

**APR/FY06**

**FORT HAMILTON**

New York

**Compliance-Related Cleanup  
Installation Action Plan**

Final 8 September 2006

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## Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year Compliance-Related Cleanup (CC) Program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern, and proposes a comprehensive approach, with associated costs and schedules, to conduct investigations and necessary remedial actions.

In an effort to coordinate planning information between the CC Manager (IMA/MSD), Fort Hamilton, US Army Environmental Center (USAEC), executing agencies, regulatory agencies, an IAP was completed. The IAP is used to track requirements, schedules and tentative budgets for all Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

The following persons contributed to the formulation and completion of this Installation Action Plan during a planning workshop held on 19 April 2006:

<b>Name</b>	<b>Company/Installation/Branch</b>
George Kiernan	US Army/Fort Hamilton/DPW Environmental Division
Bryan McConnell	Engineering & Environment, Inc. for USAEC
Jean Richard	Engineering & Environment, Inc. for USAEC
Doug Scarborough	USAEC

**Fort Hamilton  
Compliance-Related Cleanup  
Installation Action Plan Approval Signature**

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**TRACEY E. NICHOLSON  
COL, AG Commanding  
US Army Garrison Fort Hamilton**

**Date**

**Concurrence Signatures for the Fort Hamilton  
Compliance-Related Cleanup Installation Action Plan**

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**STEPHEN A. MCCALL** **Date**  
**Acting Chief, Environmental & Natural Resources Branch**  
**Public Works Division**  
**Installation Management Agency - Northeast Regional Office**

## Acronyms & Abbreviations

AEDB-CC	Army Environmental Database – Compliance-Related Cleanup
AEDB-R	Army Environmental Database - Restoration (formerly DSERTS)
CAP	Corrective Action Plan
CC	Compliance-Related Cleanup
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CTC	Cost to Complete
DD	Decision Document
DERA	Defense Environmental Restoration Account (now ER, A)
DERP	Defense Environmental Restoration Program
DES	Design
DOD	Department of Defense
DPW	Department of Public Works
DSERTS	Defense Site Environmental Restoration Tracking System
ER, A	Environmental Restoration, Army (formerly called DERA)
FH	Fort Hamilton
FS	Feasibility Study
FY	Fiscal Year
HRR	Historical Records Review
IAP	Installation Action Plan
IMA	Installation Management Agency
IMP(C)	Implementation (Construction)
IMP(O)	Implementation (Operation)
INV	Investigation
IRA	Interim Remedial Action
IRP	Installation Restoration Program
ISC	Initial Site Characterization
LTM	Long-Term Management
NPL	National Priorities List
NYSDEC	New York State Department of Environmental Conservation
PA	Preliminary Assessment
POL	Petroleum, Oils & Lubricants
ppm	Parts Per Million
PY	Prior Year
RA	Remedial Action
RAB	Restoration Advisory Board
RC	Response Complete
RD	Remedial Design
REM	Removal
RIP	Remedy in Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SVOC	Semi-Volatile Organic Compounds
USAEC	United States Army Environmental Center
USEPA	United States Environmental Protection Agency

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## Acronyms & Abbreviations

UST	Underground Storage Tank
VOC	Volatile Organic Compounds

***Installation Locale:*** Historic Fort Hamilton is located in the southwestern corner of Brooklyn, New York surrounded by the communities of Bay Ridge, Dyker Heights and Bensonhurst. Geographically, the installation is at the westerly end of Long Island and is situated on the easterly shores of Gravesend Bay, approximately 6.5 miles south of the Battery, the southerly tip of the Borough of Manhattan, New York. The installation occupies approximately 117 acres and includes 71 government owned buildings. The installation is bounded by the Verrazano Narrows Bridge to the west, the Belt Parkway to the south, Dyker Beach Park to the east, and Cropsey Avenue and Polytechnic Preparatory School to the north.

***Installation Mission:*** US Army Garrison Fort Hamilton provides effective and efficient management of government resources to support mission readiness, improve infrastructure, preserve the environment, and enable the well-being and safety of service members, civilians, and family members. Fort Hamilton provides housing for military families in the New York City vicinity; is the area center for military recruiting activities; and provides administrative office space and mission staging area for various military and other Federal tenants, including Homeland Security activities.

