

FORT RILEY

Army Cleanup Program

Installation Action Plan Final

March 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: FORT RILEY

Installation City: FORT RILEY

Installation County: GEARY/RILEY/CLAY

Installation State: KS

Regulatory Participation - Federal: US Environmental Protection Agency (USEPA), Region VII

Regulatory Participation - State: Kansas Department of Health and Environment (KDHE), Bureau of Environmental Field Services - North Central District Office (NCDO) KDHE, Bureau of Environmental Remediation

ACRONYMS

Acronym	Definition
AGL	Abandoned Gas Line
AOPI	Area of Potential Interest
C/D	Construction/Demolition
CATOX	Catalytic Oxidation
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CMI(C)	Corrective Measures Implementation (Construction)
CMI(O)	Corrective Measures Implementation (Operations)
CMS	Corrective Measures Study
COC	Contaminant of Concern
CS	Confirmation Sampling
DD	Decision Document
DES	Design
DPE	Dual Phase Extraction
ENV	Environmental
ESD	Explanation of Significant Difference
FS	Feasibility Study
FTRI	Fort Riley
FY	Fiscal Year
FYR	Five-Year Review
HQAES	Headquarters Army Environmental System
HRS	Hazardous Ranking System
IAP	Installation Action Plan
IC	Institutional Control
ID	Identification
IM	Interim Measure
IR	Installation Restoration
IRA	Interim Remedial Action
KDHE	Kansas Department of Health and Environment
KRBCA	Kansas Risk Based Corrective Action
LTM	Long-Term Management
LUC	Land Use Control
MAAF	Marshall Army Airfield
MC	Munition Constituent
MCL	Maximum Contamination Levels
MEC	Munitions and Explosives of Concern
MNA	Monitored Natural Attenuation
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol

Acronym	Definition
NCDO	North Central District Office
NPL	National Priorities List
OB	Open Burning
OD	Open Detonation
PA	Preliminary Assessment
PCA	1,1,2-Tetrachloroethane
PCE	Tetrachloroethylene
PFAS	Per- and Polyfluoroalkyl Substances
POL	Petroleum, Oil and Lubricant
PR	Periodic Review
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RAB	Restoration Advisory Board
RACR	Remedial Action Completion Report
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy-In-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SC	Site Closeout
SI	Site Inspection
SVE	Soil Vapor Extraction
TAPP	Technical Assistance for Public Participation
TCE	Trichloroethylene
TNT	Trinitrotoluene
TPH	Total Petroleum Hydrocarbon
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
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: 3/13

Number of Open Sites with Response Complete/Total MR Sites: 1/2

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

SITE-LEVEL INFORMATION

20605.1001_FTRI-001_CUSTER HILL SANITARY LANDFILL

Legacy ID: FTRI-001

Site Name: CUSTER HILL SANITARY LANDFILL

Alias: FTRI-001

Regulatory Driver: CERCLA

RIP Date: 3/15/1995

RC Date: 12/1/2022

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2053

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.8

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	6/30/1987	9/30/1989
SI:	6/30/1987	9/30/1989
RI/FS:	9/30/1989	7/31/1993
RD:	8/31/1993	11/30/1993
IRA:	--	--
RA(C):	12/31/1993	2/28/1995
RA(O):	3/15/1995	12/1/2022
LTM:	12/2/2022	9/30/2053

Site Narrative: Site Fort Riley (FTRI)-001 is a closed landfill approximately 65 acres in size. The contaminants of concern (COC) identified at the site were metals in the groundwater. The landfill operated as a solid waste landfill from 1981 through 1994 and was closed through a regulator approved closure plan in 1995. A Consent Order from the State of Kansas imposed post-closure requirements such as annual inspections, cover maintenance and repair, groundwater monitoring and/or remediation of post-closure groundwater contamination. A May 2015 arsenic speciation study indicated the arsenic is an inorganic species naturally occurring in the local shales. The KDHE reduced sampling requirements in June 2017. Annual sampling of all wells except one was discontinued. Monitoring of the one well in which barium was detected found the downward trend in barium continue. KDHE terminated the sampling requirement on May 10, 2022. Annual inspections of the cap will continue to be required. Cleanup and Exit Strategy - The intent is to continue annual cap inspections and provide maintenance as required.

20605.1003_FTRI-003_SOUTHWEST FUNSTON LANDFILL

Legacy ID: FTRI-003

Site Name: SOUTHWEST FUNSTON LANDFILL

Alias: OU 1

Regulatory Driver: CERCLA

RIP Date: 10/15/1997

RC Date: 2/15/2010

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2053

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.8

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	12/31/1983	12/31/1984
SI:	6/30/1987	9/30/1989
RI/FS:	1/31/1991	3/31/1996
RD:	10/31/1995	3/31/1996
IRA:	12/31/1993	12/31/1995
RA(C):	1/31/1996	9/30/1997
RA(O):	10/15/1997	2/15/2010
LTM:	9/15/2010	9/30/2053

