

FY2012

JOINT BASE MYER-HENDERSON HALL
Army Defense Environmental Restoration Program
Installation Action Plan

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Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multiyear cleanup program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern (AOC), and proposes a comprehensive, installation-wide approach, along with the costs and schedules associated with conducting investigations and taking the necessary remedial actions (RA).

In an effort to coordinate planning information between the restoration manager, the Installation Management Command (IMCOM)- Northeast Regional Office (NERO), the US Army Environmental Command (USAEC), Fort Myer, the executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and tentative budgets for all major 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.

Acronyms

AAFES	Army & Air Force Exchange Service
AEDB-R	Army Environmental Database-Restoration
AOC	Area of Concern
AR	Administrative Record
AST	Above Ground Storage Tank
BRAC	Base Realignment and Closure
BTEX	Benze, Toluene, Ethylbenzene, Xylene
CAP	Corrective Action Plan
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
COC	Contaminants of Concern
DCE	Dichloroethylene
DD	Decision Document
DES	Design
DoD	Department of Defense
ER,A	Environmental Restoration, Army
FMMC	Fort Myer Military Community
FMY	Ft. Myer
FRA	Final Remedial Action
FY	Fiscal Year
IAP	Installation Action Plan
IMCOM	Installation Management Command
IMP(C)	Implementation (Construction)
IMP(O)	Implementation (Operations)
INV	Investigation
IR	Information Repository
IRA	Interim Remedial Action
IRP	Installation Restoration Program
ISC	Initial Site Characterization
JFHQ-NCR/MDW	Joint Force Headquarters-National Capital Region and Military District of Washington
K	thousand
LTM	Long-Term Management
MCL	Maximum Contaminant Level
MDW	US Army Military District of Washington
N/A	Not Applicable
NERO	Northeast Regional Office
NPL	National Priorities List
PA	Preliminary Assessment
PCE	Perchloroethylene
PX	Post Exchange
RA	Remedial Action
RA(C)	Remedial Action (Construction)
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RIP	Remedy-in-Place

Acronyms

ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
TAPP	Technical Assistance for Public Participation
TBD	To Be Determined
TCE	Trichloroethylene
TRC	Technical Review Committee
USACE	US Army Corps of Engineers
USAEC	US Army Environmental Command
USAPAHC	US Army Public Health Command
USCHPPM	US Army Center for Health Promotion and Preventive Medicine
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
VDEQ	Virginia Department of Environmental Quality
VOC	Volatile Organic Compounds

Acronym Translation Table

CERCLA

Preliminary Assessment(PA)

Remedial Investigation(RI)

Feasibility Study(FS)

Remedial Design(RD)

Remedial Action (Construction)(RA(C))

Remedial Action (Operation)(RA(O))

Long Term Management(LTM)

Interim Remedial Action(IRA)

RCRA Underground Storage Tank (UST) Site Phase Terms

= Initial Site Characterization(ISC)

= Investigation(INV)

= Corrective Action Plan(CAP)

= Design(DES)

= Implementation (Construction)(IMP(C))

= Implementation (Operations)(IMP(O))

= Long Term Management(LTM)

= Interim Remedial Action(IRA)

Installation Information

Installation Locale

Installation Size (Acreage): 256

City: Arlington

County: Arlington

State: Virginia

Other Locale Information

Fort Myer consists of 256 acres located in Arlington, Virginia, adjacent to the Arlington National Cemetery. The county of Arlington bounds the installation on the west side. Access is provided by US Route 50 (Arlington Boulevard) from the west and Virginia Route 27 (Washington Boulevard) from the south.

Installation Mission

The mission of Fort Myer is to operate the Army's Showcase Community and support Homeland Security in the National Capital Region.

Lead Organization

IMCOM

Lead Executing Agencies for Installation

US Army Environmental Command (USAEC)

Regulator Participation

Federal USEPA Region III

State Virginia Department of Environmental Quality (VDEQ)

National Priorities List (NPL) Status

JOINT BASE MYER-HENDERSON HALL is not on the NPL

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status

Installation at RIP/RC.