***Lead Organization:***

Installation Management Agency, Northeast Region

***Lead Executing Agency:***

USACE Baltimore District

***Regulatory Participation:***

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

***Installation Historic Activity***

Historic Fort Hamilton is located in the southwestern corner of Brooklyn, New York surrounded by the communities of Bay Ridge, Dyker Heights and Bensonhurst. The cornerstone of this coastal defense fort was set in 1825 and the first garrison flag was raised in 1831. While many of the original structures are gone, some having yielded to the construction of the Verrazano Narrows Bridge, part of the old fort remains on the grounds.

Fort Hamilton removed and replaced several heating oil and gasoline underground storage tanks with double walled fiberglass tanks in the 1990's. Subsurface petroleum contamination was discovered at building sites 401 and 200 during the tank replacements.



# FORT HAMILTON

## Compliance-Related Cleanup Program

**Total Number of Sites:** 2

**Different Site Types:**

- 1 Contaminated Fill (Bldg. 401)
- 1 Contaminated Soil and Groundwater (Bldg. 200)

**Most Widespread Contaminants of Concern:** POL

**Media of Concern:** Soil, Groundwater

**Completed Removal (REM)/Interim Remedial Action (IRA)/Remedial Action (RA):**

- 1991 – 3 USTs removed at Bldg. 200 \$12K
- 1995 – 1 UST removed adjacent to Bldg. 401 \$6K

### ***Contamination Assessment Overview***

The Environmental Program Requirements (EPR's) for these two sites were completed (first entered into EPR database) in 10/1/2002 for building 401 (adjacent to building 402) and 3/1/1995 for building 200. At each site, contamination was found during routine tank replacement. Both sites are UST sites and require cleanup under NYSDEC regulations. Building 401 is listed in the NYSDEC spills database as open spill site # 9507627 and building 200 as open spill site # 9802727. There are no complicating factors and there hasn't been a need to involve the public in these two sites at this time.

In 1995 a UST Removal Report was prepared for the UST adjacent to building 401. A SI was completed in 2003 and a CAP was completed in 2004 for building 200. USACE Baltimore District completed review of the CAP in December 2004. Fort Hamilton plans to have Baltimore District prepare the design and bid documents. At Site CCHAM0401, the contaminated soil excavation and disposal was accomplished in November 2005.

### ***Cleanup Exit Strategy***

A site closure report for CCHAM0401 will be prepared and submitted to NYSDEC in FY 2006.

At site CCHAM0200, the recommended remediation will include installation of a bio-slurping remediation system to run for two years, followed by MNA for three years. The draft remedial design, proposed cleanup levels, and remaining phases of the cleanup will be coordinated with NYSDEC.

### **1997**

- Site Investigation at Gasoline USTs Bldg 200, TRC Environmental Corp. and Staunton Chow Engineers, P.C., Aug

### **2000**

- Fort Hamilton Service Station Site Investigation, Parsons Engineering Science Inc., Aug

### **2003**

- Site Assessment at AAFES Station Building 200, General Physics Corp., Jun

### **2004**

- Corrective Action Plan for AAFES Station Building 200, General Physics Corp., Jun

