

FY2015

BLOSSOM POINT RESEARCH FACILITY
Army Defense Environmental Restoration Program
Installation Action Plan

Printed 03 August 2015

Table of Contents

Statement Of Purpose.....	1
Acronyms.....	2
Installation Information.....	3
5-Year / Periodic Review Summary.....	4
Cleanup Program Summary.....	5
Military Munitions Response Program.....	6
MMRP Summary.....	7
MMRP Contamination Assessment.....	8
MMRP Previous Studies.....	9
Military Munitions Response Program Site Descriptions.....	11
BPF-002-R-01 Nanjemoy Creek.....	12
BPF-002-R-03 Potomac River South.....	13
BPF-003-R-01 Water Range Fan.....	14
Military Munitions Response Program Site Closeout (No Further Action) Sites Summary.....	15
Military Munitions Response Program Schedule.....	16
Military Munitions Response Program Milestones.....	16
MMRP Schedule Chart.....	17

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, 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 installation restoration manager, the US Army Environmental Command, Blossom Point Research Facility (BPRF), the executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and 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

AEDB-R	Army Environmental Database - Restoration
ALC	Adelphi Laboratory Center
BPRF	Blossom Point Research Facility
DD	Decision Document
EE/CA	Engineering Evaluation/Cost Analysis
ESTCP	Environmental Security Technology Certification Program
FS	Feasibility Study
FY	Fiscal Year
HRR	Historical Records Review
IAP	Installation Action Plan
IRA	Interim Remedial Action
LTM	Long-Term Management
LUC	Land Use Control
MC	Munitions Constituent
MD	Maryland
MDE	Maryland Department of the Environment
MEC	Munitions and Explosives of Concern
mm	millimeter
MMRP	Military Munitions Response Program
MPPEH	Material Potentially Presenting an Explosive Hazard
MRS	Munitions Response Site
NFA	No Further Action
NPL	National Priority List
NTCRA	Non-Time Critical Removal Action
PA	Preliminary Assessment
PP	Proposed Plan
RA	Remedial Action
RAB	Restoration Advisory Board
RI	Remedial Investigation
SI	Site Inspection
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
USACE	US Army Corps of Engineers
USAG	US Army Garrison

Installation Information

Installation Locale

Installation Size (Acreage): 1600

City: La Plata

County: Charles

State: Maryland (MD)

Other Locale Information

BPRF is a 1,600-acre installation located on Cedar Neck Point, at the confluence of Nanjemoy Creek and the Potomac River, at the southern tip of Charles County, MD. It is approximately 50 miles south of Washington, DC and nine miles southwest of La Plata, MD. Access to this facility from US 301 is via MD Route 6 and Blossom Point Road.

Installation Mission

The mission of BPRF is to:

- operate and maintain an ordnance and electronics research facility as a remote site of the US Army Garrison (USAG) Adelphi Laboratory Center (ALC);
- support the Acoustic/Electro-Optic Propagation Research Site operated by the US Army Research Laboratory; and
- provide reimbursable, customer-supported explosives range facility operations for Army Research Laboratory and other Department of Defense and federal agencies.

Lead Organization

IMCOM

Lead Executing Agencies for Installation

US Army Corps of Engineers (USACE), Baltimore District

Regulator Participation

Federal	US Environmental Protection Agency (USEPA), Region III
State	Maryland Department of the Environment (MDE)

National Priorities List (NPL) Status

BLOSSOM POINT RESEARCH FACILITY is not on the NPL

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

The community has expressed no sufficient, sustained interest in a RAB.

Installation Program Summaries

MMRP

Primary Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)

Affected Media of Concern: Sediment, Surface Water

5-Year / Periodic Review Summary

No 5-Year / Periodic Reviews have been scheduled

Cleanup Program Summary

Installation Historic Activity

In December 2003, the preliminary assessment (PA) was completed and three Military Munitions Response Program (MMRP) sites were identified. In May 2006, the historical records review (HRR) was completed. Information collected for the HRR determined that the mortar range fan (BPF-001-R-01) never existed. In March 2007, the MMRP site inspection (SI) was completed and this resulted in the Munitions Response Site Prioritization Protocol scoring of four MMRP sites. One site, Potomac River North (BPF-002-R-02), was recommended for no further action (NFA) based on the findings of the SI.

