



# Fort George G. Meade

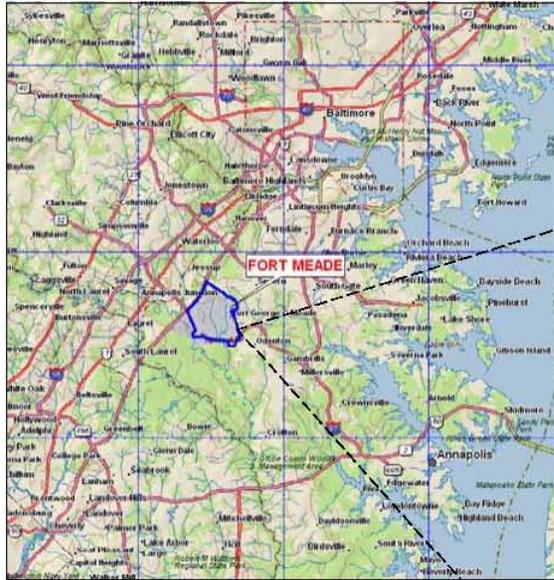
## Operable Units 1, 3 and 5: Project Status Update

### Restoration Advisory Board Meeting November 18, 2010

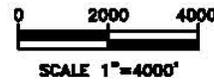
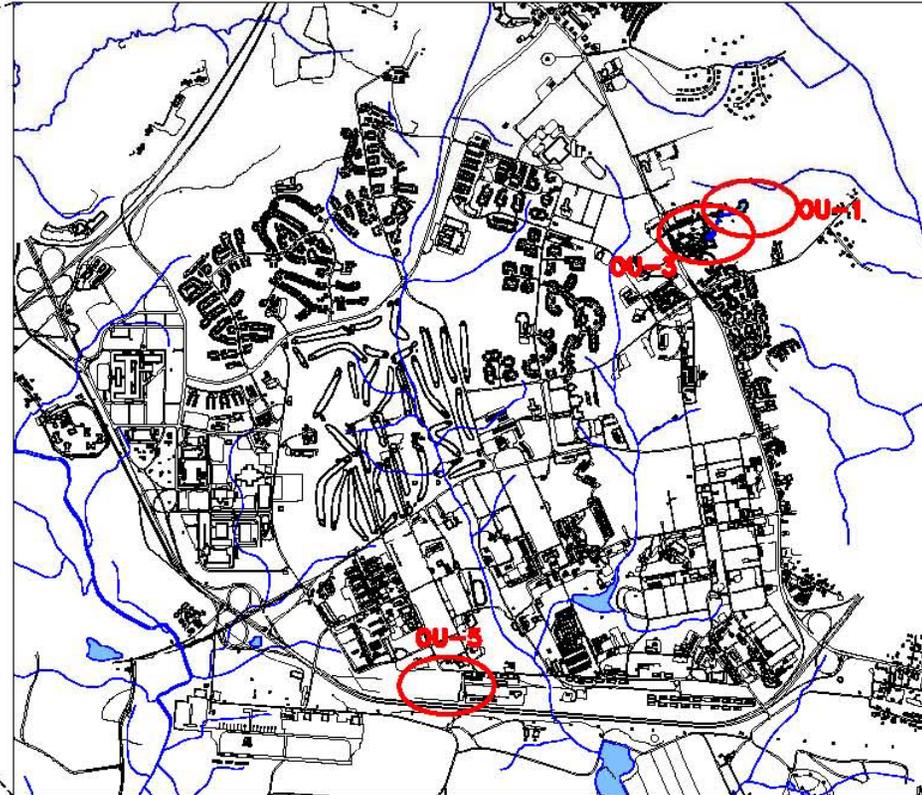
Mary Lou Rochotte, KEMRON PM

John Cherry, ARCADIS PM





**FORT MEADE  
OPERABLE UNIT OU-1, OU-3 & OU-5 LOCATION**



KEMRON Environmental Services  
186 Sharfite Dr.  
Marietta, OH 45750

PROJECT NO. VM032-OU1-083	ACAD FILE: OPERABLE UNIT LOCATION MAP	DRAWING DATE: 9/13/10
DESIGNED KG	<b>FORT MEADE OPERABLE UNIT OU-1, OU-3 &amp; OU-5 LOCATION</b>	
DETAILED KG		
CHECKED DSR	LOCATION: FORT MEADE, MARYLAND	FIGURE: 1

