



US Army Corps
of Engineers
Kansas City District

Jefferson Barracks Former Post Dumping Grounds

St. Louis County, Missouri

March 2016

INTRODUCTION

This Proposed Plan identifies the United States Army Corps of Engineers (USACE) proposed final remedy for addressing hazards associated with military munitions at the Former Post Dumping Grounds (FPDG) Munitions Response Site (MRS), aka Riverfront Military Munitions Response Program (MMRP) Disposal Area, at the Jefferson Barracks Missouri Air National Guard (JBANG) installation.

The USACE is conducting this work under the MMRP. The U.S. Department of Defense (DoD) established the MMRP to address Formerly Used Defense Sites (FUDS) suspected of containing hazardous remains of military munitions on former military installations. The DoD operates as the lead agency under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

The USACE Kansas City District is the executing agency for the MMRP at the Jefferson Barracks (JB) FPDG. The Missouri Air National Guard (MOANG) owns and manages the majority of the land within the JBANG FUDS boundary. This Proposed Plan was developed by USACE with support from the Missouri Department of Natural Resources (MDNR). The U.S. Environmental Protection Agency (USEPA) provided regulatory assistance to MDNR during investigation and remedial response activities. However, USEPA's involvement ended after response actions concluded at the site in 2003.

The purpose of this Proposed Plan is to facilitate public involvement in the remedy selection process by providing background information about the JB FPDG MRS and present the rationale for adopting existing response actions consisting of a riprap barrier, warning signs, and a restrictive covenant (deed restriction) as the final remedy to address buried military munitions. This Proposed Plan is being issued as part of the public participation responsibilities under Section 300.430(f)(2) of the

National Oil and Hazardous Substances Pollution Contingency Plan and Section 117(a) of CERCLA. The Jefferson Barracks FPDG MRS is not on the CERCLA National Priorities List (NPL); however, under the FUDS program, MMRP sites follow the CERCLA process. After the close of the public comment period, USACE proposes to issue a Decision Document (DD) based on regulator and public input. The proposed final remedy for this site is to adopt existing response action consisting of a riprap barrier and warning signs, in addition to the continuation of long-term management actions. Long-term management actions consist of inspections and maintenance of existing warning

Dates to Remember:

A) Public Comment Period

March 14, 2016 to April 15, 2016

The USACE will accept written comments on the Proposed Plan during a public comment period.

B) Public Meeting

March 22, 2016

Starting at 7:00PM

The USACE will hold a public meeting to explain the Proposed Remedy. The meeting will be held at The Pavilion at Lemay, [REDACTED]

For more information, see the Administrative Record File, located at:

<http://www.nwk.usace.army.mil/Missions/Environmental/EnvironmentalProjects/JeffersonBarracks.aspx>

Jefferson Barracks Air National Guard Station
Missouri Air National Guard

[REDACTED]

signs and riprap barrier and the continued enforcement of a restrictive covenant. The above actions taken as part of the 1999 removal action have resulted in the site being protective of human health and the environment. Details of the 1999 removal action are found in subsequent paragraphs of this proposed plan. USACE may decide to modify the proposed final remedy if comments from MDNR or the public or additional data indicate that such a change will result in a more appropriate remedy.

This Proposed Plan summarizes information that is presented in detail in the Engineering Evaluation/Cost Analysis (EE/CA) and other documents in the JB FPDG Administrative Record File located at the Jefferson Barracks Air National Guard Station and on-line at <http://www.nwk.usace.army.mil/Missions/Environmental/EnvironmentalProjects/JeffersonBarracks.aspx>. The Administrative Record is a compilation of the information that was considered in formulating the proposal presented in this Proposed Plan, and presents a comprehensive description of the site investigation and remedial activities.

SITE BACKGROUND

Site Location

JB FPDG MRS, FUDS Property Number B07MO0143, is located approximately 12 miles south of the City of St. Louis, Missouri and encompasses 20.7 acres within the eastern edge of the JB MOANG installation. The location of the FPDG at JBANG is shown on **Figure 1**.

Site History

The JB was established on approximately 1,702 acres in 1826 as a garrison for U.S. Army infantry units. The post was utilized for various U.S. military training activities from 1826 to 1946, except during the period from 1871 to 1894, when the site was operated by the Ordnance Department as the St. Louis Arsenal and was also used as a recruiting station for cavalry training. The facility served as a demobilization center for overseas troops during World War I (WW I). By 1890, most of the arsenal storage (powder, arms, and

munitions) had been moved to the Rock Island Arsenal in Illinois. In 1920 the post became the home of the U.S. Army 6th Infantry, which conducted training with both conventional and chemical munitions. Rifle, submachine gun, and dummy grenade practice were conducted at ranges located in the southern portion of the base.

