

FOREST GLEN

Army Cleanup Program

Installation Action Plan Final

September 2023

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STATEMENT OF PURPOSE

The Installation Action Plan (IAP) provides evidence that the Army is firmly committed to expeditious identification and cleanup of environmental contamination, and that the installation has a credible, organized program to carry out that commitment. The IAP provides an outline of the total multi-year environmental cleanup program for each site with ongoing or future planned restoration activity and includes the (1) environmental restoration requirements, (2) the rationale for the selected technical approach, and (3) foundation to develop corresponding financial needs for each cleanup site.

INSTALLATION OVERVIEW

Installation Name: FOREST GLEN

Installation City: Silver Spring

Installation County: Montgomery

Installation State: MD

Regulatory Participation - Federal: N/A

Regulatory Participation - State: Maryland Department of the Environment (MDE) Federal Facilities Division

ACRONYMS

Acronym	Definition
AEDB-R	Army Environmental Database - Restoration
CC	Compliance-related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
COC	Contaminant of Concern
COMAR	Code of Maryland Regulations
COPC	Contaminants of Potential Concern
DCS	Deputy Chief of Staff
DD	Decision Document
EE/CA	Engineering Evaluation/Cost Analysis
ENV	Environmental
FS	Feasibility Study
FTGL	Forest Glen
FY	Fiscal Year
FYR	Five-Year Review
HQAES	Headquarters Army Environmental System
HRS	Hazard Ranking System
IAP	Installation Action Plan
ID	Identification
IR	Installation Restoration
IRA	Interim Remedial Action
IRP	Installation Restoration Program
LTM	Long-Term Management
LUC	Land Use Control
MD	Maryland
MDE	Maryland Department of the Environment
MR	Munitions Response
MRSP	Military Munitions Response Program
NPL	National Priorities List
PA	Preliminary Assessment
PCE	Tetrachloroethylene
PFAS	Per- and Polyfluoroalkyl Substances
PP	Proposed Plan
PR	Periodic Review
RA	Remedial Action
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act

Acronym	Definition
RD	Remedial Design
RFA	RCRA Facility Assessment
RI	Remedial Investigation
RIP	Remedy-in-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SC	Site Closeout
SI	Site Inspection
TBD	To be Determined
TAPP	Technical Assistance for Public Participation
USEPA	US Environmental Protection Agency
UU/UE	Unlimited Use Unlimited Exposure
VOC	Volatile Organic Compound

PHASE TRANSLATION TABLE

HQAES Phase ID	CERCLA Phase	RCRA Phase	RCRA UST Phase
.01	Preliminary Assessment (PA)	RCRA Facility Assessment (RFA)	Initial Site Characterization (ISC)
.02	Site Inspection (SI)	Confirmation Sampling (CS)	Investigation (INV)
.03	Remedial Investigation/ Feasibility Study (RI/FS)	RCRA Facility Investigation/Corrective Measures Study (RFI/CMS)	Corrective Action Plan (CAP)
.04	Remedial Design (RD)	Design (DES)	Design (DES)
.05	Interim Remedial Action (IRA)	Interim Measure (IM)	Interim Remedial Action (IRA)
.06	Remedial Action (Construction) (RA(C))	Corrective Measures Implementation (Construction) (CMI(C))	Implementation (Construction) (IMP(C))
.07	Remedial Action (Operations) (RA(O))	Corrective Measures Implementation (Operations) (CMI(O))	Implementation (Operations) (IMP(O))
.08	Long-Term Management (LTM)	Long-Term Management (LTM)	Long-Term Management (LTM)

PROGRAM SUMMARY

Number of Open Sites with Response Complete/Total IR Sites: 1/4

Number of Open Sites with Response Complete/Total MR Sites: 0/0

Number of Open Sites with Response Complete/Total CC Sites: 0/0

SITE-LEVEL INFORMATION

24605.1002_FTGL-02_Ballfield/Helipad/Rubble Dump Si

Legacy ID: FTGL-02

Site Name: Ballfield/Helipad/Rubble Dump Si

Alias: #

Regulatory Driver: CERCLA

RIP Date: 6/30/2027

RC Date: 6/30/2027

RC Reason: Not assigned

SC Date: 7/2/2056

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	1/31/1989	1/31/1990
SI:	2/28/1990	3/31/2000
RI/FS:	1/31/2009	6/15/2019
RD:	6/15/2019	11/30/2023
IRA:	3/8/2018	3/31/2018
RA(C):	12/1/2023	6/30/2027
RA(O):	--	--
LTM:	7/1/2027	7/1/2056

