MRS Alternative 3 would take longer to implement in comparison to the duration of time needed to implement the remaining alternatives considered. During this time, short-term impacts to workers on-site would be increased in addition to the potential for impacts to the MRS users. Similarly, Land MRS Alternative 4 and Inland Water MRS Alternative 3 would be the most technically difficult to implement with added administrative logistics based on approvals needed to manage environmental impacts during implementation. Specific activities, including awareness training for workers and use of protection procedures/mitigation techniques would be required to preserve natural resources.

The total value of each alternative is as follows (rounded to the nearest thousand dollars):

Land MRS

- Alternative 1 = \$0
- Alternative 2 = \$684,000
- Alternative 3 = \$2,353,000
- Alternative 4 = \$3,033,000

Inland Water MRS

- Alternative 1 = \$0
- Alternative 2 = \$684,000
- Alternative 3 = \$4,996,000

Thus, the Land MRS Alternative 4 and the Inland Water MRS Alternative 3 meet the threshold and most favorably meet the primary balancing criteria as compared to the other alternatives. Land MRS Alternative 4 and Inland Water MRS Alternative 3 can be readily implemented and would provide protectiveness over the long-term compared to its cost.

PREFERRED ALTERNATIVE

The subsurface clearance options for both MRSs (Land MRS Alternative 4 and Inland Water MRS Alternative 3) are the preferred alternatives. Based on information currently available, the lead agency believes the two Preferred Alternatives for the two respective MRSs meet the threshold criteria and provides the best balance of tradeoffs among the other alternatives with respect to the

Table 1. Evaluation of Alternatives

EVALUATION CRITERIA	LAND MRS				INLAND WATER MRS		
	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	**PREFERRED**	ALTERNATIVE 1	ALTERNATIVE 2	**PREFERRED**
				ALTERNATIVE 4			ALTERNATIVE 3
THRESHOLD CRITERIA							
1. OVERALL PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT	■	●	●	●	■	●	●
2. COMPLIANCE WITH APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS	●	●	●	●	●	●	●
PRIMARY BALANCING CRITERIA							
3. LONG-TERM EFFECTIVENESS AND PERMANENCE	■	□	□	●	■	□	●
4. REDUCTION OF TOXICITY, MOBILITY OR VOLUME THROUGH TREATMENT	■	■	□	●	■	■	●
5. SHORT-TERM EFFECTIVENESS	●	●	□	□	●	●	□
6. IMPLEMENTABILITY	●	●	●	●	●	●	●
7. COST	\$0	\$684,000	\$2,353,000	\$3,033,000	\$0	\$684,000	\$4,996,000
MODIFYING CRITERIA							
8. STATE ACCEPTANCE	Will be evaluated following public comment period						
9. COMMUNITY ACCEPTANCE	Will be evaluated following public comment period						

● = Favorable, meets criteria □ = Moderately favorable ■ = Not favorable, does not meet criteria

balancing and modifying criteria. The USACE expects the Preferred Alternatives to satisfy the following statutory requirements of CERCLA Subsection 121 (b): 1) be protective of human health and the environment; 2) comply with ARARs; 3) be cost-effective; 4) utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and 5) satisfy the preference for treatment as a principal element. Land MRS Alternative 4 and Inland Water MRS Alternative 3 can be readily implemented to achieve the RAOs and provide the highest level of overall effectiveness relative to safe current and future use of the MRSs. USACE expects the preferred alternatives to meet regulatory requirements and to satisfy the statutory requirements under CERCLA §121(b). The preferred alternative for the Remaining Land MRS is No Action.