Records from the early 1900's indicate that rifle grenade training took place on the Old Cavalry Drill Field. It is suspected that this field is now occupied by the Veterans Administration Hospital. The majority of munitions and field training took place in a large wooded area in the southwest portion of the post following WW I. Additional training activities included night maneuvers, camouflage school, and artillery placement. Documents also indicate that instruction in the use of 37 millimeter guns and Stokes mortars occurred on these ranges. From 1826 to 1946, portions of the JB riverfront property are indicated to have been used for various waste disposal activities. The area is now referred to as the JB FPDG and has been the location of both historical artifact recovery and military munitions clearance activities prior to the installation of a riprap barrier in 1999.

Due to the presence of historical artifacts, the JB FPDG was designated as a national archaeological site, but did not meet the criteria for National Register of Historic Places status. Based on a 1996 survey of riverfront area artifacts, artifacts dating from 1880-1940 (primarily time periods following the Spanish-American War and WW I) dominate the area. Dumping appears to have been primarily confined to the Mississippi River shore. Most of the material dumped in the riverfront area consisted of general refuse and construction / building debris.

Dump items included mess hall plates and china; medical ceramics and glassware; belt buckles, military uniform buttons and clasps; and large amounts of horseshoes, mule shoes and building/construction debris, including nails, bolts, and various metal scraps. Recovered military munitions items in the JB FPDG during site inspections and subsequent Removal Action in 1996-1997 have primarily been WW I-era mortar shells and rifle grenades and are assumed to have been disposed of as excess after the war ended.

Previous Removal Actions and Investigations

Interim removal actions at the Jefferson Barracks FPDG in 1996-1997 recovered several Ordnance and Explosives (OE) items including unexploded ordnance (UXO) that required on site detonation. Following these responses, an EE/CA was conducted in order to develop alternatives for implementing measures that would protect the public from exposure to UXO. As part of the EE/CA, a field investigation of the FPDG was performed in 1997. Three OE items were recovered during the EE/CA investigation. Based on the EE/CA's findings, three alternatives were developed that included 1) No Further Action (NOFA); 2) Institutional Controls/Risk Management (IC/RM); and 3) 4-Foot Clearance (clearance of OE to a depth of 4 feet below ground surface).

An Action Memorandum that determined the action taken during the interim removal action for the FPDG was signed on October 23, 1998 and selected Alternative 2-Institutional Controls and Risk Management (IC/RM).

Alternative 2 implementation began in 1999 with the installment of riprap and warning signs on 11 acres of the 20.7 acre MRS. The remaining 9.7 acres along the riverfront were determined to be beyond the boundaries of the post dumping grounds. Based on previous investigations, no evidence of dump items or military munitions were found north or south of the area proposed for riprap. A minimum 2.5-foot layer of riprap was to be installed. Approximately 15,000 tons of USACE Graded Stone A riprap was installed on approximately 10 acres of combined Beach and River areas. Placement of riprap was completed in February 2000. Twelve warning signs were also installed in and around the FPDG at locations not likely to be subjected to river flood stages. The signs were installed along access routes along the western and eastern edges of the wooded area. The boundary of the riprap barrier and locations of the warning signs are identified on **Figure 2**.

In 2001, a Memorandum of Agreement (MOA) was signed between USACE and MOANG. A

MOA defines the relationship, responsibilities, and general objectives under which USACE and MOANG provide long-term management actions such as site inspections.

In 2003, extremely low Mississippi River water levels allowed MOANG officials to inspect riprap that had been submerged since its installation in early 2000. This inspection resulted in the discovery of areas void of riprap, including evidence of former dump site debris, such as mule shoes and Quartermaster Corps china. A second placement of riprap was completed to fill the void areas. The removal action achieved construction completion with the U.S. Environmental Protection Agency's (USEPA) acceptance of a close out letter dated May 20, 2003.

In 2004, a restrictive covenant was recorded in St. Louis County by the MOANG. The purpose of the restrictive covenant or deed restriction is to bind the property owner (State of Missouri, represented by the Office of the Adjutant General, MOANG) to the terms of the MOA, and to provide notice of buried munitions to all future owners.

Long-term management actions consisting of annual site inspections of the riprap and warning signs began in 2003 and continue today. Vegetation clearing around the warning signs and replacement of damaged warning signs have also been performed.

Site Characteristics

The FPDG site's location along the Mississippi River consists of three dominant features, including a wooded "Escarpment Area", "Beach Area," and "River Area." The Escarpment area forms the western portion of the site and is heavily vegetated and is bounded on the west by the Union Pacific Railroad tracks and on the east by a 4 to 6 foot slope or escarpment. The Beach Area size varies in accordance with the water level of the Mississippi River. The River Area is that portion of the site which is typically submerged by the Mississippi River. The River Area is estimated to encompass approximately 2.4

to 3.6 acres. A detailed view of the FPDG is shown on **Figure 2**.