Installation Program Summaries

IRP

Primary Contaminants of Concern: Volatiles (VOC)

Affected Media of Concern: Groundwater

5-Year / Periodic Review Summary

No 5-Year / Periodic Reviews have been scheduled

Cleanup Program Summary

Installation Historic Activity

Fort Myer is located on land that was owned by George Washington Parke Custis, the grandson of Martha Custis Washington. His daughter, Mary Anna Randolph Custis, married Lieutenant Robert E. Lee in 1831. The Lees left Arlington at the start of the Civil War in 1861. The US government expropriated the land because she was not able to pay the property taxes in person as required. Fort Cass was built at the location of the Caisson Stables in 1861. Fort Whipple was built on the land in 1863 as one of the seventy forts whose original mission was to form a protective barrier around the city of Washington. The fort was named in honor of Major General Amiel Whipple who died of war wounds. On Feb. 4, 1881, the post was renamed Fort Myer, in honor of Brigadier General Albert A. Myer, the first chief signal officer of the Army, who commanded the Signal Corps School at Fort Myer from 1869 until his death in 1880. Fort Myer is best known for its long history as a cavalry post.

By 1909 most of the present-day historic district of Fort Myer had been built. Spacious senior officer quarters were constructed along Jackson, Grant, and Lee Avenues. It was from Fort Myer that the first round-the-world radio messages were sent. The post is also widely known as the "Home of the Generals" because of the many high-ranking members of the Department of Defense who reside on the post. Between the two World Wars, Fort Myer continued its mission as a cavalry post. At the beginning of the US involvement in World War II, the Cavalry was mechanized and the post served as a processing station and housing for defense troops, which were stationed here to protect the nation's capital. In 1942 the US Army School of Music moved to Fort Myer. In 1948, the 3rd Infantry Regiment, better known as "The Old Guard," was reactivated and assigned to Fort Myer and Fort McNair.

The installation houses several organizations which provide base operations support for the US Army and Department of Defense. Organizations throughout the National Capital Region which conduct official ceremonies and public events on behalf of the US government civilian and military leadership are housed here. These tenants include the 3rd US Infantry ("The Old Guard") and the US Army Band ("Pershing's Own").

The Fort Myer historic district was listed on the Virginia landmarks register in 1973 and listed as a National Historic Landmark in 1972.

Fort Myer is now reports to IMCOM.

The Fort Myer Military Community, consisting of Fort Myer in Arlington, Virginia, and Fort Lesley J. McNair in southwest Washington DC, and Henderson Hall Headquarters, United States Marine Corps, in Arlington, Virginia, merged to become Joint Base Myer-Henderson Hall Oct. 1, 2009, one of 12 Department of Defense (DoD) joint base initiatives.

Joint basing was designed to realign 26 co-located or close-proximity military installations into 12 joint bases to achieve economies of scale and provide common cross-service standards for installation management. Established by the Base Realignment and Closure (BRAC) 05 Recommendation No. 146, dated Nov. 5, 2005, joint basing became part of a DoD transformation to improve readiness in addition to achieving cost efficiencies. Full compliance is required by Sept. 15, 2011.

In the first Army-led redesignation ceremony, the Fort Myer Military Community Garrison Commander became the Joint Base Commander, and the Henderson Hall Commanding Officer became Commanding Officer of Headquarters and Service Battalion, Headquarters Marine Corps Henderson Hall.

Joint Base Myer-Henderson Hall serves over 150,000 active duty service men and women (to include Soldiers, Sailors, Airmen, Marines and Coast Guard) and their families, Department of Defense civilian personnel, and retired military personnel in the National Capital Region.

