

STATUS OF SITE INSPECTIONS AT AREAS A & B

Progress Report to the RAB

April 13, 2016

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Overview of Topics

- ❑ Snapshot Update
- ❑ Background on Archive Records Review and Site Inspection (SI) Process
- ❑ Overview for the SI scope of work for Area A sites.
- ❑ Summary of SI sampling completed at Area A sites during First Quarter 2016
- ❑ Anticipated plan and schedule for SI sampling at Area B sites

Snapshot Update on Recent Activities

- ❑ Field mobilization to Area A Jan 11, through March 18, 2016.
- ❑ Approximately 285 samples were collected at 196 locations across Area A.
- ❑ Samples still under laboratory analysis and/or data validation.

No analytical results available for tonight's discussion

Background on Archive Records Review

- Beginning in 2010, the US Army Corps of Engineers (USACE) completed an extensive review of archive records for Fort Detrick (including Area A, Area B, and Area C).
- Objective: Identify any past activities that had the potential to impact the environment.
- Findings were detailed in two separate Archive Search Reports (ASRs) (finalized in 2012 and 2014)
- Outcome:
 - Army identified a list of sites for follow-up environmental testing under EPA/MDE oversight to assess actual impacts and current conditions.

See USACE RAB update from
February 2015 for more
information on ASR

Identifying Activities of Potential Concern

- ☐ Herbicide test plots
- ☐ Incinerators
- ☐ TCE sites (facilities where TCE was used for refrigeration purposes)
- ☐ Petroleum, oil, and lubricant facilities
- ☐ Dispersion test areas (for testing dispersion of simulants)
- ☐ Vehicle maintenance areas
- ☐ Areas used for disposal, storage, or other purposes

How does an SI fit into the Superfund (CERCLA) Process?



Remedial Action (RA)-Implement selected remedy

Remedial Design (RD)- Work plan and design of selected remedy

Record of Decision (ROD)- Final legal document selecting remedy

Proposed Plan (PP)- public document to solicit input on preferred remedy

Feasibility Study (FS)- Assessment of possible remedies

Remedial Investigation (RI)- Thorough investigation; develop conceptual site model, complete risk assessment

Site Inspection (SI)- Initial sampling to test for a release of hazardous substances to the environment

Preliminary Assessment (PA)- Initial review to identify sites that may pose a threat to the environment