Site Narrative: The Southwest Funston Landfill is an approximately 120-acre closed landfill. Volatile organic compounds (VOC), metals and petroleum hydrocarbons were detected and identified as contaminants of potential concern during the initial groundwater sampling in the 1990s. The landfill operated as a solid waste landfill from the mid-1950s through 1981 and was closed through a regulator approved closure plan from 1982 to 1983. In 1994 and 1995, cover repair improvements and construction of a revetment (i.e., stabilizing and strengthening the riverbank) along the Kansas River were performed. Post-closure requirements for the landfill were established in 1997. The Southwest Funston Landfill was approved for the site completion status under the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) and the site became eligible for deletion from the National Priorities List (NPL). The site was transitioned to the long-term management (LTM) phase with re-evaluation during five-year reviews (FYR) as required by the US Environmental Protection Agency (USEPA). The 2011 LTM and care plan approved by the regulators established the de minimis (periodic as needed) requirements for LTM and care of the landfill. Those requirements are land use controls (LUC) groundwater sampling and reporting. The 2017 FYR report did not reveal any threats to human health and the environment. Fort Riley submitted a recommendation report in May 2018 to KDHE and the USEPA to terminate the requirement to further test the groundwater. That request was not granted in whole; instead, regulators approved a reduced strategy to sample groundwater every five years for VOCs metals and petroleum hydrocarbons in order to verify the remedy remains protected. Cleanup and Exit Strategy - The intent is to continue groundwater sampling in five-year increments, complete a regulator requested scour evaluation in 2022 and conduct FYRs. The next FYR is scheduled for 2027. Upon completion of the 2022 FYR and scour evaluation, Fort Riley may request closure of the operating unit with the USEPA, assuming the Per- and Polyfluoroalkyl Substances (PFAS) analysis and sampling data do not result in additional concerns. Annual LTM will continue indefinitely.

20605.1009_FTRI-009_OB/OD GROUND (RANGE 16)

Legacy ID: FTRI-009

Site Name: OB/OD GROUND (RANGE 16)

Alias: OU 6

Regulatory Driver: CERCLA

RIP Date: 6/1/2019

RC Date: 9/30/2053

RC Reason: Not assigned

SC Date: 9/30/2053

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.8

RRSE: Medium

MRSPP: N/A

Phase	Start	End
PA:	12/31/1983	12/31/1984
SI:	11/30/1991	9/30/1998
RI/FS:	3/15/1993	2/15/2015
RD:	11/1/2017	3/15/2018
IRA:	--	--
RA(C):	4/9/2018	6/1/2019
RA(O):	6/1/2019	9/30/2053
LTM:	--	--

Site Narrative: The Open Burning (OB)/Open Detonation (OD) Range is located in the Impact Area and currently used for training for explosive ordnance disposal personnel and emergency ordnance disposal. The COCs at the site are metals and chemicals in the groundwater soil and surface water. The principal source of contamination at the OB/OD site is the trichloroethylene (TCE)-contaminated soil located in the area of the metal debris pits (source area). The source area is likely contributing to the groundwater and surface water contamination present at the site. There is no known historical or current use of solvents or knowledge of solvent disposal at the OB/OD site. The cleanup strategy is excavation of contaminated soil and spreading of that soil on the ground at the OB/OD to allow the sun to volatilize the chemicals through a landfarm treatment operation. The project required an explosive safety plan and robotic excavation of contaminated soil. Field activities for cleanup began in April 2018 with pre-excavation soil investigation that provided soils analysis relative to TCE and roughly delineated the extent of contamination. Drilling of shallow wells was completed in July 2018, and deep well drilling completed in December 2018. The site is in the RA(O) phase. Cleanup and Exit Strategy - Operation of the landfarm treatment cells remediated soil in the landfarm so that it no longer exceeds KDHE risk-based screening levels for TCE and PCA. Landfarm soil was transported for reuse at the local construction/demolition (C/D) landfill in November 2022. Groundwater monitoring for VOCs (primarily TCE and PCA) will continue under monitored natural attenuation (MNA) until the contamination no longer exceeds remediation goals.

20605.1026_FTRI-027_DRY CLEANING FACILITIES AREA

Legacy ID: FTRI-027

Site Name: DRY CLEANING FACILITIES AREA

Alias: OU 3

Regulatory Driver: CERCLA

RIP Date: 7/15/2008

RC Date: 10/1/2022

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2053

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.8

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	12/31/1983	12/31/1984
SI:	6/30/1987	9/30/1989
RI/FS:	6/30/1991	3/31/2008
RD:	4/30/2008	6/30/2008
IRA:	11/15/1994	9/15/2006
RA(C):	6/15/2008	6/15/2008
RA(O):	7/15/2008	10/1/2022
LTM:	10/1/2022	9/30/2053

Site Narrative: The Dry-Cleaning Facilities Area consists of two areas where dry cleaning operations were conducted. The COC is tetrachloroethylene (PCE) used as the dry-cleaning solvent. The facilities ceased operations in 2002. A leaking sanitary sewer line from the Dry-Cleaning Facilities Area resulted in soil contamination and two plumes of groundwater contamination. The site of contamination is located 800 feet north of the Kansas River. Site Inspection (SI) field activities at the Dry-Cleaning Facilities Area began in October 1991. In addition, several pilot studies involving the injection of sodium permanganate solution and potassium permanganate and/or cap 18TM were conducted at the areas of concern from November 2005 through September 2006. The chosen remedy is long-term natural attenuation (breakdown) of the PCE and long-term monitoring of groundwater. A microcosm study was initiated in 2015. The microcosm study determined that an enhancement of the subsurface was viable to allow further remediation (natural attenuation) to take place. However costly access problems prevented the implementation of study results. Sampling and reporting are completed as required under the 2008 record of decision (ROD) which specified MNA and institutional controls (IC). The FYR reports in 2002, 2007, 2012, 2017 and 2022 did not reveal any threats to human health and the environment. Cleanup and Exit Strategy - The exit strategy is long-term natural attenuation and monitoring of groundwater indefinitely or until remediation goals have been met for PCE. An analysis to determine how long it will take to achieve remediation goals for the MNA occurred in 2022; following this report, USEPA signed the Remedial Action Completion Report.

