DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON
4551 LLEWELLYN AVENUE, SUITE 5000
FORT GEORGE G. MEADE, MARYLAND 20755-5000

October 9, 2014

Environmental Division

Mr. John Burchette
NPL/BRAC/Federal Facilities Branch
U.S. Environmental Protection Agency
1650 Arch Street
Philadelphia, PA 19103-2029

Dear Mr. Burchette:

This letter serves as notification that the *Record of Decision FGGM-74, Architect of the Capitol* (ROD) dated September 2014, has been finalized. The ROD has been revised based on comments received from the United States Environmental Protection Agency (USEPA) on September 12 and 16, 2014; the Architect of the Capitol (AOC) on August 26 and September 29, 2014; and the Maryland Department of the Environment (MDE) on August 18, 2014. Copies of the ROD have been furnished to Mick Butler (Fort George G. Meade), Francis Coulters (U.S. Army Environmental Command), Sherry Deskins (AOC), Elisabeth Green (MDE), and the Fort Meade Restoration Advisory Board.

If you have any questions, please feel free to contact Ms. Denise Tegtmeyer at (301) 677-9559 or me at (301) 677-7999.

Sincerely,

George B. Knight, PG
Acting Program Manager, Installation Restoration Program
Directorate of Public Works-Environmental Division

Enclosure

Response to Comments Table

Architect of the Capitol, Response to Comments on Draft Record of Decision, July 2014

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Comment No.	Commenter	Date of Comment	Page(s)	Section	Line(s)	Comment	Response Code	Response	AOC Response	9/29/14 Response
1	AOC	8/26/2014		General		The Army refers to FGGM-74 In various ways throughout the document (AOC, AOC parcel, AOC property). After defining upfront, please consistently refer to the parcel as FGGM-74 throughout the ROD.	A	Revised as requested.	No further comment.	-
2	AOC	8/26/2014	1-1	1.2 Statement of Basis and Purpose		This section states that "the ROD Is Issued jointly by the Army, the AOC, and the USEPA .. " Please remove reference to AOC.	A	This section was revised to state "with support from MDE and AOC."	No further comment.	-
3	AOC	8/26/2014	1-1	1.3 Assessment of the Site		The language in this section is unclear; suggest rewording.	A	Revised.	No further comment.	-
4	AOC	8/26/2014	2-1	2.1 Site Name, Location, and Description		This section states that "'The Army and AOC are the lead agencies for CERCLA actions at FGGM-74 .. ." AOC Is not a lead agency in this action. Please remove reference to AOC. This comment relates to Comment 2.	A	Revised.	No further comment.	-
5	AOC	8/26/2014	2-2	2.2.2 Architect of the Capitol Background		Should the 2014 Focused Feasibility Study for FGGM-74 be referenced here?	D	The RI is already referenced in this section.	We see that the RI is referenced, citing ARCADIS, 2013a. However, the 2014 FFS was a primary supporting document for the FGGM-74 ROD.	Reference added.
6	AOC	8/26/2014	2-2, 3-1, Appendix C	2.3 Community Participation - Page 2-2 / 3.0 Responsiveness Summary - Page 3-1 / Appendix C		Section 3.0 of the draft ROD is a placeholder since the public comment period was still in progress at the lime the draft was prepared. Have any comments been received that would change the course of the cleanup actions for FGGM·74?	N	No comments were received and the text has been updated accordingly.	On page 3-1, last para under Section 3.0 Part 3: Responsiveness Summary; "In general, the community is accepting of the Selected Remedy." What information was provided that supports this claim? If no information was provided, please remove the sentence.	Sentence removed.
7	AOC	8/26/2014	2-4, Table 2-2	2.5 Site Characteristics (Groundwater)· Page 2-4 (first paragraph) and Table 2-2		A minor point, but It might be helpful especially for the non-technical reader to clarify the description of the screening levels used to identify contaminants of potential concern In groundwater. We suggest that the term "Hazard Quotient" (HQ) be defined and consistently used throughout the ROD (Section 2.5 refers to a "hazard limit" and Table 2-2 refers to a "Hazard Quotient limit'). A key message to communicate is that the Army's screening process was conservative, using an HQ of 0.1 to be protective of the possible combined effects of multiple chemicals.	N	This section has been removed per EPA comments and revisions.	No further comment.	-
8	AOC	8/26/2014	2-4, 2-5	2.5 Site Characteristics (Groundwater) - Pages 2-4 and 2-5		This section includes a brief discussion on the source and mobility of cobalt. It would be helpful to see similar discussion about al the inorganic COCs and conditions that may cause these COCs lo dissolve or precipitate in groundwater (e.g., pH, oxidation reduction potential, other chemicals that might affect CDC solubility). In the context of the groundwater remedial action, this type of discussion would provide a better understanding of the anticipated fate of these contaminants that will be addressed through land use controls and long-term monitoring.	N	This section has been removed per EPA comments and revisions.	Will this discussion be included in the OU-4 ROD?	It is anticipated that the ROD will have a similar level of discussion as presented in the earlier draft versions of the AOC ROD. The level of discussion will depend on the final list of COCs for the OU-4 ROD.
9	AOC	8/26/2014	2-6	2.7.1 Summary of HHRA		The cancer risk stated In the ROD (3E-03) doesn't match final risk numbers presented in the Proposed Plan/HHRA, that list cancer risk as 2E-03 (with chromium assessed as non-mutagen) and 5E-03 (with chromium assessed as a mutagen).	N	This section has been removed per EPA comments and revisions.	Will this discussion be included in the OU-4 ROD?	The ROD will discuss the calculated carcinogenic risk and non-cancer hazards associated with the site.
10	AOC	8/26/2014	2-9	2.10.4 Alternative GW-2: LUCs with LTM of Groundwater		The cost presented seems low. $148,646 to maintain LUCs and monitor total and dissolved metals from select monitoring wells every year for live years then every live years for a total of 30 years. The costs listed in Appendix A-2 do not appear to include labor for developing sampling reports.	N	This section has been removed per EPA comments and revisions.	Will this discussion be included in the OU-4 ROD?	The ROD will diiscuss the final recommended remedy. Specific details for the action will be defined in the Remedial Design.
11	AOC	8/26/2014	2-10	2.10.4 Alternative GW-2: LUCs with L TM of Groundwater		The "Key ARARs" section states that "Alternative GW-2 includes actions not included in Alternatives GW-1 ... " Is this an error? "Alternatives GW-1" is not discussed in this document, does this refer to the soil alternatives?	N	This section has been removed per EPA comments and revisions.	No further comment.	-
12	AOC	8/26/2014	2-13	2.11.3.1 State/Support Agency Acceptance		This section states that " ... MDE concurs with Alternatives SL-2 and GW-2." Should this read SL-3 rather than SL-2?	A	Revised as noted.	No further comment.	-

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13	AOC	8/26/2014	2-15	2.13.2 Detailed Description of the Selected Remedial Action (Land Use Controls)		The ROD describes land use control measures in place under the FFA and Army and AOC responsibilities. Please note the following: (1) It is unclear to AOC whether the Army Master Plan referenced In the first bullet includes substantive information on the AOC property. (2) AOC concurs that the Army and AOC should coordinate details on how land use controls will be documented and implemented. (3) The only GIS Information that the AOC has available is directly from the Army's GIS. The AOC will need additional information from the Army's system to document the land use controls in GIS.	N	This section has been removed per EPA comments and revisions.	The AOC and Army need to begin working on the logistical arrangements for the land use controls.	Agreed
14	AOC	8/26/2014		Table 2-2		MCLs are not specific to EPA Region 3.	A	Revised as noted.	No further comment.	-
15	AOC	8/26/2014		Figure 1-1		The extent of FGGM-74 is not clear from the figure. Suggest revising so that the figure and notes point to the FGGM-74 boundary. See also Comment 1.	N	The references to AOC were changed to "FGGM-74" as requested in Comment #1, but the figure was not revised otherwise. This figure has been used previously in other reports and meets the intended purpose.	No further comment.	-
16	AOC	8/26/2014		Figure 2-3		The legend for this figure is incomplete. Without reviewing the later figures, it leaves the reader wondering what is indicated by the symbols for the sample locations.	A	Legend updated as requested.	No further comment.	-
17	AOC	8/26/2014		Figure 2-4		It is unclear why results are shown for only two sample locations. Based on the text. one of these locations exceeded screening levels, but some indication on the figure (e.g. legend footnote) as to why these results are shown would be helpful.	N	The data boxes and corresponding notes were deleted from this figure.	No further comment.	-
18 (new)	AOC	9/29/2014	2-4	Section 2.5, Groundwater		This section, along with Section 2.8 and 2.15, clearly state that the "identification and evaluation of COCs and cleanup levels for groundwater will be discused as part of OU-4" (page 2-7) and "the areal extent of the groundwater contamination, which extends beneath FGGM-74, is being addressed comprehensively as part of OU-4. The entire areal extent of this contamination is being addressed comprehensively as part of OU-4 (page 2-13)." However, Section 2.5 (fourth paragraph) seems to more broadly dismiss the FGGM-74 groundwater contamination, especially with the last paragraph highlighting the chlorinated solvent issue at OU-4. It would be helpful if language such as that provided in EPA's email response to recent AOC questions were included somewhere in the ROD (Section 2.15?): "The AOC inorganics and the applicable remedial approaches...will be documented in the CERCLA documents which are still under comment resolution, including the RI/FS, PP, and ROD. The AOC risk assessment findings for inorganics in groundwater will be integrated into the OU-4 documents."				Requested text was added to Sections 2.5 and 2.15.
19 (new)	AOC	9/29/2014	2-13	Section 2.15, Documentation of Significant Changes From Preferred Remedial Alternative From Proposed Plan		Please remove "AOC" from the sentence: "The Army, AOC, USEPA, and MDE agree that addressing the groundwater at FGGM-74 as a part of OU-4 makes technical and administrative sense." Also please remove the last sentence of this paragraph: "In addition, since there is no current use of shallow water at FGGM-74 for potable purposes, there currently is no risk from groundwater." as this implies that no further effort is needed to address groundwater at FGGM-74.				The two revisions were made as requested.

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MDE comments								
1	MDE	8/18/2014	2-1	2.1		"Site Name, Location and Description" This section should include an estimate of the size of the site.	A	The acreage of the AOC land parcel was added to Sections 1.1 and 2.1.
2	MDE		2-14	2.13 .2		"Detailed Description of the Selected Remedial Action" Lead concentrations in samples AOCGP21 (1500 J mg/kg) and AOCGP27 (1200 J mg/kg) exceed the remedial goal of 418 mg/kg. The rationale for excluding these locations from the hot spot removal should be provided.	A	The following sentence was added to Section 2.13.2: "Upon removal of the elevated lead hotspot locations (AOCGP01, AOCGP06, AOCGP09, and AOCGP10), the resulting exposure point concentration for the study area will be below the residential PRG (418 mg/kg), even though some individual locations within the study area will remain above the PRG (including samples at AOCGP21 and AOCGP27 from 10 ft bgs (see Figure 2-10). These other locations do not require excavation to attain the PRG."
3	MDE		Table 2-1			"Lead Detections in Soil" In order to make this table more informative to non-technical readers, it would be useful if the depths of the samples, in particular for the direct push technology samples (DPTs), were more explicitly presented. In addition, the Notes/Legend includes this text: "Results exceeding the United States Environmental Protection Agency Region III Residentia," which is then followed by, "**Results exceeding the Residential PRG for lead is bolded.**" This typographical error should be revised for the final version of this document.	A	The notes section in Table 2-1 was revised as requested. Regarding the sample depths, the table was updated to inclue a row listing "Sampled Interval (depth ft)" for each sample where available.
4	MDE		Appendix A-1			"Alternative SL-3 Cost Estimate for Lead Hot Spot Soil Excavation with Off-site Disposal" The description of the cost estimate for the Post-Excavation Confirmatory Samples includes the phrase, "per 200 sq ft of side wall." Confirmation samples from the bottom of the excavation also should be collected, as discussed in the Feasibility Study.	A	Appendix A-1 was revised to include two bottom of excavation samples, one from each hot spot excavation area. The revised cost for Alternative SL-3 was updated globally throughout the document.
AOC comments								
1	AOC	8/26/2014		General		The Army refers to FGGM-74 In various ways throughout the document (AOC, AOC parcel, AOC property). After defining upfront, please consistently refer to the parcel as FGGM-74 throughout the ROD.	A	Revised as requested.
2	AOC	8/26/2014	1-1	1.2 Statement of Basis and Purpose		This section states that "the ROD Is Issued jointly by the Army, the AOC, and the USEPA .. " Please remove reference to AOC.	A	This section was revised to state "with support from MDE and AOC."
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5	AOC	8/26/2014	2-2	2.2.2 Architect of the Capitol Background		Should the 2014 Focused Feasibility Study for FGGM-74 be referenced here?	D	The RI is already referenced in this section.
6	AOC	8/26/2014	2-2, 3-1, Appendix C	2.3 Community Participation - Page 2-2 / 3.0 Responsiveness Summary - Page 3-1 / Appendix C		Section 3.0 of the draft ROD is a placeholder since the public comment period was still in progress at the lime the draft was prepared. Have any comments been received that would change the course of the cleanup actions for FGGM·74?	N	No comments were received and the text has been updated accordingly.
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ARCADIS

Imagine the result

FINAL Record of Decision

FGGM-74, Architect of the Capitol
Fort George G. Meade, Maryland

September 2014

RECORD OF DECISION
FOR THE ARCHITECT OF THE CAPITOL
(FGGM-74)

FORT GEORGE G. MEADE
MARYLAND

National Superfund Database Identification Number
MD 9210020567

FINAL **September 2014**

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C PUBLIC MEETING TRANSCRIPT

LIST OF ACRONYMS AND ABBREVIATIONS

AOC	Architect of the Capitol
Army	United States Army
ARAR	Applicable or Relevant and Appropriate Requirement
ARCADIS	ARCADIS U.S., Inc.
bgs	below ground surface
BRAC	Base Realignment and Closure Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (1980)
CFR	Code of Federal Regulations
COC	Constituent of Concern
COMAR	Code of Maryland Regulation
COPC	Constituent of Potential Concern
D.C.	District of Columbia
DoD	U.S. Department of Defense
EPC	Exposure Point Concentration
FFA	Federal Facility Agreement
FFS	Focused Feasibility Study
FGGM	Fort George G. Meade
FGGM-74	Architect of the Capitol or the Site
ft	Feet
GIS	Geographical Information System
GW	Remedial Alternative Groundwater
HHRA	Human Health Risk Assessment
HI	Hazard Index
IC	Institutional Control
IEUBK	Integrated Exposure Uptake Biokinetic
LPA	Lower Patapsco Aquifer
LUC	Land Use Control
MD	Maryland
MDE	Maryland Department of the Environment
mg/kg	milligrams per kilogram
msl	mean sea level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List

LIST OF ACRONYMS AND ABBREVIATIONS

O&M	Operation and Maintenance
OU-4	Operable Unit 4
PCE	Tetrachloroethene
PP	Proposed Plan
PRG	Preliminary Remediation Goal
RA	Remedial Action
RAB	Restoration Advisory Board
RAO	Remedial Action Objective
RG	Remedial Goal
RI	Remedial Investigation
ROD	Record of Decision
RSL	Regional Screening Level
SCL	Site Cleanup Level
SL	Remedial Alternative Soil
SLERA	Screening Level Ecological Risk Assessment
TCE	Trichloroethene
URS	URS Group, Inc.
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

1.0 PART 1: DECLARATION

1.1 SITE NAME AND LOCATION

Fort George G. Meade (FGGM) is located in Anne Arundel County, Maryland (MD), equidistant between the cities of Baltimore, MD, and Washington, District of Columbia (D.C.). FGGM lies approximately 4 miles east of Interstate 95 and immediately east of the Baltimore-Washington Parkway (MD Route 295), between MD Routes 175 and 32. FGGM is located near the communities of Odenton, Laurel, Columbia, and Jessup. The National Superfund Database Identification Number for the installation is MD9210020567. As a result of implementation of the requirements of the 1988 Base Realignment and Closure Act (BRAC), the installation includes approximately 5,100 acres.

FGGM was placed on the National Priorities List (NPL) on July 28, 1988 and a Federal Facility Agreement (FFA) was signed by the United States Army (Army), the United States Environmental Protection Agency (USEPA), the United States Department of the Interior and the Architect of the Capitol (AOC) in June 2009. The 93-acre AOC parcel (FGGM-74 or Site), located on the southeastern corridor of FGGM, was transferred to the AOC from the Army effective September 30, 1994. All sites on FGGM are controlled by the FFA and are being investigated and remediated in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), and the Army's Defense Environmental Restoration Program.

Figure 1-1 illustrates the location of the FGGM-74 at FGGM, based on historical aerial photographs. FGGM-74 is located on the southeastern corridor of FGGM and is bounded by Rock Avenue to the north, Route 32 to the south, Pepper Road to the east, and Remount Road to the west. The Site was used historically for a variety of purposes, including: warehouses and storage for the Former Defense Reutilization and Marketing Office, Transportation Motor Pool Facility, electrical substation, tractor trailer storage, and additional warehouse storage buildings. Other areas identified on the property include a suspected fill area, a compost area, a gravel fill area, a former railroad bed, and Commissary Warehouse Area. The Site is presently owned by the AOC and is used to accommodate long-term storage and service needs of the Library of Congress and other Legislative Branch agencies. The area consists of undeveloped land, warehouse, and archive facilities, roads and vehicle parking areas and underground storage tanks associated with an existing motor pool managed by the Army on the extreme western portion of FGGM-74. No redevelopment or future land use for other purposes is presently planned.

1.2 STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) for FGGM-74 presents the Selected Remedy for FGGM-74 and addresses environmental impacts due to soil contamination at FGGM-74 resulting from historical property use. The Selected Remedy was chosen in accordance with CERCLA, as amended, and to the extent possible, the NCP. This decision is based upon the Administrative Record file for this Site. This ROD is issued jointly by the Army and the USEPA, with support from the Maryland Department of the Environment (MDE) and AOC. MDE concurs with the Selected Remedy.

1.3 ASSESSMENT OF THE SITE

The response action selected in this ROD is necessary to protect public health and welfare and the environment from actual or threatened releases of hazardous substances into the environment at FGGM-74.

1.4 DESCRIPTION OF THE SELECTED REMEDY – HOT SPOT SOIL EXCAVATION WITH OFF-SITE DISPOSAL

The Selected Remedy for FGGM-74 is Hot spot soil excavation with off-site disposal.

The Selected Remedy will remove contaminated soil in the hot spot areas resulting in no unacceptable risk under future residential and non-residential land use scenarios upon completion of the excavation.

The Selected Remedy was chosen based on protection of human health and the environment and to effectively address the potential risks under future land-use scenarios posed by soil contamination at FGGM-74. In addition, the Selected Remedy is implementable and cost-effective, while satisfying the remaining selection criteria.

1.5 STATUTORY DETERMINATIONS

The Selected Remedy is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action (unless justified by a waiver), is cost-effective, and utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable. This remedy does not meet the statutory preference for treatment as a principal element for the following reasons: the contamination is not highly mobile, the volume of contaminated soil is relatively small, and the risks to human health from exposure to soil are within acceptable limits if the property is used for commercial/industrial purposes. The applicable or relevant and appropriate requirements (ARARs) are presented in **Table 1-1**.

Because the Selected Remedy will not result in hazardous substances, pollutants, or contaminants remaining in on-site soils above levels that allow for unlimited land use and unrestricted exposure, a five-year review will not be required for this remedial action.

1.6 ROD DATA CERTIFICATION CHECKLIST

The following information is included in the Decision Summary (Section 2) of this ROD. This decision is based on information that can be found in the Administrative Record file for FGGM-74.

- Constituents of concern (COCs) and their respective concentrations (Section 2.5, **Tables 2-1** and **2-2**).
- Baseline risk represented by the COCs. The Human Health Risk Assessment (HHRA) identified potential risks under future land-use scenarios at FGGM-74 (Sections 2.7 and 2.8).
- Site Cleanup Levels (SCLs) established for COCs, and Remedial Action Objectives (RAOs) for soil contamination established for FGGM-74 (Section 2.8 and **Table 2-3**).
- Current and reasonably anticipated future land use assumptions used in the baseline risk assessments and ROD (Section 2.6 and Section 2.7).
- How source materials constituting principal threats will be addressed (Section 2.12).
- Expected outcome as a result of the Selected Remedy; potential land use that will be available at the Site as a result of the Selected Remedy (Section 2.13.4).
- Estimated capital, annual operation and maintenance (O&M), and total present worth costs, discount rate, and the number of years over which the remedy cost estimates are projected (Section 2.10, Section 2.13.3 and **Appendix A**).
- Key factors that lead to selecting the remedy (i.e., a description of how the Selected Remedy provides the best balance of tradeoffs with respect to the balancing and modifying criteria, with emphasis on the criteria key to the decision) (Section 2.13.1).

1.7 AUTHORIZING SIGNATURES AND SUPPORT AGENCY ACCEPTANCE OF REMEDY

Brian P. Foley
Colonel, Signal Corps, Commanding

Date 9/30/14

Cecil Rodrigues, Director
Hazardous Site Cleanup Division
United States Environmental Protection Agency, Region III

SEP 30 2014
Date

2.0 PART 2: DECISION SUMMARY

2.1 SITE NAME, LOCATION, AND DESCRIPTION

This Record of Decision (ROD) describes the Selected Remedy at the Architect of the Capitol (AOC) (FGGM-74, or the Site) located within Fort George G. Meade (FGGM) in Odenton, Anne Arundel County, Maryland (MD). FGGM lies approximately 4 miles east of Interstate 95 and immediately east of the Baltimore-Washington Parkway (MD Route 295), between MD Routes 175 and 32. FGGM is located near the communities of Odenton, Laurel, Columbia, and Jessup. FGGM-74 is presently owned by the AOC and used to accommodate long-term storage and service needs of the Library of Congress and other Legislative Branch agencies. The area consists of undeveloped land, warehouse, and archive facilities, roads and vehicle parking areas and underground storage tanks associated with an existing motor pool managed by the United States Army (Army) on the extreme western portion of FGGM-74.

FGGM was placed on the National Priorities List (NPL) on July 28, 1988 and a Federal Facility Agreement (FFA) was signed by the Army, the United States Environmental Protection Agency (USEPA), the United States Department of the Interior, and the AOC in June 2009. All sites on FGGM are controlled by the FFA and are being investigated and remediated in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), and the Army's Defense Environmental Restoration Program.

The National Superfund Database Identification Number for the installation is MD9210020567. The Army is the lead agencies for CERCLA actions at FGGM-74, and the USEPA Region III and Maryland Department of the Environment (MDE) are the lead and support regulatory agencies, respectively, with oversight responsibilities.

This ROD addresses environmental impacts due to soil contamination at the Site resulting from historical activities. The Selected Remedy will be funded by the Army.

2.2 SITE HISTORY AND ENFORCEMENT ACTIVITIES

2.2.1 Fort George G. Meade Background

FGGM became an Army installation in 1917 and encompassed 9,349 acres. During World War I, over 100,000 soldiers passed through FGGM. The 79th, 92nd, and 11th Infantry Divisions trained at the installation, and an Ordnance Supply School was established in 1918. When the war ended, FGGM served as a demobilization center for returning troops. FGGM became a permanent Army installation after World War I.

By 1940, there were 251 permanent and 218 temporary buildings and over 2,100 enlisted soldiers on post. By December 1941, the total land acquired by FGGM had grown to approximately 13,800 acres. After World War II, the National Security Agency relocated to FGGM and Tipton Airfield was constructed in 1960. In 1988, FGGM was realigned under the first round of the Base Realignment and Closure Act (BRAC). The BRAC program authorized 9,000 acres to be divested from FGGM. As a result of the 1988 BRAC realignment, the installation now includes 5,145 acres. The current installation boundaries encompass the area previously referred to as the cantonment area, which is used for administrative, recreational, and housing facilities. FGGM contains approximately 65.5 miles of paved roads, 3.3 miles of secondary roads, and about 1,300 buildings. The USEPA placed FGGM on the NPL on July 22, 1998, after an evaluation of contamination due to past storage and disposal of hazardous substances.

FGGM's mission is to provide base operations support for facilities and infrastructure and quality of life and protective services in support of United States Department of Defense (DoD) activities and federal agencies. The wide range of support is provided to over 80 partner organizations from all four DoD military services and several federal agencies (URS Group, Inc. [URS], 2014).

2.2.2 Architect of the Capitol Background

FGGM-74 is located on the southeastern corridor of FGGM and is bounded by Rock Avenue to the north, Route 32 to the south, Pepper Road to the east, and Remount Road to the west (**Figure 1-1**). The Site was used historically for a variety of purposes, including: warehouses and storage for the Former Defense Reutilization and Marketing Office, Transportation Motor Pool Facility, electrical substation,

tractor trailer storage, and additional warehouse storage buildings. Other areas identified on the property include a suspected fill area, a compost area, a gravel fill area, a former railroad bed, and Commissary Warehouse Area.

Multiple phases of environmental investigations and sampling have been conducted at FGGM-74 dating back to the late 1980s. The previously collected data is summarized in the Final Remedial Investigation (RI) Package for the AOC (ARCADIS U.S. Inc. [ARCADIS], 2013a) and the Focused Feasibility Study (FFS) (ARCADIS, 2014b). Historical investigations include tank removals and remediation (1988-2000), a soil vapor study (1990), Phase 1 environmental site assessment (early 1990s), and multiple rounds of remedial investigation sampling (2000-2011).

2.2.3 Enforcement Activities

No formal enforcement activities have occurred at FGGM-74.

2.3 COMMUNITY PARTICIPATION

FGGM-74 has been the topic of presentations at the FGGM Restoration Advisory Board (RAB). Most recently, an update regarding FGGM-74 was presented in detail during the March 20, 2014, RAB meeting. A copy of the Proposed Plan (PP) (ARCADIS, 2014a) was provided to the FGGM RAB members. A Final PP for FGGM-74 was issued on July 21, 2014, and made available to the public at the information repositories listed below:

Fort Meade Environmental Division Office
4215 Roberts Avenue, Room 320
Fort Meade, Maryland 20755

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

A newspaper notification was published in compliance with the public notification requirements of the NCP (40 Code of Federal Regulations [CFR] 300.430(f)(3)) to inform the public of the start of the PP comment period, to solicit comments from the public, and to announce the public meeting. The notification ran in the Crofton West County Paper on July 24, 2014, SoundOff on July 24, 2014, and in the Maryland Gazette on July 26, 2014. A copy of the certificate of publication is provided in **Appendix B**. Additional information, including a fact sheet, was published on the Fort Meade Environmental Management System website (www.ftmeade.army.mil/environment). The public meeting was held on August 7, 2014, to inform the public about the proposed Remedial Action (RA) for FGGM-74 and to seek public comments. At this meeting, representatives from the Army, USEPA, MDE, and AOC were present to answer questions about FGGM-74 and remedial alternatives under consideration. A public comment period was held from July 24, 2014, to August 22, 2014, during which no verbal or written comments from the public were received. The Responsiveness Summary is presented in Section 3.0 of this ROD.