NEXT STEPS

USACE will evaluate the public’s opinion regarding the preferred remediation during the public meeting and public comment period before deciding on the final remedy for each MRS. Based on new information or public comments that are received, USACE may modify its proposed remediation or select another alternative outlined in this Proposed Plan. USACE encourages you to review and comment on the alternatives evaluated. More technical details on the proposed remediation are available in the documents provided for the public in the project information repository located at the Edgartown Public Library. USACE will respond in writing to comments in a responsiveness summary that will be part of the final decision document for the Land MRS, Inland Water MRS and Remaining Land MRS. Once finalized, USACE will announce the selected remedy in a local newspaper public notice and will place a copy of the final decision document in the project information repository.

REFERENCES

EPA (U.S. Environmental Protection Agency). 1988. *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA*, Office of Emergency and Remedial Response, EPA/540/G-89/004, OSWER Directive 9355.3-01. October 1988.

EPA. 1999. *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents*. EPA 540-R-98-031. OSWER 9200-1-23P.

U.S. Army. 2009. *Final Munitions Response Remedial Investigation/Feasibility Study Guidance*. Military Munitions Response Program. November 2009.

UXB, 2014. *Remedial Investigation Report, Former Cape Poge Little Neck Bomb Target Area of Investigation*, Final, August 2014.

UXB, 2014a. *Feasibility Study, Former Cape Poge Little Neck Bomb Target*, Final, November 2014.

**The U.S. Army proposes Land MRS (Alternative 4) – Subsurface Clearance,
and Inland Water MRS (Alternative 3) – Subsurface Clearance for
Former Cape Poge Little Neck Bomb Target MRA
Important public meeting scheduled for
December 3, 2014**

PROPOSED PLAN
FORMER CAPE POGGE LITTLE NECK BOMB TARGET LAND AND INLAND WATER MRSs
MARTHA'S VINEYARD, MASSACHUSETTS

GLOSSARY FOR SPECIALIZED TERMS

Administrative Record file	A collection of documents that form the basis for the selection of a response action compiled and maintained by the lead agency. This file is to be available for public review and a copy maintained near the site (i.e., information repository). The official Administrative Record file for the Former Cape Poge Bomb Target Site Land and Inland Water MRSs is located at USACE, New England District, and is maintained by USACE. The point of contact for the file is Carol A. Charette (696 Virginia Road, Concord, Massachusetts, 01742).
Applicable or Relevant and Appropriate Requirements (ARARs)	<p><i>Applicable requirements</i> means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only those state standards that are identified by a state in a timely manner and that are more stringent than federal requirements may be applicable.</p> <p><i>Relevant and appropriate requirements</i> means those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that, while not “applicable” to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only those state standards that are identified in a timely manner and are more stringent than federal requirements may be relevant and appropriate.</p>
Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)	The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, commonly known as Superfund, and modified in 1986 by the <i>Superfund Amendments and Reauthorization Act</i> (SARA), to investigate and clean up hazardous substances.
Decision Document (DD)	The Department of Defense has adopted the term Decision Document (DD) to refer to a legal public document, similar to a Record of Decision completed for National Priorities List sites, that: certifies that the cleanup plan selection process was carried out in accordance with CERCLA, and to the extent practical, the NCP; provides a substantive summary of the technical rationale and background information in the Administrative Record file; provides information necessary in determining the conceptual engineering components to achieve the remedial action objective (RAO) established for a site; and serves as a key communication tool for the public that explains the identified hazards that the selected cleanup will address and the rationale for cleanup plan selection. The DD will be maintained in the Administrative Record file.
Discarded Military Munitions (DMM)	Military munitions that have been abandoned without proper disposal or removed from storage in a military magazine or other storage area for the purpose of disposal. The term does not include unexploded ordnance (UXO) , military munitions that are being held for future use or planned disposal, or military munitions that have been properly disposed of, consistent with applicable environmental laws and regulations [10 USC 2710(e)(2)].