Site Narrative: This waste disposal site identified in the preliminary assessment (PA) completed in 2000, is currently occupied by softball fields and a helipad and is bounded on the northwest, west, south, and southeast by a wooded hillside. The waste disposal area extends into this hillside, primarily to the southwest. The site is bounded on the northeast by a parking lot for Buildings 152, 154, and 156 and additional recreational areas. No buildings are present within the landfill footprint. The wooded hillside descends on the site's southeast side to the valley of Stream D (South Ireland Creek), a tributary that empties into Rock Creek outside of the installation boundary southwest of Forest Glen (FTGL)-02. The PA reported that waste disposed of at the landfills included construction debris, medical waste, incinerator ash, household waste, and office waste. An analysis of aerial photography (2010) revealed numerous disturbances, ground scarring, and potential soil staining occurred in the vicinity of FTGL-02 as early as 1937, although it is unlikely that waste disposal occurred prior to Army acquisition in 1942. A Phase I site inspection (SI) conducted in 2002 reported active dumping at FTGL -02 based on a review of aerial imagery. Surficial waste had also been observed on the northwest side of FTGL-02 overlapping the landfill footprint. The SI identified potential impact to Stream D, which receives stormwater from various portions of the facility and surface water runoff from the FTGL-02 area. Multiple investigations have been conducted at FTGL-02 from 2000 to the present day. In fiscal year (FY)10, a remedial investigation (RI) was initiated, which included the investigation of FTGL-02, FTGL-03, FTGL-04, and FTGL-05. The RI revealed buried waste, including medical waste at the ground surface beyond the existing installation security boundary adjacent to the Ireland Trail. It was determined that a Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) non-time-critical response action was appropriate to protect the public from the potential physical and chemical hazards posed by buried and exposed waste along the northern, southern, and western perimeter of FTGL-02. An engineering evaluation/cost analysis (EE/CA) was undertaken to evaluate non-time-critical interim response actions to protect the general public during the implementation of the RI, feasibility study (FS), proposed plan (PP), and record of decision (ROD) for FTGL-02. A preferred alternative was identified that included installation of fencing to prevent public access to waste and contaminated surface water. The action

memorandum for fence construction was signed on July 29, 2015. The RI was finalized in 2017. No significant risk of adverse effects to ecological receptors was identified. The FS and PP were finalized in November 2018. The ROD was signed in April 2019. The selected remedial alternative includes a hybrid (i.e., combined permeable and impermeable) cover/cap, long-term maintenance of cover, long-term monitoring (groundwater and surface water), and land use control (LUC). A contract to complete the design and provide technical support during cap construction was awarded in late FY19. The landfill cap design commenced in late FY21. A contract to begin long-term management (LTM) of the fence, surface water and groundwater was awarded in FY20. FTGL-02 Ballfield/Helipad/Rubble Dump Site includes capping waste, long-term operation of the cap and fencing, quarterly groundwater/surface water monitoring and LUC monitoring, and five-year reviews. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for unlimited use unlimited exposure (UU/UE), five-year remedy reviews will continue indefinitely.

24605.1003_FTGL-03_Commissary Landfill

Legacy ID: FTGL-03

Site Name: Commissary Landfill

Alias: #

Regulatory Driver: CERCLA

RIP Date: 10/31/2024

RC Date: 10/31/2024

RC Reason: Not assigned

SC Date: 11/2/2053

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: High

MRSPP: N/A

Phase	Start	End
PA:	1/31/1989	1/31/1990
SI:	3/31/1999	3/31/2000
RI/FS:	1/31/2009	10/31/2024
RD:	--	--
IRA:	--	--
RA(C):	8/2/2019	10/31/2024
RA(O):	--	--
LTM:	11/1/2024	11/1/2053