2.4 SCOPE AND ROLE OF OPERABLE UNIT OR RESPONSE ACTION

This ROD represents the Selected Remedy for soils at FGGM-74. The Site is one of many sites at FGGM that are in the CERCLA and Installation Restoration Program process. There are currently three other Sites for which a final ROD has been issued. The Site Management Plan (URS, 2014) provides details on other sites at FGGM that will be addressed in separate RODs and the anticipated schedule for each of those sites.

Historical chlorinated solvent use at Building 2286 and Former Building 2276 has resulted in groundwater contamination plumes extending nearly two miles into the town of Odenton, Maryland. The Former Post Laundry (FGGM-47/Operable Unit 4 [OU-4]) is identified as another source area currently being treated through a Removal Action (started in 2013) while all groundwater contamination migrating from the source areas currently is being captured and treated in an on-post system and re-injected into the aquifer. The areal extent of the groundwater contamination, which extends beneath FGGM-74, the Closed Sanitary Landfill (FGGM-17/OU-12), and the Ammunition Supply Point 1 (FGGM-08/OU-7), is being addressed comprehensively as part of OU-4. The tetrachloroethene (PCE) and trichloroethene (TCE) plume maps are provided as **Figures 2-1 and 2-2**, respectively.

This ROD provides a summary of the remedial alternatives considered for soil contamination at FGGM-74 and selects Remedial Alternative SL-3 (Lead Hot Spot Excavation with Off-Site Disposal).

The results of the Human Health Risk Assessment (HHRA) detailed in the Supplemental RI (ARCADIS, 2013b) indicate that there are no risks posed from soil under current land use, however, unacceptable risks were identified under potential future use scenarios due to exposure to contaminants in soil at the Site. It should be noted that future residential land use is not anticipated at the FGGM-74; however these potential risks must be eliminated or controlled. The components of the Selected Remedy are discussed in further detail in Section 2.13.2, below.

2.5 SITE CHARACTERISTICS

FGGM is located just within the western boundary of the Coastal Plain. **Figure 2-3** displays the location of regional Cross Section B – B'. The Coastal Plain geology is characterized by a wedge of unconsolidated Cretaceous and Quaternary alluvial sediments (unconsolidated sands, silts and clays) that dip and thicken toward the Atlantic Ocean, as illustrated by the hydrogeologic cross-section B-B' (**Figure 2-4**). It is aligned northwest-southeast and includes several deep wells on FGGM.

At FGGM-74, soil boring logs indicate fine to medium grained sands with silts and clay to depths of at least 50 feet (ft) below ground surface (bgs) (NW-14) (Malcolm Pirnie, 2008). A clay layer was encountered at varying depths across FGGM-74. At monitoring wells NW-6 and NW-14, the clay layer was observed at depths of 10 ft bgs with thicknesses ranging from 4 ft to 7 ft, respectively. The shallow subsurface is interpreted to be sands of the Lower Patapsco Aquifer (LPA) underlain by a clay layer that is typical within the Lower Patapsco sands.

Groundwater at FGGM-74 is located in a surficial aquifer composed of Lower Patapsco sands (primarily fine to medium grained sands as described above). Groundwater elevations at the Site ranged from 97.84 ft above mean sea level (msl) (NW-04) to 84.54 ft above msl (NW-14). A groundwater potentiometric surface map presenting groundwater elevations in July 2006 is provided as **Figure 2-5**. Groundwater flow in the LPA is predominately to the southeast.

The nature and extent of contamination in soil and groundwater are described in the following subsections.

Soil

Constituents tested in soils at the Site during the 2000/2001 and 2004/2005 RI soil investigations included various volatile organic compounds (VOCs), semi-volatile organic compounds, metals, pesticides, and polychlorinated biphenyls. **Figure 2-6** illustrates the RI sampling locations. Throughout the course of the RI, with the exception of lead, no additional contaminants were detected in soil at concentrations posing an unacceptable risk to receptors under residential or industrial land use scenarios.

An area of elevated lead concentrations above residential risk based concentration criteria (400 milligrams per kilogram [mg/kg]) was identified in one location during the 2004/2005 event: DPT/GW-29 (3,350 mg/kg), located along an access road to the Electrical Substation (Malcolm Pirnie, 2008).

The objective of the follow-up soil investigation completed in 2010/2011 was to vertically and laterally delineate the lead hot spot in subsurface soil that was discovered during the 2004/2005 phase of the RI. Results of the Supplemental RI – *Subsurface Lead Delineation and Revised Human Health Risk Assessment* (ARCADIS, 2013b) suggest that lead is the only risk driving constituent of concern (COC) in soil. Section 4.4.1 presents the methodology used to develop preliminary remediation goals (PRGs) for lead in soil used to quantify risks to human health.

Figures 2-7 through **2-11** present lead detections observed in surface and subsurface soil in the lead hot spot area delineated during the Supplemental RI completed in 2010/2011. Lead detections in soils are presented in **Table 2-1**.

Lead exceedances in subsurface soil observed during the two rounds of sampling completed during the Supplemental RI are summarized below:

- At 7 ft bgs, two elevated lead detections were observed- AOC GP01 (6,800 mg/kg) and AOC GP06 (5,200 mg/kg) (**Figure 2-9**); and

- At 10 ft bgs, four elevated lead detections were observed- AOC GP09 (3,300 mg/kg), AOC GP10 (5,600 mg/kg), AOC GP21 (1,500 mg/kg), and AOC GP27 (1,200 mg/kg) (**Figure 2-10**).

Groundwater

With respect to FGGM-74, to identify groundwater constituents of potential concern (COPC) for further evaluation in the Revised HHRA (ARCADIS, 2013b), a comparison was made of maximum detected concentrations in groundwater (as dissolved fractions and as total concentrations) to USEPA Regional Screening Levels (RSLs) protective of drinking water exposures (USEPA, 2012). The RSLs represent conservative risk-based concentrations derived by USEPA using default exposure assumptions. RSLs based on cancer endpoints are derived by USEPA using a target cancer risk level of one in one million ($1x10^{-6}$). RSLs based on non-cancer endpoints are derived by USEPA using a hazard limit of 1; these RSLs were further adjusted downward by a factor of 10 (representing a hazard limit of 0.1) to address the potential for similar target endpoints prior to use in identifying COPCs.

During the 2000/2001 and 2004/2005 phases of the RI, groundwater samples were collected using direct push technology sampling methodology and conventional monitoring well sampling methodology. The Revised HHRA (ARCADIS, 2013b) concluded that cobalt, iron, arsenic, chromium (evaluated as hexavalent chromium), and aluminum are risk driving groundwater COCs based on total (unfiltered) groundwater, and cobalt, arsenic, and chromium (evaluated as hexavalent chromium) as risk driving groundwater COCs based on dissolved (filtered) groundwater. Inorganic risk driving COCs detections in groundwater are presented in **Table 2-2**.

Information presented in previous reports documenting investigations conducted at FGGM-74, including the RI (Malcolm Pirnie, 2008) and a technical memorandum (Malcolm Pirnie, 2007), have concluded there is no discernible plume of metals contamination or identifiable source(s) of inorganics in groundwater at FGGM-74. This determination is supported by a background evaluation presented in the Supplemental RI (ARCADIS, 2013b). The background evaluation compared detected levels of inorganics in groundwater at FGGM-74 to upgradient groundwater reference wells NW-5, NW-6, and NW-7, located on the north side of Rock Avenue (**Figure 2-5)**. Based on the conclusions of this evaluation, the concentrations of the majority of the inorganics in FGGM-74 groundwater are at levels comparable to upgradient groundwater, including aluminum, antimony, barium, cadmium, calcium, chromium (total), copper, iron, lead, magnesium, mercury, nickel, selenium, thallium and vanadium. Because the background evaluation concluded that these inorganics are comparable to the concentrations in upgradient reference wells, no actions are warranted based on these COCs.

Since there are no specific identifiable sources on or discernible plumes emanating from FGGM-74, no groundwater alternative will be evaluated or selected in this ROD. For OU-4, the FGGM-74 inorganics and the applicable remedial approaches will be documented in the CERCLA documents which are still under comment resolution, including the RI/FS, PP, and ROD. The FGGM-74 risk assessment findings for inorganics in groundwater will be integrated into the OU-4 documents.

Historical chlorinated solvent use at Building 2286 and Former Building 2276 has resulted in groundwater contamination plumes extending nearly two miles into the town of Odenton, Maryland. The Former Post Laundry (FGGM-47/OU-4) is identified as another source area currently being treated through a Removal Action (started in 2013) while all groundwater contamination migrating from the source areas currently is being captured and treated in an on-post system and re-injected into the aquifer. The areal extent of the groundwater contamination, which extends beneath FGGM-74, the Closed Sanitary Landfill (FGGM-17/OU-12), and The Ammunition Supply Point1 (FGGM-08/OU-7), is being addressed comprehensively as part of OU-4. The PCE and TCE plume maps are provided as **Figures 2-1 and 2-2**, respectively.

2.6 CURRENT AND POTENTIAL FUTURE LAND USE

FGGM-74 is presently owned by the AOC and is used to accommodate long-term storage and service needs of the Library of Congress and other Legislative Branch agencies. The area consists of undeveloped land, warehouse, and archive facilities, roads and vehicle parking areas and underground storage tanks associated with an existing motor pool managed by the Army on the extreme western portion of FGGM-74. No redevelopment or future land use for other purposes is presently planned.

2.7 SUMMARY OF SITE RISKS

2.7.1 Summary of the Human Health Risk Assessment

The results of the HHRA indicate that lead concentrations in soil at two hot spot areas at depths of 7 and 10 ft bgs present an unacceptable risk to the future commercial worker and hypothetical resident under a hypothetical regrading or excavation scenario. No adverse health effects are indicated under current land use. A summary of the Site risks and hazards identified during the revised HHRA (ARCADIS, 2013b) is presented below:

- Commercial Worker

  Current: For lead in soil, there is no unacceptable risk from exposure to surface soils or combined surface/subsurface soil under a current commercial worker scenario across the entire 60 by 68 foot lead study area.

  Future: For lead in soil, there is an unacceptable risk if regrading or other Site activities lead to exposure under the commercial worker scenario to lead at two hot spot areas at depths of 7 and 10 ft bgs (**Figures 2-12** and **2-13** show the lead hot spots that are a subset of the 60 by 68 foot study area).

- Construction/Utility Worker

  Current/Future: There are no unacceptable risks to construction/utility workers under current or future use scenarios for lead in soil.

- Hypothetical Resident

  Current: There is currently no residential use of FGGM-74.

  Future: For lead in soil, potential exposures to lead in surface soil do not exceed USEPA's risk management threshold level for lead. However, exposures to subsurface lead concentrations in the 60 by 68 foot lead study area (see **Figures 2-12** and **2-13**) do present a potential risk under a hypothetical residential use scenario at depth intervals of 7 and 10 ft bgs.

In summary, current conditions at FGGM-74 do not present potential risks or hazards to potential receptors (including commercial workers). Under future use scenarios (including residential use), conditions at FGGM-74 pose a potential risk that warrants an evaluation of remedial alternatives to address potential exposure to lead in soil at a depth of 7 ft and 10 ft bgs.

The results of the HHRA (Malcolm Pirnie, 2008) indicate that surface soil, sediment, and surface water media at FGGM-74 do not present unacceptable risk to human receptors under current and future land use scenarios.

The results of the revised HHRA (ARCADIS, 2013b) indicate that soil at the Site does not pose unacceptable risks to current receptors or to future construction/utility workers. The remedial action selected in this ROD is necessary to protect the public health from contaminants present in soil at FGGM-74 which present unacceptable risks under future land use scenarios.

WHAT IS HUMAN HEALTH RISK AND HOW IS IT CALCULATED?

A Superfund baseline human health risk assessment is an analysis of the potential adverse health effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these releases under current- and future-land uses. A four-step process is utilized for assessing site-related human health risks for reasonable maximum exposure scenarios.

Hazard Identification: In this step, the contaminants of concern at the site in various media (i.e., soil, groundwater, surface water, and air) are identified based on such factors as toxicity, frequency of occurrence, fate and transport of the contaminants in the environment, concentrations of the contaminants in specific media, mobility, persistence, and bioaccumulation.

Exposure Assessment: In this step, the different exposure pathways through which people might be exposed to the contaminants identified in the previous step are evaluated. Examples of exposure pathways include incidental ingestion of and dermal contact with contaminated soil. Factors relating to the exposure assessment include, but are not limited to, the concentrations that people might be exposed to and the potential frequency and duration of exposure. Using these factors, a reasonable maximum exposure scenario, which portrays the highest level of human exposure that could reasonably be expected to occur, is calculated.

Toxicity Assessment: In this step, the types of adverse health effects associated with chemical exposures and the relationship between magnitude of exposure (dose) and severity of adverse effects (response) are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or other non-cancer health effects, such as changes in the normal functions of organs within the body (e.g., changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and non-cancer health effects.

Risk Characterization: This step summarizes and combines exposure information and toxicity assessments to provide a quantitative assessment of site risks. Exposures are evaluated based on the potential risk of developing cancer and the potential for non-cancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a 10^{-4} cancer risk means a one-in-ten-thousand excess cancer risk; or one additional cancer may be seen in a population of 10,000 people as a result of exposure to site contaminants under the conditions explained in the Exposure Assessment. Current Superfund guidelines for acceptable exposures are an individual lifetime excess cancer risk in the range of 10^{-4} to 10^{-6} (corresponding to a one-in-ten-thousand to a one-in-a-million excess cancer risk). For non-cancer health effects, a hazard index (HI) is calculated. An HI represents the sum of the individual exposure levels compared to their corresponding reference doses at which no adverse effects are expected to occur. The key concept for a non-cancer HI is that a threshold level (measured as an HI of less than 1) exists below which non-cancer health effects are not expected.

2.7.2 Summary of the Ecological Risk Assessment

A Screening Level Ecological Risk Assessment (SLERA) was also performed as part of the RI (Malcolm Pirnie, 2008). A SLERA is a conservative assessment that provides a high level of confidence in determining a low probability of adverse risk to potential ecological receptors that aids in determining whether further ecological assessments are required. The SLERA completed for FGGM-74 indicated that no unacceptable risks to ecological receptors were identified and no further evaluation was required.

2.8 IDENTIFICATION OF CONSTITUENTS OF CONCERN AND SITE CLEANUP LEVELS

As part of the FFS for the Site (ARCADIS, 2014b), the compounds detected in soil were screened to identify COPCs. Details of the screening process are presented in Sections 3 and 4 of the FFS (ARCADIS, 2014b). COPCs are further evaluated through a HHRA to determine which COPCs are COCs. In summary, a COC is defined as a contaminant that has the potential to affect receptors adversely due to its concentration, distribution, and mode of toxicity. Through the RI, it has been determined that remedial action is necessary to address soil contamination at FGGM-74 under future land use scenarios.

Soil

Based on the results of the HHRA for the commercial worker (non-residential) land use scenario, lead was identified as the only COC in subsurface soils for FGGM-74. Lead was identified as a COC based on Integrated Exposure Uptake Biokinetic (IEUBK) model exceedances for exposure at 7 and 10 ft bgs. The lead PRG is the residential Exposure Point Concentration (EPC) (418 mg/kg) and was derived using USEPA's IEUBK Model (win 32 Version 1.1 Build 11) assuming Geometric Standard Deviation of 1.6 in baseline blood lead levels, and a 5% probability of exceeding the 10 micrograms per deciliter blood lead threshold. The PRG is protective of the future hypothetical resident and is therefore also protective of the future commercial worker. The PRG for lead in soil is shown on **Table 2-3**.

Groundwater

Since there are no specific identifiable sources on or discernible plumes emanating from FGGM-74, the identification and evaluation of COCs and cleanup levels for groundwater will be discussed as a part of OU-4.

2.9 REMEDIAL ACTION OBJECTIVES

Remedial Action Objectives (RAOs) for FGGM-74 are developed based on the criteria outlined in Section 300.430(e)(2) of the NCP and Section 121(b) of CERCLA with the objective of protecting human health and the environment.

The RAO for the Site is:

- To prevent human exposure to soil that would cause unacceptable risk to human health.

2.10 DESCRIPTION OF REMEDIAL ALTERNATIVES

Remedial alternatives for FGGM-74 were developed and evaluated in the FFS (ARCADIS, 2014b). The remedial alternatives considered during the evaluation presented in the FFS included:

- SL-1 – No action
- SL-2 – Land Use Controls (LUCs)
- SL-3 – Lead Hot Spot Soil Excavation with Off-site Disposal

The remedial alternatives are described below with their respective estimated capital costs, estimated cost for operation and maintenance (O&M) activities, and an estimate of the present worth costs for each alternative.

2.10.1 Alternative SL-1: No Action

Estimated Capital Cost: *$0*
Estimated O&M (cost over 30 years): *$0*
Estimated Present Worth Cost: *$0*

Under Alternative SL-1, no corrective action of any kind would be employed. This alternative would not adequately address potential risk from soil under future land use scenarios. However, the no action alternative must be evaluated (per 40 CFR 300.430(e)(6)) to establish a baseline of comparison regarding future performance and risk for the remaining alternatives, even though this alternative is not a viable option itself.

2.10.2 Alternative SL-2: LUCs

Estimated Capital Cost: *$ 0*
Estimated O&M (cost over 30 years): *$82,186*
Estimated Present Worth Cost: *$82,186*

Alternative SL-2 would involve leaving the lead hotspots in place and LUC maintenance. Alternative SL-2 would reduce risk to human health by controlling or removing pathways of exposure to lead hotspots in soil. LUCs would restrict future residential land use. It is anticipated that LUCs would be implemented within 90 days following ROD approval. Under Alternative SL-2, existing LUCs already in place at FGGM and AOC's FGGM-74 parcel, specifically institutional controls (ICs), would be enhanced and maintained.

The four general categories of ICs evaluated or already in use at FGGM and AOC's FGGM-74 parcel, which provide layers of protection, are: governmental controls, proprietary controls, enforcement and permitting, and informational devices, each of which would assist with the management and implementation of LUCs. Most of these measures are already in place as elements of required procedures at FGGM and/or FGGM-74. These elements include requirements to obtain excavation permits from the FGGM Directorate of Public Works for any intrusive activity at FGGM, including the FGGM-74 parcel; Master Plan Regulations to ensure that installation projects are sited to meet operational, safety, physical security, and environmental requirements; the FGGM Geographic Information System (GIS) Database where restricted areas are demarcated; and FGGM access

restrictions. In addition, the AOC requires the use of Right of Entry documentation and the application for excavation permits through FGGM for activities which may disturb soils. These controls have been developed taking into consideration all possible land uses at FGGM-74, including residential, administrative, and industrial operations, and outdoor recreation. All existing LUCs, together with any additional requirements, would be incorporated into the CERCLA remedy for the Site under this alternative and added to the AOC Master Plan.

No future residential development is planned at FGGM-74. Residential land use at FGGM-74 would be prohibited as part of the LUCs under this alternative as lead hot spots in soil would not be removed. This prohibition would be added to the AOC Master Plan.

2.10.3 Alternative SL-3: Hot Spot Excavation with Off-site Disposal

Estimated Capital Cost: *$70,959*
Estimated O&M (Cost over 30 years): *$0*
Estimated Present Worth Cost: *$70,959*

Alternative 3 incorporates soil excavation with off-site disposal to address lead hot spots in subsurface soil. Alternative SL-3 is an effective long-term option because it will reduce risk to human health by removing COCs in soil via excavation thus achieving RAOs. It is anticipated that implementation of Alternative SL-3 will be initiated within 180 days following approval of the ROD. RAOs are anticipated to be achieved immediately following the soil excavation. The application of these technologies through this alternative is described below.

Soil Excavation with Off-Site Disposal

Under Alternative SL-3, lead concentrations in subsurface soil associated with sampling locations AOCGP01 and AOCGP06 at 7 ft bgs and sampling locations AOCGP09 and AOCGP10 at 10 ft bgs are considered lead hot spots and will be excavated as these areas contribute to the high lead EPC at each of these subsurface exposure areas. Following excavation of the two lead hot spot areas, confirmation soil samples will be collected from the bottom and sidewalls of the excavation. Soil samples will be analyzed for lead and used to recalculate the EPC prior to backfilling the excavation to determine if the residential PRG (418 mg/kg) was attained. The approximate lateral extent of the lead hot spot excavation at 7 ft bgs and 10 ft bgs are displayed on **Figures 2-12** and **2-13**, respectively.

Overburden material (0 - 5 ft bgs) from each sub-area will be staged onsite and used as fill material once the lead hot spot removal is complete. Additional clean soil imported from off-post, unless an approved on-post source is identified will be transported to FGGM-74 for use as fill material needed to backfill the excavated sub-areas. Upon completion of the backfill activities, the area will be graded and seeded with grass to minimize the potential for erosion. If required, erosion and sediment controls will be established and maintained throughout the duration of the removal action in accordance with the applicable or relevant and appropriate requirements (ARARs) identified in the FFS (ARCADIS, 2014b).

Key ARARs

Alternative SL-3 includes actions not included in Alternatives SL-1 and SL-2, and, therefore, must meet action-specific ARARs that do not apply to the other remedial alternatives. For excavation, these include ARARs identified in the FFS: substantive requirements for Erosion and Sediment Control Code of Maryland Regulation (COMAR) 26.17.01.07 and 26.17.01.11, Disposal of Controlled Hazardous Substances COMAR 26.13.02.02, 26.13.02.03, 26.13.02.05A (1) and (2), and 26.13.03.01 through 26.13.03.06, and Control of Noise Pollution COMAR 26.02.03.02 and 26 02.03.03. Note that CERCLA Sec. 121(e) exempts onsite CERCLA actions from obtaining federal, state, or local permits but substantive provisions of such permits will be complied with.

2.11 COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES

The advantages and disadvantages of each of the remedial alternatives were compared using the nine CERCLA evaluation criteria established by the USEPA in Section 300.430(e)(9)(iii)(A)-(I) of the NCP. The detailed comparative analysis of all the remedial alternatives is provided in the FFS (ARCADIS, 2014b) and includes an evaluation of the expected performance of each alternative relative to the other alternatives with respect to the five balancing criteria. These criteria are as follow:

Threshold Criteria – Must be met for the alternative to be eligible for selection as a remedial option.

1. Overall Protection of Human Health and the Environment – Determines whether an alternative adequately eliminates, reduces, or controls threats to public health and the environment through treatment, engineering controls, or LUCs.
2. Compliance with ARARs – Evaluates whether the alternative meets the Federal and state environmental statutes, regulations, and other requirements that pertain to the Site, or whether a waiver is justified. Identification of ARARs is dependent on site risks and the hazardous substances present at the Site, site characteristics, the Site location, and the actions selected to remediate the Site. Thus, requirements may be chemical-, location-, or action-specific. Please refer to Section 4.3 of the FFS (ARCADIS, 2014b) for a more detailed discussion of ARARs.

Primary Balancing Criteria – Used to weigh major trade-offs among alternatives.

3. Long-term Effectiveness and Permanence – Considers the ability of an alternative to maintain protection of human health and the environment over time.
4. Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment – Evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.
5. Short-term Effectiveness – Considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.
6. Implementability – Considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.
7. Cost – Includes estimated capital and annual O&M costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of –30 to +50 percent.

Modifying Criteria – May be considered to the extent that information is available during the FFS, but can be fully considered only after public comments are received on the PP.

8. State/Support Agency Acceptance – Considers whether the State agrees with the Army's analysis and recommendations, as described in the FFS and PP.
9. Community Acceptance – Considers whether the local community agrees with the Army's analysis and preferred alternative. Comments received on the PP are an important indicator of community acceptance.

The following sections summarize the comparative analysis of alternatives for FGGM-74 as presented in the FFS (ARCADIS, 2014b). The comparative analysis of soil and groundwater remedial alternatives compared to the two threshold and five balancing evaluation criteria under CERCLA are presented in **Table 2-4**.

2.11.1 Soil RA Comparative Analysis

2.11.1.1 Threshold Criteria

2.11.1.1.1 Overall Protection of Human Health and the Environment

Since Alternative SL-1, the No Action alternative, would not prevent unacceptable risks for potential future use scenarios, Alternative SL-1 does not satisfy this criterion and will not be discussed further in this analysis. Both alternatives SL-2 and SL-3 are protective of human health and the environment since they either remove or control possible future exposure to COCs in impacted soil.

2.11.1.1.2 Compliance with ARARs

SL-3 would be implemented in compliance with action-specific ARARs; there are no action-specific ARARs for SL-2. There are no chemical-specific or location-specific ARARs identified for soils.

2.11.1.2 Balancing Criteria

2.11.1.2.1 Long-Term Effectiveness and Permanence

Alternatives SL-2 and SL-3 would be effective in the long-term because they would reduce risk to human health by controlling or removing pathways of exposure to COCs in soil. For Alternative SL-2, LUCs are required to restrict land use and remove pathways of exposure.. For Alternative SL-3 excavation of lead hot spots to established PRGs will eliminate the risk of exposure from soils for all land use scenarios. Of these two alternatives, Alternative SL-3 will be more effective in the long-term since it permanently removes impacted soils from the Site and leaves the Site suitable for unrestricted land use.

2.11.1.2.2 Reduction of Toxicity, Mobility, and Volume through Treatment

Alternative SL-2 and SL-3 would not reduce the toxicity, mobility, and volume through treatment of impacted soil at the Site. Under SL-3, contaminated soil will be removed from the Site, but there is no treatment so it does not satisfy the requirement for reduction of toxicity, mobility or volume under this alternative.

2.11.1.2.3 Short-Term Effectiveness

Alternative SL-2 is considered effective in the short-term as it would address risks to human health under future land use scenarios by limiting exposure pathways. The implementation of LUCs would not create any short-term risks to the community. Under Alternative SL-3, minimal short-term risks to the community and construction workers are present when soils are excavated and transported to an off-site facility for disposal. However, the potential for exposure during excavation would be reduced through the use of suitable protective clothing and equipment, good construction practices, and standard dust suppression techniques.

2.11.1.2.4 Implementability

Alternative SL-2 is readily implementable. Although Alternative SL-3 is more complex, it is readily implementable through standard industrial construction and excavation techniques.

2.11.1.2.5 Cost

Based on the present worth estimates of costs for the alternatives, Alternative SL-3 ($70,959) is less costly than Alternative SL-2 ($82,186), and it eliminates potential future risk by permanently removing COCs in soil at hot spot locations through excavation and off-site disposal and would therefore be considered cost-effective. Alternative SL-2 controls but does not eliminate the hazards posed by Site COCs to receptors under future hypothetical land use scenarios. Therefore, when considering risk reduction applicable to future land use scenarios in relation to cost for these alternatives, Alternative SL-3 is the more cost effective option.

2.11.2 Modifying Criteria

2.11.2.1 State/Support Agency Acceptance

State representatives have reviewed the alternatives proposed in the decision documents for remedial action at FGGM-74. Based on a thorough review of the remedial response alternatives and public comments, the MDE concurs with Alternative SL-3.

2.11.2.2 Community Acceptance

Community acceptance is addressed in the Responsiveness Summary (Section 3) of this ROD.

2.12 PRINCIPAL THREAT WASTE

The NCP establishes an expectation that USEPA will use treatment to address the principal threats posed by a site wherever practicable (NCP 300.430(a)(1)(iii)(A)). Identifying principal threat wastes combines concepts of both hazard and risk. In general, principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be contained in a reliable manner or would present a significant risk to human health or the environment should exposure occur. Site related COCs would not be considered a principal threat because they are not highly toxic or mobile; however, the potential risk to future Site users requires a response action.

