



Evaluation, Identification, and Management of Potential Solid Waste Sites at the Former Ravenna Army Ammunition Plant/ Camp James A. Garfield

Restoration Advisory Board Meeting

22 May 2019



Project Team

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Project Objectives

- Evaluate and identify areas where solid waste is present at CJAG due to past industrial activities and/or OHARNG
- In response to an interoffice memorandum from the Ohio EPA to the Army Team 24 July 2014
- Review historical information to:
 - Inventory all known and suspected solid waste sites
 - Identify additional potential sites
- Perform visual surveys of potential sites to document current site conditions
- Evaluate sites
 - Identify solid waste type
 - Delineate site boundaries
- Develop Solid Waste Management Plan of all solid waste sites



Deliverables

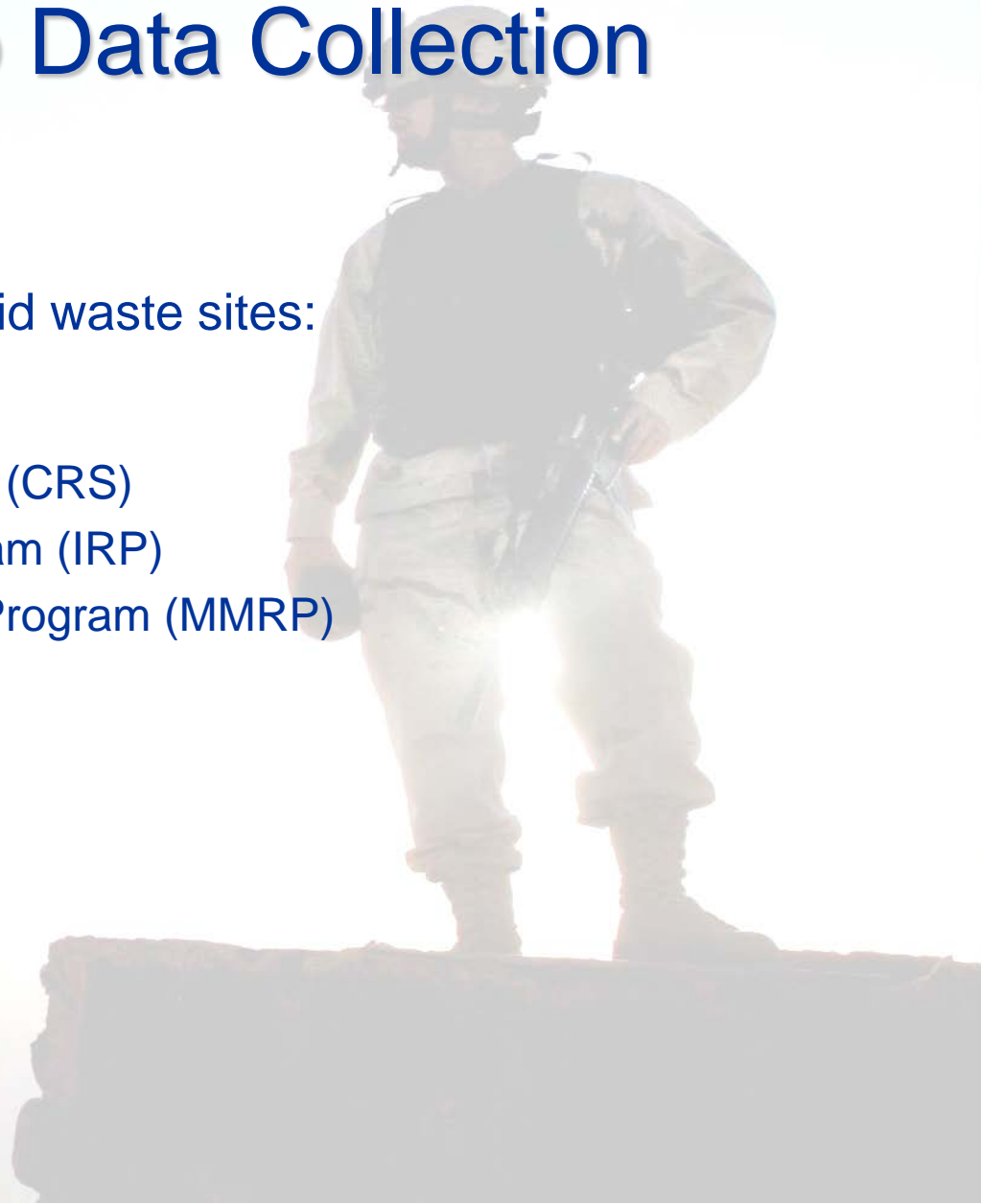
- Work Plan (WP) – 05/2016
- Visual Assessment Survey Report (VASR) – 12/2017
- Intrusive Investigations Trip Report - 02/2018
- Solid Waste Management Plan (SWMP) – 04/2019



Desktop Data Collection

Identify and evaluate potential solid waste sites:

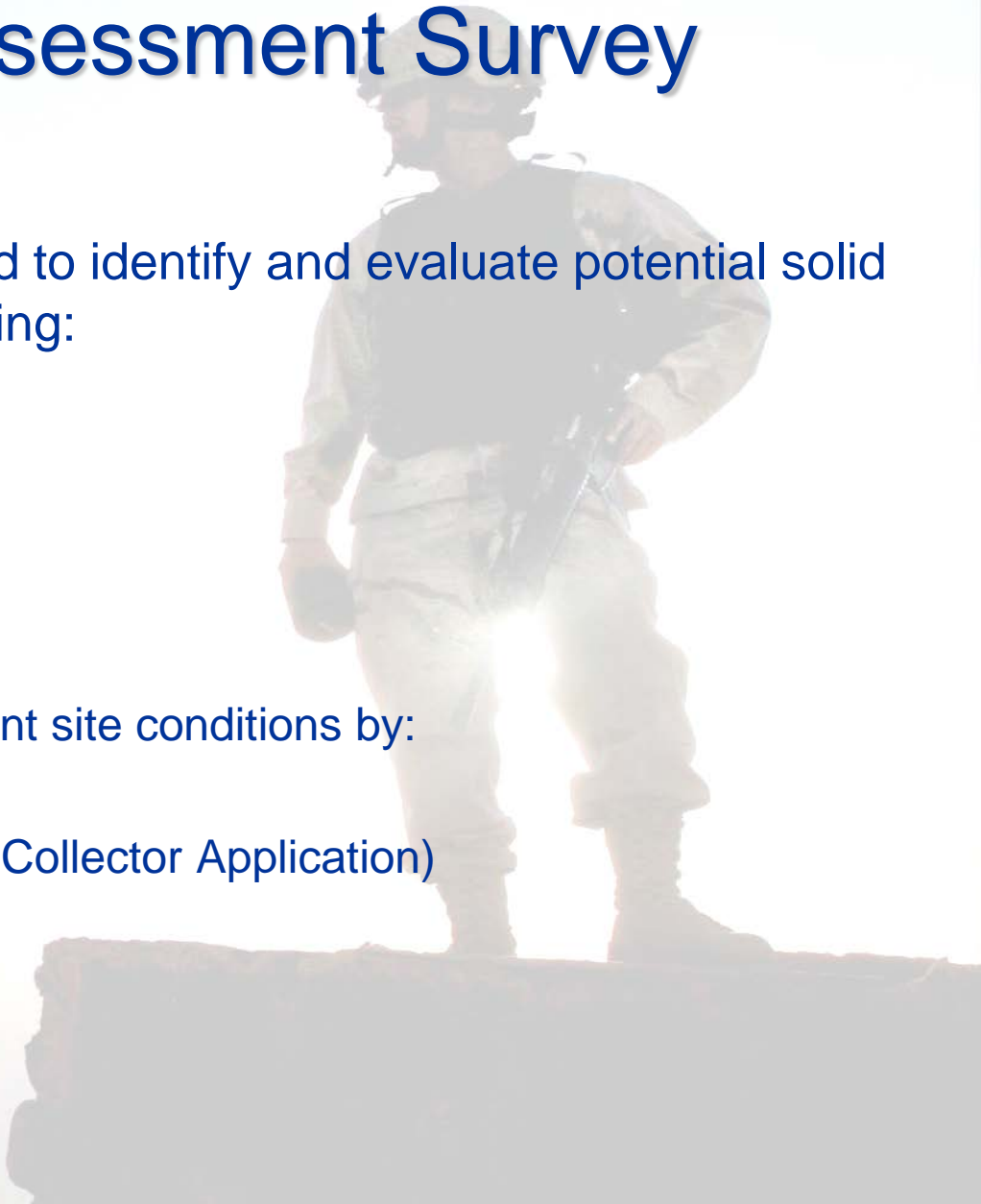
- Conduct historical records review
 - Compliance Restoration Sites (CRS)
 - Installation Restoration Program (IRP)
 - Military Munitions Response Program (MMRP)
- Aerial photography analysis
- Conduct Interviews