Site Narrative: This waste disposal site was identified in the 2000 PA and is currently developed and covered by buildings and impervious surfaces. Based on the conclusions of the aerial photography analysis completed in 2010, observance of disturbances, ground scarring, and discolored soils are noted as early as 1948. The PA documented waste disposed of at the landfills included construction debris, medical waste, incinerator ash, household waste, and office waste. The 2002 Phase I SI reported elevated levels of tetrachloroethylene (PCE) in groundwater sampled from monitoring wells installed along the site's eastern boundary of the installation. The source of this contamination was unknown. In FY10 an RI was initiated, which included the investigation of FTGL-02, FTGL-03, FTGL-04, and FTGL-05. The RI was finalized in March 2017. The RI identified the bounds of the waste and recommended additional RI efforts to identify the source(s) of the primary and secondary plumes; and define the nature and extent of contamination in shallow and deep groundwater. An FS and PP addressing FTGL-03 soils and surface water was finalized in November 2018. The ROD was signed in April 2019. The selected remedial alternative and exit strategy for FTGL-03 soil and surface water includes inspection and maintenance of the existing cover, routine LUCs and LTM. A supplemental groundwater investigation was performed concurrently with the RI, in coordination with Maryland Department of the Environment (MDE), to determine if the Army is responsible for the PCE in groundwater. The 2017 investigation included installing three temporary wells located south of Linden Lane and east of the CSX rail line. Samples were analyzed for volatile organic compounds (VOC) and water levels were collected to aid in the determination of groundwater flow. However, the groundwater gradient could not be confidently assessed and the results were inconclusive. In September 2018, contract was awarded to perform a Phase 2 RI focused on the groundwater contamination; to define the nature and extent of contamination in shallow and deep groundwater; and to determine if the Army is responsible for the contamination. In July 2019, 21 permanent groundwater monitoring wells were installed in both on- and off-post locations. Soil and groundwater samples were analyzed for VOCs during and after well installation. In addition, a complete round of synoptic groundwater levels were collected. The results of

this investigation included PCE and associated breakdown products detections in shallow soil at concentrations exceeding US Environmental Protection Agency (USEPA) leaching to groundwater regional screening level at four of the six off-post locations investigated. Concentrations of PCE in on-post groundwater were an order of magnitude lower than of off-post groundwater. Additionally, based on the groundwater level data, the apparent source area of PCE is upgradient of impacted groundwater monitoring wells on the eastern boundary of the Post indicating the Army is not the source/not responsible for the PCE groundwater contamination. The results were documented in a technical memorandum, which received a letter of formal concurrence from MDE. A groundwater RI is underway and is expected to document no further action for groundwater at the site. This conclusion will be formalized in a PP and ROD for groundwater associated with FTGL-03. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, five-year remedy reviews will continue indefinitely.

24605.1004_FTGL-04_Bldg 511 Landfill

Legacy ID: FTGL-04

Site Name: Bldg 511 Landfill

Alias: #

Regulatory Driver: CERCLA

RIP Date: 8/15/2021

RC Date: 8/15/2021

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2053

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	3/31/1989	3/31/1999
SI:	3/31/1999	3/31/2000
RI/FS:	1/31/2009	6/15/2019
RD:	6/16/2019	4/30/2021
IRA:	--	--
RA(C):	5/3/2021	8/15/2021
RA(O):	--	--
LTM:	8/15/2021	9/30/2053

Site Narrative: This waste disposal site, identified in the PA conducted in 2000, is currently developed and covered by several buildings and paved areas including Building 511 (Animal Medical Research Facility and former incinerator), Building 503 (Walter Reed Army Institute of Research), and Building 605 (Motor Pool). Most areas that are not occupied by buildings are covered by impervious surfaces, including parking lots on the eastern and western ends of the landfill's footprint. The site is bounded by buildings, parking lots, and roadways. FTGL-04 is primarily associated with the former incinerator identified with Building 511. Based on the conclusions of the aerial photography analysis completed in 2010, the incinerator was noted in historical aerial photographs as early as 1957. Ground scarring and disturbances were noted in this area as early as 1937, although it is unlikely that waste disposal occurred prior to Army acquisition in 1942. Development was initiated at the site between 1951 and 1957. In the PA, it was reported that waste disposed of at the landfills included construction debris, medical waste, incinerator ash, household waste, and office waste. The PA also reported that the first incinerator (constructed in 1957) was used to incinerate papers, contaminated waste, animal bodies, and garbage; the replacement incinerator (constructed in 1970-1971) was used to incinerate animal bodies and bedding. Ash from the incinerators was buried in the landfills. An intensive subsurface investigation overlapping the northern portion of the landfill footprint was conducted in preparation for construction of Building 503 in 1989. Landfill materials logged during this investigation included medical and/or laboratory waste. Multiple investigations have been conducted at FTGL-04 from 1990 to the present day. In FY10, an RI was initiated, which included the investigation of FTGL-02, FTGL-03, FTGL-04 and FTGL-05. The objective of the RI was to delineate the extent of landfill waste; characterize landfill surface soils; characterize the potential release to perimeter/downgradient environmental media from landfill; evaluate the potential vapor intrusion exposure pathway; and evaluate human health and ecological risk. The RI achieved investigation objectives and was finalized in 2017. Contaminants of potential concern (COPC) identified in the RI include polycyclic aromatic hydrocarbons in surface and subsurface soils across FTGL-04. More limited contamination associated with dioxins/furans and

