PROPOSED PLAN

FORMER RARITAN ARSENAL
Areas 6, 6A, 6B and Dredge Spoil Area 1

FUDS PROJECT NO. CO2NJ008403
MIDDLESEX COUNTY, NEW JERSEY

The Proposed Plan

This **proposed plan** presents a no further action decision for Areas 6, 6A, 6B and Dredge Spoil Area (DSA) 1 at the Former Raritan Arsenal (FRA) located in Middlesex County, New Jersey, and summarizes technical documents that demonstrate there are no unacceptable exposure risks for human health or the environment at the site. This proposed plan, prepared by the U.S. Army Corps of Engineers (USACE), provides a review of the investigations conducted of past storage and handling of munitions at Areas 6, 6A, 6B and DSA 1, located within the FRA. This plan summarizes the USACE rationale for recommending no further action at Areas 6, 6A, 6B, and DSA 1.

INTRODUCTION

This proposed plan provides information to the public regarding investigations of munitions storage and handling at Areas 6, 6A, 6B, and Dredge Spoil Area (DSA) 1 within the Former Raritan Arsenal (FRA) located in the Township of Edison and Woodbridge Township, New Jersey (the "site"). This plan provides the U.S. Army Corps of Engineers (USACE)'s rationale for selection of the no further action decision for Areas 6, 6A, 6B, and DSA 1, which is based on investigative and removal actions that demonstrate there are no unacceptable exposure risks for human health or the environment that require remedial action.

USACE, New York District, is the lead agency responsible for managing the project and provides required direction and guidance for its execution. The U.S. Army Engineering and Support Center, Huntsville, and USACE, New England District, provide technical support. The lead regulatory agency is the New Jersey Department of Environmental Protection (NJDEP). Federal environmental laws govern characterization and response activities at former federal facilities. Investigation and environmental restoration of the FRA has been conducted under the **Defense Environmental Restoration Program (DERP)–Formerly Used Defense Sites (FUDS)** [1]. The overall goal of DERP-FUDS is to address potential human health and environmental risks associated with past Department of Defense (DoD) activities. The **Comprehensive Environmental Response Compensation, and Liability Act of 1980 (CERCLA)**, a federal environmental statute, and the **National Oil and Hazardous Substances Pollution Contingency Plan (NCP)** establish procedures for site investigation, evaluation, and remediation. USACE is required by DERP-FUDS to execute the environmental restoration program in accordance with CERCLA and NCP. USACE has been working in accordance with CERCLA to evaluate potential impacts from past DoD activities at the FRA and identify appropriate remedial responses. NJDEP has been involved in this process. In accordance with federal law and regulations, state involvement is sought in the form of reviews. USACE has also been conferring with local stakeholders about community concerns regarding the site since 1990.

As the lead agency implementing the environmental response program for the FRA, USACE has prepared this proposed plan in accordance with CERCLA Section 117(a) and Section 300.430(f)(2) of the NCP to continue its community awareness efforts and to encourage public participation. After the public has had the opportunity to review and comment on this proposed plan, USACE will respond to the comments received during the public comment period, including any comments received during the

[1] Please refer to the Glossary of Terms on Page 12.

public meeting. The comments will be included in the responsiveness summary of the **Decision Document**. Information about the **public comment period** and the public meeting is shown below.

Public Comments Are Requested

PUBLIC COMMENT PERIOD

July 5 to August 7, 2021
(33 days, not to include start date)

Written comments on this proposed plan may be submitted to USACE during the comment period. Comment letters must be postmarked no later than August 7, 2021 and may be sent to Amanda Regan (USACE, New York District, Project Manager):

U.S. Army Corps of Engineers
Attn: Amanda Regan
2890 Woodbridge Avenue
Edison, NJ 08837
Amanda.M.Regan@usace.army.mil

PUBLIC MEETING

July 20, 2021 at 7pm

USACE will host a virtual information session to provide information and answer questions in an informal setting. This meeting will include a brief introduction and summary by USACE.

Click here to join the meeting

Telephone Connection: 929-336-5955
Meeting ID: 620 309 423#

USACE will carefully consider all comments received from the public, and responses will be compiled into a responsiveness summary. The decision as to which action is appropriate for the site will be detailed in a decision document, which will include the responsiveness summary.

