



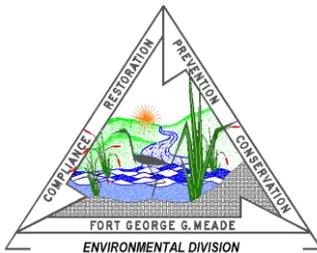
# Fort George G. Meade



## Proposed Plan Manor View Dump Site

## Public Meeting

March 27, 2014



ARMY STRONG.



# Public Meeting Purpose



- U.S. Army is inviting the public to comment on the proposed environmental actions for the Manor View Dump Site
- The opening of a 30-day public comment period was posted in the Soundoff and Capital Gazette and started March 20<sup>th</sup> and will end April 19<sup>th</sup>, 2014
  - This public meeting is scheduled to be mid-way through that period
- Additional information on how to submit comments will be provided at the conclusion of this presentation



# Status of CERCLA\* Process



- ✓ Preliminary Assessment/Site Investigation (SI) - identification of site
- ✓ Remedial Investigation (RI) - characterization of site
- ✓ Feasibility Study (FS) - assessment of possible remedies
- ✓ Proposed Plan (PP) - solicit public input on preferred remedy
- Record of Decision (ROD) - legal documentation of remedy selection
- Remedial Design (RD) - remedy implementation plan
- Remedial Action (RA) - remedy implementation

\*Comprehensive Environmental Response, Compensation, and Liability Act





# Proposed Plan



- Provides information necessary to allow the public to participate in selecting the appropriate remedial alternative for Manor View Dump Site
- The Proposed Plan
  - Summarizes site history, investigations, and results of human health and ecological risk assessments
  - Describes remedial alternatives considered
  - Provides a comparative analysis of remedial alternatives based upon United States Environmental Protection Agency (USEPA) established criteria
  - Presents the preferred remedial alternative
  - Contains information on community participation
- Fact Sheets are available tonight



# Presentation Agenda



- Site Information
  - History and Location
- Field Investigations
  - Summary of Findings
- Remedial Alternatives
- Preferred Alternative
- Public Comment Period Information