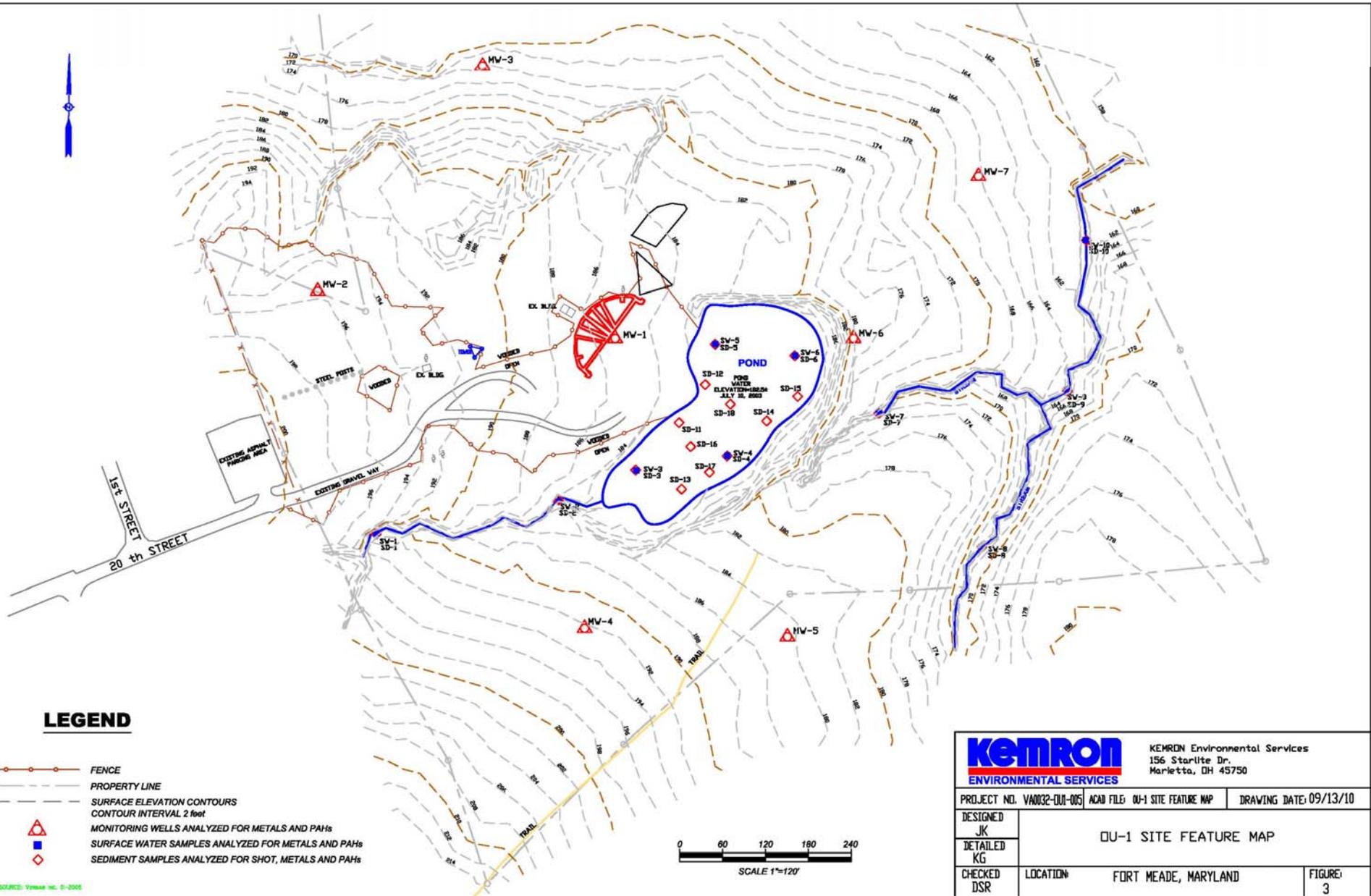


# KEMRON Contract Sites



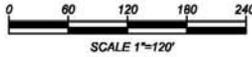
- Operable Unit (OU) 1, FGGM-83, Former Trap and Skeet
  - Used for recreational activities; was not a military range
- OU-3, FGGM-87, Former Nike Missile Control Site
  - Former radar tower no longer present at the site
- OU-5, FGGM-07, Defense Reutilization and Marketing Office (DRMO)
  - Remains in use currently





**LEGEND**

- FENCE
- PROPERTY LINE
- SURFACE ELEVATION CONTOURS  
CONTOUR INTERVAL 2 feet
- MONITORING WELLS ANALYZED FOR METALS AND PAHs
- SURFACE WATER SAMPLES ANALYZED FOR METALS AND PAHs
- SEDIMENT SAMPLES ANALYZED FOR SHOT, METALS AND PAHs



<b>KEMRON</b> ENVIRONMENTAL SERVICES		KEMRON Environmental Services 156 Starlite Dr. Marletta, OH 45750	
PROJECT NO. VAW032-001-005		ACAD FILE: 00-1 SITE FEATURE MAP	DRAWING DATE: 09/13/10
DESIGNED JK	OU-1 SITE FEATURE MAP		
DETAILED KG			
CHECKED DSR	LOCATION: FORT MEADE, MARYLAND	FIGURE: 3	