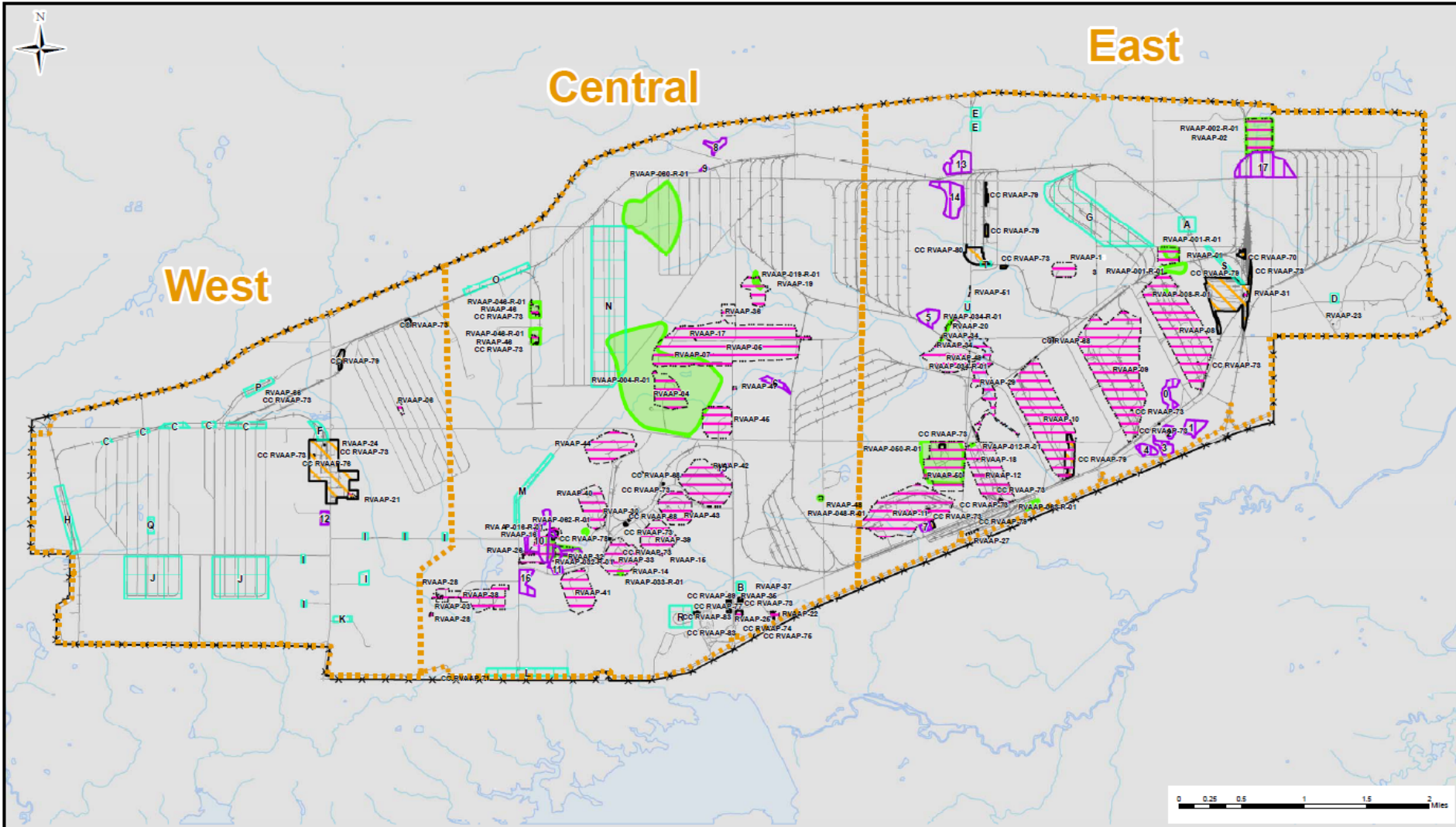
Visual Assessment Survey

- A visual survey was conducted to identify and evaluate potential solid waste at all CJAG sites including:
 - CRS
 - IRP
 - MMRP
 - Aerial photo sites
 - Interview sites
- Visual surveys documented current site conditions by:
 - Site walk/windshield tour
 - Photos linked to GPS points (Collector Application)
 - Measurements





Visual Assessment Survey Report



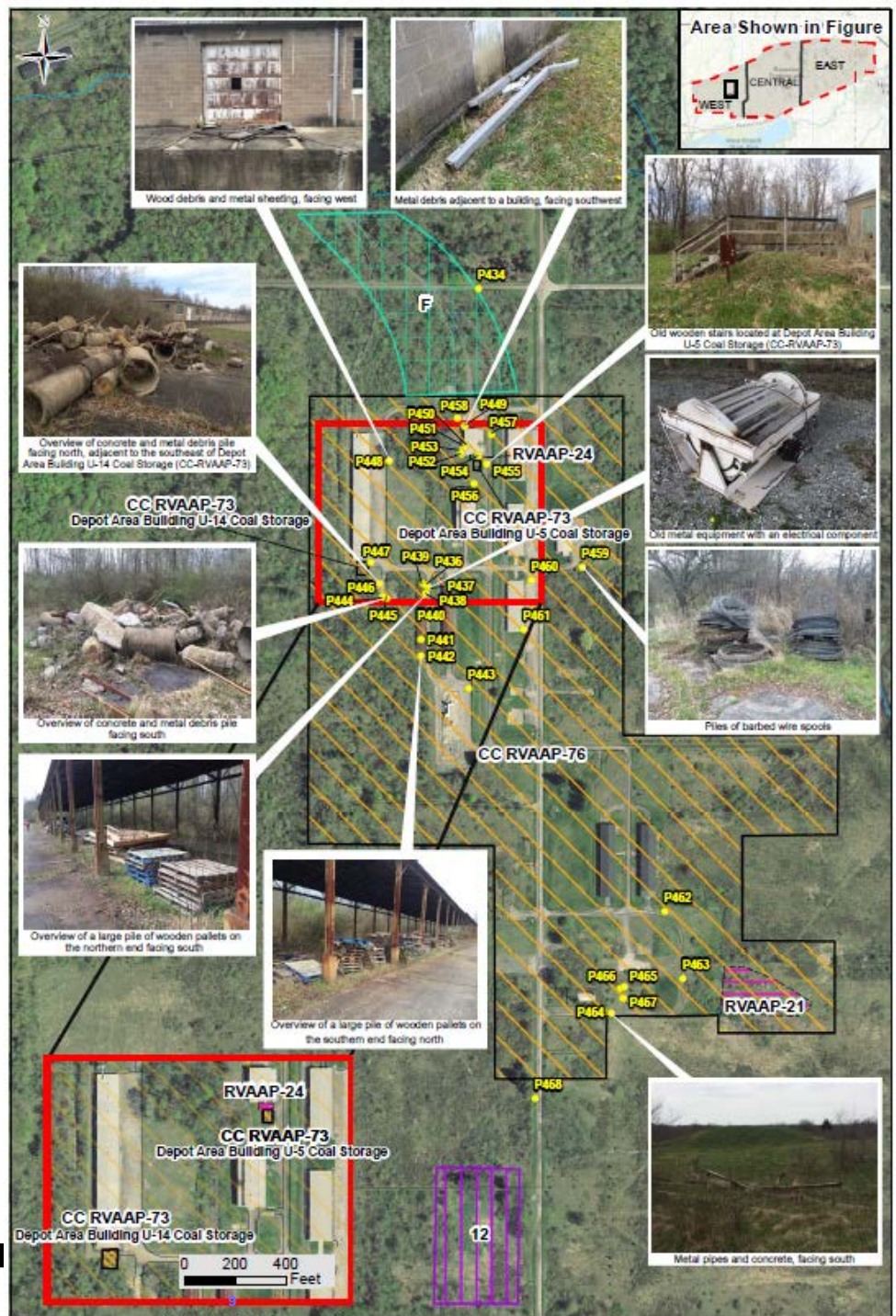


Depot Area (CC RVAAP-76)



