



# **Fort Detrick Installation Restoration Program FY16 Planned Activities**

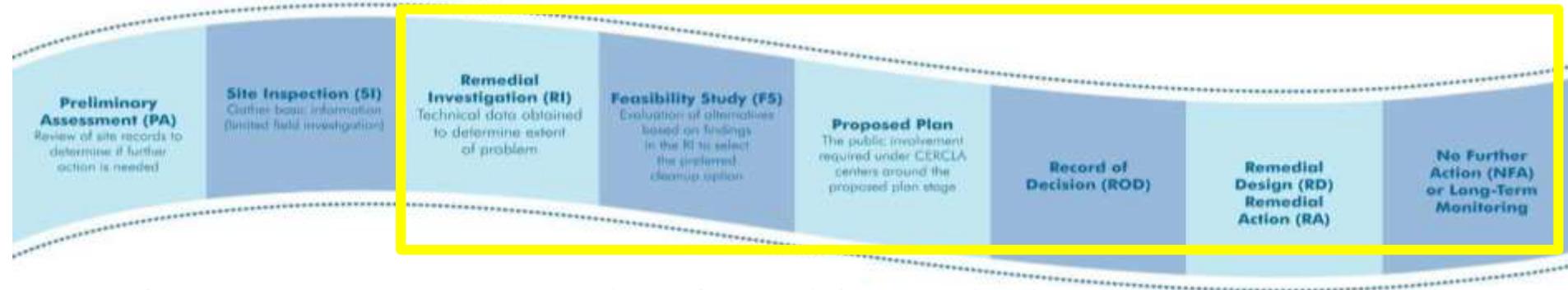
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Restoration Program  
USAG Environmental Management Division**



# Comprehensive Environmental Response,



## Compensation & Liability Act (CERCLA)



1. *Preliminary Assessment* - Determines if potential contamination exists
2. *Site Inspection* – Site sampling and additional investigations
3. ***Remedial Investigation (RI)*** –Characterization of the full nature and extent and contamination is investigated. A risk assessment is performed to characterize current and potential threats to human health and the environment and helps establish acceptable exposure levels.
4. *Feasibility Study (FS)* - Options for cleanup are investigated and identified.
5. *Proposed Plan (PP)* - The PP is prepared for public comment. It summarizes the remedial alternatives presented in the FS and identifies the preferred alternative.
6. *Record of Decision (Decision Document)* The selected cleanup option is outlined in a public document called the Decision Document.
7. *Remedial Design* – Design of the selected remedy.
8. *Remedial Action* – Implementation of the selected Remedy.



# Fort Detrick IRP



## FY 16/17 Projects

- Area A Building 190 Boiler Plant – (2) Underground Storage Tanks (USTs) Removal with remediation of soil contaminated from #6 oil spill (Request site closure) (1-2 Qtr FY16)
- Area A Building 568 TCE Spill Site Vapor Intrusion Testing - Round 2 (FY16)
- Area B Groundwater Investigations – Remedial Investigation underway
  - FY16 Activities:
    - Ongoing Landfill Cap inspections and monitoring
    - Ongoing groundwater monitoring
    - Off-post groundwater testing
      - Waverly View
      - Frederick County Montevue Lane Property
      - Carroll Creek spring discharge areas
    - Interim Action to connect 5 county residents to City of Frederick public water
  - Archival Search Reports – Begin Site Inspection Investigations
    - SI locations have been grouped into 8 categories



# Building 190 #6 Oil Plume



- 1995 - Ten 50,000 gal leaking USTs were removed (caused a # 6 oil plume)
- Corrective Action Plan – finalized in 2006
  - Product recovery by skimming
    - (Less than 300 Gals in 10+ years)
  - Quarterly monitoring of groundwater





# Building 190 History

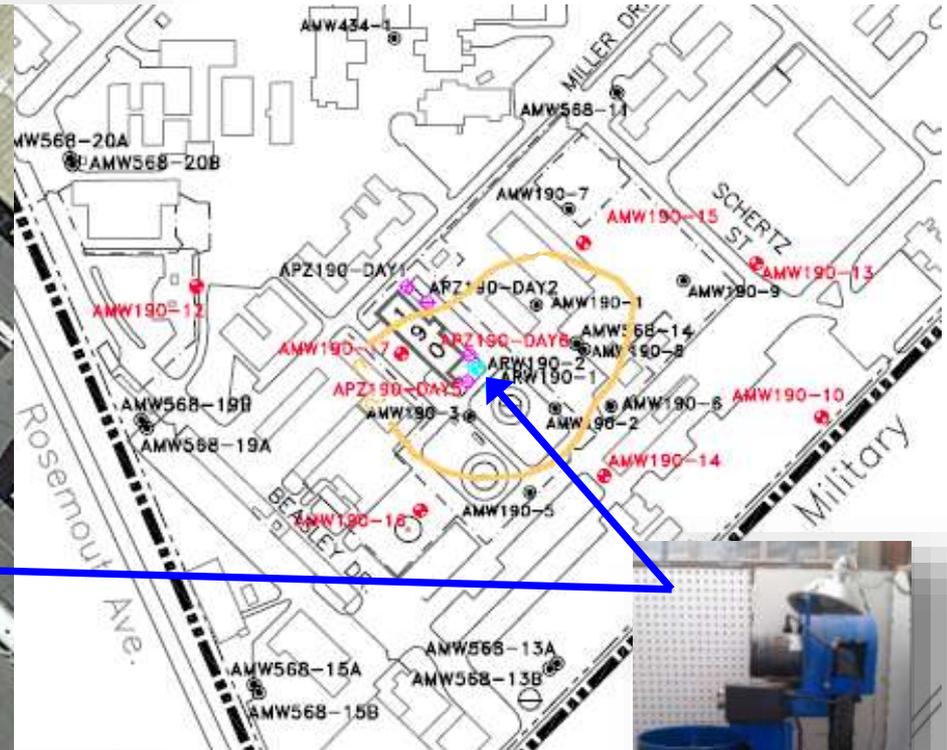
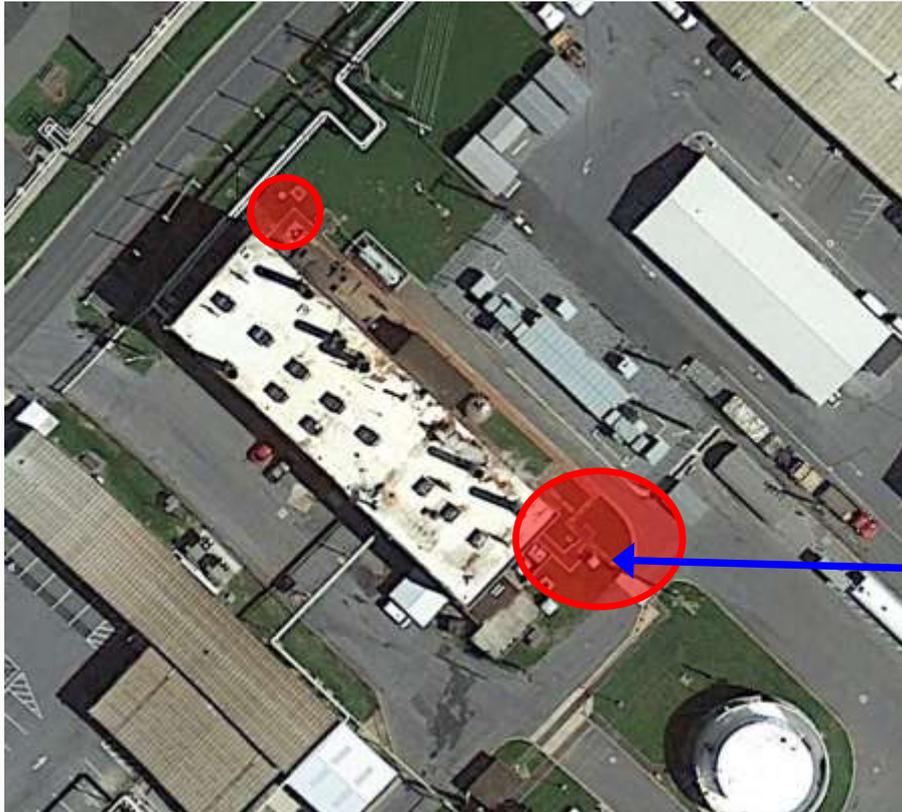