SOURCE: Vmaxx Inc. 9-2005

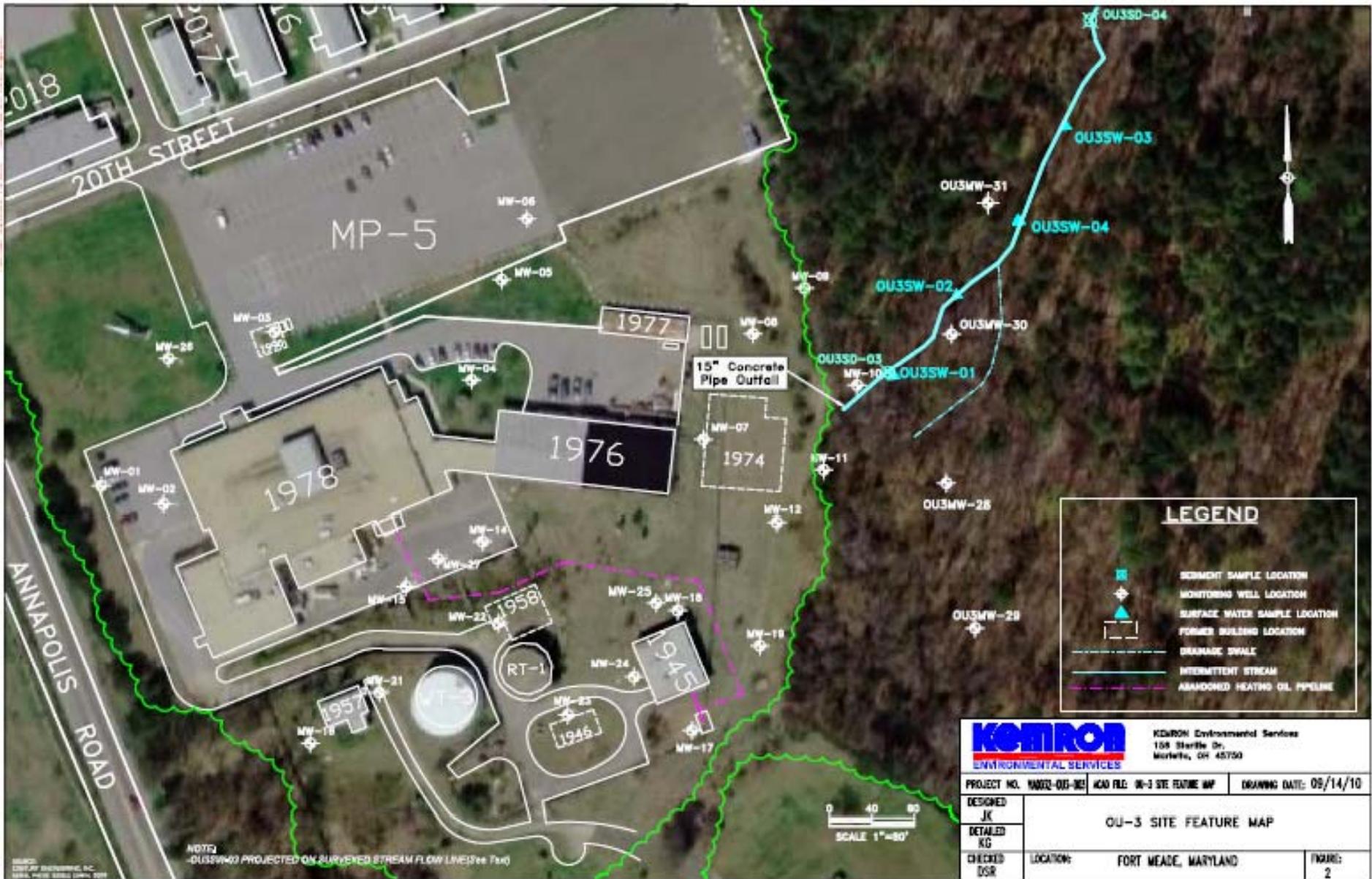


# Operable Unit 1, FGGM-83, Former Trap & Skeet



- KEMRON conducted sampling at OU-1 on 25-27 July 2010, primarily for analysis of polycyclic aromatic hydrocarbons (PAHs) and lead shot in pond sediment samples to complete Ecological Risk Assessment
- Sampling followed approved Work Plan Addendum Number 1 (May 2010)
- Analytical results being incorporated into ecological risk assessment and Remedial Investigation (RI) Report
- RI Report incorporates new and existing data
- Draft RI Report anticipated to be submitted for USEPA and MDE review end of December 2010







# Operable Unit 3, FGGM-87, Former Nike Missile Control Site



- KEMRON conducted sediment sampling in streams adjacent to OU-3 on 27 July 2010
- Sampling followed Work Plan Addendum Number 4 (June 2010)
- Analytical results included in a revised Screening Level Ecological Risk Assessment, which is scheduled to be submitted to USEPA and MDE in December 2010





# DRMO Overview



- Site: DRMO (OU-5, FGGM-07)
- Contractor(s): KEMRON/ARCADIS; PBA awarded in May 2005
- Site Summary:
  - Low concentration Tetrachloroethene (PCE) plume migrates to the southeast off of the Fort Meade Property and onto the Patuxent Research Refuge (owned by DOI/USFWS).
  - No human or ecological receptors impacted.
- Update Since Nov. 2009 OU-5 RAB Presentation: EPA has requested additional remedial investigation work to augment the RI/BRA that the agency initially approved in 2003.



# Site Location





# Background

(Early 1960s – Early 1990s)



- Formerly used by the Defense Property and Disposal Office (DPDO) (from early 1960s to 1994).
- Open storage yard/ disposal area for unused equipment and materials.
- VOCs detected in groundwater monitoring wells in early 1990s.