This proposed plan highlights key information from previous reports prepared for the site, including site characterization details provided in the **remedial investigation (RI)** reports. The **Administrative Record** files and other documents that support this proposed plan are available for review at the information repositories or through the USACE New York District website for the FRA:

http://www.nan.usace.army.mil/Raritan

Information Repository:
U.S. Army Corps of Engineers, New York District
2890 Woodbridge Avenue
Edison, NJ 08837

Central Information Repository
USACE New York District Office
26 Federal Plaza
New York, NY 10278

SITE HISTORY AND BACKGROUND

The FRA is located on approximately 3,200 acres on the northern bank of the Raritan River in Middlesex County, New Jersey (Figure 1).

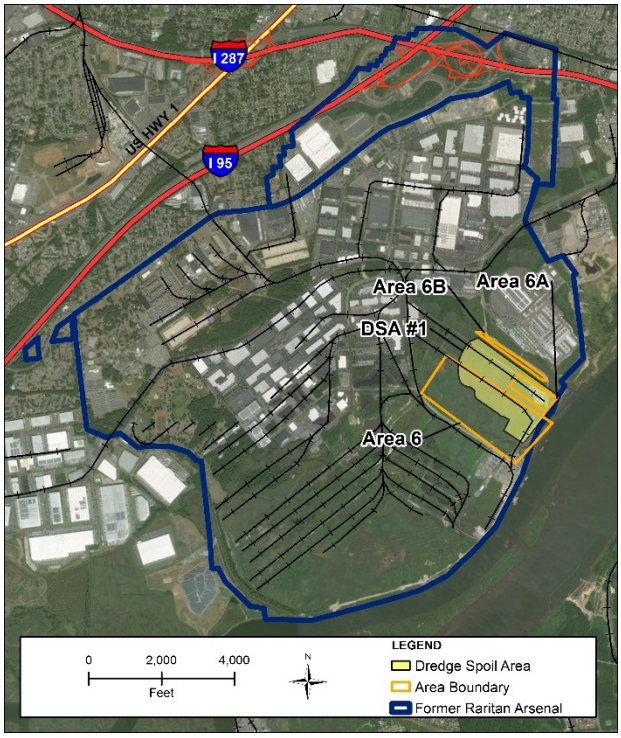

Figure 1. Location of the Former Raritan Arsenal

The majority of the FRA land area lies within the Township of Edison, with a portion of the site located in Woodbridge Township. It is bordered to the north and northwest by Woodbridge Avenue, to the southwest by Mill Road and the Industrial Land Reclamation Landfill, and to the east by the Raritan River.

The Raritan Arsenal was initially developed to facilitate military shipments during World War I. The initial land purchased for development of the FRA consisted of tidal marsh, quarries, and farmland. The War Department purchased the land in December 1917, and construction of the Raritan Arsenal was underway by the beginning of 1918. Ordnance was first received at the Raritan Arsenal during the early phases of construction. On May 2, 1918, the Raritan Arsenal contained military facilities that included magazines, a railway network, locomotive houses, docks, warehouses, assembly and process buildings, administration buildings, storage buildings, and living quarters, and was declared operational (Weston Solutions, Inc. [Weston], 2007).

The principal function of the Raritan Arsenal was to store, handle, and ship various classes of ordnance and military supplies. Other activities and missions included assembly of automobiles, trucks, tanks, and motorized artillery; preservation, renovation, and manufacture of munitions; salvaging, linking, belting, clipping, packing, demilitarizing, and maintaining ammunition; requisition, research, and development of ordnance; military supply chain management; and troop training.

In March 1961, the DoD announced the proposed disposition of the Raritan Arsenal, and in 1964, the General Services Administration (GSA) began selling the FRA property. At the time of the disposition announcement, the FRA contained approximately 440 buildings and more than 62 miles of roads and railways. Since closure, the site has been redeveloped extensively, primarily for commercial and industrial uses, particularly in the northern portion of the facility.

The FRA currently constitutes one **munitions response site (MRS)** that includes several areas of interest that are in various states of investigation or remediation. Areas 6, 6A, and 6B encompass a total of approximately 130 acres along the east side of the FRA (see Figure 1). The land now identified as Area 6 encompasses 125 acres of marshy land southwest of Subareas 6A and 6B. Subareas 6A and 6B cover a total of 4.56 acres of land that is separated by Black Ditch, a drainage ditch that discharges into the Raritan River. DSA 1 covers 89 acres, and extends beneath the eastern side of Subarea 6, all of Subarea 6A, and an additional approximately 40 acres northwest of Subarea 6A, between Subareas 6 and 6B (see Figure 2).

