



Fort George G. Meade



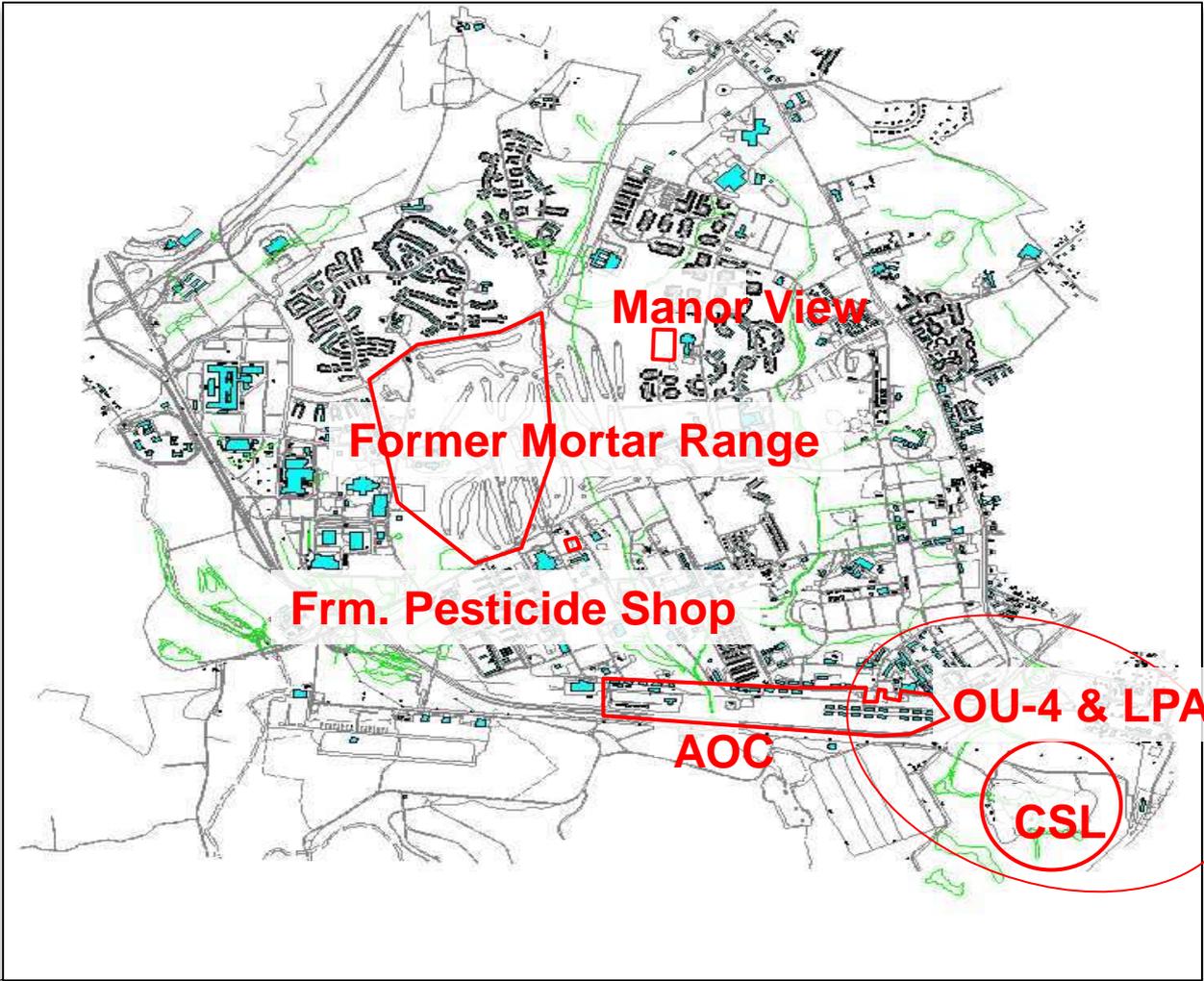
PERFORMANCE BASED ACQUISITION II SITE STATUS OVERVIEW

Restoration Advisory Board Meeting
March 25, 2010

John Cherry—ARCADIS APM

Tim Llewellyn—ARCADIS PM

PBA II Site Locations



Contract duration
8/21/2009 to 12/31/15
(6 + years)



Objectives for FY 2010



Remedial Investigation Reports: 4

Operable Unit 4/Lower Patapsco Aquifer

Oct 2010

Former Pesticide Shop

Aug 2010

Former Mortar Range

July 2010

Architect of the Capitol

Oct 2010

Feasibility Studies: 4

Operable Unit 4/Lower Patapsco Aquifer

Oct 2010

Manor View

Aug 2010

Former Pesticide Shop

Oct 2010

Closed Sanitary Landfill

Oct 2010

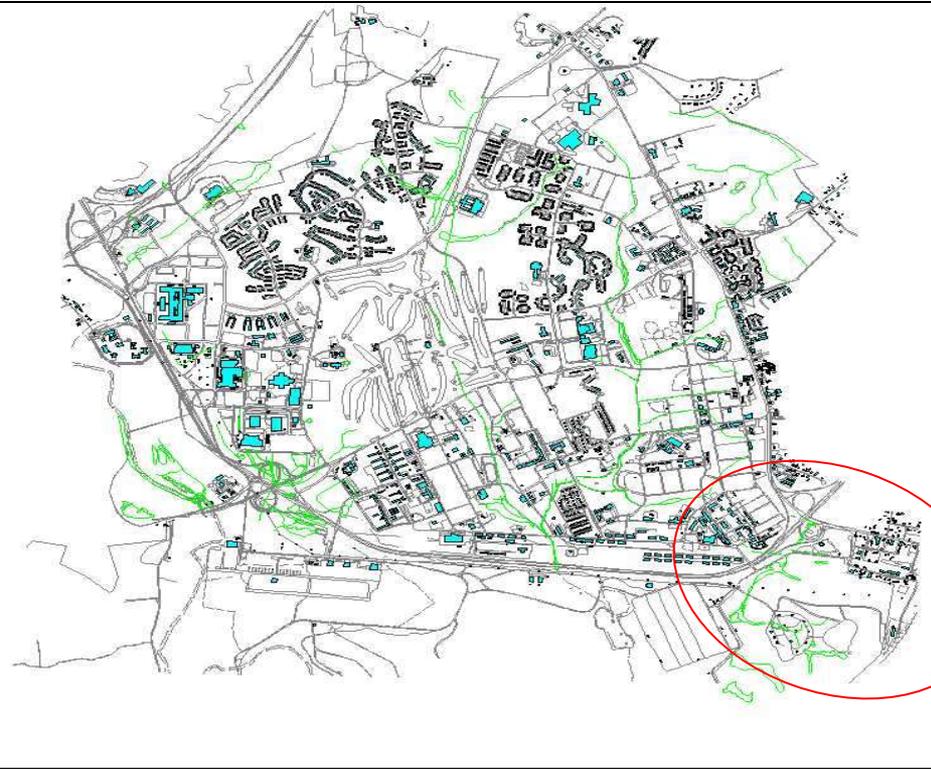


Operable Unit-4 & LPA

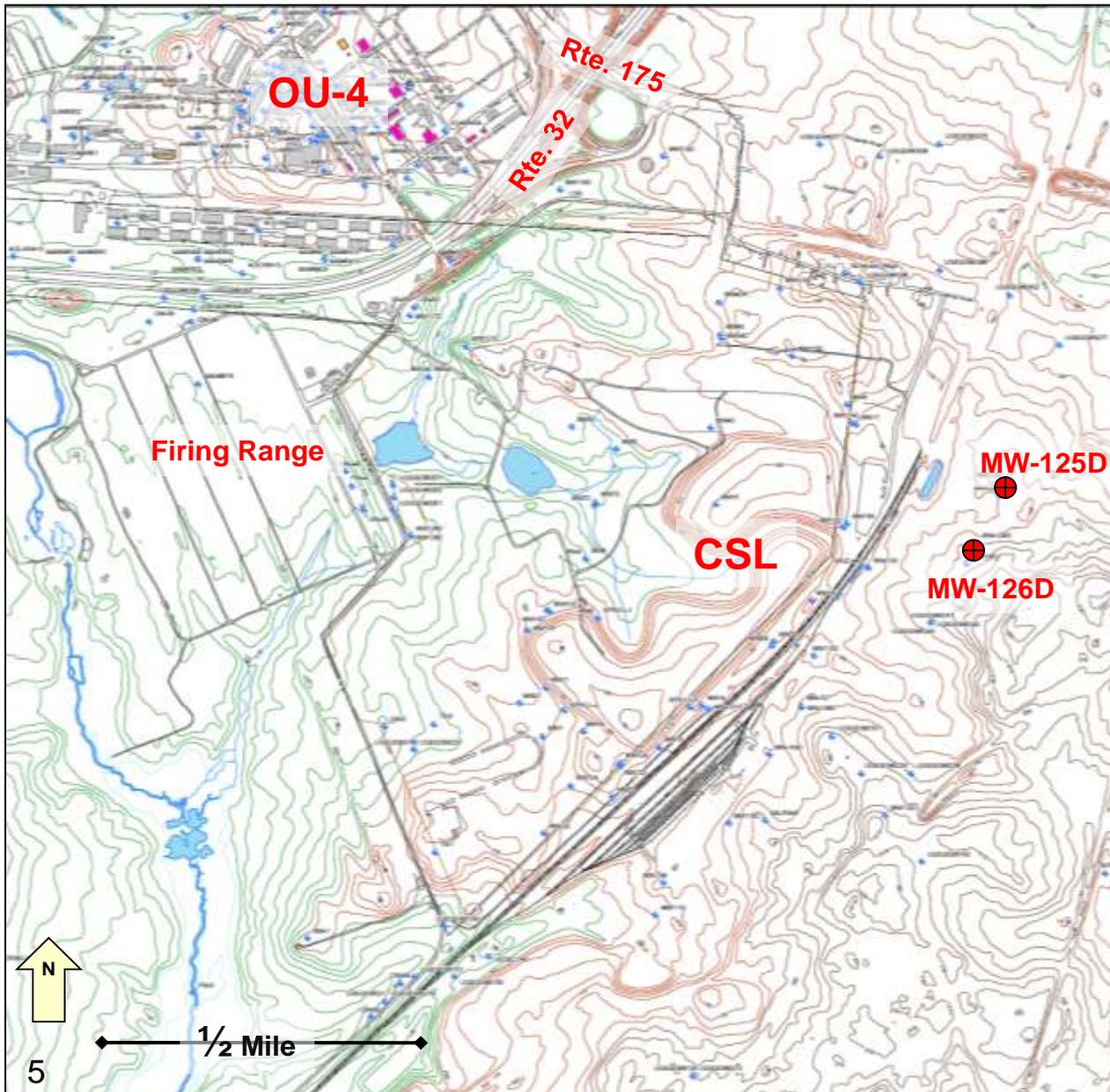


CONTRACT OBJECTIVES

- Decision Document for OU-4
- Delineation Report for Lower Patapsco Aquifer (LPA) Contamination
- Options in Contract for Remedy-in Place at OU-4 and LPA