- Boiler plant historically burned Natural Gas or #6 Fuel Oil to produce steam.
- 1995 - Large Above Ground Storage Tanks and two USTs were installed to replace old UST farm
- 2014 Decision made to decentralize plant and end burning #6 fuel Oil
- March 19<sup>th</sup> 2015 – Last of #6 oil burned at plant
  - MDE UST regulations require USTs to be removed within 1 year of out of service date
- FY 2015 Contract awarded to remove tank and excavate contaminated soils to the extent possible
  - Limitations Building 190 footer, gas line, transformer bank, other utilities.



# Area A Building 190

## Two USTs Removal





# Next Steps



- UST removal with remediation of soil contaminated from #6 oil spill (Request site closure) (1-2 Qtr FY16)
  - MDE Oil Control Program inspector onsite during removal action.
  - Close out report
  - Future RAB presentation
- Request closure of UST tanks (FY16)
- Request closure of #6 fuel oil spill site. (FY16/17)



# Fort Detrick IRP



## FY 16/17 Projects

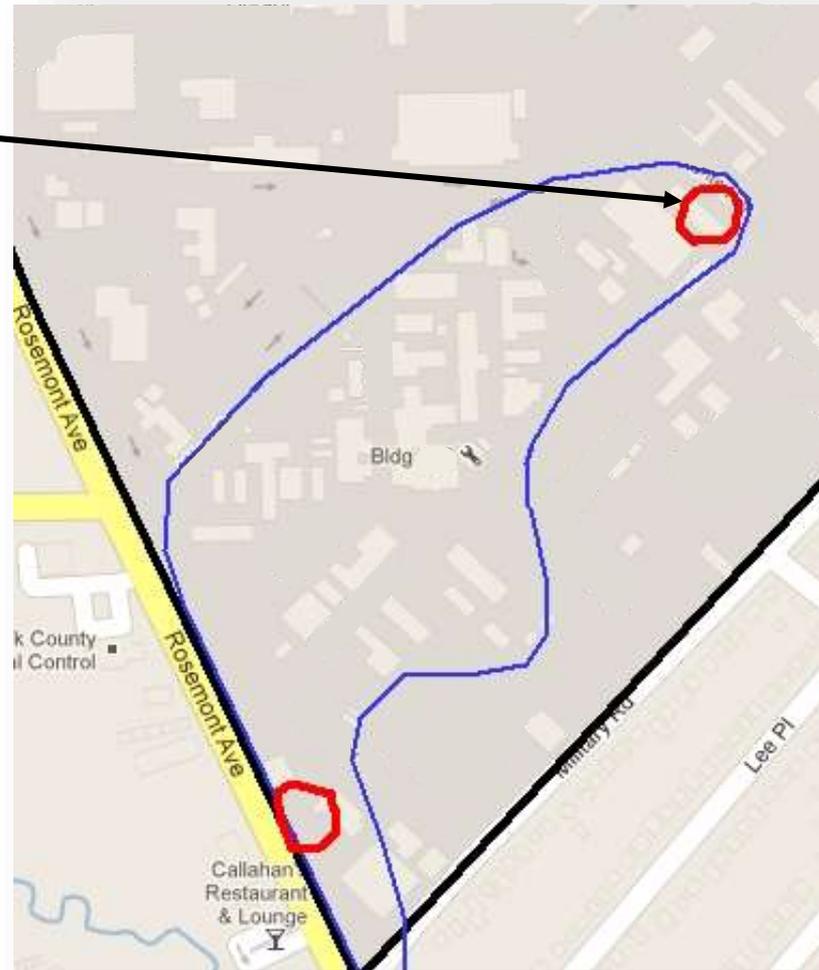
- Area A Building 190 – (2) USTs Removal with remediation of soil contaminated from #6 oil spill (Request site closure) (FY16)
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# Area A VI Test Locations



- Trichloroethylene was historically used as a refrigerant medium in Building 568.
- Spills or leaks resulted in groundwater contamination.
- 1985 - Groundwater withdraws at Building 568 has created capture zone and has been remediating the site.
- June 2001 -Decision Document was signed to monitor groundwater capture
- Site approaching MCLs of 5 parts per billion (ppb).
- Five-Year review of site recommended VI testing of buildings near groundwater locations above 5 ppb TCE. ○





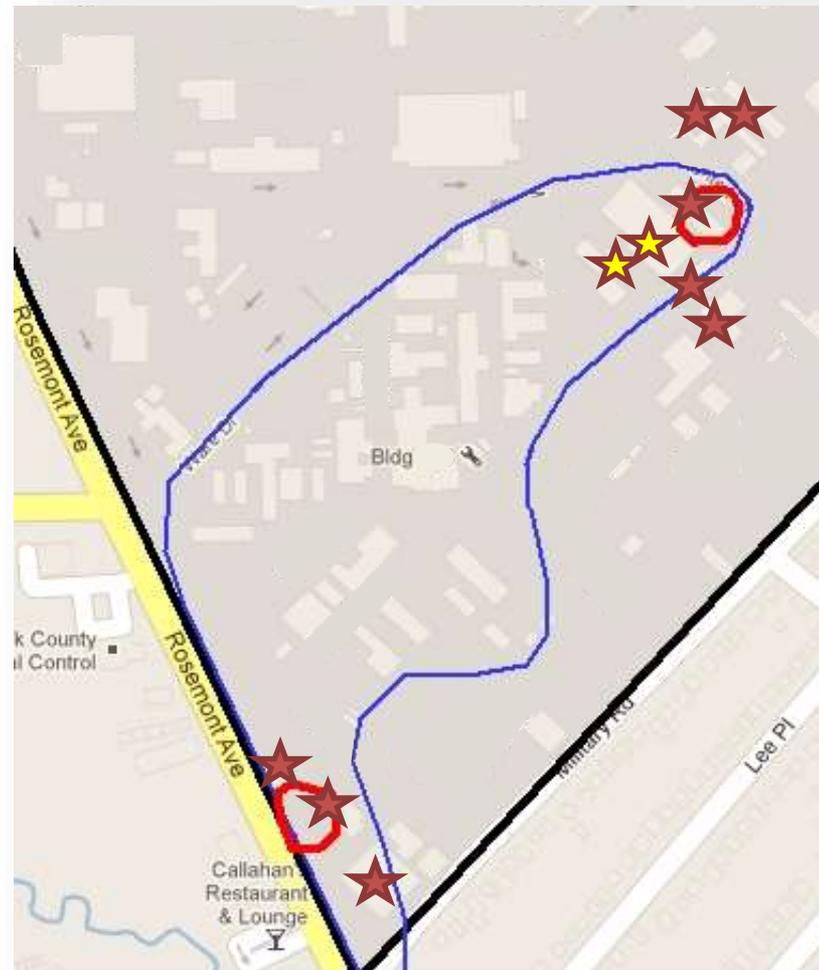
# Area A VI Test Locations



- ★ 8 Army buildings
- ★ 2 NCI buildings
- Completed one round of testing at 10 locations

**UPDATE:** Second round vapor intrusion testing rescheduled for FY16 heating season for select locations to obtain sufficient data for risk assessment.

