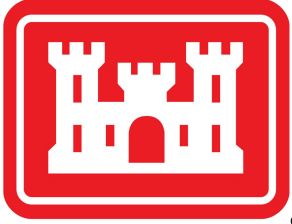


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US Army Corps of Engineers
BUILDING STRONG®

DUCK TARGET FACILITY

Formerly Used Defense Sites Program Management Action Plan

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I. Statement of Purpose

A. Management Action Plan

The Management Action Plan (MAP) is to outline the total multi-year environmental cleanup program for a Formerly Used Defense Site (FUDS) property. The plan will define the cleanup program requirements and propose a comprehensive approach and associated costs to conduct future investigations and response action at each cleanup site.

B. Formerly Used Defense Sites Program

During the past two centuries, the Department of Defense (DOD) has used land throughout the United States to both train Soldiers, Airmen, Sailors and Marines, and test new weapons to ensure the nation's military readiness. As training and testing needs changed, DOD obtained property or returned it to private or public uses. When no longer needed, many of these properties were cleaned up according to the best practices available at the time and then transferred to other owners such as private individuals or federal, state, tribal, or local government entities.

Today, DOD is responsible for the environmental restoration (cleanup) of properties that were formerly owned by, leased to or otherwise possessed by the United States and under the jurisdiction of the Secretary of Defense prior to October 1986. Such properties are known as Formerly Used Defense Sites or FUDS. The U.S. Army is DOD's lead agent for the FUDS Program. The U.S. Army Corps of Engineers executes the FUDS Program on behalf of the U.S. Army and DOD. The U.S. Army and DOD are dedicated to protecting human health and the environment by investigating and, if required, cleaning up potential contamination or munitions that may remain on these properties from past DOD activities.

The scope and magnitude of the FUDS Program are significant, with more than 10, 000 properties identified for potential inclusion in the program. Information about the origin and extent of contamination or munitions, land transfer issues, past and present property ownership, applicable laws and DOD policies must be evaluated before DOD considers a property eligible for Defense Environment Restoration Account funding under the FUDS Program. Environmental cleanup at FUDS properties is conducted under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

C. Installation Restoration Program (IRP)

Installation Restoration Program (IRP) category projects include sites that require response actions to address releases of: (a) Hazardous substances and pollutants or contaminants; (b) Petroleum, Oil, and Lubricants (POLs); (c) Hazardous wastes or hazardous waste constituents; and (d) Explosive compounds released to soil, surface water, sediment, or groundwater as a result of ammunition or explosives production or manufacturing at ammunition plants. The IRP category also includes response activities to address UXO, DMM, or munitions constituents MC posing an explosive, human health, or environmental hazard that are incidental to an existing IRP site.

The relative risk site evaluation (RRSE) framework is a methodology used by all DoD Components to evaluate the relative risk posed by a site in relation to other sites. It is a tool used across all of DoD to group sites into high, medium, and low categories based on an evaluation of site information using three factors: the contaminant hazard factor (CHF), the migration pathway factor (MPF), and the receptor factor (RF). Factors are based on a quantitative evaluation of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) hazardous substances, pollutants, or contaminants and a qualitative evaluation of pathways and human and ecological receptors in the four media most likely to result in significant exposure groundwater, surface water, sediment, and surface soils.

D. Military Munitions Response Program (MMRP)

In 2001, DoD established the Military Munitions Response Program (MMRP). The MMRP addresses munitions response sites (MRSs) at Formerly Used Defense Site locations. MRSs are sites that are known or suspected to contain unexploded ordnance, discarded military munitions, or munitions constituents (MC). Through the MMRP, DoD complies with environmental cleanup laws, such as the Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund.

To prioritize funding and cleanup of MRSs that pose the greatest threat to safety, human health, and the environment, DoD uses the Munitions Response Site Prioritization Protocol (MRSP). The MRSP consists of three separate modules to evaluate hazards associated with explosives, chemical warfare materiel, MC, and other incidental environmental contaminants. The MRSP scores affect how DoD sequences MRSs for cleanup. In addition to relative risk, DoD considers other factors such as economic, programmatic, and stakeholder concerns, as well as reuse and redevelopment plans, when prioritizing sites for cleanup.