Explosive Safety Hazard	The probability for a MEC item to detonate (explode) and potentially cause harm to people, property, or the environment as a result of human activities. An explosive safety hazard exists if a person can come into contact with a MEC item and act upon it to cause it to detonate or explode. The potential for an explosive safety hazard depends on the presence of three critical elements: a source (presence of MEC), a receptor or person, and an interaction between the source and the receptor (such as picking up the item or disturbing the item by plowing). There is no explosive safety hazard if any one element is missing.
Feasibility Study (FS)	A study undertaken by the lead agency to develop and evaluate options for remedial action. The RI data are used to define the objectives of the response action, to develop remedial action alternatives, and to undertake an initial screening and detailed analysis of the alternatives. The term also refers to a report that describes the results of the study.
Information Repository (IR)	A file containing current information, technical reports, and reference documents duplicated from the Administrative Record file maintained for a site. The information repository is usually located in a public building that is convenient for local residents, such as a public school, city hall, or library. The project information repository is located at the Edgartown Public Library [58 North Water Street, Edgartown, Massachusetts 02539].
Land Use Controls (LUC)	Physical, legal, or administrative mechanisms that restrict the use of, or limit access to, real property, to prevent or reduce risks to human health and the environment. Physical Mechanisms encompass a variety of engineered remedies to contain or reduce contamination and physical barriers to limit access to real property, such as fences or signs. The legal mechanisms used for LUCs are generally the same as those used for institutional controls as discussed in the NCP.
Munitions and Explosives of Concern (MEC)	Specific categories of military munitions that may pose unique explosives safety risks, specifically composed of (a) unexploded ordnance, (b) discarded military munitions, or (c) munitions constituents present in high enough concentrations to pose an explosive hazard.
Munitions and Explosives of Concern (MEC) Hazard Assessment	A tool developed to qualitatively assess the potential explosive hazards to human receptors associated with complete MEC exposure pathways.
Munitions Constituents (MC)	Any materials originating from UXO, discarded military munitions (DMM) , or other military munitions, including explosive and non-explosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions.
Munitions Debris (MD)	Remnants of munitions (e.g., fragments, penetrators, projectiles, shell casings, links, fins) remaining after munitions use, demilitarization, or disposal.
Munitions Response Area (MRA)	Any area on a defense site that is known or suspected to contain UXO, DMM, or MC. Examples include former ranges and munitions burial areas. A munitions response area is comprised of one or more munitions response sites.
Munitions Response Site (MRS)	A discrete location within a MRA that is known to require a munitions response.
National Oil and Hazardous Substances Pollution Contingency Plan (NCP)	The plan revised pursuant to 42 USC 9605 and found at 40 CFR 300 that sets out the plan for hazardous substance remediation under CERCLA.
Proposed Plan (PP)	A document that presents a proposed cleanup alternative, including rationale for selection, and requests public comments regarding the proposed alternative.
Receptor	Receptors include both humans and biota (plants or animals) that may come into contact with a hazardous substance, including munitions and munitions constituents, either directly (e.g., picking an item up) or indirectly (e.g., through ingestion).