- MDE approved workplan





# Fort Detrick IRP

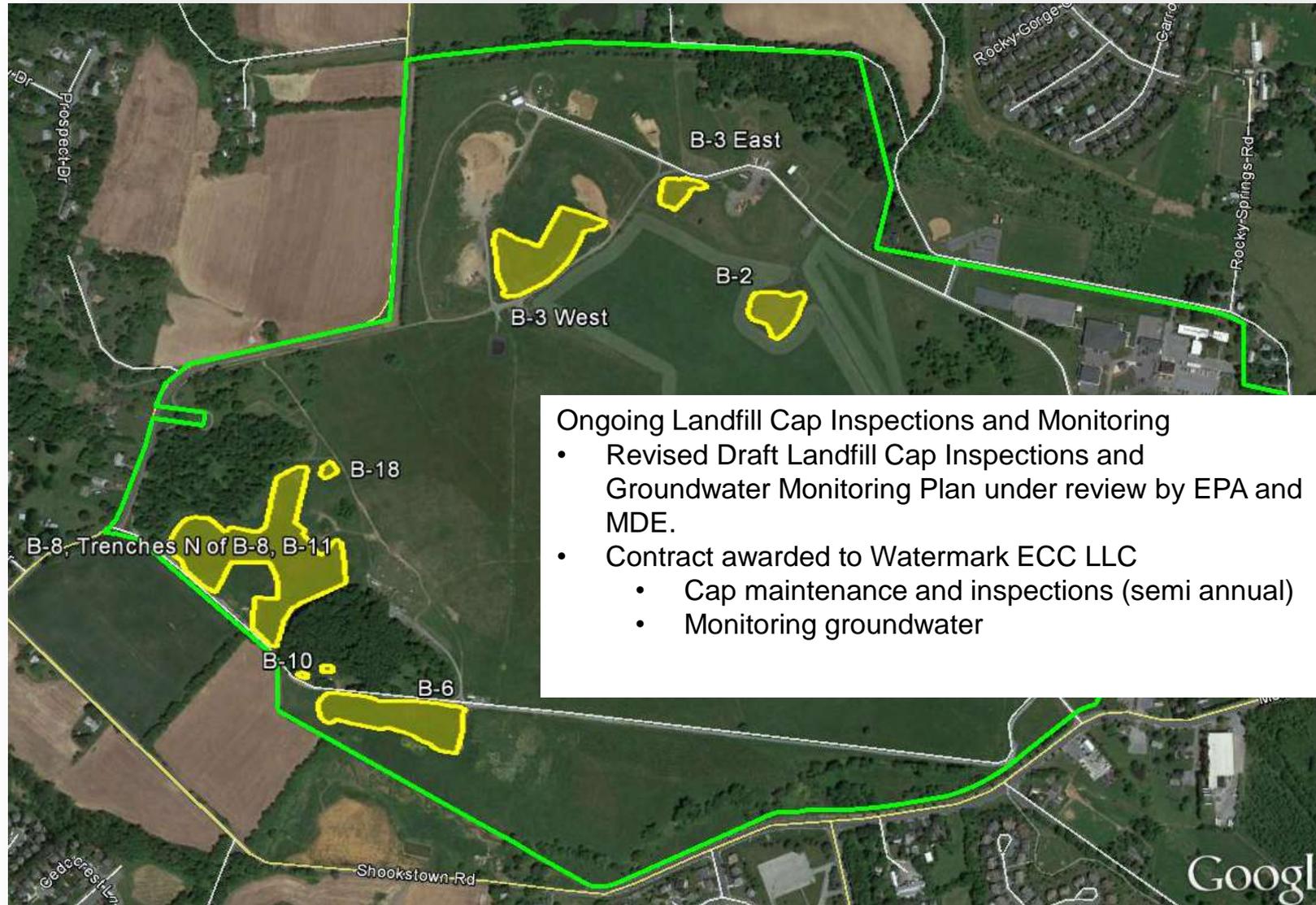


## FY 16/17 Projects

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# Area B Restoration Sites

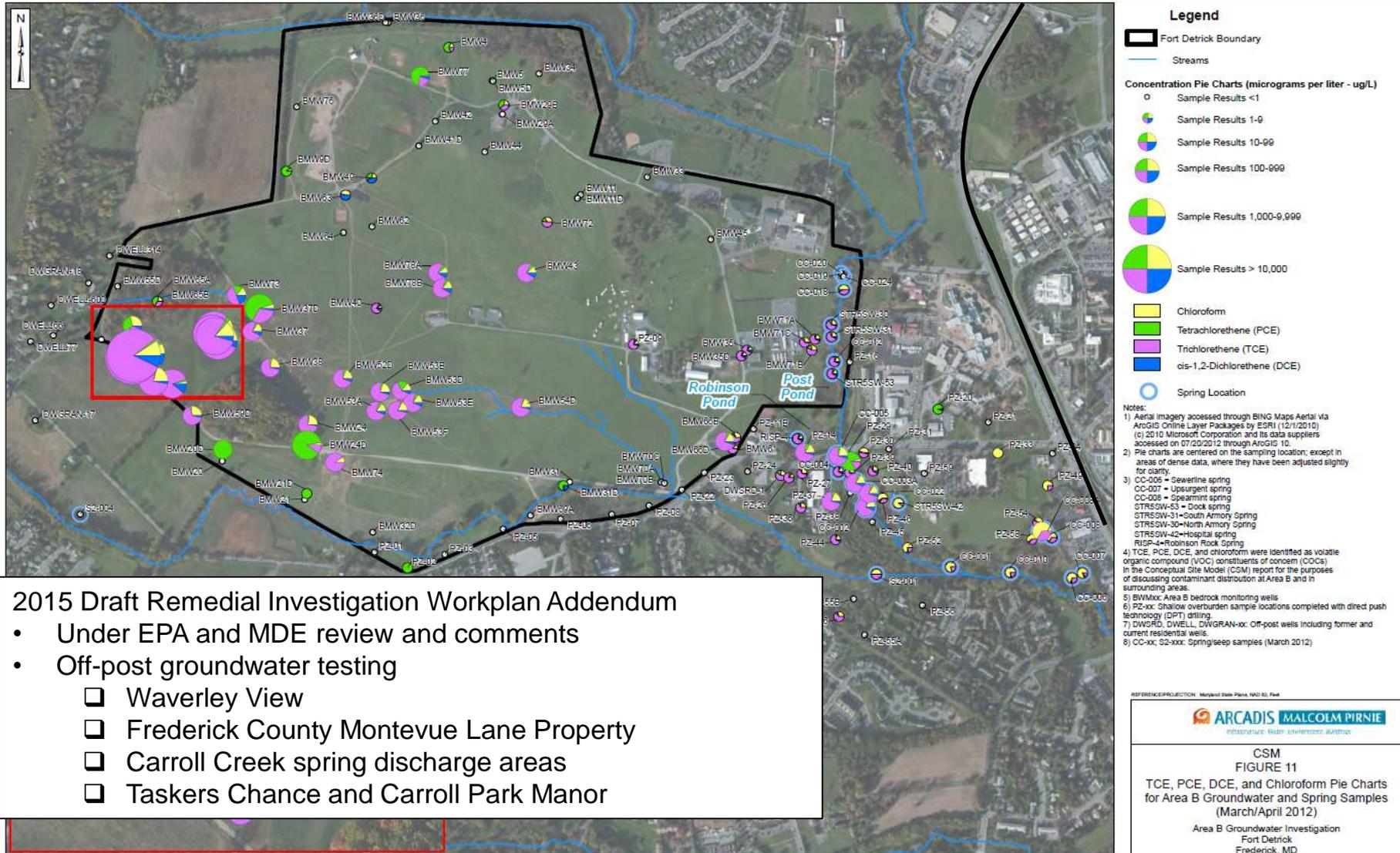


Ongoing Landfill Cap Inspections and Monitoring

- Revised Draft Landfill Cap Inspections and Groundwater Monitoring Plan under review by EPA and MDE.
- Contract awarded to Watermark ECC LLC
  - Cap maintenance and inspections (semi annual)
  - Monitoring groundwater



# Area B Groundwater Contamination





# Waverley View



- Working on long term access agreement
- Completed one round of deep well testing in September 2015
- Draft Workplan: FY16 – Additional groundwater sampling and synoptic groundwater levels.