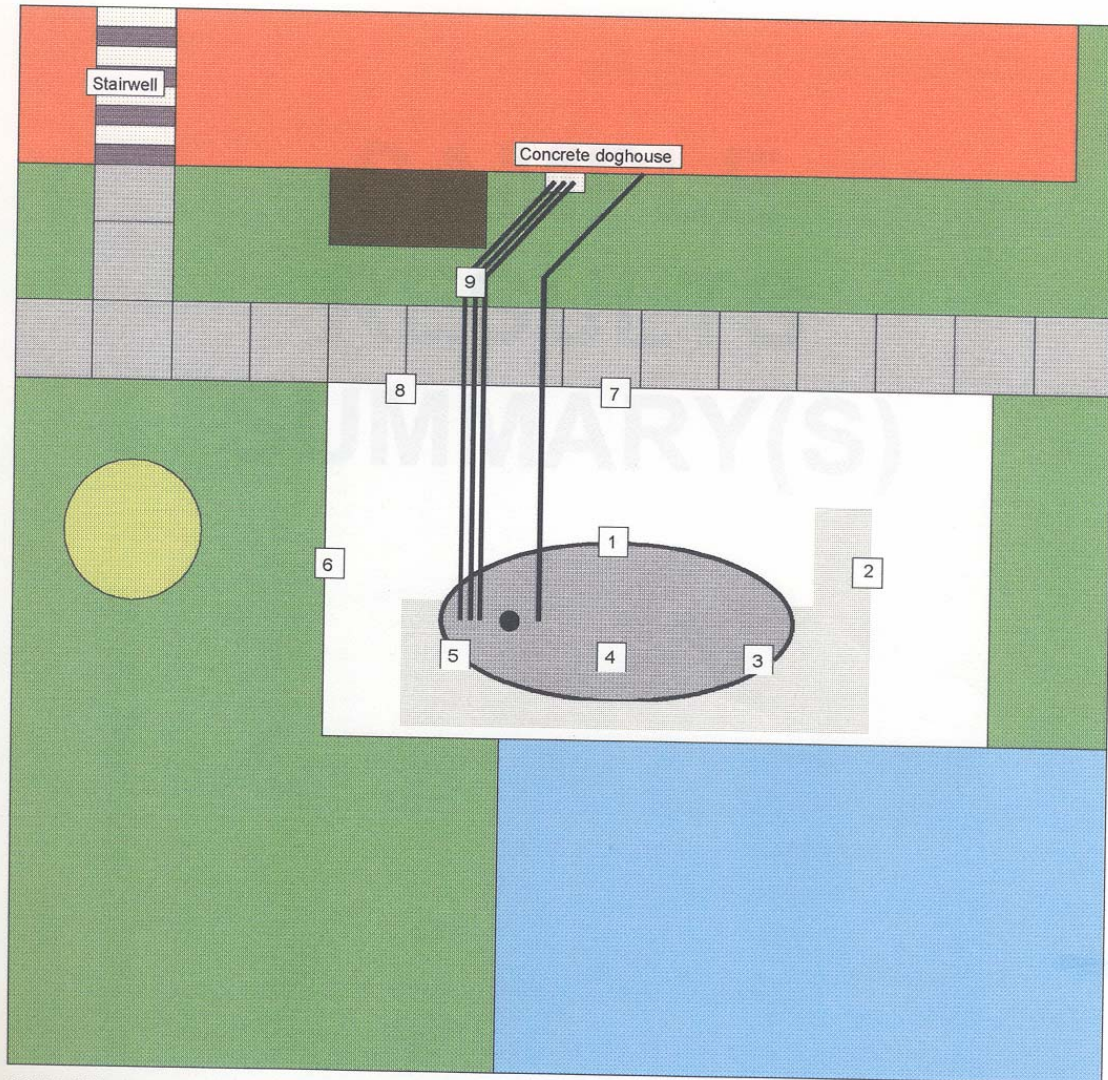
### **2005**

- CAP-Design optimization study, Bldg 200, EA Engineering P.C., Sep

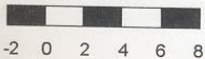
**Figure 1 Building 401 Site**

Note: Building 401 is adjacent building in site map

SOIL SAMPLE LOCATION MAP  
 5,000 G #2 FUEL OIL UST #402  
 BUILDING 402, FORT HAMILTON,  
 BROOKLYN, NEW YORK  
 CONTRACT #94-C-0113