The mission of Joint Base Myer-Henderson Hall is to serve as the Joint Force Headquarters-National Capital Region and Military District of Washington (JFHQ-NCR/MDW) base support of operations. The installations provide support for the execution of the JFHQ-NCR/MDW missions of homeland defense, defense support to civil authorities and world-class ceremonial, musical and special event missions. Joint Base Myer-Henderson Hall is the flagship in providing world-class facilities in which to live and work as well as innovative and progressive programs and services that support the large population of service members, their families, retirees and civilian workforce that pass through the gates every day.

Installation Program Cleanup Progress

Cleanup Program Summary

IRP

Prior Year Progress: The first phase of the two-phase treatability study was completed in summer 2010. The results led to the conclusion that a pilot study using active bioremediation is required. The second phase began in late April/early May 2011. The results (up through six months) do not show a decrease in the PCE contamination. There will be a meeting in spring 2012 to determine the path forward for this site, as the government is unsure of continuing the pilot study or pursuing a different method.

Future Plan of Action: FY12: Finish Phase II of the Treatability Study/Continue sampling.

FY13-FY14: We will most likely continue sampling as the groundwater flow is slow.

**JOINT BASE MYER-HENDERSON HALL
Army Defense Environmental Restoration Program
Installation Restoration Program**

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 7/6

Installation Site Types with Future and/or Underway Phases

1 Spill Site Area
(FMY-01)

Most Widespread Contaminants of Concern

Volatiles (VOC)

Media of Concern

Groundwater

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY
FMY-06	MOTOR POOL (BLDG 209)	FRA	WASTE REMOVAL - SOILS	1995
FMY-01	OLD DRY CLEANING PLANT- SVE & GW RISK	FRA	SOIL VAPOR EXTRACTION	1996
FMY-01	OLD DRY CLEANING PLANT- SVE & GW RISK	FRA	WASTE REMOVAL - SOILS	1996
FMY-04	OLD AFES SERVICE STATION - VAPOR TREATME	FRA	WASTE REMOVAL - SOILS	2001

Duration of IRP

Date of IRP Inception: 199003

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 200108/199601

Date of IRP completion including Long Term Management (LTM): 203009

IRP Contamination Assessment

Contamination Assessment Overview

The Old Dry Cleaning Plant Site (FMY-01) is comprised of two sites: the Old Post Exchange (PX) Station Site (FMY-04) and the Building 448 site (FMY-09). Contamination plumes from the Old PX Station site and the Old Dry Cleaning Plant site overlap. The sites were combined into the Old Dry Cleaning Plant Site per a determination by the major Army Command. In FY00 the Fort Myer Military Community (FMMC) required Environmental Restoration, Army (ER,A) funds to remediate soil contamination in the Old PX Station site (FMY-04) and reopened the site.

In April 1990 the Old Dry Cleaning Plant (FMY-01) was closed and subsequently demolished. In late-1996 construction of a new Army, Air Force Exchange Services (AAFES) Shoppette/Class VI store was completed at that location. The dry cleaning plant operation leaked and/or spilled a significant amount of PCE into the soil and groundwater. Prior to construction of the Shoppette, the soils on-site were remediated with a soil vapor extraction (SVE) system. During construction, several tons of contaminated soil were removed and disposed of appropriately. On Jan. 30, 1996 excavation and disposal of the contaminated soil at the site was completed. In FY00 meetings with the VDEQ resulted in requirements for eight rounds of groundwater sampling, a remedial investigation/feasibility study (RI/FS), and development of a decision document (DD) in accordance with Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) protocol.

In 1999 during pre-construction activities for the emergency service center, a "black layer" was discovered on the site of the former commissary near the Old PX Station site. The "black layer," located within several feet of the ground surface, is believed to be the result of oils applied to the surface for dust suppression prior to the placement of fill for construction of the former commissary. This material was properly excavated and disposed of during recent site development.