  - *Locations not finalized*

## Legend

- Fort Detrick Boundary
- Frederick County Montevue Campus
- Stream
- Water Body
- Proposed Drilling Location
- Stream Gauge
- Abandoned Borehole
- 17 Permanent Monitoring Point ID
- TW-1 USACE Temp Sampling Point ID
- PZ-22 Piezometer ID

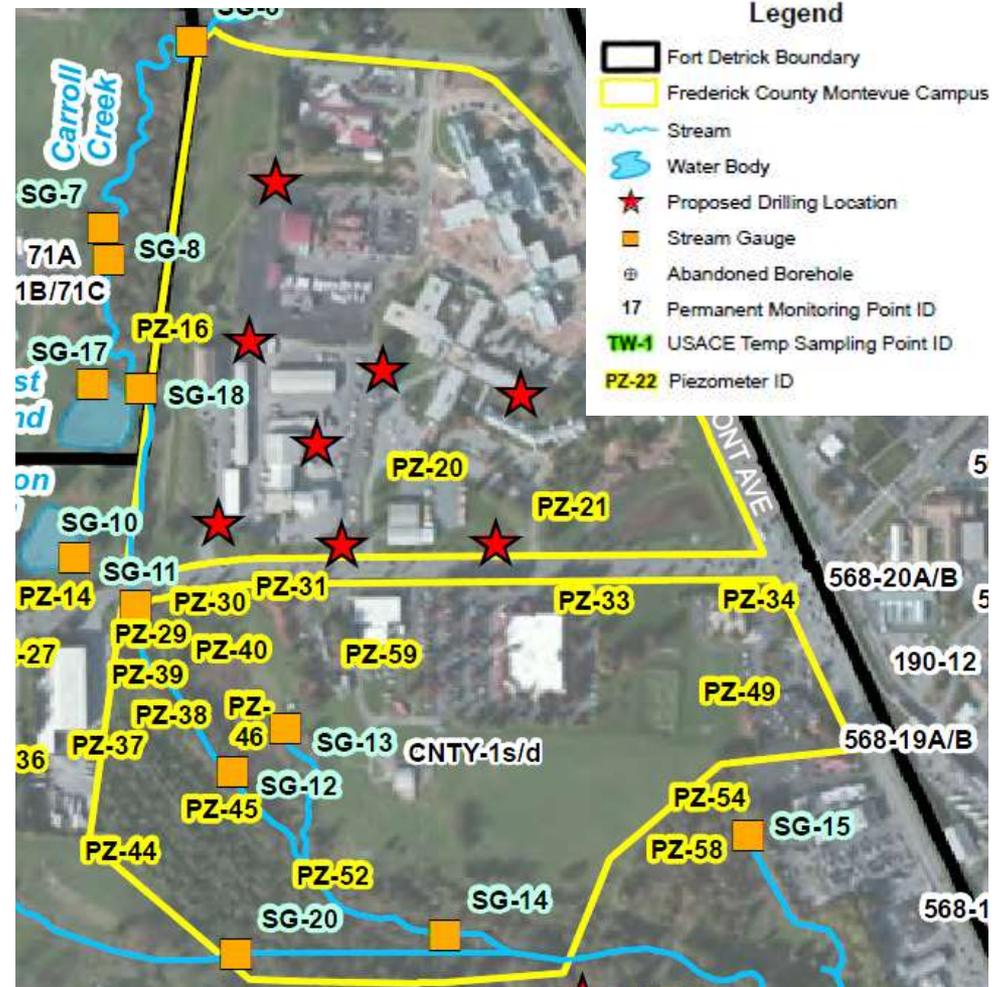




# Frederick County Montevue Lane Property



- Access agreement in place
- FY 16 Draft Workplan:
  - Review of chemical usages in county buildings
  - Soil gas study around buildings
  - Install 8 additional shallow wells (standard drilling)
  - Two rounds of groundwater sampling at new wells. (VOCs)
  - Sample existing piezometers (VOCs) and take synoptic groundwater levels
  - Isotopic forensic profiling of chlorinated solvents in groundwater

