

# **FORT HAMILTON**

Army Cleanup Program

Installation Action Plan Final  
June 2024

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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 HAMILTON

**Installation City:** BROOKLYN

**Installation County:** KINGS

**Installation State:** NEW YORK

**Regulatory Participation - Federal:** N/A

**Regulatory Participation - State:** New York State Department of Environmental Conservation (NYSDEC)

## ACRONYMS

Acronym	Definition
AAFES	Army and Air Force Exchange Service
CC	Compliance-related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CLSD	Closed
CMI(C)	Corrective Measures Implementation (Construction)
CMI(O)	Corrective Measures Implementation (Operations)
CMS	Corrective Measures Study
COC	Contaminants of Concern
CRL	Cleanup Restoration & Liabilities
CS	Confirmation Sampling
DES	Design
ENV	Environmental
FS	Feasibility Study
HRS	Hazard Ranking System
IAP	Installation Action Plan
ID	Indentification
IR	Installation Restoration
IRA	Interim Remedial Action
ISCO	In-Situ Chemical Oxidation
IW	Injection Well
LNAPL	Light Non-Aqueous Phase Liquid
LTM	Long-Term Management
MPE	Multi-Phase Extraction
MR	Munitions Response
MRSPP	Munitions Response Site Prioritization Protocol
MW	Monitoring Well
NPL	National Priorities List
NYSDEC	New York Department of Environmental Conservation
PA	Preliminary Assessment
RAB	Restoration Advisory Board
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operations)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design

Acronym	Definition
PR	Periodic Review
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy-In-Place
RRSE	Relative Risk Site Evaluation
SC	Site Closeout
SI	Site Inspection
SVE	Soil Vapor Extraction
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
US	United States
UST	Underground Storage Tank
VOC	Volatile Organic Compounds

## PHASE TRANSLATION TABLE

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

## **PROGRAM SUMMARY**

**Number of Open Sites with Response Complete/Total Open IR Sites: 0/1**

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

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



## SITE-LEVEL INFORMATION

## 36325.1018\_CCHAM0200\_UST Site Remediation (Bldg 200)

**Env Site ID:** CCHAM0200

**Cleanup Site:** UST Site Remediation (Bldg 200)

**Alias:** #

**Regulatory Driver:** RCRA-I

**RIP Date:** 9/15/2014

**RC Date:** 9/30/2054

**RC Reason:** Not assigned

**SC Date:** 9/30/2054

**Program:** ENV Restoration, Army

**Subprogram:** IR

**NPL Status:** No

**Hazardous Ranking Score:** 0

**RRSE:**

**MRSPP:** N/A

Phase	Start	End
ISC:	5/31/1998	6/30/1998
INV:	7/31/1998	5/15/2003
CAP:	6/30/2003	3/31/2005
DES:	4/30/2005	3/31/2007
IRA:	--	--
IMP(C):	3/31/2007	9/15/2014
IMP(O):	4/30/2009	9/30/2054
LTM:	--	--

**Site Narrative:** The Army and Air Force Exchange Service station (AAFES) (Bldg 200) is located at 200 General Lee Avenue in Fort Hamilton, Brooklyn, New York. The station was constructed in the 1960s as a service station with two service bays, three gasoline underground storage tanks (UST), and one waste oil UST. The three gasoline USTs (two 3,000-gallons and one 4,000-gallons) were replaced in 1991. Soil staining from petroleum leaks was noted during tank removal. The new tanks were placed into the existing excavation. In 1998, the New York Department of Environmental Conservation (NYSDEC) was notified of a petroleum release at this site, and the release was logged as incident 9802727 in the NYSDEC Spill Incidents Database, with the affected resource listed as groundwater. The site was opened in the Army Environmental Database – Restoration as site CCHAM0200. The primary dissolved-phase contaminants of concern (COC) in groundwater at the site are fourteen volatile organic compounds (VOC) as listed in the NYSDEC Spills Technology and Remediation Series guidance, a subset of which includes benzene, toluene, ethyl benzene, total xylenes, and methyl tertiary-butyl ether (analyzed via US Environmental Protection Agency method 8260). During 1999-2000, the service station was converted into a convenience store. The site is currently operating as an active retail gasoline station. The multi-phase extraction (MPE) remediation system was operated from July 2009 to June 2013. Once it was determined that operating the remedial system in multiphase extraction mode was no longer the optimal approach for petroleum hydrocarbon remediation at the site the existing MPE system was modified to operate only in soil vapor extraction (SVE) mode (starting in June 2013) to better focus recovery of hydrocarbons remaining in the vadose zone. An increase in hydrocarbon mass recovery after transition to SVE was identified; however, a steady decline in hydrocarbon concentrations was detected during operation. The SVE system eventually reached asymptotic levels of hydrocarbon mass recovery. Permission was received from the NYSDEC to shut down the MPE/SVE system on June 7, 2017. From July 2009 to 2017 the system removed approximately 1,683 gallons of light non-aqueous phase liquid (LNAPL) total, based on a conversion of vapor-phase influent analytical data. From October to November 2014 and October to November 2015, two rounds of full scale in situ chemical oxidation (ISCO) and

