



## U.S. ARMY CORPS OF ENGINEERS

Morgan General Ordnance Depot, Sayreville, New Jersey

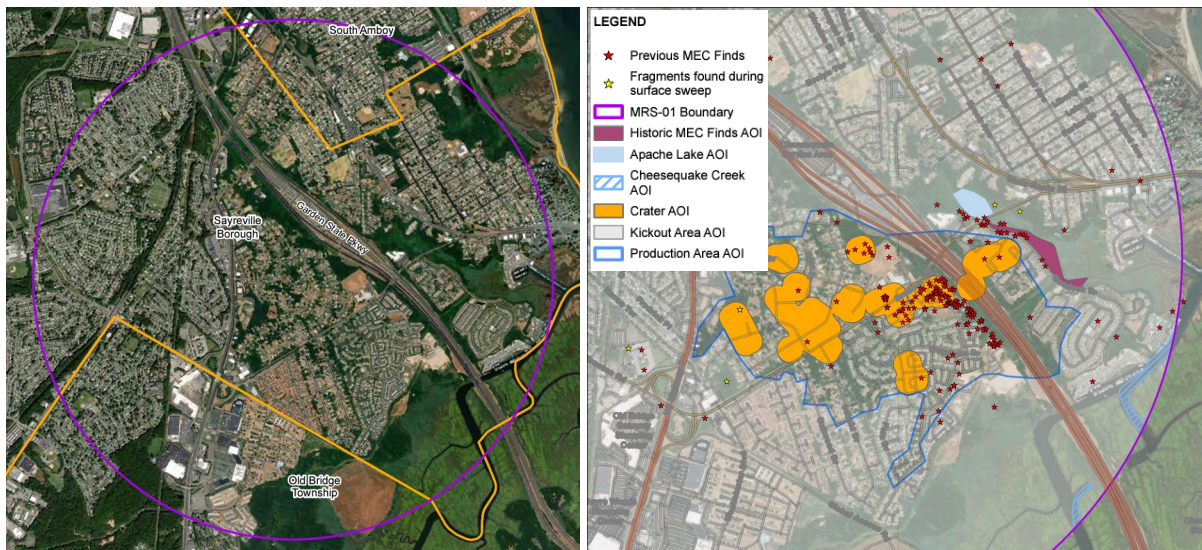
FUDS Property Number: C02NJ0007-02

Formerly Used Defense Site (FUDS)

Middlesex County, New Jersey

### REMEDIAL INVESTIGATION OVERVIEW FOR RIGHT-OF-ENTRY REQUESTS

Fall 2024



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8 October 2024

Environmental Division

Dear Property Owner:

The U.S. Army Corps of Engineers (USACE) is requesting permission to enter upon the property you own in Middlesex County, New Jersey, for the purpose of performing environmental assessment and response activities under the Defense Environmental Restoration Program – Formerly Used Defense Sites (DERP–FUDS) Project No. C02NJ0007 at the Morgan General Ordnance Depot Munitions Response Site, in accordance with the right-of-entry and accompanying map, submitted to you in early 2024.

The USACE, with support from Weston Solutions Inc. (Weston), is canvassing the Sayre Woods neighborhood during the month of October 2024 to follow up on right-of-entry requests for which no response has been received.

Thank you for your continued support and cooperation. Please review and sign the provided right-of-entry and return it to Mr. Michael Heck, Realty Specialist, via email at [michael.r.heck@usace.army.mil](mailto:michael.r.heck@usace.army.mil), or to the following address: USACE Real Estate New York District, 26 Federal Plaza, Room 16-507-10, New York, NY 10278-0090.

Should you have any questions pertaining to the environmental remediation activities, please contact Ms. Gina Kaso at 978-318-8180 or [gina.a.kaso@usace.army.mil](mailto:gina.a.kaso@usace.army.mil); if you have any real estate questions, contact Michael Heck at 917-790-8538 or by email.

Please contact me with any further questions at [todd.t.beckwith@usace.army.mil](mailto:todd.t.beckwith@usace.army.mil) or 410-962-6784.