Manor View Dump Site

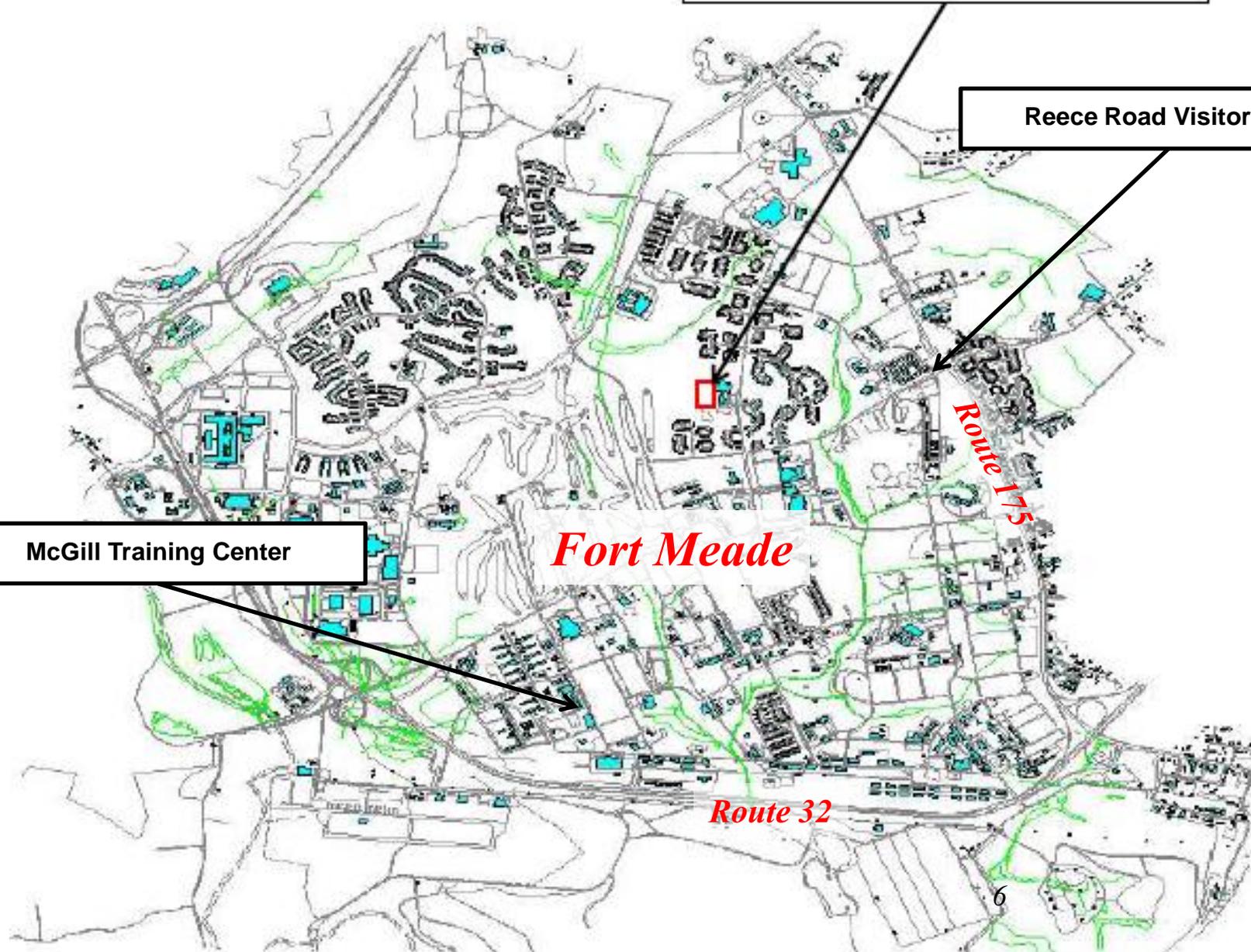
Reece Road Visitor Gate

McGill Training Center

*Fort Meade*

*Route 175*

*Route 32*





# Sound Familiar?



- Public meeting held on November 9, 2011 at Manor View Elementary
- Reviewed Plan for Non-Time Critical Removal Action to address a specific methane hazard at the site

**Fort George G. Meade Manor View Dump Site Meeting Purpose**

Fort George G. Meade environmental investigations are completed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund

**CERCLA Process**

- Preliminary Assessment Site Investigation
- Remedial Investigation
- Feasibility Study
- Proposed Plan
- Record of Decision
- Remedial Design/Remedial Action
- Remedial Action Report

**Non-Time Critical Remedial Action Process**

- Environmental Evaluation Cost Analysis
- Public Comment Period
- Action Memo
- Remedial Action Work Plan
- Non-Time Critical Remedial Action
- Prepare Remedial Action Report

**EECA identifies the objectives of the removal action and analyzes the effectiveness, implementability, and cost of various alternatives that still satisfy those objectives.**

**EECA Alternative Comparison**

1. No Further Action (Effectiveness, low effectiveness; implementability, not implementable; Cost, No cost)
2. Augmentation of Existing Gas Migration Control System (Effectiveness, Residual, low cost; implementability, not implementable; Cost, \$1,300,000)
3. Excavate and Off-Site Disposal (Effectiveness, Residual, low cost; implementability, not implementable; Cost, \$2,500,000)

**Preferred Remedy**

Subject to 30-day Public Comment Period (November 1 - 30, 2011)

See back of Meeting Agenda for information on how to submit comments

**ARMY STRONG**

**Fort George G. Meade Manor View Dump Site Preferred Remedy**

Excavate methane generating wastes from the Site and haul wastes to an off-Post landfill for proper disposal

**Current Site Conditions**

**Objective of Project**

**How Can I Be Involved?**

**Scope of Proposed Project**

**What is methane?**

**Project Timeframe: Winter - Spring 2012 (14 weeks)**

**ARMY STRONG**





# Since That Meeting...



- 30,000 tons of waste excavated and transported to a landfill
- Extraction system turned off and methane concentrations have decreased
- Site has been used as Earth Day Exhibit, removal featured on local news broadcasts and cultural items from the 1940's were recovered and preserved





# Since That Meeting...



Summer 2012: Clockwise from top left: Excavation of waste, loading of waste, typical waste observed, backfilling excavation, and methane monitoring.





# NTCRA\* Process and Integration into CERCLA Process



PA/SI

RI

FS



NTCRA

1. Determine Removal Action is appropriate
2. Approval Memorandum
3. Engineering Evaluation/Cost Analysis
4. 30 Days Public Notice Period (11/9/11)
5. Action Memorandum (ROD equivalent)
6. Remedial Design/Remedial Action
7. Interim Remedial Action Report