OU-4 & LPA – Overview



GW contamination found in off-post wells (CCl₄, PCE, TCE)

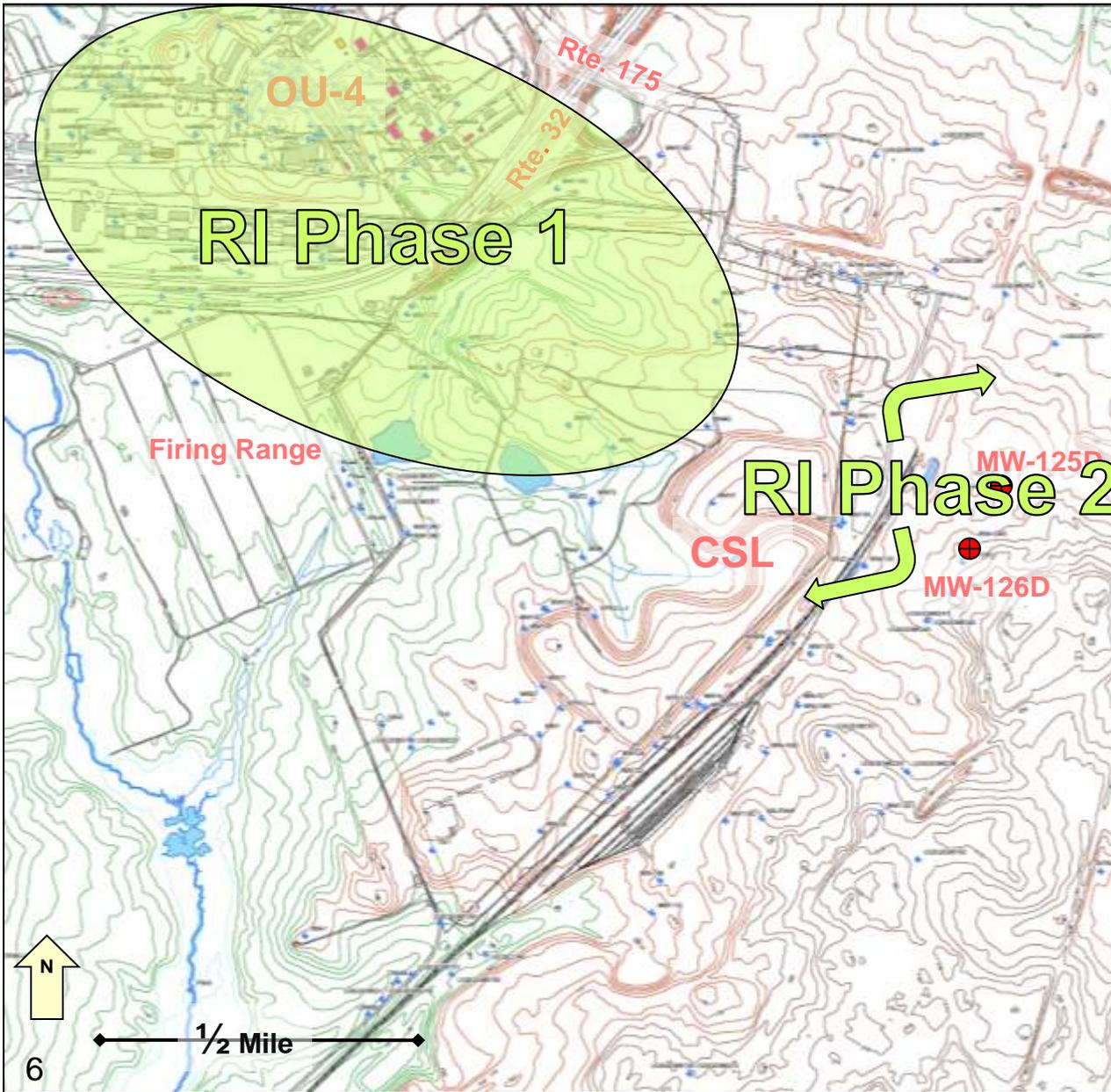
Potential off-site receptors include private & municipal wells

Possible connection between OU-4 and off-site LPA groundwater contamination

Potential PCE/TCE sources identified in OU-4, but not for CCl₄

Off-post Interim Measures underway

OU-4 & LPA – Work Plan



Two supplemental Remedial Investigation (RI) phases in progress.

RI Phase 1 *(On-going)*

Approx. 40 CPT/MIPs borings in OU4 area and south of Rte. 32

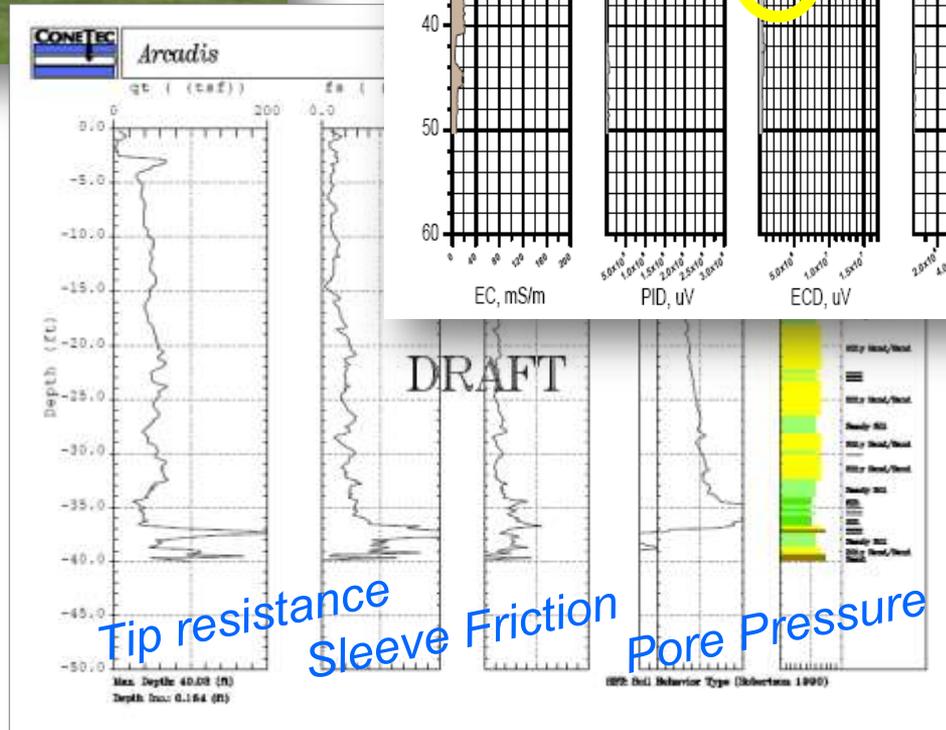
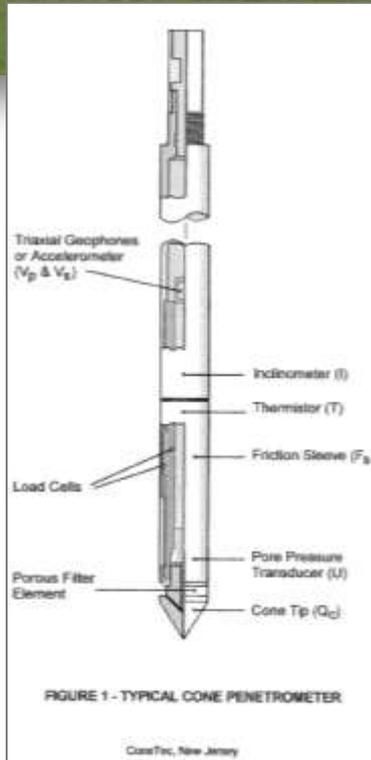
- Source evaluation
- Conceptual site model

RI Phase 2 *(April/May)*

Deep rotasonic borings, vertical aquifer profiling, monitoring well construction.