Site Inspections for Area A and B Sites

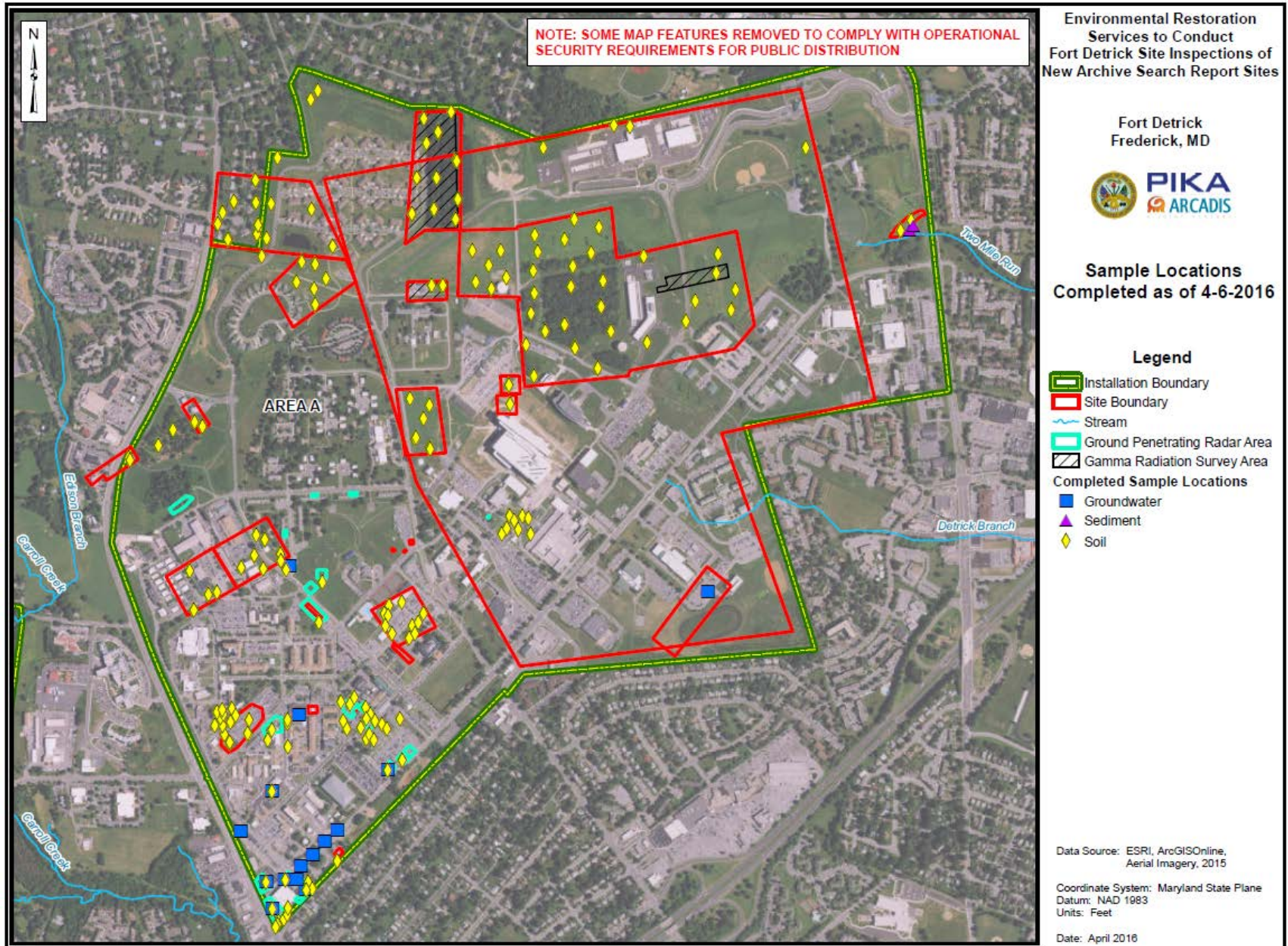
➤ What is a CERCLA SI?

- An SI is the first phase in the CERCLA process (along with the Preliminary Assessment).
- The main objective of an SI is to determine whether a release has occurred at a site.
- An SI includes collecting and analyzing environmental media samples to determine if hazardous substances are present.
- An SI is not intended to be a complete evaluation of the nature and extent of contamination or a risk assessment. These steps are included in the next phase of the CERCLA process (e.g. the RI).
- The SI reports will make recommendations to EPA/MDE for the next steps (if any) at each site.

SI Scope of Work

- Pika-Arcadis Joint Venture (JV) contracted to complete SI investigations.
- Scope of work includes environmental sampling, analyses, and reporting for identified sites of potential concern.
- The JV submitted Work Plans for regulatory review.
- The future SI reports will make one of the following recommendations for EPA and MDE review:
 - (1) No further action needed, or
 - (2) More comprehensive sampling needed (e.g., CERCLA Remedial Investigation)

Distribution of SI Sites across Area A



Summary of Area SI Work Completed to Date

- Cleared underground utilities for approximately 200 boring locations.
- Samples collected using a variety of methods including direct push (DPT) and hand auger.
- 270 samples analyzed for inorganics using field screening technology
- Laboratory analyses for dioxins/furans (87 samples), inorganics (52), chlorinated herbicides (28), explosives (14), TPH (86), VOCs (44), PAHs/SVOCs (42), gamma emitters (22), and Carbon-14 (7).