FS



PP



ROD

RD/RA

RAR\*\*

*Today (3/27/14) we are here*

*\*NTCRA = non-time critical removal action*

*\*\*RAR=Remedial Action Report*



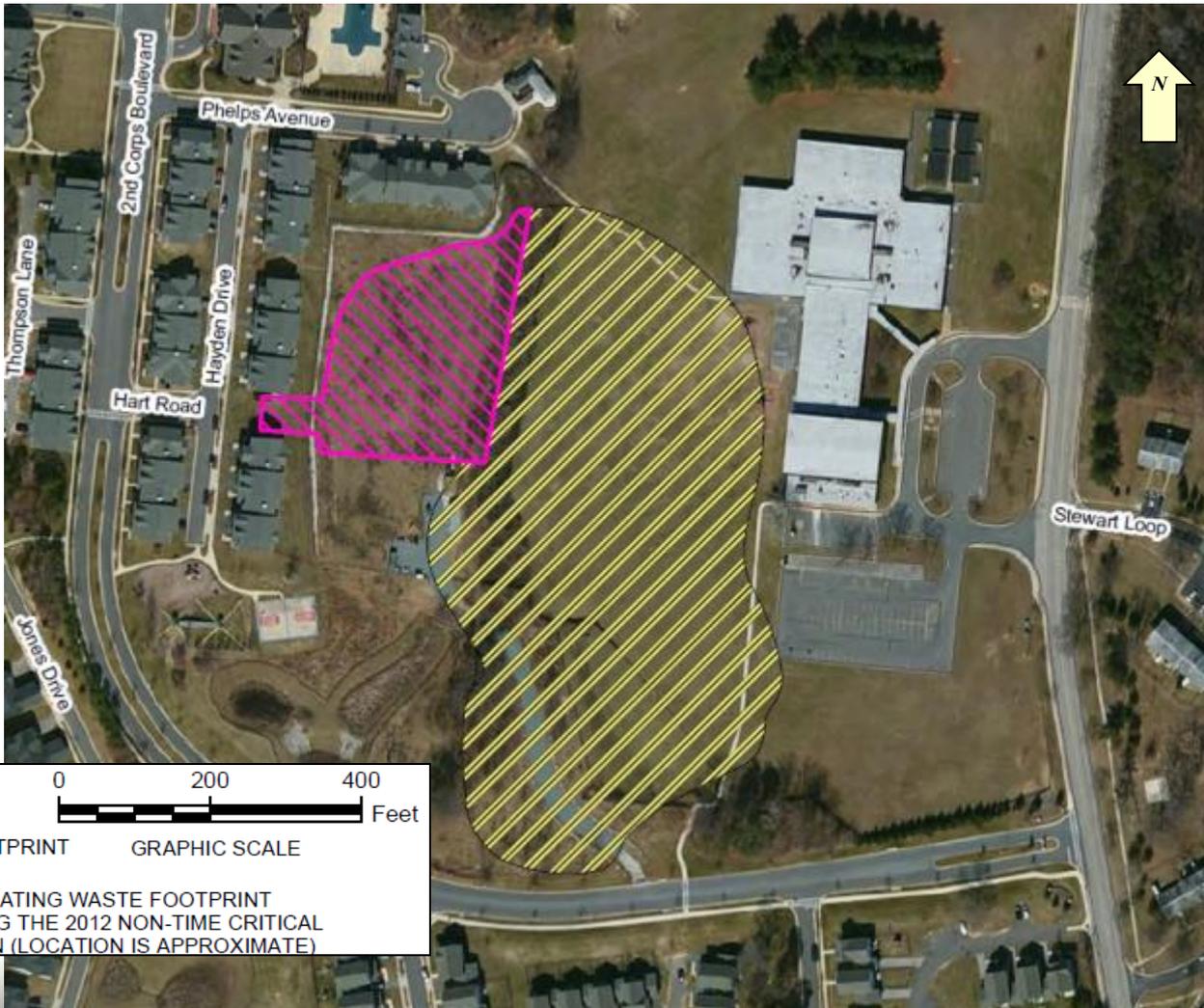
ARMY STRONG



# Manor View Dump Site



**IMCOM**  
SOLDIERS • FAMILIES • CIVILIANS



**LEGEND:**

0 200 400 Feet

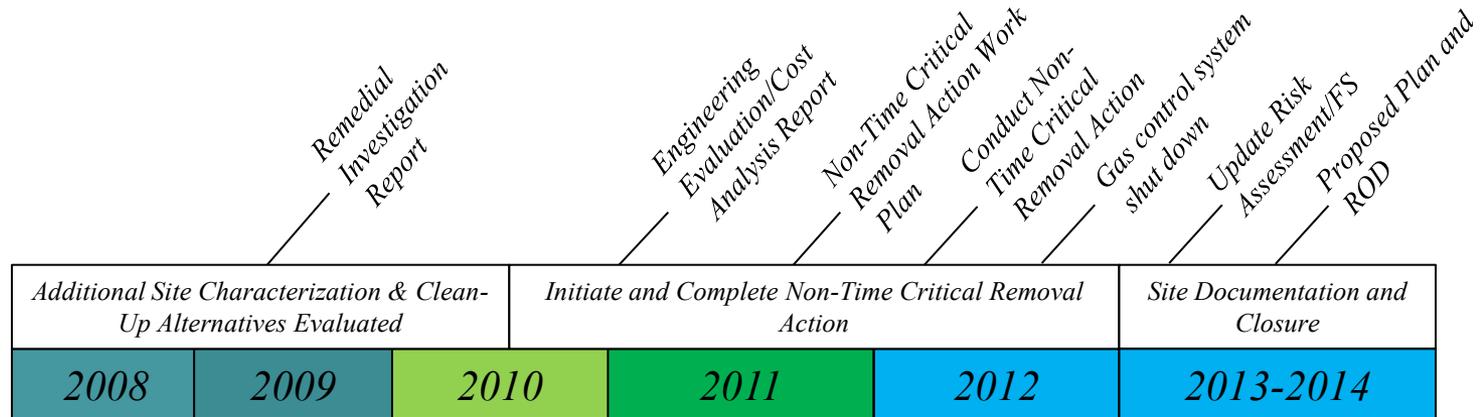
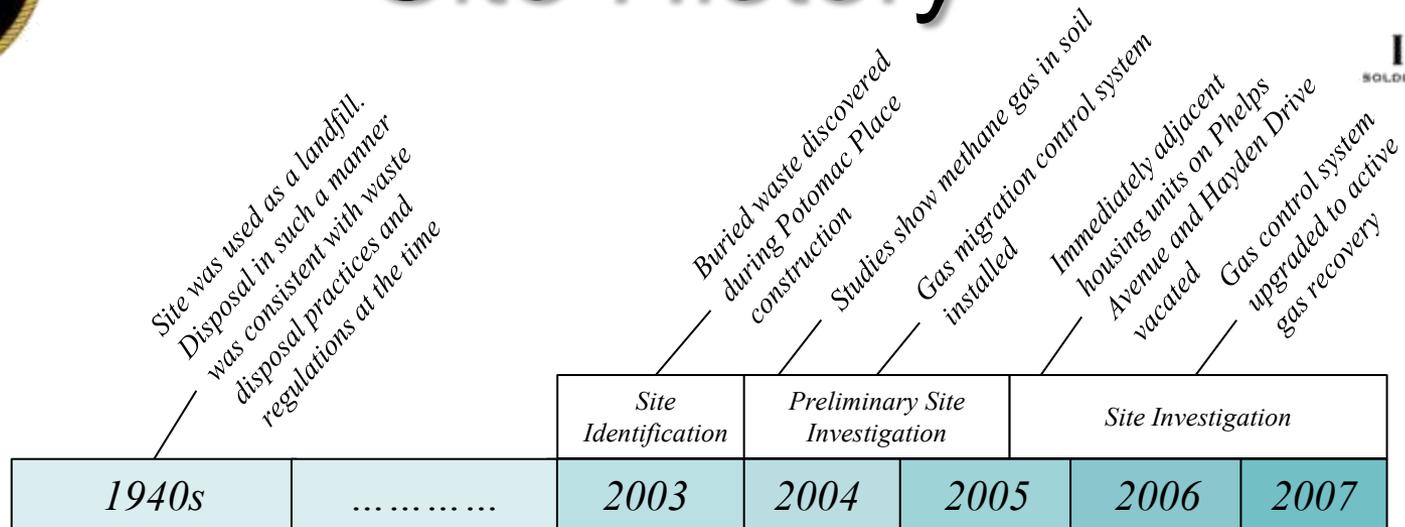
 DEBRIS/FILL FOOTPRINT      GRAPHIC SCALE

 METHANE GENERATING WASTE FOOTPRINT  
REMOVED DURING THE 2012 NON-TIME CRITICAL  
REMOVAL ACTION (LOCATION IS APPROXIMATE)





# Site History





# Current Site Conditions



- Western portion of site is a vacant field with restricted access. Designated community space in Master Plan
- 9 acres of buried inert construction debris remain at the site
  - Eastern portion is adjacent to Manor View Elementary School and used for playgrounds and recreational fields
- Surface water runoff managed in stormwater retention ponds
- There is currently no designated use for groundwater

# Current Conditions

Photo taken on November 2012



# Current Conditions





# Presentation Agenda



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# Previous Investigations/Actions



Investigations have been on-going since 2003

- Over 270 investigative soil locations:
  - Characterized the nature of buried debris, areas of methane generation, thickness of existing soil cover
- 11 monitoring wells sampled in 2004, 2005, 2009, 2011, and 2012
- Surface water and sediment samples
- Ambient air, indoor air, subslab air samples collected
- Interim action to initially control methane in 2004
- Full RI/FS was initiated in 2004 and all work has been overseen by the USEPA and the Maryland Dept. of the Environment (MDE)
- Removal action to remove methane hazard in 2012
- Investigations and monitoring have continued through 2014





# Findings



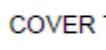
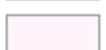
- Soil/Subsurface Soil Samples
  - Bottom of waste is 15 feet below ground surface
  - Existing cover is 2 to 8 feet thick
  - Methane generation occurred on the western side
  - Inert construction and demolition debris present on eastern side and remains buried in place
  - Volatile organic compounds (VOCs), metals, polyaromatic hydrocarbons (PAHs), and dioxins are present in subsurface soil/debris

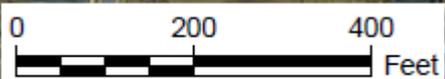


MANOR VIEW  
ELEMENTARY SCHOOL

### Existing Soil Cover Thickness

LEGEND:

	SITE BOUNDARY		3 ft
	COVER THICKNESS		4 ft
	2 ft		4+ ft



GRAPHIC SCALE



Soil Cover (2-8 ft thick)