2.13 SELECTED REMEDY

Based on the requirements of CERCLA and the NCP, and based on a detailed analysis of the remedial alternatives using the nine criteria (which includes public and supporting agency comments), the Army, and USEPA, in consultation with MDE and AOC, have selected Remedial Alternative SL-3: Hot Spot Excavation with Off-Site Disposal.

2.13.1 Summary of the Rationale for the Selected Remedy

The Selected Remedy (Hot Spot Excavation with Off-site Disposal) was chosen to mitigate the potential hazards posed by COCs in subsurface soil at FGGM-74. The Selected Remedy was chosen over the other remedial alternatives considered, which included Alternative SL-1: No Action and Alternative SL-2: LUCs. The selection of the remedy was made after considering the threshold, balancing, and modifying criteria, including, overall protection of human health and the environment; compliance with ARARs; reduction of toxicity, mobility, or volume through treatment; long- and short-term effectiveness; implementability; cost; and regulatory and community acceptance (40 CFR 300.430(e)(9)).

Alternative SL-3 is recommended because it:

- Meets the RAO and Remedial Goals (RGs) while providing the optimum balance with respect to the evaluation criteria;
- Is protective of human health and the environment for both short- and long-term use;
- Complies with applicable or relevant and appropriate regulations;
- Is implementable, with minimal adverse impact to the current site users, surrounding community members and other FGGM stakeholders; and
- Is the most cost effective option for achieving RAOs and RGs.

2.13.2 Detailed Description of the Selected Remedy

The stated RAO is to prevent human exposure to soil that would cause unacceptable risk to human health. The Selected Remedy will remove contaminated soil to the established PRG or Site Cleanup Level (SCL) and dispose of them off-site at a permitted facility. Upon completion there will be no unacceptable risk under any future land use scenarios (residential or non-residential) and no requirement for LUCs associated with soil.

Soil Excavation with Off-Site Disposal

The excavation footprint will focus on the central portion of the Site where the highest concentrations of lead were detected. Lead concentrations in subsurface soil associated with sampling locations AOCGP01 and AOCGP06 at 7 ft bgs and in sampling locations AOCGP09 and AOCGP10 at 10 ft bgs are considered lead hot spots and will be excavated as these areas contribute to the high lead exposure point concentrations at each of these subsurface exposure areas. Confirmation soil samples will be collected from the bottom and sidewalls of the excavation. Soil samples will be analyzed for lead and used to recalculate the EPC prior to backfilling the excavation to determine if the residential PRG (418 mg/kg) was attained. The approximate lateral extent of the lead hot spot excavation at 7 ft bgs and 10 ft bgs are displayed on **Figures 2-12** and **2-13**, respectively. Upon removal of the elevated lead hotspot locations (AOCGP01, AOCGP06, AOCGP09, and AOCGP10), the resulting exposure point concentration for the study area will be below the residential PRG (418 mg/kg), even though some individual locations within the study area will remain above the PRG (including samples at AOCGP21 and AOCGP27 from 10 ft bgs (see **Figure 2-10**). These other locations do not require excavation to attain the PRG.

During excavation, overburden material (0 - 5 ft bgs) from each subsurface hot spot area will be staged onsite and used as fill material once the lead hot spot removal is complete. Additional clean soil imported from off-post, unless an approved on-post source is identified, may be transported to FGGM-74 for use as fill material needed to backfill the excavated hot spot areas. Upon completion of the backfill activities, the area will be graded and seeded with grass to minimize the potential for erosion.

Erosion and sediment controls will be established and maintained throughout the duration of the removal action in accordance with the ARARs identified in the FFS (ARCADIS, 2014b) and included in **Table 1-1**.

2.13.3 Summary of Estimated Remedial Action Costs

The costs associated with the implementation of the Selected Remedy are provided in **Appendix A**. **Table A-1** details anticipated costs associated with the soil excavation with off-site disposal. Costs are also summarized in the following list:

SL-3 – Hot Spot Excavation with Off-site Disposal

Capital Costs

▪ General Actions and Site Preparation	
– Mobilization/Demobilization	$1,777
– Erosion and Sediment Control	$1,000
– Construction Entrances	$2,500
– Decontamination Areas & Activities	$2,500
– Utility Location	$2,500
– Surveying Services	$2,500
– Excavation of Contaminated Soil	$5,680
– Waste Characterization	$1,500
– Stockpile Management Area	$2,500
– Air Monitoring Equipment	$300
– Transportation and Disposal of Soils Off-Site	$8,772
– Confirmation Soil Sampling	$4,590
– Backfill of Excavation Area including Topsoil	$3,312
▪ Implementation Costs	
– Administration and Legal	$5,000
– Procurement	$5,000
– Construction Management	$4,582
– Completion Report	$2,500
Total Capital Costs	**$70,959**

The costing information in this section is based on the estimates created in support of the FFS (ARCADIS, 2014b).

2.13.4 Expected Outcomes of the Selected Remedy

Following completion of the Selected Remedy, FGGM-74 will be available for unrestricted land use. Groundwater use will be addressed under OU-4.

2.14 STATUTORY DETERMINATIONS

Under CERCLA § 121 and the NCP, the lead agency must select remedies that are protective of human health and the environment, comply with ARARs (unless a statutory waiver is justified), are cost effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In addition, CERCLA includes a preference for remedies that employ treatment that permanently and significantly reduces the volume, toxicity or mobility of hazardous wastes as a principal element, and a bias against off-site disposal of untreated wastes. The following sections discuss how the Selected Remedy meets these statutory requirements.

2.14.1 Protection of Human Health and the Environment

The Selected Remedy for FGGM-74 will be protective of human health and the environment by removal of lead hot spot areas.

The implementation of soil excavation with off-site disposal will comply with ARARs. The ARARs and other criteria, advisories, and guidance to-be-considered which have been selected as performance standards are presented in **Table 1-1**.

2.14.2 Cost Effectiveness

In the lead agency's judgment, the Selected Remedy is cost-effective and represents a reasonable value for the money to be spent. In making this determination, the following definition was used: "A remedy shall be cost-effective if its costs are proportional to its overall effectiveness" [NCP Section

300.430(f)(1)(ii)(D)]. This determination was accomplished by evaluating the "overall effectiveness" of those response actions that satisfied the threshold criteria (i.e., were both protective of human health and the environment and ARAR-compliant). Overall effectiveness was evaluated by assessing three of the five balancing criteria in combination (long-term effectiveness and permanence; reduction of toxicity, mobility, or volume through treatment; and short-term effectiveness). A comparison of the costs to the overall effectiveness was conducted to determine cost effectiveness. The relationship of the overall effectiveness of the Selected Remedy was determined to be proportional to its costs; hence the Selected Remedy represents a reasonable value for the money to be spent. Specifically, the Selected Remedy (SL-3) was deemed more effective than Alternative SL-2 based on the determination that Alternative SL-2 would not allow for unrestricted land use with regards to soil following remedy implementation. Furthermore, implementation of Alternative SL-3 costs less than SL-2 (approximately $12,799 of additional present worth costs).

2.14.3 Utilization of Permanent Solutions and Alternative Treatment (or Resource Recovery) Technologies to the Maximum Extent Practicable

The Selected Remedy employs permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable. The Selected Remedy is effective in the long term in eliminating or reducing potential risks to future land users posed by soil contamination through the excavation of contaminated soil. The Selected Remedy reduces the volume of contaminated soil at FGGM-74.

2.14.4 Preference for Treatment as a Principal Element

The Selected Remedy does not satisfy the preference for treatment as a principal element at FGGM-74 through the use of active treatment technologies. The Selected Remedy was chosen over the other alternatives after considering the balancing criteria which include short-term and long-term effectiveness; reduction of toxicity, mobility, and volume through treatment; implementability; and cost. This remedy does not meet the statutory preference for treatment as a principal element for the following reasons: the contamination is not highly mobile, the volume of contaminated soil is relatively small, and the risks to human health from exposure to soil are within acceptable limits if the property is used for commercial/industrial purposes.

2.14.5 Five-Year Review Requirements

Because the Selected Remedy will not result in hazardous substances, pollutants, or contaminants remaining in on-site soils above levels that allow for unlimited land use and unrestricted exposure, a five-year review will not be required for this remedial action.

2.15 DOCUMENTATION OF SIGNIFICANT CHANGES FROM PREFERRED REMEDIAL ALTERNATIVE FROM PROPOSED PLAN

The scope of the response action selected in this ROD does differ from that described in the PP. The Preferred Alternative presented in the PP, consequently is different as well. As discussed in both Section 2.4, Scope and Role of Response Action, and Section 2.5, Site Characteristics, there are no specific identifiable sources of groundwater contamination on or discernible plumes emanating from FGGM-74. For OU-4, the FGGM-74 inorganics and the applicable remedial approaches will be documented in the CERCLA documents which are still under comment resolution, including the RI/FS, PP, and ROD. The FGGM-74 risk assessment findings for inorganics in groundwater will be integrated into the OU-4 documents. Historical chlorinated solvent use at Building 2286 and Former Building 2276 has resulted in groundwater contamination plumes extending nearly two miles into the town of Odenton, Maryland. The Former Post Laundry (FGGM-47/OU-4) is identified as another source area currently being treated through a Removal Action (started in 2013) while all groundwater contamination migrating from the source areas currently is being captured and treated in an on-post system and re-injected into the aquifer. The areal extent of the groundwater contamination, which extends beneath FGGM-74, the Closed Sanitary Landfill (FGGM-17/OU-12), and the Ammunition Supply Point1 (FGGM-08/OU-7), is being addressed comprehensively as part of OU-4. The entire areal extent of this contamination is being addressed comprehensively as part of OU-4. The Army, USEPA, and MDE agree that addressing the groundwater at FGGM-74 as a part of OU-4 makes technical and administrative sense.

3.0 PART 3: RESPONSIVENESS SUMMARY

The purpose of the Responsiveness Summary is to provide a summary of the stakeholders' comments, concerns, and questions about the PP for FGGM-74 and the Army's responses to these concerns.

A detailed FGGM-74 update covering the site's CERCLA status, including the FFS, was presented to the RAB on March 20, 2014. A copy of the PP (ARCADIS, 2014a) was provided to the FGGM RAB members. A Final PP for the Site was completed and released to the public on July 21, 2014 at the information repositories listed in Section 2.3. A copy was also posted on the Fort Meade environmental web site.

A newspaper notification was published to inform the public of the start of the PP comment period, to solicit comments from the public, and to announce the public meeting. The notification was run in the Crofton West County Paper on July 24, 2014, SoundOff on July 24, 2014, and in the Maryland Gazette on July 26, 2014. A copy of the certificate of publication is provided in **Appendix B**. A public meeting was held on August 7, 2014, to inform the public about the proposed remedial alternatives for the Site and to seek public comments. At this meeting, representatives from the Army, AOC, USEPA, and MDE were present to answer questions about the site and the remedial alternatives under consideration. A fact sheet was provided to the public as part of the meeting. A public comment period was held from July 24, 2014 to August 22, 2014 during which no verbal and written comments from the public were received. Public comments and prepared responses are presented below.

3.1 PUBLIC ISSUES AND LEAD AGENCY RESPONSES

Comments received during the public comment period on the FGGM-74 PP are summarized below. The comments are categorized by source. A transcript from the public meeting has been included in the Administrative Record (located at the information repositories listed in Section 2.3) and is included as **Appendix C**.

3.1.1 Summary of Written Comments Received During the Public Comment Period

No written comments were received.

3.1.2 Summary of Comments Received During the Public Meeting on the Proposed Plan and Agency Responses

No comments were received during the public meeting.

3.2 TECHNICAL AND LEGAL ISSUES

No technical or legal issues were raised on the Selected Remedy.

4.0 PART 4: REFERENCES

ARCADIS U.S., Inc. (ARCADIS). 2013a. *Remedial Investigation Package*, Architect of the Capitol, Fort George G. Meade, Maryland. April.

ARCADIS 2013b. *Supplemental Remedial Investigation – Subsurface Lead Delineation and Revised Human Health Risk Assessment*, Architect of the Capitol, Fort George G. Meade, Maryland. March.

ARCADIS 2014a*. Proposed Plan*, Architect of the Capitol, Fort George G. Meade, Maryland. July.

ARCADIS. 2014b. *Focused Feasibility Study*, *Revision 1,* Architect of the Capitol, Fort George G. Meade, Maryland. July.

Malcolm Pirnie. 2007. *Technical Memorandum. Human Health Risk Assessment and Screening Level Ecological Risk Assessment.* January.

Malcolm Pirnie. 2008. *Revised Final Remedial Investigation.* Architect of the Capitol, Library of Congress, Remedial Investigation, Fort George G. Meade, Maryland. 2006 Final RI Report, Revised December 2008.

URS Group Inc. (URS). 2014. *Site Management Plan 2014 Annual Update Fort George G. Meade, Maryland*.

United States Environmental Protection Agency (USEPA). 2010. Integrated Exposure Uptake Biokinetic Model for Lead in Children, Windows® version (IEUBKwin v1.1 build 11). February.

USEPA. 2012. Regional Screening Level Table and User's Guide. May. Accessed via http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm.

TABLES

Table 1-1
Action-Specific ARARs
Architect of the Capitol, FGGM-74
Fort George G. Meade, Maryland

Activity	Authority	Regulation	Synopsis	Status
Excavation and Temporary On-site Staging	State Regulatory Requirement	Erosion and Sediment Control *COMAR 26.17.01.07 and 26.17.01.11*	This regulation is applicable when excavation, backfilling and regrading of soil are contemplated. It establishes procedures to prevent erosion through run-off and discharge of sediment in water bodies Construction projects that disturb in excess of 5,000 square feet or more than 100 cubic yards of earth must prepare an erosion and sediment control (E&SC) plan and retain a copy of the E&SC plan at the construction site. Further, construction projects that disturb greater than 1.0 acre, but less than 150 acres, must meet the substantive requirements of the General Permit for Stormwater Associated with Construction Activities. These requirements include special conditions (e.g., notification and response procedures for spills above reportable quantities), effluent limitations, the prevention of the discharge of significant amounts of sediments, monitoring, recording, and reporting. Finally, these regulations provide the standards and specifications for the design and implementation of E&SC and stormwater management.	ARAR
Excavation and Off-site Disposal	State Regulatory Requirement	Disposal of Controlled Hazardous Substances *COMAR 26.13.02.02, 26.13.02.03, 26.13.02.05A(1) and (2), and 26.13.03.01 through 26.13.03.06*	These regulations provides for the prevention, abatement, and control of contamination by addressing the identification and disposal of hazardous substances.	ARAR
General Remediation Activities	State Regulatory Requirement	Control of Noise Pollution *COMAR 26.02.03.02 COMAR 26 02.03.03*	This regulation applies to activities that produce regular or continuous sound that exceeds or may exceed established limits. It restricts noise to a level that protects the health, general welfare, and property of the people of the state. It also establishes an Environmental Noise Advisory Council and authorizes standards for ambient noise levels and equipment noise performance levels to be promulgated by the Department of Environment.	ARAR

Notes:
ARAR – Applicable or Relevant and Appropriate Requirement
COMAR – Code of Maryland Regulations

Table 2-1
Lead Detections in Soil
Architect of the Capitol, FGGM-74
Fort George G. Meade, Maryland

			Sample ID (depth ft)	AOCGP01 (1)	AOCGP01 (4)	AOCGP01 (7)	AOCGP01 (10)	AOCGP02 (1)	AOCGP02 (4)	AOCGP02 (7)	AOCGP02 (10)	AOCGP03 (1)	AOCGP03 (4)	AOCGP03 (7)	AOCGP03 (10)	AOCDUP01	AOCGP04 (1)	AOCGP04 (4)	AOCGP04 (7)	AOCGP04 (10)
			Location ID	AOCGP01	AOCGP01	AOCGP01	AOCGP01	AOCGP02	AOCGP02	AOCGP02	AOCGP02	AOCGP03	AOCGP03	AOCGP03	AOCGP03	AOCGP03	AOCGP04	AOCGP04	AOCGP04	AOCGP04
			Sampled Interval (depth ft)	1	4	7	10	1	4	7	10	1	4	7	10	10	1	4	7	10
			Sample Date	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)																	
Lead	mg/kg	418		3.6	4.9	**6800**	1.7 J	7.3	11	9.8	2.2	4	16	0.41 J	12	8.1	22	86	1.4	1.1

			Sample ID (depth ft)	AOCGP05 (10)	AOCDUP02	AOCGPO6 (1)	AOCGPO6 (4)	AOCGPO6 (7)	AOCGPO6 (10)	AOCGPO7 (1)	AOCGPO7 (4)	AOCGPO7 (7)	AOCGPO7 (10)	AOCGPO8 (1)	AOCGPO8 (4)	AOCGPO8 (7)	AOCGPO8 (10)	AOCGPO9 (1)	AOCGPO9 (4)	AOCGPO9 (7)
			Location ID	AOCGP05	AOCGP05	AOCGP06	AOCGP06	AOCGP06	AOCGP06	AOCGP07	AOCGP07	AOCGP07	AOCGP07	AOCGP08	AOCGP08	AOCGP08	AOCGP08	AOCGP09	AOCGP09	AOCGP09
			Sampled Interval (depth ft)	10	10	1	4	7	10	1	4	7	10	1	4	7	10	1	4	7
			Sample Date	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010
			Sample Type	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)																	
Lead	mg/kg	418		180	93	4.1	6.7	**5200**	4.1	3.2	6.6	0.30 J	1	45	100	0.86	1.4	97 J	38	14

			Sample ID (depth ft)	AOCGP10 (4)	AOCGP10 (7)	AOCGP10 (10)	AOCGP11 (1)	AOCGP11 (4)	AOCGP11 (7)	AOCGP11 (10)	AOCGP12 (1)	AOCGP12 (4)	AOCGP12 (7)	AOCGP12 (10)	AOCGP13 (1)	AOCGP13 (4)	AOCGP13 (7)	AOCGP13 (10)	AOCDUP04	AOCGP14 (1)
			Location ID	AOCGP10	AOCGP10	AOCGP10	AOCGP11	AOCGP11	AOCGP11	AOCGP11	AOCGP12	AOCGP12	AOCGP12	AOCGP12	AOCGP13	AOCGP13	AOCGP13	AOCGP13	AOCGP14	AOCGP14
			Sampled Interval (depth ft)	4	7	10	1	4	7	10	1	4	7	10	1	4	7	10	1	1
			Sample Date	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)																	
Lead	mg/kg	418		5.5	200 J	**5600 J**	80 J	6.0 J	8.5 J	0.54 J	2.0 J	9.4 J	1.7 J	0.22 J	89 J	14 J	11 J	85 J	7	77 J

			Sample ID (depth ft)	AOCGP15 (1)	AOCGP15 (4)	AOCGP15 (7)	AOCGP15 (10)	AOCGP16 (1)	AOCGP16 (4)	AOCGP16 (7)	AOCGP16 (10)	AOC DUP 4	AOC GP17 (1)	AOC GP17 (4)	AOC GP17 (10)	AOC GP17 (7)	AOC GP17 (14)	AOC GP18 (1)	AOC GP18 (4)	AOC GP18 (7)
			Location ID	AOCGP15	AOCGP15	AOCGP15	AOCGP15	AOCGP16	AOCGP16	AOCGP16	AOCGP16	AOCGP17	AOCGP17	AOCGP17	AOCGP17	AOCGP17	AOCGP17	AOCGP18	AOCGP18	AOCGP18
			Sampled Interval (depth ft)	1	4	7	10	1	4	7	10	1	1	4	10	7	14	1	4	7
			Sample Date	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011
			Sample Type	N	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)																	
Lead	mg/kg	418		22 J	9.8	9.6	0.58	23	11	5.5	0.58	< 1.8 UJ	93 J	26 J	2.5 J	2.9 J	< 1.8 UJ	150	27	< 0.85 U

			Sample ID (depth ft)	AOC GP19 (4)	AOC GP19 (7)	AOC GP19 (10)	AOC GP19 (14)	AOC GP20 (1)	AOC GP20 (4)	AOC GP20 (7)	AOC GP20 (10)	AOC GP20 (14)	AOC GP21 (1)	AOC GP21 (4)	AOC GP21 (7)	AOC GP21 (10)	AOC GP21 (14)	AOC DUP 3	AOC GP22 (1)	AOC GP22 (4)
			Location ID	AOCGP19	AOCGP19	AOCGP19	AOCGP19	AOCGP20	AOCGP20	AOCGP20	AOCGP20	AOCGP20	AOCGP21	AOCGP21	AOCGP21	AOCGP21	AOCGP21	AOCGP22	AOCGP22	AOCGP22
			Sampled Interval (depth ft)	4	7	10	14	1	4	7	10	14	1	4	7	10	14	1	1	4
			Sample Date	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)																	
Lead	mg/kg	418		1.9	< 0.70 U	< 0.85 U	< 0.69 U	130 J	16 J	10 J	200	< 0.52 U	3.2	4.6 J	310 J	**1500 J**	3.1 J	< 1.9 UJ	86	4.9

Notes:
[1]Lead preliminary remediation goals (PRGs) for Residential Soil (418 mg/kg) were dereived using USEPA Integrated Exposure and Uptake Biokinetic (IEUBK) Model (win 32 Version 1.1 Build 11) assuming Geometric Standard Deviation of 1.6 in baseline blood levels, and a 5% probability of exceeding the 10 micrograms per deciliter (ug/dL) blood lead threshold. Lead PRG for Industrial Soil obtained from the USEPA Regional Screening Level Table (June, 2011).

Sample ID - Location (Depth in Feet) i.e. AOCGP15 (1)
N - normal sample
FD - duplicate sample
RBC - Risk Based Concentration
mg/kg - milligrams per kilogram
J - estimated concentration
U - Indicates the analyte was analyzed for but not detected
na - not available
Results exceeding the Residential PRG for lead is shaded and bolded

Table 2-1
Lead Detections in Soil
Architect of the Capitol, FGGM-74
Fort George G. Meade, Maryland

			Sample ID (depth ft)	AOCGP05 (1)	AOCGP05 (4)	AOCGP05 (7)	AOC GP23 (1)	AOC GP23 (4)	AOC GP23 (7)	AOC GP23 (10)	AOC GP23 (14)	AOC GP24 (1)	AOC GP24 (4)	AOC GP24 (7)	AOC GP24 (10)	AOC GP24 (14)	AOC GP25 (1)	AOC GP25 (4)	AOC GP25 (7)	AOC GP25 (10)
			Location ID	AOCGP05	AOCGP05	AOCGP05	AOCGP23	AOCGP23	AOCGP23	AOCGP23	AOCGP23	AOCGP24	AOCGP24	AOCGP24	AOCGP24	AOCGP24	AOCGP25	AOCGP25	AOCGP25	AOCGP25
			Sampled Interval (depth ft)	1	4	7	1	4	7	10	14	1	4	7	10	14	1	4	7	10
			Sample Date	11/22/2010	11/22/2010	11/22/2010	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)																	
Lead	mg/kg	418		160	7.1	50	120	13	< 0.86 U	< 1.1 U	< 0.55 U	70 J	7.7 J	7.5 J	350 J	0.64 J	40 J	17 J	45 J	260 J

			Sample ID (depth ft)	AOCGPO9 (10)	AOCDUP03	AOCGP10 (1)	AOC GP26 (14)	AOC GP27 (1)	AOC GP27 (4)	AOC GP27 (7)	AOC GP27 (10)	AOC GP27 (14)	AOC GP28 (1)	AOC GP28 (4)	AOC GP28 (7)	AOC GP28 (10)	AOC GP28 (14)	AOC DUP 1	AOCGP29(1)	AOCGP29(4)
			Location ID	AOCGP09	AOCGP10	AOCGP10	AOCGP26	AOCGP27	AOCGP27	AOCGP27	AOCGP27	AOCGP27	AOCGP28	AOCGP28	AOCGP28	AOCGP28	AOCGP28	AOCGP28	AOCGP29	AOCGP29
			Sampled Interval (depth ft)	10	1	1	14	1	4	7	10	14	1	4	7	10	14	14	1	4
			Sample Date	11/22/2010	11/22/2010	11/22/2010	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/6/2011	6/6/2011
			Sample Type	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)																	
Lead	mg/kg	418		**3300**	200 J	6	< 0.55 UJ	82 J	20 J	250 J	**1200 J**	< 0.56 UJ	93 J	3.2 J	10 J	77 J	3.4 J	< 1.5 UJ	88 J	12 J

			Sample ID (depth ft)	AOCGP14 (4)	AOCGP14 (7)	AOCGP14 (10)	AOCGP30(10)	AOCGP30(14)	AOCGP31(14)	AOCGP31(10)	AOCGP31(7)	AOCGP31(4)	AOCGP31(1)	AOCGP32(14)	AOCGP33(14)	AOC-SB-18-5-6-(122204)	AOC-SB-19-5-6-(122204)	AOC-SB-20-6-7-(122204)	AOC-SB-21-7-8-(122204)	AOC-SB-22-6-7-(122304)
			Location ID	AOCGP14	AOCGP14	AOCGP14	AOCGP30	AOCGP30	AOCGP31	AOCGP31	AOCGP31	AOCGP31	AOCGP31	AOCGP32	AOCGP33	AOC-SB-18	AOC-SB-19	AOC-SB-20	AOC-SB-21	AOC-SB-22-6-7
			Sampled Interval (depth ft)	4	7	10	10	14	14	10	7	4	1	14	14	5-6	5-6	6-7	7-8	6-7
			Sample Date	11/22/2010	11/22/2010	11/22/2010	6/6/2011	6/6/2011	6/6/2011	6/6/2011	6/6/2011	6/6/2011	6/6/2011	6/6/2011	6/6/2011	12/22/2004	12/22/2004	12/22/2004	12/22/2004	12/23/2004
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)																	
Lead	mg/kg	418		5.6 J	45 J	6.3 J	8.1 J	0.34 J	1.7 J	180 J	3.7 J	10 J	36 J	1.9 J	3.0 J	4.4	1.9	0.58 B	1.5	1.2 B

			Sample ID (depth ft)	AOC GP18 (10)	AOC GP18 (14)	AOC GP19 (1)	AOC-SB-31-9-10-(122004)	OC-SB-31-DUP-9-10-(1220	AOC-SB-32-(122004)	AOC-SB-32-6-7-(122004)	AOC-SB-33-6-8-(122004)	AOC-SB-34-7-8-(122104)	AOC-SB-35-6-7-(122104)	AOC-SB-39-5-6-(121604)	AOC-SB-39-8-9(121604)	AOC-SS-18-(122204)	AOC-SS-19-(122204)	AOC-SS-20-(122204)	AOC-SS-21-DUP-(122204)	AOC-SS-21-(122204)
			Location ID	AOCGP18	AOCGP18	AOCGP19	AOC-SB-31	AOC-SB-31	AOC-SB-32	AOC-SB-32	AOC-SB-33	AOC-SB-34	AOC-SB-35	AOC-SB-39	AOC-SB-39	AOC-SS-18	AOC-SS-19	AOC-SS-20	AOC-SS-21	AOC-SS-21
			Sampled Interval (depth ft)	10	14	1	9-10	9-10	na	6-7	6-8	7-8	6-7	5-6	8-9	0-2	0-2	0-2	0-2	0-2
			Sample Date	6/7/2011	6/7/2011	6/7/2011	12/20/2004	12/20/2004	12/20/2004	12/20/2004	12/20/2004	12/21/2004	12/21/2004	12/16/2004	12/16/2004	12/22/2004	12/22/2004	12/22/2004	12/22/2004	12/22/2004
			Sample Type	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	FD	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)																	
Lead	mg/kg	418		< 0.92 U	< 1.0 U	4.7	1.9	2.2	28.7	1.8	3.9	< 0.49 U	< 0.39 U	3.4	1.8	6.3	2.7	6.2	7	8.7

			Sample ID (depth ft)	AOC GP22 (7)	AOC GP22 (10)	AOC GP22 (14)	AOC-SS-30-(122004)	AOC-SS-31-(122004)	AOC-SS-33-(121604)	AOC-SS-34-(122104)	AOC-SS-35-(122104)	AOC-SS-36-(122304)	AOC-SS-37-(122304)	AOC-SS-39-(121604)	AOC-SS-41-(122304)	AOC-SS-41-DUP-(122304)	AOC-SS-42-(122304)	DPT-10A-20000720	DPT-10B-20000720	DPT-11-A-20000607
			Location ID	AOCGP22	AOCGP22	AOCGP22	AOC-SS-30	AOC-SS-31	AOC-SS-33	AOC-SS-34	AOC-SS-35	AOC-SS-36	AOC-SS-37	AOC-SS-39	AOC-SS-41	AOC-SS-41	AOC-SS-42	DPT-10A	DPT-10B	DPT-11A
			Sampled Interval (depth ft)	7	10	14	0-2	0-2	0-2	0-2	0-2	0-2	0-2	0-2	0-2	0-2	0-2	na	9	na
			Sample Date	6/7/2011	6/7/2011	6/7/2011	12/20/2004	12/20/2004	12/16/2004	12/21/2004	12/21/2004	12/23/2004	12/23/2004	12/16/2004	12/23/2004	12/23/2004	12/23/2004	7/20/2000	7/20/2000	7/6/2000
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)																	
Lead	mg/kg	418		240	3.2	< 1.6 U	4.6	4.4	7.6	3	2.2	4.1	18.6	1.9	82.6	36.5	3.9	3.6	4.1	7.7

Notes:
[1]Lead preliminary remediation goals (PRGs) for Residential Soil (418 mg/kg) were dereived using USEPA Integrated Exposure and Uptake Biokinetic (IEUBK) Model (win 32 Version 1.1 Build 11) assuming Geometric Standard Deviation of 1.6 in baseline blood levels, and a 5% probability of exceeding the 10 micrograms per deciliter (ug/dL) blood lead threshold. Lead PRG for Industrial Soil obtained from the USEPA Regional Screening Level Table (June, 2011).