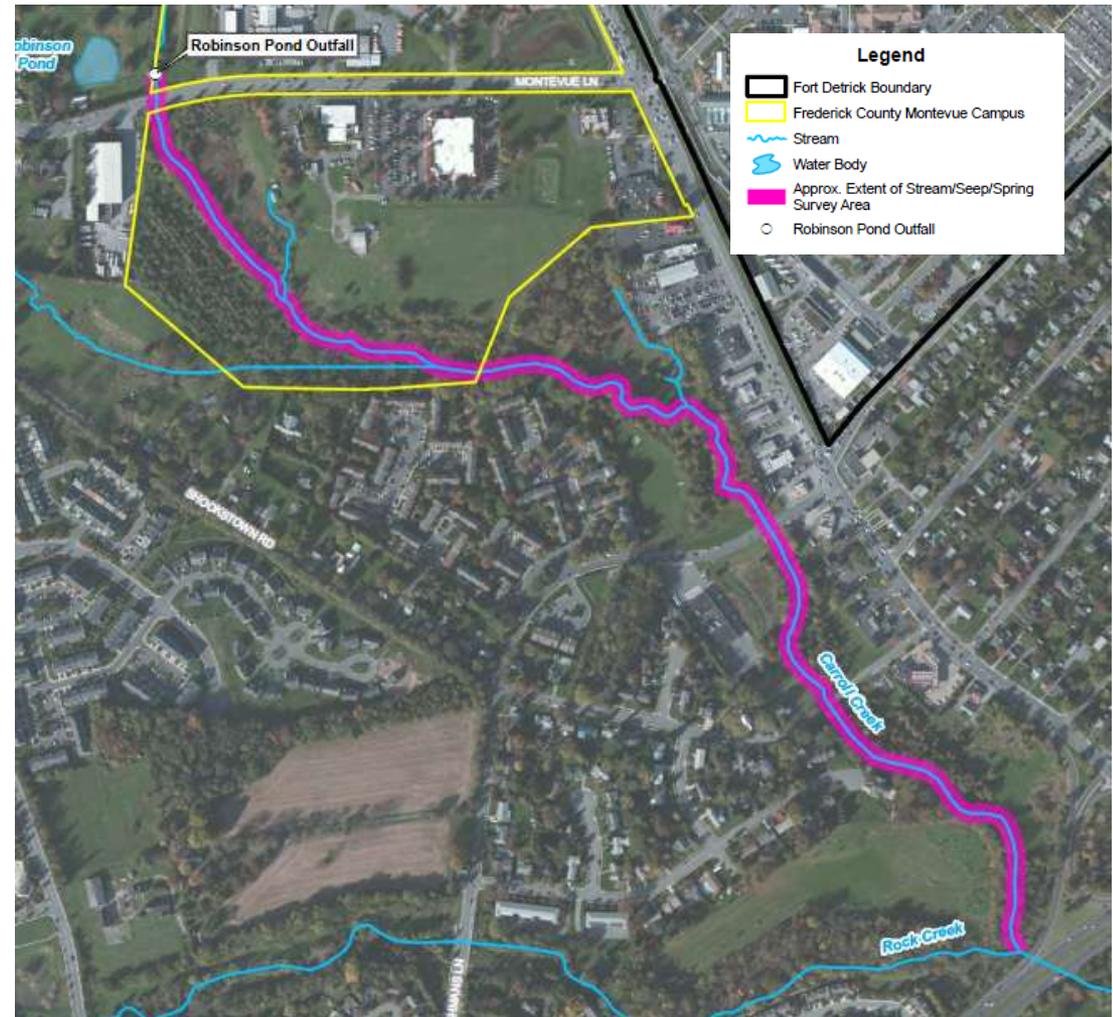




# Carroll Creek Spring Discharge Areas



- Access agreements in place
- FY 16 Draft Workplan:
  - Follow-on stream, spring, and seep survey
  - Infrared camera to identify springs/seeps
  - Up to 60 surface water spring and seep samples (VOCs)
  - Carroll Creek transport analysis

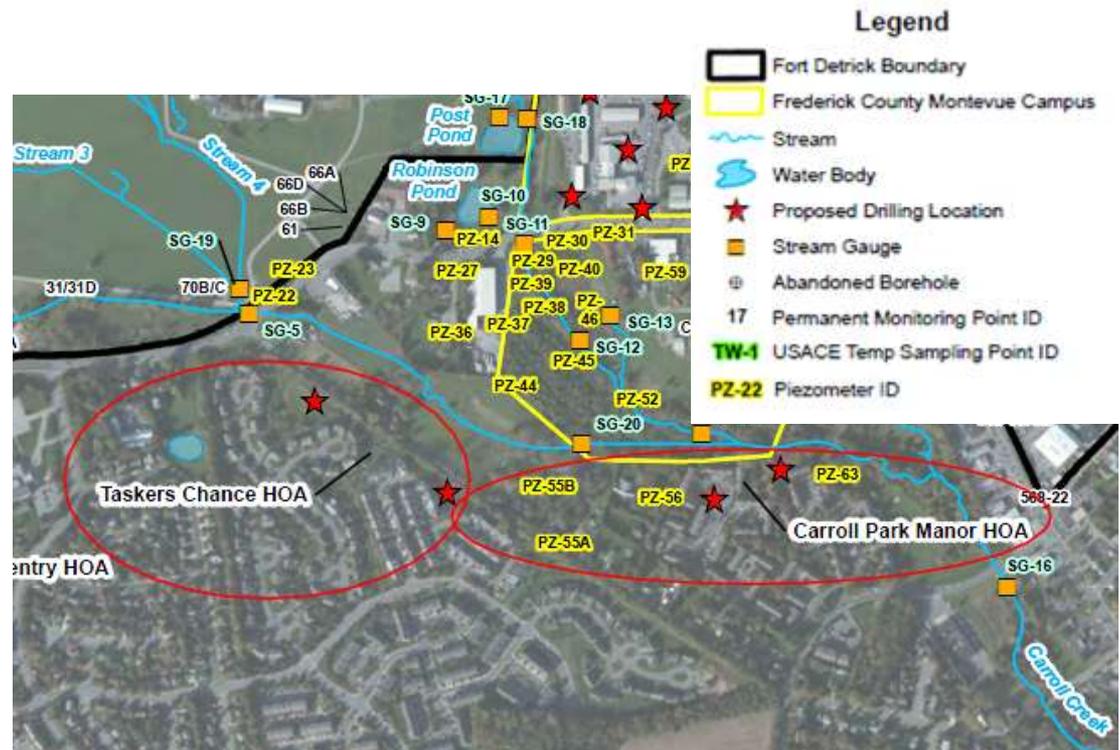




# Taskers Chance and Carroll Park Manor



- Access agreements in place
- FY 16 Draft Workplan:
  - Additional shallow well installation (standard drilling)
  - Sample existing piezometers (VOCs) and take synoptic groundwater levels
  - Two rounds of groundwater sampling at new wells. (VOCs)