In 2007 the US Army Center for Health Promotion and Preventive Medicine (USACHPPM) conducted groundwater sampling at FMY-01 to assess its status. Chlorinated volatile organic compounds (VOCs) were identified above maximum contaminant level (MCLs) in at least one of 13 wells sampled. High concentrations were 35,000 parts per billion (ppb) PCE, 2,400 ppb trichloroethylene (TCE), and 2,100 ppb cis 1,2-dichloroethylene (DCE). A two-phased approach was recommended. During the first phase baseline groundwater data was collected and natural attenuation parameters were determined for the site. Based on the data collected, a pilot study (a combination of bioaugmentation and biostimulation) was selected for the site. During the second phase, a pilot test was undertaken to determine if the chlorinated solvents in the groundwater could be reduced to ethene. Sampling was completed in March 2012 and the concentrations of chlorinated solvents are not decreasing as predicted. The Army and stakeholders will meet in April 2012 to discuss the appropriate path forward.

Cleanup Exit Strategy

The second phase of the pilot study was completed in March 2012. Remedial design, remedial action and long-term monitoring should begin in FY12, FY13, and FY14 respectively.

IRP Previous Studies

	Title	Author	Date
1991	Site Histories Report to US Army Corps of Engineers, Baltimore District on four Bldgs	Woodward - Clyde	MAY-1991
1992	Characterization Report	Baltimore District Corps of Engineers	JAN-1992
1995	Sample Analysis Report of Fort Myer Class Six Site	General Physics Corporation	AUG-1995
	Soil Samples to Evaluate Soil Vapor Extraction System (Former Dry Cleaning Plant/Service Station - Fort Myer)	Woodward Clyde Federal Services	OCT-1995
1997	Corrective Action Plan (CAP)	Woodward-Clyde Federal Services	MAR-1997
2007	Groundwater Monitoring Report	USACHPPM	OCT-2007
2010	Final Phase I Confirmation Study Memorandum for Former PX Dry Cleaning Facility	CDM	SEP-2010
2011	Final Phase II Pilot Study Work Plan for Former PX Dry Cleaning Facility	CDM	MAR-2011

JOINT BASE MYER-HENDERSON HALL
Installation Restoration Program
Site Descriptions

Site Name: OLD DRY CLEANING PLANT-SVE & GW RISK

STATUS

Regulatory Driver: CERCLA
RRSE: HIGH
Contaminants of Concern: Volatiles (VOC)
Media of Concern: Groundwater

Table with 3 columns: Phases, Start, End. Rows include PA, SI, RI/FS, RD, RA(C), RA(O), LTM, RIP Date, and RC Date.

SITE DESCRIPTION

A PCE release from the aboveground storage tank (AST) and interior floor drains from the dry cleaning operations contaminated the property near the former dry cleaning plant [Building (Bldg) 443]. Furthermore, benzene, toluene, ethylbenzene, and xylene (BTEX) releases occurred from leaking underground storage tanks (UST) at the AAFES Service Station.

In 1999 during pre-construction activities for the emergency service center, a "black layer" was discovered on the site of the former commissary near the Old PX Station site. The "black layer," located within several feet of the ground surface, is believed to be the result of oils applied to the surface for dust suppression prior to the placement of fill for construction of the former commissary.

A risk assessment was performed at this site and submitted to the VDEQ. Following comments from the VDEQ, an amended RA was resubmitted. In 2007 the USACHPPM conducted groundwater sampling to assess the current status. Chlorinated VOCs were identified above MCLs in at least one of 13 wells sampled.

