

PUBLIC MEETING PROPOSED PLAN FTMM-22 FORT MONMOUTH, TINTON FALLS, NJ 14 JUNE 2018 AT 7 P.M. WEST LONG BRANCH PUBLIC LIBRARY

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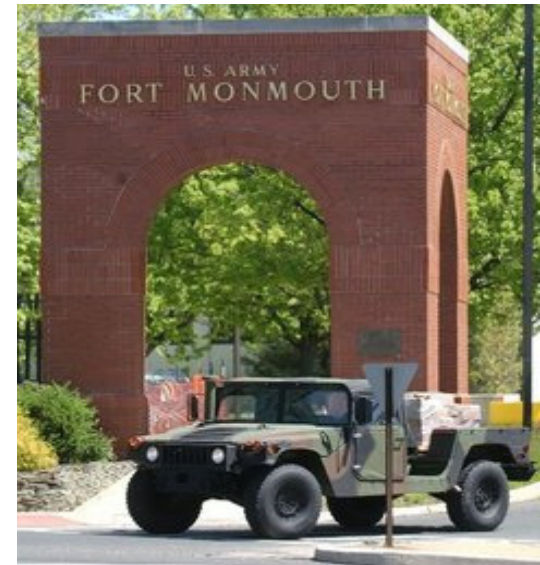


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AGENDA

- Proposed Plan & Project Team Overview
- Site Background
- Remedial Investigation Results
- Summary of Risks
- Feasibility Study
- Preferred Remedial Alternative
- Public Participation
- Questions and Public Comments



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PROPOSED PLAN OVERVIEW

- The Proposed Plan presents the preferred remedial alternative for FTMM-22 at Fort Monmouth (FTMM)
- The U.S. Army is the lead agency under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- New Jersey Department of Environmental Protection (NJDEP) is the state support agency for FTMM