Sincerely,

Todd Beckwith  
Project Manager and Contract Officer Representative  
U.S. Army Corp of Engineers, Baltimore District

Encl: Remedial Investigation Overview for ROE

Cc: Gina Kaso, U.S. Army Corp of Engineers, New England District  
Michael Heck, U.S. Army Corp of Engineers, New York District  
Layne Young, Weston Solutions Inc.

# Morgan General Ordnance Depot

## Formerly Used Defense Site

### Remedial Investigation

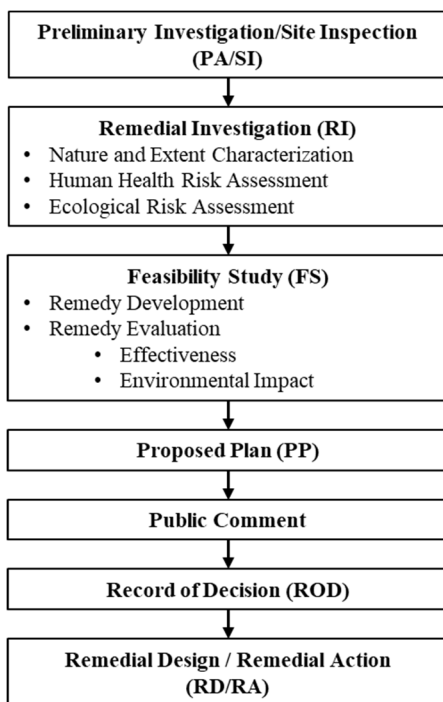
#### Middlesex County, New Jersey

October 2024



#### Introduction

The United States Army Corps of Engineers (USACE) has initiated a Remedial Investigation (RI) at the Morgan General Ordnance Depot Formerly Used Defense Site (FUDS), in Middlesex County, New Jersey (NJ). The purpose of the RI is to evaluate whether historical Department of Defense activities at the Morgan General Ordnance Depot have impacted current environmental quality at the site from munitions and explosives of concern (MEC) and munition constituents (MC), and if so, to identify what cleanup or remediation is needed to protect human health and the environment. The entire process can span over several years depending on site complexity and the amount of contamination present. The RI is being conducted under the Department of Defense's Military Munitions Response Program (MMRP). The MMRP program began in 2001, and addresses explosives safety, health, and environmental issues caused by past munitions related activities at current and former military installations and adjacent properties. The program follows the requirements of the National Contingency Plan as set under the 1980 CERCLA and its amendments of 1986.



#### What prompted the Remedial Investigation?

Morgan General Ordnance Depot was part of an artillery shell loading plant constructed and operated by the T.A. Gillespie Loading Company as an agent appointed by the United States. On 4 October 1918, a series of severe explosions and fires occurred over three days at the facility, destroying production lines and halting operations. As a result of these explosions, debris and munitions were scattered throughout the area.



Source: Unknown photographer - 1918 news photograph, re-published in 2012 book "Explosion at Morgan", by Randall Gabrielan, 2012.

The 3,156- acre Munitions Response Site (MRS) under investigation at the Morgan General Ordnance Depot encompasses portions of the Borough of Sayreville, the City of South Amboy, and the Township of Old Bridge in Middlesex County, New Jersey.



Currently thousands of residential structures and commercial businesses occupy most of the MRS. Current usage also includes elementary schools, a home for the elderly, parks, and numerous other common structures and organizations found in a developed municipal area. The Garden State Parkway and New Jersey Route 35 travel through the site and the southeastern portion of the MRS lies within Cheesequake State Park. Historically, development within the MRS had led to numerous munitions finds.

Between 1993 and 2000, USACE conducted historical records reviews, engineering evaluations and cost analysis, time critical removal actions, and other studies to understand and address munitions response related activities at the Morgan General Ordnance Depot. These previous studies and findings were used to develop the scope for the RI. This scope of work consists of non-invasive surveys on parcels within the MRS and investigation of selected subsurface items.

### Remedial Investigation Field Work

A Right-of-Entry request was sent to all property owners where USACE would like to conduct remedial investigation field work. USACE will not enter any property where a Right-of-Entry was not granted. The following five activities may be conducted on properties with Rights-of-Entry during the RI to determine nature and extent of any contamination from the 1918 depot explosions.