**Photo of Soil Cover Observed During NTCRA (Summer 2012)**



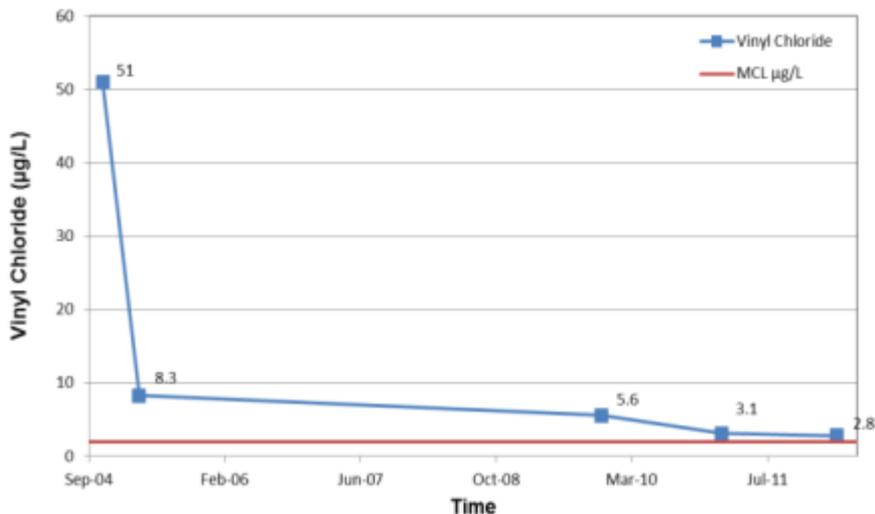
# Findings



- Groundwater Samples
  - Depth to groundwater is 50 feet below ground surface
  - Groundwater flow direction is to the southeast
  - VOCs, semi-volatile organic compounds, and metals have been detected in groundwater
  - Maximum contaminant level (MCL) exceedances are sporadic and isolated; some have not been repeated since 2005
  - Trichloroethene (TCE) and vinyl chloride have decreased significantly since 2004

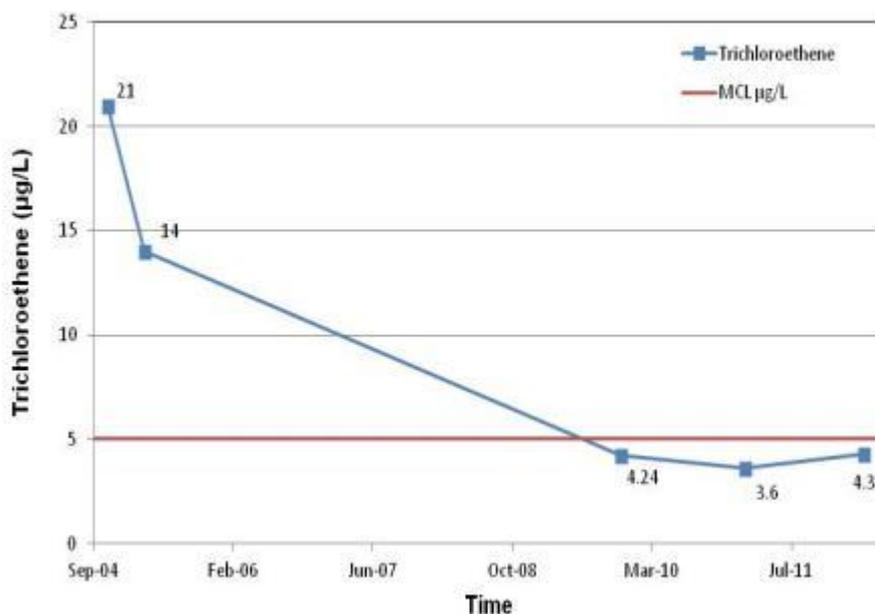
# VOCs Above the MCL in Groundwater

Vinyl Chloride Trend in MW-9



MW2		
ANALYTE	MCL	DATE
Vinyl Chloride (ug/L)	2	03/24/05

Trichloroethene Trend in MW-5



MW5		
ANALYTE	MCL	DATE
Trichloroethene (ug/L)	5	03/24/05

MW-9

MW9						
ANALYTE	MCL	DATE				
Vinyl Chloride (ug/L)	2	11/08/04	03/22/05	11/19/09	02/07/11	04/06/12