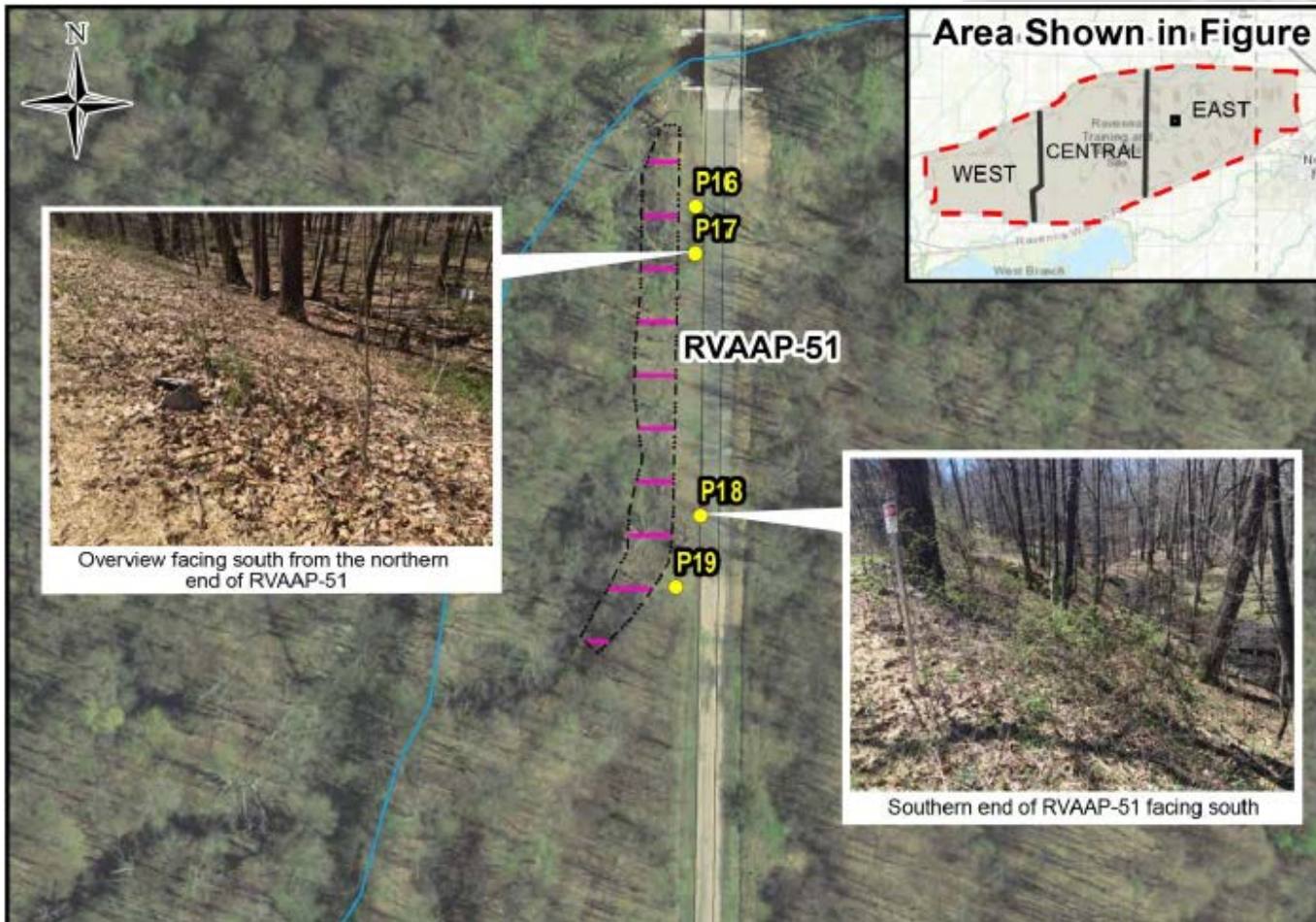


Depot Area (CC RVAAP-76) and Depot Sewage Treatment Plant (RVAAP-21)





Dump along Paris Windham Road (RVAAP-51)