- Plume delineation (vertical, horizontal, downgradient)

Conepenetrometer (CPT)

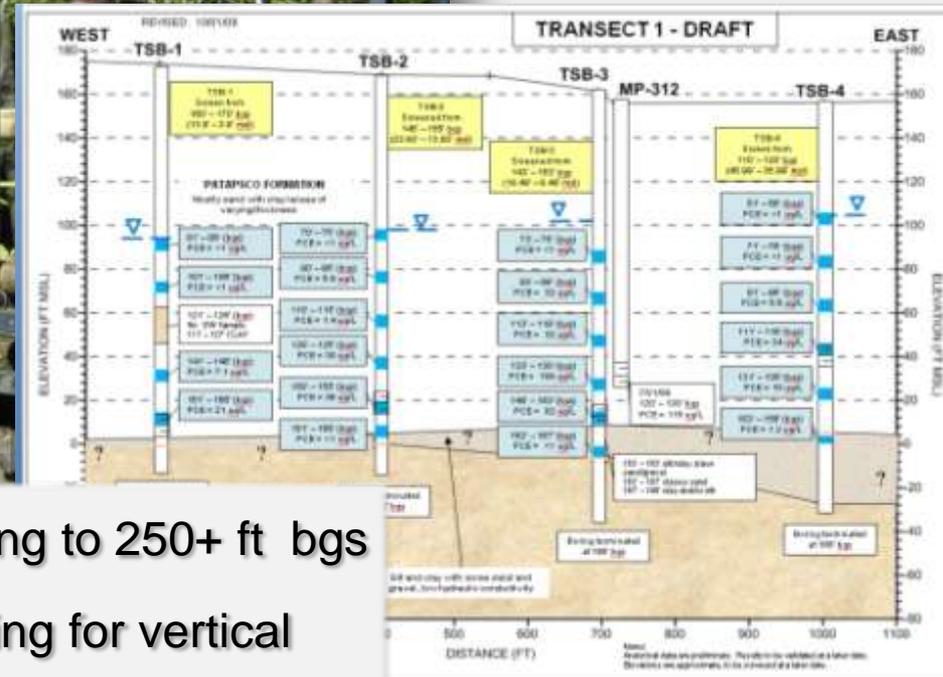
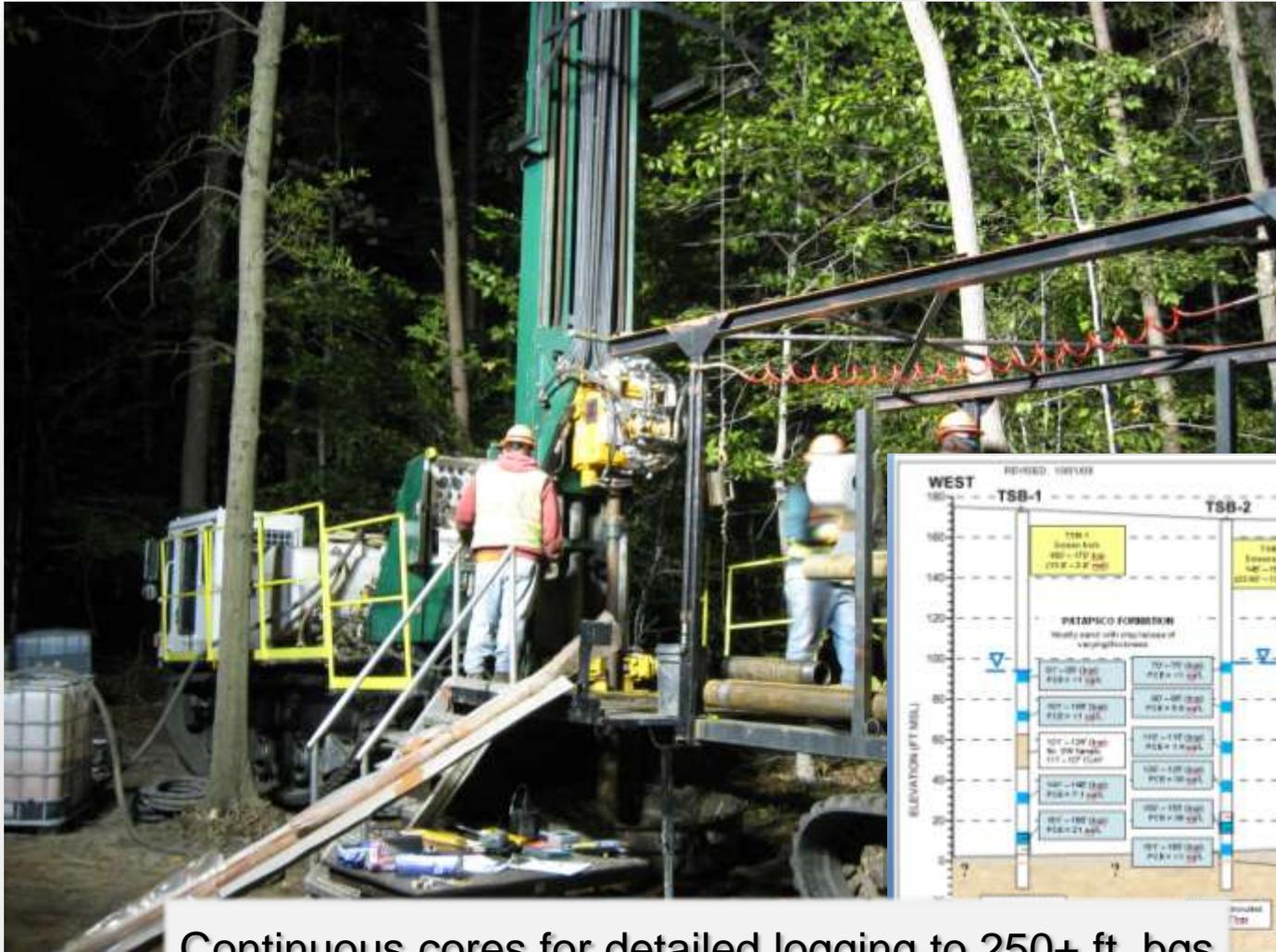


with Membrane Interface Probe (MIP)



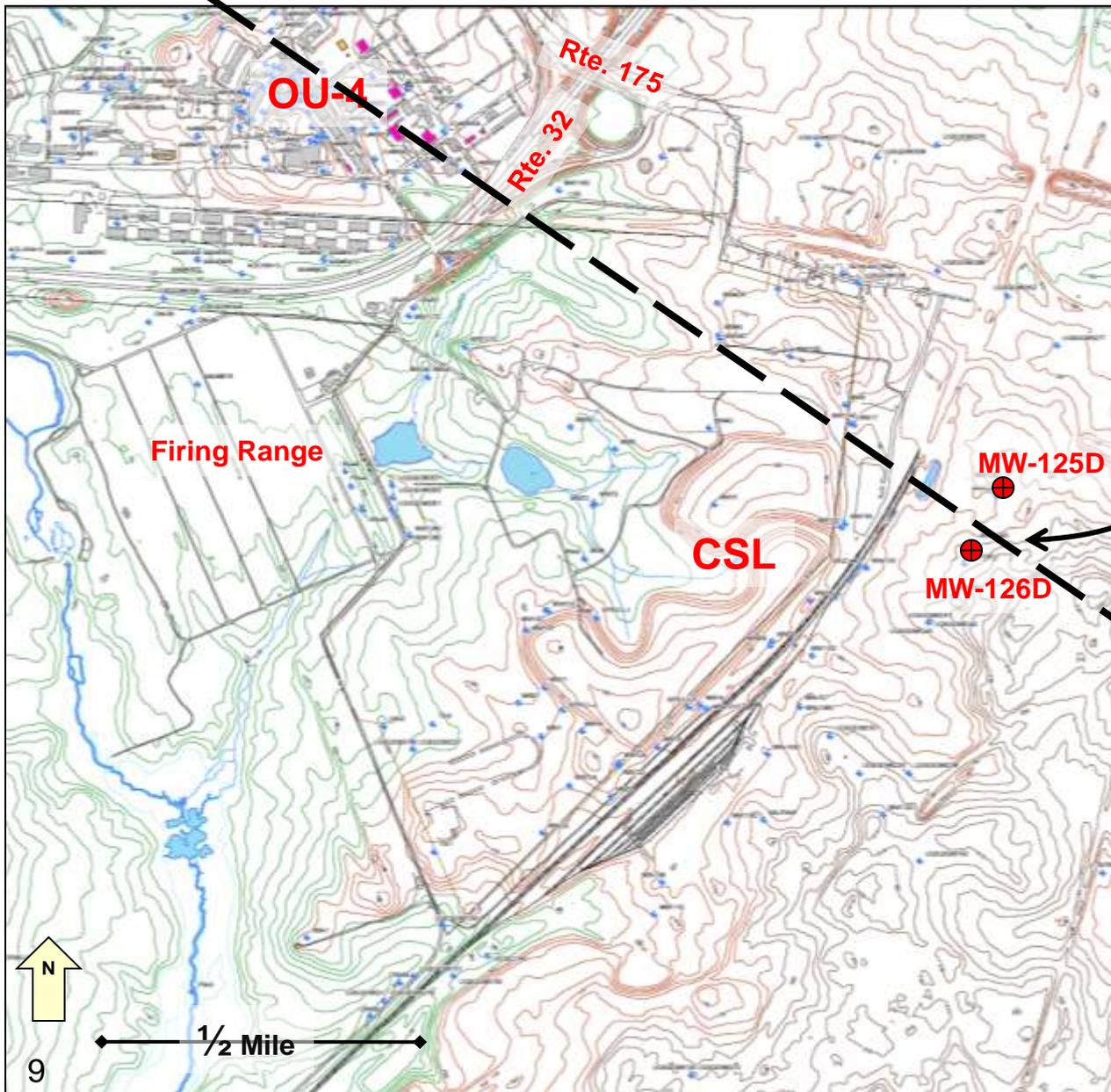
Tip resistance
Sleeve Friction
Pore Pressure

Rotasonic Drilling



Continuous cores for detailed logging to 250+ ft bgs
Multi-depth groundwater sampling for vertical aquifer profiling