MW-10

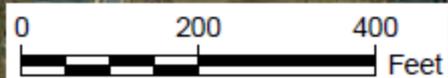
MW-11

MW-6

MW-5

MW6		
ANALYTE	MCL	DATE
Vinyl Chloride (ug/L)	2	03/24/05

Jones Drive



GRAPHIC SCALE

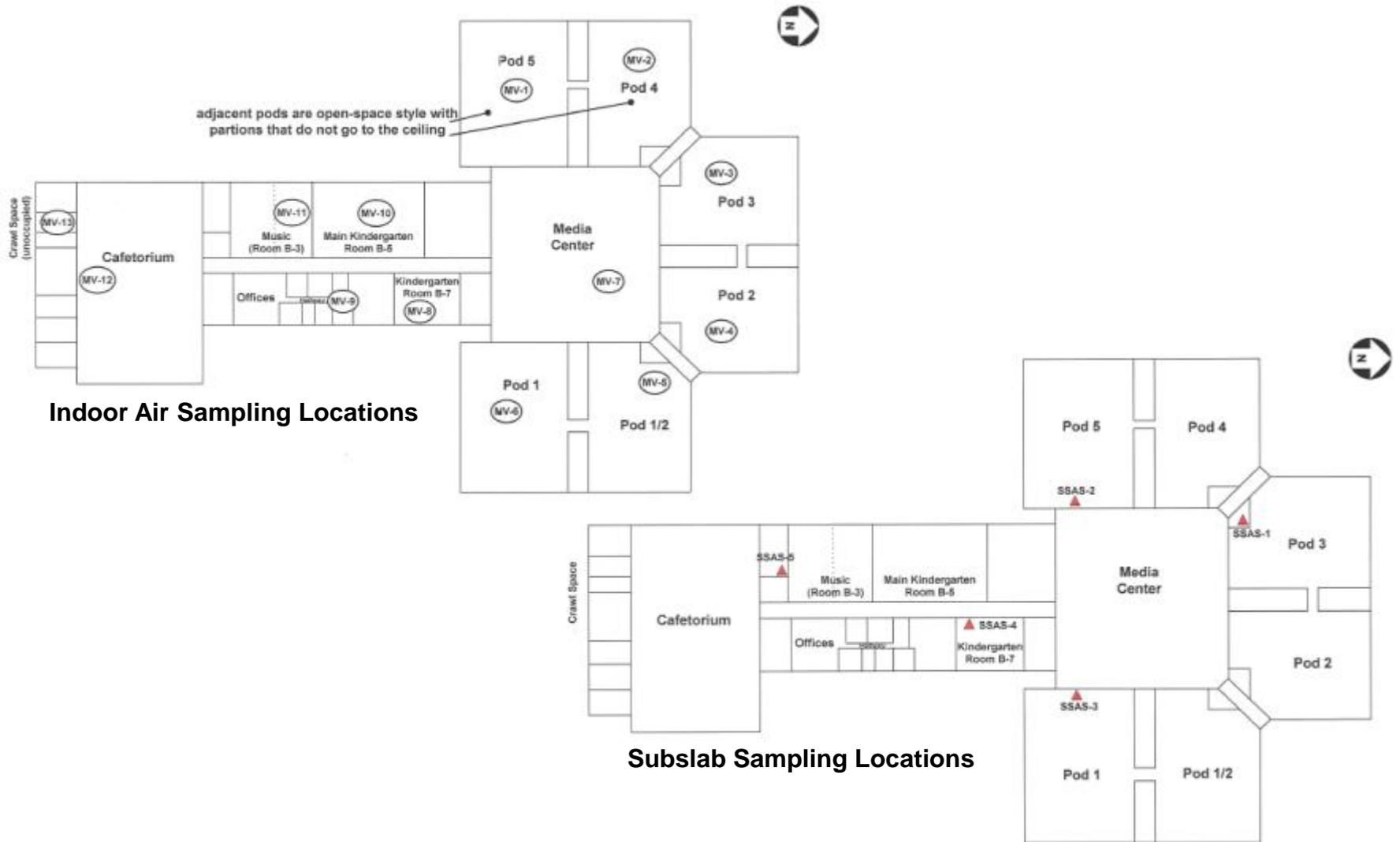


# Findings

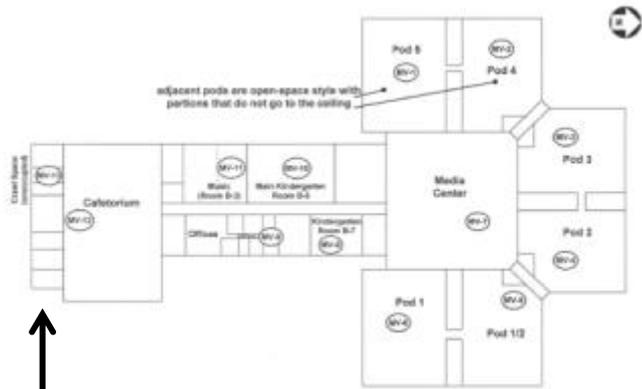


- Air Samples (soil gas, ambient, indoor, subslab)
  - Methane below lower explosive limit at all 43 sample locations (sampled semi-annually)
  - Methane and VOCs detected in ambient air samples equal to outdoor background levels
  - VOCs detected above screening levels for indoor air comparable to control school
  - TCE detected above screening level in crawl space
    - TCE was not detected in indoor air or subslab air samples

# Indoor Air and Subslab Samples



# Manor View Elementary Crawl Space



Crawl space underneath kitchen, maintenance office, and storage



Passive Vents to Outside



Methane Alarm



Crawl Space Access



Dirt Floor, 4 Feet High



# Summary of Findings



- Buried waste was producing methane on western portion of site
  - Likely was the source of VOCs in groundwater
  - Some PAH contamination remains in subsurface soils
- Buried inert debris on eastern portion
  - Likely source of metals, PAH and dioxin contaminants in subsurface soil
- Vapor intrusion is not occurring into the occupied spaces of school
- Contaminants in groundwater found above the MCL are sporadic or declining
- Four sediment and surface water samples exhibited low concentrations of detected compounds and media is not considered to be significantly impacted



# Risk Assessments



- USEPA approved quantitative method to assess possible health risks based on:
  - A hazard assessment—chemicals above minimum health screening levels are carried into the risk assessment
  - An exposure assessment—will populations be exposed to these chemical and how (residential use, industrial use, trespasser etc), including the ‘what ifs’
  - A toxicity assessment—what is the possible health effect based on the chemicals concentration and toxicity





