

## Munitions and Explosives of Concern (MEC) Surface Sweep Planned for NASA Wallops Visitor Center

This information sheet describes NASA Wallops Flight Facility's (WFF) planned efforts to remove potential munitions and explosives of concern and munitions debris from the ground surface at the WFF Visitor Center.

### Helpful Definitions

**UXO - Unexploded Ordnance:** military munitions that have been primed, fuzed, armed or otherwise prepared, or have been fired, placed, dropped, or projected, and remain unexploded; unfired military munitions

**DMM - Discarded Military Munitions:** military munitions that have been abandoned, discarded, or improperly disposed of and are still capable of functioning

**MC - Munitions Constituents:** Any materials originating from UXO, DMM, or other military munitions, including, explosive and nonexplosive materials, and emission, degradation, or breakdown

**MD - Munitions Debris:** military munitions or components thereof that do not contain explosives or pyrotechnics. Includes practice munitions without spotting charges, inert training munitions, expended ejection munitions, and fragments of exploded or destroyed munitions that do not contain explosives or pyrotechnics

**MPPEH - Material Potentially Presenting an Explosive Hazard:** a material that potentially contains explosives or munitions (e.g. munitions containers and packaging material; MD remaining after munitions use, demilitarization, or disposal; and range-related debris); or potentially contains a high enough concentration of explosives such that the material presents an explosive hazard

### What is MEC?

Munitions and Explosives of Concern (MEC) are defined as unexploded ordnance (UXO), discarded military munitions (DMM), and munitions constituents (MC) present in high enough concentrations to pose an explosive hazard.



Munitions Debris removed from Visitor Center Area, 2006



Munitions Debris removed from Visitor Center Area, 2013

### Why Could MEC be Found at the WFF Visitor Center?

NASA hasn't always owned the Visitor Center land and nearby Main Base and Wallops Island properties. The facility was first established in 1943 by the Department of Defense (DoD) and was commissioned as the Chincoteague Naval Aviation Air Station (CNAAS). In 1946, the Naval Aviation Ordnance Test Station (NAOTS) was established at CNAAS to provide a test range and training for personnel to test, modify, and develop guided missiles, aircraft weapons, and aviation fire control equipment. Numerous testing activities occurred on multiple facilities throughout the Main Base, including the Visitor Center area, along with Wallops Island. CNAAS and NAOTS were eventually decommissioned in 1959 and the properties were transferred to NASA.

### What is the History of the WFF Visitor Center?

The WFF Visitor Center area used to be the site of the Navy Test Cell target range, which was built by NAOTS in 1948 for the research, development, and production testing of aviation ordnance, as well as static testing of jet engines for guided missile research. The Test Cell target range included a production test range firing point and an experimental range firing point (former Buildings J-8 and J-17), a separate firing-in butt for each range (Gun Butt No. 1 and Gun Butt No. 2), and a ready service magazine.

## Environmental History

**2010:** USACE conducted a Preliminary Assessment; defined four areas as Project 7

**2012:** USACE conducted Site Inspection which included multimedia collection and sampling; results determined Remedial Investigation (RI) was necessary

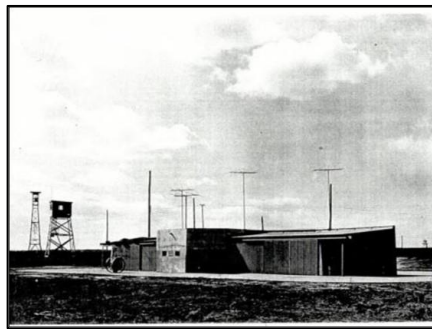
**2014:** USACE began RI fieldwork including additional multimedia sampling and intrusive MEC investigation activities

**2015:** NASA and the Department of the Army entered into a Memorandum of Agreement transferring funds to NASA to manage and implement environmental remedial actions at WFF FUDS

**2021:** NASA entered into an Administrative Agreement on Consent with the Environmental Protection Agency (EPA), which identifies the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) response requirements and guidance as the process for performing work necessary to complete remedial and corrective actions at WFF FUDS. USACE previously conducted fieldwork and completed a preliminary RI prior to transferring the site management to NASA. NASA is in the process of updating the RI; a Feasibility Study for the path forward will likely follow the RI

The gun butts, which were constructed in 1952 and 1955 respectively, consisted of an impact berm filled with sand or soil, and were used to test medium caliber (20 millimeter [mm] and 37mm) aviation guns and ammunition. Prior to their construction, the marsh area served as an overland range. Gun Butt No. 2 remained in use in the 1980's for U.S. Army and local law enforcement small arms use. The impact sand/soils were eventually spread throughout the Visitor Center area for erosion control and landscaping purposes.

Today, the former Test Cell is home to the WFF Visitor Center, J-20, which is an over 16,000 square foot facility, open to the public. The WFF Visitor Center showcases the research activities at Wallops and throughout NASA through exhibits, full-scale rocket displays, and hands-on activities. In addition, there are outdoor displays including rockets, informational signs, picnic tables, spectating stands for launch viewing, and approximately 4 acres of open mowed lawn.