II: Acronyms

BD/DR	Building Demolition and Debris Removal
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CHE	Chemical Warfare Material Hazard Evaluation
COMM/REL	Community Relations
CON/HTRW	Containerized/Hazardous, Toxic and Radioactive Waste
CTC	Cost to complete
CWM	Chemical Warfare Material
DD	Decision Document
DERP	Defense Environmental Restoration Program
DOD	Department of Defense
EE/CA	Engineer Evaluation/Cost Analysis
EHE	Explosive Hazard Factor
EP	Evaluation Pending
FFA	Federal Facilities Agreement
FUDS	Formerly Used Defense Sites
FUDSMIS	Formerly Used Defense Sites Management Information System
FS	Feasibility Study
HQDA	Headquarters, Department of the Army
HHE	Health Hazard Evaluation
IAG	Interagency Agreement
IRA	Interim remedial action
IRP	Installation Restoration Program
LTM	Long Term Management
MAP	Management Action Plan
MMRP	Military Munitions Response Program
MMRP/CWM	Military Munitions Response Program/Chemical Warfare Materials
MRSPP	Military Munitions Site Prioritization Protocol
NKSH	No Known or suspected Hazard
NLR	No Longer Required
NPL	National Priorities List
PA	Preliminary Assessment
PA/INPR	Preliminary Assessment/Inventory Project Report
PCO	Project Closeout
PN	Preliminary Negotiations
QA	Quality Assurance
RA	Remedial Action
RA-C	Remedial Action-Construction
RA-O	Remedial Action-Operations
RAB	Restoration Advisory Board
RC	Response Complete

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RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RmA-C	Removal Action-Construction
RmD	Removal Design
RI/FS	Remedial Investigation/Feasibility Study
RIP	Remedy in Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Investigation
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee

III. Property Information

FUDS Number: I04NC0984
FFID: NC49799F788800
Name: DUCK TARGET FACILITY

A. Property Description

The 175.63-acre Duck Target Facility site is approximately 0.5 mile north of Duck in Dare County, North Carolina. The site is a research facility of the U.S. Army Corps of Engineers.

B. Locale

City: DUCK
State: NC
Latitude: 36.17916667
Longitude: -75.75444444
Congressional District: 03
Size (Acreage): 175.30

C. Organization

Division: South Atlantic Division
District: Savannah District
Phone: 912-652-5279

Current Owners:

Type	Name
Federal	FEDERAL FEDERAL

D. National Priorities List Status

The National Priorities List (NPL) is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation.

National Priorities List (NPL) Status: Not on the NPL

E. Project Summaries

The below table outlines all projects that have been identified on this FUDS property. The table provides information on the category of project, the legal driver, the RRSE or MRSP score that is used for prioritization, the total funding for the project, the status of work on the project, and the actual or anticipated remedy in place and response complete dates.

Project Number	Category	Name	Legal Driver	RRSE	MRSP	Total Funding (\$K)	Status	RIP	RC
01	MMRP	Bombing and Rocket Range	CERCLA		06	\$4905	Underway	09/2022 Scheduled	09/2022 Scheduled

IV. Cleanup Program Summary

A. Historic Activity

The site was acquired by order of condemnation No. 53 filed on 23 April 1941 for the Navy and was used as a target range for naval aircraft. The Navy reported the site excess in 1972 and transferred it to the Army (civil works) on 23 April 1973. Since that date, the site has been used as a research facility for the Engineer Research and Development Center. This property is known or suspected to contain military munitions and explosives of concern and therefore may present an explosive hazard. A clearance has just been completed at the site.

V. Installation Restoration Program (IRP)

A. IRP Summary

Inception of IRP: No IRP projects have been reported

Projects Identified: 0

Projects at Response Complete: 0

Remedy-in-Place (RIP): No RIP scheduled

Response Complete (RC): No RC scheduled

IRP completion (including LTM): No IRP projects have been reported

B. IRP Schedule

Project Schedule

There are no IRP projects on this installation.