# Risk Assessment Results



- Based on the CERCLA process none of the contaminants pose an unacceptable health for the CURRENT user (teacher, student, and trespasser)
- No unacceptable ecological risks
- Risks and/or hazards were identified for FUTURE users
  - Teachers/students occupying the crawl space: TCE
  - Future Resident: dioxin, mercury, and PAHs in eastern subsurface soil; PAHs in western portion; and arsenic, cobalt, thallium, and vinyl chloride in groundwater
- Thus remedial alternatives must focus on eliminating future risks and/or hazards



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# Feasibility Study



- An FS was conducted in 2013 to evaluate the ability of remedial alternatives to meet site clean up objectives
- The site objectives are:
  - To protect the occupants of the school from the potential of vapor intrusion via the crawl space
  - To prevent the exposure of buried waste and constituents in soil that may pose a physical or chemical hazard
  - Protect human health and welfare of the surrounding community from the safety hazard posed by methane gas through ensuring the continued effectiveness of the NTCRA
  - To prevent human exposure to groundwater until such time that the groundwater is restored to beneficial reuse



# Feasibility Study



- The following remedial alternatives were developed:
  - **Remedial Alternative 1** - No Action
  - **Remedial Alternative 2** – Maintenance of Existing Soil Cover, Land Use Controls (LUCs) and Long Term Monitoring (LTM)
  - **Remedial Alternative 3** – Installation of a Low Permeability Cap, LUCs, and LTM



# Remedial Alternative Evaluation



As required by law, the alternatives were evaluated against nine criteria:

- 1. Overall protection of human health and the environment.** Determines if the alternative provides adequate protection and describes how the alternative eliminates, reduces or controls risks.
- 2. Compliance with applicable or relevant and appropriate requirements (ARARs).** Determines if the alternative meets all Federal and State environmental laws.
- 3. Long-term effectiveness and permanence.** Determines the alternative's ability to provide reliable protection of human health and the environment over time.
- 4. Reduction of toxicity, mobility, and volume through treatment.** Refers to the preference for an alternative that reduces health hazards, the movement of harmful substances, or the quantity of harmful substances at the site.



# Remedial Alternative Evaluation



5. **Short-term effectiveness.** Addresses time needed to complete the alternative, and any adverse effects to human health or the environment during implementation.
6. **Implementability.** Addresses the technical and administrative feasibility of an alternative, including the availability of materials and services.
7. **Cost effectiveness.** Evaluates the estimated capital, operating and maintenance costs of each alternative in comparison to other, equally protective alternatives (30 years).
8. **State/Support agency acceptance.** Indicates whether the State agrees with, opposes, or has no comment on the preferred alternative.
9. **Community acceptance.** Assessed after the public comment period. Includes components of the alternatives that the public supports, has reservations about, or opposes.



# Alternative 1 - No Action



- Not protective
- Does not meet applicable regulations
- No long-term effectiveness or permanence
- No reduction in toxicity or mobility
- Effective in short-term because there is no risk under current land use
- Readily implemented
- No cost (\$0)



# Alternative 2 – Maintenance of Existing Soil Cover, LUCs, LTM



- Human health risk controlled by eliminating potential exposure to contaminants in subsurface soil, indoor air, and groundwater by LUCs
- Complies with applicable regulations
- Long-term effectiveness through LUCs and LTM
- Existing soil cover would reduce mobility of buried debris. NTCRA and further attenuation will reduce toxicity and volume of groundwater contaminants. Does not utilize treatment
- Effective in short-term because existing cover is in place and protective
- Readily implemented through documenting LUCs and initiating monitoring
- Relatively low cost (\$241,000)



# Alternative 3 – Installation of a Low Permeability Cap, LUCs and LTM



- Human health risk controlled by eliminating potential exposure to contaminants in subsurface soil, indoor air, and groundwater by LUCs
- Complies with applicable regulations
- Long-term effectiveness through LUCs and LTM
- Existing soil cover would reduce mobility of buried debris. NTCRA and further attenuation will reduce toxicity and volume of groundwater contaminants. Does not utilize treatment
- Effective in short-term because controllable risks to workers implementing remedy and community
- Complex to implement
- Highest cost (\$6,641,000)



# Presentation Agenda



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# Preferred Alternative

- **Alternative 2 – Maintenance of Existing Soil Cover, LUCs, LTM**
  - The existing soil cover would be inspected and maintained to eliminate future exposure to subsurface soil contaminants and debris
    - » 2-8 feet thick. The Army, USEPA, and MDE agree that this cover satisfies the criteria to qualify for a variance from the MDE capping requirements as it will provide the same degree of protection
  - Land Use Controls
    - » Signs to notify site users/visitors of environmental concerns at the site
    - » Maintain the fence between the eastern/western parcels
    - » Prohibit residential use of the site
    - » Prohibit groundwater use of the site
    - » Prohibit full time occupancy of the crawl space
    - » Maintain methane monitors in school and houses