20605.1030_FTRI-031_354 AREA SOLVENT DETECTIONS (35

Legacy ID: FTRI-031

Site Name: 354 AREA SOLVENT DETECTIONS (35

Alias: OU 5

Regulatory Driver: CERCLA

RIP Date: 4/15/2007

RC Date: 9/30/2053

RC Reason: Not assigned

SC Date: 9/30/2053

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.8

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	11/30/1991	5/31/1993
SI:	12/31/1993	7/31/1995
RI/FS:	9/30/1996	8/31/2006
RD:	8/31/2006	3/31/2007
IRA:	--	--
RA(C):	3/31/2007	3/31/2007
RA(O):	4/15/2007	9/30/2053
LTM:	--	--

Site Narrative: The former Building 354 was constructed in 1935 as a gasoline service station. In addition to gasoline and diesel fuel, Building 354 may have been subsequently used as a storage site for solvents and road oil. PCE and its degradation products specifically have been identified as COC. Contaminants have not been above the Maximum Contamination Levels (MCL) in the Kansas River alluvial aquifer area known as the 'point bar' since April 2004. The site is in RA(O) and requires additional sampling for chlorinated solvents and natural attenuation and water quality parameters per the Record of Decision (ROD) signed in 2006. Groundwater sampling events in March and July 2014 identified increased concentration levels of PCE in terrace monitoring wells 354-01-27, 354-99-09 and TSO292-01. The reason for the increases is unknown. An explanation of significant difference (ESD) was produced in 2015 and approved by the regulatory partners to address the change in concentrations of PCE in the terrace wells. Review of TCE data showed continued downward trends despite spikes in concentrations. Fort Riley and regulators agreed in 2018 to install four more wells to better delineate the plume. Installation was completed during the fall of 2019. This site was addressed in the site-FYR reports completed in 2002, 2007, 2012, 2017 and 2022. Vapor intrusion at Building 367 was identified as a potential issue in the 2012 FYR and was resolved in technical memorandum in September 2013. Cleanup and Exit Strategy - The intent is to execute a bioremediation injection (bacterial mixture with emulsified vegetable oil and lactate product) and continue monitoring via the current ESD until PCE concentrations show a decreasing trend. If approved by the regulator a new ESD will be completed in order to revert to the original remedy MNA as specified in the ROD. If approved MNA in groundwater will continue until remediation goals are met for PCE.

20605.1055_FTRI-056_ABANDONED GASOLINE LINE

Legacy ID: FTRI-056

Site Name: ABANDONED GASOLINE LINE

Alias: FTRI-056

Regulatory Driver: RCRA-I

RIP Date: 10/31/2011

RC Date: 9/30/2053

RC Reason: Not assigned

SC Date: 9/30/2053

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.8

RRSE:

MRSPP: N/A

Phase	Start	End
ISC:	11/30/1991	9/30/1994
INV:	8/31/1994	3/31/1996
CAP:	3/31/1998	7/31/2011
DES:	3/31/2011	8/31/2011
IRA:	9/30/2006	9/30/2009
IMP(C):	3/31/2011	10/31/2011
IMP(O):	10/31/2011	9/30/2053
LTM:	--	--

Site Narrative: The underground storage tanks (UST) and a 1.1-mile steel pipeline that make up the Abandoned Gas Line (AGL) were installed in 1937 to transfer aviation gasoline from the railroad siding at the Main Post to the Marshall Army Airfield (MAAF). COCs are fuel and fuel-byproducts in groundwater and soil. The AGL terminus area associated with the pipeline is located between Buildings 754 and 748B at the airfield. A field investigation in 2001 revealed soil and groundwater contamination related to the former USTs exceeding risk-based standards. The hazardous substances 1,2-Dichloroethane and petroleum-related constituents were detected. Further assessment of the site occurred in August 2004. The remedial response was initiated in August 2006 and involved the injection of a chemical oxidant and an oxygen source in the contaminated zones. Post-treatment groundwater monitoring to analyze the effectiveness was performed in 2007, 2008 and 2009. An investigation to evaluate the extent of the remaining mass of contaminants in the soil and groundwater was completed in February 2010. Long-term monitoring for the site is on-going. The purpose of this LTM is to monitor the groundwater plume and to perform associated reporting requirements. The reports recommended that groundwater monitoring and potential treatment of the groundwater continue. Semi-annual sampling and a high-water event of sampling are conducted annually. Historical monitoring results showed a significant reduction in groundwater contamination; however, benzene, total lead, total petroleum hydrocarbon (TPH)-gasoline range organics and TPH-diesel range organics remained above regulatory standards in one well preventing site closure. Cleanup and Exit Strategy - The site is in the CMI(O) phase. In 2021, a new contract was awarded which moves the site into the Kansas Risk Based Corrective Action (KRBCA) program which will be completed within the CMI(O) phase. At the completion of the KRBCA program a decision will be made whether or not the site closes out or undergoes a remedial action. The intent of the KRBCA program is to define and implement an exit strategy that is anticipated to lead to site close out.