#### 1. Landscape and Civil Surveys

A landscape survey (with photographs and video) will be conducted to inventory and appraise vegetation, hardscapes (e.g., driveways, sidewalks, walkways, patios, retaining walls, and fencing) and moveable objects (e.g., yard ornaments, playsets, and trampolines) that may interfere with the investigation.

Prior to any work being conducted, all work will be explained to the property owner to confirm understanding of the work and answer any questions.

A professional land surveyor will establish temporary control points to be used in conjunction with field activities.

A site walk with the property owner will be conducted after all work is complete to determine if restoration is required. Any required restoration tasks will be conducted by a professional arborist/landscape company as agreed upon with the property owner.

#### 2. Phase 1 Geophysical Mapping Surveys

Geophysical detection sensors will be used to scan selected accessible areas of the property to locate subsurface metallic items.

#### 3. Phase 2 Geophysical Mapping Surveys

Locations with identified subsurface metal from the Phase 1 are surveyed again to collect more robust data for characterization purposes.

#### 4. Targets of Interest Investigation

A dig list of targets of interest identified from the mapping surveys will be developed and each item will be investigated by hand and removed. The use of mechanized equipment, such as a backhoe, may be required for items at depths greater than 4-ft. Locations where digging occurs will be backfilled or covered daily. Evacuation of businesses and/or residences may be required during removal. If evacuations were to be required, they are to be scheduled and coordinated in advance and accommodation made for the property owner and/or occupants of said residence or business.

#### 5. Soil Sampling

Surface soil sampling will be completed in select areas of the MRS based on historical information and results of the geophysical surveys and target investigations. Sampling of other media (e.g., subsurface soil, sediment, surface water, groundwater) may be warranted based on the results of the surface soil samples.

### Remedial Investigation Timeframe/Schedule

Fieldwork is expected to begin in October 2024. The anticipated schedule for the entire effort per property is approximately six to nine months. All RI fieldwork is expected to be completed by the end of 2026.

### Quality and Safety

USACE will oversee quality assurance through strict project quality control procedures implemented during fieldwork. The New Jersey Department of Environmental Protection (NJDEP) and local stakeholders/officials (i.e., townships) are provided an opportunity to review and comment on significant project documents to ensure the quality of the document and compliance with Department of Defense guidance and environmental regulations. Rigorous safety and environmental training are completed by all project personnel.

### Three Rs of Explosive Safety

Should you recognize an item that you are concerned possesses an explosive hazard, follow the 3R's of explosives safety;

**Recognize, Retreat, and Report (call 911)**. The attached QR Code and web address provides additional information for munitions recognition and safety.

**Recognize** – Recognizing when you may have encountered a munition is key to reducing the risk of injury or death.

Remember, munitions are sometimes hard to identify, if you encounter or suspect you may have encountered a munition, consider it extremely dangerous.

**Retreat** – If you encounter or suspect you may have encountered a munition, do not approach, touch, move or disturb it, but immediately and carefully - do not run – leave the area following the same path on which you entered. If you can, mark the general area, not the munition, in some manner (e.g., with a hat, piece of cloth, or tying a piece of plastic to a tree branch).

**Report** – When you think you may have encountered a munition, notify your local law enforcement - **call 911**.

### Public Information and Administrative Record

Project related documents are available at the local library.

Sayreville Free Public Library

1050 Washington Road

Parlin, New Jersey 08859

<https://sayrevillelibrary.org/>

If you have any questions regarding the Remedial Investigation, please contact Gina Kaso, Project Manager, U.S. Army Corps of Engineers, at (978) 318-8180 or [gina.a.kaso@usace.army.mil](mailto:gina.a.kaso@usace.army.mil).





## COMMON QUESTIONS & ANSWERS

### **What is the FUDS Program?**

- The Formerly Used Defense Sites (FUDS) Program **cleans up environmental contamination at properties formerly owned, leased, possessed, or used by the military services**. The Army is the Department of Defense (DoD) executive agent for FUDS, and the U.S. Army Corps of Engineers (USACE) is responsible for carrying out the program.
- The DoD takes seriously its responsibility **to ensure that land it once owned, used, or leased has been cleaned in such a way that is protective of human health, safety, and the environment**. The FUDS program is the vehicle to accomplish that mission.