Figure 2. Location of Areas 6, 6A, 6B and DSA 1

When originally delineated in 1963, Area 6 consisted of the land areas that are now identified as Subareas 6A and 6B. These two areas were initially investigated because they were used as burning grounds for various ammunition components up to and including the FRA closeout in 1963 (Dames & Moore, 1993b). The third, larger subarea now identified as Area 6 was subsequently delineated because it contains impoundments, or short walls presumably designed for containment of dredge spoils from the Raritan River. DSA 1 lies within the limits of the dredge disposal areas shown on historical maps, and was reportedly filled with dredge material from the Raritan River channel boundary between approximately 1940 and 1956. Because Raritan River dredging operations included dredging the river bottom in front of the FRA dock, which according to historical reports contained **munitions and explosives of concern (MEC)**, the dredge spoils disposed in DSA 1, within Areas 6 and 6A, may also contain MEC (Weston, 2007.

In 1966, after the disposition of all former Arsenal property by the U.S. Army, a sulfuric acid manufacturing plant was constructed within Subarea 6A by Laplace, Inc. Reportedly, there were numerous spills from this production unit. Evidence of past spills included sulfur staining on the ground surface and stressed vegetation around the former plant. The facility was shut down and demolished in 1997, except for some remaining structures that are now used for a shipping facility parking lot. The remainder of the subarea is undeveloped marshland (Roy F. Weston, Inc., 1997).

SITE CHARACTERISTICS

Area 6 is predominantly undeveloped and is characterized by wetlands. The only development is the demolished remnants of the LaPlace, Inc. sulfuric acid manufacturing plant in Subarea 6A, currently used as a parking lot, and potentially suitable for future development. The remaining portions of Areas 6, 6A, 6B and DSA 1 are likely to remain undeveloped wetland.

Physical and Environmental Setting

The geology beneath the FRA is characterized by an overburden layer, approximately 10 to 80 feet thick, composed of unconsolidated sediments and underlain by bedrock composed of shales, metamorphosed shales, and an igneous diabase sill. Bedrock is encountered at 18 to 47 feet below mean sea level (Roy F. Weston, 1996a).

The overburden is composed of an upper layer (the Upper Sand) comprising either general fill material, disposed dredge spoils, or reworked native soils, which are separated from the Lower Sand and bedrock units by a layer of the Meadowmat unit, composed of organic rich clay and silt with interbedded sands. The Upper Sand across Area 6 varies in thickness from less than 1 foot to as much as 10 feet.

The hydrogeology beneath the FRA is characterized by separate aquifers in the overburden and bedrock. Previous groundwater data indicate that the bedrock aquifer is not affected by activities associated with the FRA (Roy F. Weston, 1996). Groundwater within both the overburden and bedrock aquifers flows generally southeastward toward the Raritan River. The depth to shallow groundwater in the overburden ranges from 2 to 30 feet below ground surface (bgs), and the saturated portions of this unit are relatively thin and discontinuous (Roy F. Weston, Inc., 1996).

In the southern marsh areas such as Areas 6, 6A, and 6B, the shallow groundwater can be within 2 feet of the ground surface (Weston, 2008). Currently there is no use of the groundwater on the site. All buildings at the FRA are connected to municipal water, and groundwater is not expected to be used in the future.

PREVIOUS INVESTIGATIONS AND ACTIVITIES

Previous investigation and removal action activities conducted at Areas 6, 6A, and 6B include the following:

- Letterkenny Army Depot (LEAD) Cleanup Operations, 1963
- Contamination Evaluation, 1987-1988
- Phase I RI, 1992
- Geophysical Mapping and Sampling, 1993
- Phase II RI, 1994
- Baseline Ecological Risk Assessment (BERA), 2005
- RI, 2014

Munitions and Explosives of Concern Investigations

In 1963, Subareas 6A and 6B were identified by LEAD as one of 17 areas within the FRA that were potentially contaminated by ordnance-related activities based on their use as burning grounds. These areas were disked to a depth of 6 inches bgs on three separate occasions, and then searched by LEAD personnel using hand rakes to clear the areas of ordnance material. Subareas 6A and 6B (at the time identified only as Area 6) were recommended for unrestricted use. The GSA transferred this area in deed in 1965 to Federal Storage Warehouses with no restrictions (O'Brien & Gere Engineers, Inc., 1989).