An engineering evaluation/cost analysis (EE/CA), completed in April 2008, recommended a non-time critical removal action (NTCRA) to address MEC in Nanjemoy Creek (BPF-002-R-01) and Potomac River South (BPF-002-R-03). An action memorandum was prepared which documented the selected alternative. In August 2008 the final action memorandum approving all of the selected interim remedial actions (IRA) for munitions at BPRF for the Nanjemoy Creek munitions response site (MRS) and Potomac River South MRS was signed by the Deputy Garrison Manager, Mr. Joel Salmons. A three-year NTCRA contract was awarded in fall 2008. NTCRA actions were completed in August 2011. Completed actions include:

- (1) Installation of a 600-foot erosion control barrier along a portion of the Nanjemoy Creek shoreline.
- (2) Distribution of public education pamphlets and posters at 14 different marinas within a 15-mile radius of the BPRF,
- (3) Updating of the navigation charts for BPRF water courses,
- (4) Annual surface sweeps of approximately 9.5 acres of shoreline along the Nanjemoy Creek and Potomac River South MRSs, and,
- (5) Posting of signage along the two MRS shorelines depicting, "DANGER," "EXPLOSIVE HAZARD" and "KEEP OUT."

In June 2010 a remedial investigation (RI) was awarded and was completed in March 2014. All open sites are currently undergoing a feasibility study (FS), which is expected to be completed in fiscal year (FY)17.

Installation Program Cleanup Progress

MMRP

Prior Year Progress: BPF-002-R-01, BPF-002-R-03, and BPF-003-R-01, currently have a FS underway.

Future Plan of Action: BPF-002-R-01, BPF-002-R-03, and BPF-003-R-01 will have the RI/FS completed in FY17. BPF-002-R-01 will undergo an RA in FY17 and BPF-002-R-03 and BPF-003-R-01, will enter the long-term management (LTM) phase in FY17.

BLOSSOM POINT RESEARCH FACILITY
Army Defense Environmental Restoration Program
Military Munitions Response Program

MMRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 6/3

Installation Site Types with Future and/or Underway Phases

3 Unexploded Munitions/Ordnance
(BPF-002-R-01, BPF-002-R-03, BPF-003-R-01)

Most Widespread Contaminants of Concern

Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern

Sediment, Surface Water

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

Site ID	Site Name	Action	Remedy	FY
BPF-002-R-01	Nanjemoy Creek	IRA	UXO CLEARANCE	2011
PBA@MR BPF	PBA@MR BPRF	IRA	UXO CLEARANCE	2012

Duration of MMRP

Date of MMRP Inception 200306

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201802/201906

Date of MMRP completion including Long Term Management (LTM): 204807

MMRP Contamination Assessment

Contamination Assessment Overview

In December 2003, the Phase III Army range inventory was completed at BPRF. The inventory identified three multi-use sites as eligible for the MMRP: the mortar range fan, the shoreline range fan, and the water range fan. The Phase III inventory serves as the PA, under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 as amended.

The HRR completed in May 2006 resulted in the mortar range fan (BPF-001-R-01) being recommended for, and subsequently classified as, NFA. The SI report, completed in March 2007, resulted in division of the shoreline range fan (BPF002-R) munitions response area into three MRS:

- Nanjemoy Creek (BPF-002-R-01),
- Potomac River North (BPF-002-R-02), and
- Potomac River South (BPF-002-R-03).

The EE/CA completed in April 2008 recommended NTCRA to address MEC in BPF-002-R-01 and BPF-002-R-03. An action memorandum was prepared which documented the selected alternative and the NTCRA was awarded in FY08. Operational range boundaries were adjusted in FY08 to add landfill No. 1 acreage to BPF-002-R-01. The presence of MEC in Potomac River sediments, BPF-003-R-01, was confirmed by the Environmental Security Technology Certification Program (ESTCP) conducted in the first quarter of FY08. ESTCPs report was finalized in Aug. 20, 2009.

Cleanup Exit Strategy

The NTCRA in BPF-002-R-01 and BPF-002-R-03 was implemented in FY09 with program funding for three years and was completed FY11. The NTCRA included construction of additional shoreline protection in BPF-002-R-01 to prevent potential MEC and munitions debris from eroding out of the slope above the shoreline. Land use controls (LUC) such as annual surface sweeps, signage, notice to mariners, and public education were part of the selected alternative for both sites. The RI for the three BPRF MMRP sites was awarded by Baltimore USACE on June 30, 2010 and extended through March 28, 2014. An FS is currently underway.