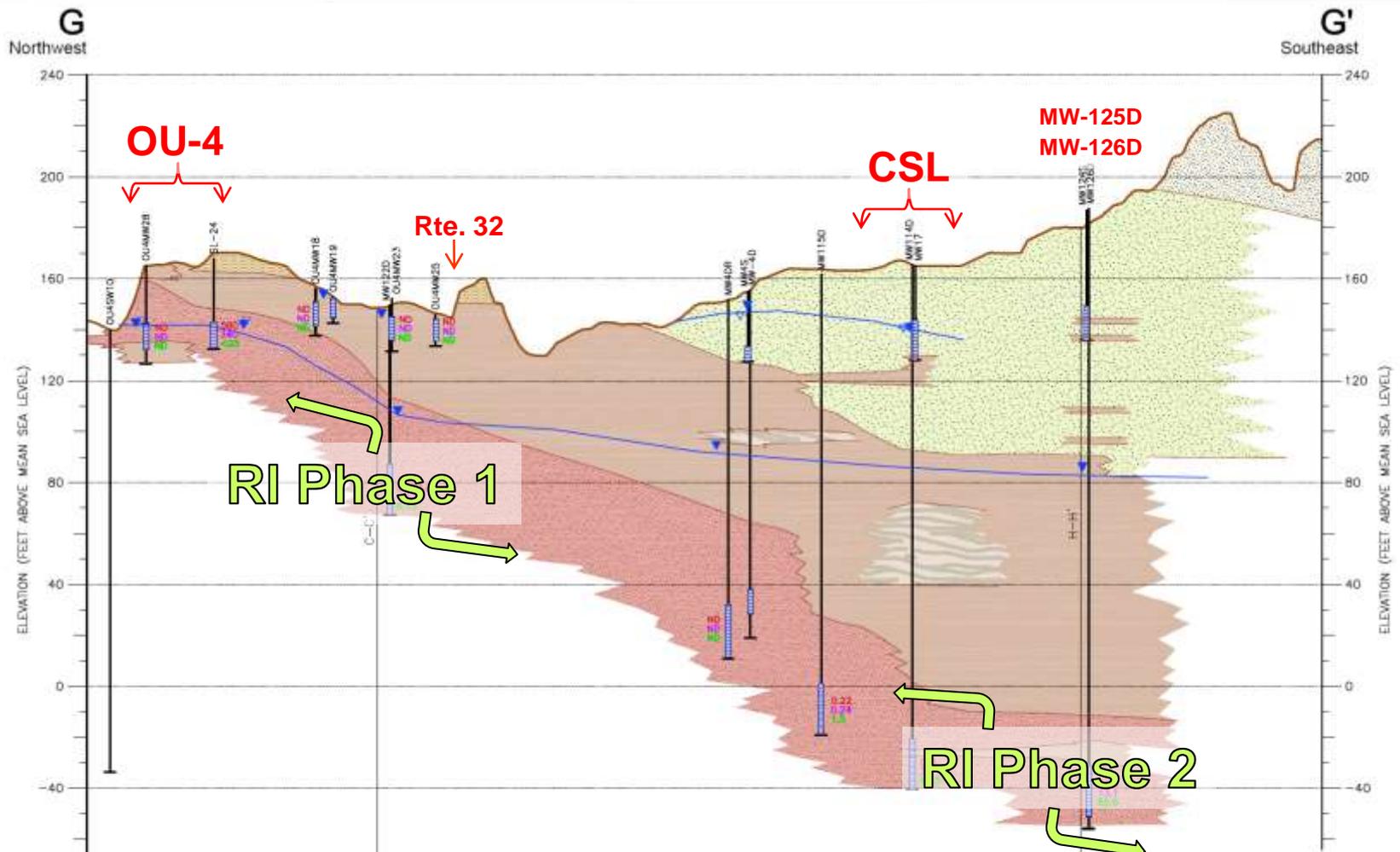
OU-4 & LPA – Cross Section



Cross-section

G'

OU-4 & LPA – Cross Section & Study Areas



Draft

US ARMY CORPS OF ENGINEERS
FORT MEADE, MARYLAND
INITIAL PLANNING - OU4

CROSS SECTION G-G'

ARCADIS

FIGURE G-G'



OU-4 & LPA – Path Forward



March/April 2010 – Supplemental RI Phase 1

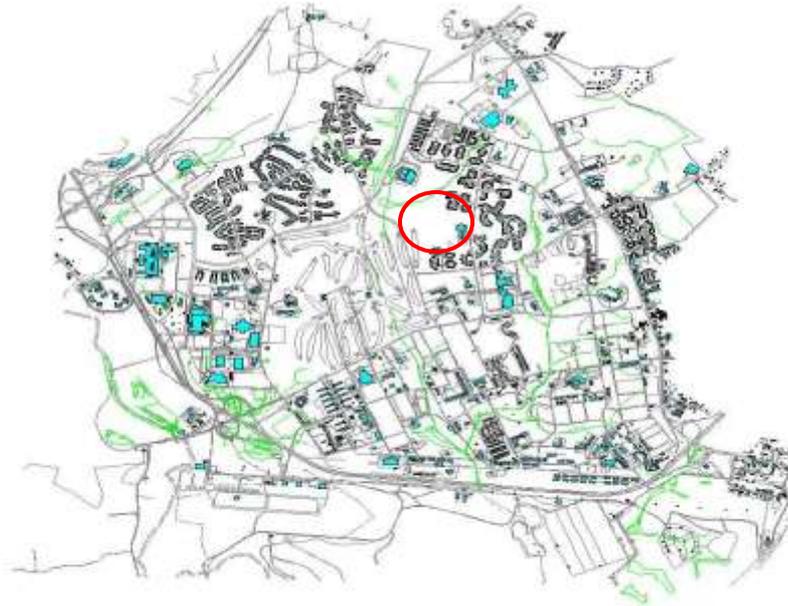
April/May 2010 – Supplemental RI Phase 2

October 2010 – Final RI/FS

April 2011 – Final Proposed Plan



Manor View Dump



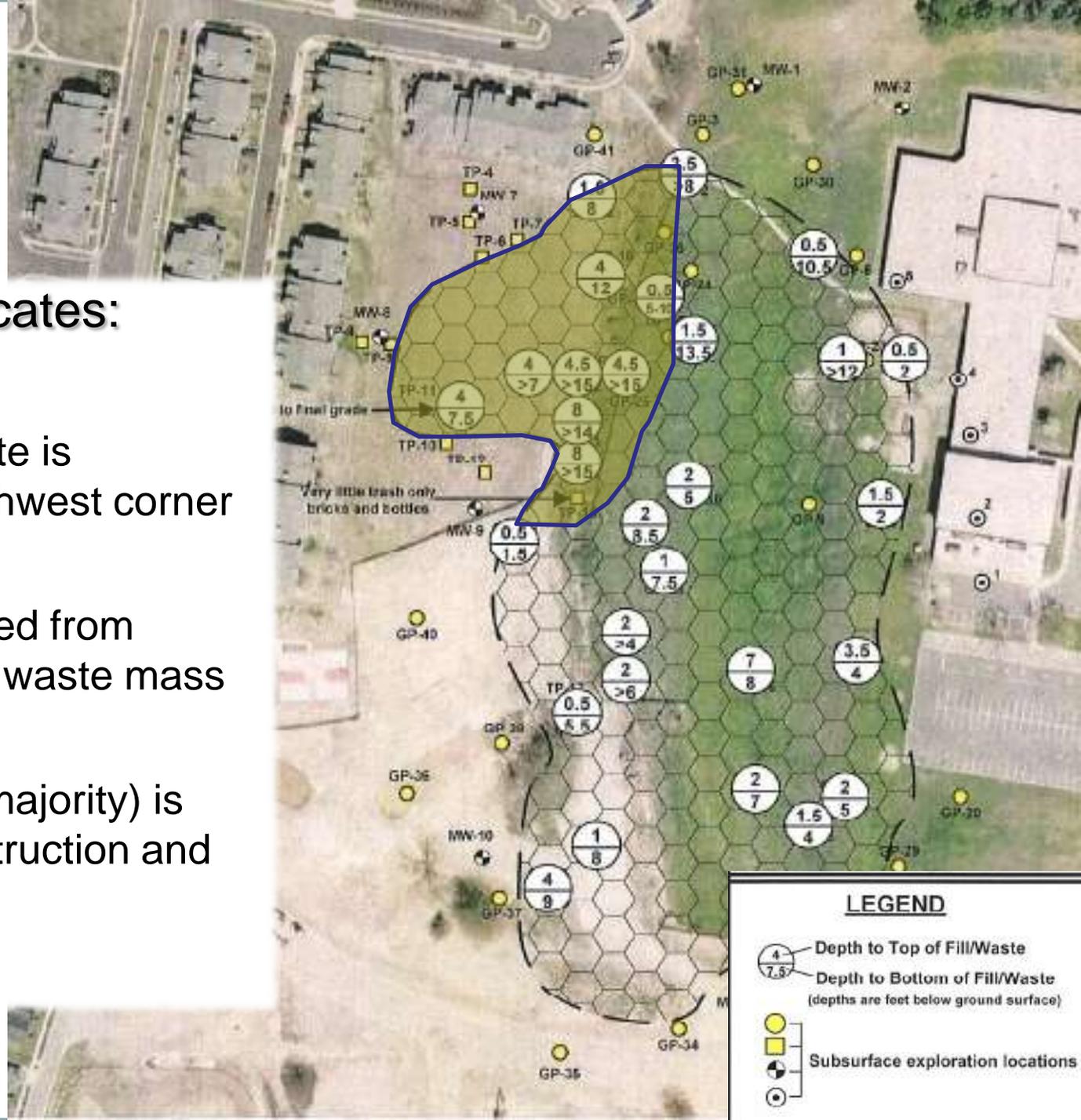
CONTRACT OBJECTIVES

- Remove Methane Producing Wastes
- Address soils with elevated metals (Response Complete)
- Address groundwater with elevated VOCs (Remedy in Place)