20605.1061_FTRI-063_FMR BLDG 1044 DISPENSING STATIO

Legacy ID: FTRI-063

Site Name: FMR BLDG 1044 DISPENSING STATIO

Alias: FTRI-063

Regulatory Driver: RCRA-I

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

SC Date: 9/30/2026

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.8

RRSE:

MRSPP: N/A

Phase	Start	End
ISC:	1/31/1990	12/31/1990
INV:	1/31/1990	3/31/1995
CAP:	3/31/1996	9/30/2024
DES:	--	--
IRA:	1/31/1990	9/30/2024
IMP(C):	9/30/2024	9/30/2026
IMP(O):	--	--
LTM:	--	--

Site Narrative: The site is located in Camp Funston. In the 1994–1995 time frame Fort Riley conducted a limited bioventing/vapor extraction study at the site. The site was granted LTM status by the KDHE. The site was improperly placed in Response Complete (RC) without regulatory acceptance. Analysis of data from a pilot study revealed high levels of soil and groundwater contamination at FTRI-063 (former Building 1044). A work plan was instituted to remediate the extensive soil and groundwater contamination from fuels-related petroleum hydrocarbons. The efforts include a dual phase extraction (DPE) and free-product recovery. The operation of the system at the site was implemented as of March 2010. An optimization study completed in July 2016 determined that converting the DPE systems at petroleum oil and lubricant (POL) Sites 1044 to soil vapor extraction (SVE) would be more effective in focusing the remedial effort on the remaining contamination in the soil zone which is the source of the site groundwater contamination. By transitioning this system to SVE and focusing on soil-vapor recovery rather than groundwater recovery it was expected that more significant contaminant source removal will be achieved at POL Sites. A characterization report was completed in June 2018 as well as a site-systems evaluation. The evaluation recommended bypassing the catalytic oxidation (CATOX) units as well as pulsing the system. Pulsing the system began August 2018. Cleanup and Exit Strategy - The exit strategy is to continue free-product recovery and disposal as well as perimeter performance groundwater monitoring designed to ensure the SVE system remains effective through Sept. 30, 2024. In 2022, the site was moved into the KRBCA program which is intended to produce a decision document (DD) ending the RFI/CMS phase and will begin the CMI(C) phase. The intent of the KRBCA program is to define and implement an exit strategy that is anticipated to lead to site close out.

20605.1064_FTRI-066_FMR BLDG 1245 DISPENSING STATIO

Legacy ID: FTRI-066

Site Name: FMR BLDG 1245 DISPENSING STATIO

Alias: FTRI-066

Regulatory Driver: RCRA-I

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

SC Date: 9/30/2026

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.8

RRSE:

MRSPP: N/A

Phase	Start	End
ISC:	1/31/1990	12/31/1990
INV:	1/31/1990	3/31/1995
CAP:	3/31/1996	9/30/2024
DES:	--	--
IRA:	1/31/1990	9/30/2024
IMP(C):	9/30/2024	9/30/2026
IMP(O):	--	--
LTM:	--	--

Site Narrative: The site is located in Camp Funston. In the 1994–1995 time frame, Fort Riley conducted a limited bioventing/vapor extraction study at the site. The site was granted LTM status by the KDHE. The site was improperly placed in RC without regulatory acceptance. Analysis of data from a pilot study revealed high levels of soil and groundwater contamination at FTRI-066 (former Building 1245). A work plan was instituted to remediate the extensive soil and groundwater contamination from fuels-related petroleum hydrocarbons. The efforts include DPE and free-product recovery. The operation of the system at the site was implemented as of March 2010. An optimization study completed in July 2016 determined that converting the DPE systems at POL Sites 1245 to SVE would be more effective in focusing the remedial effort on the remaining contamination in the soil zone which is the source of the site groundwater contamination. By transitioning this system to SVE and focusing on soil-vapor recovery rather than groundwater recovery it is expected that more significant contaminant source removal will be achieved at POL Sites. A characterization report was completed in June 2018 as well as a site-systems evaluation. The evaluation recommended bypassing the CATOX units as well as pulsing the system. Based on system operational and monitoring data the SVE systems for POL site 1245 has reached decreasing asymptotic contaminant removal level. Pulsing the system began August 2018. Cleanup and Exit Strategy - The exit strategy is to continue free-product recovery and disposal as well as perimeter performance groundwater monitoring designed to ensure the SVE system remains effective through Sept. 30, 2024. In 2022, the site was moved into the KRBCA program which is intended to produce a DD ending the RFI/CMS phase and will begin the CMI(C) phase. The intent of the KRBCA program is to define and implement an exit strategy that is anticipated to lead to site close out.