Sample ID - Location (Depth in Feet) i.e. AOCGP15 (1)
N - normal sample
FD - duplicate sample
RBC - Risk Based Concentration
mg/kg - milligrams per kilogram
J - estimated concentration
U - Indicates the analyte was analyzed for but not detected
na - not available
Results exceeding the Residential PRG for lead is shaded and bolded

Table 2-1
Lead Detections in Soil
Architect of the Capitol, FGGM-74
Fort George G. Meade, Maryland

			Sample ID (depth ft)	AOC GP25 (14)	AOC DUP 2	AOC GP26 (1)	AOC GP26 (4)	AOC GP26 (7)	AOC GP26 (10)	DPT-14B-20000720	DPT-15A-20000720	DPT-15B-20000720	DPT-16A-20000720	DPT-16B-20000720	DPT-17-A-20000607	DPT-17-B-20000607	DPT-1A-20000721	DPT-1B-20000721	DPT-3A-20000721	DPT-3B-20000721
			Location ID	AOCGP25	AOCGP25	AOCGP26	AOCGP26	AOCGP26	AOCGP26	DPT-14B	DPT-15A	DPT-15B	DPT-16A	DPT-16B	DPT-17A	DPT-17B	DPT-1A	DPT-1B	DPT-3A	DPT-3B
			Sampled Interval (depth ft)	14	14	1	4	7	10	na	na	na	na	na	na	na	na	na	na	na
			Sample Date	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	6/7/2011	7/20/2000	7/20/2000	7/20/2000	7/20/2000	7/20/2000	7/6/2000	7/6/2000	7/21/2000	7/21/2000	7/21/2000	7/21/2000
			Sample Type	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)																	
Lead	mg/kg	418		2.4 J	6.6 J	51 J	76 J	4.6 J	12 J	1.2	9.9	0.45 B	3.5	3.3	0.63	1.4	4.7	36	1.8	4

			Sample ID (depth ft)	AOCGP29(7)	AOCGP29(10)	AOCGP29(14)	AOCGP30(1)	AOCGP30(4)	AOCGP30(7)	DPT-8-B-20000607	DPT-9-A-20000607	DPT-9-B-20000607	NW-2A-20000721	NW-2B-20000721	NW-2C-20000721	NW-4A-20000720	NW-4B-20000720	NW-4C-20000720	RHB-LWR-20000719-SS	RHB-MID-20000719-SS
			Location ID	AOCGP29	AOCGP29	AOCGP29	AOCGP30	AOCGP30	AOCGP30	DPT-8B	DPT-9A	DPT-9B	NW-2A	NW-2B	NW-2C	NW-4A	NW-4B	NW-4C	RHB-LWR	RHB-MID
			Sampled Interval (depth ft)	7	10	14	1	4	7	na	na	na	na	na	na	na	na	na		na
			Sample Date	6/6/2011	6/6/2011	6/6/2011	6/6/2011	6/6/2011	6/6/2011	7/6/2000	7/6/2000	7/6/2000	7/21/2000	7/21/2000	7/21/2000	7/20/2000	7/20/2000	7/20/2000	7/19/2000	7/19/2000
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)																	
Lead	mg/kg	418		2.4 J	200 J	3.8 J	82 J	11 J	1.9 J	5.1	5.4	24	1.5	2.1	0.54 B	0.79	2	1.4	10	3.1

			Sample ID (depth ft)	AOC-SB-23-7-8-(122304)	AOC-SB-24-6-7-(122204)	AOC-SB-24-5-6-(122304)	AOC-SB-28-6-8-(122104)	AOC-SB-29-6-8-(122104)	AOC-SB-30-9-10-(122004)	SB02-DPT-02-20000803	SB02-DPT-11-20000803	SB02-DPT-15-20000803	SB02-DPTD-02-20000725	SB02-DPTD-11-20000803	SB02-LOC-02-20000721	SB02-LOC-02D-20000721	SB02-LOC-09-20000721	SB02-LOC-09D-20000721	SB03-DPT-02-20000727	SB03-DPT-11-20000727
			Location ID	AOC-SB-23-7-8	AOC-SB-24	AOC-SB-24-5-6	AOC-SB-28	AOC-SB-29	AOC-SB-30	SB02-DPT-02	SB02-DPT-11	SB02-DPT-15	SB02-DPTD-02	SB02-DPTD-11	SB02-LOC-02	SB02-LOC-02D	SB02-LOC-09	SB02-LOC-09D	SB03-DPT-02	SB03-DPT-11
			Sampled Interval (depth ft)	7-8	6-7	5-6	6-8	6-8	9-10	2	11	15	2	11	na	9	9	9	2	11
			Sample Date	12/23/2004	12/22/2004	12/23/2004	12/21/2004	12/21/2004	12/20/2004	8/3/2000	8/3/2000	8/3/2000	7/25/2000	8/3/2000	7/21/2000	7/21/2000	7/21/2000	7/21/2000	7/27/2000	7/27/2000
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)																	
Lead	mg/kg	418		0.8 B	0.91 B	< 1.3 U	26.7	**3350**	1.8	3.6	1.3	1	2.8	1.6	2.5	3	3.1	3	1.6	2.3

			Sample ID (depth ft)	AOC-SS-22-(122304)	AOC-SS-23-(122304)	AOC-SS-24-DUP-(122204)	AOC-SS-24-(122204)	AOC-SS-28-(122104)	AOC-SS-29-(122104)	SB05-DPT-09-20000728	SB05-DPT-18-20000728	SB05-HSA-02-20000727	SB05-HSA-11-20000727	SB05-HSA-19-20000727	SB06-HSA-02-20000727	SB06-HSA-11-20000727	SB06-HSA-20-20000727	SB07-DDT-02-20000801	SB07-DPT-09-20000801	SB07-DPT-17-20000801
			Location ID	AOC-SS-22	AOC-SS-23	AOC-SS-24	AOC-SS-24	AOC-SS-28	AOC-SS-29	SB05-DPT-09	SB05-DPT-18	SB05-HSA-02	SB05-HSA-11	SB05-HSA-19	SB06-HSA-02	SB06-HSA-11	SB06-HSA-20	SB07-DDT-02	SB07-DPT-09	SB07-DPT-17
			Sampled Interval (depth ft)	0-2	0-2	0-2	0-2	0-2	0-2	9	18	2	11	19	2	11	20	2	9	17
			Sample Date	12/23/2004	12/23/2004	12/22/2004	12/22/2004	12/21/2004	12/21/2004	7/28/2000	7/28/2000	7/27/2000	7/27/2000	7/27/2000	7/27/2000	7/27/2000	7/27/2000	8/1/2000	8/1/2000	8/1/2000
			Sample Type	N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)																	
Lead	mg/kg	418		31.9	7.2	4.1	4.5	7.8	118	2.9	0.77	6.8	1	0.26 B	2.8	2.4	0.49 B	4.4	0.58	0.62

			Sample ID (depth ft)	DPT-11-B-20000607	DPT-12A-20000720	DPT-12B-20000720	DPT-13A-20000720	DPT-13B-20000720	DPT-14A-20000720	SB08-HSA-20-20000728	SB08-HSAB-11-20000728	SB09-DPT-02-20000728	SB09-DPT-09-20000728	SB09-DPT-18-	SB10-DDT-02-20000731	SB10-DPT-09-20000731	SB10-DPTD-09-20000731	SB11-DPT-02-20000802	SB11-DPT-09-20000802	SB11-DPT-11-20000802
			Location ID	DPT-11B	DPT-12A	DPT-12B	DPT-13A	DPT-13B	DPT-14A	SB08-HSA-20	SB08-HSAB-11	SB09-DPT-02	SB09-DPT-09	SB09-DPT-18	SB10-DDT-02	SB10-DPT-09	SB10-DPTD-09	SB11-DPT-02	SB11-DPT-09	SB11-DPT-11
			Sampled Interval (depth ft)	9	na	9	na	9	na	20	11	2	9	18	2	9	9	2	9	11
			Sample Date	7/6/2000	7/20/2000	7/20/2000	7/20/2000	7/20/2000	7/20/2000	7/28/2000	7/28/2000	7/28/2000	7/28/2000	7/28/2000	7/31/2000	7/31/2000	7/31/2000	8/2/2000	8/2/2000	8/2/2000
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)																	
Lead	mg/kg	418		3	1.6	1.2	2.2	2.9	13	2.2	4	2.4	0.39 B	0.76	2.1	0.81	0.73	2.1	0.69	0.16 B

Notes:
[1]Lead preliminary remediation goals (PRGs) for Residential Soil (418 mg/kg) were dereived using USEPA Integrated Exposure and Uptake Biokinetic (IEUBK) Model (win 32 Version 1.1 Build 11) assuming Geometric Standard Deviation of 1.6 in baseline blood levels, and a 5% probability of exceeding the 10 micrograms per deciliter (ug/dL) blood lead threshold. Lead PRG for Industrial Soil obtained from the USEPA Regional Screening Level Table (June, 2011).

Sample ID - Location (Depth in Feet) i.e. AOCGP15 (1)
N - normal sample
FD - duplicate sample
RBC - Risk Based Concentration
mg/kg - milligrams per kilogram
J - estimated concentration
U - Indicates the analyte was analyzed for but not detected
na - not available
Results exceeding the Residential PRG for lead is shaded and bolded

Table 2-1
Lead Detections in Soil
Architect of the Capitol, FGGM-74
Fort George G. Meade, Maryland

			Sample ID (depth ft)	DPT-4A-20000721	DPT-4B-20000721	DPT-5-A-20000607	DPT-5-B-20000607	DPT-6-A-20000607	DPT-6-B-20000607	DPT-7-A-20000607	DPT-7-B-20000607	DPT-8-A-20000607	SS-2-20000607	SS-3-20000607	SS-4-20000607	SS-5-20000607	SS-6-20000607
			Location ID	DPT-4A	DPT-4B	DPT-5A	DPT-5B	DPT-6A	DPT-6B	DPT-7A	DPT-7B	DPT-8A	SS-2	SS-3	SS-4	SS-5	SS-6
			Sampled Interval (depth ft)	na	na	na	na	na	na	na	na	na	0-2	0-2	0-2	0-2	0-2
			Sample Date	7/21/2000	7/21/2000	7/6/2000	7/6/2000	7/6/2000	7/6/2000	7/6/2000	7/6/2000	7/6/2000	7/6/2000	7/6/2000	7/6/2000	7/6/2000	7/6/2000
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)														
Lead	mg/kg	418		4.7	0.6	0.39 B	1.4	5.7	1.8	5.3	1.9	55	4.1	3.4	6.6	2.5	13

			Sample ID (depth ft)	RHB-UPR-20000719-SS	SB01-DPT-02-20000724	SB01-DPT-09-20000724	SB01-DPT-18-20000725	SB01-DPTD-02-20000725	SB01-DPTD-18-20000725	SB01-HSA-02-20000725	SB01-HSA-11-20000725	SB01-HSA-23-20000725
			Location ID	RHB-UPR	SB01-DPT-02	SB01-DPT-09	SB01-DPT-18	SB01-DPTD-02	SB01-DPTD-18	SB01-HSA-02	SB01-HSA-11	SB01-HSA-23
			Sampled Interval (depth ft)	na	2	9	18	2	18	2	11	23
			Sample Date	7/19/2000	7/24/2000	7/24/2000	7/25/2000	7/25/2000	7/25/2000	7/25/2000	7/25/2000	7/25/2000
			Sample Type	N	N	N	N	N	N	N	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)									
Lead	mg/kg	418		9.8	5	6	11	9.4	10	1.7	5.7	2

			Sample ID (depth ft)	SB03-DPTD-11-20000727	SB03-HSA-02-20000731	SB03-HSA-11-20000731	SB03-HSA-41-20000731	SB04-DPT-02-20000804	SB04-DPT-11-20000804	SB04-DPT-19-20000804	SB04-DPTD-19-20000804	SB05-DPT-02-20000728
			Location ID	SB03-DPTD-11	SB03-HSA-02	SB03-HSA-11	SB03-HSA-41	SB04-DPT-02	SB04-DPT-11	SB04-DPT-19	SB04-DPTD-19	SB05-DPT-02
			Sampled Interval (depth ft)	11	2	11	41	2	11	19	19	2
			Sample Date	7/27/2000	7/31/2000	7/31/2000	7/31/2000	8/4/2000	8/4/2000	8/4/2000	8/4/2000	7/28/2000
			Sample Type	N	N	N	N	N	N	N	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)									
Lead	mg/kg	418		3.1	8	3.5	6	2.1	0.54	1.2	0.81	23

			Sample ID (depth ft)	SB07-HSA-02-20000724	SB07-HSA-09-20000724	SB07-HSA-25-20000725	SB07-HSAD-09-20000724	SB08-DPT-02-20000803	SB08-DPT-11-20000803	SB08-DPT-16-20000803	SB08-HSA-02-20000728	SB08-HSA-11-20000728
			Location ID	SB07-HSA-02	SB07-HSA-09	SB07-HSA-25	SB07-HSAD-09	SB08-DPT-02	SB08-DPT-11	SB08-DPT-16	SB08-HSA-02	SB08-HSA-11
			Sampled Interval (depth ft)	2	9	25	9	2	11	16	2	11
			Sample Date	7/24/2000	7/24/2000	7/25/2000	7/24/2000	8/3/2000	8/3/2000	8/3/2000	7/28/2000	7/28/2000
			Sample Type	N	N	N	N	N	N	N	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)									
Lead	mg/kg	418		85	2.7	1	3	3.6	0.26 B	1.3	1.7	5.2

			Sample ID (depth ft)	SB12-DPT-02-20000802	SB12-DPT-11-20000802	SB12-DPT-15-20000802	SB12-DPTD-11-20000802	SB13-DPT-02-20000802	SB13-DPT-18-20000802	SD01-LWRD-01-20000724	SS05-LOCD-01-20000724	SS-1-20000607
			Location ID	SB12-DPT-02	SB12-DPT-11	SB12-DPT-15	SB12-DPTD-11	SB13-DPT-02	SB13-DPT-18	SD01-LWRD-01	SS05-LOCD-01	SS-1
			Sampled Interval (depth ft)	2	11	15	11	2	18	1	0-2	0-2
			Sample Date	8/2/2000	8/2/2000	8/2/2000	8/2/2000	8/2/2000	8/2/2000	7/24/2000	7/24/2000	7/6/2000
			Sample Type	N	N	N	N	N	N	N	N	N
Constituent	Units	Residential PRG (mg/kg)[1]	Units (mg/kg)									
Lead	mg/kg	418		11	1.4	1.7	0.99	13	0.72	8.2	4.2	8.9

Notes:
[1]Lead preliminary remediation goals (PRGs) for Residential Soil (418 mg/kg) were dereived using USEPA Integrated Exposure and Uptake Biokinetic (IEUBK) Model (win 32 Version 1.1 Build 11) assuming Geometric Standard Deviation of 1.6 in baseline blood levels, and a 5% probability of exceeding the 10 micrograms per deciliter (ug/dL) blood lead threshold. Lead PRG for Industrial Soil obtained from the USEPA Regional Screening Level Table (June, 2011).

Sample ID - Location (Depth in Feet) i.e. AOCGP15 (1)
N - normal sample
FD - duplicate sample
RBC - Risk Based Concentration
mg/kg - milligrams per kilogram
J - estimated concentration
U - Indicates the analyte was analyzed for but not detected
na - not available
Results exceeding the Residential PRG for lead is shaded and bolded

Table 2-2
Risk Driving Inorganic Constituents of Concern - Analytical Data Summary for Groundwater
Architect of the Capitol, FGGM-74
Fort George G. Meade, Maryland

			Sample ID	AOC-GW-18-(122204)	AOC-GW-19-(122204)	AOC-GW-19-DUP-(122204)	AOC-GW-29-(122104)	AOC-GW-30-(122004)	AOC-GW-34-(122104)	AOC-GW-35-(122104)	AOC-GW-39-(121604)	AOC-GW-43-(122304)	NW10-GW-01-20050125	AOC-SG-19-(122204)	EW03-LOC-20000828	EW2-GW-01-(011205)	EW3-GW-01-(011205)	GW01-DPT-20000725
			Location ID	AOC-GW-18	AOC-GW-19	AOC-GW-19	AOC-GW-29	AOC-GW-30	AOC-GW-34	AOC-GW-35	AOC-GW-39	AOC-GW-43	AOC-NW-10	AOC-SG-19	EW03-LOC	EW2-GW-01	EW3-GW-01	GW01-DPT
			Sample Date	12/22/2004	12/22/2004	12/22/2004	12/21/2004	12/20/2004	12/21/2004	12/21/2004	12/16/2004	12/23/2004	1/17/2005	12/22/2004	8/28/2000	1/12/2005	1/12/2005	7/25/2000
			Sample Type	N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N
Constituent (ug/L)	Screening Levels [1]	USEPA region III MCLs	Units	fraction														
Aluminum	3700	NS	ug/l	T	1090	**6030**	2470	**11100 J**	1280	**7570 J**	**4070 J**	**22300**	**23100**	**12800 J**	--	--	39.9	2560	--
Arsenic	0.045	10	ug/l	D	< 0.12 UJ	--	**25.2**	< 0.15 U	< 0.12 UJ	< 0.27 U	< 0.29 U	**3.9 J**	< 0.12 UJ	< 5 UJ	**25.5**	< 2.6 U	< 1.1 U	< 0.12 UJ	**3.8 B**
Arsenic	0.045	10	ug/l	T	< 0.12 UJ	**24.6**	**20**	**6.9**	**1.7 J**	**19**	**48.2**	**17.9 J**	**0.59 J**	**23.7**	--	--	< 1.1 U	**3.1 B**	--
Chromium	0.043	100	ug/l	D	< 0.72 U	--	< 0.064 U	< 0.064 UJ	< 0.064 U	< 0.52 U	< 0.64 U	< 0.14 U	< 0.7 UJ	< 2 UJ	< 0.064 U	< 0.6 U	**5.4**	**3.9**	< 0.6 U
Chromium	0.043	100	ug/l	T	< 0.75 U	**18.3**	**8**	**23.6**	< 5.3 U	**56.4**	**85.5**	**104**	**29.3 J**	**98.3 J**	--	--	**5.1**	**23.9**	--
Cobalt	1.1	NS	ug/l	D	**9.2**	--	< 0.029 U	**2.7**	**15.3**	**4.7**	**5**	**3.4**	**2.4 J**	**4.1**	< 0.035 U	**6.7 B**	0.59 B	**3.3**	**26**
Cobalt	1.1	NS	ug/l	T	**9.6**	**1.4**	0.63 B	**7.1**	**20.6**	**5.9**	**6.3**	**53.3**	**6.3 J**	**5.9**	--	--	< 0.48 U	**3.6**	--
Iron	2600	NS	ug/l	T	504 J	**74600 J**	**68200 J**	**15600**	**6560**	**21800**	**51500**	**144000**	**9260 J**	**54300**	--	--	1930	**3040**	--

			Sample ID	GW01-LOC-20000825	GW01-LOCD-20000825	GW02-DPT-20000804	GW02-LOC-20000824	GW04-LOC-20000825	GW05-LOC-20000828	GW06-LOC-20000824	GW07-LOC-20000824	GW08-LOC-20000825	GW09-DPT-20000731	GW09-LOC-20010404	GW09-LOCD-20010404	GW10-LOC-20010504	GW11-LOC-20010504	GW12-LOC-20010404
			Location ID	GW01-LOC	GW01-LOCD	GW02-DPT	GW02-LOC	GW04-LOC	GW05-LOC	GW06-LOC	GW07-LOC	GW08-LOC	GW09-DPT	GW09-LOC	GW09-LOCD	GW10-LOC	GW11-LOC	GW12-LOC
			Sample Date	8/25/2000	8/25/2000	8/4/2000	8/24/2000	8/25/2000	8/28/2000	8/24/2000	8/24/2000	8/25/2000	7/31/2000	4/4/2001	4/4/2001	4/5/2001	4/5/2001	4/4/2001
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Constituent (ug/L)	Screening Levels [1]	USEPA region III MCLs	Units	fraction														
Aluminum	3700	NS	ug/l	T	--	--	--	--	--	--	--	--	--	3600	3500	210	220	1200
Arsenic	0.045	10	ug/l	D	**7.1 B**	**6.5 B**	**11**	< 2.6 U	< 2.6 U	< 2.6 U	< 2.6 U	**6.1 B**	< 2.9 U	< 3 U	< 3 U	< 3 U	< 3 U	< 3 U
Arsenic	0.045	10	ug/l	T	--	--	--	--	--	--	--	--	--	< 3 U	< 3 U	< 3 U	< 3 U	< 3 U
Chromium	0.043	100	ug/l	D	**1.4 B**	**2.3 B**	< 0.6 U	**1.5 B**	**2 B**	< 0.6 U	< 0.6 U	< 0.6 U	**2 B**	< 0.6 U	**8.9 B**	**4 B**	**0.96 B**	**1.3 B**	**2.6 B**
Chromium	0.043	100	ug/l	T	--	--	--	--	--	--	--	--	--	--	**18**	**12**	**6.6 B**	**9.4 B**	**21**
Cobalt	1.1	NS	ug/l	D	**3.8 B**	**7.6 B**	**1.9 B**	**8.8 B**	**12**	**7 B**	**5.5 B**	**7.7 B**	**3.3 B**	**2.1 B**	**37**	**22**	**6.5 B**	**5.2 B**	**18**
Cobalt	1.1	NS	ug/l	T	--	--	--	--	--	--	--	--	--	--	**29**	**27**	**8.7 B**	**9.7 B**	**27**
Iron	2600	NS	ug/l	T	--	--	--	--	--	--	--	--	--	430 N	380 N	250 N	290 N	820 N

			Sample ID	NW11-GW-01-20050121	NW-12-(011205)	NW13-GW-01-20050117	NW13-GW-01-20050125	NW-14-(011205)	NW1-GW-01-20050125	NW2-GW-01-20050125	NW2-GW-01-DUP-20050125	NW4-GW-01-20050117	NW4-GW-01-20050125	NW5-GW-01-20050121	NW6-GW-01-20050121	NW7-GW-01-20050121	NW8-GW-01-20050121	NW9-GW-01-20050113
			Location ID	NW11-GW-01	NW-12	NW13-GW-01	NW13-GW-01	NW-14	NW1-GW-01	NW2-GW-01	NW2-GW-01-DUP	NW4-GW-01	NW4-GW-01	NW5-GW-01	NW6-GW-01	NW7-GW-01	NW8-GW-01	NW9-GW-01
			Sample Date	1/13/2005	1/12/2005	1/17/2005	1/17/2005	1/12/2005	1/17/2005	1/17/2005	1/17/2005	1/17/2005	1/17/2005	1/13/2005	1/13/2005	1/13/2005	1/13/2005	1/13/2005
			Sample Type	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N
Constituent (ug/L)	Screening Levels [1]	USEPA region III MCLs	Units	fraction														
Aluminum	3700	NS	ug/l	T	**6290 J**	561	3680 J	--	2960	< 100 J	**25400 J**	**21400 J**	**12000 J**	--	**37200 J**	**21500 J**	**5320 J**	**6560 J**	**5020 J**
Arsenic	0.045	10	ug/l	D	< 5 UJ	< 0.12 UJ	--	< 5 UJ	< 0.3 U	< 5	< 5 UJ	< 5 UJ	--	< 5 UJ	**4.2 B**	**1.9 J**	**4.5 B**	**11.4**	--
Arsenic	0.045	10	ug/l	T	**2.8 J**	< 0.28 U	--	**9.7**	< 0.21 U	< 5	**63.2**	**49.1**	--	**14.7**	**23.9**	**24.8**	**7**	**18.1**	--
Chromium	0.043	100	ug/l	D	< 2 U	< 1.4 U	--	< 2 UJ	**3.7**	**1.2 UJ**	**0.064 UE**	**0.41 UJ**	--	**1.5 UJ**	**25.3**	**8.3**	**51.3**	**3.5**	--
Chromium	0.043	100	ug/l	T	**24.4**	**42.2**	--	**27.2 J**	**8.5**	< 2 J	**76.5 J**	**54.8 J**	--	**162 J**	**118**	**75.6**	**235**	**38.2**	--
Cobalt	1.1	NS	ug/l	D	0.84 J	**7**	--	**8.1**	**127**	0.61 B	**2**	**2.5**	--	**10.1**	**3.9 J**	**2 J**	**4.4 J**	0.76 J	--
Cobalt	1.1	NS	ug/l	T	0.96 J	**7.1**	--	**8.5**	**127**	0.92 B	**7.1**	**5.8**	--	**16.7**	**6.6 J**	**8.8 J**	**8.7 J**	**2 J**	--
Iron	2600	NS	ug/l	T	**9260**	480	--	**13600**	518	< 50	**173000**	**129000**	--	**13900**	**105000**	**70200**	**13200**	**24000**	--