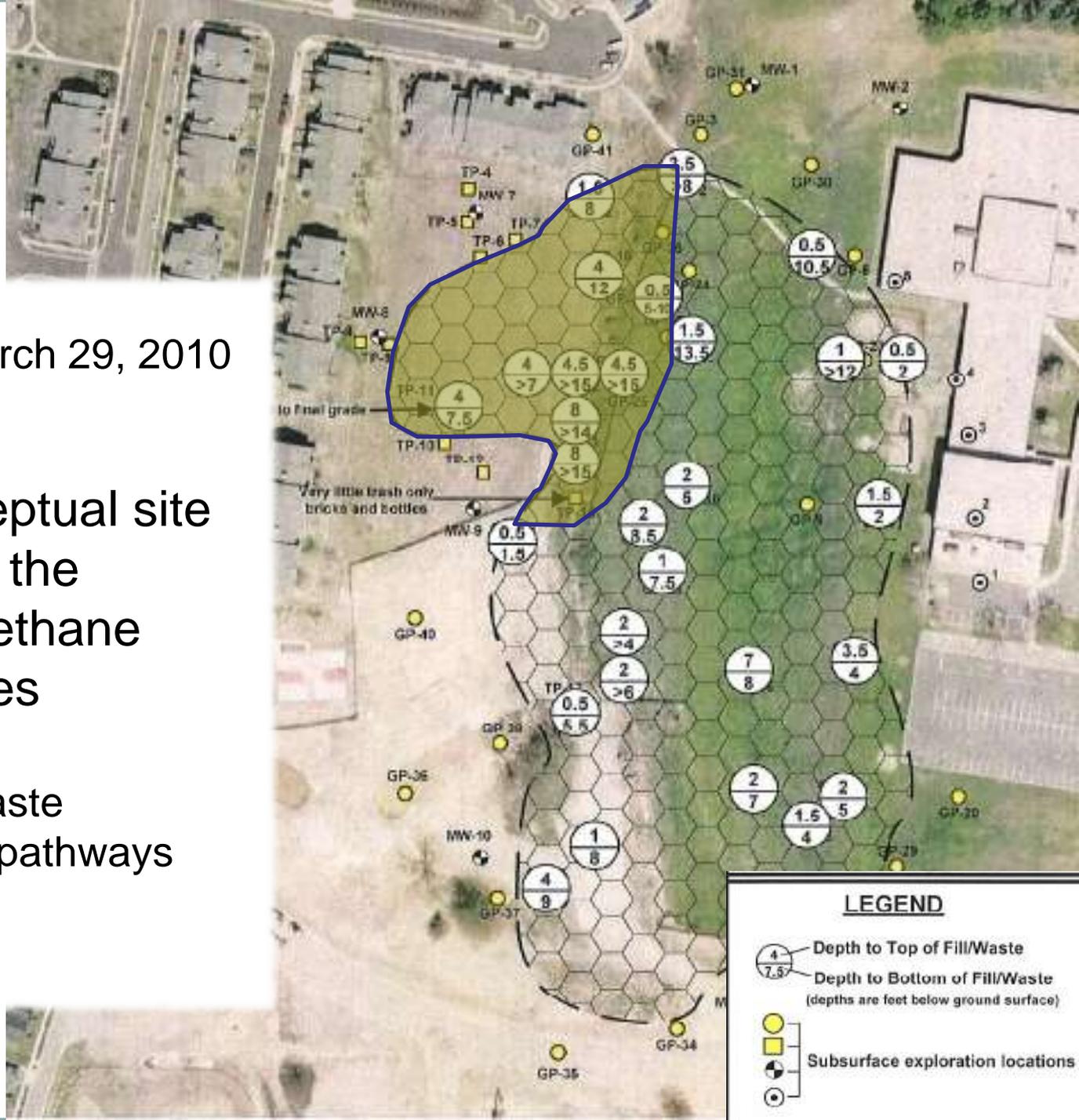
Manor View Overview

Existing Data Indicates:

- Municipal solid waste is documented in northwest corner
- Methane is generated from northwest corner of waste mass
- Remaining waste (majority) is typical of inert construction and demolition debris



Manor View Pre-Design Work Plan

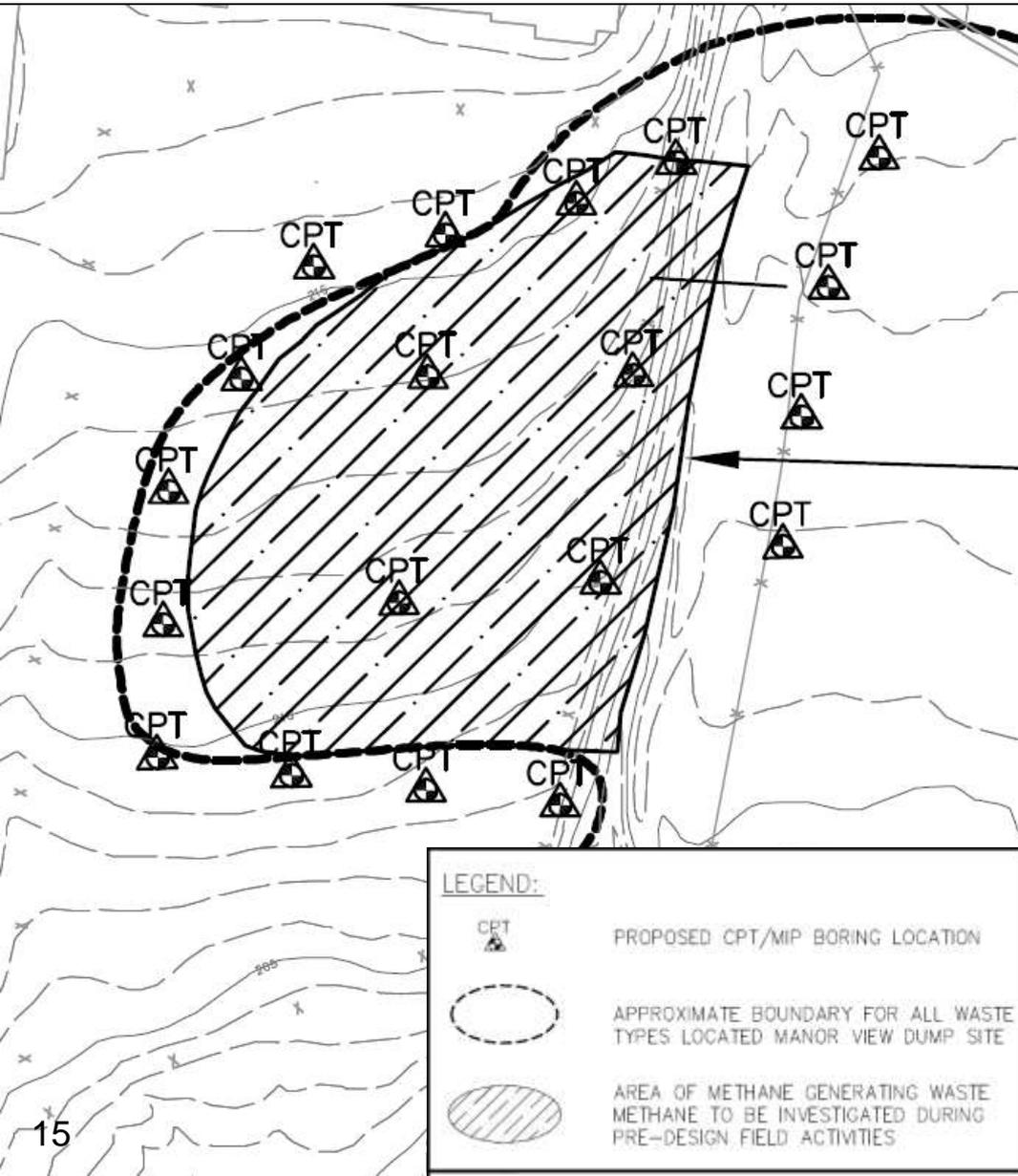


Field work begins March 29, 2010

Objective:

- Refine the conceptual site model regarding the distribution of methane generating wastes
- physical limits of waste
- methane migration pathways

Pre-Design Work Plan Scope



1. Approximately 20 borings, each 25 feet deep
2. CPT to provide real-time differentiation between native soil and fill and provide geotechnical information of each material
3. MIPs to monitor methane concentrations, presence of VOCs, and temperature in real-time.
4. Collect four traditional soil borings to confirm CPT data



Manor View – Path Forward



March/April 2010 - Pre-design field work next week

August 2010 – Feasibility Study

January 2011 – Final Proposed Plan

December 2011 – Mobilize for excavation

} Future RAB presentations will focus on Manor View and present specifics about the excavation plans