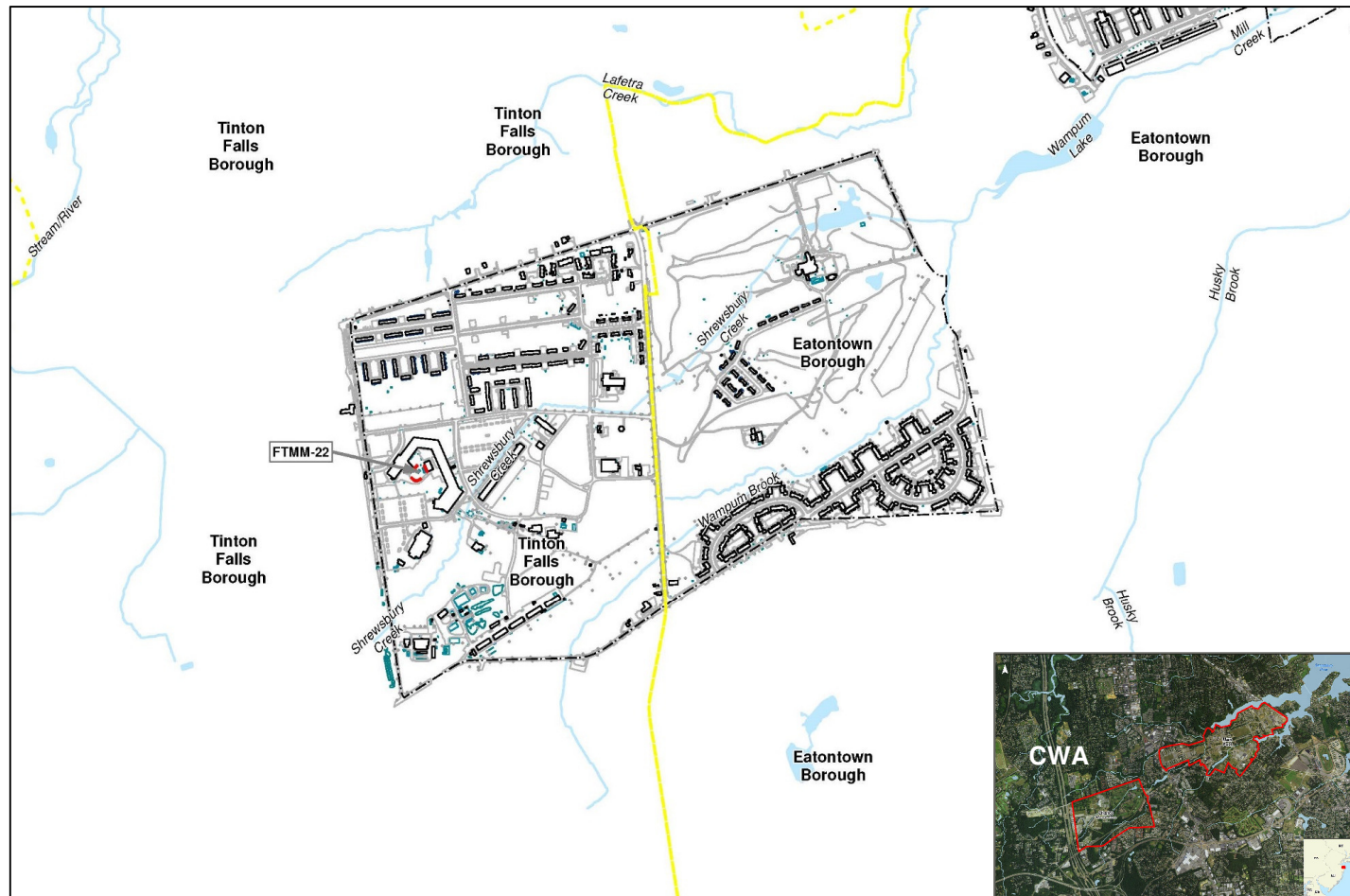


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PROPOSED PLAN OVERVIEW

SITE LOCATION – CHARLES WOOD AREA (CWA)



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PROPOSED PLAN OVERVIEW

- Remedial investigation (RI) conducted in 2015 at the site included:
 - Review of previous investigations and sampling results
 - Comparison of contaminant concentrations to NJDEP criteria for soil and groundwater
 - Conducted human health risk assessment (HHRA)
- HHRA is an evaluation of the potential adverse health effects caused by exposure to contaminants in the soil and groundwater
- Unacceptable risk to human health and the environment from groundwater was found at FTMM-22 and therefore a Feasibility Study (FS) was conducted where remedial alternatives were evaluated



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PROPOSED PLAN OVERVIEW

- Preferred remedial alternative for FTMM-22 includes:
 - Source removal via direct excavation and off site disposal of the remaining concrete lime pit and any potential contaminated soil beneath the structure and backfill excavation with clean soil
 - Land use controls (LUCs) to control exposure to constituents of concern (COCs) in groundwater where unacceptable risk or hazard is possible
 - Monitored natural attenuation (MNA) to document the natural degradation of volatile organic compounds (VOCs) in groundwater