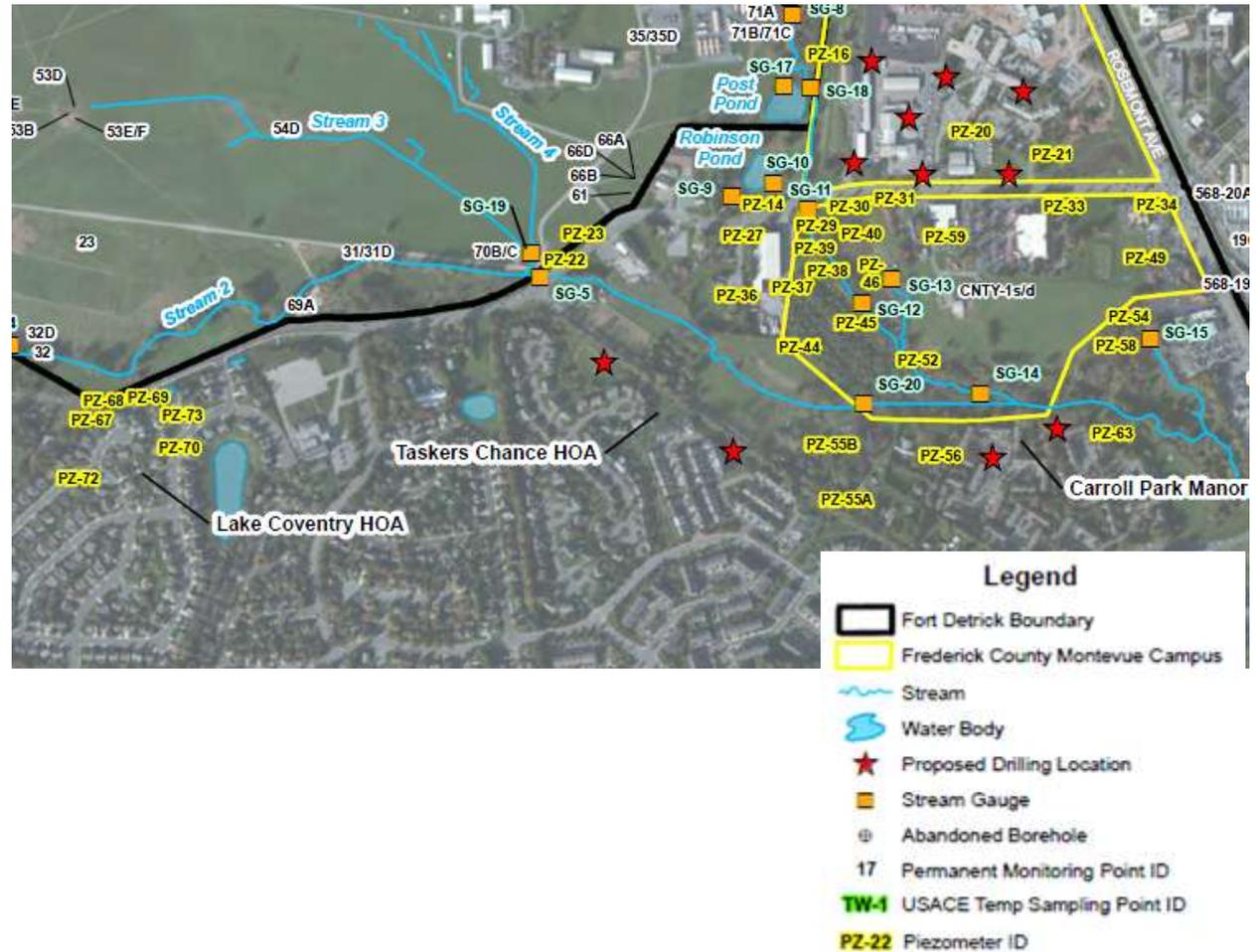




# Sample Off-post Piezometers



- Access agreements in place
- FY 16 Draft Workplan:
  - Sample existing off-post piezometers (VOCs) and take synoptic groundwater levels





# Fort Detrick IRP



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# Interim Removal Action



## Connection of 5 Properties to Public Water

- Late 2005 – Detected Perchloroethylene and Trichloroethylene in 3 residential wells below MCLs (5 ppb)
- 2006 - Provided bottled water to 5 residents
- City of Frederick installed new water line along Kemp Lane
- Interim Removal Action approved to connect 5 County residents to City water line
- Construction (1-2 Qtr FY16)
- City of Frederick - Request for service letter from Fort Detrick to Mayor and Aldermen. - In progress
- Frederick County – Rezone locations for municipal water service. – In progress





# Fort Detrick IRP



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# Archival Search Reports



- U.S. Army Corps of Engineers St. Louis District
  - Identified historical activities at Fort Detrick which may have resulted in environmental releases
    1. Findings for Field Testing of 2,4,5-T and Other Herbicides 4 April 2012  
<http://www.detrick.army.mil/responsible/ArchivalReport2012.pdf>
    2. Operational History for Potential Environmental Releases 16 June 2014  
<http://www.detrick.army.mil/responsible/repository/asr16June2014.pdf>
- Contract awarded to Arcadis to perform a Site Inspections (SI) for areas of concern



# Comprehensive Environmental Response, Compensation & Liability Act (CERCLA)



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7. *Remedial Design* – Design of the selected remedy.
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# Workplan Status

- Area A SI Workplan
  - Workplan approved by MDE
  - Work to begin January 2016 pending utility clearances.
- Area B SI Workplan
  - Draft Workplan
    - EPA and MDE comments



# Locations Grouped into 8 Categories



## On Both Areas A and B

- Group 1: Former herbicide sites
- Group 2: Low-level Radiation Areas
- Group 3: Incinerator Sites
- Group 4: TCE Sites
- Group 5: Petroleum, Oil, and Lubricant (POL) Sites
- Group 6: Dispersion Test Areas
- Group 7: Vehicle Maintenance Areas
- Group 8: General disposal, storage, or other use areas
- **Significant amount of utility clearances needed for sampling**



# Group 1: Former Herbicide Sites



- Records indicate a low likelihood for detecting residual herbicides but testing will be conducted in these areas for confirmation.
- Area A Test Locations
  - **Include NCI property**
  - **Included off-post properties**
  - Sampling soils for standard herbicides, components of Agent Orange and other derivatives
  - Additional: Gamma Radiation Survey and limited gamma sampling in one on-post area (Ditto Ave Garden Plots) based on possible historical use of waste-water sludge as fertilizer





# Group 1: Former Herbicide Sites



- Area B Test Locations





# Locations Grouped into 8 Categories



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# Low-level Radiation Areas



- Eighteen current or former Area A buildings were identified for historical use of sealed-source or by-product radioactive materials
- The likelihood of environmental impact is considered low
- Desktop review of isotopes used and work practices indicated no further testing necessary





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# Group 3: Incinerator Sites



- Eleven former incinerator locations in Area A dating back to World War II previously used for disposal of burnable wastes and decontamination of air from test facilities.
- Environmental impacts from air deposition is possible in the vicinity of these locations. The historical use and storage of fuel oil for firing the incinerators also warrants evaluation.
- Testing for metals, poly aromatic hydrocarbons (PAHs), dioxins/furans, radionuclide (C14) and petroleum products in soils and groundwater