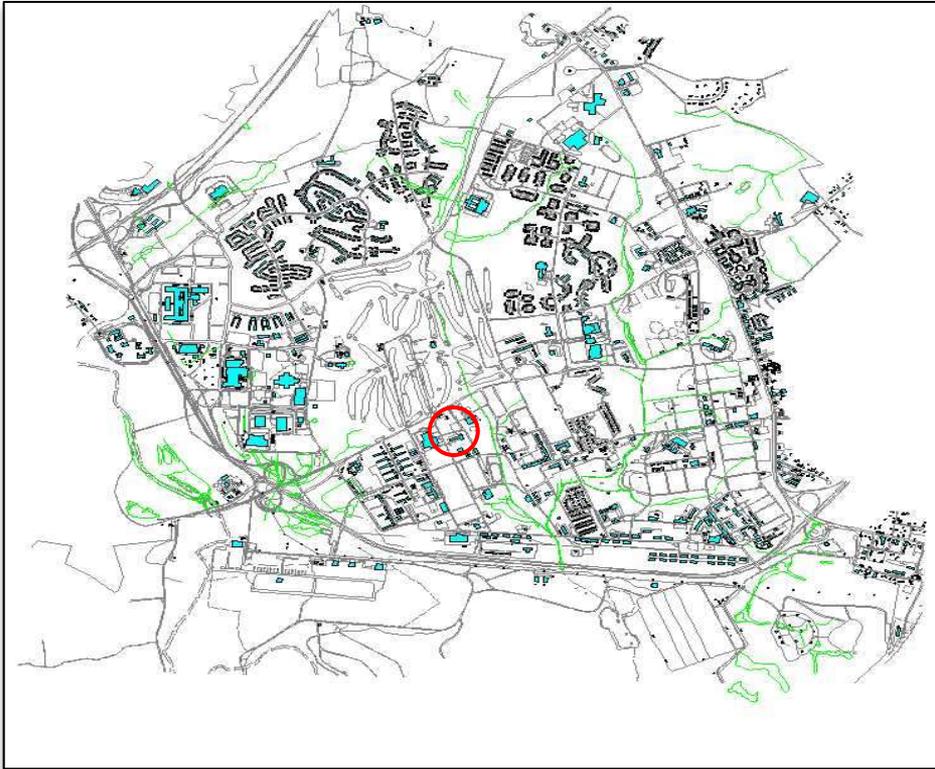


Former Pesticide Shop



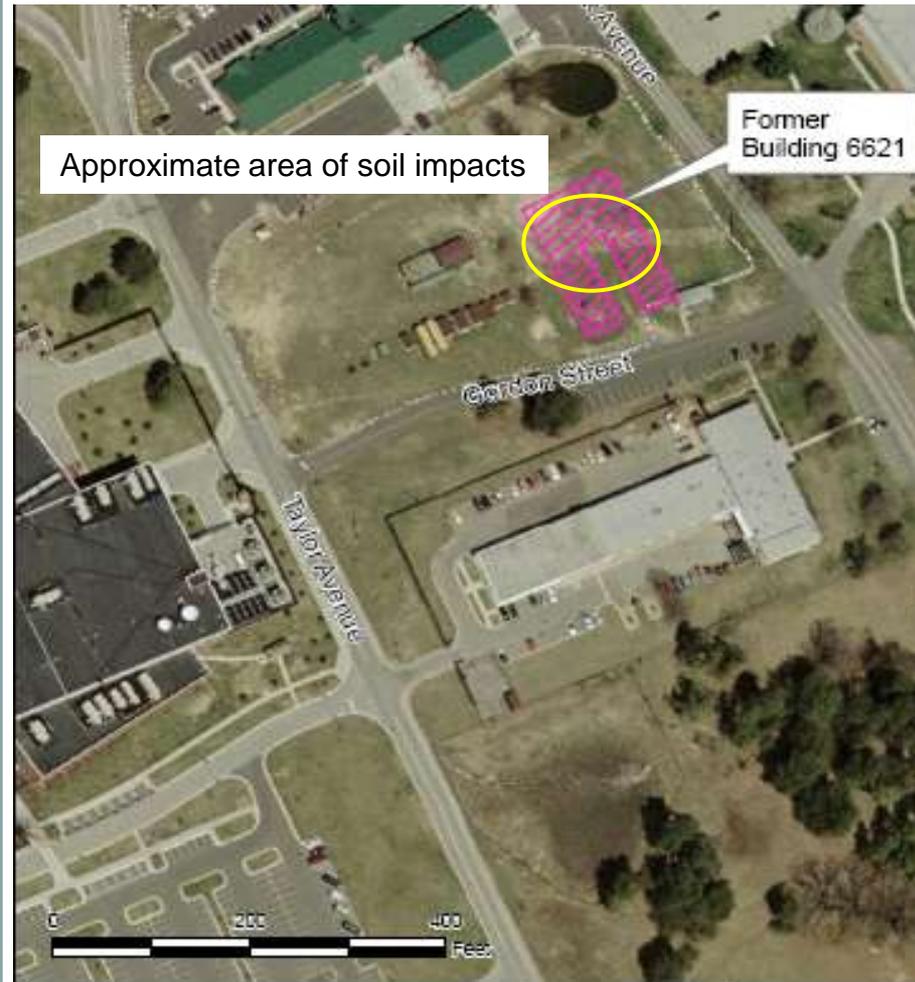
CONTRACT OBJECTIVES

- Remedy-in-Place for Groundwater
- Response Complete for Soils

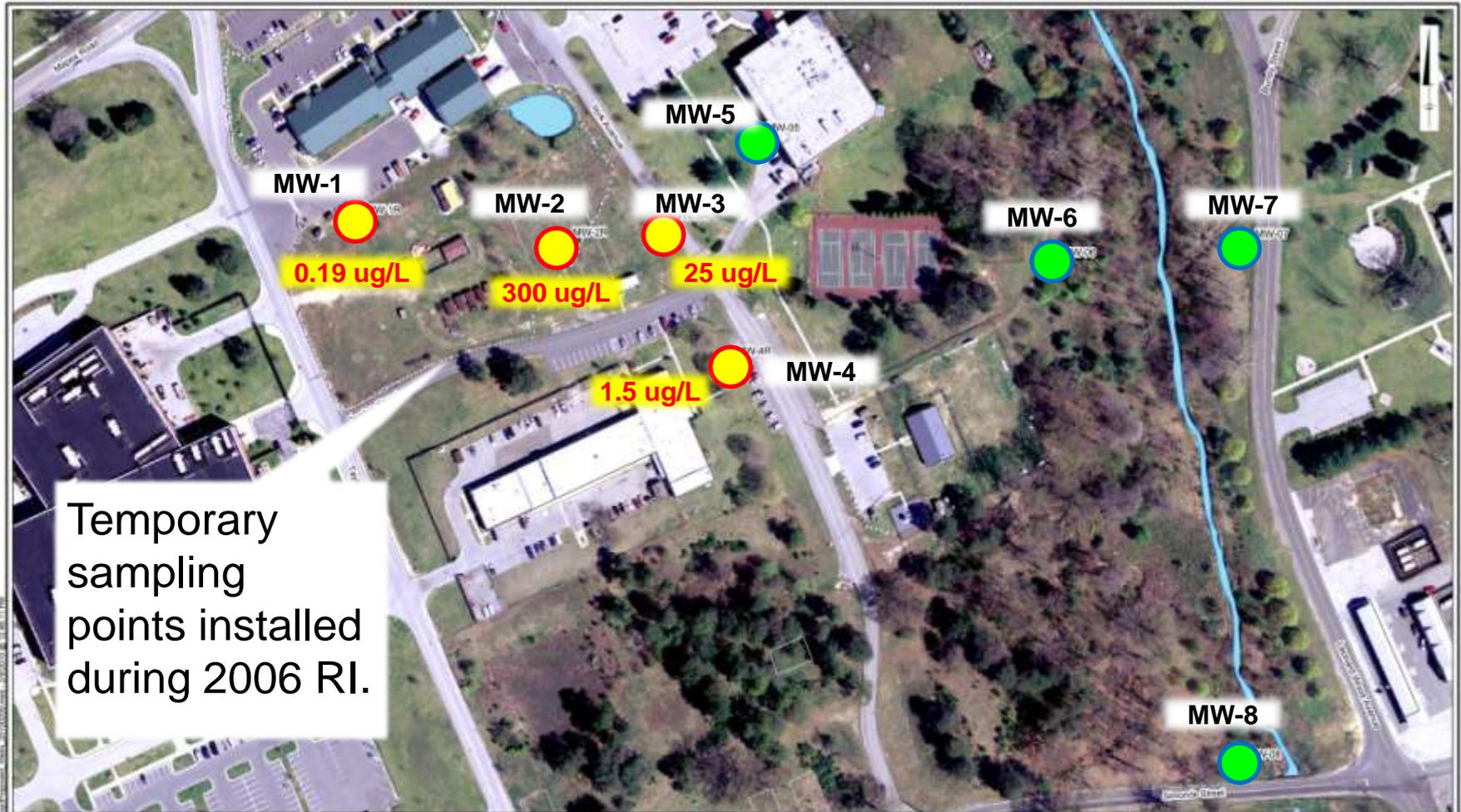


Former Pesticide Shop

- Formerly used to store and mix pesticides
- Pesticide/metals impacts documented in surface and subsurface soils, primarily chlordane
- Groundwater impacted with pesticides above MCL, primarily chlordane; additional delineation needed.

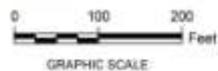


Former Pesticide Shop - Overview



Temporary sampling points installed during 2006 RI.

- RI temp wells (2006)
- Existing wells
- 300 ug/L 2006 Chlordane concentrations (RI temp wells)

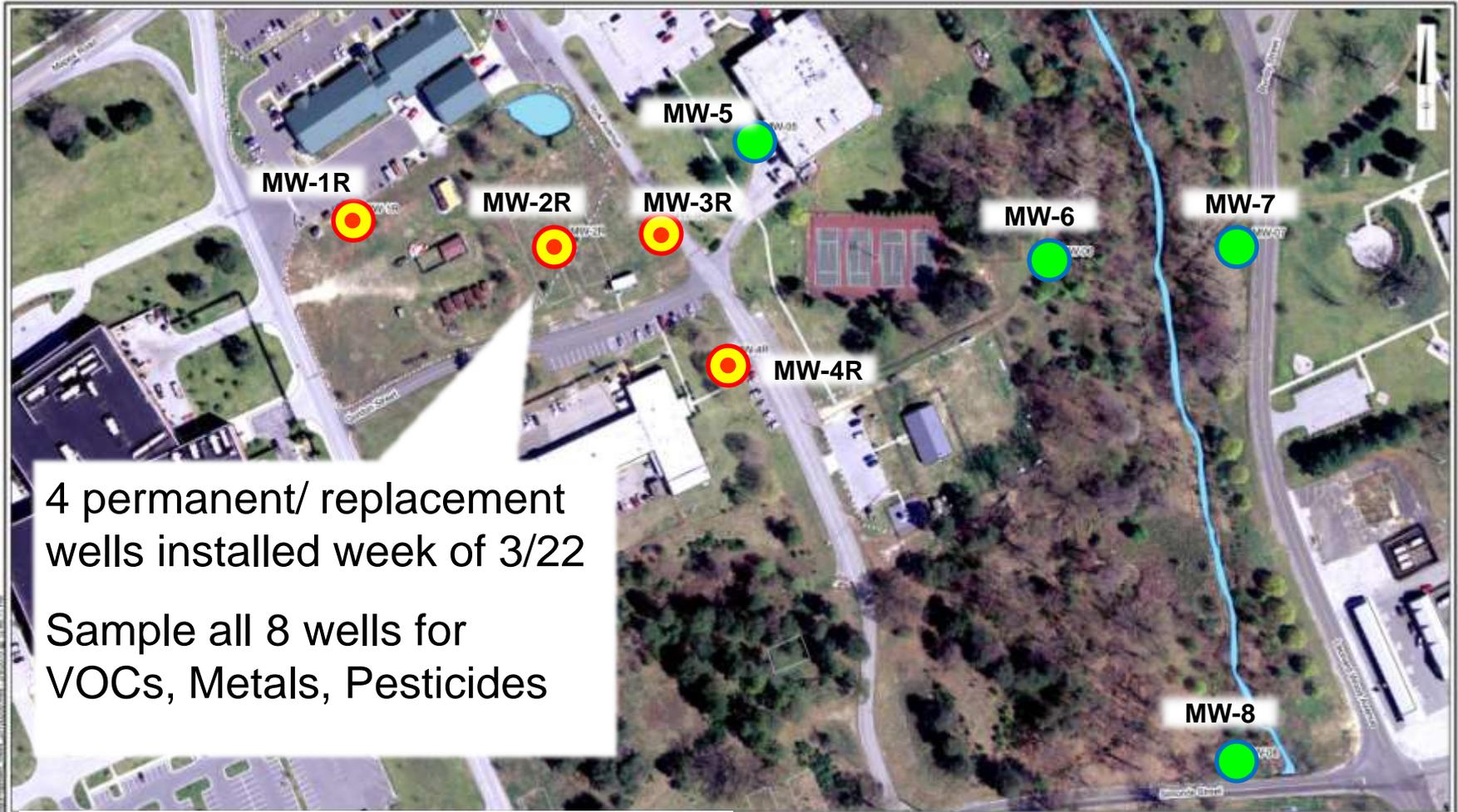


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FORT MEADE, MARYLAND	
SITE PLAN SHOWING PROPOSED MONITORING WELLS	
	FIGURE 1