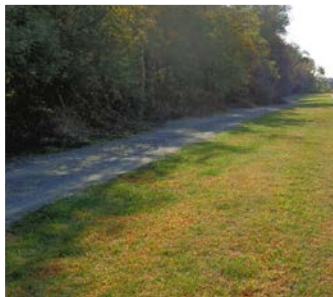
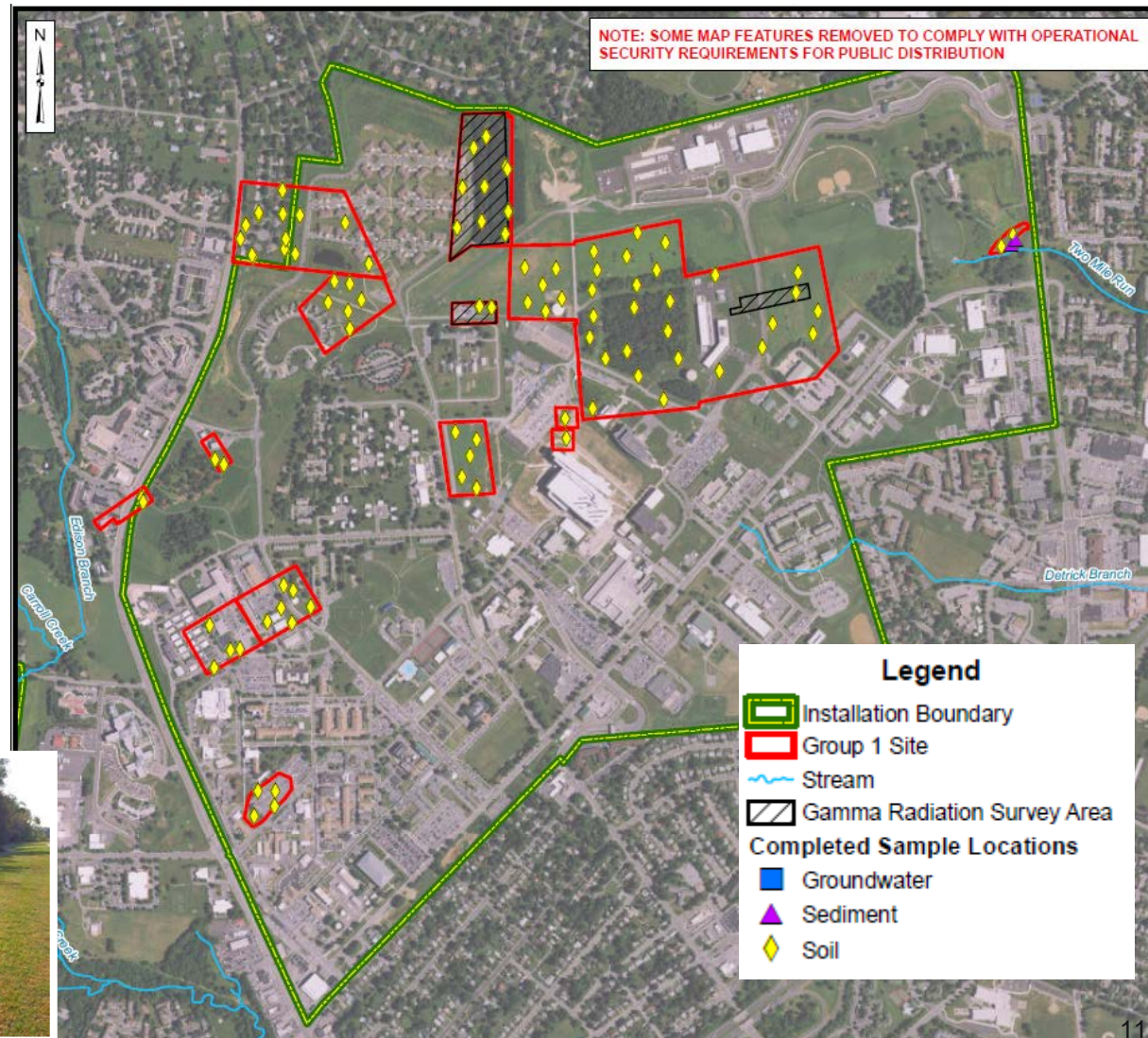


Former Herbicide Test Plots

SI Status (through 4/13/16)

✓ Sampling completed
Lab analysis pending

- Ten historical anti-crop herbicide sites identified in historical aerial imagery or other records where controlled field experiments may have been conducted during the 1940s and 1950s.
- Today these areas are covered by a mix of parking lots, buildings, trees, and grassy areas.
- SI scope includes soil sampling for herbicides, inorganics, and dioxins/furans.