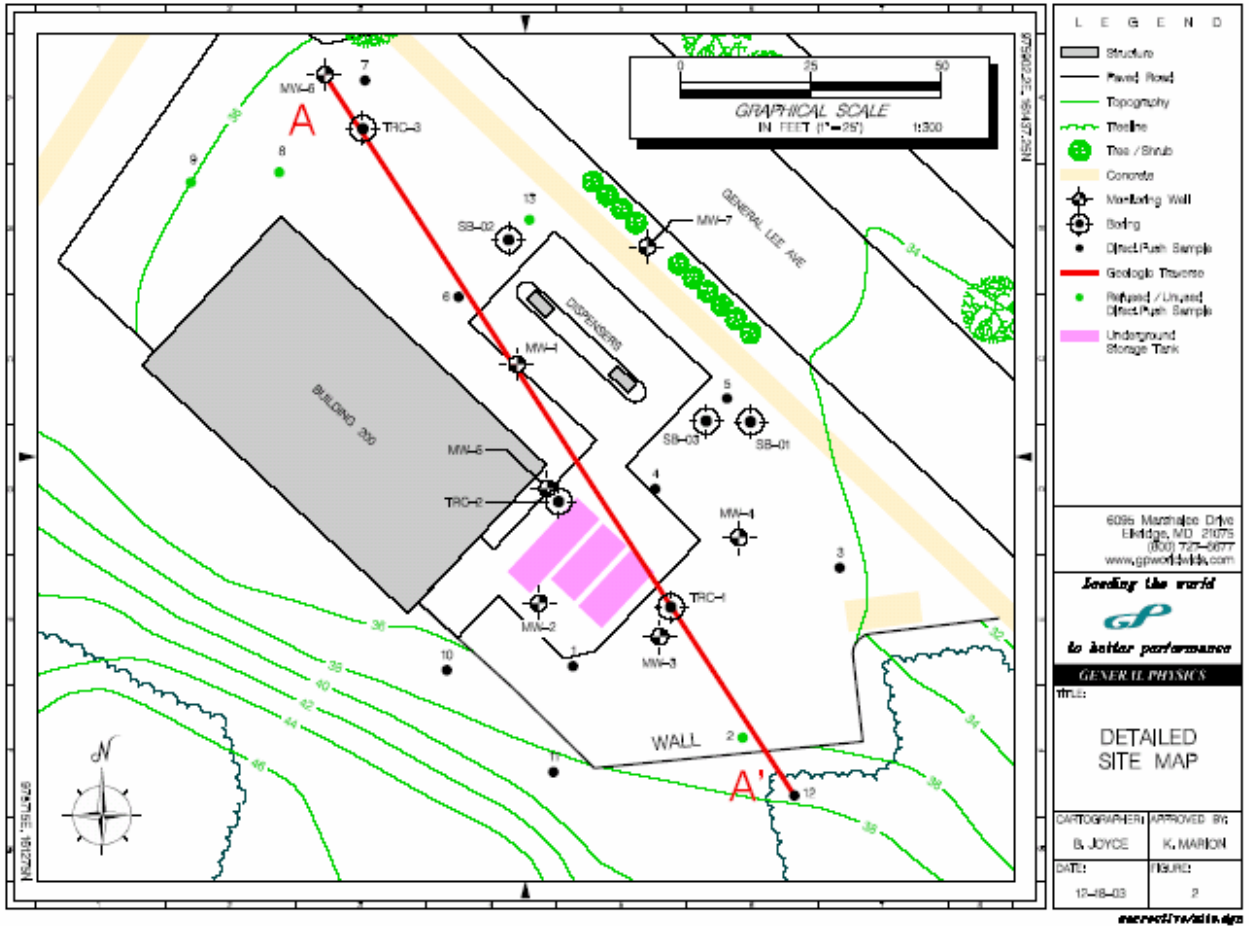
SCALE: 1/4" = 2'



LEGEND:

- Grassy area
- Adjacent building
- Piping (removed)
- Building 402
- Concrete sidewalk
- Concrete pad under tank (remaining)
- Sewer grating
- Former location of UST
- Tree
- Former location of fill line (removed)
- 9 Soil sample locations - see Field Sample Log for depths

Figure 2 Building 200 Site



# FORT HAMLITON

## Compliance-Related Cleanup Program

# UST SITE REMEDIATION (BLDG 401 AREA)

## SITE DESCRIPTION

Building 401 area is located at 401 General Lee Avenue in northeast section of Fort Hamilton. It has been used for office administration. An underground fuel oil storage tank was located adjacent to the building. During a routine tank replacement in 1995, contaminated soil was found to be underneath Building 401. Building was demolished in November 2005. Contaminated soil was removed.

## CLEANUP STRATEGY

A closure report will be prepared and submitted to NYSDEC in FY 2006.

## STATUS

### REGULATORY DRIVER:

Article 12 of the NYS Navigation Law NYSDEC Open Spill # 9507627

### CONTAMINANTS OF CONCERN:

POL

### MEDIA OF CONCERN: Soil

<u>Phases</u>	<u>Start</u>	<u>End</u>
ISC .....	199508 .....	199509
INV .....	199508 .....	199509
CAP .....	200407 .....	200412
DES .....	200501 .....	200502
IMP(C) .....	200503 .....	200509

**RC DATE: 200509**



# CCHAM0200

## UST SITE REMEDIATION (BLDG 200)

### SITE DESCRIPTION

This site is located at 200 General Lee Avenue, at an active AAFES vehicle refueling station in the northwest section of Fort Hamilton. In 1960, a single story store/building was constructed for the gasoline station.

Two 3,000 gallon gasoline tanks and one 4,000 gallon gasoline tank were replaced in 1991. During this tank replacement, soil contamination was found.