J-8 Test Cell, 1950



Visitor Center, 2022

## Ongoing Environmental Investigations Near the Visitor Center

The area surrounding the Visitor Center and adjacent Boat Basin has been the site of ongoing environmental investigations by the United States Army Corps of Engineers (USACE) and currently NASA under the Formerly Used Defense Sites (FUDS) Program, which investigates

properties formerly under the jurisdiction of the DoD. The site, identified as Operable Unit 9, FUDS Project 7, Boat Basin and Visitor Center Site, is one of several projects under the FUDS Program at WFF. NASA is currently completing a Remedial Investigation (RI) focusing on MEC and MC in soil, sediment, and groundwater. In addition, a human health and an ecological risk assessment is also in progress. The planned MEC Surface Sweep does not address the ongoing RI for Operable Unit 9.

## Previous MEC Clearance Activities

Following two separate Archive Search Reports in 2005, which investigated the historic DoD use of the Visitor Center area, NASA and USACE conducted a property inspection. Several spent 20mm pieces were identified throughout the area. NASA placed temporary fencing in the area to control access until a UXO clearance could be completed. In 2006, NASA completed a surface sweep and intrusive clearance to a depth of 12 inches. Over 2,000 metal items were removed from the surface and upper 1-foot of soil, including over 1,100 munitions items (20mm, 30mm fragments, projectiles, empty cartridges). No live or fuzed MPPEH items were found during the 2006 surface sweep or intrusive clearance. Over 300 items were left in place because they exceeded the 1-foot intrusive limit. This area was then reopened for the current non-intrusive site uses. Based on the Archive Search Reports, USACE and NASA determined that by design and plan, explosive ammunition was not fired at the Test Cell range.

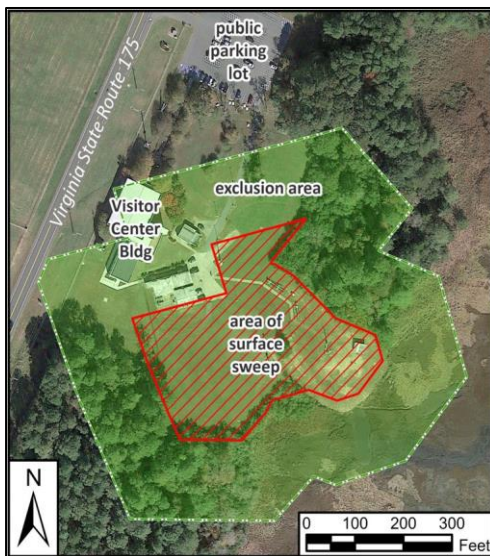
Due to frost heave cycles and erosion, several MD items were identified again within the Visitor Center area in 2013. NASA completed an additional detector-aided MEC surface sweep within the Visitor Center area. A total of 60 items were removed; no MEC or MPPEH was recovered on the surface during this investigation. All 60 items were identified as fragments from 20mm projectiles and were certified as Material Documented as Safe (MDAS).

In 2014, USACE conducted intrusive “mag and dig” investigations of the Visitor Center area, in coordination with other RI fieldwork activities. In addition to almost 300 MD items (20mm/30mm fragments), USACE identified one potential MEC item that was destroyed, along with other items that could not be cleared enough to be certified as MDAS. The area was subsequently reopened for the current non-intrusive site uses.

Recently, several MD fragments were observed on the ground surface within the Visitor Center area. As such, to ensure the safety of visitors and personnel, and to remove potential MEC and MD from the surface, NASA is implementing a Time Critical Removal Action for a MEC Surface Sweep. Temporary fencing has been placed to prevent access.

### Planned MEC Surface Sweep Activities

A surface sweep is planned for July 11 – July 15, 2022 to identify and remove MEC, MD, and other metal scrap from a portion of the Visitor Center area. The area consists of the four-acre lawn located generally east and southeast of the Visitor Center. This work will address the items that have potentially become uncovered from frost heave cycles of the winter months and erosion. No intrusive actions will be conducted during the surface sweep activities.



2022 MEC Surface Sweep Layout

A buffer of at least 200 feet will be clearly delineated, marked, and maintained during activities within the sweep area to protect the safety of workers and the public. Additional safety measures will be implemented as necessary. The Visitor Center will be closed during the surface sweep operation. For an updated schedule of the WFF Visitor Center programs and activities, please visit <https://www.nasa.gov/content/nasa-wallops-visitor-center-2>.

### Keeping Our Community Informed

NASA is committed to communicating about all environmental investigations and will continue to share information about the progress being made at WFF. Updates like this sheet will be distributed periodically and information will be posted on the WFF Environmental Restoration Program website at <https://code200-external.gsfc.nasa.gov/250-WFF/program-areas-restoration-program>

### For More Information Contact

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