A draft RI report for the three MRSs was released for Department of Defense review in April 2013. A draft final RI was completed in November 2013. The final RI was completed in March 2014. All open sites currently have an FS underway. BPF-002-R-01 is expected to have a removal action and BRF-002-R-03 and BPF-003-R-01 are not expected to have a removal action. All sites are expected to have indefinite LTM.

MMRP Previous Studies

Year	Title	Author	Date
2003	Closed, Transferring, and Transferred Range/Site Inventory Report II	Adelphi Laboratory Center	DEC-2003
2006	Final HRR Report, Adelphi Laboratory Center, BPRF, MD	Malcolm Pirnie, Inc. under contract to the USACE, Baltimore District	MAY-2006
	Final SI Work Plan Report, Adelphi Laboratory Center, BPRF, MD	Malcolm Pirnie, Inc. under contract to the USACE, Baltimore District	AUG-2006
2007	Final SI Report, Adelphi Laboratory Center, BPRF, MD	Malcolm Pirnie, Inc. under contract to the USACE, Baltimore District	MAR-2007
	Final EE/CA Work Plan, Adelphi Laboratory Center, Blossom Point Research Facility, MD	Malcolm Pirnie, Inc.	OCT-2007
2008	Final EE/CA Report, Adelphi Laboratory Center, Blossom Point Research Facility, MD	Malcolm Pirnie, Inc.	APR-2008
	Final Action Memorandum, EE/CA Report, BPRF, MD (signed by Deputy Garrison Manager, August 2008)	Malcolm Pirnie, Inc.	JUL-2008
	Final Project Management Plan, MMRP, NTCRA	Jacobs Engineering/Malcolm Pirnie, Inc.	NOV-2008
2009	Final Explosives Safety Submission, MMRP, NTCRA, BPRF	Jacobs Engineering/Malcolm Pirnie, Inc.	FEB-2009
	Final Land Use Control Plan, MMRP, NTCRA, BPRF	Jacobs Engineering/Malcolm Pirnie, Inc.	MAR-2009
	Final Annual Surface Sweep Work Plan, MMRP, NTCRA, BPRF	Jacobs Engineering/Malcolm Pirnie, Inc.	MAY-2009
	First Annual Surface Sweep After Action Report, MMRP, NTCRA, BPRF	Jacobs Engineering/Malcolm Pirnie, Inc.	JUL-2009
	Final Construction Work Plan MMRP NTCRA, BPRF	Jacobs Engineering/Malcolm Pirnie, Inc.	AUG-2009
	First Annual Surface Sweep After Action Report, MMRP NTCRA, BPRF	Jacobs Engineering/Malcolm Pirnie, Inc.	AUG-2009
	Final Erosion and Sediment Control Plan and 100% Design Submittal for Revetment Construction, MMRP, BPRF	Jacobs Engineering/Malcolm Pirnie, Inc.	AUG-2009
2010	Final Non-Time Critical Removal Action Report, MMRP, BPRF	Malcolm Pirnie / Jacobs Engineering Group	FEB-2010
	Final Second Annual Surface Sweep After Action Report, MMRP, NTCRA, BPRF	Malcolm Pirnie, Inc. / Jacobs Engineering Group	JUL-2010
2011	Draft-Final RI Workplan, BPRF	Earth Resources Technology, Inc.	JUL-2011

MMRP Previous Studies

	Title	Author	Date
2011	Final Third Annual Surface Sweep After Action Report, MMRP, NTCRA	Jacobs Engineering	AUG-2011
2012	Final Remedial Investigation Workplan, BPRF	Earth Resources Technology, Inc.	MAR-2012
2014	Remedial Investigation	Earth Resource Technologies Inc.	MAR-2014

BLOSSOM POINT RESEARCH FACILITY
Military Munitions Response Program
Site Descriptions

Site ID: BPF-002-R-01
Site Name: Nanjemoy Creek

STATUS

Regulatory Driver: CERCLA

MRSP Score: 03

Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)

Media of Concern: Sediment, Surface Water

Phases	Start	End
PA.....	200306.....	200312
SI.....	200508.....	200703
RI/FS.....	201006.....	201612
IRA.....	200703.....	201109
RA(C).....	201701.....	201801
RA(O).....	201802.....	201906
LTM.....	201907.....	204807
RIP Date:	201802	
RC Date:	201906	

SITE DESCRIPTION

The Nanjemoy Creek MRS consists of 7.1 acres defined by a 30-foot wide swath of land extending from the bluff that surrounds the installation towards Nanjemoy Creek. The site covers the area along the coastline of Nanjemoy Creek, which extends south from the northwest installation boundary to the southwestern most tip at BPRF. Depending on tidal effects, a significant portion of the Nanjemoy Creek MRS is submerged in shallow water.