SCOPE AND ROLE OF ACTION

The primary objective of the response action addressed in this Proposed Plan is to protect the public from exposure to UXO at the Jefferson Barracks FPDG by maintaining the existing riprap barrier and warning signs that were installed in 1999. An evaluation of alternatives presented in the 1998 EE/CA determined at that time that Alternative 2-Institutional Controls/Risk Management (IC/RM) consisting of the installation of a riprap barrier and twelve warning signs was the most effective measure to protect the public from exposure to UXO during the removal action. The proposed action proposes to adopt the removal action response of Institutional Controls/Risk Management (IC/RM) as the final remedy at the Jefferson Barracks FPDG.

SUMMARY OF SITE RISKS

USACE assessed risk to determine current and future effects on human health and the environment from Munitions and Explosives of Concern (MEC) during the EE/CA. Due to a 2.5 foot thick layer of stone riprap placed over the entire site, the pathways for exposure to MEC at the FPDG only potentially exist greater than 2.5 feet below ground surface for construction workers. No release mechanisms for MC were identified at the FPDG, so no MC risk assessment was conducted.

Currently there is no migration potential due to the over 2.5 foot thick layer of stone riprap installed over the FPDG in 1999. This barrier prevents all soil erosion and prevents any items moved by frost heave from becoming exposed. Based upon recurring inspection of the site, this barrier has also prevented erosion related to water movement.

Recurring reviews were completed in 2009 and 2014 which concluded that the response action at the JB FPDG Site is protective of human health and the environment. There have not been any additional reports of OE at the site since initial installation of the riprap.

What are Munitions and Explosives of Concern (MEC)? – Munitions and Explosives of Concern, or MEC, is a term that specifies categories of military munitions that may pose explosives safety risks. MEC may include unexploded ordnance (UXO) (generally munitions that were fired or prepared for firing, which remain unexploded due to malfunction); discarded military munitions (DMM) (generally munitions that have been abandoned without proper disposal); or high concentrations of munitions constituents, such as trinitrotoluene.

REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) are specific goals to protect human health and the environment.

An overall RAO was established for the Jefferson Barracks FPDG as follows:

- To protect the public from exposure to UXO.