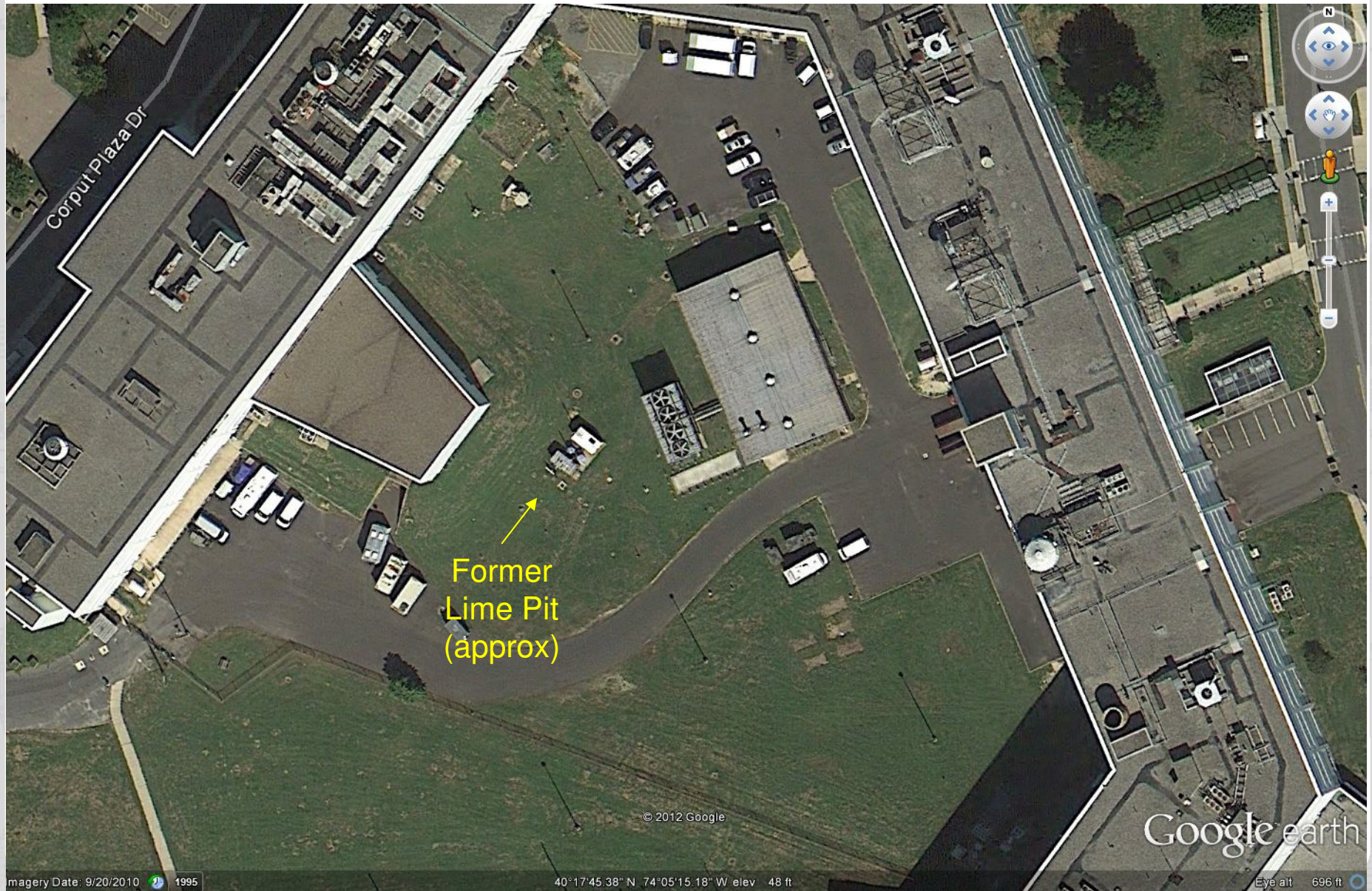
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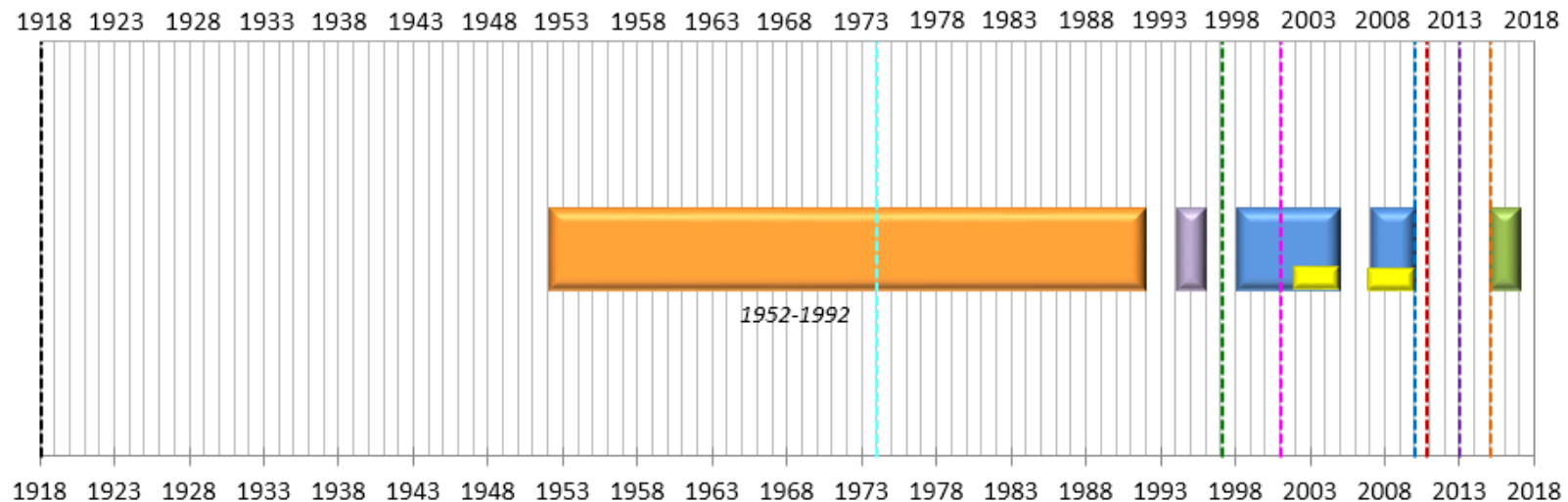