# Background

(1994 to present)



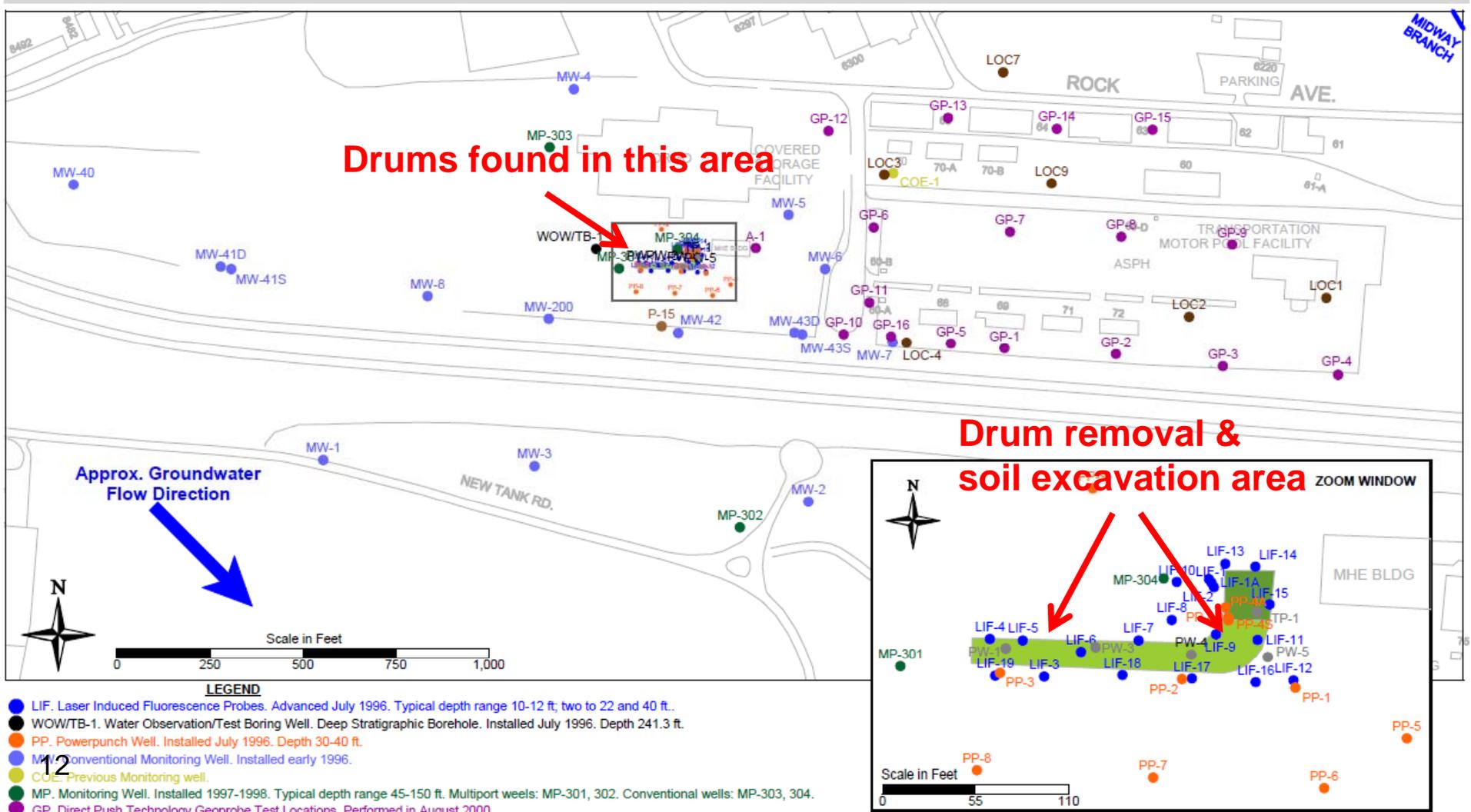
- Covered Storage Facility (CSF) built in mid-1990s
- Buried drums were found during grading activities for construction of the CSF in 1995. More than 260 drums and 3,500 tons of contaminated soil were removed.
- Following drum/soil removal, area was paved for use as DRMO.
- Remedial investigations completed in the area during late 1990s.