A visual inspection with spot checks using an ordnance detector conducted in 1988, in preparation for advancement of soil borings, yielded no ordnance (O'Brien & Gere, Inc., 1989). However, during preparatory clearance for the Phase I RI conducted by Dames & Moore in 1991/1992, some inert

munitions components, including three bomb vanes and several small ordnance fragments, were discovered in the southern portion of Subarea 6A (Dames & Moore, 1993b). In 1993, 805 anomalies were identified during geophysical investigation of four 100-foot by 50-foot subareas in and around Subareas 6A and 6B. Two of the subareas were located within Subarea 6A, one was located in Subarea 6B, and one was located within DSA 1 between Subareas 6A and 6B. Intrusive investigation of 200 anomalies (approximately 25 percent) identified primarily non-munitions items such as nails, scrap metal and magnetic rock/slag; a munitions related item was found in one of the anomalies investigated (an inert tail boom from a rifle grenade); no MEC was identified (EODT, 1993).

During a Phase II RI in 1994 that involved the installation of 10 monitoring wells and 33 soil borings advanced up to 16 feet bgs throughout the site, no MEC-related materials were encountered. One soil boring location was moved because of the detection of a subsurface magnetic anomaly at 4 feet bgs, but it was not determined whether that anomaly was caused by buried metal waste, MEC, or naturally occurring elements (Roy F. Weston, 1997).

Munitions Constituents Investigations

In 1994 and 2005, environmental investigations performed related to **munitions constituents (MC)** and hazardous and toxic waste (HTW) included the analysis of soil, sediment, and surface water samples collected at Areas 6, 6A, and 6B for parameters including volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), dioxins and furans, pesticides, polychlorinated biphenyls (PCBs), metals, and explosives. Isolated detections of SVOCs, metals, dioxins/furans, and heptachlor epoxide above their respective screening levels were identified in soil samples, and trichloroethene, SVOCs, dioxins and furans, Aroclor-1260, and metals were detected in sediment and/or surface water above their respective screening levels. Results of human health risk assessments indicate the potential risk for these constituents in surface, subsurface soil, sediment, and surface water are within the DERP's and U.S. Environmental Protection Agency (EPA)'s acceptable excess lifetime cancer risk range of one in ten thousand to one in a million ($1x10^{-4}$ to $1x10^{-6}$) and below a target organ hazard index (HI) of 1 for current/future receptors.

Areas 6, 6A, and 6B were evaluated as part of the Red Root Creek and Black Ditch drainage systems during a sitewide BERA (Weston, 2008). The sitewide BERA results did not indicate any site-related potential for ecological risk associated with Areas 6, 6A, and 6B.

The documents associated with the previous investigations are part of the information repository and are available for review at the location identified in this proposed plan. In addition, summaries of data, results, and recommendations associated with these reports were incorporated into an RI report (CH2M, 2019) to provide a comprehensive summary of the site-specific investigation activities conducted at Areas 6, 6A, 6B, and DSA 1. Activities and analysis associated with the current RI report are summarized in the following section.

Remedial Investigation

Because historical data were not sufficient to evaluate the potential risk of MEC exposure within Areas 6, 6A, and DSA 1, a MEC field investigation was conducted from October 2013 to May 2014, focusing on DSA 1, which includes Areas 6 and 6A. The investigation included 3-meter wide transects spaced at 100-meter intervals within DSA 1, and a series of 1-meter wide transects spaced at 3-meter intervals across an area of potential pit locations identified between Areas 6 and 6A in a 1963 aerial photograph. A total of 318 point-source anomalies with unknown metallic sources that could potentially be MEC or MPPEH in the subsurface were identified along the DGM transects. Of these, a total of 205 locations were intrusively investigated, comprised of 187 anomaly locations initially investigated plus 18 locations investigated in May and June 2014. MD was recovered from 6 anomaly locations, consisting of frag items and an empty grenade fuze. All items were certified as material documented as safe. The remainder of the sources of anomalies were non-munitions-related items (scrap metal and miscellaneous debris). (CH2M, 2019). Based on these results, the population of anomalies represented on the transects consists of 2.9 percent MD items and 97.1 percent non-munitions-related

items. Results from the RI are consistent with previous work, such as the 1992 Phase I RI and the 1993 investigation, where only inert munitions related items were identified.