NOTES:
AERIAL IMAGE: SEAMLESS USGS.GOV, 2007, @ 5 FEET

Former Pesticide Shop – Work Plan



4 permanent/ replacement wells installed week of 3/22

Sample all 8 wells for VOCs, Metals, Pesticides

 New permanent wells (2010)  Existing wells



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FORT MEADE, MARYLAND

SITE PLAN SHOWING
PROPOSED MONITORING WELLS

NOTES:

AERIAL IMAGE: SEAMLESS USGS.GOV, 2007, @ 5 FEET

 **ARCADIS**

FIGURE
1



Former Pesticide Shop Path Forward



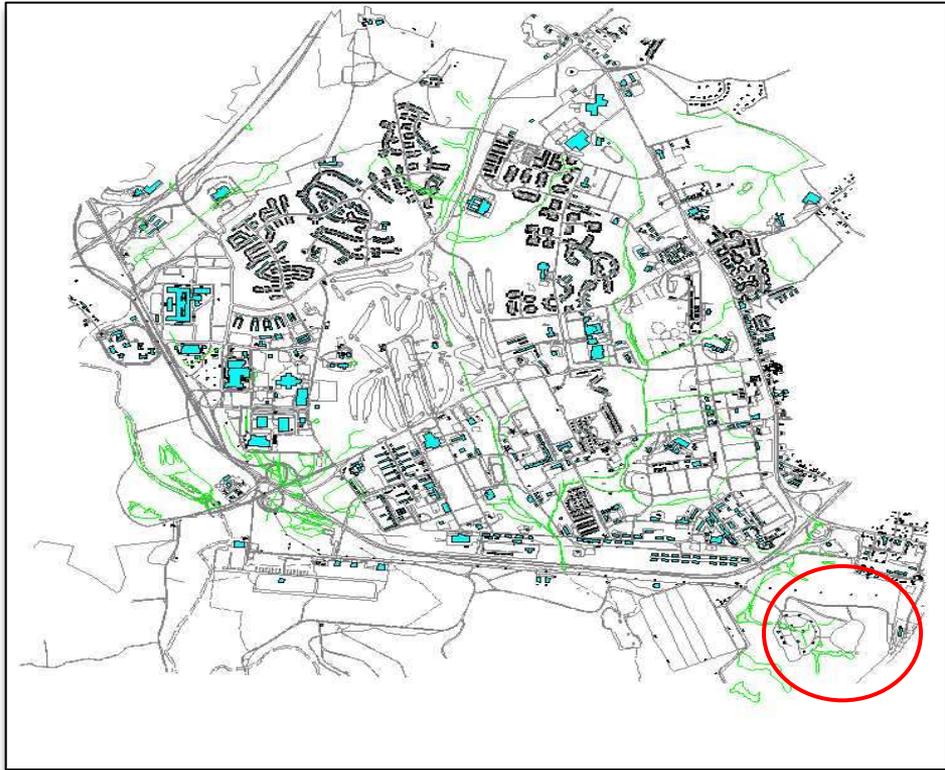
August 2010 – Final RI

October 2010 – Final FS

Likely recommend soil removal and action for groundwater to be determined pending additional sampling results



Closed Sanitary Landfill



CONTRACT OBJECTIVES

- Remedy-in-Place for Groundwater
- Response Complete for Soils





Closed Sanitary Landfill

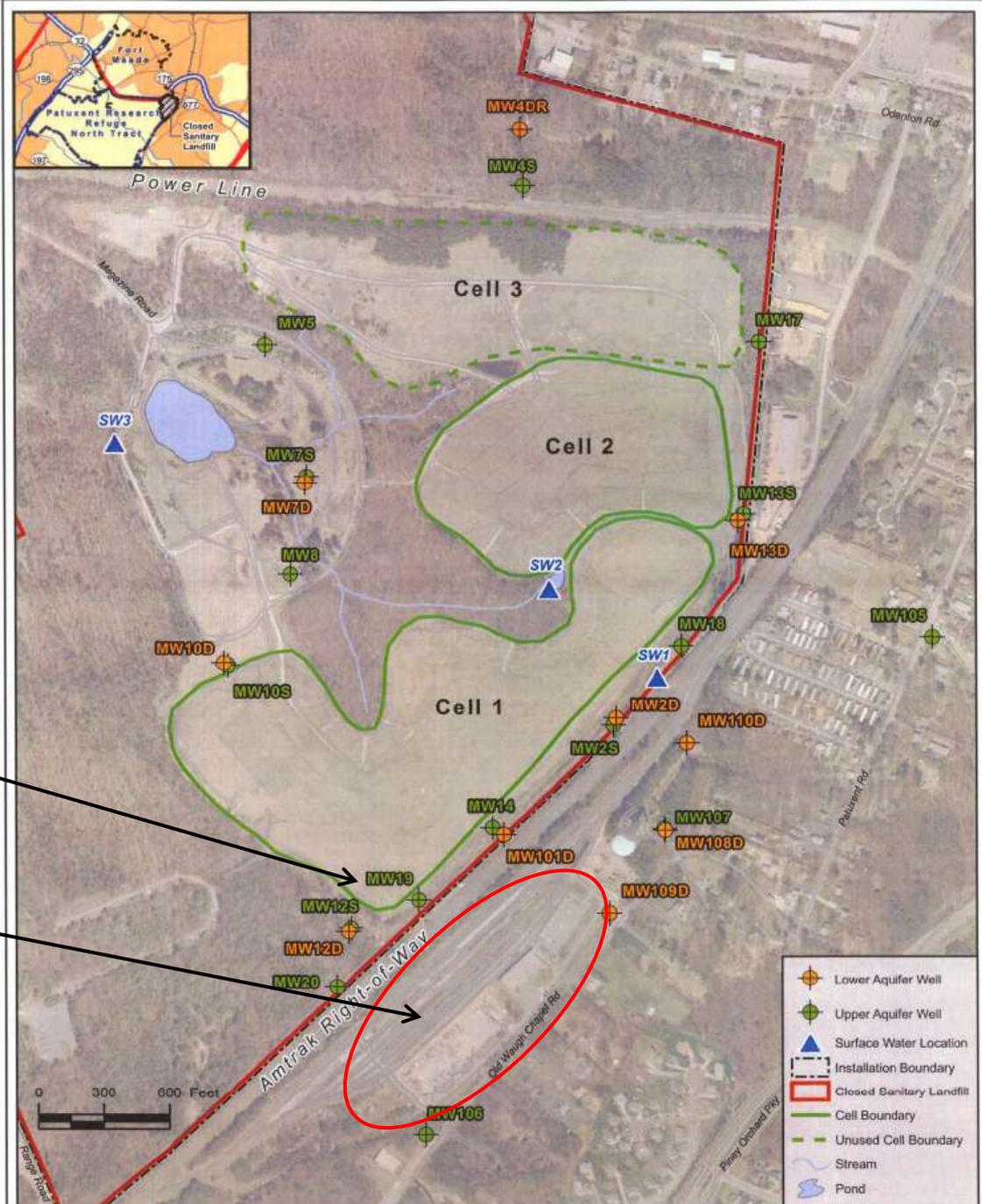


- Ongoing comprehensive groundwater/surface water monitoring program in place for closed landfill.
- Benzene has been detected above its MCL in shallow groundwater wells (Upper Patapsco Aquifer) near the southern installation property boundary.
 - Off-post benzene delineation investigation being planned.

Closed Sanitary Landfill

Benzene in shallow aquifer (~10-20 ppb)