20605.1066_FTRI-068_FMR BLDG 1637 DISPENSING STATIO

Legacy ID: FTRI-068

Site Name: FMR BLDG 1637 DISPENSING STATIO

Alias: FTRI-068

Regulatory Driver: RCRA-I

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

SC Date: 9/30/2026

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.8

RRSE:

MRSPP: N/A

Phase	Start	End
ISC:	1/31/1990	12/31/1990
INV:	1/31/1990	3/31/1995
CAP:	3/31/1996	9/30/2024
DES:	--	--
IRA:	1/31/1990	9/30/2024
IMP(C):	9/30/2024	9/30/2026
IMP(O):	--	--
LTM:	--	--

Site Narrative: The site is located in Camp Funston. In the 1994–1995-time frame, Fort Riley conducted a limited bioventing/vapor extraction study at the site. The site was granted LTM status by the KDHE. The site was improperly placed in RC without regulatory acceptance. Analysis of data from a pilot study revealed high levels of soil and groundwater contamination at FTRI-068 (former Building 1637). A work plan was instituted to remediate the extensive contamination from fuels-related petroleum hydrocarbons. The efforts include a DPE. The operation of the system at the site is implemented as of March 2010. A characterization report was completed in June 2018 as well as a site-systems evaluation. Based on system operational and monitoring data the DPE systems for POL Site 1637 has reached decreasing asymptotic contaminant removal level. A pulsing strategy was begun in August 2018 in which the pulse cycle was six-months on/off. Cleanup and Exit Strategy - The exit strategy is to continue free-product recovery and disposal as well as perimeter performance groundwater monitoring designed to ensure the DPE system remains effective through Sept. 30, 2024. In 2022, the site was moved into the KRBCA program which is intended to produce a DD ending the RFI/CMS phase and will begin the CMI(C) phase. The intent of the KRBCA program is to define and implement an exit strategy that is anticipated to lead to site close out.

20605.1077_CC-FTRI-09_FUEL DISPENSING STATIONS

Legacy ID: CC-FTRI-09

Site Name: FUEL DISPENSING STATIONS

Alias: CC-FTRI-09

Regulatory Driver: RCRA-I

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

SC Date: 9/30/2026

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.8

RRSE: Not Evaluated

MRSPP: N/A

Phase	Start	End
ISC:	10/15/2008	11/15/2008
INV:	12/15/2008	1/21/2021
CAP:	4/15/2021	9/30/2024
DES:	--	--
IRA:	3/15/2009	9/30/2024
IMP(C):	9/30/2024	9/30/2026
IMP(O):	--	--
LTM:	--	--

Site Narrative: Two fuel dispensing stations located approximately 2.5 miles apart are lumped into one 'site'- an active transportation motor pool dispensing station located at Building 388 and a closed fueling station at Building 5320. Building 388 has free product in the groundwater. Groundwater sampling and free product bailing at Building 388 has been conducted annually - most recently in 2022. Building 5320 has fuel-related products present in the groundwater above regulatory levels. However, the contaminant plume is away from housing and directed toward the former Custer Hill Golf Course. The limited groundwater contamination above regulatory levels at Building 5320 was determined to not be impacting human health or the environment. Cleanup and Exit Strategy - The exit strategy for the Building 388 site is to continue free-product recovery and disposal as well as perimeter performance groundwater monitoring through Sept. 30, 2024. In 2022, the 388 and 5320 sites were moved into the KRBCA program, which is intended to produce a DD ending the RFI/CMS phase and will begin the CMI(C) phase. The intent of the KRBCA program is to define and implement an exit strategy that is anticipated to lead to site close out.

20605.1078_CC-FTRI-01_POL TANK FARM SITE

Legacy ID: CC-FTRI-01

Site Name: POL TANK FARM SITE

Alias: CC-FTRI-01

Regulatory Driver: RCRA-I

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

SC Date: 9/30/2026

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.8

RRSE:

MRSPP: N/A

Phase	Start	End
ISC:	4/15/1991	8/15/1998
INV:	9/15/1998	4/15/2003
CAP:	9/15/2004	9/30/2024
DES:	--	--
IRA:	9/15/2004	9/30/2024
IMP(C):	9/30/2024	9/30/2026
IMP(O):	--	--
LTM:	--	--

Site Narrative: This site is an active fuel tank farm in the Custer Hill Troop Area that has been in use since 1989. The facility was constructed to consolidate the storage of petroleum products. The COCs are fuel and fuel-byproducts in the soil and groundwater. Records indicate that releases have occurred since the facility began operations. Semi-annual free product recovery is occurring at three monitoring wells and will continue along with groundwater sampling for fuel related contaminants as long as free product is present. Free product is removed by manually bailing the wells until less than 0.10 feet of measurable product remains in the well. The five-year average recovery is 10 gallons of free product per year. Cleanup and Exit Strategy - The exit strategy is to continue free-product recovery and disposal as well as perimeter performance groundwater monitoring through Sept. 30, 2024. In 2022, the site was moved into the KRBCA program which is intended to produce a DD ending the RFI/CMS phase and will begin the CMI(C) phase. The intent of the KRBCA program is to define and implement an exit strategy that is anticipated to lead to site close out.

20605.1080_CC-FTRI-11_FORMER BLDG 700 FUELS SITE

Legacy ID: CC-FTRI-11

Site Name: FORMER BLDG 700 FUELS SITE

Alias: CC-FTRI-11

Regulatory Driver: RCRA-I

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

SC Date: 9/30/2026

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.8

RRSE: High

MRSPP: N/A

Phase	Start	End
ISC:	1/15/2012	6/15/2012
INV:	3/15/2013	2/15/2016
CAP:	3/15/2016	9/30/2024
DES:	--	--
IRA:	--	--
IMP(C):	9/30/2024	9/30/2026
IMP(O):	--	--
LTM:	--	--