### **How is FUDS cleanup & funding prioritized?**

- Our cleanup work is prioritized by using a **risk management approach**, properties with the highest and most imminent risk to human health, safety, and the environment are addressed first. DoD focuses on actions to reduce risks in the short-term and then addresses longer-term risk management actions.
- USACE submits a FUDS budget recommendation to the Army, which submits it to the DoD for consideration as part of the DoD's annual budget proposal presented by the President to Congress.
- As funds are available to clean up sites, other factors may affect the scheduled work sequence. Concerns by stakeholders are certainly factors that could influence a decision maker, moving one site ahead of another as DoD employs its risk management approach.

### **Is there a prioritization of which property or area will be addressed first?**

- No. All properties within the remedial investigation boundary have the same risk priority (see map in Fact Sheet).
- Initial properties were selected for investigation due to their proximity to historical depot buildings or potential disposal areas.

### **What are the steps that each homeowner will take in partnership with USACE and what can the homeowner expect?**

- Before work begins at a property, the homeowner will need to give permission to USACE to proceed investigating their property for munitions by signing a **Right-of-Entry (ROE)**. A right-of-entry is a **legal form that gives USACE and its contractors permission to go onto a property for specific purposes, such as geophysical surveys or subsurface investigations (i.e., digging) of identified metallic anomalies**, and establishes the limits and responsibilities of USACE and its contractors.
- USACE and its contractors will be investigating properties for munitions in a phased approach that may result in multiple visits. The initial phase is identifying underground metallic anomalies using a non-invasive metal detector that surveys the subsurface and identified metallic items in the subsurface. All properties with identified metallic targets of interest following the surveys will be added to a target dig list. Each item on the dig list will be investigated with hand tools, identified, and safely removed. Following all planned work, property will be restored to its pre-investigation conditions.
- No vegetation will be trimmed or removed without prior authorization from the homeowner. All landscaping and hardscaping at the property will be documented prior to any activities by USACE or its contractors; this assessment will be presented to the homeowner for approval prior to any work beginning.
- The careful restoration of each property is very important to our team; we will begin restoring the property to the condition it was before our disruptions soon after the digging work is complete.

### **Does a homeowner have to allow USACE onto their property to do this remedial investigation work? If they refuse to sign an ROE, what will this mean for the homeowner?**

- No, USACE will not force a homeowner to sign an ROE and homeowners can cease involvement at their convenience. However, if the current remedial investigation is inconclusive, additional surveys may be needed and property owners may be contacted again to request access for further investigation. If the investigation identifies a risk necessitating a remedial or removal action, the action may encompass your property, and if so, you will be contacted again to request access to your property to complete the selected remedy.
- If there is a known or suspected threat to human health or the environment, the matter may be turned over to a regulatory agency or the U.S. Department of Justice. In such circumstances, it is important to gain access to a property to assess the situation and preclude migration of contaminants that pose a threat to public health or may cause environmental damage. USACE makes every effort to work with the landowner so there is as little disruption as possible.



**Are driveways and or sidewalks going to be dug up?**

- No, driveways, sidewalks, and other hardscapes will not be surveyed nor directly investigated during the remedial investigation.

**Will owners receive notification if anomalies are found on their property?**

- If a property has items on the target dig list they will be notified and access will continue to be coordinated with USACE.
- All reports will be placed in the Administrative Record at the Sayreville Public Library and can be provided to homeowners upon request.

**Will homeowners be affected and will they be able to use their property during the investigation?**

- Homeowner questions and concerns and scheduling preferences will be addressed at an initial meeting with the project team prior to any work being completed.
- Homeowners may be present and properties will be accessible for normal use except when surveys are being completed and if target of interest investigations are occurring.
- Homeowners can be present during the Phase 1 and Phase 2 surveys but the field team will need unobstructed access to complete the surveys.
- Property owners will need to vacate the immediate area as a safety precaution during investigation of targets on a dig list.
- Quality control (QC) and/or quality assurance (QA) seeds will be buried prior to surveys being completed and should not be moved (location or orientation). Regular non-intrusive activities on the property are not affected by seed placement.
- During field work, between two and six people may be present at the property for a maximum of eight hours a day. The entire investigation process at a property can span six to nine months from start to finish. Property owners should anticipate four to six separate visits.
- Depending on property size, actual work on properties will typically only take between one week and six weeks. The planned phased approach means field efforts are completed in up to three two-week stretches of work.