Former Incinerator Sites

SI Status (through 4/13/16)

Sampling 95% completed

Lab analysis pending

- Eleven former incinerator locations dating back to World War II previously used for disposal of burnable wastes and decontamination of air from test facilities.
- SI scope evaluates potential impacts from air deposition and the potential historical use and storage of fuel oil for firing the incinerators.
- SI scope include GPR survey, soil sampling, and groundwater sampling for potential contaminants.



Former TCE Sites

SI Status (through 4/13/16)
Sampling pending

- Records identified the use of TCE in three Area A buildings for refrigeration and/or freeze-drying purposes for test chambers and other activities dating back to the 1960s.
- The SI scope includes groundwater sampling near these buildings. One of the buildings had been inactive since 1971 and was razed in 2003.
- New borings/temporary points planned near each building for groundwater sampling.



Former Petroleum, Oil, & Lubricant (POL) Sites

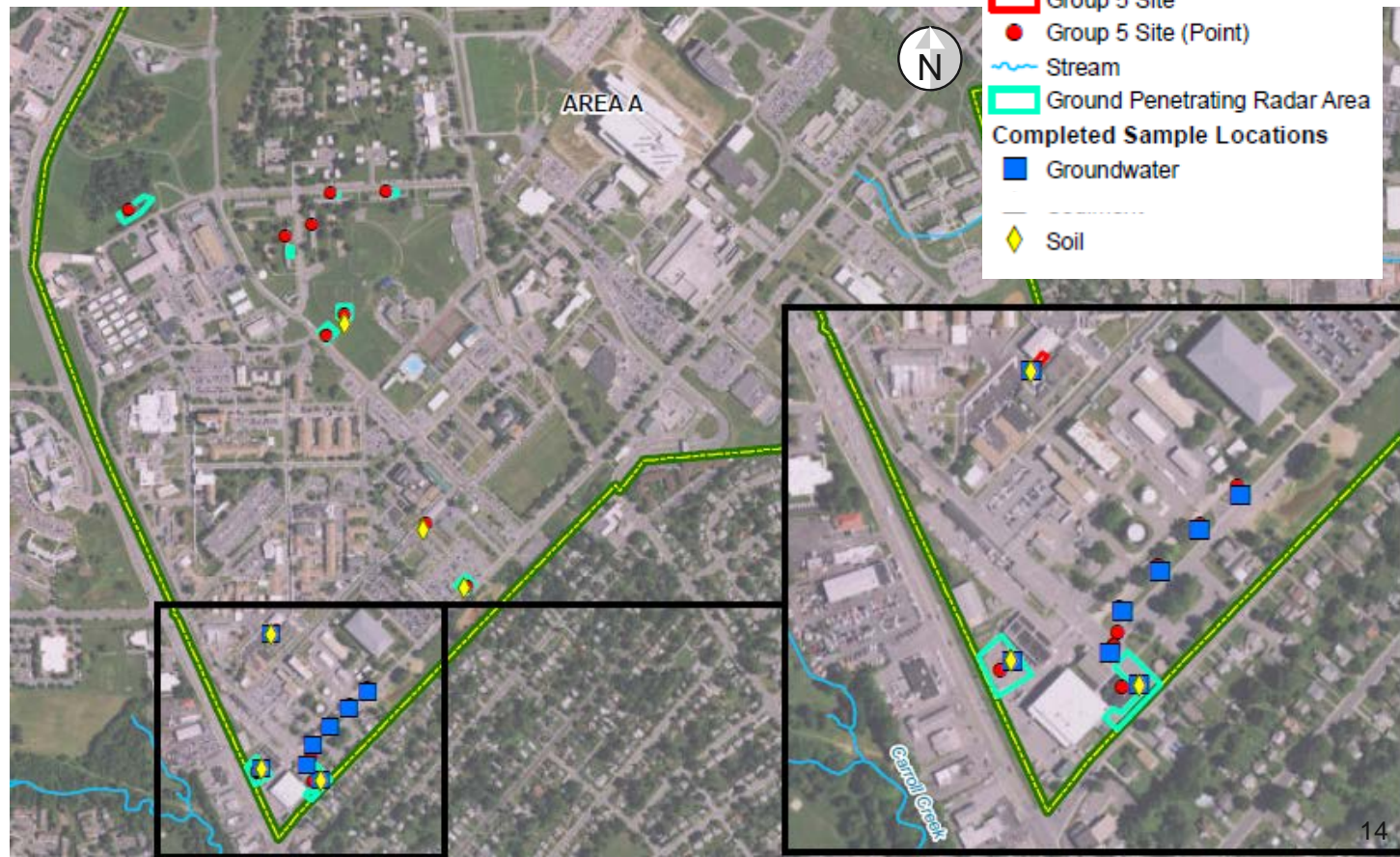
SI Status (through 4/13/16)