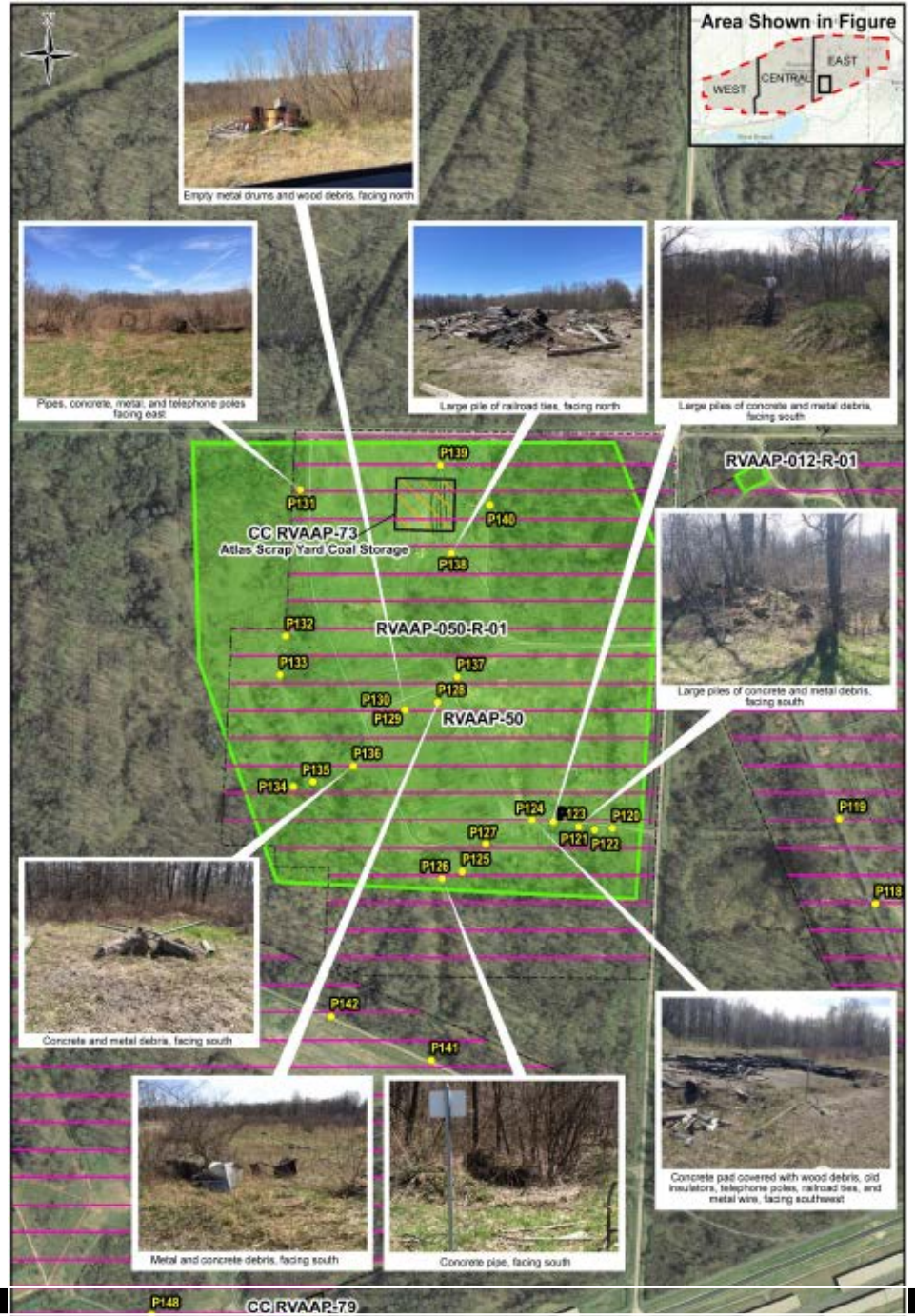


Atlas Scrap Yard (RVAAP-50)





Atlas Scrap Yard IRP Site and MRS (RVAAP-50, RVAAP-050-R-01) and Atlas Scrap Yard Coal Storage CRS (CC RVAAP-73)