			Sample ID	NW9-GW-01-20050121	NW9-GW-01DUP -20050121	NW9-GW-01DUP-20050121
			Location ID	NW9-GW-01	NW9-GW-01	NW9-GW-01
			Sample Date	1/13/2005	1/13/2005	1/13/2005
			Sample Type	N	FD	FD
Constituent (ug/L)	Screening Levels [1]	USEPA region III MCLs	Units	fraction			
Aluminum	3700	NS	ug/l	T	--	--	**3750 J**
Arsenic	0.045	10	ug/l	D	< 5 UJ	< 5 UJ	--
Arsenic	0.045	10	ug/l	T	**9.6**	--	**5.5**
Chromium	0.043	100	ug/l	D	< 2 U	< 2 U	--
Chromium	0.043	100	ug/l	T	**15.4**	--	**9.9**
Cobalt	1.1	NS	ug/l	D	**1.7 J**	**1.7 J**	--
Cobalt	1.1	NS	ug/l	T	**2.2 J**	--	**1.9 J**
Iron	2600	NS	ug/l	T	**8650**	--	**4930**

Notes:
[1] USEPA Regional Screening Levels (RSLs) for Tap water (USEPA, 2011, May) used as Screening Criteria. RSLs based on noncancer endpoints ("n") were adjusted downward to reflect an Hazard Quotient limit of 0.1 for use as Screening Criteria for all compounds.
D - dissolved
T - total
ug/l - micrograms per liter
J - estimated concentration
U - Indicates the analyte was analyzed for but not detected
N - normal sample
FD - duplicate sample
Cells exceeding the USEPA RSLs for Tap Water are bolded
Cells exceeding the United States Environmental Protection Agency Maximum Contaminant Levels standard are shaded and boldfaced

Table 2-3
Site Cleanup Levels for Soil
Architect of the Capitol, FGGM-74
Fort George G. Meade, Maryland

Compounds of Concern	PRG Hypothetical Future Resident
Lead	418 mg/kg

Notes:

mg/kg – milligrams per kilogram

PRG – Preliminary Remediation Goal

Table 2-4
Comparative Analysis of Remedial Alternatives for Soil
Architect of the Capitol, FGGM-74
Fort George G. Meade, Maryland

Criteria	Alternative SL-1 No Action	Alternative SL-2 Land Use Controls	Alternative SL-3 Hot Spot Soil Excavation with Off-Site Disposal
Overall Protection of Human Health and the Environment	There is no unacceptable risk to human health under current use land-use, but potential future use scenarios show unacceptable risk. There is no unacceptable risk to ecological receptors if no action is taken.	Provides protection to human health through the use of institutional or land use controls to prevent site constituents in soil from reaching human populations. There is no unacceptable risk to ecological receptors under this alternative.	Provides protection to human health by permanently removing constituents in soil presenting risk under reasonably anticipated future land use. There is no unacceptable risk to ecological receptors under this alternative.
Compliance with ARARs	Would not be incompliance with chemical-specific ARARs because constituents would remain in soil. Action-specific ARARs would not apply to this alternative.	Alternative SL-2 would be implemented in compliance with action-specific ARARs. There are no chemical- or location-specific ARARs.	This alternative would be implemented in compliance with action-specific ARARs. There are no chemical-or location-specific ARARs.
Long-Term Effectiveness and Permanence	Magnitude of the residual risk would remain unchanged and the adequacy and reliability of this alternative would be poor.	Land use controls would be effective in the long-term. The permanence would require that the land use controls be maintained.	Effective in the long-term because constituents in soil exceeding PRGs would be excavated and permanently removed.
Reduction of Toxicity, Mobility, and Volume through Treatment	No reduction of toxicity, mobility or volume under this alternative.	No reduction of toxicity, mobility or volume through treatment is applicable under this alternative.	There would be a reduction of toxicity, mobility, and volume through removal of constituents in soil.
Short-Term Effectiveness	There is no risk posed under current land- use, however, there is no risk reduction applicable under potential future land-use scenarios.	This alternative is effective in the short-term considering that there is no risk under current use scenarios.	Marginal short-term risks to the community and construction workers are present when soils are excavated and transported to an off-site facility for disposal. However, the potential for exposure during excavation would be reduced through the use of suitable protective clothing and equipment, good construction practices, and standard dust suppression techniques.
Implementability	Readily implemented.	Readily implemented.	Low complexity for implementation to engineer and complete the excavation
Cost	Low cost because of no capital or overhead costs.	Low to moderate cost associated with maintaining the land use controls (Total Present Worth Cost - $82,186).	Moderate capital cost and low O&M cost (Total Present Worth Cost - $70,959)

Notes:
ARAR – Applicable or Relevant and Appropriate Requirement
O&M – Operations and Maintenance

FIGURES

Legend:

- FGGM-74 Boundary
- Installation Boundary

0 1,500 3,000 Feet

GRAPHIC SCALE

Notes:

1. Copyright:© 2013 Esri, DeLorme, NAVTEQ, TomTom
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

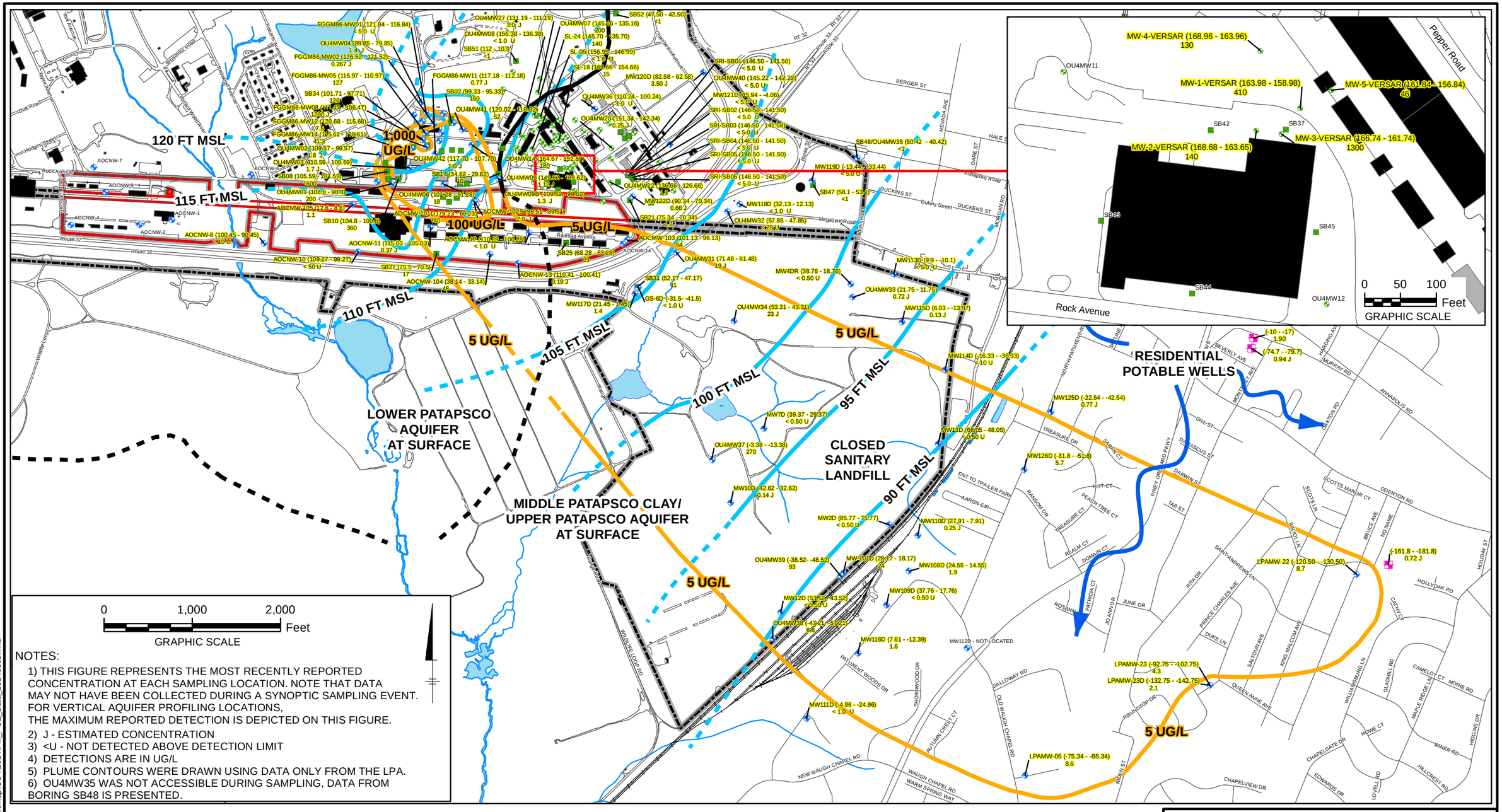
FGGM-74 ARCHITECT OF THE CAPITOL
FORT GEORGE G. MEADE, MARYLAND

FGGM-74 Location

ARCADIS

FIGURE
1-1

CITY: MPLS DIV/GROUP: IM DB: MG LD: KS
FORT MEADE
Path: Z:\GISPROJECTS_ENV\Fort_Meade\ArcMap\AOC\2014-09\AOC_Location_20140917.mxd



NOTES:

1) THIS FIGURE REPRESENTS THE MOST RECENTLY REPORTED CONCENTRATION AT EACH SAMPLING LOCATION. NOTE THAT DATA MAY NOT HAVE BEEN COLLECTED DURING A SYNOPTIC SAMPLING EVENT. FOR VERTICAL AQUIFER PROFILING LOCATIONS, THE MAXIMUM REPORTED DETECTION IS DEPICTED ON THIS FIGURE.
2) J - ESTIMATED CONCENTRATION
3) <U - NOT DETECTED ABOVE DETECTION LIMIT
4) DETECTIONS ARE IN UG/L
5) PLUME CONTOURS WERE DRAWN USING DATA ONLY FROM THE LPA.
6) OU4MW35 WAS NOT ACCESSIBLE DURING SAMPLING, DATA FROM BORING SB48 IS PRESENTED.

LEGEND:

- MIDDLE PATAPSCO AQUIFER WELL (163.98 - 158.98) MONITORING WELL SCREEN INTERVAL (FEET MEAN SEA LEVEL) 41.3 - PCE DETECTION
- LOWER PATAPSCO AQUIFER WELL (21.45 - 1.45) MONITORING WELL SCREEN INTERVAL (FEET MEAN SEA LEVEL) 2400 - PCE DETECTION
- BORING LOCATION (42.62 - 32.62) VERTICAL INTERVAL FROM WHICH DATA WERE COLLECTED (FEET MEAN SEA LEVEL)
- RESIDENTIAL WELL
- ROADS
- RAILROAD
- DEMOLISHED STRUCTURES
- EXISTING STRUCTURES
- STREAM
- SURFACE WATER
- AOC PROPERTY BOUNDARY
- INSTALLATION BOUNDARY
- MID-PATAPSCO CLAY CONTACT DASHED WHERE INFERRED
- LPA PCE CONTOUR (UG/L)
- LPA GROUNDWATER ELEVATION CONTOUR DASHED WHERE INFERRED
- WATER LEVEL CONTOUR DATA COLLECTED 2/2013

OPERABLE UNIT 4
FORT MEADE, MARYLAND

OPERABLE UNIT 4
LOWER PATAPSCO AQUIFER STUDY AREA
PCE DETECTIONS IN THE MIDDLE AND LOWER PATAPSCO AQUIFER

ARCADIS

FIGURE
2-1

CITY: MPLS DIV/GROUP: IM DB: MG LD: KS
FORT MEADE
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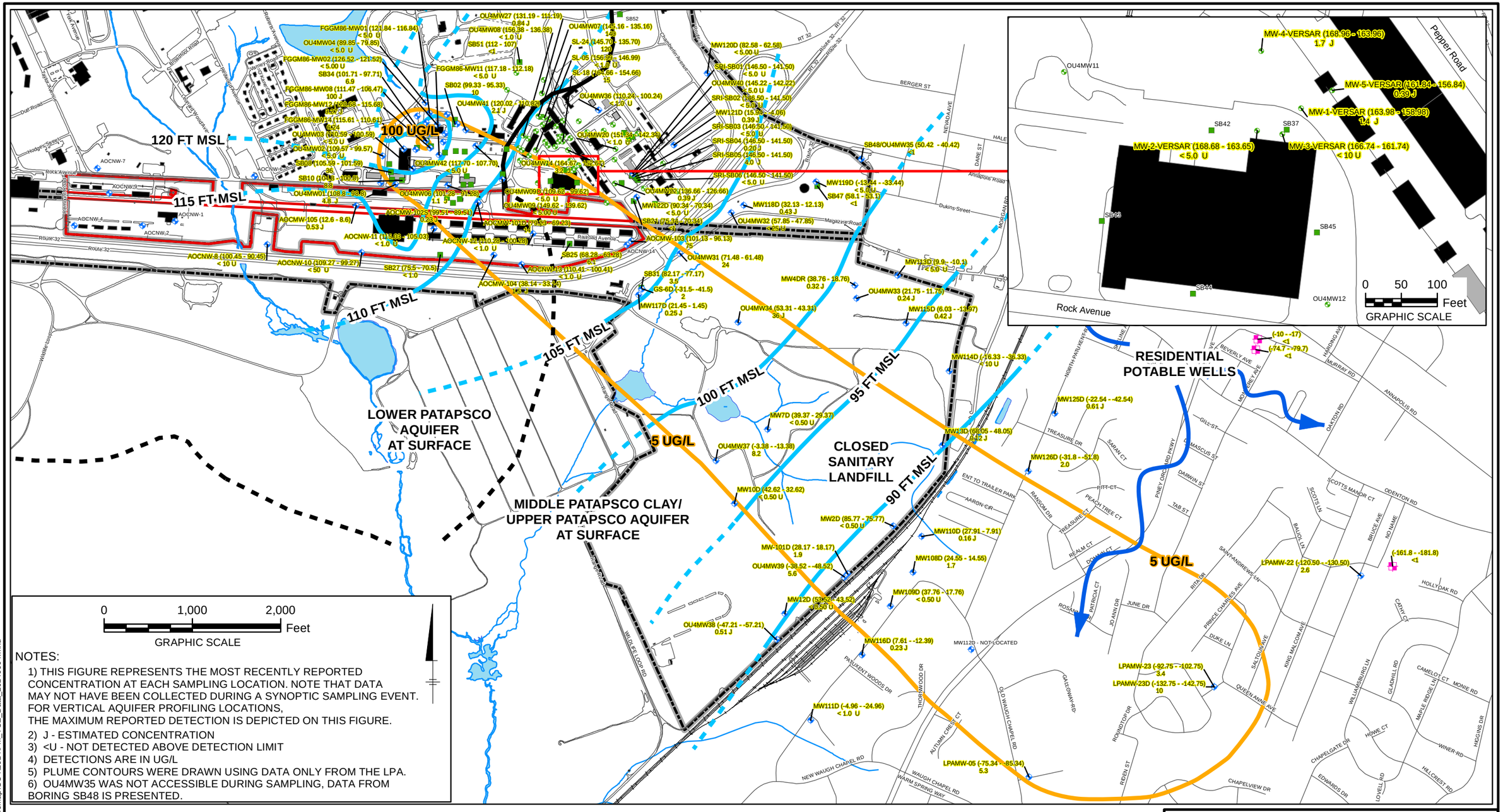

NOTES:

1) THIS FIGURE REPRESENTS THE MOST RECENTLY REPORTED CONCENTRATION AT EACH SAMPLING LOCATION. NOTE THAT DATA MAY NOT HAVE BEEN COLLECTED DURING A SYNOPTIC SAMPLING EVENT. FOR VERTICAL AQUIFER PROFILING LOCATIONS, THE MAXIMUM REPORTED DETECTION IS DEPICTED ON THIS FIGURE.
2) J - ESTIMATED CONCENTRATION
3) <U - NOT DETECTED ABOVE DETECTION LIMIT
4) DETECTIONS ARE IN UG/L
5) PLUME CONTOURS WERE DRAWN USING DATA ONLY FROM THE LPA.
6) OU4MW35 WAS NOT ACCESSIBLE DURING SAMPLING, DATA FROM BORING SB48 IS PRESENTED.

LEGEND:

- MIDDLE PATAPSCO AQUIFER WELL (163.98 - 158.98) MONITORING WELL SCREEN INTERVAL (FEET MEAN SEA LEVEL) 41.3 - TCE DETECTION
- LOWER PATAPSCO AQUIFER WELL (21.45 - 1.45) MONITORING WELL SCREEN INTERVAL (FEET MEAN SEA LEVEL) 2400 - TCE DETECTION
- BORING LOCATION (42.62 - 32.62) VERTICAL INTERVAL FROM WHICH DATA WERE COLLECTED (FEET MEAN SEA LEVEL)
- RESIDENTIAL WELL
- ROADS
- RAILROAD
- DEMOLISHED STRUCTURES
- EXISTING STRUCTURES
- STREAM
- SURFACE WATER
- AOC PROPERTY BOUNDARY
- INSTALLATION BOUNDARY
- MID-PATAPSCO CLAY CONTACT DASHED WHERE INFERRED
- LPA TCE CONTOUR (UG/L)
- LPA GROUNDWATER ELEVATION CONTOUR DASHED WHERE INFERRED
- WATER LEVEL CONTOUR DATA COLLECTED 2/2013

OPERABLE UNIT 4
FORT MEADE, MARYLAND

OPERABLE UNIT 4
LOWER PATAPSCO AQUIFER STUDY AREA
TCE DETECTIONS IN THE MIDDLE AND LOWER PATAPSCO AQUIFER

ARCADIS

FIGURE
2-2

CITY: MPLS DIV/GROUP: IM DB: MG LD: KS
FORT MEADE
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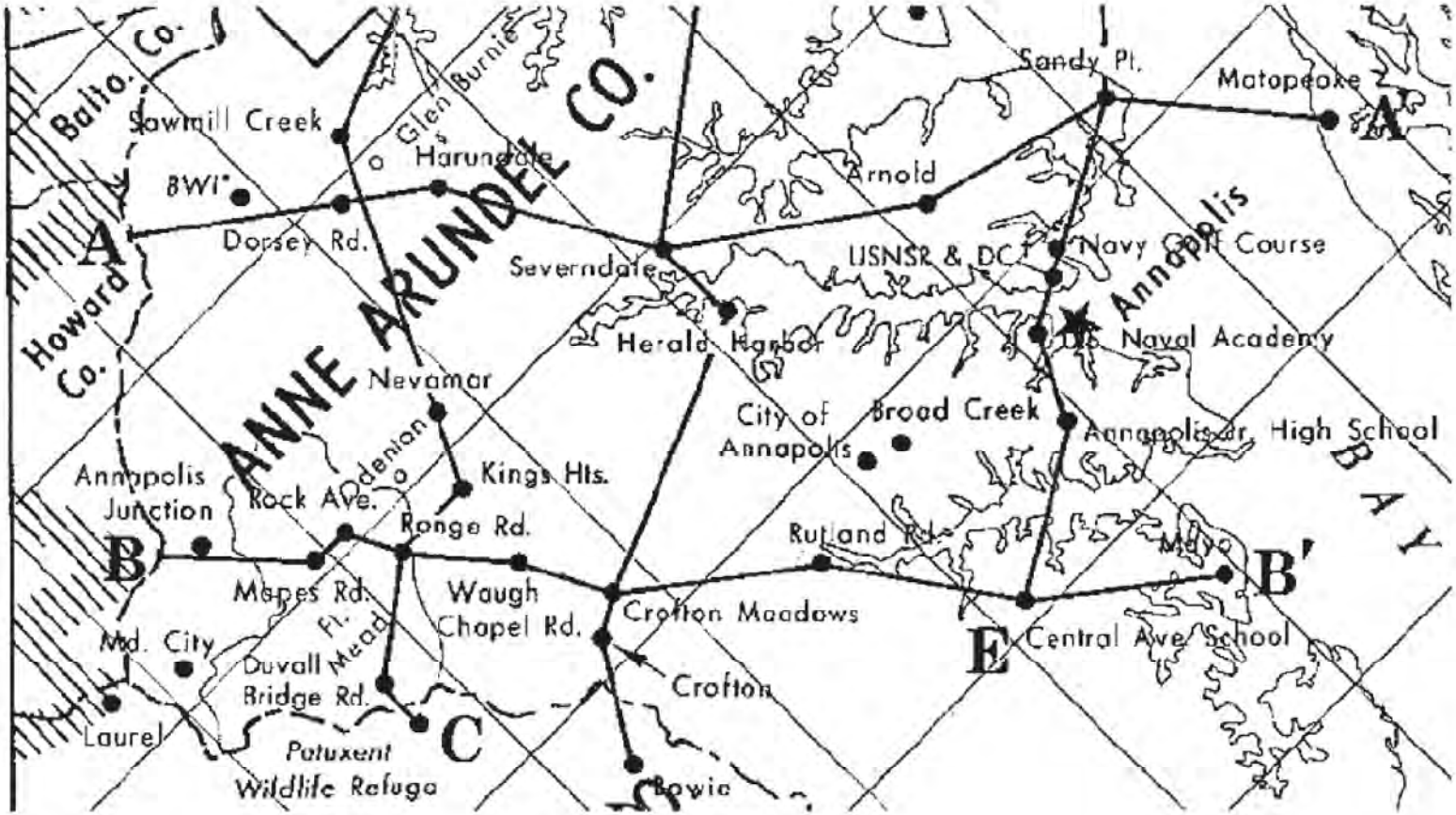

Source: Mack and Achmad (1986)

OPERABLE UNIT 4
FORT MEADE, MARYLAND

Location of Geologic Section B - B'

ARCADIS

FIGURE
2-3

CITY: MPLS DIV/GROUP: IM DB: MG LD: RK
FORT MEADE
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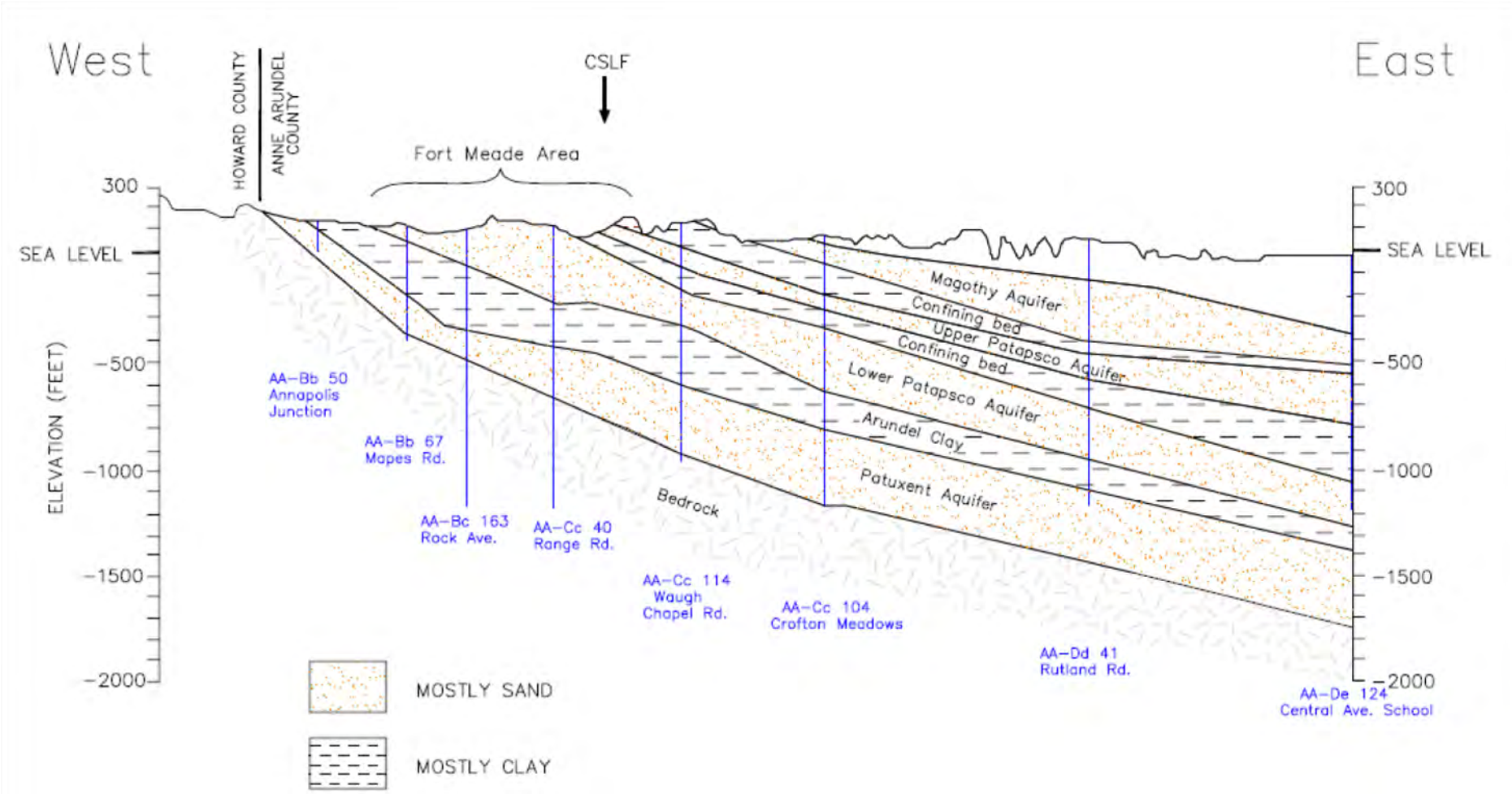

Source: Mack and Achmad (1986)

FGGM-74 ARCHITECT OF THE CAPITOL
FORT GEORGE G. MEADE, MARYLAND

Hydrogeologic Section B-B'

ARCADIS

FIGURE
2-4

CITY: MPLS DIV/GROUP: IM DB: MG LD: RK
FORT MEADE
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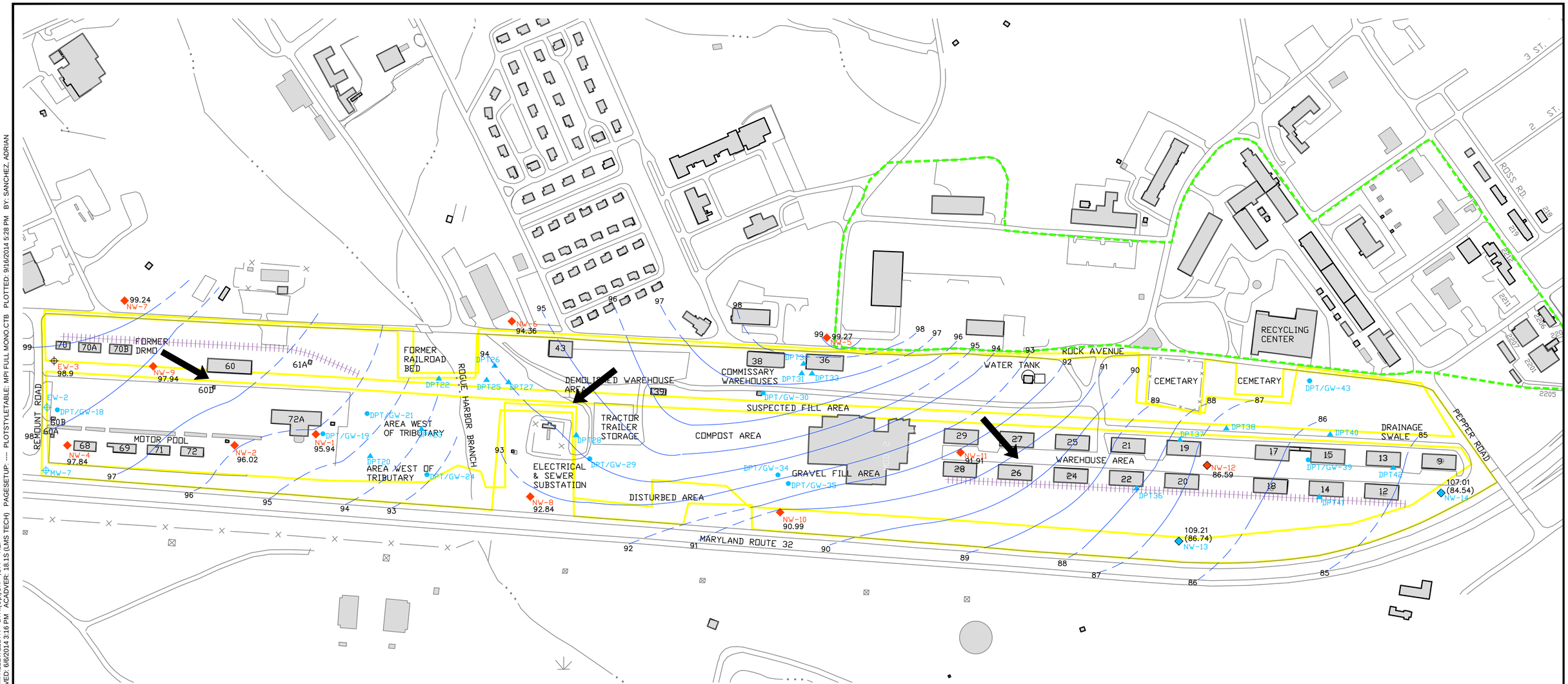

N

100' 0' 200'

LEGEND

- RI PROJECT AREA
- DEMOLISHED BUILDINGS
- EXISTING BUILDINGS
- STREAM
- FENCE
- RAILROAD TRACKS
- AOC BOUNDARY
- OPERABLE UNIT 4
- NEW FLUSH MOUNTED WELL (NW)
- DPT SOILS & GROUNDWATER – NOT SAMPLED (DPT/GW)
- DPT SOIL & GROUNDWATER SAMPLING LOCATION (DPT/GW)
- DPT SOIL SAMPLING LOCATION (DPT)
- 91.91 GROUNDWATER ELEVATION (FT ABOVE MSL)
- 90 GROUNDWATER ELEVATION CONTOUR (FT ABOVE MSL) (DASHED WHERE INFERRED)

NOTES:

1. GROUNDWATER ELEVATIONS SHOWN IN BRACKETS REPRESENT CORRECTED ELEVATIONS REVISED TO CORRELATE WITH ORIGINAL SITE MONITORING WELL SURVEY DATA.
2. ➡ = APPROXIMATE DIRECTION OF GROUNDWATER FLOW
3. DUE TO THE LACK OF SURFACE WATER ELEVATION DATA FOR ROGUE HARBOR BRANCH, GROUNDWATER ELEVATION CONTOURS BETWEEN NW–1 AND ROGUE HARBOR BRANCH ARE SHOWN AS INFERRED (DASHED) CONTOUR LINES.