PROPOSED PLAN OVERVIEW

SITE LOCATION – FTMM-22 FORMER LIME PIT



TIMELINE OF SIGNIFICANT EVENTS AT FTMM-22



--- Fort Monmouth Main Post Established (1918)

--- USAEHA Effluent Sampling (1974-1975)

--- Begin Quarterly Groundwater Sampling (1997)

--- Lime Pit Decommissioned (2001)

--- RegenOx® Injection (2010)

--- Installation Closure, Quarterly Groundwater Sampling Suspended (2011)

--- Baseline Groundwater Sampling (2013) and Long-Term Groundwater Monitoring Resumes at FTMM-22

--- Long-Term Groundwater Monitoring Suspended (2015)
Biannual long-term monitoring anticipated to begin 2019.

■ Lime Pit Operations

■ SI Activities

■ AS/SVE System Online

■ Groundwater Pump and Treat System Online

■ RI Activities *

*End date denotes NJDEP acceptance Final RI/FS Report

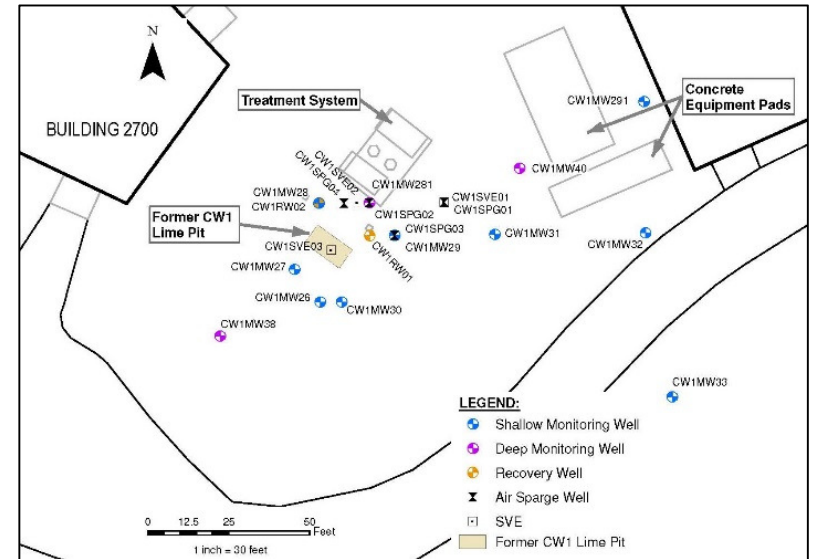


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REMEDIAL INVESTIGATION RESULTS

- FTMM-22
 - Former lime pit was used to pre-treat acidic liquid wastes produced in the laboratories and workshops in Building 2700 from 1952 to the late 1980s
 - Final RI Report submitted to NJDEP in June 2017 and approved in October 2017
 - Soil: 1 semi-volatile organic compound (SVOC) and 1 metal evaluated in the HHRA
 - Groundwater: 4 VOCs and the 1 metal evaluated in the HHRA
 - Soil Gas/Indoor Air: VOCs evaluated in the HHRA
 - No sediment or surface water at FTMM-22



SUMMARY OF RISKS

- HHRA evaluated risks from human exposure to contaminants in soil and groundwater based on future land use as Technical, Office and R&D Campus

USEPA Regional Screening Levels (RSLs) for soil and groundwater used for comparison purposes because the Army performed CERCLA-compliant RI/HHRA



RSLs used to identify those contaminants that are constituents of potential concern (COPCs)



COPCs evaluated in HHRA



1 VOC (TCE) was determined to be a COC in groundwater and soil gas/indoor air at FTMM-22



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SUMMARY OF RISKS

- HHRA evaluated exposure of residential users, indoor workers, and utility workers to:
 - exposure to soil through dermal contact, incidental ingestion, and inhalation of particulates, and
 - exposure to groundwater as a potable water source through dermal contact, ingestion as drinking water (residential receptors only) or incidental ingestion, and inhalation of volatiles migrating from groundwater to indoor air
- Groundwater at FTMM is not used as a source of drinking water since municipal water is provided



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SUMMARY OF RISKS

- No unacceptable potential risks to:
 - Residential users, indoor workers, or utility workers from exposure to soil (through dermal contact, incidental ingestion, and inhalation of particulates)
- Unacceptable potential risks to:
 - Future residential/indoor workers or future utility workers from unrestricted use of groundwater or exposure to indoor air via vapor intrusion of volatile COCs (specifically trichloroethene [TCE]) from groundwater for future buildings constructed on-site
- Groundwater presents the only unacceptable risk to human health and the environment