The Nanjemoy Creek MRS contains hazards from MEC and material potentially presenting an explosive hazard (MPPEH) related to historical operations. During the SI, MPPEH was encountered in three locations, but was not conclusively identified as MEC by the responding explosive ordnance division unit.

The EE/CA was completed at this site during the IRA phase. The MEC RA costs conducted during the IRA phase at this site also reflected the costs for the MEC RA that was conducted during the IRA phase for site BPF-002-R-03.

Operational range boundaries were adjusted in FY08 to add landfill No. 1 acreage to BPF-002-R-01. This MRS encompasses 7.1 acres to include landfill No. 1. A final RI report was released on March 28, 2014.

A one-half acre landfill along the bluff was investigated for MEC and MC in spring 2012 via a geophysical survey, installation of test pits and monitoring wells. No evidence of either MEC or MC was identified; however, during a technical planning meeting on Jan. 30, 2014, the MDE representative expressed concern over concentrations of three metals (arsenic, lead, chromium) above regulatory drinking water levels. And, according to MDE, applicable or relevant and appropriate requirements were triggered due to exceedances to groundwater. As such, MDE suggested three options and the Army agreed to follow option number 2, which consists of removal of contamination to 2 feet across the 1-acre landfill, groundwater monitoring, and LTM.

An FS was funded in FY14 and is currently underway. Within the current contract, options are available for a proposed plan (PP)/ decision document (DD), remedial action (construction) (referred to as remedy-in-place in the contract), which includes an removal action, and remedial action (operation) (groundwater monitoring). LTM in the form of LUC maintenance will be pursued for 30 years.

CLEANUP/EXIT STRATEGY

Remedial action (construction) in the form of a soil excavation is expected in FY17 to be followed with groundwater monitoring and 30 years of LTM.

Site ID: BPF-002-R-03
Site Name: Potomac River South

STATUS

Regulatory Driver: CERCLA
MRSPP Score: 05
Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)
Media of Concern: Sediment, Surface Water

Phases	Start	End
PA.....	200306.....	200312
SI.....	200508.....	200703
RI/FS.....	201006.....	201612
IRA.....	200703.....	201109
LTM.....	201701.....	204601

RIP Date: N/A
RC Date: 201612

SITE DESCRIPTION

The Potomac River South MRS consists of a 3.3-acre 30-foot wide swath of land extending from the bluff that surrounds the installation towards the Potomac River. The site covers the area along the Potomac River that extends east from the southwestern most tip at BPRF to the operational range area (safety danger zone for range 1) near Cedar Point. Depending on tidal effects, a significant portion of the Potomac River South MRS is submerged in shallow water.

The EE/CA was completed at this site during the IRA phase. The final RI report was released on March 28, 2014. An FS was awarded in FY14 and is underway. A PP/ DD and LTM are the future actions.

CLEANUP/EXIT STRATEGY

It is expected that the FS report will recommend LTM for 30 years in the form of LUCs.

Site ID: BPF-003-R-01
Site Name: Water Range Fan

STATUS

Regulatory Driver: CERCLA
MRSPP Score: 04
Contaminants of Concern: Munitions and explosives of concern (MEC), Munitions constituents (MC)
Media of Concern: Sediment, Surface Water

Phases	Start	End
PA.....	200306.....	200312
SI.....	200508.....	200703
RI/FS.....	201006.....	201612
LTM.....	201701.....	204601

RIP Date: N/A
RC Date: 201612

SITE DESCRIPTION

This 5,413-acre transferred range fan surrounds the BPRF, and consists of 14 distinct range firing fans overlapping into the Nanjemoy Creek in the east and northeast directions and into the Potomac River to the south, southeast and east from BPRF. Between 1942 and 1976 the ranges were used for experimental testing of mortars, rockets and projectiles. The munitions fired into the range fan were 2.75-inch, 3.25-inch, 3.5-inch, 4.5-inch and 5-inch rockets; 60 millimeters (mm), 80mm and 4.2-inch mortars; 20mm, 30mm, 40mm, 75mm, and 105mm projectiles; and 20-pound and 750-pound bombs.

All of the firing points for these ranges are located within the current operational area of BPRF. The area is used for recreational purposes. MEC was confirmed in this MRS by the ESTCP technology transfer project conducted in 2007.