## FIELD TASKS AND EXAMPLE PHOTOS

Weston Solutions, Inc. (Weston) has been contracted by the U.S. Army Corps of Engineers (USACE) to conduct a Remedial Investigation (RI) to determine the nature and extent of potential contamination associated with the Morgan General Ordnance Depot Munitions Response Site, Formerly Used Defense Site (FUDS), Middlesex County, New Jersey. The following activities may be conducted during the investigation. The list of activities is ordered chronologically as they will be completed in a phased approach. Depending on the results of each phase, USACE will determine whether each additional activity is necessary.

- **Step 1: Landscape/Pre-Investigation Survey.** A landscape and hardscape (e.g., driveways, sidewalks, walkways, patios, mailboxes, retaining walls, and fencing) survey will be conducted to inventory and appraise vegetation and hardscape value should it be damaged. A high-resolution video will be recorded, and documentation of the landscape and hardscape will be generated with focus on flora. Conditions of hardscapes and moveable objects such as yard ornaments, playsets, and trampolines will be documented photographically and by video. *Estimated duration: One business day.*
- **Step 2: Location Surveys and Mapping.** A New Jersey Professional Land Surveyor (PLS) will establish up to four temporary control points. Control points are used in conjunction with the follow-on field activities and should not be disturbed or moved. *Estimated Duration: One business day.*
- **Step 3: Property Preparation.** The project team will meet with the property owner to coordinate and prepare for subsequent investigation visits and to address any homeowner concerns and/or scheduling preferences. Preparation activities will include installation of blind quality control and quality assurance seeds, relocating moveable objects (e.g., outdoor furniture, trampolines, swing sets, other metallic objects, etc.) that may obstruct or interfere with the work conducted in steps 5 through 8. Limbs of trees and shrubs may also be propped up or tied back to minimize obstruction to survey equipment. *Estimated duration: Two to three business days.*
- **Step 4: Instrument Verification Strip.** Industry standard metallic seeds, that mimic the cylindrical shape of target items (see photograph below), will be buried at a local park within the project boundary. The seeds will be buried at specified depths and orientations for instrument quality control purposes to ensure the sensor is functioning properly. Geophysical detection sensors will survey the strip twice a day for the duration of the survey effort. Seeds will be removed at the completion of the investigation. *Estimated Duration: Two business day install, twice daily (beginning and end of workday) during surveys, one day removal.*
- **Step 5: Phase 1 Geophysical Mapping Surveys.** Geophysical detection sensors (see photographs below) are used to scan accessible and/or selected areas of the property (i.e., surveyed acreage less than total accessible acreage within the parcel or 100 foot by 100 foot grids) to locate areas representative of underground metal items. Duration of the Phase 1 geophysical mapping surveys will depend on the size of the property and type of geophysical sensors. *Estimated Duration: One to six business days.*



Small and Medium Seeds



Man Portable Vector (MPV) Sensor



- **Step 6: Phase 2 Geophysical Mapping Surveys.** All properties with areas representative of underground metal objects that were identified during the Phase 1 geophysical mapping survey will be more intensely evaluated using the geophysical detection sensors. Duration of the Phase 2 geophysical mapping surveys will depend on the number of areas selected for further assessment. *Estimated Duration: One to three business days. Based on the results of the Phase 2 survey, further investigation may be necessary. If the Phase 2 survey concludes further investigation is not necessary, the property will be excluded from any follow-up investigations and skip Steps 7-8 and proceed to Step 9.*
- **Step 7: Targets of Interest Investigation.** A final list of areas representative of underground metallic items that were identified by the surveys will be dug up by qualified individuals using hand tools. The use of mechanized equipment, such as a backhoe, may be required for targets of interest at depths greater than 4-ft. Locations where digging occurs will be backfilled daily. *Estimated Duration: One to three business days.*
- **Step 8: Soil Sampling.** If the target of interest investigation identifies a potential source of contamination (e.g., breached or broken munitions items, visible explosive residue), then surface soil sampling will be completed at the discretion of the Government. Surface soil sampling (ground surface to 1 foot below ground surface) will be completed using incremental sampling methods to include 30 increments collected from within a 0.25-acre area. *Estimated Duration: One business day.*
- **Step 9: Landscape/Hardscape Evaluation.** Each property will be assessed for post-investigation landscape and hardscape conditions. A site walk with the Property Owner will be conducted to determine if landscape or hardscape restoration is required. *Estimated Duration: One business day. At this stage, the investigation is deemed complete for properties where no restoration is required, as agreed upon with the property owner.*
- **Step 10: Landscape/Hardscape Restoration.** Properties that require repair will be restored according to the landscape/hardscape restoration work agreed upon between the Property Owner and the Government and in accordance with applicable federal regulations and laws. All work will be completed by a professional arborist/landscape company. *Estimated Duration: Three to five business days. Once the restoration is completed, the investigation is deemed complete these properties.*