# Background

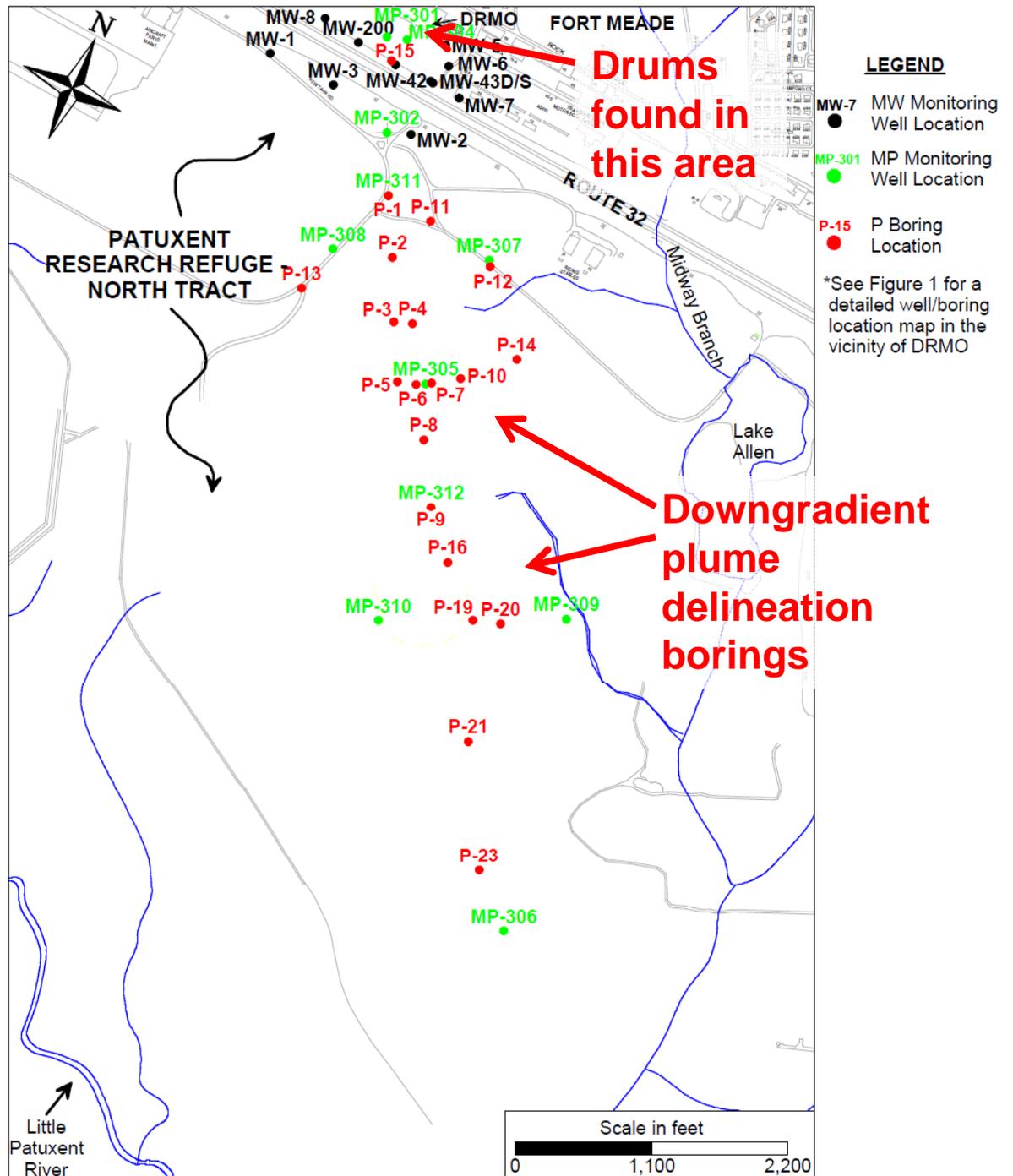
(Remedial Investigations – late 1990s)



# Background

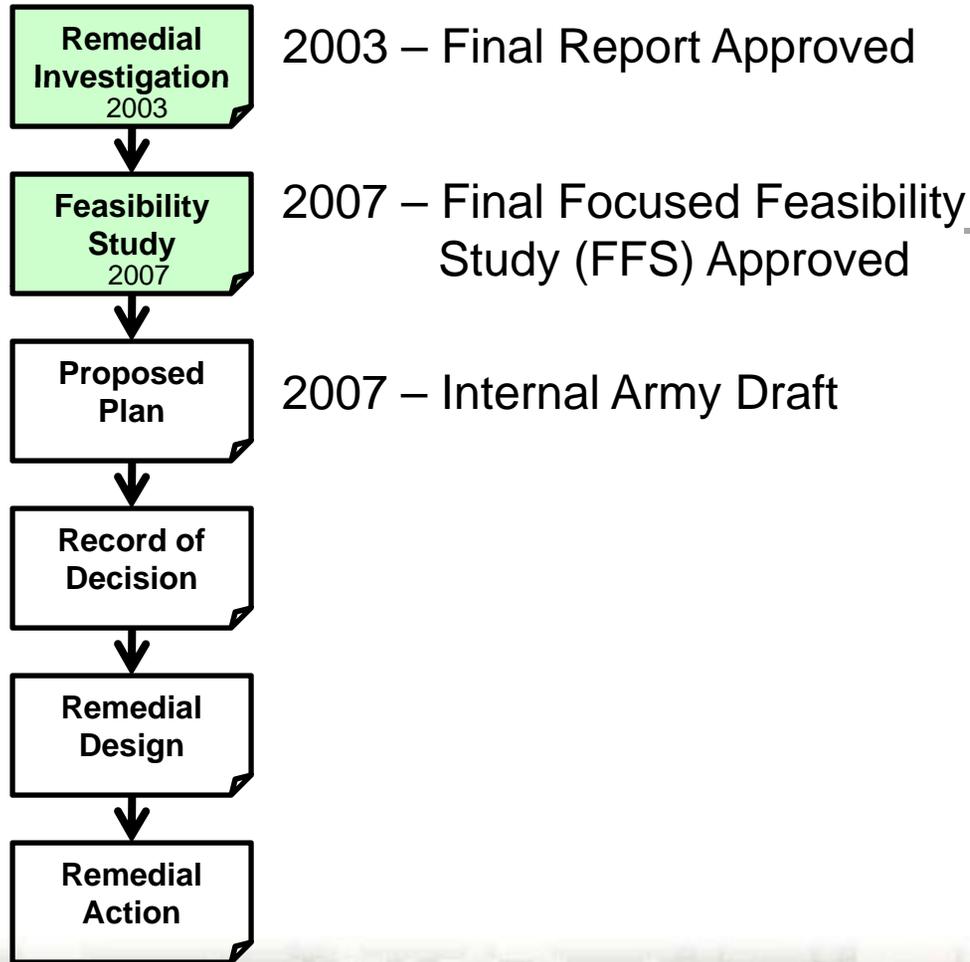
(Remedial Investigations)