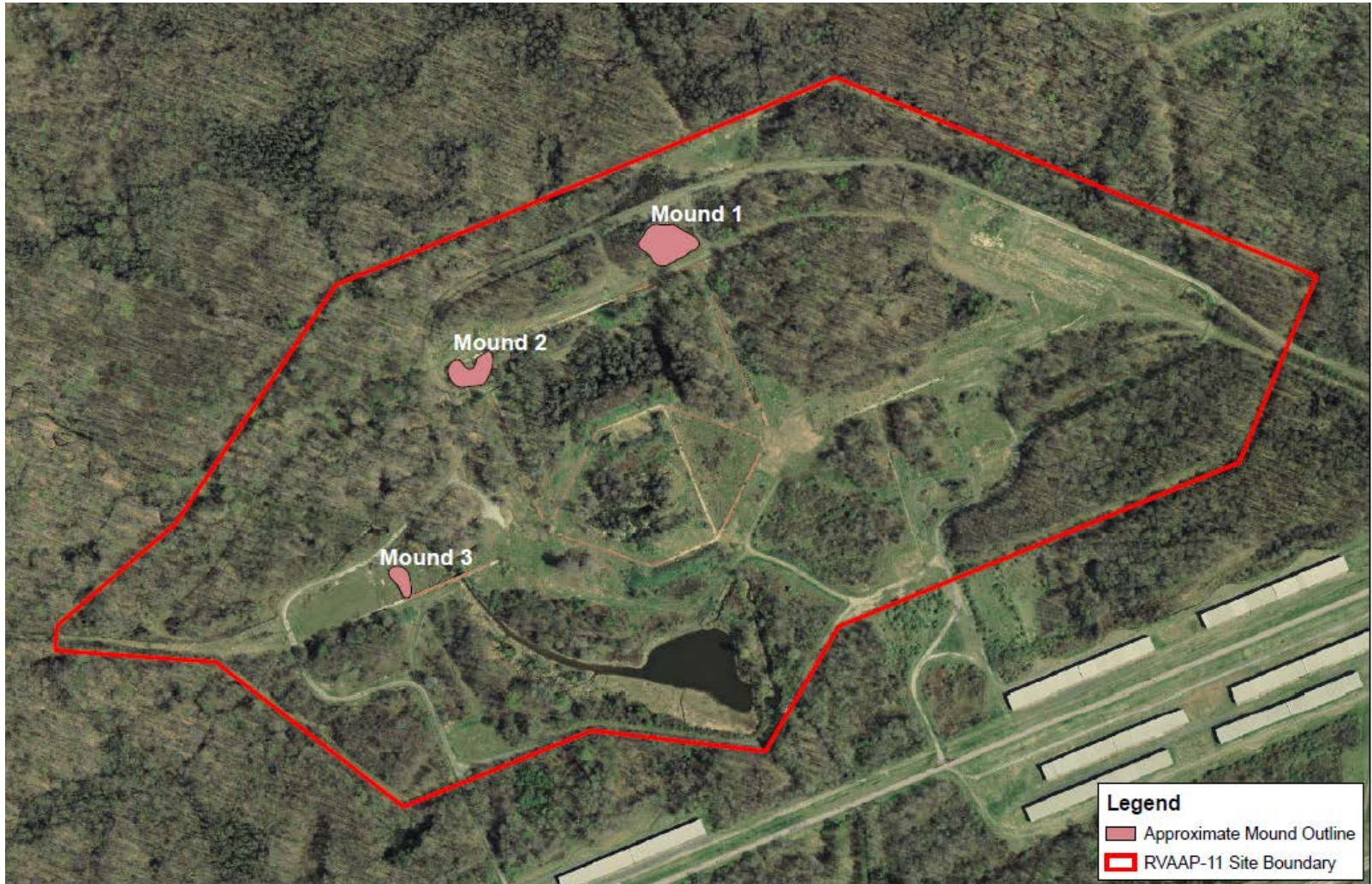


Intrusive Investigation

- Locations where historical information and visual inspection insufficient in identifying potential subsurface solid waste
- Supplement previous information collected with further field activities
 - Test pits – conducted to confirm presence of solid waste
- RVAAP-11 (Load Line 4)
 - Approximately 124.9 acres located in the southwest portion of the Eastern Area
 - Mounded soil - suspected solid waste (i.e. potential remnants of building demolition debris or earthen mounds)



Mounded Areas (RVAAP-11)





Intrusive Investigation Summary: Mounded Areas (RVAAP-11)

- Field team documented the work with detailed notes and photographs.
- Each test pit was photographed and GPS locations were collected
- A photoionization detector (PID) was used to monitor for volatile organic compounds (VOCs) during excavation activities
- Five test pits were excavated at each mound
- Test pits were approximately 4 feet deep and 6 feet long and the width of the excavator bucket
- Rebar, compacted fill crushed stone
- Historical specifications maps depicted as engineered barricades
- Intrusive investigation confirmed no solid waste present



Intrusive Investigation: Mounded Areas (RVAAP-11)





Solid Waste Management Plan

- Full documentation of all solid waste sites
 - Current solid waste management status
 - Define/categorize waste and applicable regulations
 - Findings of site evaluations
 - Recommendations for future management
- Additional one-page fact sheet
 - Site location, boundary delineation, photograph
 - Site history
 - Date of Waste Placement
 - Investigation findings
 - Solid waste characterization
 - Waste management recommendations



CJAG sites addressed

- Waste (debris and materials) was removed
 - Site D identified via site interviews (Old Class IV Yard)
 - CC RVAAP-83 Former Building 1031
- Intrusive investigated sites
 - Site O intrusive investigation confirmed no solid waste present
 - RVAAP-11 (Load Line 4) intrusive investigation confirmed absence of solid waste in the mounded berms.
- Waste consolidation/final grading site
 - Site 15 Clean Hard Fill (Load Line 1) capped with soil



Solid Waste Management Plan

- 152 areas were evaluated in the VASR
 - 68 visual survey sites did not have solid waste present
 - 51 Troop Labor Sites – sites with minimal surficial debris that will be collected and properly disposed of as part of future training activities
- SWMP identified 33 areas with solid waste
 - Buried Solid Waste Only
 - Surficial Solid Waste Only
 - Both Buried and Surficial Solid Waste
- Identified applicable Ohio Administrative Codes (OACs)
 - Open Dumping (only solid waste on the ground surface)
 - Solid Waste Management Unit (buried solid waste)



Example *Surficial* Solid Waste Fact Sheet

Depot Sewage Treatment Plant (RVAAP-21) and Depot Area (CC RVAAP-76) SWMP Fact Sheet

Fact Sheet 4-5: Depot Sewage Treatment Plant (RVAAP-21) and Depot Area (CC RVAAP-76) Solid Waste Site



Site History

The Depot Area is a 79-acre CRS (CC RVAAP-76) located along Route 80 that encompasses the Depot Sewage Treatment Plant (RVAAP-21). Operations performed at the CRS include locomotive/vehicle fueling and repair, petroleum oil/lubricant storage, and solid waste incinerator activities. Site operations occurred between 1941 and 1971. Additionally, munitions demilitarization activities occurred in one onsite building. The sewage treatment plant operated intermittently between 1941 and 1993. The facility was closed in 1993 in accordance with Ohio EPA requirements. The treatment plant was associated with former Buildings U-19 and U-19A. Sludge generated at the facility was transported to the George Road Sewage Treatment Plant for disposal. The facility was closed in 1993 in accordance with Ohio EPA requirements. A 1998 environmental baseline survey (Vista, 1998) of the site discussed the removal of on-site tanks and water treatment-related equipment. No future IRP phases were recommended for the site. The NPDES permit was terminated in May 2000. Demolition debris from several former buildings remained on site on the soil surface in 2013 (ECC and AMEC, 2013).

Date of Waste Placement

Surficial waste: Before 1993

Investigative Findings

A 234 ft long, 24 ft pile, 10 ft high pile of wooden pallets under a covered awning exists at the site (AECOM, 2017). A large pile of concrete footers from fence posts are also at the site.

Solid Waste Characterization

Surficial solid waste at the Depot Sewage Treatment Plant (RVAAP-21) is categorized as Open Dumping (OAC 3745-27-01).

Waste Management Activities

Management recommendations for the surficial solid waste at the Depot Area and Depot Sewage Treatment Plant include:

- Disposal of surficial solid waste in a disposal facility as defined by OAC 3745-27-01 and licensed in accordance with OAC Chapter 3745-37.





Example *Buried* Solid Waste Fact Sheet

Dump along Paris-Windham Road (RVAAP-51) SWMP Fact Sheet

Fact Sheet 4-4: Dump along Paris-Windham Road (RVAAP-51) Solid Waste Site



Site History

The Dump along Paris-Windham Road is an IRP site (RVAAP-51), approximately 0.25 acre, located along a steep embankment on the west side of Paris-Windham Road. The site was used as a dump for construction debris and other materials. No records of the dates that the site was in use or quantities of refuse discarded in the area exist (USACE, 2015a). ACM has been discarded in the dump site from construction and demolition activities. The site was excavated in 2003 to remove debris to the fullest extent possible without undermining the roadway. Following the excavation, any remaining debris or ACM was covered with clean hard fill, and the soil was re-seeded (SAIC, 2010b).