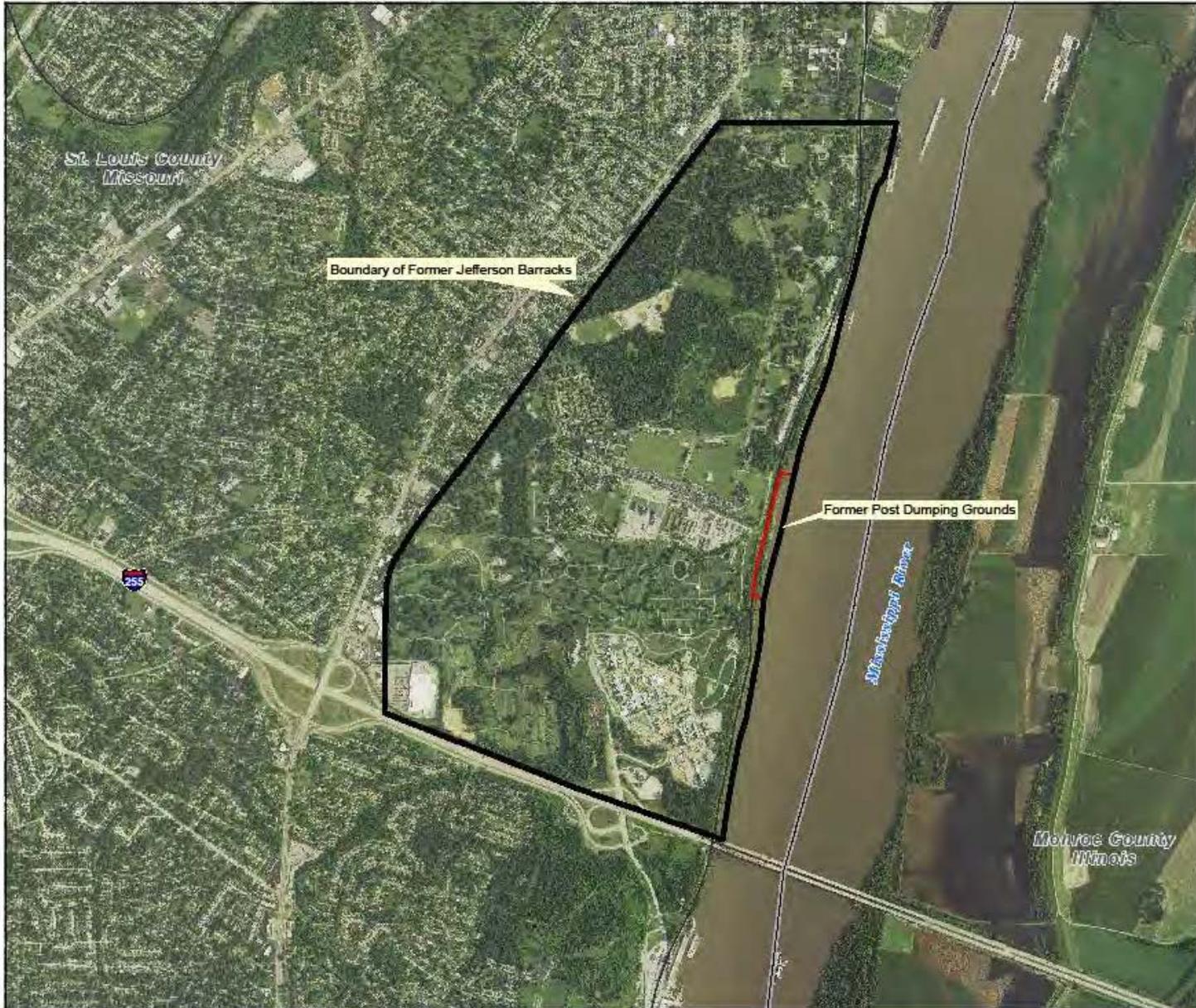
ARARs

Applicable or relevant and appropriate requirements (ARARs) are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, or contaminant, remedial action, location, or other circumstance found at a CERCLA site, or address problems sufficiently similar to those encountered at the CERCLA site such that their use is well-suited to the particular site. State ARARs that are promulgated, more stringent than Federal ARARs, identified by the State in a timely manner, must be satisfied in the final remedial action as well.

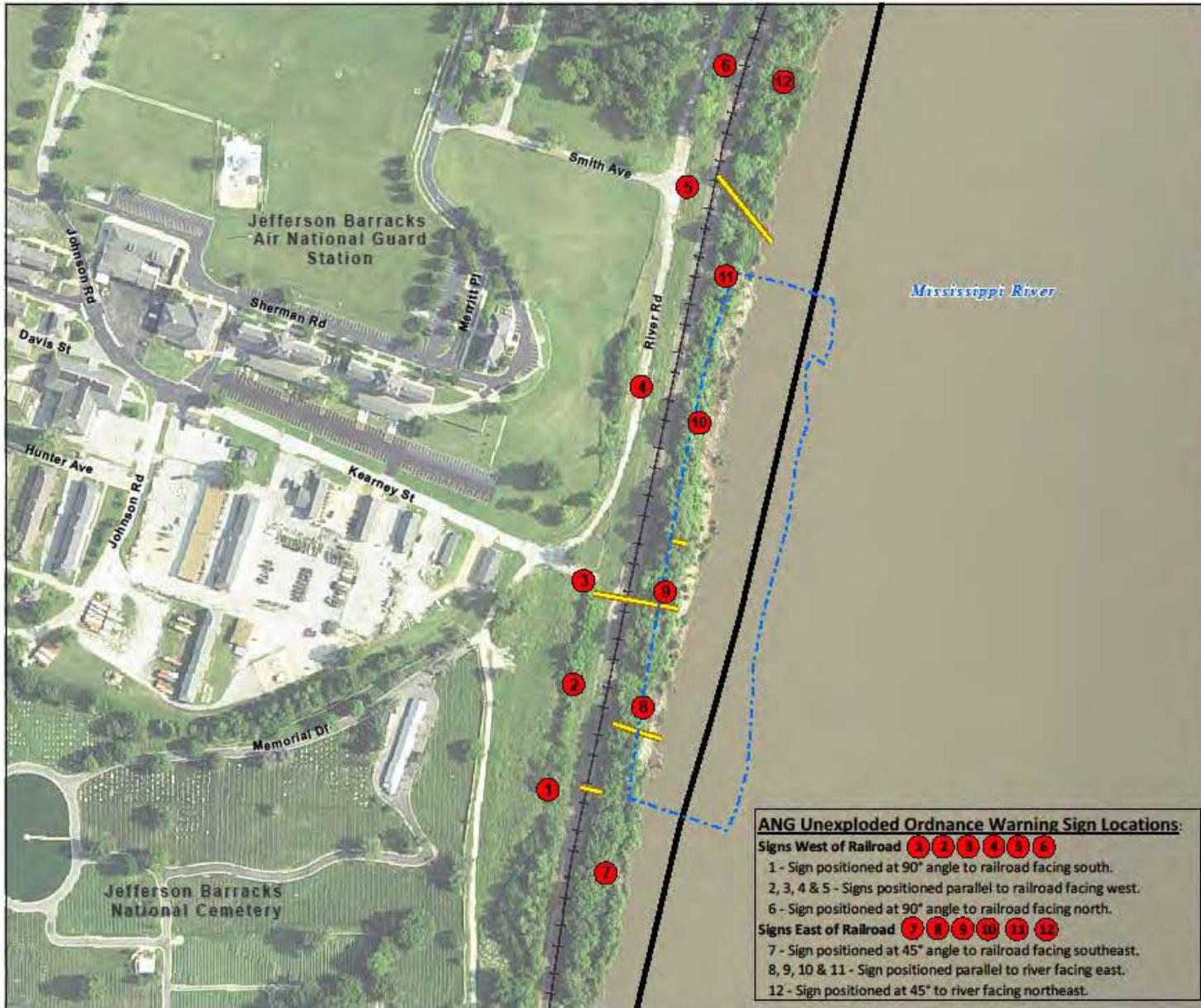
There are three types of ARARs: 1) Location-specific ARARs restrict the occurrence of chemicals in certain sensitive environments, such as wetlands (for example, the Endangered Species Act); 2) Action specific ARARs are activity-based