✓GPR surveys completed

Sampling 75% complete

➤Records identified 15 locations with historic POL storage, use, or dispensing, including former underground fuel lines, pumping/dispensing areas, and possible underground storage tanks.

➤GPR surveys completed to search for remaining underground system components.

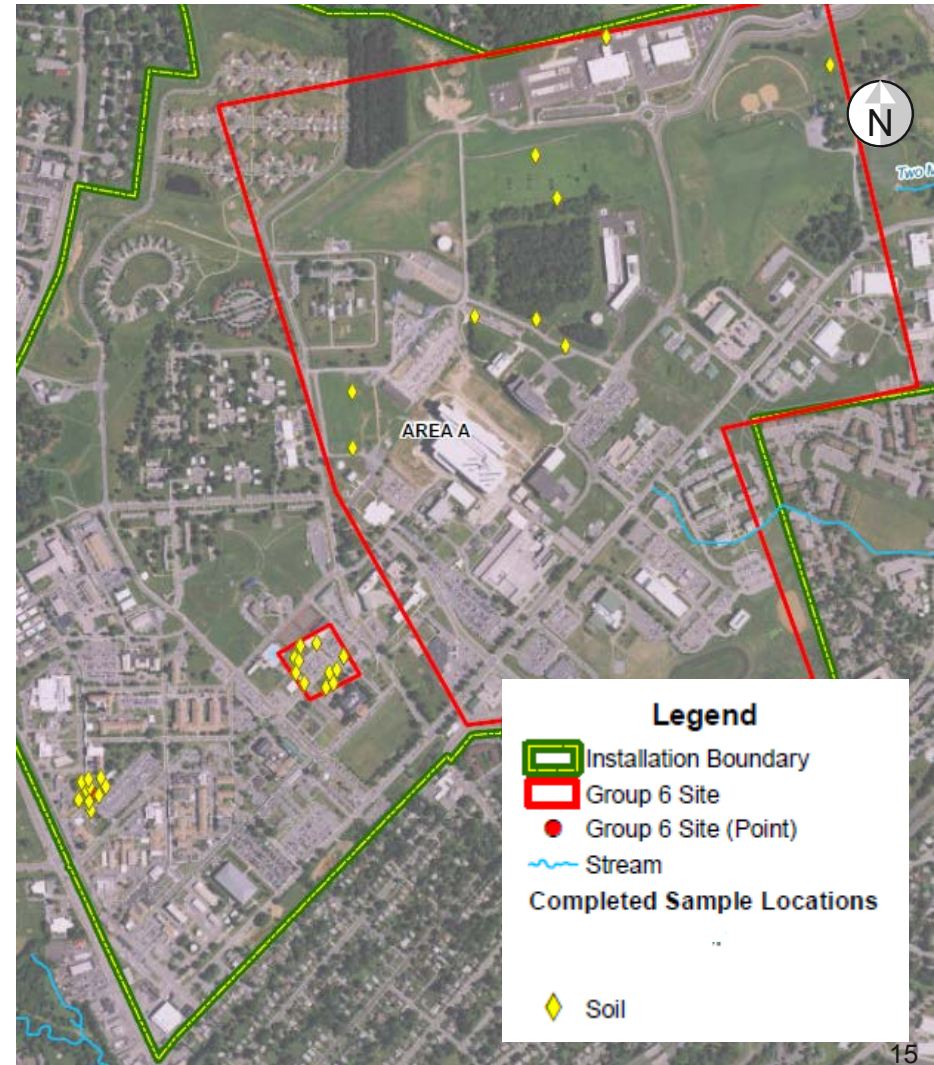


Former Simulant Dispersion Test Areas

SI Status (through 4/13/16)

✓ Sampling completed
Lab analysis pending

- Records identified 3 areas in Area A that were previously used as outdoor test grids for simulants and crop agents. The tests were intended to evaluate how the simulants, such as a yeast slurry, were dispersed from 20mm rounds and small-arms fire (e.g., shotgun shells).
- SI scope included soil sampling for inorganics and explosives.