pesticides was also encountered in site soils. Contaminants in groundwater include VOCs, pesticides, and metals detected at concentrations exceeding respective regulatory criteria in groundwater at FTGL-04. Elevated levels of metals were also detected. Manganese in surface and subsurface site soil and chlorinated solvents in groundwater were identified as the COPCs that are most significantly driving human health risk at the site. No significant risk of adverse effects to ecological receptors was identified. The FS and PP were finalized in November 2018. The final ROD was issued in March 2019 and signed in April 2019. The selected remedial alternative includes inspection and maintenance of the existing cover, routine LUCs and long-term monitoring. LTM of groundwater will be conducted as a component of landfill closure monitoring requirements specified under Code of Maryland Regulations (COMAR). The cleanup exit strategy for FTGL-04 includes inspection and maintenance of the existing cover, routine LUCs, LTM and five-year reviews. LTM of groundwater will be conducted as a component of landfill closure monitoring requirements specified under COMAR. Because the future land use will remain industrial and hazardous substances, pollutants, or contaminants will remain at the site at concentrations exceeding levels that allow for UU/UE, five-year remedy reviews will continue indefinitely.

24605.1008_FTGL-PFAS_PFAS

Legacy ID: FTGL-PFAS

Site Name: PFAS

Alias: #

Regulatory Driver: CERCLA

RIP Date: 2/2/2029

RC Date: 2/2/2029

RC Reason: Not assigned

SC Date: 2/3/2029

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: No

Hazardous Ranking Score: 0

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	9/30/2017	6/24/2019
SI:	6/25/2019	9/30/2022
RI/FS:	1/3/2022	2/2/2029
RD:	--	--
IRA:	--	--
RA(C):	--	--
RA(O):	--	--
LTM:	--	--

Site Narrative: Per direction from Deputy Chief of Staff G-9, site created to account for all per- and polyfluoroalkyl substances (PFAS) costs at the installation. Currently a PA/SI is underway to identify all releases of PFAS to the environment. During the PA, one area of potential interest was identified as having stored, used or released PFAS to the environment. This site is the Forest Glen Fire Station (Building 609 – Fire Station Company 54). Data collected to date indicates a PFAS RI is not warranted at Forest Glen, due to exceedances of regional screening levels.

SITE SUMMARY

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date
24605.1001	FTGL-01_Building 500	3/15/2014
24605.1005	FTGL-05_Bldg 607 Washdown Rack	3/30/2019
24605.1006	FTGL-06_PCB Cont. North of Linden Ln	9/18/2020
24605.1007	CCFTGL-07_LEAK FROM A 1000 GALLON UST	12/31/2019

COMMUNITY INVOLVEMENT

Community Involvement Plan (Date Last Reviewed):	11/15/2017
Technical Review Committee Establishment Date:	N/A
Restoration Advisory Board (RAB) Establishment Date:	9/15/2012
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	N/A
Reasons for Not Establishing RAB:	N/A
RAB Date of Solicitation from Community:	N/A
RAB Results of Solicitation:	N/A
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A
Administrative Record Location:	9255 Amber Drive Frederick Maryland
Information Repository Location:	Silver Spring Library, 900 Wayne Ave, Silver Spring MD 20910

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Status	Review Type	Start Date	End Date	Plans Narrative	Actions Narrative	Results Narrative
Future	FYR	6/15/2023	6/15/2024	TBD	TBD	TBD
Completed	FYR	NA	NA	N/A	N/A	N/A