Site Narrative: This project involves a former fuel dispensing site on MAAF along Ray Road. The COCs are fuel and fuel-related byproducts in the soil and groundwater. The Former Building 700 area had a total of nine USTs. Four 25,000-gallon USTs were installed in 1964 and four 20,000-gallon USTs were installed in 1987 for jet propellant (JP-8). There was one 550-gallon used oil UST installed in 1987. All of the USTs were removed Dec. 30, 1997. During geotechnical drilling operations the drill crew noticed hydrocarbon odors and a groundwater sample was obtained and tested. The analysis determined that there was contamination that warranted further investigation to define the levels of contamination. An SI was conducted in 2015 and an investigation recommendation report was produced in 2016. A project management plan was drafted in 2017 that recommended a remedy of in-situ treatment and excavation. The contaminant plume was further delineated in 2017. In-situ treatment pilot testing began in April 2018. Three and six-month post-performance monitoring were conducted in 2018 followed by a preliminary design investigation that began August 2018 and ended April 2019. Cleanup and Exit Strategy - In 2022, the site was moved into the KRBCA program which is intended to produce a DD ending the RFI/CMS phase and will begin the CMI(C) phase. The intent of the KRBCA program is to define and implement an exit strategy that is anticipated to lead to site close out.

20605.1088_FTRI-075_PFAS

Legacy ID: FTRI-075

Site Name: PFAS

Alias: #

Regulatory Driver: CERCLA

RIP Date: 9/30/2026

RC Date: 9/30/2026

RC Reason: Not assigned

SC Date: 9/30/2026

Program: ENV Restoration, Army

Subprogram: IR

NPL Status: Yes

Hazardous Ranking Score: 33.8

RRSE:

MRSPP: N/A

Phase	Start	End
PA:	5/21/2018	9/15/2019
SI:	5/14/2019	9/30/2022
RI/FS:	4/15/2021	9/30/2026
RD:	--	--
IRA:	1/22/2021	9/30/2026
RA(C):	--	--
RA(O):	--	--
LTM:	--	--

Site Narrative: A PA was completed in 2019. Twenty-eight areas of potential interest (AOPI) were identified where possible PFAS release was suspected to be present. The SI commenced in 2020 and of the 28 AOPIs sampled 15 were determined to either have exceeded the Office of Secretary of Defense defined screening levels for PFAS constituents in groundwater and/or have data supporting further investigation. As a result, the AOPIs moved forward to begin the Remedial Investigation (RI) phase in 2021. Additionally in 2020, 23 off-post private domestic water wells were sampled as part of the SI work. The 23 landowner wells were determined to be in close proximity to the confirmed on-post AOPIs and in line with groundwater directional flow from those AOPIs going off-post. One of the private wells sampled had concentrations of PFAS that exceeded the USEPA Lifetime Health Advisory of 70 parts per trillion for drinking water. As a result, a time critical removal action was initiated, and the well owner was provided with an alternative water source in 2021 opening up the IRA phase. The US Army will continue to provide an alternate water source throughout the CERCLA process. Cleanup and Exit Strategy - The RI began in 2021 and will determine the nature and extent of the PFAS at all sites. The CERCLA process will continue through completion.

20605.1075_FTRI-003-R-01_CAMP FORSYTH LANDFILL AREA 2

Legacy ID: FTRI-003-R-01

Site Name: CAMP FORSYTH LANDFILL AREA 2

Alias: OU 009

Regulatory Driver: CERCLA

RIP Date: 5/31/2026

RC Date: 5/31/2026

RC Reason: Not assigned

SC Date: 9/30/2053

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: Yes

Hazardous Ranking Score: 33.8

RRSE: N/A

MRSPP: 2

Phase	Start	End
PA:	3/15/2003	10/15/2003
SI:	6/15/2004	5/15/2006
RI/FS:	8/15/2007	10/1/2020
RD:	4/15/2021	9/22/2022
IRA:	--	--
RA(C):	12/1/2022	5/31/2026
RA(O):	--	--
LTM:	5/31/2026	9/30/2053

Site Narrative: The site is located along the southwestern boundary of Fort Riley and encompasses approximately 35 acres of sandbar and riverbed in and along the Republican River as well as approximately 88 acres of land north of the riverbank and either side of Breakneck Creek. The COCs are munitions and explosives of concern (MEC) and munitions constituents (MC) in sediment and surface water. In 1993, munitions debris was discovered on a sandbar downstream of the site after a flood. Nine MEC items were found on Republican River sandbars including a stick of trinitrotoluene (TNT) and rifle grenades. Due to the high number of discoveries additional field work was required. In 2000 and 2001, a 1500-foot revetment was constructed to stabilize the bank on the Fort Riley side of the river. A follow-up RI effort and site characterization was conducted 2014 - 2015 during which 14 MEC items were found. The findings of the RI field efforts show that MEC have been identified cross gradient and upgradient from the Camp Forsyth Landfill Area 2, confirming that the fill area is not the source of the MEC and munitions debris. An RI was completed in February 2017. The RI concluded a MEC risk is present and accessible to the public. In addition, areas downstream from the historical maneuver areas—whether that be downstream from the current location of the Republican River or the historical alignment of the river—may have MEC present. A FS was completed August 2018 that compared four alternatives. A draft proposed plan was completed in October 2018. A ROD was signed in 2020. Cleanup and Exit Strategy - In 2021, the remedial design began to remove MEC hazards and contamination from the site by 2025. After MEC removal, LTM will begin. It is anticipated ICs will be implemented along with inclusion in the FYRs. Additionally, a MEC public education and awareness program is being implemented simultaneously.