Former Vehicle Maintenance Areas

SI Status (through 4/13/16)

✓ Sampling completed
Lab analysis pending

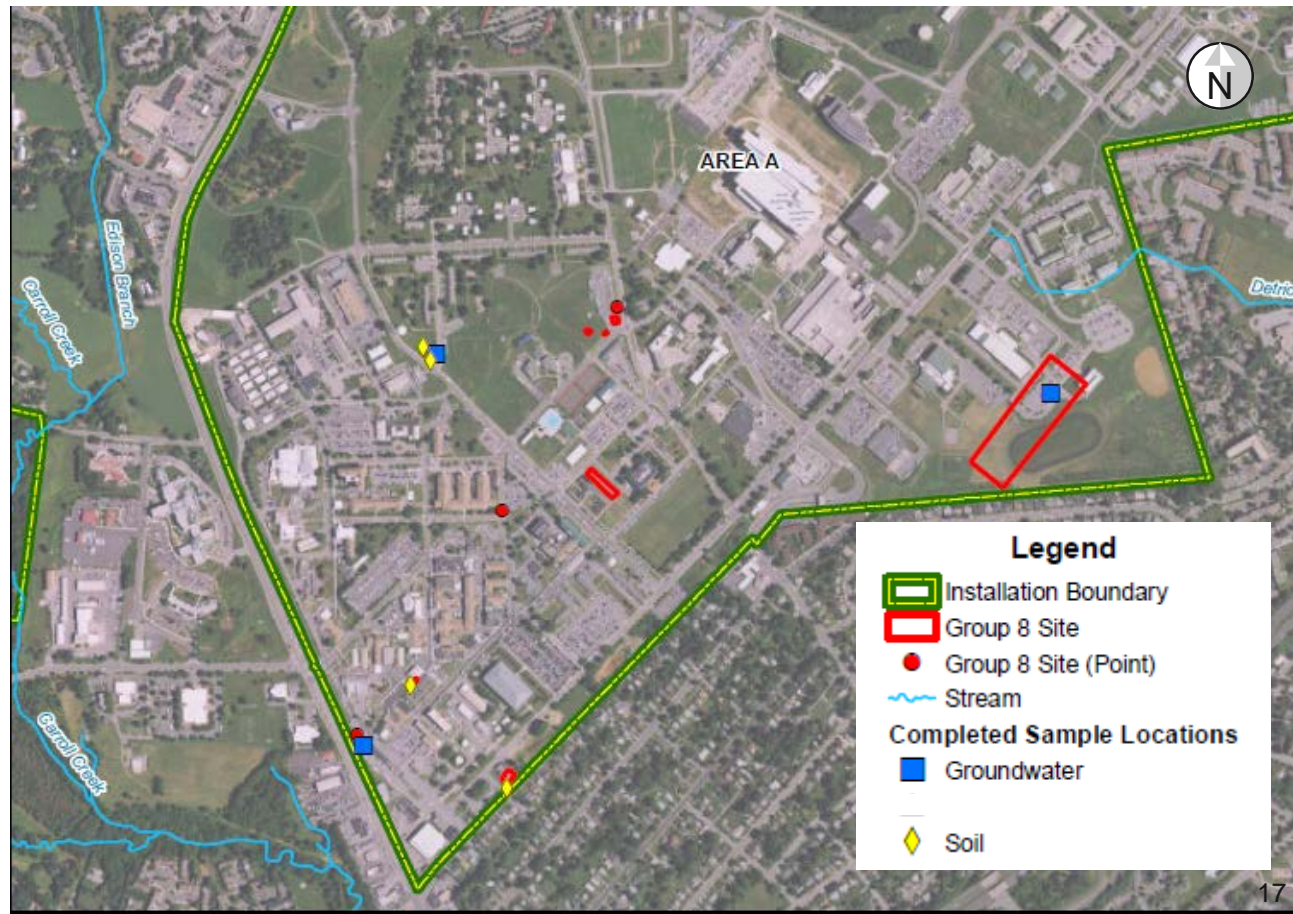
- Historical records identified two former vehicle maintenance areas, including motor repair shops, wash racks, and a gasoline station.
- SI scope included GPR surveys to search for remaining USTs and soil/groundwater sampling.