or technology-based, and typically control remedial activities that generate hazardous wastes (for example, RCRA); 3) Chemical-specific ARARs are health-based or risk management-based numbers that provide concentration limits for the occurrence of a chemical in the environment (for example, USEPA drinking water maximum contaminant levels).

There are no location-specific, action-specific or chemical-specific ARARs identified for the OE at the Jefferson Barracks FPDG.



Missouri Air National Guard Jefferson Barracks Station	
FORMER JEFFERSON BARRACKS LOCATION MAP FIGURE 1	
Legend <ul style="list-style-type: none"> Boundary of Former Jefferson Barracks Former Post Dumping Grounds County Boundaries Union Pacific Railroad 	
<p>US Army Corps of Engineers Crested Circle</p>	<p>Imagery Source: U. S. Department of Agriculture, Farm Service Agency 2014</p> <p>PROJECTION: NAD83 STATEPLANE MISSOURI EAST FIPS 2401 DATE COMPILED: 04/16/2016</p>
<p><small>Disclaimer: The United States Government and USACE furnish this data and the recipient accepts and uses it with the express understanding that the Government makes no warranties, expressed, or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the information and data furnished. The United States shall be under no liability whatsoever to any person by reason of any use made thereof. Data displayed on this map are approximations derived from GIS layers and should not be used in place of survey data or legal land descriptions.</small></p>	



Missouri Air National Guard
Jefferson Barracks Station

FORMER POST DUMPING
GROUNDS SITE MAP
FIGURE 2-2

Legend

- Existing ANG Unexploded Ordnance Warning Sign
- Storm Sewer
- Rip Rap Boundary
- Boundary of Former Jefferson Barracks
- + Main Rail Line; Branch line



Imagery Source:
U.S. Department of Agriculture,
Farm Service Agency 2014

PROJECTION: NAD83
STATEPLANE MISSOURI EAST FIPS2401
DATA COMPILED ON: 28 September 2015

US Army Corps of Engineers
Civil District

Scale: 0 100 200 400 Feet

ANG Unexploded Ordnance Warning Sign Locations:

Signs West of Railroad ● ● ● ● ● ●

1 - Sign positioned at 90° angle to railroad facing south.
2, 3, 4 & 5 - Signs positioned parallel to railroad facing west.
6 - Sign positioned at 90° angle to railroad facing north.

Signs East of Railroad ● ● ● ● ● ● ●

7 - Sign positioned at 45° angle to railroad facing southeast.
8, 9, 10 & 11 - Sign positioned parallel to river facing east.
12 - Sign positioned at 45° to river facing northeast.

Disclaimer: The United States Government and USACE furnishes this data and the recipient accepts and uses it with the express understanding that the Government makes no warranty, expressed, or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the information and data furnished. The United States shall be under no liability whatsoever to any person by reason of any use made thereof. Data displayed on this map are approximations derived from GIS layers and should not be used in place of survey data or legal land descriptions.

SUMMARY OF REMEDIAL ALTERNATIVES

USACE considered the following three removal action alternatives to address buried UXO at the Jefferson Barracks FPDG.

Alternative 1- No Action

The “No Action” alternative is required to be considered in the CERCLA process, and is used to establish a baseline for comparison with the other alternatives. No Action means that no removal action would have been implemented to reduce the potential safety risk posed by UXO.

Estimated Cost: \$0

Alternative 2- Institutional Controls/Risk Management (IC/RM)

Alternative 2, which was implemented in 1999, consisted of the following components:

- Posting warning signs.
- Distributing informational packages and brochures.
- Installing riprap to the shoreline area most suspected for the presence of buried UXO items to prevent surface exposure from future river erosion.
- Providing a written record of findings and recommendations of the EE/CA report to the state of Missouri.
- Providing a Memorandum of Agreement (MOA) between USACE and MOANG.
- Creating a restrictive covenant (deed restriction).
- Continued inspections and maintenance of warning signs and riprap.