Date of Waste Placement

Buried waste: Dates unknown
Buried waste reconsolidation: 2003

Investigative Findings

The cap over buried materials was observed during the 2016 AECOM Visual Assessment Survey. No evidence of solid waste was observed. The area is marked as off-limits with Siebert stakes, and the extent of the remaining subsurface solid waste is delineated.

Solid Waste Characterization

The remaining solid waste at the Dump along Paris-Windham Road is buried waste that is considered a solid waste management unit. No surficial waste exists at the site.

Waste Management Activities

Management recommendations for the Dump Along Paris-Windham Road include:

- Buried solid waste is a solid waste management unit that will remain in place. If disturbance is required then an OAC 3745-27-13(C)(2)(c) exemption applies.





Example *Surficial and Buried* Solid Waste Fact Sheet

Atlas Scrap Yard IRP Site and MRS (RVAAP-50, RVAAP-050-R-01) and Atlas Scrap Yard Coal Storage CRS (CC RVAAP-73) SWMP Fact Sheet

Fact Sheet 4-17: Atlas Scrap Yard IRP Site and MRS (RVAAP-50, RVAAP-050-R-01) and Atlas Scrap Yard Coal Storage CRS (CC RVAAP-73) Solid Waste Site



Site History

Atlas Scrap Yard is a 74-acre IRP site (RVAAP-50) overlapping with a 86-acre MRS (RVAAP-050-R-01) and Coal Storage CRS (CC RVAAP-73). The site was used after World War II as a scrap yard for bulk materials, including gravel, railroad ballasts, sand, and culvert pipes. Coal was piled at the site, and the central-east portion of the site was used as a staging area for salvaged ammunition from Vietnam War munitions. Demolition and grading occurred at most of the coal storage sites, and NFA was recommended for the Atlas Scrap Yard Coal Storage CRS (SAIC, 2011b). No residual coal was found according to a 2015 RI report (ECC and AMEC, 2015). A 2014 geophysical survey identified 12,851 pounds of scrap metal, slag, nails, pipe, and construction debris (Shaw, 2014). Debris was temporarily removed from the ground and replaced, and the 2017 MMRP Proposed Plan (HGL, 2017) concluded NFA. A 2017 IRP RI was conducted and FS is planned (Leidos, 2017b).

Date of Waste Placement

Buried Waste: Vietnam War era (approx. 1975)
Surficial Waste: Vietnam War era (approx. 1975)
Buried Waste Reconsolidation: 2014

Investigative Findings

Large piles of concrete and metal, railroad ties, insulators, and asphalt observed during the AECOM 2016 Visual Assessment Survey have since been removed. Smaller piles of metal, wood, and concrete surface debris remain scattered throughout the site.

Solid Waste Characterization

Surficial solid waste at the Atlas Scrap Yard is considered Open Dumping. Buried scrap metal and debris encountered during 2014 MMRP activities that was returned to the ground is now considered a solid waste management unit.

Waste Management Activities

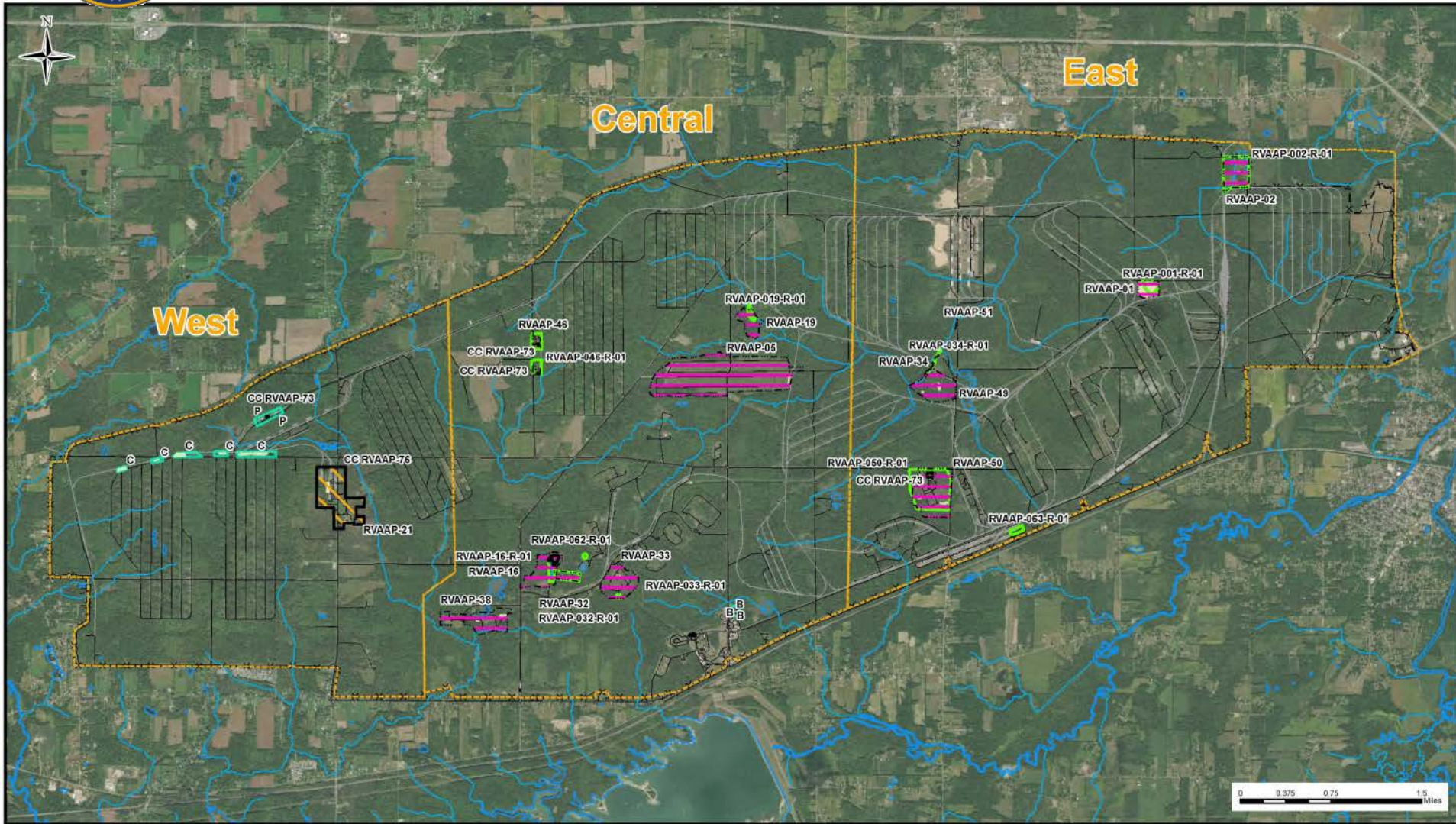
Management recommendations for solid waste at the Atlas Scrap Yard include:

- Surficial waste qualifies as Open Dumping (OAC 3745-27-01) and will be removed and disposed of properly as funds become available.
- Buried solid waste is a solid waste management unit, which will remain in place. If disturbance is required then an OAC 3745-27-13(C)(2)(c) exemption applies.





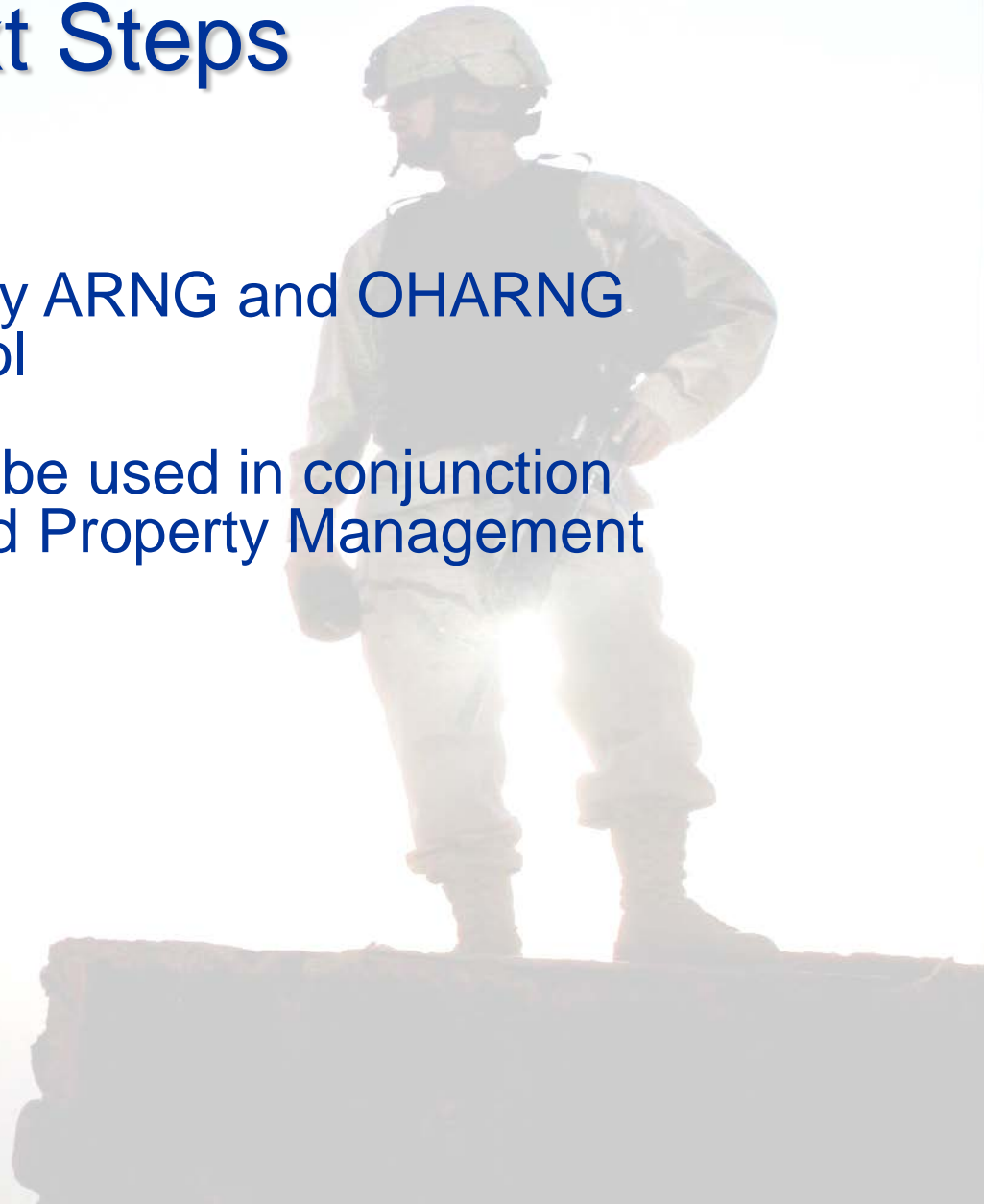
Solid Waste Management Plan





Next Steps

- SWMP will be used by ARNG and OHARNG as a management tool
- The Final SWMP will be used in conjunction with the Final Revised Property Management Plan





Questions?