Train Maintenance Yard

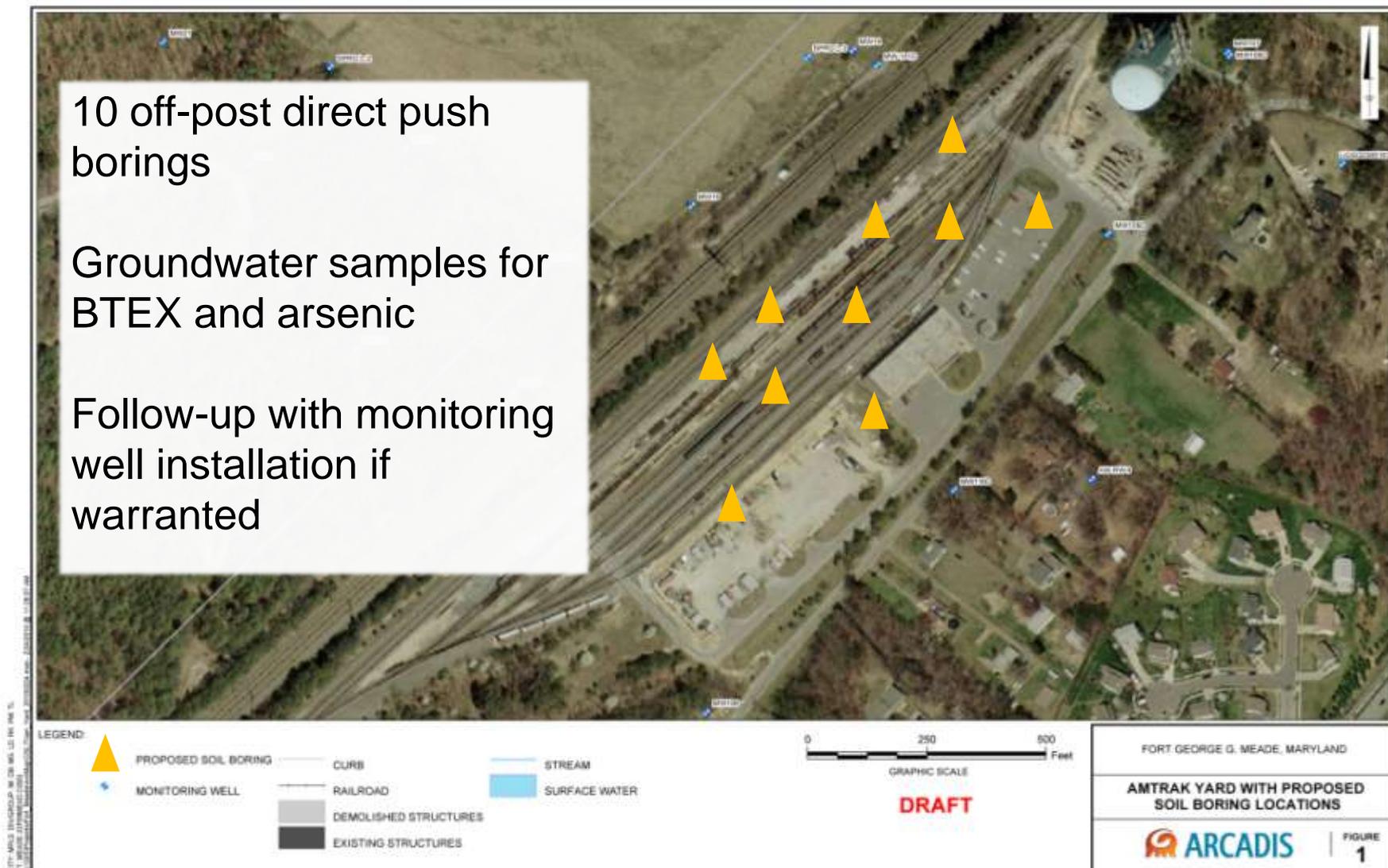


FGGM-17, Closed Sanitary Landfill Benzene Delineation Investigation

10 off-post direct push borings

Groundwater samples for BTEX and arsenic

Follow-up with monitoring well installation if warranted





Closed Sanitary Landfill Path Forward



March/April 2010 – Finalize right-of-entry with off-post train rail yard

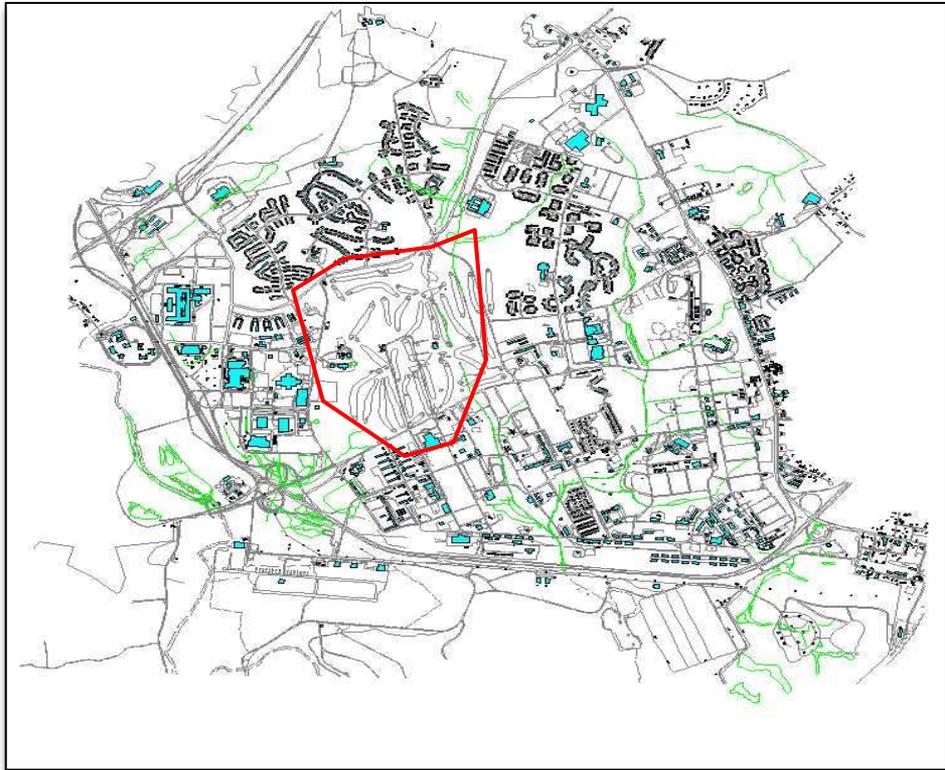
April 2010 – Semi-annual CSL sampling event

May 2010 – Complete benzene delineation investigation

October 2010 – Final FS



Former Mortar Range

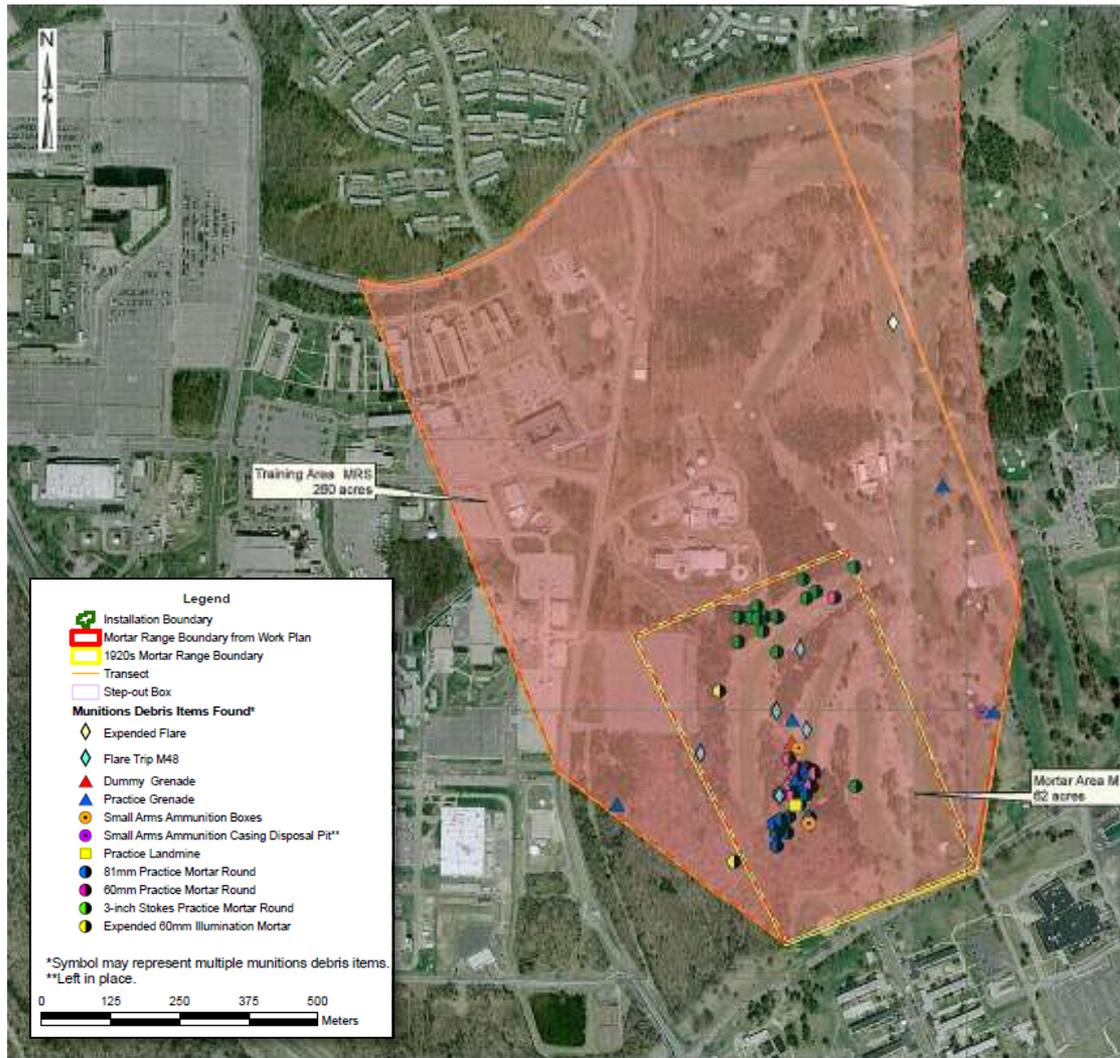


CONTRACT OBJECTIVES

- Former Munitions Site (MMRP)
- Remedy-in-Place



Former Mortar Range



Former mortar range and a training area on the current site of the Installation golf course

291 acres in total

Extensive investigations complete

Only practice rounds found.
No live munitions



Former Mortar Range



- Additional RI soil sampling completed in Jan. 2010
 - No explosives detected
 - No propellants detected
- Draft RI report to EPA in April 2010



QUESTIONS OR DISCUSSION?



Acronyms and Abbreviations



AOC	Architect of the Capitol	LPA	Lower Patapsco Aquifer
APM	Assistant Project Manager	MCL	Maximum Contaminant Level
BGS	Below groundsurface	MIP	Membrane interface probe
BTEX	Benzene, toluene, ethylbenzene, xylene	MMRP	Military Munitions Response Program
C&D	Construction and Demolition Debris	OU-4	Operable Unit
CCl ₄	Carbon tetrachloride	PBA	Performance-Based Acquisition
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PCE	Tetrachloroethene
CPT	Cone penetrometer	PM	Project Manager
CSL	Closed Sanitary Landfill	PMR	Phoenix Military Reservation
CSM	Conceptual Site Model	PPB	Parts Per Billion
DD	Decision Document	RAB	Restoration Advisory Board
FGGM	Fort George G. Meade	RAR	Remedial Action Report
FS	Feasibility Study	RC	Response Complete
FT	Feet	RI	Remedial Investigation
FY	Fiscal Year	RIP	Remedy-in-Place
GW	Groundwater	SL	Soil
ID	Identification	TCE	Trichloroethene
		UPA	Upper Patapsco Aquifer
		VOCs	Volatile Organic Compounds





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