Five monitoring wells were installed during site investigations at this site. Gasoline free product was discovered in three of the monitoring wells.

SI work was completed in 2003 and a CAP was completed in 2004. In December 2004, USACE Baltimore District took over as the executing agency and finalized the CAP prepared by the previous A-E.

### CLEANUP STRATEGY

Fort Hamilton has selected Baltimore District, US Army Corps of Engineers (CENAB), to execute the CAP, Remedial Design, cleanup, MNA, LTM and closure of this project. CENAB, in coordination with Fort Hamilton, is planning installation of a bio-slurping remediation system in FY 2007, dependent on funding availability. Anticipate operating bio-slurping system for two years, followed by three years of monitored natural attenuation. One additional product recovery well may be installed. Monitor five or six wells in concurrence with bio-slurping system operation and MNA.

### STATUS

**REGULATORY DRIVER:**  
RCRA UST and Article 12 of the NYS Navigation Law. NYSDEC Open Spill # 9802727

**CONTAMINANTS OF CONCERN:**  
POL

**MEDIA OF CONCERN:**  
Groundwater and Soil

<b>PHASES</b>	<b>Start</b>	<b>End</b>
ISC .....	199805 .....	199806
INV .....	199807 .....	199808
CAP .....	200306 .....	200603
DES .....	200610 .....	200706
IMP(C) .....	200707 .....	201211
<b>IMP(O) .....</b>	<b>200608 .....</b>	<b>201211</b>
LTM .....	201212 .....	201302

**RIP DATE: 201211**  
**RC DATE: 201211**

## *Past Phase Completion Milestones*

### **1997**

- SI - Bldg. 200. TRC Environmental Corp. and Staunton Chow Engineers, P.C.  
Aug

### **2000**

- SI - Bldg. 200. Parsons Engineering Science Inc. Aug

### **2003**

- SI - Bldg. 200. General Physics Corp. Jun

### **2004**

- CAP - Bldg. 200. General Physics Corp. Jun

**FORT HAMILTON CC SCHEDULE**  
 (Based on current funding constraints)

<b>AEDB-CC #</b>	<b>Phase</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>FY12</b>	<b>FY13</b>	<b>FY14</b>	<b>FY15+</b>
CCHAM0200	DES									
	IMP(C)									
	IMP(O)									
	LTM									

***Prior Years Funds***

<b>Year</b>	<b>Site/Project Information</b>	<b>Expenditures</b>	<b>FY Total</b>
<b>FY97</b>	CCHAM0200	\$ 21K	<b>\$21K</b>
<b>FY00</b>	CCHAM0200	\$ 24K	<b>\$24K</b>
<b>FY03</b>	CCHAM0200	\$ 81K	<b>\$81K</b>
<b>FY04</b>	CCHAM0200	\$ 6K	<b>\$6K</b>
<b>FY05</b>	CCHAM0200	\$ 69K	<b>\$69K</b>
<b>Total Funding up to FY05: \$201K</b>			

***Current Year Requirements for Compliance-Related Cleanup***

<b>Year</b>	<b>Site Information</b>	<b>Expenditures</b>	<b>FY Total</b>
<b>FY06</b>	CCHAM0200	\$ 0	<b>\$ 0</b>

**Total Requirements FY06: \$0**

**Total Future Requirements: \$1,644K**

**Total CC Program Cost (from inception to completion of the CC): \$ 1,845K**

**Fort Hamilton  
FY06 CC Cost-to-Complete**

<b>AEDB-CC #</b>	<b>Site Title</b>	<b>Phase</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>FY12</b>	<b>FY13</b>	<b>FY14</b>	<b>FY15+</b>	<b>Phase Total</b>	<b>Site Total</b>	<b>Description of Work</b>	
CCHAM0200	UST Site Remediation (Bldg 200)	DES	54									54	1644	Remedial Design	
		IMP(C)	492											492	Installation of bio-slurping system
		IMP(O)	117	268	274	116	116	116	90					1097	Operate bio-slurping, then MNA, and required groundwater monitoring; site closure & report
		LTM							1					1	Site closeout documentation
<b>FY Totals in Thousands of Dollars</b>			<b>663</b>	<b>268</b>	<b>274</b>	<b>116</b>	<b>116</b>	<b>116</b>	<b>91</b>	<b>0</b>	<b>0</b>	<b>1,644</b>	<b>1,644</b>		