20605.1076_FTRI-001-R-02_SHSAR IMPACT SLOPE

Legacy ID: FTRI-001-R-02

Site Name: SHSAR IMPACT SLOPE

Alias: OU 8

Regulatory Driver: CERCLA

RIP Date: 10/1/2022

RC Date: 10/1/2022

RC Reason: All Required Cleanup(s) Completed

SC Date: 9/30/2053

Program: ENV Restoration, Army

Subprogram: MR

NPL Status: Yes

Hazardous Ranking Score: 33.8

RRSE: N/A

MRSPP: 3

Phase	Start	End
PA:	3/15/2003	10/15/2003
SI:	6/15/2004	5/15/2006
RI/FS:	8/15/2007	3/15/2015
RD:	2/15/2016	3/15/2017
IRA:	--	--
RA(C):	8/15/2017	10/1/2022
RA(O):	--	--
LTM:	10/1/2022	9/30/2053

Site Narrative: The Sherman Heights Small Arms Range Impact Slope is in Camp Forsyth above the Colyer Manor housing area and encompasses 52 acres. The site is undeveloped. The site was used as a small arms range from the 1880s to the 1980s. The COCs are MEC and MC in the soil and groundwater. Site characterization was performed in 2010 and 2011 using geophysical technologies. Three MEC items were found - a three-inch Hotchkiss projectile, a three-inch common projectile and a 2.36-inch anti-tank rocket. An approximately five-acre area of lead-contaminated soil was found on the eastern portion of the slope. The RI/FS was completed in 2014 and recommended LUCs to reduce the potential for exposure to lead-contaminated soil. Fencing was completed in the fall of 2017. LUCs include public education, physical access restrictions (to include fencing and signage) and inclusion in Fort Riley's Real Property Planning Documents. It was determined in 2018 that the fence did not contain all of the contamination. As a result, the final remedial action completion report (RACR) was not signed. Further soil delineation occurred in 2021, and realignment of the fence to fully contain the excess contamination occurred in 2022. The RACR was signed on September 21, 2022. Cleanup and Exit Strategy - Conduct LTM actions in the form of ICs, groundwater monitoring and soil sampling, along with inclusion in the FYRs.

SITE SUMMARY

SITE CLOSEOUT SUMMARY

HQAES ID	Site Name	Site Closeout Date
20605.1002	FTRI-002_WHITSIDE C/D LANDFILL-CLOSED	2/28/1995
20605.1004	FTRI-004_MAIN POST LANDFILL	9/30/1997
20605.1005	FTRI-005_CUSTER HILL ROAD RUBBLE DUMP	5/31/1993
20605.1006	FTRI-006_DRMO STORAGE AREA	1/31/1998
20605.1007	FTRI-007_PCB STORAGE BUILDING 343	9/30/1989
20605.1008	FTRI-008_PCB STORAGE CONEX (BUILDING 348	12/31/1990
20605.1010	FTRI-010_PESTICIDE (2-4D) UST AT CAMP FU	4/30/1992
20605.1011	FTRI-011_CAMP FUNSTON GW DETECTIONS	1/31/2005
20605.1012	FTRI-012_WASTE STORAGE DRMO SECONDARY AR	7/31/1995
20605.1013	FTRI-013_ABANDONED VOC TANKS NORTH OF IA	2/29/1992
20605.1014	FTRI-014_HOSPITAL INCINERATOR-IRWIN ACH	9/30/1989
20605.1015	FTRI-015_FORMER DRMO LOCATION (DRMO AREA	7/31/1995
20605.1016	FTRI-016_WASTE OIL AST-3RD BATTERY	9/30/1989
20605.1017	FTRI-017_WASTE OIL AST-4TH BATTERY	9/30/1989
20605.1018	FTRI-018_FIRE TRAINING AREA FACILITY (89	9/30/1989
20605.1019	FTRI-019_FORMER FIRE TRAINING AREA FFTA-	9/30/2012
20605.1020	FTRI-020_INDUSTRIAL WASTEWATER SYSTEM (C	12/31/1997
20605.1021	FTRI-022_FORMER WWTP & SLUDGE BEDS (ANCH	5/31/2007
20605.1022	FTRI-023_CUSTER HILL WWTP AND SLUDGE BED	9/30/1989
20605.1023	FTRI-024_FORSYTH WWTP AND SLUDGE BEDS	9/30/1989
20605.1024	FTRI-025_MAIN POST WWTP AND SLUDGE BEDS	9/30/1989
20605.1025	FTRI-026_RANGE COMPLEX WW LAGOONS	5/31/1993
20605.1027	FTRI-028_FMR FIRE TRAINING AREA CAMP FUN	2/28/1994
20605.1028	FTRI-029_OLD INCINERATOR SITE SE-CAMP FU	7/31/2003
20605.1029	FTRI-030_PESTICIDE STORAGE FACILITY (MIX	5/31/2010
20605.1031	FTRI-032_IMPACT ZONE	9/30/1993
20605.1032	FTRI-033_DOUTHIT RANGE	5/31/1993
20605.1033	FTRI-034_IMPACT AREA PERIMETER SMALL ARM	9/30/1989
20605.1034	FTRI-035_NON-IMPACT AREA SMALL ARMS RANG	7/31/2000
20605.1035	FTRI-036_SOUTHEAST FUNSTON LANDFILL (ANC	1/31/2009
20605.1036	FTRI-037_OLD WHITSIDE INCINERATOR AREA	5/31/1995
20605.1037	FTRI-038_FORSYTH LANDFILL(S)	8/31/2007
20605.1038	FTRI-039_CONSOLIDATED MAINTENANCE FACILI	5/31/1993
20605.1039	FTRI-040_FORMER OIL TESTING LAB (ANCHOR)	11/30/2007
20605.1040	FTRI-041_FURNITURE REPAIR SHOPS (3)	4/30/1995
20605.1041	FTRI-042_TAC VEHICLE MAINTENANCE SHOPS	5/31/1993
20605.1042	FTRI-043_FORMER GAS STATIONS/GARAGES	5/31/1993
20605.1043	FTRI-044_FORMER ASPHALT PLANT (NEAR BLDG	9/30/1995
20605.1044	FTRI-045_PHOTO AND PRINT PLANTS	4/30/1995
20605.1045	FTRI-046_FRMR DS/GS Bldg 1693 Adj Areas	4/30/1995