Former Disposal, Storage, & Other Use Areas

SI Status (through 4/13/16)
Sampling 40% completed
Lab analysis pending

- This group includes a mix of small storage/test sheds, a locomotive shed, a photo lab, paint shops, and former storage or disposal areas.
- SI scope includes sampling for soil and/or groundwater with analyses tailored to historical activities and uses in these areas.



Preliminary Observations from Field Activities Completed to Date

Note: Most analytical samples are still under laboratory analysis and third-party data validation is still pending, so analytical results will be presented at a future RAB update.

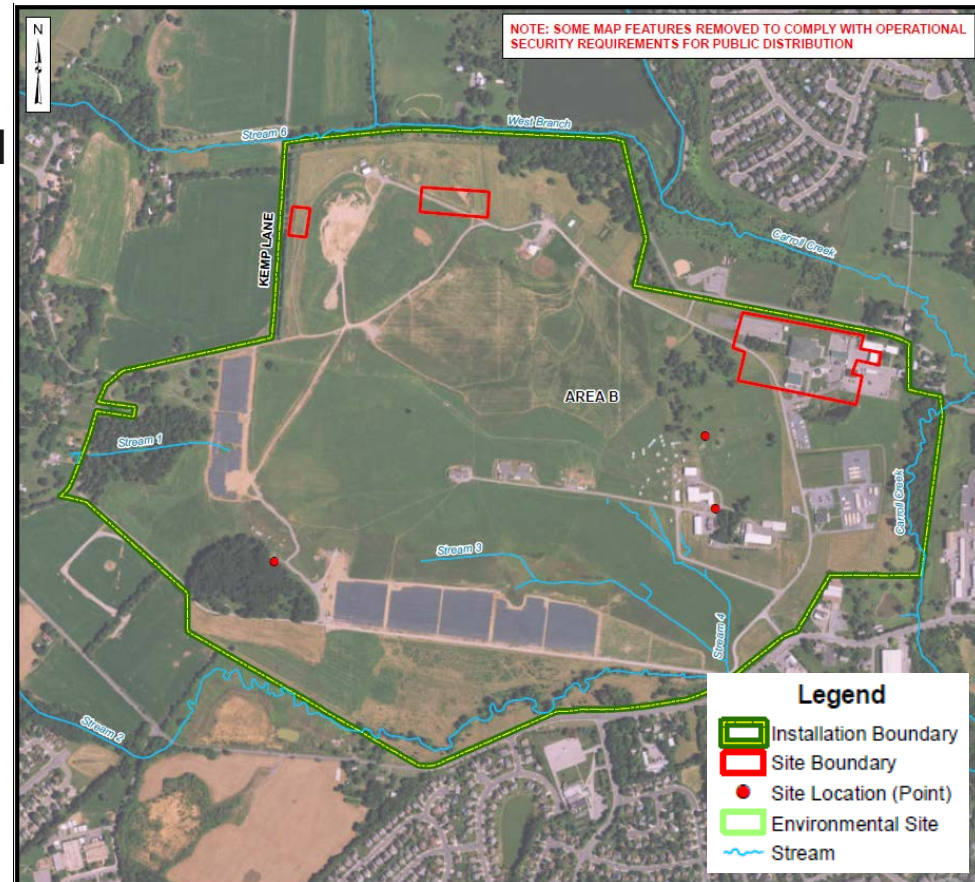
Additionally, as noted previously, sampling is not complete at some locations, so these preliminary notes only reflect work completed to date.