# Locations Grouped into 8 Categories



## On Both Areas A and B

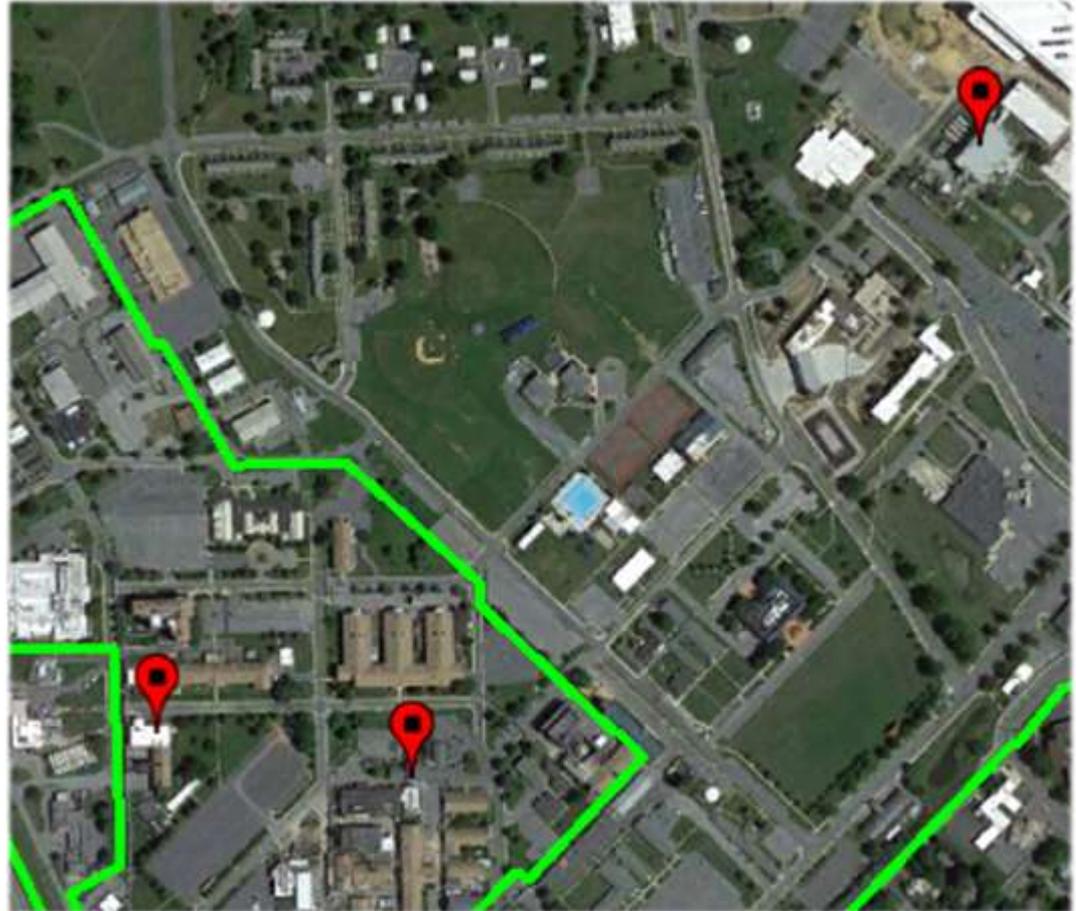
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# Group 4: TCE Sites



- TCE used in three Area A buildings for refrigeration and/or freeze-drying purposes.
- Environmental impacts are possible and warrant groundwater sampling near these buildings for TCE/volatile organic compounds (VOCs).





# Locations Grouped into 8 Categories



## On Both Areas A and B

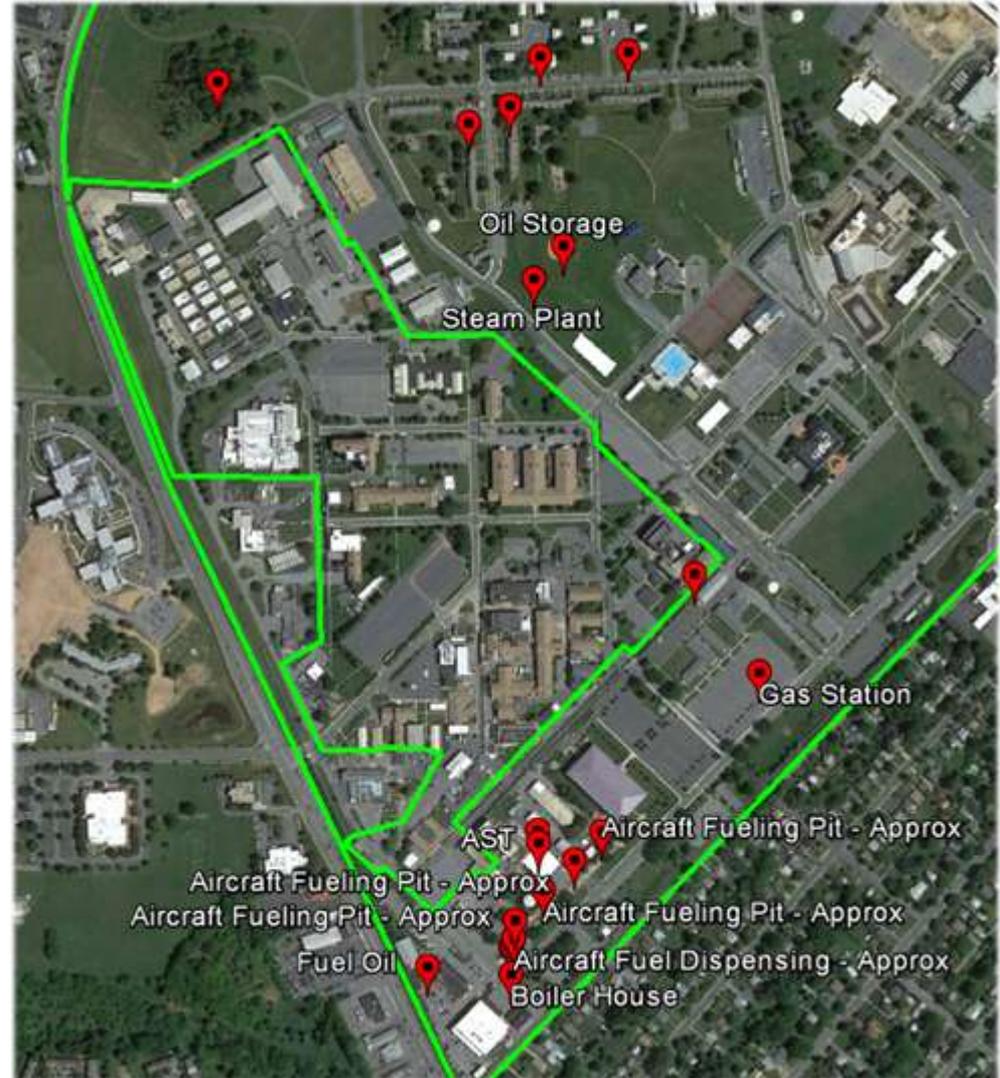
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## Group 5: Petroleum, Oil, and Lubricant (POL) Sites



- Records identified 15 locations with historic POL storage, use, or dispensing. These locations include former underground fuel lines, pumping/dispensing areas, and possible underground storage tanks
- Environmental impacts are possible due to the historical use of gasoline, diesel, and fuel oil in these areas
- Ground penetrating radar to locate any remaining USTs
- Test soils and groundwater for fuel related compounds





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# Group 6: Dispersion Test Areas



- Records identified 3 areas in Area A that were previously used as outdoor test grids for simulants and crop agents.
- The likelihood for environmental impacts is considered low but further evaluation will be completed.
- Testing surface soils for metals and other potential residuals