Historical records documenting the phases of investigation and removal actions conducted at Areas 6, 6A, and 6B from 1963 to 2005 were used to develop an updated conceptual site model (CSM), and analytical data collected from 1992 through 2005 were used to estimate the potential exposure-related risks in an RI specifically focused on Areas 6, 6A, 6B, and DSA 1 (CH2M, 2019).

Using the site-specific CSM data, the risk assessment for munitions evaluated the likelihood of encounter, severity of encounter, and likelihood of detonation. This evaluation identified the human health risk due to the possible presence of MEC at Areas 6, 6A, 6B, and DSA 1 as "Acceptable."

Constituents of potential concern (COPCs) at Areas 6, 6A, 6B and DSA 1 were identified for surface (0 to 2 feet bgs) and subsurface (2 to 10 feet bgs) soil, sediment, and surface water. If a maximum detected chemical concentration exceeded the EPA *Regional Screening Levels for Chemical Contaminants at Superfund Sites* (EPA, May 2014), it was retained as a COPC. Chemicals that were not detected in any of the samples within an environmental medium, as well as commonly occurring essential nutrients such as calcium, magnesium, potassium, and sodium, were not selected as COPCs. At the request of NJDEP, and for informational purposes only, data were also screened separately against the NJDEP soil remediation standards (SRSs); however, the NJDEP criteria were not used in the COPC selection process. COPCs identified for Areas 6, 6A, 6B and DSA 1 are summarized as follows:

- Surface Soil (0 to 2 feet bgs) – Ten inorganic chemicals (aluminum, antimony, arsenic, cadmium, cobalt, iron, manganese, mercury, thallium, and vanadium), 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) toxic equivalent (TEQ), and benzo(a)pyrene TEQ were identified as COPCs in surface soil. NJDEP residential SRSs were exceeded by arsenic, vanadium and benzo(a)pyrene TEQ.
- Subsurface Soil (2 to 7.7 feet bgs) – Five inorganic chemicals (antimony, arsenic, cobalt, iron, and vanadium), one pesticide (heptachlor epoxide), 2,3,7,8-TCDD TEQ, and benzo(a)pyrene TEQ were identified as COPCs in subsurface soil. NJDEP residential SRSs were exceeded by antimony, arsenic, benzo(a)pyrene TEQ and heptachlor epoxide.
- Surface Water – Sixteen inorganic chemicals (aluminum, antimony, arsenic, beryllium, cadmium, cobalt, copper, iron, lead, manganese, nickel, selenium, silver, thallium, vanadium, and zinc), one SVOC (bis[2-ethylhexyl]phthalate) and one VOC (trichloroethene) were identified as COPCs in surface water.
- Sediment – Eleven inorganic chemicals (aluminum, antimony, arsenic, cadmium, cobalt, iron, manganese, mercury, nickel, thallium, and vanadium), one PCB (Aroclor-1260), 2,3,7,8-TCDD TEQ, and benzo(a)pyrene TEQ were identified as COPCs in sediment. NJDEP residential SRSs were exceeded by Aroclor-1260, arsenic, benzo(a)pyrene TEQ and vanadium.

A baseline **human health risk assessment (HHRA)** was conducted for Areas 6, 6A, 6B and DSA 1 at the FRA. Potential carcinogenic risks and hazards were estimated for the COPCs within the identified media for various receptors. The estimated risks and HIs were compared to the acceptable cancer risk range and HI values. The purpose of the HHRA was to estimate the potential risks to human receptors associated with exposures to constituents detected in surface and subsurface soil, surface water, and sediment within Areas 6, 6A, 6B and DSA 1. The potential receptors evaluated under a current land use scenario were maintenance workers at the FRA. Under a future land use scenario, the potential receptors evaluated included maintenance workers, recreational users/trespassers, industrial/commercial workers, construction/utility workers and hypothetical residents (although the majority of Areas 6, 6A, 6B and DSA 1 site is likely to remain undeveloped wetlands for the foreseeable future). Prior to removing the background contributions for soil, the estimated risks for all receptor groups, with the exception of hypothetical residents, were within acceptable limits. Prior to removing the background contributions for soil, four COPCs (arsenic, benzo[a]pyrene TEQ, 2,3,7,8-TCDD TEQ, and vanadium) were identified as risk drivers in site soil

for a hypothetical future residential scenario. However, after removing the background contributions for soil, the estimated excess lifetime cancer risks and HIs were within acceptable levels for all receptor groups evaluated in the HHRA. Therefore, no COCs were identified for soil, sediment, or surface water at Areas 6, 6A, 6B and DSA 1.