- Soil borings and samples collected were tested in the field with a Photoionization Detector (PID) to screen for VOCs. PID detections were only found at two locations near potential former petroleum underground storage tanks (USTs). Soils samples were also submitted to the lab.
- Further data evaluation will occur once validated lab results are received for all analyses.



Status of SI work at Area B

- SI sampling is planned for 5 sites at Area B that were identified during the ASR records review.
- These sites include two former herbicide test plots and three former storage/disposal areas.
- While extensive sampling has been completed at Area B to date, additional site-specific sampling at these sites of potential concern is planned to evaluate if there has been a release in these areas that warrants further investigation.
- A work plan for the Area B work is under regulatory review.
- Status updates will be provided at future RAB meetings.



SI Investigation Schedule

Spring 2016

- Area A: A second mobilization is planned for completion of SI sampling at Area A.
- Area B: SI sampling at Area B will be completed following work plan approval.

Fall 2016/Winter 2017

- SI reports for sites at both Area A and Area B will be submitted for regulatory review. These reports will make recommendations for each site regarding future investigation activities (if any). Based on all available information, including laboratory analytical results from the SI sampling, the SI reports will recommend either:
 - (1) No further action needed, or
 - (2) More comprehensive sampling needed (e.g., CERCLA Remedial Investigation)
- All SI site recommendations will be subject to review and concurrence by EPA and MDE.










Area B RI Updates Since the Last RAB

- Quarterly monitoring (January 2016)
 - Army conducted Area B quarterly monitoring at 15 sampling points and one off-post spring. Report to EPA and MDE pending.
- Landfill Monitoring Plan (March 2016)
 - Army submitted a plan for long-term ground monitoring around the existing Area B capped landfill areas.
 - Currently under regulatory review and comment resolution.
- RI Supplemental WP submittal (Summer 2016)
 - Plan for supplemental off-post investigation under regulatory review and comment resolution.
 - Scope includes additional off-post surface water and groundwater quality testing.
 - Results will be discussed at a future RAB and incorporated into the Remedial Investigation report for EPA/MDE review.

Questions?












Fort Detrick Area B Study Areas

ID	Study Area
	B-11 disposal pit
	Off-Post Property Nearest Source (Waverley)
	Groundwater contaminant plume from B-11
	Vapor Intrusion Study area
	Shallow groundwater Contamination Area (PCE)
	Carroll Creek (including seeps, springs, tributaries)
	Off-Post Properties (Downgradient)
	Off-Post Properties (Upgradient)
	Active Landfill



There are multiple on-going and overlapping investigation efforts in and around Area B. This figure provides a generalized representation of the current on- and off-post Area B study areas. Phased investigation activities are being conducted with EPA and MDE oversight and in accordance with approved work plans following the CERCLA process within these areas. For RAB meetings this figure may be included in the slides to indicate which areas are the focal points of the meeting, recognizing that all areas cannot be discussed during each quarterly meeting.

Area B Study Areas

Map ID	Study Area	Previous RAB Presentations for Additional Information
	B-11 disposal pit	See “C” for RAB presentations discussing groundwater contamination originating from B-11 area.
	Off-Post Property Nearest Source (Waverley)	Nov '13, Mar '14, Nov '14, Feb '15 (drilling updates with data)
	Groundwater contaminant plume from B-11	Nov '12 (April 2012 data summary) Feb '13 (Sept 2012 data summary; vertical contaminant distribution discussion; karst drilling, geophysical logging, permanent point construction decisions) Mar '14 (dye trace study recap) Feb '15 (drilling update with data)
	Vapor Intrusion Study area	May '13 (VI overview)
	Shallow groundwater Contamination Area (PCE)	Aug '13 (direct push study summary)
	Carroll Creek (including seeps, springs, tributaries)	Mar '14 (dye trace study recap)
	Off-Post Properties (Downgradient)	Aug '13, Nov '13 (direct push study summary), Feb '15 (deep monitoring point east of Carroll Creek)
	Off-Post Properties (Upgradient)	Feb '13 through Aug '14 Mar '14 (dye trace study recap)
	Active Landfill	See Nov '12, Feb '13 groundwater data near landfill, but not discussed directly.