CLEANUP/EXIT STRATEGY

The second phase of the pilot study was completed in March 2012. Remedial design, remedial action and long-term monitoring should begin in FY12, FY13, and FY14 respectively.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
FMY-02	CARPENTER ROAD LANDFILL	199207	Study Completed, No Cleanup Required
FMY-03	OLD DEBRIS LANDFILLS (3)	199009	The Virginia Department of Environmental Quality issued an NFA letter in 1990 indicating that the site was grandfathered due to age of the landfill (closed in the 1960s) and the nature of the debris deposited.
FMY-04	OLD AFES SERVICE STATION - VAPOR TREATME	200108	The data was combined with FMY-01 Old Dry CLN-PLNT-GW. Risk assessment. This site may be deleted. The funds are used to remediate the areas affected by the contamination from AAFES station. However, the site was combined with FMY-01. Per conversation with the USAEC, US Army Military District of Washington (MDW), and FMMC, on 9/26/00 all agreed to open FMY-04 site to accommodate the requirements for public safety center remediation at the Old PX site.
FMY-05	BOILER PLANT AREA	199208	Study Completed, No Cleanup Required
FMY-06	MOTOR POOL (BLDG 209)	199505	Study Completed, No Cleanup Required
FMY-07	NIKE SITE 93, OLNEY, MD	200009	NIKE silo closure plan was approved by the Maryland Department of the Environment in 1998 and closure was approved in 2000 by the same agency.

IRP Schedule

Date of IRP Inception: 199003

Past Phase Completion Milestones

1990

PA (FMY-02 - CARPENTER ROAD LANDFILL, FMY-03 - OLD DEBRIS LANDFILLS (3))

1992

PA (FMY-01 - OLD DRY CLEANING PLANT-SVE & GW RISK, FMY-04 - OLD AFES SERVICE STATION - VAPOR TREATME, FMY-05 - BOILER PLANT AREA)

ISC (FMY-06 - MOTOR POOL (BLDG 209))

SI (FMY-01 - OLD DRY CLEANING PLANT-SVE & GW RISK, FMY-02 - CARPENTER ROAD LANDFILL, FMY-05 - BOILER PLANT AREA)

1993

RI/FS (FMY-01 - OLD DRY CLEANING PLANT-SVE & GW RISK)

1994

DES (FMY-06 - MOTOR POOL (BLDG 209))

CAP (FMY-06 - MOTOR POOL (BLDG 209))

INV (FMY-06 - MOTOR POOL (BLDG 209))

PA (FMY-07 - NIKE SITE 93, OLNEY, MD)

1995

IMP(C) (FMY-06 - MOTOR POOL (BLDG 209))

IMP(O) (FMY-06 - MOTOR POOL (BLDG 209))

1996

RA(O) (FMY-01 - OLD DRY CLEANING PLANT-SVE & GW RISK)

RA(C) (FMY-01 - OLD DRY CLEANING PLANT-SVE & GW RISK)

SI (FMY-07 - NIKE SITE 93, OLNEY, MD)

RD (FMY-01 - OLD DRY CLEANING PLANT-SVE & GW RISK)

1998

RI/FS (FMY-07 - NIKE SITE 93, OLNEY, MD)

2000

RI/FS (FMY-04 - OLD AFES SERVICE STATION - VAPOR TREATME)

SI (FMY-04 - OLD AFES SERVICE STATION - VAPOR TREATME)

2001

RA(C) (FMY-04 - OLD AFES SERVICE STATION - VAPOR TREATME)

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

Site ID	Site Name	ROD/DD Title	ROD/DD Date
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Final RA(C) Completion Date: 200108

Schedule for Next Five-Year Review: N/A

Estimated Completion Date of IRP at Installation (including LTM phase): 203009

JOINT BASE MYER-HENDERSON HALL IRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
FMY-01	OLD DRY CLEANING PLANT-SVE & GW RISK	LTM						

Community Involvement

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): 199806

Restoration Advisory Board (RAB): No

Reason Not Established: Installation at RIP/RC.

Additional Community Involvement Information

The remaining issue at the last active site is groundwater contaminated with PCE from an old dry cleaners. The groundwater is not moving, so there is no threat to off-site facilities or residences in the area. Thus, the installation staff sees no need for a RAB. At present there is no plan to solicit public involvement at this installation. The Environmental Restoration Manager reports that the date of any previous solicitation of interest is unknown.

Administrative Record is located at

No Administrative Record (AR) exists for this installation. Installation documentation will be automated in the future.

Information Repository is located at

No Information Repository (IR) exists for this installation.

Current Technical Assistance for Public Participation (TAPP):N/A

TAPP Title: N/A

Potential TAPP: N/A