Estimated Cost (at the time): \$508,830*

**Includes a \$169,610 estimated cost for annual maintenance of riprap and warning signs for a 10-year period.*

Current Average Annual Long-term Maintenance Cost: \$15,000

Alternative 3- 4-Foot Clearance

Alternative 3 includes subsurface clearance of all OE items to a depth of 4 feet in a localized portion of the Beach and River Areas.

Estimated Cost (at the time): \$224,908

Current Estimated Cost: \$2,004,574*

**Includes cost to remove and replace riprap in addition to munitions clearance activities.*

EVALUATION OF ALTERNATIVES

During the evaluation of removal alternatives, USACE used nine criteria required by CERCLA to assist in the decision making and selection process of a preferred alternative to address the buried UXO at the Jefferson Barracks FPDG. The first two criteria are the **Threshold Criteria**, which each alternative must meet to receive further consideration. These are: 1) Overall Protection of Human Health and the Environment; and 2) Compliance with ARARs.

The next five criteria are the **Primary Balancing Criteria**, which are the basis for analysis of the alternatives. These are: 3) Long-Term Effectiveness and Permanence; 4) Reduction of Toxicity, Mobility, and Volume through Treatment; 5) Short-term Effectiveness; 6) Implementability; and 7) Cost.

The two final criteria are the **Modifying Criteria**, which can only be evaluated following the public comment period. These are: 8) State Acceptance; and 9) Community Acceptance.

Each of the three removal alternatives were evaluated with respect to the individual criteria, and were compared to one another to determine their respective strengths and weaknesses and to identify the key trade-offs. A comparative analysis of the alternatives based upon the evaluation criteria noted above are as follows:

Overall Protection of Human Health and the Environment

Overall protection of human health and the environment addresses whether a remedial alternative provides protection of human health and the environment and describes how risks which are posed through each exposure pathway are eliminated, reduced, or controlled through

treatment, engineering controls, or institutional controls.

This criterion was evaluated in terms of possible future human interaction with UXO. Alternative 1 was not considered protective of human health and the environment. Alternative 1 would not have removed any UXO and provided no source reduction. Alternative 3 would remove UXO. However, due to the site's proximity to the Mississippi River, its effectiveness in the removal of all UXO would be questionable due to the river level fluctuations and predetermined removal depth. Although Alternative 2 does not remove any UXO and provides no source reduction, this alternative was determined to be more effective in preventing exposure to UXO hazards due to the riprap cover that would minimize exposure of additional UXO during river level fluctuations. Alternatives 2 and 3 were both considered to have been overall protective of human health and the environment.

Compliance with ARARs

Compliance with ARARs addresses whether a remedial alternative will meet all applicable or relevant and appropriate requirements of federal and state laws and regulations related to addressing hazardous substances at the site.

The criteria, Compliance with ARARs, is not applicable as there are no ARARs pertaining to the evaluated alternatives for this site.

Long-Term Effectiveness and Permanence

Long-term effectiveness and permanence addresses the ability of a remedial alternative to permanently reduce or eliminate the potential for UXO exposure hazard.

Alternative 1 provided no effective and/or permanent response to the munitions. Alternative 3 reduces the potential for UXO exposure by performing a subsurface clearance to 4 feet. However, permanently eliminating the potential for UXO exposure would be difficult due to the Mississippi River's fluctuating levels

that could contribute to UXO migrating to the beach surface. Alternative 2 provides the most long-term effectiveness and permanence by covering the former dump area with riprap which eliminates the potential for UXO exposure.

Reduction of Toxicity, Mobility, and Volume through Treatment

This criterion addresses the statutory preference for selecting remedial actions that employ treatment technologies which permanently and significantly reduce toxicity, mobility, or volume of the hazardous substances. This preference is satisfied when treatment is used to decrease the principal threats at a site by destruction of toxic contaminants, irreversible reduction in contaminant mobility, or reduction of total volume of contaminated media.

Alternatives 1 and 2 provide no reduction in toxicity, mobility, or volume of contaminants. Alternative 3 may not provide an adequate level of reduction in toxicity, mobility, or volume of contaminants, since UXO may exist deeper than 4 feet.

Short-term Effectiveness

Short-term effectiveness addresses short-term risks and the potential consequences and effects of an alternative during the implementation phase. Short-term risks are potential adverse impacts to workers, the community, and the environment during the construction and implementation phases of the remedial action.

Alternatives 1 and 2 both had no associated short-term risks or adverse impacts to workers, the community, and the environment. Alternative 3 has short-term impacts associated with heavy equipment use, intrusive activities and/or excavation, and possible interaction with UXO. Alternative 3 would also cause environmental and ecological impacts by excavating the site to a predetermined depth.

