

U.S. ARMY CORPS OF ENGINEERS
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Geophysical Pilot Project Summary and Next Steps

Overview:

In 2016, USACE performed a Pilot Project to test newly developed Advanced Geophysical Classification (AGC) sensors at three residential properties, in preparation for full scale Spring Valley Formerly Used Defense Site (FUDS) remedial actions that are recommended for 92 private properties. AGC involves electromagnetic survey tools that not only locate buried metallic objects, but can identify which items are buried intact munitions, thereby reducing costs, timeline, and property impact by eliminating unnecessary excavation of non-munition items associated with the remedial action.

Pilot Project:

Recent developments of smaller AGC equipment have been designed to be used in areas with limited accessibility, such as Spring Valley's urban environment. The Spring Valley FUDS Pilot Project tested two newly developed AGC devices: a TEMTADS (Time-Domain Electromagnetic Multi-sensor Towed Array Detection System) and a MPV (Man Portable Vector). This equipment was tested in concert with the Naval Research Laboratory, which is the foremost DoD authority in development of this technology.

Three different geophysical tools used during Pilot Project



MPV

The Manned Portable Vector, commonly referred to as the MPV, was one of the two new Advanced Classification (AC) geophysical mapping technologies tested during the Pilot Project



TEMTADS

The Time-domain Electromagnetic Multi-sensor Towed Array Detection System, or TEMTADS, was the other new AC geophysical mapping technology tested during the Pilot Project



EM-61

This electromagnetic instrument has been the standard used for years to map geophysical anomalies. It can help ensure anomalies are not missed during initial mapping, but has no AC capabilities.

The Corps of Engineers team also elected to use the EM-61, an electromagnetic instrument used in our previous investigations. The EM-61 was used to verify some of the readings from the TEMTADS and MPV, as well as finish geophysically surveying some areas that were not surveyed during the previous



Spring Valley Formerly Used Defense Site Washington, D.C.

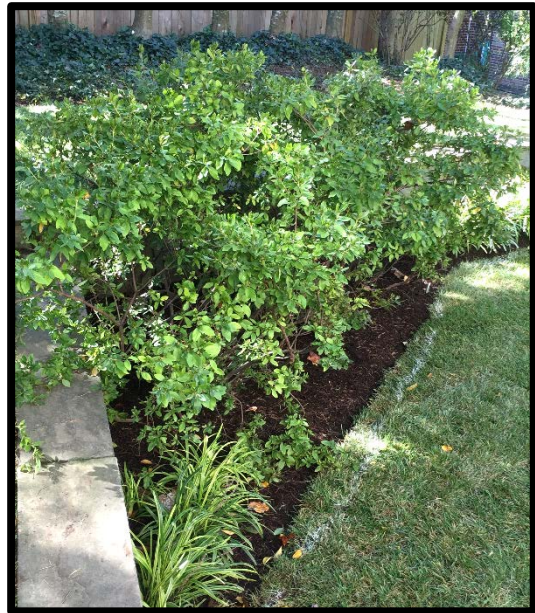
investigations on these three properties. The Pilot Project included oversight from our regulatory partners, the Environmental Protection Agency (EPA) and the Department of Energy and Environment (DOEE).

The Pilot Project included burial of inert munition targets (blind seeds) to confirm AGC detection results, and excavation and removal of all subsurface items detected to allow 100% identification of all buried objects. Over 200 items were excavated at each property, predominantly cultural debris (nails, re-bar, etc.). A Stokes Mortar was also correctly identified by the new AGC equipment, determined to be an inert practice round, and subsequently removed for proper off-site disposal by an Army Explosives and Ordnance Demolition Unit.

Restoration at these three properties began when this intrusive anomaly removal phase was completed. Restoration work included reinstalling transplanted plants, planting new replacements, replacing sod, and restoring damaged sidewalk squares. We were able to work individually with each property owner to successfully restore the landscaping that was disturbed during the Pilot Project.



Restored driveway apron and sidewalk.



A transplanted azalea bush. This area was also mulched and had sod replacement during restoration activities.

What were the Pilot Project's Conclusions?

The results of the Pilot Project were approved by the EPA and DOEE, and concluded that either the MPV or the TEMTADS would be capable of meeting the Spring Valley FUDS remedial action objectives if used in concert with a G-858 Magnetometer.

What's next?

The findings of the report and lessons learned will be incorporated into the Site-Wide Remedial Design, which will provide the outline for removal actions at 92 properties recommended by the Site-Wide Proposed Plan.

Where can I learn more?

The Pilot Project report is available on USACE's Spring Valley website: <http://www.nab.usace.army.mil/Home/SpringValley.aspx> and in our Information Repository at the Tenley-Friendship Neighborhood Library. To learn more, please call our Community Outreach Office at 410-962-2210 or email rebecca.e.yahiel@usace.army.mil.