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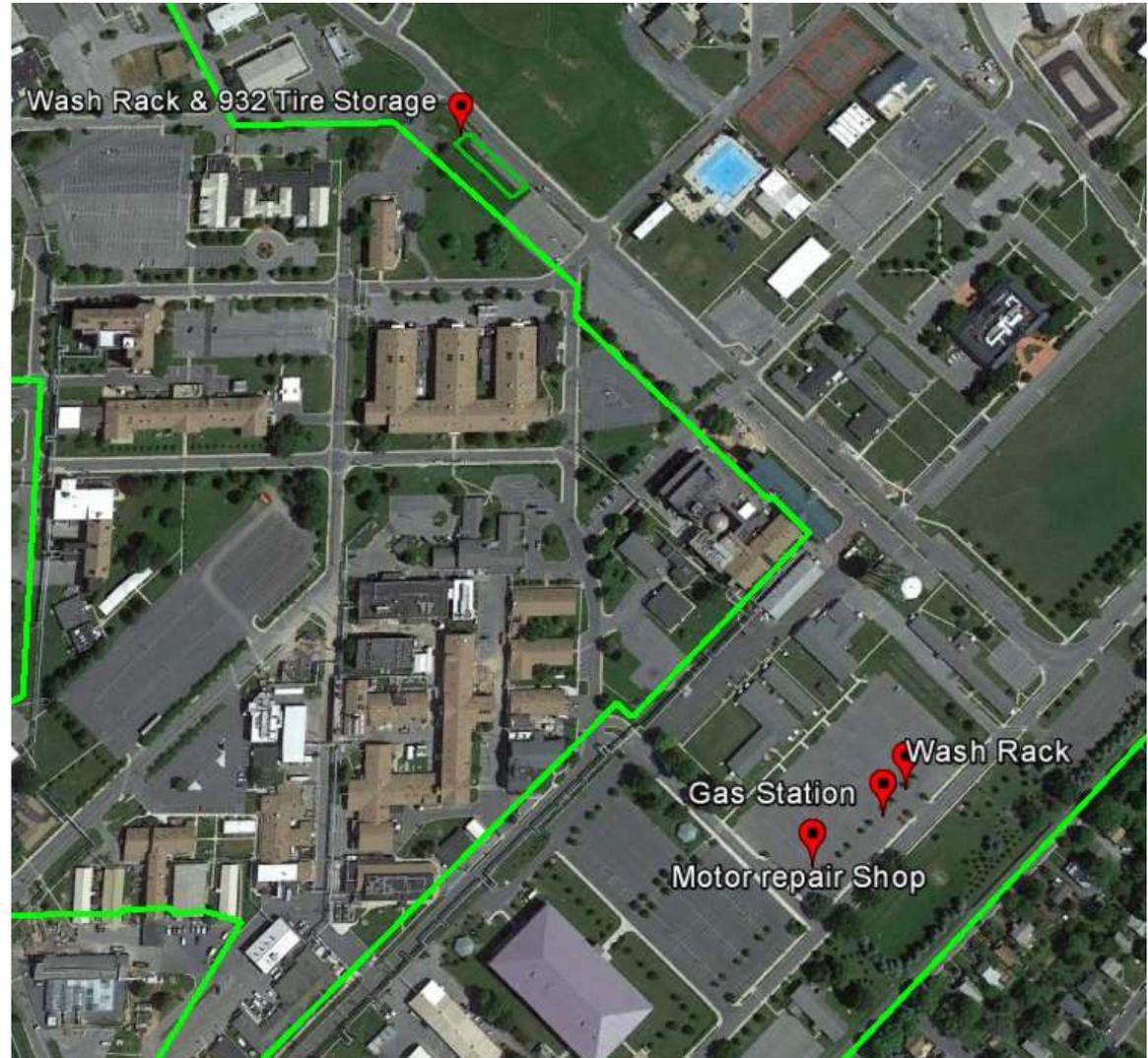
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- **Group 7: Vehicle Maintenance Areas**
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# Group 7: Vehicle Maintenance Areas



- Two former vehicle maintenance areas, including motor repair shops, wash racks, and a gasoline station.
- Site evaluation needed to assess whether these historical activities could have impacted soil or groundwater and to determine if USTs may still be present.
- Testing for metals, fuel products, and VOCs in soil samples, and VOCs in groundwater





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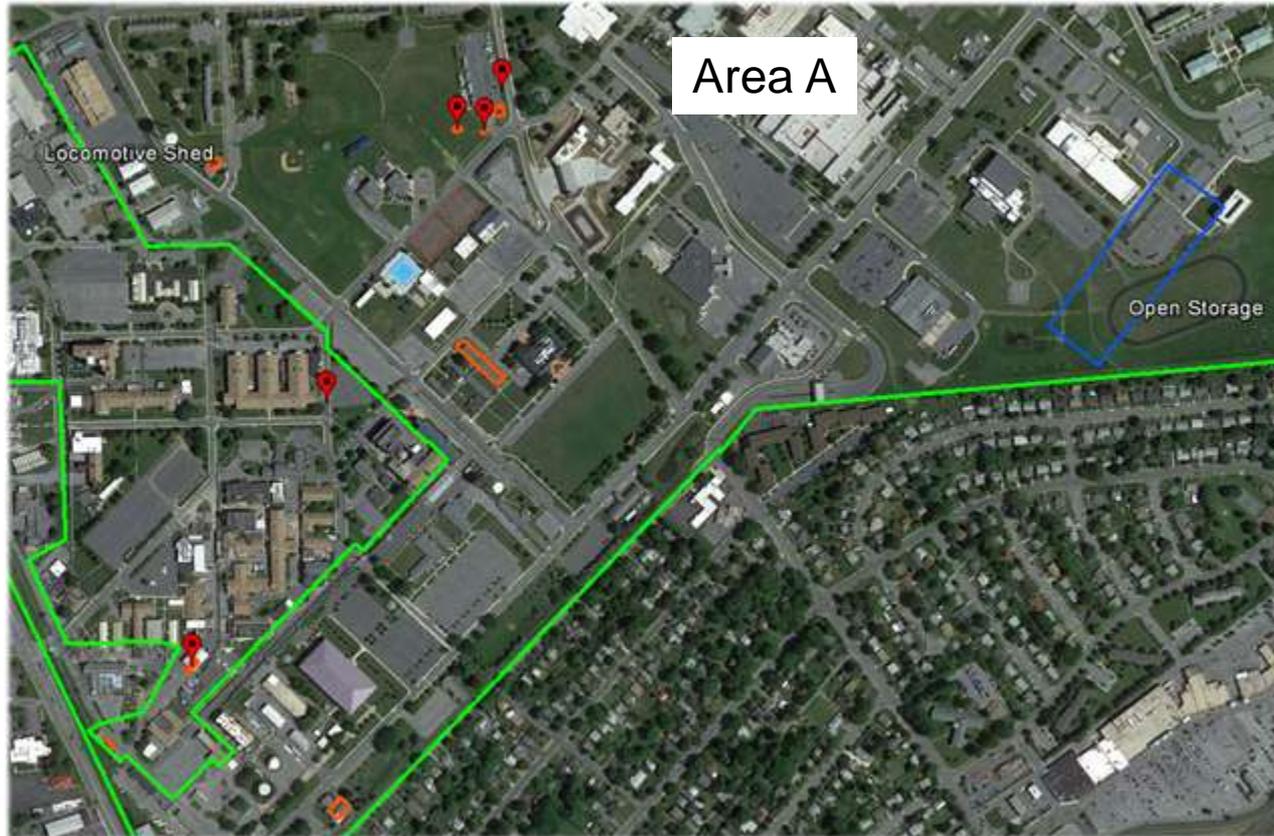
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## Group 8: General Disposal, Storage, or Other Use Areas



- This group includes a mix of Area A and Area B locations, including small storage/test sheds, a locomotive shed, a photo lab, paint shops, and former storage or disposal areas.
- Site inspection sampling will be tailored based on the types of historical activities and uses in these areas.





# Group 8: General Disposal, Storage, or Other Use Areas





# What next?

- Finalization of Area B SI work plan.
- Complete data collection in Summer 2016
- Draft SI report in Late Summer 2016



# Questions?