- 1996-1998: Remedial investigations extended onto Patuxent Research Refuge – North Tract (PRR-NT).
- PCE plume migrates to southeast onto the PRR-NT.
- Remedial Investigation (RI) report approved (2003)
- Focused Feasibility Study (FFS) approved (2007)





# OU-5 CERCLA Status (2007)



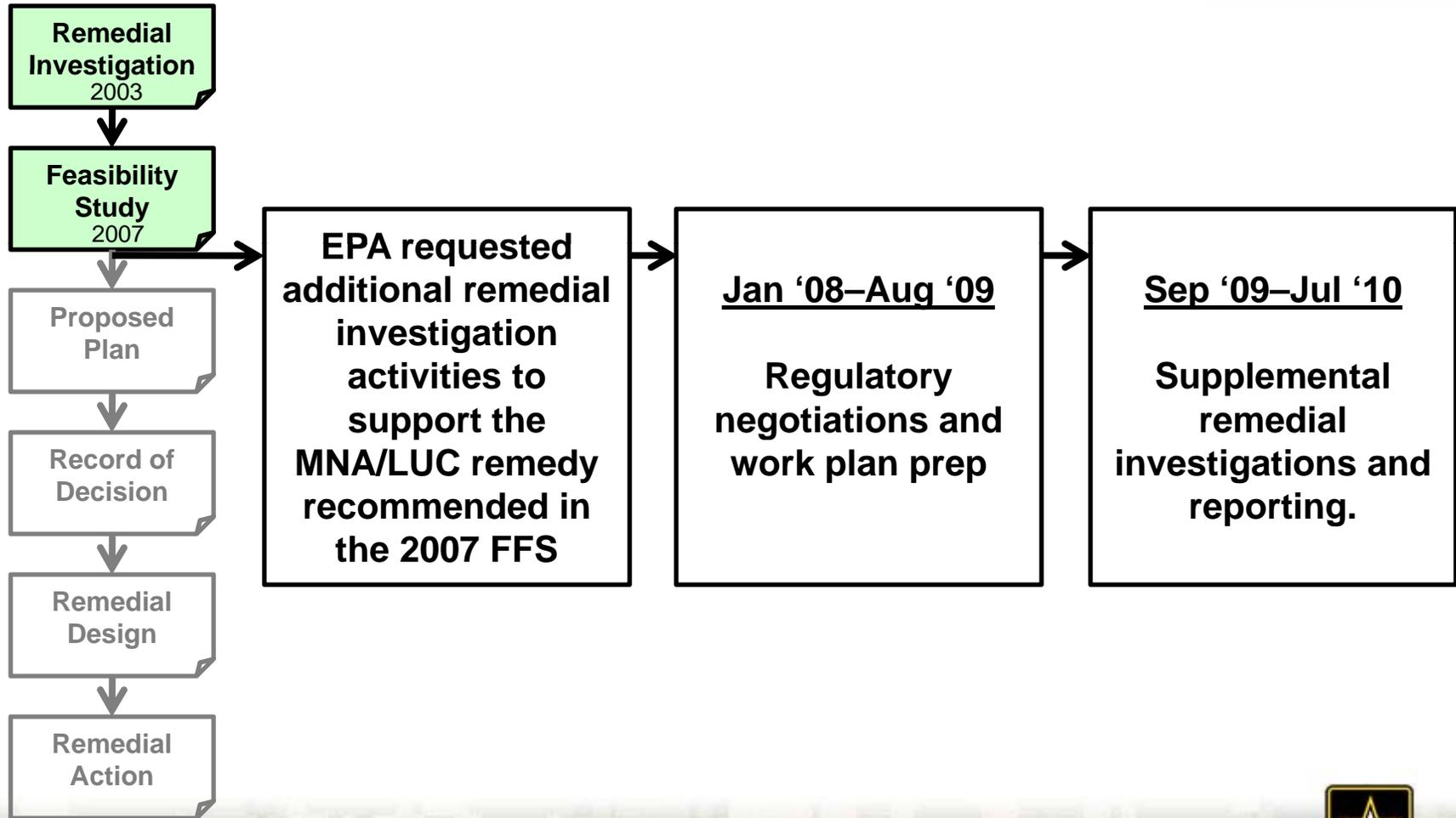
Recommended Remedial Alternative in the FFS:

Monitored Natural Attenuation (MNA) with Land Use Controls (LUCs)