**Overall Timeframe.** The anticipated schedule from the landscape/pre-investigation survey to completion of any necessary site restoration is approximately 37 months between November 2024 and December 2027.

The entire cumulative duration for actual work on properties will typically only take between one week and one month depending on property size and usually completed in stretches of less than two weeks at a time. Properties will be accessible for normal use other than when surveys are being completed and if target of interest investigations are occurring. Time beyond the estimated field durations provided for individual tasks is required for planning and coordination, data management, geophysical and analytical data analysis, reporting of data, and reviews conducted by USACE.



**Target of Interest Investigation**



**Metal Mapper 2x2 (MM2x2) Sensor**

## Background

The **Morgan General Ordnance Depot Formerly Used Defense Site** comprises 3,156 acres in Middlesex County, New Jersey. (See map on back). The area was part of an artillery shell loading plant. On 4 October 1918, a **series of severe explosions** and fires occurred at the facility, destroying production lines and halting operations. As a result of these explosions, debris and **munitions were scattered throughout the area**.

Between **1993 and 2000**, USACE conducted historical records reviews, engineering evaluations and cost analysis, time critical removal actions, and other studies to understand and address munitions response related activities at the Morgan General Ordnance Depot. These previous studies and findings were used to develop the scope for the current **Remedial Investigation**. This scope of work consists of non-invasive surveys on parcels within the MRS and investigation of selected subsurface items, and is expected to be completed in 2026

**At this time, there are no known munitions hazards on any particular property, but we are actively addressing areas where historical evidence indicates a higher potential of munitions hazards.** It is important for residents to be familiar with the history of the site and aware of safety and proper response should you encounter a munition or some other unknown metallic item that could be a munitions item on your property.

**Weathering** could make munitions, which may be on the surface, or buried, or whole or in parts, difficult to recognize. Even old munitions can still be hazardous. Residents and others should never touch, move, or disturb anything encountered that may be a munition or part of one.

Therefore, with an **abundance of caution** and as part of our commitment to both **public safety and transparency**, we ask that you be aware of the site's past, particularly when conducting activities on your property such as construction or landscaping project (i.e., home additions/ improvements, swimming pool construction, extensive landscaping and/or tree-planting or removal), be sure to follow the **3Rs** of munitions safety - **Recognize, Retreat, and Report**.



## U.S. Army Corps of Engineers

For additional information regarding the Morgan General Ordnance Depot contact the U.S. Army Corps of Engineers.

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## Morgan General Ordnance Depot Formerly Used Defense Site Middlesex County, NJ

### 3Rs Safety Guide



# Follow the 3Rs



## Recognize when you may have encountered a munition.

**Recognizing** if you may have encountered a munition is the most important step in reducing risk. Munitions may be encountered during residential construction projects. Munitions may be easy or hard to identify.

To avoid injury or, in severe cases, death:

- **Never** move, touch or disturb a munition or suspect munition.
- **Beware** 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.
- **Notify** contractors working in your yard that munitions may be encountered and share the 3Rs information.

**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. The easiest way to avoid risk is to follow the **3Rs**.



## Do not touch, move or disturb it, but carefully leave the area.

In the unlikely event that 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—going out the way you entered. Once safely away from the munition, mark the location or path (e.g., with a piece of clothing) so munitions response personnel can find the munition.



## Notify the local police - Call 911.

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

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

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

- 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



### Morgan General Ordnance Depot Middlesex County, New Jersey

#### Legend

-  Morgan General Ordnance Depot Site Boundary
-  Municipal Boundaries