FGGM-74 ARCHITECT OF THE CAPITOL
FORT GEORGE G. MEADE, MARYLAND

GROUNDWATER POTENTIOMETRIC SURFACE MAP - JULY 2006

ARCADIS

FIGURE
2-5

CITY:SYR DIV/GROUP:ENVCAD DB:AS LD:(Opt) PIC:T.E. TALELE PM:T. LLEWELLYN TM:T.LLEWELLYN LYR:(Opt)ON=*;OFF=*REF*
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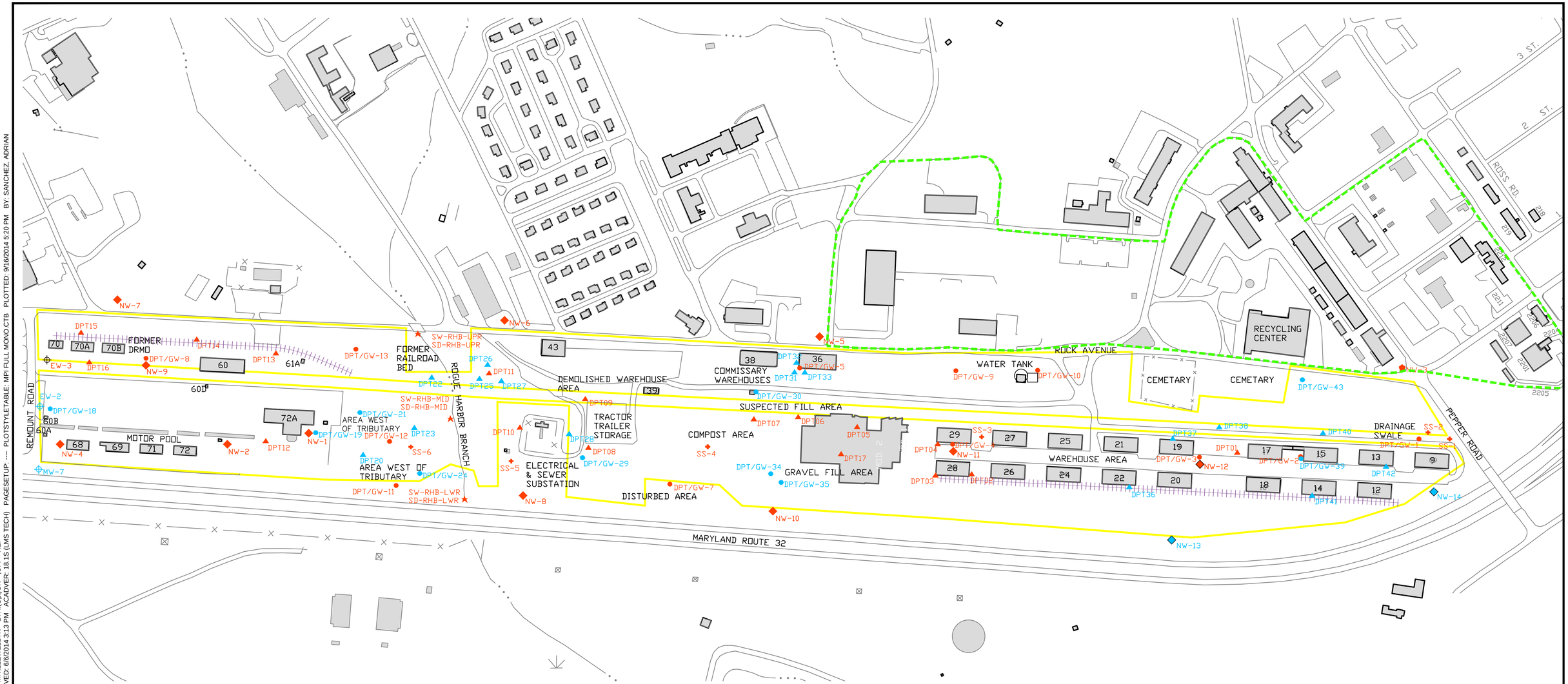

LEGEND

2000/2001 SAMPLING EVENT

- NEW FLUSH MOUNTED WELL (NW)
- DPT SOIL & GROUNDWATER – SAMPLED (DPT/GW)
- DPT SOIL (DPT)
- EXISTING WELL – SAMPLED (EW)
- SURFACE SOIL (SS)
- SURFACE WATER & SEDIMENT (SW/SD)
- HSA SOIL
- DPT SOILS & GROUNDWATER – NOT SAMPLED (DPT/GW)

2004/2005 SAMPLING EVENT

- GROUNDWATER MONITORING WELL LOCATION (NW)
- DPT SOIL & GROUNDWATER SAMPLING LOCATION (DPT/GW)
- DPT SOIL SAMPLING LOCATION (DPT)
- EXISTING WELL (EW)
- DPT GROUNDWATER SAMPLING LOCATION (DPT/GW)

OTHER

- RI PROJECT AREA
- DEMOLISHED BUILDINGS
- EXISTING BUILDINGS
- STREAM
- FENCE
- RAILROAD TRACKS
- AOC BOUNDARY
- OPERABLE UNIT 4

N

100' 0' 200'

FGGM-74 ARCHITECT OF THE CAPITOL
FORT GEORGE G. MEADE, MARYLAND

SAMPLING LOCATIONS - REMEDIAL INVESTIGATION

ARCADIS

FIGURE
2-6

CITY:SYR DIV/GROUP:ENVCAD DB:AS LD:(Opt) PIC:T.E.TALELE PM:T. LLEWELLYN TM:T.LLEWELLYN LYR:(Opt)ON=*;OFF=*REF* PAGESETUP: ---- PLOTSTYLETABLE: MPI FULL MONO.CTB PLOTTED: 9/16/2014 5:20 PM BY: SANCHEZ, ADRIAN
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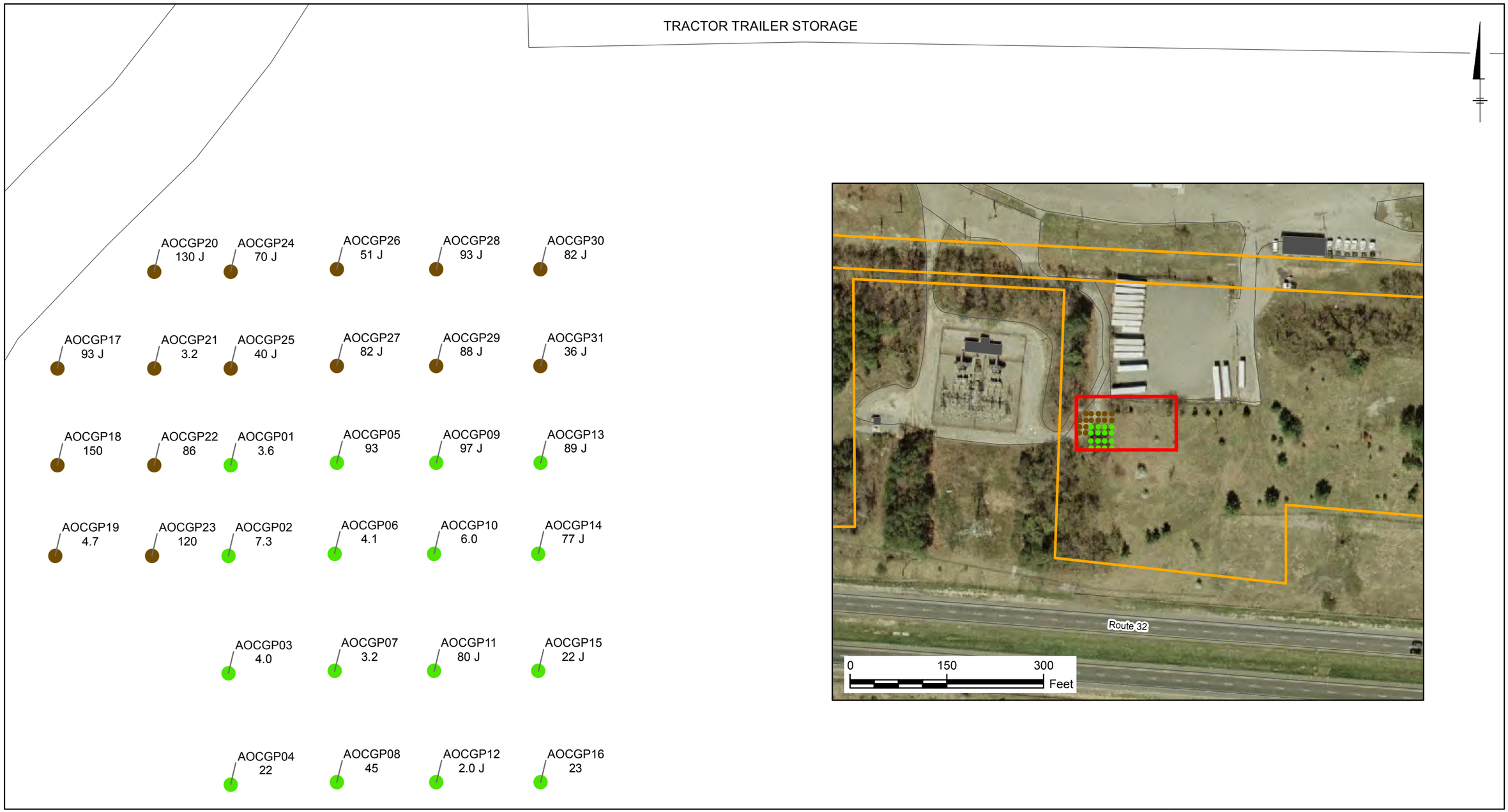

LEGEND:

- SOIL BORING LOCATION - ROUND 1
- SOIL BORING LOCATION - ROUND 2
- DETECTION ABOVE CRITERIA
- ARCHITECT OF THE CAPITOL (AOC) BOUNDARY (APPROXIMATE)

0 10 20 Feet
GRAPHIC SCALE

NOTES:

1. THE COMPARISON CRITERIA USED DURING THE LEAD INVESTIGATION WAS 400 MILLIGRAMS PER KILOGRAM (RESIDENTIAL VALUE)
2. LABORATORY ANALYSIS FOR LEAD CONDUCTED USING UNITED STATES ENVIRONMENTAL PROTECTION AGENCY METHOD 6010C
3. LEAD RESULTS REPORTED IN MILLIGRAMS PER KILOGRAM (MG/KG)
4. J = ESTIMATED CONCENTRATION
5. U = NON-DETECT
6. AOCGP01 - SAMPLE LOCATION IDENTIFICATION
7. 1.7 J - DETECTION CONCENTRATION

FGGM-74 ARCHITECT OF THE CAPITOL
FORT GEORGE G. MEADE, MARYLAND

LEAD RESULTS IN SOIL
1 FOOT BELOW GROUND SURFACE

ARCADIS

FIGURE
2-7

CITY: MPLS DIV/GROUP: 40 DB: MG LD: BE PM: TL
FT. MEADE (GP09MEAD.C000)
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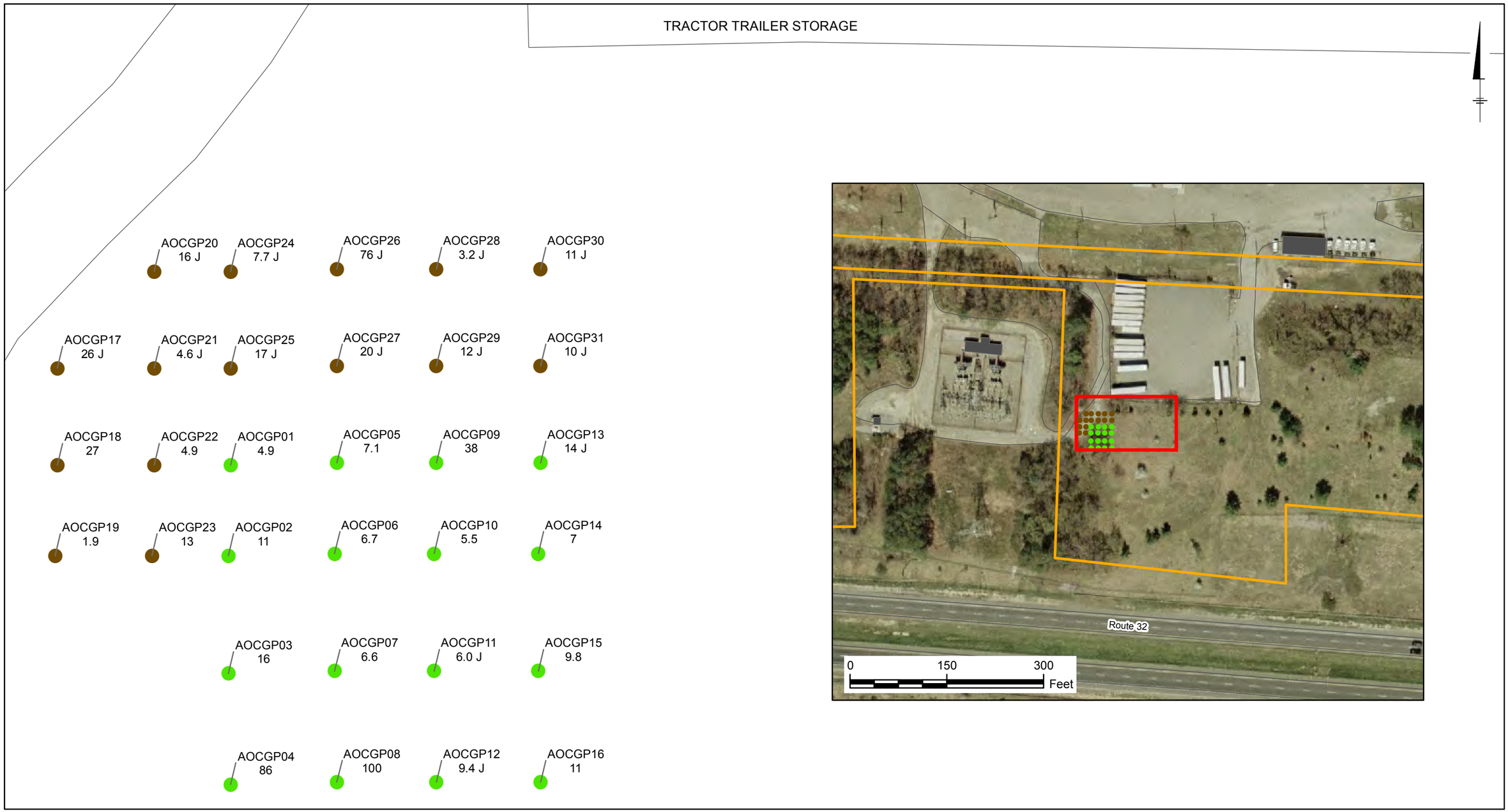

LEGEND:

- SOIL BORING LOCATION - ROUND 1
- SOIL BORING LOCATION - ROUND 2
- DETECTION ABOVE CRITERIA
- ARCHITECT OF THE CAPITOL (AOC) BOUNDARY (APPROXIMATE)

0 10 20 Feet
GRAPHIC SCALE

NOTES:

1. THE COMPARISON CRITERIA USED DURING THE LEAD INVESTIGATION WAS 400 MILLIGRAMS PER KILOGRAM (RESIDENTIAL VALUE)
2. LABORATORY ANALYSIS FOR LEAD CONDUCTED USING UNITED STATES ENVIRONMENTAL PROTECTION AGENCY METHOD 6010C
3. LEAD RESULTS REPORTED IN MILLIGRAMS PER KILOGRAM (MG/KG)
4. J = ESTIMATED CONCENTRATION
5. U = NON-DETECT
6. AOCGP01 - SAMPLE LOCATION IDENTIFICATION
7. 1.7 J - DETECTION CONCENTRATION

FGGM-74 ARCHITECT OF THE CAPITOL
FORT GEORGE G. MEADE, MARYLAND

LEAD RESULTS IN SOIL
4 FEET BELOW GROUND SURFACE

ARCADIS

FIGURE
2-8

CITY: MPLS DIV/GROUP: 40 DB: MG LD: BE PM: TL
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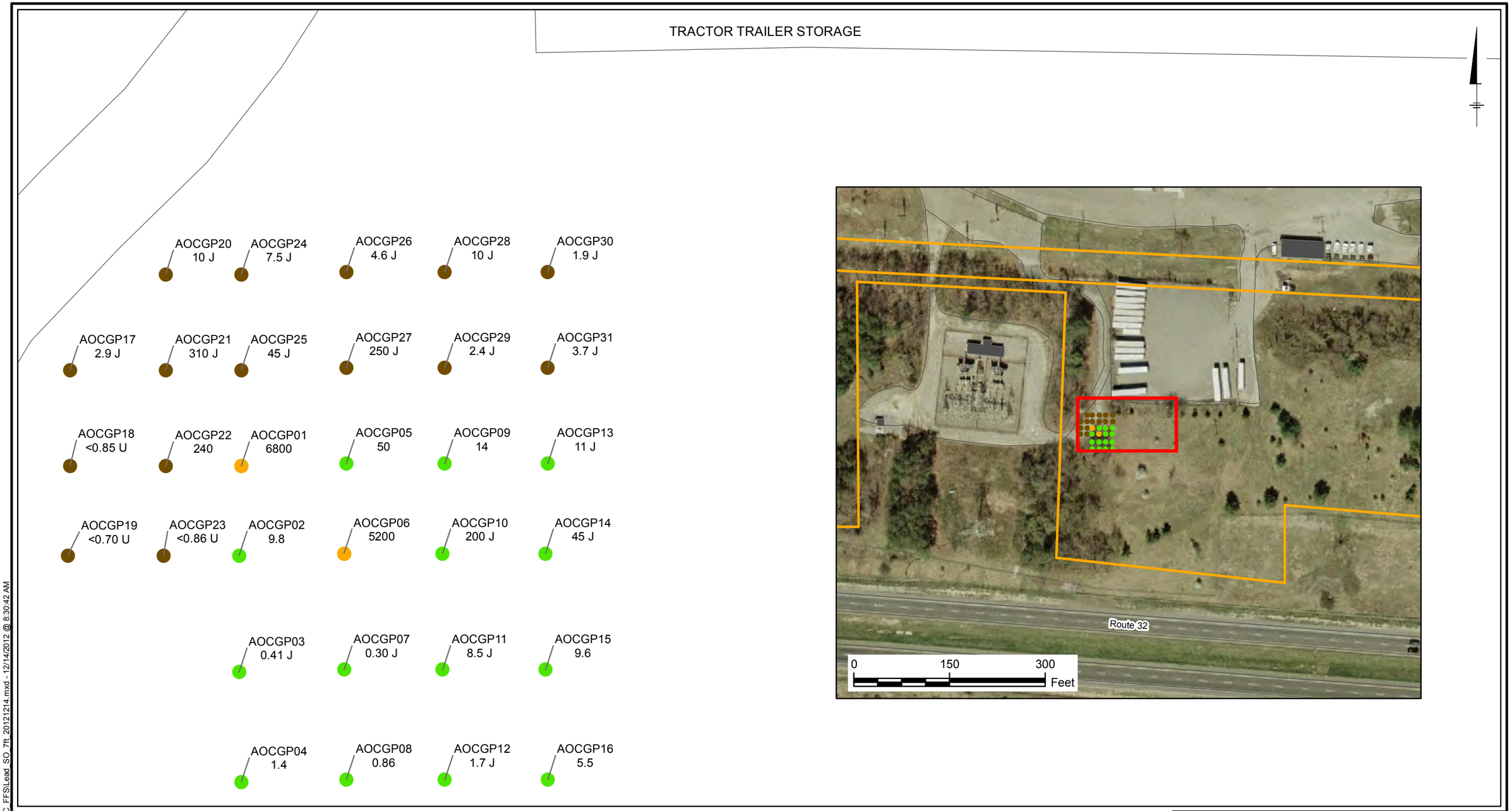

LEGEND:

- SOIL BORING LOCATION - ROUND 1
- SOIL BORING LOCATION - ROUND 2
- DETECTION ABOVE CRITERIA
- ARCHITECT OF THE CAPITOL (AOC) BOUNDARY (APPROXIMATE)

0 10 20 Feet
GRAPHIC SCALE

NOTES:

1. THE COMPARISON CRITERIA USED DURING THE LEAD INVESTIGATION WAS 400 MILLIGRAMS PER KILOGRAM (RESIDENTIAL VALUE)
2. LABORATORY ANALYSIS FOR LEAD CONDUCTED USING UNITED STATES ENVIRONMENTAL PROTECTION AGENCY METHOD 6010C
3. LEAD RESULTS REPORTED IN MILLIGRAMS PER KILOGRAM (MG/KG)
4. J = ESTIMATED CONCENTRATION
5. U = NON-DETECT
6. AOCGP01 - SAMPLE LOCATION IDENTIFICATION
7. 1.7 J - DETECTION CONCENTRATION

FGGM-74 ARCHITECT OF THE CAPITOL
FORT GEORGE G. MEADE, MARYLAND

LEAD RESULTS IN SOIL
7 FEET BELOW GROUND SURFACE

ARCADIS

FIGURE
2-9

CITY: MPLS DIV/GROUP: 40 DB: MG LD: BE PM: TL
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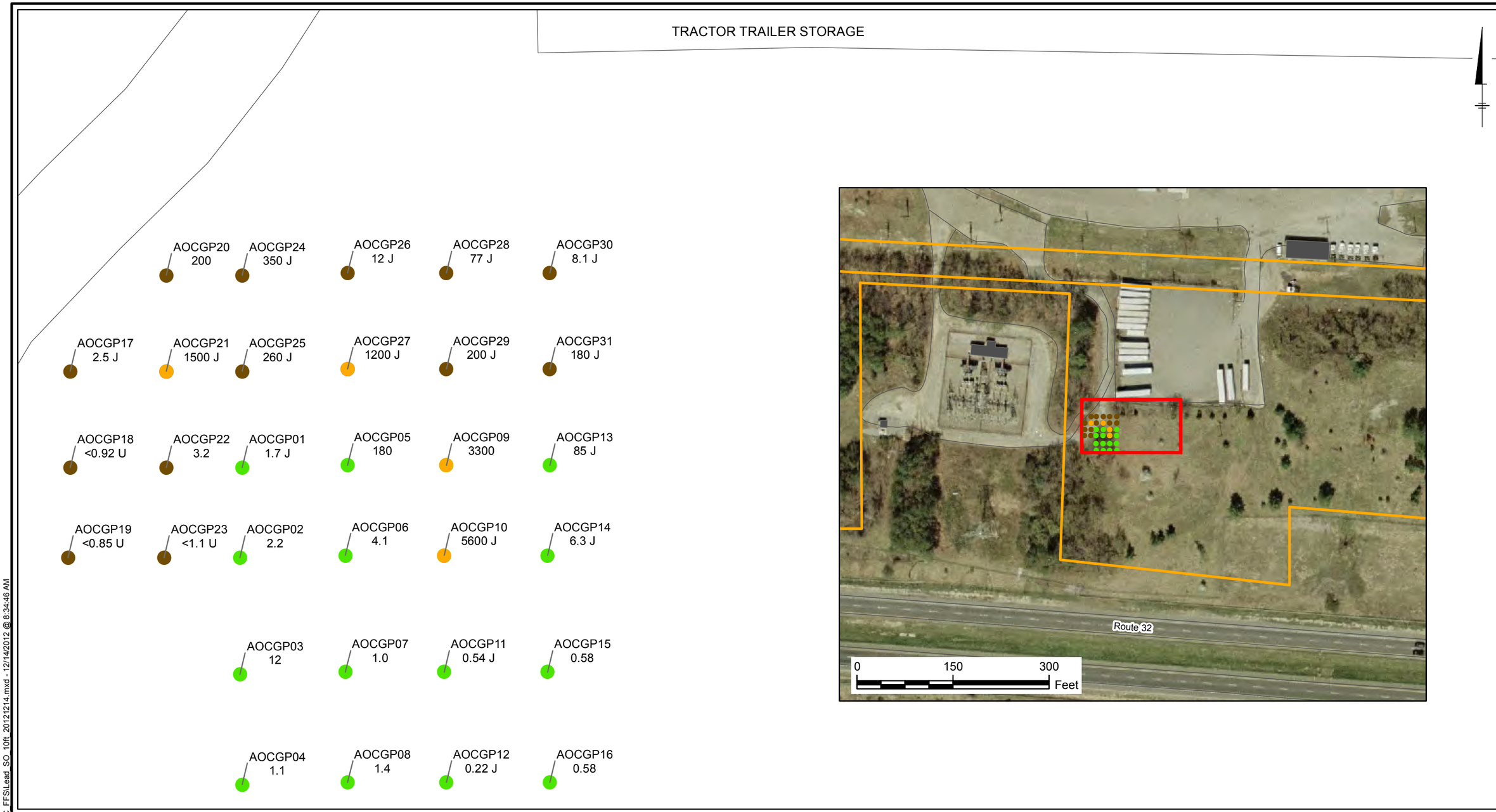