Five-Year Review

Status: No Reviews Planned

C. Project Descriptions

Please see **Appendix I** for detailed IRP project descriptions

D. Costs

Funding To Date (\$K): \$0

2018 Funding (\$K): \$0

CTC (\$K): \$0

There are no IRP project costs on this installation.

VI. Military Munitions Response Program (MMRP)

A. MMRP Summary

Inception of MMRP: 10/1994

Projects Identified: 1

Projects at Response Complete: 0

Remedy-in-Place (RIP): 09/2022

Response Complete (RC): 09/2022

MMRP completion (including LTM): 09/2053

B. MMRP Schedule

Project Schedule

Project No	Category	Site Type	Status	Response Complete
01	MMRP	Air to Land	Underway	09/2022 Scheduled

Phase Schedule

Project No	Phase	Phase Type	Status	Start	End
01	SI	Remedial Response	Complete	10/1994	09/2009
01	RI/FS	Remedial Response	Complete	10/2015	03/2019
01	EE/CA	Removal Response	Complete	10/1994	09/1999
01	RA-C	Remedial Action	Underway	10/1995	09/2022
01	LTM	Remedial Response	Underway	10/2004	09/2053

Five-Year Review

Status: No Reviews Planned

C. Project Descriptions

Please see **Appendix II** for detailed MMRP project descriptions


D. Costs

Funding To Date (\$K): \$3,227

2018 Funding (\$K): \$74

CTC (\$K): \$1,604

Project No	Phase	Status	< 2018	2018	2019	2020	2021	2022	2023	2024 +
01	SI	Complete								
01	RI/FS	Complete								
01	EE/CA	Complete								
01	RA-C	Underway								
01	LTM	Underway								

 = phase funded

VII. Community Involvement

Since 1993, the Department of Defense (DOD) has supported the development, implementation, and maintenance of the Restoration Advisory Board (RAB) program. Through the RAB program, communities provide input into the decision - making process of DOD's environmental cleanup program. A RAB is a group, equally co - chaired by a DOD representative and a community member, that serves as a forum for exchange of information between government officials and members of the local community on property cleanup issues. In addition to regular RAB meetings, a combination of activities may be conducted to enhance this process. Such activities may include coordinating installation site tours or providing interactive presentations with the use of cleanup technology models. Members of a RAB may include local citizens and representatives of the U.S. Environmental Protection Agency (EPA) and state, local, and tribal governments. The RAB team should reflect the diverse interests of the community and help identify possible issues associated with an installation's environmental cleanup program. RABs provide a link between the community and cleanup decision makers, and should complement other community involvement activities, such as holding public meetings, distributing informative mailings to the public on installation cleanup activities, and establishing local information repositories.

In fiscal year 1998 (FY98), DOD continued to build trust with local communities surrounding military installations by strengthening the RAB program and making new resources available; including the implementation of the Technical Assistance for Public Participation (TAPP) program. The TAPP program was designed to help community members of RABs and TRCs better understand the scientific and engineering issues underlying their properties' environmental cleanup activities. Under TAPP, the installation may contract for an independent technical consultant to advise the RAB on a specific project, which must be identified in the TAPP application. Typical projects may involve reviewing proposed remedial technologies, interpreting health and environmental effects data, or reviewing cleanup documents.

No RAB has been reported

APPENDIX I

IRP Project Descriptions

There are no IRP projects on this installation.

APPENDIX II
MMRP Project Descriptions

1. Identification

Project ID: 01

Project Name: Bombing and Rocket Range

Legal Driver: CERCLA

Closeout

RIP Date: 09/2022 Scheduled

RC Date: 09/2022 Scheduled

2. Project Description

The Bombing and Gunnery Range Munitions Response Site is made up of two overlapping ranges: the Bombing Target (649 acres) and the Rocket Target (3,115 acres). The Bombing Target is entirely within the boundary of the Rocket Target, so the MRS acreage is 3,115 (397 land acres and 2718 tidal water acres). The FUDS property measures only 175.63 acres, 2,465 acres of the MRS is outside of the FUDS property. The FUDS property was acquired by the Department of the Navy on April 23, 1941. From 1941 to 1965, the site was used as a bombing and rocket target range, using numerous types of rockets and practice bombs. The Duck Target Facility was transferred to the Department of the Army (Civil Works) in April 1973 for a Field Research Facility, a USACE facility for coastal observation and research. The research facility has a research building, a supporting maintenance shed and an 1840-foot long research pier. Surrounding the FUDS property on both the north and south sides are residential properties.