HRR results indicate the potential for MEC, MPPEH, and MD. During a magnetometer-assisted visual survey of the adjacent Nanjemoy Creek MRS, MD and MPPEH were spotted in portions of the Nanjemoy Creek MRS along the shoreline of Nanjemoy Creek. As a result of this survey, the final SI report, ALC, BPRF, MD (2007) recommended this site for RI/FS.

A marine towed array technology demonstration was provided by ESTCP Nov. 2-15, 2007 to identify MEC in 5,413 acres of the Nanjemoy Creek and the Potomac River. As part of the RI, the contractor conducted three additional weeks of marine digital geophysical mapping, reacquisition and intrusive sampling during spring 2012. No MEC or MC were identified.

The final RI report was released on March 28, 2014. A FS was awarded in FY14 and is underway. A PP/ DD and LTM are the future actions.

CLEANUP/EXIT STRATEGY

It is expected that the FS report will recommend LTM for 30 years in the form of LUCs.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
BPF-001-R-01	Mortar Range Fan	200703	According to the May 2006 HRR Report: "The Mortar Range Fan MRS was included in the Phase 3 Inventory Report but was determined to be ineligible for the MMRP based upon the lack of evidence that munitions were ever fired into the area."
BPF-002-R-02	Potomac River North	200703	According to the March 2007 SI Report: "NFA is recommended for the Potomac River North MRS based on the lack of observable MEC, MPPEH, or munitions debris related to the historic use of the site and the lack of munitions constituents in concentrations indicative of the presence of MEC."
PBA@MR BPF	PBA@MR BPRF	201201	

MMRP Schedule

Date of MMRP Inception 200306

Past Phase Completion Milestones

2004

PA (BPF-001-R-01 - Mortar Range Fan, BPF-002-R-01 - Nanjemoy Creek, BPF-002-R-02 - Potomac River North, BPF-002-R-03 - Potomac River South, BPF-003-R-01 - Water Range Fan, PBA@MR BPF - PBA@MR BPRF)

2007

SI (BPF-001-R-01 - Mortar Range Fan, BPF-002-R-01 - Nanjemoy Creek, BPF-002-R-02 - Potomac River North, BPF-002-R-03 - Potomac River South, BPF-003-R-01 - Water Range Fan, PBA@MR BPF - PBA@MR BPRF)

2011

IRA (BPF-002-R-01 - Nanjemoy Creek, BPF-002-R-03 - Potomac River South)

2012

IRA (PBA@MR BPF - PBA@MR BPRF)

RI/FS (PBA@MR BPF - PBA@MR BPRF)

Projected Phase Completion Milestones

See attached schedule

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

To Be Determined

Final RA(C) Completion Date: 201801

Schedule for Next Five-Year Review: N/A

Estimated Completion Date of MMRP at Installation (including LTM phase): 204807

BLOSSOM POINT RESEARCH FACILITY MMRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
BPF-002-R-01	Nanjemoy Creek	RI/FS						
		RA(C)						
		RA(O)						
		LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
BPF-002-R-03	Potomac River South	RI/FS						
		LTM						
SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
BPF-003-R-01	Water Range Fan	RI/FS						
		LTM						

Community Involvement

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): 201012

Restoration Advisory Board (RAB): No

Reason Not Established: The community has expressed no sufficient, sustained interest in a RAB.

Community Interest Solicited on: 201402

Efforts Taken to Determine Interest

In February 2014, USAG ALC solicited the community to determine if there was enough interest in forming a RAB.

Results

A total of 12 responses were received with varying levels of interest. Consequently, the Garrison staff determined there was not sufficient interest at the time in forming a RAB.

Follow-up Procedures

Solicitation for interest in establishing a RAB occurs on a biennial basis.

The next solicitation will occur in February 2016.

Additional Community Involvement Information

A BPRF community update meeting was held in April 2014. The USAG ALC Director of Communications and the BPRF Executive Assistant briefed interested members of the public regarding mission operations and the status of the BPRF MMRP program. The BPRF Executive Assistant and the Garrison Public Affairs Office continue to stay in touch with the community to answer questions, increase operational awareness, and keep them informed of opportunities to be involved in sustaining the BPRF mission.

Administrative Record is located at

US Army Garrison Adelphi Laboratory Center
ATTN: IMAL-PWE (Building 103, Room 107)
2800 Powder Mill Road
Adelphi, MD 20783
Tel: (301) 394-3579

Information Repository is located at

Charles County Public Library
2 Garrett Avenue
La Plata, MD 20646
Tel: (301) 394-9001

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

TAPP Title: N/A

Potential TAPP: N/A