LEGEND:

- SOIL BORING LOCATION - ROUND 1
- SOIL BORING LOCATION - ROUND 2
- DETECTION ABOVE CRITERIA
- ARCHITECT OF THE CAPITOL (AOC) BOUNDARY (APPROXIMATE)

0 10 20 Feet
GRAPHIC SCALE

NOTES:

1. THE COMPARISON CRITERIA USED DURING THE LEAD INVESTIGATION WAS 400 MILLIGRAMS PER KILOGRAM (RESIDENTIAL VALUE)
2. LABORATORY ANALYSIS FOR LEAD CONDUCTED USING UNITED STATES ENVIRONMENTAL PROTECTION AGENCY METHOD 6010C
3. LEAD RESULTS REPORTED IN MILLIGRAMS PER KILOGRAM (MG/KG)
4. J = ESTIMATED CONCENTRATION
5. U = NON-DETECT
6. AOCGP01 - SAMPLE LOCATION IDENTIFICATION
7. 1.7 J - DETECTION CONCENTRATION

FGGM-74 ARCHITECT OF THE CAPITOL
FORT GEORGE G. MEADE, MARYLAND

LEAD RESULTS IN SOIL
10 FEET BELOW GROUND SURFACE

ARCADIS

FIGURE
2-10

CITY: MPLS DIV/GROUP: 40 DB: MG LD: BE PM: TL
FT. MEADE (GP09MEAD.C000)
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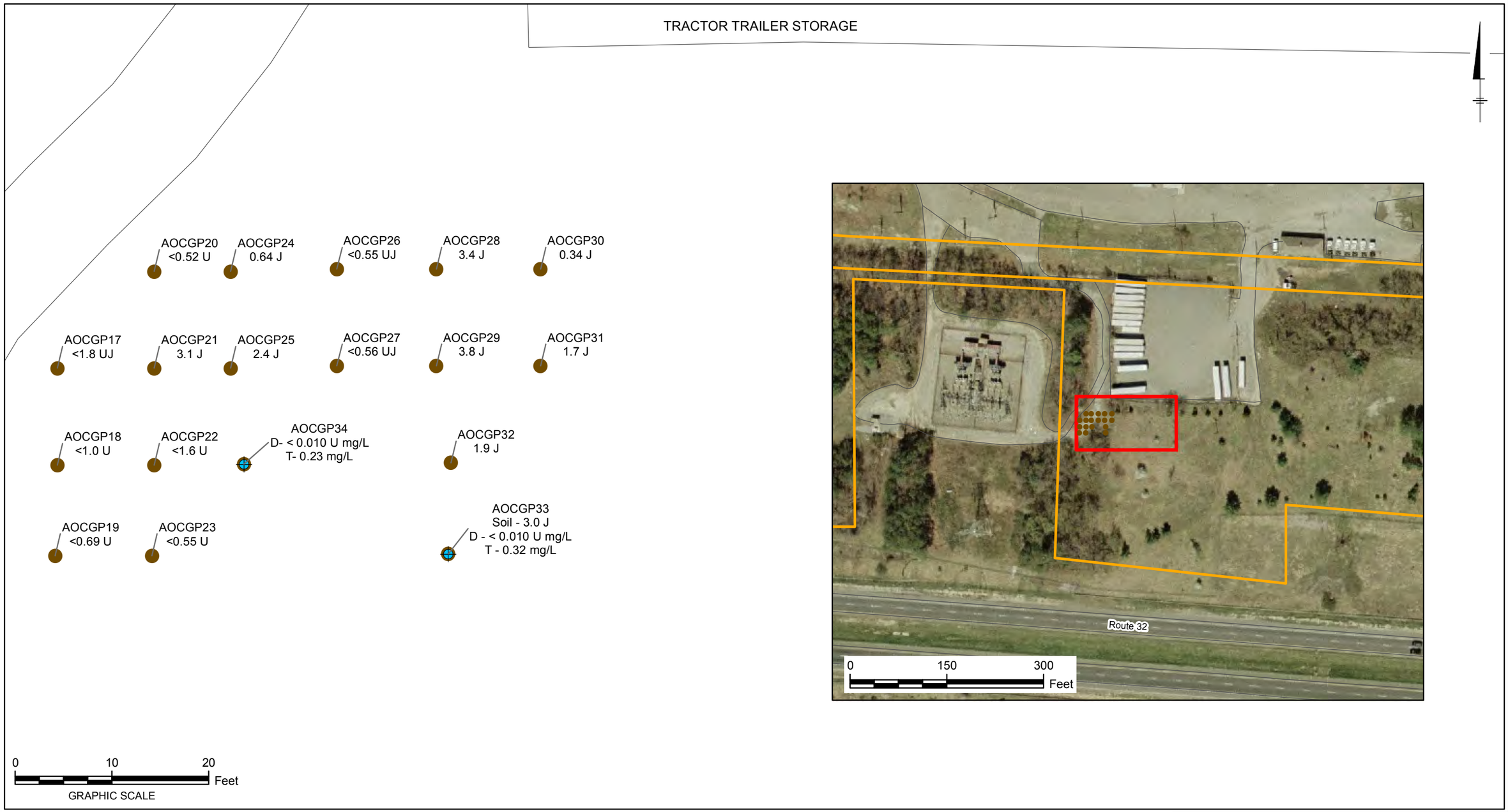

LEGEND:

- SOIL BORING LOCATION - ROUND 1
- SOIL BORING LOCATION - ROUND 2
- DETECTION ABOVE CRITERIA
- ARCHITECT OF THE CAPITOL (AOC) BOUNDARY (APPROXIMATE)
- GROUNDWATER SAMPLE COLLECTED AT 11-15 FEET BELOW GROUND SURFACE

NOTES:

1. THE COMPARISON CRITERIA USED DURING THE LEAD INVESTIGATION WAS 400 MILLIGRAMS PER KILOGRAM (RESIDENTIAL VALUE)
2. NO SOIL SAMPLES WERE COLLECTED AT 14 FEET BELOW GROUND SURFACE DURING ROUND 1
3. GROUNDWATER SAMPLES WERE ANALYZED FOR TOTAL AND DISSOLVED LEAD VIA UNITED STATES ENVIRONMENTAL PROTECTION AGENCY METHOD 6010C
4. LABORATORY ANALYSIS FOR LEAD CONDUCTED USING UNITED STATES ENVIRONMENTAL PROTECTION AGENCY METHOD 6010C
5. LEAD RESULTS REPORTED IN MILLIGRAMS PER KILOGRAM (MG/KG)
6. J = ESTIMATED CONCENTRATION
7. U = NON-DETECT
8. AOCGP01 - SAMPLE LOCATION IDENTIFICATION
9. 1.7 J - DETECTION CONCENTRATION
10. MG/L - MILLIGRAMS PER LITER

FGGM-74 ARCHITECT OF THE CAPITOL
FORT GEORGE G. MEADE, MARYLAND

LEAD RESULTS IN SOIL AND GROUNDWATER 14 FEET BELOW GROUND SURFACE

ARCADIS

FIGURE
2-11

CITY: MPLS DIV/GROUP: 40 DB: MG LD: BE PM: TL
FT. MEADE (GP09MEAD.C000)
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LEGEND:

- SOIL BORING LOCATION - ROUND 1
- SOIL BORING LOCATION - ROUND 2
- DETECTION ABOVE CRITERIA
- ARCHITECT OF THE CAPITOL (AOC) BOUNDARY (APPROXIMATE)
- INDICATES HOT SPOT FOR LEAD REPRESENTING THE GREATEST POTENTIAL RISK TO A POTENTIALLY EXPOSED POPULATION

0 10 20 Feet
GRAPHIC SCALE

NOTES:

1. THE COMPARISON CRITERIA USED DURING THE LEAD INVESTIGATION WAS 400 MILLIGRAMS PER KILOGRAM (RESIDENTIAL VALUE)
2. LABORATORY ANALYSIS FOR LEAD CONDUCTED USING UNITED STATES ENVIRONMENTAL PROTECTION AGENCY METHOD 6010C
3. LEAD RESULTS REPORTED IN MILLIGRAMS PER KILOGRAM (MG/KG)
4. J = ESTIMATED CONCENTRATION
5. U = NON-DETECT
6. AOCGP01 - SAMPLE LOCATION IDENTIFICATION
7. 1.7 J - DETECTION CONCENTRATION

FGGM-74 ARCHITECT OF THE CAPITOL
FORT GEORGE G. MEADE, MARYLAND

LEAD HOTSPOT REMOVAL AREA AT 7 FEET BELOW GROUND SURFACE

ARCADIS

FIGURE
2-12

CITY: MPLS DIV/GROUP: 40 DB: MG LD: BE PM: TL
FT. MEADE (GP09MEAD.C000)
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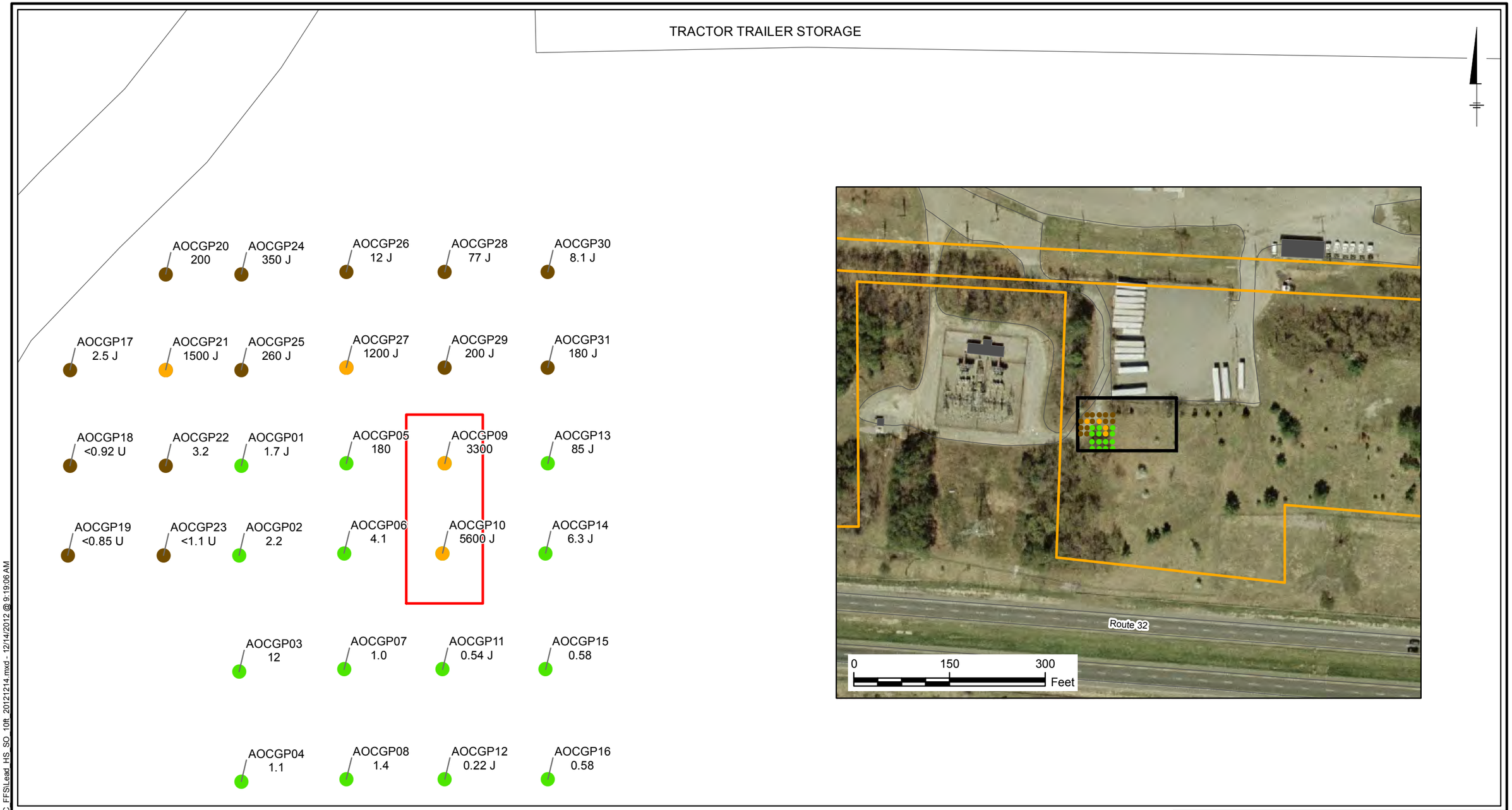

LEGEND:

- SOIL BORING LOCATION - ROUND 1
- SOIL BORING LOCATION - ROUND 2
- DETECTION ABOVE CRITERIA
- ARCHITECT OF THE CAPITOL (AOC) BOUNDARY (APPROXIMATE)
- INDICATES HOT SPOT FOR LEAD REPRESENTING THE GREATEST POTENTIAL RISK TO A POTENTIALLY EXPOSED POPULATION

0 10 20 Feet
GRAPHIC SCALE

NOTES:

1. THE COMPARISON CRITERIA USED DURING THE LEAD INVESTIGATION WAS 400 MILLIGRAMS PER KILOGRAM (RESIDENTIAL VALUE)
2. LABORATORY ANALYSIS FOR LEAD CONDUCTED USING UNITED STATES ENVIRONMENTAL PROTECTION AGENCY METHOD 6010C
3. LEAD RESULTS REPORTED IN MILLIGRAMS PER KILOGRAM (MG/KG)
4. J = ESTIMATED CONCENTRATION
5. U = NON-DETECT
6. AOCGP01 - SAMPLE LOCATION IDENTIFICATION
7. 1.7 J - DETECTION CONCENTRATION

FGGM-74 ARCHITECT OF THE CAPITOL
FORT GEORGE G. MEADE, MARYLAND

LEAD HOTSPOT REMOVAL AREA AT 10 FEET BELOW GROUND SURFACE

ARCADIS

FIGURE
2-13

CITY: MPLS DIV/GROUP: 40 DB: MG LD: BE PM: TL
FT. MEADE (GP09MEAD.C000)
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APPENDIX A
COST ESTIMATES FOR RESPONSE ACTION

Appendix A-1
Alternative SL-3 Cost Estimate for Lead Hot Spot Soil Excavation with Off-site Disposal
Architect of the Capitol, FGGM-74
Fort George G. Meade, Maryland

Soil - Excavation and Off-Site Disposal

Site: Architect of the Capitol
Location: Fort Meade, MD
Phase: FFS
Base Year: 2013
Date: 9/16/2014

Alternative Description:
Excavate 2 lead impacted areas.

Area 1 - 200 sq ft.
Excavate to a total depth of 9 feet.
Impacts present at 7 ft bgs.
Dispose of soil from 5 ft bgs to 9 ft bgs.
Excavate to a total depth of 9 feet.
Excavate 70 cy
Dispose of 30 cy

Area 2 - 200 sq ft.
Excavate to a total depth of 12 feet.
Impacts present at 10 ft bgs.
Dispose of soil from 8 ft bgs to 12 ft bgs.
Excavate to a total depth of 12 feet.
Excavate 90 cY
Dispose of 30 cy

Administrative controls to prevent exposure to site workers, visitors and the public.

Capital Costs:

DESCRIPTION	QTY	UNIT[(1)(2)]	UNIT COST	TOTAL	NOTES
Site Preparation					
Mobilization/Demobilization (10% of Capital Costs Excluding Site Prep and T&D)	1	Lump Sum	$ 1,887	$ 1,887	Engineering estimate to mobilie equipment and personnelto and from the site
Soil Erosion and Sedimentation Controls (Silt Fence, BMPs)	1	Lump Sum	$ 1,000	$ 1,000	Engineering estimate for furnishing, installing, and maintaining silt fence and best management practices
Construction Entrances	1	Each	$ 2,500	$ 2,500	Engineering estimate to install construction entrances
Decontamination Areas & Activities	1	Lump Sum	$ 2,500	$ 2,500	
Utility Location	1	Lump Sum	$ 2,500	$ 2,500	Engineering estimate for utility locate/mark-out subcontractor, assuming 3 days to complete utility locate and mark-out
Surveying Services	1	Day	$ 2,500	$ 2,500	Engineering estimate from surveying contractor for daily rate, assuming 2 days to complete the necessary surveys
SUBTOTAL				$ 12,887	
Excavation of Material & Disposal					
Excavation	160	Cubic Yards	$ 18	$ 2,880	Engineering estimate to excavate impacted material
Excavation of Non-Impacted Materials (For Excavation Sloping)	160	Cubic Yards	$ 18	$ 2,880	Engineering estimate to excavate un-impacted material
Material Handling & Load- Out Activities	69	Cubic Yards	$ 8	$ 550	
Waste Characterization Sampling (1 Sample per 750 CY)	1	EA	$ 1,500	$ 1,500	Engineering estimate for waste characterzation sampling 1 sample/750 CY
Stockpile Management Area	1	Lump Sum	$ 2,500	$ 2,500	Engineering estimate to manage the soil stockpile during the removal action
Air Monitoring Equipment (PIDs, Dust Monitors)	1	week	$ 300	$ 300	Engineering estimate to conduct air monitoring over the duration of the excavation
Transportation and Disposal - Hazardous Soil (Subtitle C Landfill)	0	Tons	$ 200	$ -	
Transportation and Disposal - Non-Hazardous Soil (Incinerator)	103	Tons	$ 85	$ 8,772	100% Non-Haz Disposal
Post-Excavation Confirmatory Samples	9	Each	$ 550	$ 4,950	per 200 sq ft of side wall, and 1 per bottom of each excavated hot spot
SUBTOTAL				$ 24,332	
Excavation Restoration Activities					
Furnish, Place and Compact Backfill Material w/ Soil Analysis	184	Cubic Yards	$ 18	$ 3,312	
SUBTOTAL				$ 3,312	
Implementation Costs					
Engineering, Designs/Plans	1	Lump Sum	$ 5,000.0	$ 5,000	
Administration and Legal	1	Lump Sum	$ 2,500.0	$ 2,500	
Remedial Design (Work Plans)	1	Lump Sum	$ 2,500.0	$ 2,500	
Procurement	1	Lump Sum	$ 5,000.0	$ 5,000	
Construction Management (15% of Capital Costs Excluding T&D)	1	Lump Sum	$ 4,764	$ 4,764	
Completion Report	1	Lump Sum	$ 2,500	$ 2,500	Engineering estimate to complete the Draft, Draft Final, and Final versions of the Completion Report
SUBTOTAL				$ 22,264	
Project Management	10%			$ 6,280	
Information/Database Management	3%			$ 1,884	
TOTAL CAPITAL COST				$ 70,959	

Annual Operation and Maintenance Costs

DESCRIPTION	QTY	UNIT[(1)(2)]	UNIT COST	TOTAL	NOTES
Annual LUC Inspection	0	each	$ 1,500.00	$ -	Engineering estimate to conduct annual LUC inspections (15 hours x $100/hr)
TOTAL ANNUAL O&M COST				$ -	

Present Value Analysis

Cost Type	Year	Total Cost	Total Cost Per Year	Discount Factor 0.0%	Present Value	Notes
Capital Cost	0	$ 70,959	$ 70,959	1	$ 70,959	
Annual O&M Cost	1-30	$ -	$ -	22.40	$ -	
TOTAL PRESENT VALUE OF ALTERNATIVE					$ 70,959	

Notes:
(1) Lump Sum Unit Costs based on ARCADIS project experience of similar size and nature and engineering judgment.
(2) Individual unit (i.e. each, tons, cubic yards) costs based on executed construction bid documents (for other ARCADIS recent projects), vendor quotes and costing tools (e.g. RS Means).

APPENDIX B
CERTIFICATES OF PUBLICATION

OFFICE OF

The Crofton West County Gazette

Published by

Capital Gazette Communications, Inc.

HOLDER OF CONTRACT FOR ANNE ARUNDEL COUNTY ADVERTISING

CERTIFICATE OF PUBLICATION

Annapolis, MD, July 24, 20 14

We hereby certify that the annexed

Capitol Site

was published in The Crofton West County Gazette, a newspaper published in Crofton and West Anne Arundel County, MD

once a week for one ~~successive~~ weeks

before the 7th day of August, 20 14.

The insertions being made the 24th

day of July, 20 14.

Capital Gazette Communications, Inc.

By

602610

OFFICE OF

Maryland Gazette

Published by

Capital Gazette Communications, Inc.

HOLDER OF CONTRACT FOR ANNE ARUNDEL COUNTY ADVERTISING

CERTIFICATE OF PUBLICATION

Annapolis, MD, July 26, 20 14

We hereby certify that the annexed

Capitol Site

was published in the Maryland Gazette, a newspaper published in the City of Annapolis, Anne Arundel County, MD

once a week for one ~~successive~~ weeks

before the 7th day of August, 20 14.

The insertions being made the 26th

day of July, 20 14.

Capital Gazette Communications, Inc.

By

602610

Capital Gazette Communications Tue 07/22/14 15:44:34
Ad ID: 0060261001 **Next Run:** Thu 07/24/14 **Next Pub:** West County Special Tab
Customer: BRIDGE CONSULTING CO **Sales Rep:** SSCA
Phone: *410-268-5000* **Fax:** *410-280-5974* **Size:** 3.000 X 11.750 JPECK

PUBLIC NOTICE

U.S. ARMY INVITES PUBLIC COMMENT ON PROPOSED PLAN FOR THE ARCHITECT OF THE CAPITOL SITE FORT GEORGE G. MEADE, MARYLAND

The U.S. Army at Fort George G. Meade (Fort Meade) invites the public to comment on a Proposed Plan that evaluates proposed remedial action alternatives for soil and groundwater at the Architect of the Capitol Site (Site) at Fort George G. Meade, Maryland. The approximately 93-acre Site is located on the southeastern corridor of Fort Meade and is bound by Rock Avenue to the north, Route 32 to the south, Pepper Road to the east, and Remount Road to the west.

SITE BACKGROUND

The 93-acre parcel was transferred from the Army to the Architect of the Capitol in 1994. The site presently is used to accommodate long-term storage and service needs of the Library of Congress and other legislative branch agencies. Multiple phases of environmental investigation and sampling have been conducted at the Site since the late 1980s. The investigation and sampling found lead concentrations in soil at two locations that need to be addressed, and metals present in shallow groundwater would pose a risk if the groundwater was ever used in the future for drinking water.

ALTERNATIVES EVALUATED

The Proposed Plan evaluates the following remedial action alternatives:

Alternative 1 for Soil: No Action.

Alternative 1 for Groundwater: No Action.

Alternative 2 for Soil: Land Use Controls.

Alternative 2 for Groundwater: Land Use Controls and Long-Term Monitoring.

Alternative 3 for Soil: Soil Excavation with Off-Site Disposal.

As required by law, a formal review of the effectiveness of the selected alternatives will be conducted every five years.

PREFERRED RESPONSE ACTION

Alternative 3 is the Preferred Response Action for the soil and Alternative 2 is the Preferred Response Action for groundwater. These alternatives provide an optimum balance between the selection criteria and are protective of human health and the environment. The Preferred Response Actions may be modified or new alternatives may be developed based on public input. The Final Response Actions selected will be documented in a Record of Decision that summarizes the decision-making process. The Army will summarize and respond to comments received during the comment period as part of the Record of Decision.

PUBLIC COMMENT PERIOD

Starting July 24, 2014, copies of the Proposed Plan will be available for review at:

www.ftmeade.army.mil/environment
(click the links for Cleanup Program, Program Sites, and Architect of the Capitol Site)

or for a paper copy go to:

Fort Meade Environmental Division Office
4215 Roberts Ave, Room 320
Fort Meade, Maryland 20755
(301) 677-9648
Hours: 8 a.m.-4 p.m. Mon-Fri
(photo I.D. required to gain access onto Fort Meade)

or the

Anne Arundel County Library
West County Area Branch
1325 Annapolis Road
Odenton, MD 21113
(410) 222-6277
Hours: 9 a.m. - 9 p.m. Mon-Thurs,
9 a.m. - 5 p.m. Fri and Sat

The public may submit written comments during the 30-day comment period (July 24 to August 22, 2014). Comments must be postmarked by August 22, 2014, and sent to Ms. Mary Doyle, U.S. Army Garrison Public Affairs Office, 4409 Llewellyn Avenue, Fort Meade, MD, 20755-7058. Following the 30-day public comment period, written responses will be prepared and included within the Administrative Record.

PUBLIC MEETING

The U.S. Army invites the public to attend a meeting on **August 7, 2014, 7:00 p.m., at the Courtyard BWI Business District, 2700 Hercules Road, Annapolis Junction, MD, 20701-1030** to discuss the Proposed Plan and the U.S. Army's plan to remediate the Site.

For additional project information, please visit Fort Meade's Environmental Management System website at www.ftmeade.army.mil/environment (click the links for Cleanup Program, Program Sites, and Architect of the Capitol Site) or contact the Fort Meade Public Affairs Office at (301)-677-1361.

602610 7/26

APPENDIX C
PUBLIC MEETING TRANSCRIPT

Fort George G. Meade Installation Restoration Program
Proposed Plan Public Meeting for Architect of the Capitol Site
Thursday, August 7, 2014
Courtyard Marriott – Annapolis Junction, Maryland

The meeting opened at 7:10 p.m.

Introduction by Mr. George Knight

Good evening and welcome. My name is George Knight, and I'm the acting Installation Restoration Program Manager for Fort Meade. This meeting is for the Proposed Plan for the Architect of the Capitol site. We appreciate your attendance and welcome your comments. There is a sign-in sheet on the back table, so please sign-in. Please also put your cell phones on mute. Also on the back table, there is a fact sheet which gives a good summary on the Architect of the Capitol site, where the site is located, and also information on how to submit your comments. There also are comment forms on the table in the back. Tonight's meeting is being recorded, and the transcript will be made part of the public file for this site.