# OU-5 CERCLA Status (2007 - 2010)

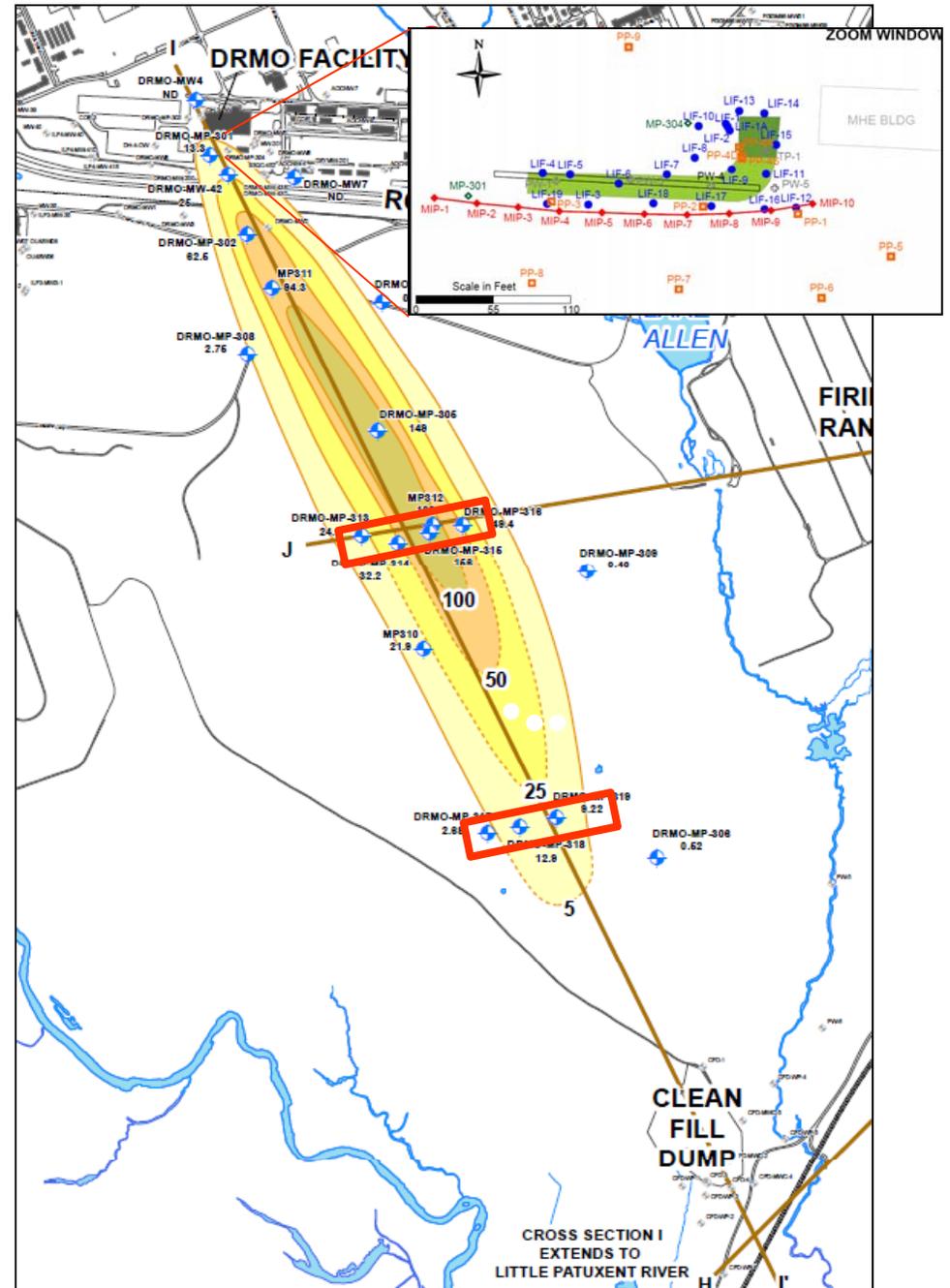


# 2009 Supplemental Work Plan

- Membrane Interface Probe (MIP) investigation in former source area.
- Downgradient and Vertical Delineation with 2 transects using rotasonic drilling
- Multi-level groundwater sampling; Installation of 7 new wells.