HQAES ID	Site Name	Site Closeout Date
20605.1046	FTRI-047_ FORMER LIVESTOCK DIPPING FACILI	11/30/2007
20605.1047	FTRI-048_ FORMER PESTICIDES FACILITIES	4/30/1995
20605.1048	FTRI-049_ MERCURY CONTAMINATION AREAS	6/30/1992
20605.1049	FTRI-050_ PCB SPILL AREAS /TRANSFORMER SI	11/30/1997
20605.1050	FTRI-051_ BLDG. 727 WASTE PIT	6/30/1998
20605.1051	FTRI-052_ INACTIVE LANDFILLS - CAMP WHITS	4/30/1995
20605.1052	FTRI-053_ POL TANK FARM	5/31/2005
20605.1053	FTRI-054_ CUSTER HILL PX USTS BLDG 5320	9/30/1997
20605.1054	FTRI-055_ MILFORD LAKE CAMPGROUND/MARINA	7/31/1995
20605.1056	FTRI-057_ 6200 AREA FUEL OIL LINE (ANCHOR	7/31/2014
20605.1057	FTRI-059_ REMOVE USTS	12/31/1990
20605.1058	FTRI-060_ MAINPOST PX GAS STATION / 218	3/31/1995
20605.1059	FTRI-061_ FORMER GAS SERVICE STATION BLDG	6/30/1995
20605.1060	FTRI-062_ TMP GAS STATION BLDG 388	1/31/2005
20605.1062	FTRI-064_ FMR BLDG 1090 DISPENSING STATIO	5/31/1995
20605.1063	FTRI-065_ FMR BLDG 1190 DISPENSING STATIO	5/31/1995
20605.1065	FTRI-067_ FMR BLDG 1539 DISPENSING STATIO	7/31/1997
20605.1067	FTRI-069_ FMR BLDG 1890 DISPENSING STATIO	7/31/1997
20605.1068	FTRI-070_ FMR BLDG 2341 DISPENSING STATIO	12/31/1995
20605.1069	FTRI-071_ FMR BLDG 2345 DISPENSING STATIO	11/30/1994
20605.1070	FTRI-072_ BLDG 8340 FUEL OIL UST	10/31/1994
20605.1071	FTRI-073_ BLDG 8360 FUEL OIL UST	4/30/1995
20605.1072	FTRI-074_ WWI INCINERATOR, NW CAMP FUNSTO	3/29/2019
20605.1073	FTRI-002-R-01_ SOUTHEAST FUNSTON LANDFILL	5/31/2006
20605.1074	FTRI-001-R-01_ SHERMAN HEIGHTS SMALL ARMS	5/31/2006
20605.1079	CC-FTRI-10_ Fuel USTs (Active & Abandoned	9/30/2010
20605.1081	CC-FTRI-12_ FORMER 7353 FUEL DISP STATION	4/15/2013
20605.1082	CC-FTRI-02_ OE Survey/Clearance of Closed	9/30/2004
20605.1083	CC-FTRI-03_ Frmr Livestock Dipping Facili	11/30/2007
20605.1084	CC-FTRI-04_ Fuel UST Monitoring & Remedia	5/31/1995
20605.1085	CC-FTRI-06_ Active Transformer Sites	2/28/2007
20605.1086	CC-FTRI-07_ Installation-Wide Closeout Do	3/31/2007
20605.1087	CC-FTRI-08_ Custer Hill Sanitary Landfill	6/30/1996

COMMUNITY INVOLVEMENT

Community Involvement Plan (Date Last Reviewed):	07/30/2018
Technical Review Committee Establishment Date:	N/A
Restoration Advisory Board (RAB) Establishment Date:	09/15/1997
RAB Adjournment Date:	N/A
RAB Adjournment Reason:	There is no longer sufficient, sustained community interest. Last RAB meeting 10/06/2014.
Reasons for Not Establishing RAB:	N/A
RAB Date of Solicitation from Community:	01/04/2022
RAB Results of Solicitation:	No responses.
Current Technical Assistance for Public Participation (TAPP):	N/A
TAPP Title:	N/A
Potential TAPP:	N/A
Administrative Record Location:	407 Pershing Ct, Fort Riley, Kansas
Information Repository Location:	Hale Library, KSU Campus, Manhattan, Kansas

FIVE-YEAR / PERIODIC REVIEW SUMMARY

Status	Review Type	Start Date	End Date	Plans Narrative	Actions Narrative	Results Narrative
Completed	PR	06/23/2022	02/28/2023	N/A	N/A	Remedy remains protective.
Planned	PR	06/14/2026	09/28/2027	N/A	N/A	N/A