I'd like to introduce a few people who are in attendance tonight. Mr. Mick Butler is the Chief of Fort Meade's Environmental Division. We also have regulatory representation with Mr. John Burchette of EPA [U.S. Environmental Protection Agency] and Ms. Elisabeth Green of Maryland Department of the Environment. Also, Ms. Sherry Deskins from the Architect of the Capitol is present.

The legal notice for this meeting was published in the Maryland Gazette on Saturday, July 26, the Crofton West County Gazette on Thursday, July 24, and in the Fort Meade Soundoff. The 30-day comment period associated with this Proposed Plan is July 24 through August 22. Copies of the Proposed Plan are at the West County Library, Fort Meade's Environmental Division office, and on the Fort Meade website at www.ftmeade.army.mil.

Tonight's presentation on the Architect of the Capitol and the Army's Proposed Plan for the site will be given by Mr. John Cherry of ARCADIS, a contractor to the Army. Please hold your questions and comments until the end of the presentation.

Presentation by Mr. John Cherry

(Note: The Power Point presentation made by Mr. Cherry is incorporated as part of the transcript and the slides are referenced by number below.)

Slides 1 and 2: Hello everyone. The purpose of the public meeting is to provide an opportunity for the public to come and hear what the plans are for the remedies at the site and provide comments here or mail them back. We will be accepting comments through August 22.

Slide 3: Here is a list of topics we are going to go through tonight: the status of the CERCLA [Comprehensive Environmental Response, Compensation and Liability Act] process, site history, investigations and findings (a lot of this information has been discussed in recent Restoration Advisory Board meetings), remedial alternatives that are outlined in the Feasibility Study and Proposed Plan, the preferred alternative, and the public comment period.

Slide 4: Here is the status of the CERCLA process. I think everyone in the room is familiar with the process, so I won't go through it in a whole lot of detail. There is a Remedial Investigation Report that was finalized for this site in April 2013. The Feasibility Study was finalized in July 2014. The Proposed Plan was prepared and submitted to the regulatory agencies and approved, and we are now in the public participation phase. The next step is the Record of Decision which we are scheduled to be working on through the end of the year and expect that to be final by December, followed by the Remedial Design and Remedial Action.

Slide 5: What is a Proposed Plan? A Proposed Plan is a quick and easy summary of the site. It goes over all the key aspects of the site--the history, overview of investigations completed to date which is all the information in the Remedial Investigation Report, a breakdown of the alternatives in the Feasibility Study, a comparative analysis of the remedial alternatives evaluated in that Feasibility Study, and the recommended alternative that is discussed and laid out for consideration.

Slides 6 and 7: (Mr. Cherry displayed an area map.) I think everyone in the room is familiar with where Architect of the Capitol is located on the southern boundary along Route 32.

Slide 8: Historically the site was used for a variety of purposes, and warehouses on the property are still standing. Lots of the areas have been used for storage for different purposes, and there is a transportation motor pool facility on the western portion of the property. The property was transferred to the Architect of the Capitol in 1994, and they used it for the Library of Congress document storage facility which was constructed in recent years. There are still portions of the site used for warehouses and storage, and the Army leases back the western portion of property and uses a portion for a transportation motor pool.

Slides 9 and 10: Let's look at some of the field investigations. The Remedial Investigation work was completed in multiple phases from 1990 to 2011. There were a variety of surface soil, sub-surface soil, and groundwater sampling all across the property, and all detailed in the Remedial Investigation Report and summarized in the Proposed Plan.

Slide 11: The soil was evaluated for a broad range of compounds, VOCs (volatile organic compounds), SVOCs (semi-volatile organic compounds), metals, pesticides, and PCBs (polychlorinated biphenyls). When we went through the remedial investigation

and human health risk assessment, lead was the one constituent identified as a risk driver under different scenarios at the site that I'll talk about momentarily. I'll also talk about the remedial alternatives to address that risk.

Slide 12: The lead was detected in the center of the property, near a tractor trailer storage area and a BGE electrical substation. Historical sampling found one elevated concentration of lead during the subsurface soil sampling. During the remedial investigation, in order to further evaluate and address EPA and Maryland Department of the Environment concerns about that detection, an extensive lead sampling plan was implemented in that area. More than 140 samples were collected for lead throughout a gridded area at 1, 4, 7, 10, and 14 feet below ground surface, so it gave us a good understanding of the nature of the lead contamination, both horizontally and vertically.

Slide 13: This is a picture of where lead samples were collected; there was grid sampling all throughout this area. The surface soil samples were all clean, meaning levels were below residential standards. It was at depth where elevated concentrations of lead were detected.

Slide 14: This slide shows just the 7 foot and 10 foot zones where we collected samples. The numbers highlighted in red are the highest concentrations detected. For comparison purposes, the regional screening level for residential soil is 400 milligrams per kilogram. You can see these areas are particularly high relative to that residential number, while the numbers through here are low. When we look at the shallow samples, there are no exceedances of that 400 value, and samples collected deeper at 14 feet showed lower concentrations as well.

Slide 15: Groundwater was evaluated across the property for a variety of parameters--VOCs, SVOCs, pesticides, PCBs, and metals. There weren't too many issues with groundwater. There were some volatile organic compound detections in the groundwater, both on the eastern side and the western side, that are related to adjoining sites. On the western side, there is the Operable Unit 5 DRMO (Defense Reutilization and Marketing Office) groundwater plume which clips the Architect of the Capitol property. Similarly, on the eastern side there is a volatile organic compound groundwater plume originating at Operable Unit 4 that crosses under the Architect of the Capitol property. Those groundwater plumes are being addressed under other investigations and actions.

Slide 16: What became apparent during the remedial investigation and risk assessment process is that there is an issue with metals in shallow groundwater. Sampling found elevated levels of aluminum, arsenic, chromium, iron, and cobalt which are all driving risk under drinking water scenarios for shallow groundwater. Shallow groundwater is not being ingested; there is no use of shallow groundwater in this area for potable purposes. However, in the event there was future use of groundwater for potable purposes, it would present a risk.

Slide 17: A quick summary on the risk assessment that was performed for the site. Under the current uses, no risks were identified. No one is exposed to the sub-surface soil which has lead, and no one is drinking the shallow groundwater which has metals. Under likely future use scenarios, there is still no unacceptable risk as no substantial change in use is expected.

Slide 18: There are hypothetical scenarios which have been considered which include a future groundwater use where it would be a problem. If conditions do change, and the groundwater is used for drinking water purposes, there would be a risk and that is what is driving taking an action at this site. For the soil, the site could potentially be redeveloped or regraded, and if the current sub-surface soils were exposed through these activities, it would present a risk because of the high levels of lead. Based on those scenarios, we'll talk about the alternatives that have been evaluated for addressing those scenarios.

Slides 19 and 20: Here are the two situations being addressed-- metals in shallow groundwater and lead in subsurface soil.

Slides 21 and 22: The Proposed Plan summarizes the nine criteria the alternatives were evaluated against: overall protection of human health and the environment; compliance with applicable or relevant and appropriate requirements; long-term effectiveness and permanence; reduction of toxicity, mobility and volume through treatment; effectiveness in the short-term; implementability; cost effectiveness; state acceptance; and, community acceptance.

Slide 23: Three soil alternatives were considered. The first is the No Action alternative which has to be considered for all evaluations. The second one is a land use control alternative. The third one is hot spot excavation, and what is proposed is to dig up the elevated lead detections and move the soil off-site.

Slide 24: For groundwater, two alternatives were considered. No action was considered as well as land use controls and a long-term monitoring program.

Slide 25: I'll do a quick summary of the alternatives, with the slides having a simple summary of the analysis of each alternative. The No Action alternative for soils was quickly eliminated.

Slide 26: The Land Use Controls alternative was somewhat feasible in that it would help to control risks. In the long-term, it would be effective in controlling exposure. It would not reduce toxicity of the lead in the soil as the lead would remain in place. There is no risk in the short-term, and it is easily implemented. It is one of the more expensive options because it does require long-term monitoring and reporting.

Slide 27: Alternative 3, Hot Spot Soil Excavation with Off-Site Disposal, is the recommended alternative, which involves digging up the soil and disposing of the soil off-site. It is the preferred alternative as it removes the soil from the site, which is effective in the long-term as there is no need for land use controls, so the site would be

suitable for even residential use. Since the soil is not treated there is no reduction in toxicity or mobility. It is a cost-effective approach in that it is a reasonably small excavation with a low to moderate cost as there is no long-term obligation.

Slides 28 and 29: For groundwater, there are two alternatives-- the No Action alternative and the preferred alternative of Land Use Controls and Long-Term Monitoring which scored well through the comparative analysis. The land use controls prevent use of the groundwater over time and, thus, achieve protection of human health. The long-term monitoring is necessary to monitor concentrations over time and eventually demonstrate when groundwater has been returned to beneficial use.

Slides 30 and 31: Here are the two preferred alternatives. For soil, the preferred alternative is Alternative SL-3, Hot Spot Soil Excavation with Off-Site Disposal. As seen in the previous slides, there are two fairly small areas which would be excavated followed by post-excavation confirmatory sampling. For groundwater, the preferred alternative is Land Use Controls and Long-Term Monitoring of Groundwater. The land use controls will prohibit drilling wells for potable use of shallow groundwater and will be coupled with periodic sampling of on-site monitoring wells. There are costs associated with the groundwater alternative, including five-year reviews of the remedy as required by CERCLA

Slide 32: This is a quick overview of the soil remedy, the same images we saw earlier tonight highlighting the areas proposed for excavation. There are two adjacent areas to be excavated. At seven feet, the plan calls for soil from five to nine feet to be excavated and hauled off-site for disposal, the collection of confirmatory samples, returning the clean soil, and backfilling to the surface with clean soil. At 10 feet below ground surface, the plan would be to dig down to eight feet and set that soil aside and then proceed to excavate deeper soil and haul it off-site for disposal.

Slide 33: After the excavations, the hot spots are gone and the lead is off-site, the recalculated concentrations points for lead across the study area are much lower, well below the residential standard. The site is then suitable for unrestricted use.

Slides 34 - 36: This slide is a reminder of the public comment period and the addresses where the Proposed Plan is available. There is also a copy of the Proposed Plan on the back table. All comments will be reviewed and documented in the Record of Decision which is targeted for being completed by December 2014. There are addresses for mailing or emailing written comments.

Comments/Questions/Closing by Mr. George Knight

Does EPA or Maryland Department of the Environment have any comments? (None were offered.)

Are there any comments or questions from the audience? (No comments or questions were offered.)

Again, the comment period is through August 22, and there are comment forms on the back table which you can use to submit your comments.

This concludes the meeting. Thank you for attending.

The meeting was adjourned at 7:36 p.m.

Katrina A. Harris
Bridge Consulting Corp.
Meeting Recorder

Fort George G. Meade

Proposed Plan
Architect of the Capitol Site

Public Meeting
August 7, 2014

Public Meeting Purpose

- U.S. Army is inviting the public to comment on the proposed environmental actions for the Architect of the Capitol Site.
- Comments may be submitted during the 30-day comment period beginning July 24th and ending August 22nd, 2014.
- Additional information on how to submit comments will be provided at the conclusion of this presentation.

Presentation Agenda

- Status of the CERCLA Process for Architect of the Capitol Site
- Site Information
  - Location
  - History
- Field Investigations
  - Summary of Findings
- Remedial Alternatives
- Preferred Alternative
- Public Comment Period Information

Status of CERCLA* Process

✓ Remedial Investigation (RI) - characterization of site

✓ Feasibility Study (FS) - assessment of possible remedies

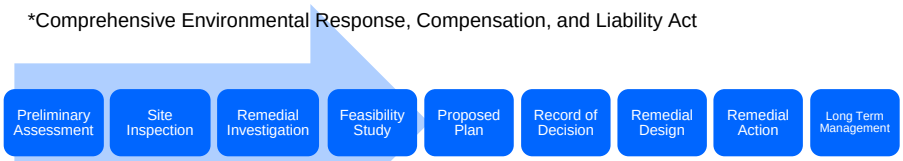
✓ Proposed Plan (PP) - solicit public input on preferred remedy

❑ 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 Architect of the Capitol 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

- Status of the CERCLA Process for Architect of the Capitol Site
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  - Location
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Architect of the Capitol

Site Location

Site Use and History

- Historical Army Uses:
  - Multiple warehouse and storage areas
  - Transportation motor pool facility
- Property transferred from Army to Architect of the Capitol (AOC) effective September 1994
- Current Architect of the Capitol Uses:
  - Library of Congress document storage facility
  - Warehouse and storage areas
  - Transportation motor pool facility (Army lease)

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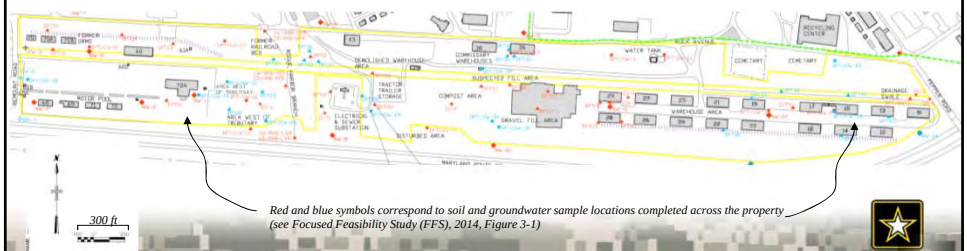
Presentation Agenda

- Status of the CERCLA Process for Architect of the Capitol Site
- Site Information
  - Location
  - History
- Field Investigations
  - Summary of Findings
- Remedial Alternatives
- Preferred Alternative
- Public Comment Period Information

Field Investigations

- CERCLA Remedial Investigation (RI) fieldwork between 1990 and 2011
  - Surface soil, subsurface soil, and groundwater sampling completed in multiple phases at locations across the 93-acre parcel.



Red and blue symbols correspond to soil and groundwater sample locations completed across the property (see Focused Feasibility Study (FFS), 2014, Figure 3-1)

Field Investigation -Soil

- Soil tested for numerous constituents: VOCs, SVOCs, metals, pesticides, and PCBs
- Only lead was identified in soil at concentrations driving a potential risk.
- Extensive vertical and horizontal grid sampling was completed to depths of 14 feet below ground surface to evaluate an initial elevated lead sample. Two small lead hot spot areas limited to depths of 7 and 10 feet below ground surface were identified.

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Location of Lead Sampling Area

Horizontal and vertical soil sampling was completed in this area to delineate the extent of lead contamination.

Architect of the Capitol Site Elevated Lead Area

13

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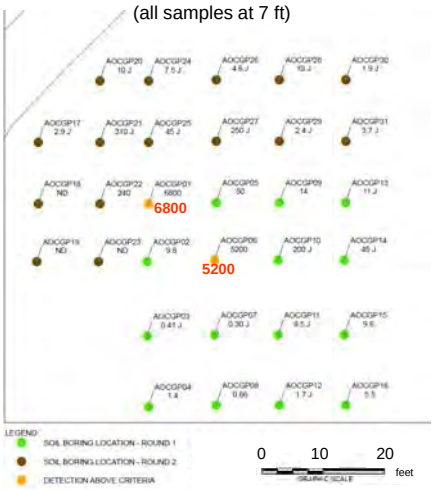
“Hot Spot” Evaluation at Depth - 7 ft & 10 ft

At 7 ft BGS

Avg Pb Conc = 427 mg/kg

(all samples at 7 ft)

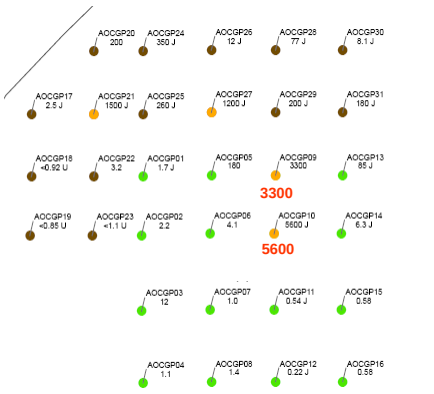


mg/kg = milligrams per kilogram (equivalent to parts per million)

At 10 ft BGS

Avg Pb Conc = 425 mg/kg

(all samples at 10 ft)



Average lead concentration across only the 7 feet or 10 feet depth interval slightly exceed the 400 mg/kg residential soil RSL (regional screening level) and the 418 mg/kg preliminary remedial goal.

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Field Investigation - Groundwater

- Groundwater was tested for VOCs, SVOCs, pesticides, PCBs, and total and dissolved metals.
- Shallow groundwater at the Architect of the Capitol Site is impacted by VOCs originating from nearby parcels and being investigated/remediated under separate CERCLA actions, including:
  - VOCs in groundwater on the western edge of Architect of the Capitol Site originating from OU-5/DRMO and;
  - VOCs in groundwater on the eastern side of Architect of the Capitol Site originating from OU-4.
- Actions related to the VOC groundwater contamination are being handled separately as part of the OU-4 and OU-5 investigations.

Field Investigation – Groundwater (cont.)

- Metals in Groundwater:
  - Elevated concentrations of total and dissolved metals were detected at Architect of the Capitol Site in shallow groundwater.
  - The concentrations are generally comparable to upgradient (background) samples.
  - There is no indication of a current or former source for the metals concentrations on the Architect of the Capitol parcel and there is no identifiable plume.
- Shallow groundwater is not used for drinking water or any other use, but under a hypothetical future use scenario, there would be elevated risks if commercial workers or hypothetical residents were to use the shallow water for drinking water purposes due to concentrations of: aluminum, arsenic, chromium, cobalt, and iron.

Risk Assessment

- Current Use:
  - No unacceptable risks for human health and the environment for current users (commercial workers, construction/utility workers).
- Likely Future Use:
  - No unacceptable risks for human health and the environment for the reasonably anticipated future uses (commercial workers, construction/utility workers)

Risk Assessment (cont.)

- Hypothetical Future Use:
  - <u>If groundwater is used for drinking water</u>, unacceptable risks are indicated from groundwater ingestion by hypothetical future residents or commercial workers (metals).
  - <u>If the site was regraded to allow for exposure to soils at 7 or 10 feet below ground surface</u>, unacceptable risks are indicated for hypothetical residents or commercial workers (lead).

Note: Neither residential use nor use of shallow groundwater for potable purposes are anticipated for the Architect of the Capitol property, so these are considered hypothetical scenarios.

Presentation Agenda

- Status of the CERCLA Process for Architect of the Capitol
- Site Information
  - Location
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- Public Comment Period Information

Feasibility Study

- Site advanced to an FS to evaluate remedies associated with:
  - Metals in groundwater under a hypothetical drinking water use scenario, and
  - Lead in soil under a hypothetical regrading scenario with exposure to two small hot spot areas currently at 7 and 10 feet below ground.

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.

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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. [The Army is the lead regulatory agency]** 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.

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Feasibility Study
(Soil)

- FS evaluated 3 options for lead in soil:
  - Alternative 1 for Soil: No Action as required by CERCLA
  - Alternative 2 for Soil: LUCs including measures to prevent access to lead in subsurface soil
  - Alternative 3 for Soil: Hot spot excavation to dig up and dispose of the lead-contaminated soil off-site.

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Feasibility Study
(Groundwater)

- FS evaluated 2 options for metals in groundwater:
  - Alternative 1 for Groundwater: No Action as required by CERCLA
  - Alternative 2 for Groundwater: Land Use Controls (LUCs) to control access to groundwater in the future and long-term monitoring (LTM)

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Remedial Alternative Evaluation

- **Alternative SL-1: No Action**
  - Not protective under possible future use scenarios
  - Does not meet ARARs,
  - 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, and
  - No cost.

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Remedial Alternative Evaluation

- **Alternative SL-2: LUCs**
  - Human health risk controlled for future use scenarios
  - Complies with ARARs identified,
  - Long-term effectiveness through control of exposure,
  - No reduction in toxicity or mobility,
  - Effective in short-term because there is no risk under current land use,
  - Readily implemented, and
  - Low to moderate cost.

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Remedial Alternative Evaluation

- **Alternative SL-3: Hot Spot Soil Excavation with Off-Site Disposal**
  - Protective of human health through removal of impacted soil
  - Complies with ARARs identified,
  - Effective in the long-term through removal of impacted media,
  - Soil removed, but no treatment, so no reduction in toxicity or mobility,
  - Effective in short-term because there is no risk under current land use,
  - Low complexity to implement, and
  - Low to moderate cost.

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Remedial Alternative Evaluation

- **Alternative GW-1: No Action**
  - Not protective under possible future use scenarios
  - Does not meet ARARs,
  - 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, and
  - No cost.

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Remedial Alternative Evaluation

- **Alternative GW-2: LUCs and LTM of Groundwater**
  - Human health risk controlled for future use scenarios
  - Complies with ARARs identified,
  - Long-term effectiveness through control of exposure with long-term maintenance of LUCs,
  - No reduction in toxicity or mobility, but active treatment at adjoining sites should affect groundwater quality
  - Effective in short-term because there is no risk under current land use,
  - Readily implemented, and
  - Low to moderate cost.

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Presentation Agenda

- Status of the CERCLA Process for Architect of the Capitol
- Site Information
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Preferred Alternatives

Soil

Alternative SL-3: Hot Spot Soil Excavation with Off-Site Disposal

- Excavate and dispose of lead impacted soil in two 10 ft x 20 ft hot spot areas
- Post-excavation confirmatory sampling.

Groundwater

Alternative GW-2: LUCs and LTM of Groundwater

- LUCs to prohibit drilling wells for potable use of shallow groundwater and regular groundwater sampling at on-site monitoring wells. The five-year review process and the annual land use inspections will be used to document that the remedy remains protective.

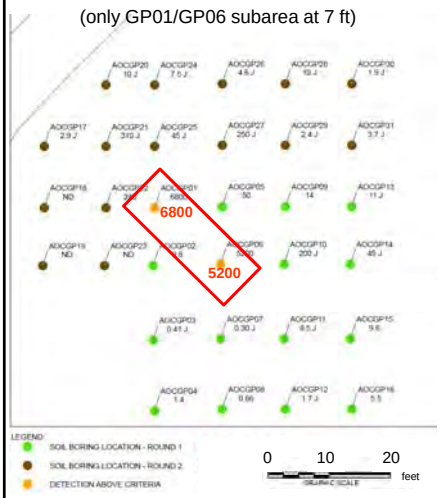
ARMY STRONG.

Soil Remedy
Hot Spot Excavation Areas at 7 ft & 10 ft

At 7 ft BGS

Avg Pb Conc in red box = **6,300** mg/kg

(only GP01/GP06 subarea at 7 ft)

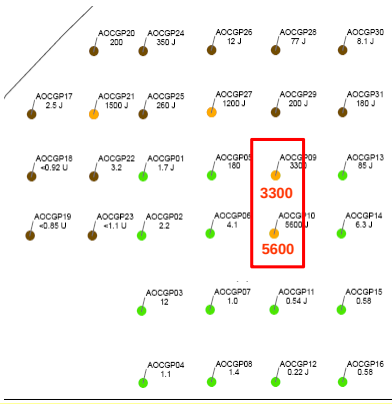


mg/kg = milligrams per kilogram (equivalent to parts per million)

At 10 ft BGS

Avg Pb Conc in red box = **4,450** mg/kg

(only GP09/GP10 subarea at 10 ft)



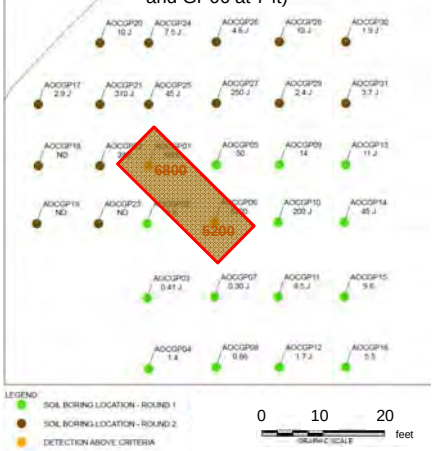
The red boxes indicate hot spots for lead representing the greatest potential risk to a potentially exposed population.

Soil Remedy
After Excavation Area is Suitable For Unrestricted Use

At 7 ft BGS

Avg Pb Conc = **43** mg/kg

(all remaining samples after removal of GP01 and GP06 at 7 ft)

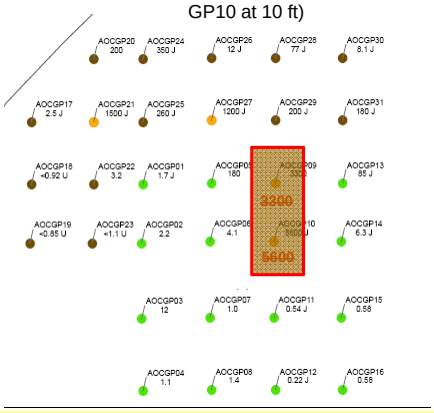


mg/kg = milligrams per kilogram (equivalent to parts per million)

At 10 ft BGS

Avg Pb Conc = **148** mg/kg

(all remaining samples after removal of GP09 and GP10 at 10 ft)



Assumes the hot spot areas (red boxes) have been excavated and backfilled with clean fill. Now the average lead concentrations across the study area are <400 mg/kg.

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Presentation Agenda

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Proposed Plan

- The PP is available for public review from July 24th to August 22nd 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

Anne Arundel County Library(West County Area Branch)
1325 Annapolis Road
Odenton, MD 21113
Mon-Th: 9 am-9 pm; Fri & Sat: 9am-5 pm

http://www.ftmeade.army.mil/environment/cleanup/programsites/aoc/aoc.html

- Public comments will be reviewed and considered before remedy selection is finalized and documented in the ROD.
- The ROD for the Architect of the Capitol Site will be finalized in December 2014.

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Written Comments

- Comments will be accepted until August 22nd, 2014.
- Send comments to any one of the following:

Ms. 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
(301)-677-1361

Mr. John Burchette
USEPA Region III
1650 Arch Street
Philadelphia, PA 19103-2029
burchette.john@epa.gov

Dr. Elisabeth Green
Maryland Department of Environment
1800 Washington Blvd, Suite 625
Baltimore, MD 21230-1719
elisabeth.green@maryland.gov

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Questions/Comments?

Acronyms

ARAR	Applicable or Relevant and Appropriate Requirements
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
DoD	Department of Defense
FS	Feasibility Study
LTM	Long Term Monitoring
LUC	Land Use Control
MCL	Maximum Contaminant Level
MDE	Maryland Department of the Environment
PP	Proposed Plan

Acronyms (Cont'd)

RA	Remedial Action
RD	Remedial Design
RI	Remedial Investigation
ROD	Record of Decision
USEPA	U.S. Environmental Protection Agency

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.

Glossary (Cont'd)

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

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.

Operation and Maintenance (O&M): Annual post-construction cost necessary to ensure the continued effectiveness of a Response Action.

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

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.

Glossary (Cont'd)

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.

U.S. Army Garrison Fort George G. Meade
Directorate of Public Works-Environmental Division
4215 Roberts Ave, Room #320
Fort Meade, Maryland 20755-7068

Points of Contact:
Mr. George B. Knight, PG, Environmental Restoration Manager
301.677.7999
george.b.knight7.civ@mail.mil

Ms. Denise Tegtmeyer, PE, Senior Project Manager, Osage of Virginia, Inc.
301.677.9559
denise.a.tegtmeyer.ctr@mail.mil

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