Implementability

This criterion addresses the technical and administrative feasibility of implementing a specific remedial action alternative.

Implementability includes consideration of whether the alternative is technically possible; the availability of necessary materials, equipment, and specialists; administrative and regulatory requirements; and monitoring requirements.

Alternatives 1 and 2 are technically and administratively feasible and readily implemented. Alternative 3 is not technically feasible due to the difficulty working in water-saturated sediments on the bank of the Mississippi River. Based on the EE/CA field investigation work, excavations would quickly fill with water and cave in. Additionally, walking, standing, or moving about in the area with heavy machinery would be hampered by the soft, muddy ground surface.

Cost

This criterion evaluated the cost to implement each removal action alternative. The cost estimates developed as part of the 1998 EE/CA were order-of-magnitude level estimates based on a variety of information including productivity estimates, cost estimating guidelines and prior experience. Cost estimates for each alternative were presented in Appendix F of the 1998 EE/CA.

Alternative 1 required no action, therefore, no costs would have been incurred. Alternative 2 had costs associated with installing riprap and warning signs and subsequent long-term maintenance. Alternative 3 had costs associated with the excavation and clearance of buried munitions to 4-feet.

The original cost of implementing the remedial alternatives ranged from \$0 for Alternative 1 (No Further Action) to \$531,540 for Alternative 2 (Institutional Controls/Risk Management (IC/RM)). The estimated cost to implement Alternative 2 also included annual maintenance costs for a 10-year period. The current annual estimated cost for Alternative 2 is \$15,000, which is associated with inspections and maintenance of signs and riprap. Alternative 3 (4-Foot Clearance) was estimated at \$224,908. However, current estimated costs related to the removal and

replacement of riprap in association with munitions clearance activities would increase to \$2,004,574.

State Agency Acceptance

MDNR supported the adoption of Alternative 2-Institution Controls/Risk Management (IC/RM) as the final Removal Action Alternative for the Jefferson Barracks FPDG. However, the MDNR encourages the public to submit comments on the alternatives presented in this Proposed Plan, and reserves the final recommendation until input from the community is evaluated.

Community Acceptance

Community acceptance of the proposed Final Remedy will be evaluated after the public comment period ends and will be described in the Responsiveness Summary of the Decision Document for the site.

DISCUSSION OF ALTERNATIVES AS THE FINAL REMEDY

No Action Alternative

The no action alternative would consist of USACE walking away from its obligations without the necessary maintenance to ensure that remedy components put in place during the interim removal action remain protective. Signs would not be maintained or replaced, inspections of the riprap area would cease, the MOA between MOANG and USACE would not be maintained, and five year reviews would not be conducted.

This alternative would still not meet the threshold criteria of Overall Protection of Human Health and the Environment, thus it could not be chosen as the remedy at this site. It is included as a baseline to judge the other remedial alternatives.

Institutional Controls/Risk Management (IC/RM)

Adopting the removal action as the on-going final remedy makes sense. It has a proven record of eliminating risk to human health and the environment, making it very effective. It continues the good relationship between the USACE and the

state of Missouri overseeing and maintaining the site. There is no new actions needed beyond five year reviews and on-going maintenance. All costs are budgeted and expected. This is the proposed final remedy.

4 Foot Clearance

This alternative would now require the removal of the existing riprap cover before a clearance of munitions can be performed. This alternative would present technical difficulties working in water-saturated sediments and also present a hazard to the field crew encountering and potentially handling UXO during removal operations. In addition, costs to implement would be greater.

SUMMARY OF PROPOSED FINAL REMEDY

Based on an evaluation of alternatives, over twelve years of long-term management activities, and no discoveries of UXO since riprap was installed in 1999, USACE recommends adopting Institutional Controls/Risk Management (IC/RM) as the final Remedy at the FPDG. The continuation of inspections and maintenance of existing warning signs and riprap barrier, in addition to the continued enforcement of a restrictive covenant, will achieve overall protection of human health and the environment at the FPDG MRS at the JBANG installation.

Because hazardous substances, pollutants or contaminants remain on-site above levels that allow for unlimited use and unrestricted exposure, statutory five year reviews will be required.

The proposed Final Remedy can change in response to public comment or new information.