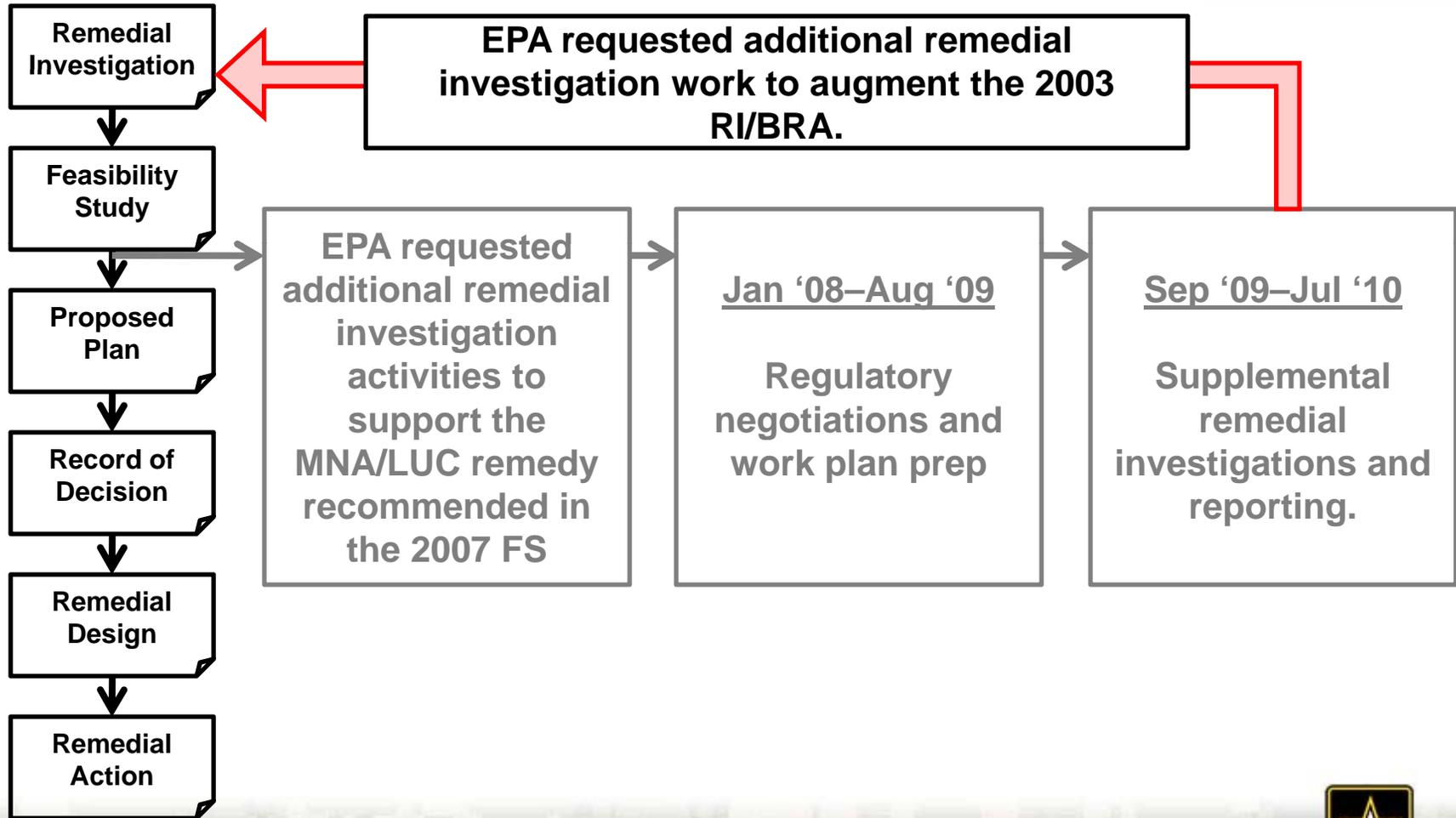
## Results Summary

- ✓ No residual source.
- ✓ Confirmed plume centerline.
- ✓ Vertical delineation complete.
- ✓ Downgradient extent more certain.
- ✓ Original conceptual site model refined, not rejected.





# OU-5 CERCLA Status (2007 - 2010)





## Recent Activities

- EPA provided technical comments on the 2003 RI/BRA and the 2007 FFS.
- EPA also notified the Army that the remedial alternative recommended in the approved 2007 FFS (MNA/LUCs) is no longer deemed appropriate.
- The Army met with EPA and MDE on 10/27/10 to discuss the additional RI/BRA and FFS comments.
- EPA has requested additional groundwater data for a broader list of parameters not included in the 2003 RI/BRA or 2007 FFS.
- EPA has requested sediment sampling in a nearby stormwater retention pond.





## Next Steps



- The Army is preparing a supplemental work plan to address EPA's July 2010 comments on the 2003 RI/BRA.
- Once the work plan is approved and field work is completed, the RI report, and risk assessment will be revised as necessary and resubmitted for review.
- A new or amended FFS will be prepared to evaluate additional remedial alternatives other than MNA/LUCs for OU-5.





# QUESTIONS OR DISCUSSION?





# Acronyms and Abbreviations



BRA	Baseline Risk Assessment	MDE	Maryland Department of the Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	MIP	Membrane Interface Probe
CSF	Covered Storage Facility	MNA	Monitored Natural Attenuation
CSM	Conceptual Site Model	OU	Operable Unit
DOI	Department of Interior	PAH	Polycyclic Aromatic Hydrocarbons
DPDO	Defense Property and Disposal Office	PBA	Performance-Based Acquisition
DRMO	Defense Reutilization and Marketing Office	PCE	Tetrachloroethene
EPA	Environmental Protection Agency	PM	Project Manager
FGGM	Fort George G. Meade	PPB	Parts Per Billion
FFS	Focused Feasibility Study	PRR-NT	Patuxent Research Refuge – North Tract
GW	Groundwater	RI	Remedial Investigation
LUCs	Land Use Controls	ug/L	micrograms per liter
MCL	Maximum Contaminant Level	USFWS	US Fish and Wildlife Service
		VOCs	Volatile Organic Compounds





# Points of Contact



**U.S. Army Garrison Fort George G. Meade  
Directorate of Public Works-Environmental Division  
2212 Chisholm Avenue, Suite 5115  
Fort Meade, Maryland 20755-7068**

- Michael (Mick) Butler
  - Environmental Division Chief
  - 301-677-9188
  - [mick.butler@us.army.mil](mailto:mick.butler@us.army.mil)
- Paul Fluck, PG, REP
  - Environmental Restoration Manager
  - 301-677-9365
  - [paul.v.fluck@us.army.mil](mailto:paul.v.fluck@us.army.mil)