# Preferred Alternative

- **Alternative 2 – Maintenance of Existing Soil Cover, LUCs, LTM**
  - Long Term Monitoring
    - » Soil gas monitoring for methane
    - » Groundwater sampling
    - » Indoor air sampling in the crawl space at Manor View Elementary
    - » Site Inspections
  - CERCLA Five Year Reviews
    - » Assessment if the remedy continues to be protective of human health and the environmental or whether the implementation of additional remedial action is appropriate



# Presentation Agenda



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# Proposed Plan



- The PP will be available for public review from March 20<sup>th</sup> to April 19<sup>th</sup> in the Administrative Record located:

Fort Meade Environmental Division  
4215 Roberts Avenue, Room 320  
Fort Meade, MD 20755  
Monday – Friday: 8 am to 4 pm

<http://www.ftmeade.army.mil/environment/cleanup/programsites/manorview/index.html>

Anne Arundel County Library  
West County Area Branch  
1325 Annapolis Road  
Odenton, MD 21113

Mon-Thu: 9 am to 9 pm; Fri & Sat: 9am to 5 pm; Sun: 1 pm to 5 pm

- Public comments will be reviewed and considered before remedy selection is finalized and documented in the ROD





# Written Comments



- Comments will be accepted until April 19<sup>th</sup>, 2014
- Comment forms available tonight
- Send comments to any of the following:

*Mary Doyle*

*U.S. Army Garrison- Fort George G. Meade  
Public Affairs Office  
4409 Llewellyn Ave.  
Fort Meade, MD 20755  
[mary.l.doyle14.civ@mail.mil](mailto:mary.l.doyle14.civ@mail.mil)*

*Dr. Elisabeth Green*

*Maryland Department of  
Environment  
1800 Washington Blvd, Suite 625  
Baltimore, MD 21230-1719  
[elisabeth.green@maryland.gov](mailto:elisabeth.green@maryland.gov)*

*Mr. John Burchette*

*USEPA  
1650 Arch Street  
Philadelphia, PA 19103-1719  
[burchette.john@epa.gov](mailto:burchette.john@epa.gov)*





# Additional Information Repositories



*Administrative Record located at:  
Anne Arundel County Library  
West County Area Branch  
1325 Annapolis Road  
Odenton, MD 21113*

*Fort Meade Environmental  
Division Office  
4215 Roberts Avenue, Room 320  
Fort Meade, Maryland 20755  
[www.ftmeade.army.mil/environment](http://www.ftmeade.army.mil/environment)*



# Questions/Comments?





# Acronyms



ARAR	Applicable or Relevant and Appropriate Requirements
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
FS	Feasibility Study
LTM	Long Term Monitoring
LUC	Land Use Control
MCL	Maximum Contaminant Level
MDE	Maryland Department of the Environment
NTCRA	Non-Time Critical Removal Action
PAH	Polyaromatic Hydrocarbons



# Acronyms (Cont'd)



PP	Proposed Plan
RA	Remedial Action
RD	Remedial Design
RI	Remedial Investigation
ROD	Record of Decision
SI	Site Investigation
TCE	Trichloroethene
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound



# Glossary



**Administrative Record:** This is a collection of documents (including plans, correspondence and reports) generated during site investigation and remedial activities. Information in the Administrative Record is used to select the preferred remedial alternative and is available for public review.

**Applicable or Relevant and Appropriate Requirements (ARARs):** The requirements found in federal and State environmental statutes and regulations that a selected remedy must attain. These requirements may vary among sites according to the remedial actions selected.

**Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):** This federal law was passed in 1980 and is commonly referred to as the Superfund Program. It provides for liability, compensation, cleanup, and emergency response in connection with the cleanup of inactive hazardous waste disposal sites that endanger public health and safety or the environment.

**Feasibility Study (FS):** This CERCLA document reviews the risks to humans and the environment at a site, and evaluates multiple remedial technologies for use at the site. Finally, it identifies the most feasible Response Actions.

**Long Term Monitoring (LTM):** LTM is conducted to monitor the performance of the remedy over time. LTM includes groundwater sampling and reporting.





# Glossary (Cont'd)



**Land Use Controls (LUCs):** LUC are physical, legal, or administrative mechanisms that restrict use of or limit access to, real property, to manage risks to human health and the environment. Physical mechanisms encompass a variety of engineered remedies to contain or reduce contamination and/or physical barriers to limit access to real property, such as fences or signs.

**Maximum Contaminant Level (MCL):** established by the USEPA the MCL is the highest level of a contaminant allowed in drinking water.

**Preferred Remedy:** The remediation approach that appears to best meet acceptance criteria; the remedial option proposed for implementation in the ROD.

**Remedial Investigation (RI):** An investigation under CERCLA that involves sampling environmental media such as air, soil, and water to determine the nature and extent of contamination and human health and environmental risks that result from the contamination.

**Record of Decision (ROD):** This legal document is signed by the Army and the USEPA and will be reviewed by the MDE for concurrence. It provides the cleanup action or remedy selected for a site, the basis for selecting that remedy, public comments, responses to comments, and the estimated cost of the remedy.