Remedial Action	Those actions consistent with permanent remedy taken instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment. The term includes, but is not limited to, such actions at the location of the release as storage, confinement, perimeter protection using dikes, trenches, or ditches, clay cover, neutralization, cleanup of released hazardous substances and associated contaminated materials, recycling or reuse, diversion, destruction, segregation of reactive wastes, dredging or excavations, repair or replacement of leaking containers, collection of leachate and runoff, onsite treatment or incineration, provision of alternative water supplies, and any monitoring reasonably required to assure that such actions protect the public health and welfare and the environment.
Remedial Action Objective (RAO)	Objectives established for remedial actions to guide the development of cleanup alternatives and focus the comparison of acceptable alternatives, if warranted. RAOs also assist in clarifying the goal of minimizing risk and achieving an acceptable level of protection for human health and the environment.
Remedial Investigation (RI)	A process undertaken by the lead agency to determine the nature and extent of the problem presented by the release. The RI emphasizes data collection and site characterization, and is generally performed concurrently and in an interactive fashion with the feasibility study. The RI includes sampling and monitoring, as necessary, and includes the gathering of sufficient information to determine the necessity for remedial action and to support the evaluation of remedial alternatives.
Superfund Amendments and Reauthorization Act (SARA)	In addition to certain free-standing provisions of law, it includes amendments to CERCLA, the Solid Waste Disposal Act, and the Internal Revenue Code. Among the free-standing provisions of law is Title III of SARA, also known as the “Emergency Planning and Community Right-to-Know Act of 1986” and Title IV of SARA, also known as the “Radon Gas and Indoor Air Quality Research Act of 1986.” Title V of SARA amending the Internal Revenue Code is also known as the “Superfund Revenue Act of 1986.”
Time Critical Removal Action (TCRA)	Removal actions where, based on the site evaluation, a determination is made that a removal is appropriate, and that less than 6 months exists before on-site removal activity must begin.
Unexploded Ordnance	<p>Military munitions that:</p> <ul style="list-style-type: none"> (a) Have been primed, fuzed, armed, or otherwise prepared for actions; (b) Have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material; and (c) Remain unexploded whether by malfunction, design, or any other cause.. <p>(10 USC 101(e)(5)).</p>
Wetland	Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

**PROPOSED PLAN
FORMER CAPE POGE LITTLE NECK BOMB TARGET MRA
IN MARTHA'S VINEYARD, MASSACHUSETTS**

***USE THIS SPACE TO WRITE YOUR
COMMENTS***

Your comments on the Proposed Plan are important to the U.S. Army Corps of Engineers. Comments provided by the public are valuable in helping us select a final remedy for the site. You may use the space below to write your comments for the U.S. Army Corps of Engineers to consider. Please use additional paper if needed.

Your comments must be postmarked or e-mailed by midnight on December 19, 2014.

If you have any questions about the public comment process, please contact Ms. Carol A. Charette, U.S. Army Corps of Engineers, New England District, carol.a.charette@usace.army.mil (978) 318-8605.

Mail, or e-mail, your comments to:

Ms. Donna Sharp
AMEC Environment & Infrastructure, Inc.
7925 Cogdill Road
Knoxville, Tennessee 37932

E-mail: donna.sharp@amec.com

Name _____

Affiliation _____

Address _____

City, State, Zip _____

Follow the 3Rs

Recognize

Recognize when you may have encountered a munition.

Recognizing when you may have encountered a munition is the most important step in reducing the risk of injury or death. Munitions may be encountered on land or in the water. They may be easy or hard to identify.

To avoid risk of injury or death:

- Never move, touch, or disturb a munition or suspect munition.
- Be aware that munitions do not become safer with age, in fact, they may become more dangerous.
- Don't be tempted to take or keep a munition as a souvenir.

Munitions come in many sizes, shapes, and colors. Some may look like bullets or bombs while others look like pipes, small cans or even a car muffler. Whether whole or in parts, new or old, shiny or rusty, munitions can still explode.

AN-MK 23 Practice Bomb



Retreat

Do not touch, move, or disturb it; but carefully leave the area. Avoid death or injury by recognizing that you may have encountered a munition and promptly retreating from the area.

If you encounter what you believe is a munition, do not touch, move, or disturb it. Instead, immediately and carefully leave the area by retracing your steps, leaving the same way you entered. Once safely away from the munition, mark the path (e.g., with a piece of clothing or global positioning system (GPS) coordinates) so response personnel can find the munition.



Call 911!

Report

Immediately notify the police.

Protect yourself, your family, your friends, and your community by immediately reporting munitions or suspected munitions to the police.

Help the police by providing as much information as possible about what you saw and where you saw it. This information will help the police and the military or civilian explosives ordnance disposal personnel find, evaluate, and address the situation.

If you believe you may have encountered a munition, call and report the following:

- The area where you encountered it.
- Its general description. Remember: do not approach, touch, move, or disturb it.
- When possible, provide:
 - Its estimated size
 - Its shape
 - Any visible markings, including coloring