COMMUNITY PARTICIPATION

USACE encourages the public to gain a more comprehensive understanding of the site and the activities that have been conducted at the site. Detailed information about the previous investigations and removal action activities can be found in the reports and documents contained in the Administrative Record file located at: Jefferson Barracks Air National Guard Station

Missouri Air National Guard

[Redacted]

The Proposed Plan and other relevant documents pertaining to the site may also be viewed at

<http://www.nwk.usace.army.mil/Missions/Environmental/EnvironmentalProjects/JeffersonBarracks.aspx>

Public Comment Period: The public comment period extends from March 14, 2016 to April 15, 2016, and is provided to allow the public time to review the Proposed Final Remedy presented in this document. USACE, in consultation with MDNR, will consider the views and input of the general public before making a final decision on the proposed final remedy for the JB FPDG. Public Meeting: As part of the public comment period, USACE will host a Public Meeting on March 22, 2016 at 7:00pm to provide and discuss information in this Proposed Plan. The Public Meeting will be held at The Pavilion at Lemay, [Redacted]

Public Comments: The public is encouraged to provide comment on the approach in this Proposed Plan through attendance at the Public Meeting. Interested parties may also submit written comments by letter or by using the attached form. Written comments should be submitted to Josephine Newton-Lund at the address below:

US Army Corps of Engineers, Kansas City District
 Josephine Newton-Lund, *Senior Project Manager*
 CENWK-PM-ES
 601 E. 12th Street
 Kansas City, MO 64106
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REFERENCES

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- U. S. Army Corps of Engineers, 2009a, *First Five-Year Review Report for The Former Jefferson Barracks Post Dumping Grounds St. Louis County, Missouri Defense Environmental Restoration Program-Formerly Used Defense Site (DERP-FUDS) Site #B07MO0143*. August.
- U.S. Army Corps of Engineers, 2014, *Recurring Review Report for The Former Jefferson Barracks Post Dumping Grounds St. Louis County, Missouri Defense Environmental Restoration Program-Formerly Used Defense Site (DERP-FUDS) Site #B07MO0143*. September.

ACRONYMS AND ABBREVIATIONS

ARARs	Applicable or Relevant and Appropriate Requirements
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DD	Decision Document
DMM	Discarded Military Munition
DoD	Department of Defense
EE/CA	Engineering Evaluation/Cost Analysis
FPDG	Former Post Dumping Ground
FUDS	Formerly Used Defense Sites
IC/RM	Institutional Controls/Risk Management
JB	Jefferson Barracks
JBANG	Jefferson Barracks Missouri Air National Guard
MC	Munitions Constituents
MDNR	Missouri Department of Natural Resources
MEC	Munitions and Explosives of Concern
MMRP	Military Munitions Response Program
MOA	memorandum of agreement
MOANG	Missouri Air National Guard
MRS	Munitions Response Site
NPL	National Priorities List
OE	Ordnance and Explosives
PP	Proposed Plan
RAOs	Remedial Action Objectives
ROD	Record of Decision
TBC	To Be Considered
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
UXO	Unexploded Ordnance
WW I	World War I

GLOSSARY OF TERMS

Administrative Record File – A compilation of documents that serve as the basis for the decision in selecting a response action to be taken at a site.

Applicable or Relevant and Appropriate Requirements (ARARs): The Federal and State environmental laws and regulations that apply to a selected remedy. These requirements vary among sites and alternatives.

Comprehensive Environmental Response Compensation, and Liability Act (CERCLA) – The Federal law that addresses problems resulting from releases of hazardous substances to the environment.

Decision Document (DD) – The CERCLA decision document that presents the cleanup remedy selected by the Army and USEPA.

Military Munitions – Ammunition products and components produced for or used by the armed forces for national defense and security. Military munitions used historically at the site include bulk explosives, hand grenades, rifle grenades, anti-tank practice landmines, rockets, mortars, and projectiles.

Munitions and Explosives of Concern (MEC) – A specific category of military munitions that may pose unique explosives safety risks, and includes: (a) UXO; (b) DMM; or (c) MC (e.g., TNT, RDX) present in high enough concentrations to pose an explosive hazard.

Munitions Response – Response actions, including investigation, removal and remedial actions to address the explosives safety, human health, or environmental risks presented by military munitions.

Munitions Response Site (MRS) – A discrete location that is known to require a munitions response.

National Priorities List (NPL) – USEPA's list of uncontrolled or abandoned waste sites that present the greatest potential threat to human health or the environment.

Ordnance and Explosives (OE) – Any of the following: 1) Military munitions that are unexploded ordnance (UXO) or are abandoned; 2) Soil with a high enough concentration of explosives to present an explosive hazard; and 3) Facilities, equipment, or other materials contaminated with a high enough concentration of explosives such that they present a hazard of explosion.

Proposed Plan – CERCLA document that summarizes evidence to support the selection of a preferred remedial alternative at a CERCLA site. The document is intended for public distribution to solicit comments on the proposed action(s).

Remedial Action Objectives (RAOs) – Statements describing the goals to be achieved in protecting human health and the environment.

Unexploded Ordnance (UXO) – Military munitions that: (a) have been primed, fuzed, armed, or otherwise prepared for action; (b) have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material; and (c) remain unexploded either by malfunction, design, or any other cause.