3. Restoration History

A time critical removal action (TCRA) was conducted in 1993. A total of 821 munitions and explosives of concern (MEC) items were removed from the surface. All MEC items were characterized as practice rounds.

An Engineering Evaluation/Cost Analysis (EE/CA) was completed in 1996. The EE/CA recommended institutional controls (educational program) for Duck Field Research Facility (FRF) employees and deed restrictions. The EE/CA also recommended clearance for the State Route 12 right of way, surface clearance of MEC in the Main Area and subsurface clearance to a depth of one foot for zones A and B in the Main Area.

A non-time critical removal action (NTCRA) was conducted in 1999-2000 as recommended by the EE/CA. Clearance activities were conducted to a one foot depth in

the Main Area (zones A and B) and to a four foot depth along NC Route 12. No MEC items were discovered.

A Military Munitions Recurring Review was conducted in 2006 and concluded MEC clearance activities completed in 2000 were not protective of public safety due to wind and tidal erosion increasing the potential for human exposure. A NTCRA was conducted in 2007 as recommended by the 2006 Recurring Review report. The NTCRA included surface clearance on approximately 25 acres, construction support for a telephone pole, front gate trench, access road and beach access path and replacement of UXO information signs. No MEC items were discovered.

4. Cleanup/Exit Strategy

Currently in the RI/FS Phase. Major contaminant is MEC. Remedial alternatives evaluated in the Feasibility Study which is anticipated to be finalized in FY16. The proposed plan and decision document will be finalized in FY17. In-house support will be required to review the documents, support the public meeting, address comments received on the proposed plan, coordinate approval of the decision document, and coordinate implementation of the remedial action. It is anticipated LUCs (UXO information sign installation, educational awareness, and five year reviews) will be conducted for the remedial action. RA-C is anticipated to begin in FY17.

5. Status

MRSPP

MRSPP: 06	EHE: 6	CHE: NKSH	HHE: NKSH
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MRSPP Army Quality Assurance (QA) Panel Review

Result: Approved	Date: 1/27/2017
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Media

Groundwater, Surface Water/Human Endpoint, Surface Water/Ecological Endpoint, Surface Soil
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Munitions

Type: Propellant
Source of Hazard: Former practice munition range
Location: Suspected (physical evidence)

CWM

Type: Evidence of no CWM

Phases

Phase	Status
SI	Complete
RI/FS	Complete
EE/CA	Complete
RA-C	Underway
LTM	Underway

1. Identification

Project ID: 01

Project Name: Bombing and Rocket Range

Legal Driver: CERCLA

Closeout

RIP Date: 09/2022 Scheduled

RC Date: 09/2022 Scheduled

2. Project Description

The Bombing and Gunnery Range Munitions Response Site is made up of two overlapping ranges: the Bombing Target (649 acres) and the Rocket Target (3,115 acres). The Bombing Target is entirely within the boundary of the Rocket Target, so the MRS acreage is 3,115 (397 land acres and 2718 tidal water acres). The FUDS property measures only 175.63 acres, 2,465 acres of the MRS is outside of the FUDS property. The FUDS property was acquired by the Department of the Navy on April 23, 1941. From 1941 to 1965, the site was used as a bombing and rocket target range, using numerous types of rockets and practice bombs. The Duck Target Facility was transferred to the Department of the Army (Civil Works) in April 1973 for a Field Research Facility, a USACE facility for coastal observation and research. The research facility has a research building, a supporting maintenance shed and an 1840-foot long research pier. Surrounding the FUDS property on both the north and south sides are residential properties.

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Source of Hazard: Former practice munition range
Location: Suspected (physical evidence)

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Type: Evidence of no CWM

Phases

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SI	Complete
RI/FS	Complete
EE/CA	Complete
RA-C	Underway
LTM	Underway

1. Identification

Project ID: 01

Project Name: Bombing and Rocket Range

Legal Driver: CERCLA

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