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FEASIBILITY STUDY AT FTMM-22

- Conducted to identify, develop, and perform a detailed analysis of potential technologies and remedial alternatives that meet the remedial action objective (RAO) and select the most appropriate alternative
- The RAO at FTMM-22 is to protect public health by preventing exposure (inhalation, dermal contact, and ingestion) to groundwater containing VOCs, specifically TCE at concentrations in excess of the NJDEP Groundwater Quality Standards (GWQS) of 1 microgram per liter ($\mu\text{g/L}$)



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FEASIBILITY STUDY AT FTMM-22

Cleanup levels for COCs in Groundwater

COC	Cleanup Level	Basis
Trichloroethene (TCE)	1 microgram per liter (µg/L)	NJDEP GWQS

USEPA Evaluation Criteria

1. Overall protection of public health and the environment
2. Compliance with Applicable or Relevant and Appropriate requirements (ARARs)
3. Long-Term Effectiveness and Permanence
4. Reduction in Toxicity, Mobility, or Volume through Treatment
5. Short-Term Effectiveness
6. Implementability
7. Cost



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FEASIBILITY STUDY AT FTMM-22

- Alternative 1: No Action
 - Used as a baseline, no remedial action or monitoring conducted and contaminants remain in place
 - Cost for abandonment of existing monitoring wells (\$30,000)
- Alternative 2: LUCs and MNA
 - Implement LUCs in the form of a groundwater Classification Exception Area/Well Restriction Area (CEA/WRA)
 - MNA (through groundwater sampling) to document the natural degradation of VOCs in groundwater over time
 - Cost includes preparation of a long-term monitoring (LTM) plan, operation and maintenance (O&M), waste disposal, report preparation and five year reviews for a period of 30 years (\$742,000)



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FEASIBILITY STUDY AT FTMM-22

- Alternative 3: Source Removal via Direct Excavation with Alternative 2
 - Source removal including excavation and off-site disposal of remaining lime pit structure and potential contaminated soil encountered under structure, backfilling excavation and MNA and LUCs from Alternative 2
 - Cost includes preparation of a Remedial Action Work Plan (RAWP), excavation equipment and site preparation, construction of stockpile areas, excavation and backfill with clean soil, transportation and disposal of excavated material, site restoration, O&M costs from Alternative 2 for 20 years (\$700,000)
 - **Preferred Alternative**



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PREFERRED REMEDIAL ALTERNATIVE

- Source Removal involving excavation and off site disposal of the remnants of concrete lime pit and any potential contaminated soil beneath the structure; and backfilling excavation with clean soil
- MNA will be used to document the natural degradation of VOCs in groundwater.



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PREFERRED REMEDIAL ALTERNATIVE

- LUCs will be used to prevent uncontrolled exposure of potential receptors to contaminated media.
 - A groundwater use restriction (CEA/WRA) will be established and remain in place until NJDEP GWQS are achieved. Sampling will be conducted every other year and two sampling rounds during the final year.
 - Activity use restrictions (e.g., installation of a sub-slab vapor removal system) will be required to prevent vapors from entering structures for any future building constructed at the site as long as groundwater contaminant concentrations exceed the NJDEP GWQS
- LUC Implementation Plan (LUCIP) will be prepared to:
 - Document the LUCs
 - Identify procedural responsibilities including groundwater monitoring and MNA reporting, and long term stewardship responsibilities.



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PREFERRED REMEDIAL ALTERNATIVE

- New owner will be responsible for complying with the LUCs, however the Army will retain ultimate responsibility for remedy integrity.



- Possible components of remedial measures may also include:
 - Pilot test an in-situ treatment technology, such as chemical oxidation or bioremediation to enhance degradation of contaminants in groundwater to be conducted on a pilot test basis as recommended by the NJDEP in their October 2017 RI/FS acceptance letter.

PUBLIC PARTICIPATION

- Public participation is an important component of remedy selection
- The Army is soliciting input from the community on the preferred alternative identified for FTMM-22
- Public comments will be included in the Record of Decision and will be added to the FTMM Information Repository at the Monmouth Eastern Branch Library
- Comments accepted from 31 May 2018 through 29 June 2018



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QUESTIONS AND PUBLIC COMMENTS

Comments can be submitted verbally tonight (in meeting transcript) or in writing (forms are available)

By mail:

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Written comments must be postmarked or emailed by the comment period close on 29 June 2018