aerobic biodegradation events were completed at the site, followed by a full year of performance monitoring in 2016. The ISCO/aerobic biodegradation treatment events and operation of the MPE system in an optimized SVE mode significantly reduced COCs mass in the treatment area. However, spikes in concentrations of certain VOCs and LNAPL occurred in monitoring wells (MW)-1 through MW-5 and MW-8) and injection wells (IW)-1 and IW-2). Seven independent vacuum extraction events were conducted to address remaining LNAPL from March 2017 through November 2017. Additionally, indoor air sampling at the retail station building was done in November 2016 and January 2017 to test for vapor intrusion with none detected. Seasonal spikes in COC concentrations in groundwater and presence of LNAPL in monitoring wells continued. In April 2018 and March 2019, NYSDEC confirmed that there was still a need for remediation of the site. It is expected that remediation at this site will continue using monitored natural attenuation until the NYSDEC agrees that the site has shown an acceptable downward trend. Per guidance, it is assumed remedial activities will continue at the site for the next 30 years. In addition, mandatory five-year reviews will be conducted.

## **SITE SUMMARY**

## SITE CLOSEOUT SUMMARY

CRL ID	Site Name	Site Closeout Date
36325.1001	FTHM-02_BLDG 106 WASTE OIL UST	2/29/1996
36325.1002	FTHM-03_VEHICLE WASHRACK (2)	9/30/1994
36325.1003	FTHM-04_OIL/WATER SEPARATOR(WASH RACK)	6/30/1998
36325.1004	FTHM-05_BLDG 127 DPW MOTOR POOL	5/31/1993
36325.1005	FTHM-06_OLD SUB-STATION	12/31/1994
36325.1006	FTHM-12_DENYSE WHARF	8/31/1997
36325.1007	FTHM-19_103 AREA SUB-SURFACE SOIL	5/31/1991
36325.1008	FTHM-20_200 AREA SUB-SURFACE SOIL	5/31/1991
36325.1009	FTHM-24_ABANDONED UST BLDG 114	8/31/1996
36325.1010	FTHM-25_BLDG 106 BATTERY ROOM	9/30/1997
36325.1011	FTHM-26_BLDG 128 STORAGE SHED	6/30/1999
36325.1017	CC FTHM-01_AFRC Soil Remediation	9/30/2009
36325.1022	FTHM-PFAS_PFAS	6/29/2020
36325.1012	FTHM-002-R-01_HAMILTON PARADE GROUND #1	11/30/2007
36325.1013	FTHM-003-R-01_HAMILTON TRAINING FIELD	11/30/2007
36325.1014	FTHM-005-R-01_HAMILTON TRANSFERRED-OW	11/30/2007
36325.1015	FTHM-004-R-01_HAMILTON TRANSFERRED COMPL	11/30/2007
36325.1016	FTHM-001-R-01_HAMILTON CLOSED COMPLEX	11/30/2007
36325.1020	CCHAM0401_UST Site Remediation (Bldg 401	9/30/2005
36325.1021	CCHAM0110_Building 110 UST Overfill	8/31/2007

## COMMUNITY INVOLVEMENT

<b>Community Involvement Plan (Date Last Reviewed):</b>	N/A (handled by state, as needed)
<b>Technical Review Committee Establishment Date:</b>	N/A
<b>Restoration Advisory Board (RAB) Establishment Date:</b>	N/A
<b>RAB Adjournment Date:</b>	N/A
<b>RAB Adjournment Reason:</b>	N/A
<b>Reasons for Not Establishing RAB:</b>	TRC Operating (no RAB by choice)
<b>RAB Date of Solicitation from Community:</b>	N/A
<b>RAB Results of Solicitation:</b>	N/A
<b>Current Technical Assistance for Public Participation (TAPP):</b>	N/A
<b>TAPP Title:</b>	N/A
<b>Potential TAPP:</b>	N/A
<b>Administrative Record Location:</b>	625 Broadway, Albany, NY 12233
<b>Information Repository Location:</b>	625 Broadway, Albany, NY 12233

## FIVE-YEAR / PERIODIC REVIEW SUMMARY

Status	Review Type	Start Date	End Date	Plans Narrative	Actions Narrative	Results Narrative
Future	PR	1/1/2024	9/1/2025	TBD	TBD	TBD
Completed	PR	1/1/2020	9/1/2020	Continue periodic monitoring and other actions as required to address soil contamination.	Remedy is functioning as intended; therefore, no actions are needed.	The remedy at AAFES Retail Fuel Facility – Building 200, Fort Hamilton is protective of human health and the environment.