Areas 6, 6A, 6B and DSA 1 were evaluated as part of the Red Root Creek and Black Ditch drainage systems as part of the site-wide BERA (Weston, 2008). The sitewide BERA results did not indicate any site-related potential for ecological risk associated with Areas 6, 6A, 6B and DSA 1, and therefore no further ecological evaluation is recommended.

Remedial Investigation Conclusions and Recommendations

Areas 6, 6A, 6B, and DSA 1 consist of predominantly undeveloped wetlands, across which multiple investigations have been conducted. Only inert munitions components have been identified. No MEC were identified historically or during the recent intrusive investigation completed as part of this RI, and the munitions risk evaluation determined the risk due to the possible presence of MEC to be "Acceptable". Furthermore, no DoD-related constituents were identified in soil, sediment, or surface water that pose an unacceptable risk to current and future receptors. Therefore, the RI did not recommend a **Feasibility Study (FS)** for Areas 6, 6A, 6B and DSA 1. No further action is recommended for MEC, MC and HTW associated with Areas 6, 6A, 6B and DSA 1.

SCOPE AND ROLE OF THE ACTION

It was concluded in the RI report (CH2M, 2019) that MEC and DoD-related COPCs in soil, sediment, and surface water do not pose a threat to human health and the environment at Areas 6, 6A, 6B and DSA 1. Therefore, this proposed plan proposes no further action for Areas 6, 6A, 6B and DSA 1.

SUMMARY OF SITE RISKS

Land Use

Areas 6, 6A, and 6B encompass a total of approximately 130 acres along the east side of the FRA. DSA 1 covers 89 acres, and extends beneath the eastern side of Area 6, all of Subarea 6A, and an additional approximately 40 acres that extends northwest of Subarea 6A, between Area 6 and Subarea 6B. The majority of Areas 6, 6A, 6B, and DSA 1 is undeveloped wetlands, and likely to remain so for the foreseeable future. The only development is the demolished remnants of the LaPlace, Inc. sulfuric acid manufacturing plant in Subarea 6A. Currently, this area is used as a parking lot, and the area may be suitable for future development.

Human Health Risks

Multiple investigations have been conducted across Areas 6, 6A, 6B and DSA 1, and no MEC items have been discovered. No MEC were identified during the intrusive investigation completed as part of the RI, and no constituents were identified in soil, sediment, or surface water that pose an unacceptable risk to human health or the environment. Based on the results of the RI, a MEC source is no longer suspected in site media. Consequently, the CSM reflects incomplete MEC exposure pathways for all current and future receptors.

The HHRA conducted during the RI did not identify an unacceptable risk associated with exposure of current or future receptors at Areas 6, 6A, 6B and DSA 1 for COPCs associated with DoD releases.

Ecological Risks

The BERA did not identify any unacceptable risk to ecological receptors at Areas 6, 6A, 6B and DSA 1.

CONCLUSIONS

Based on the results of the MEC, MC, and HTW characterization activities conducted at Areas 6, 6A, 6B and DSA 1, no investigative or removal actions are necessary for Areas 6, 6A, 6B and DSA 1. Therefore, no further action for Areas 6, 6A, 6B and DSA 1 is proposed.

It is USACE's judgment that no further action is necessary to protect the public health or welfare and the environment from actual or threatened CERCLA releases of DOD-related hazardous substances.

COMMUNITY PARTICIPATION

One of the purposes of this proposed plan is to solicit comments from members of the public. USACE encourages the public to gain a more comprehensive understanding of the site and the activities that have been conducted there. USACE maintains the information repository and Administrative Record file for the FRA. Detailed information about the previous studies and restoration activities can be found in the reports and documents contained in the information repository located at the address below:

Information Repository
U.S. Army Corps of Engineers, New York District
2890 Woodbridge Avenue
Edison, NJ 08837

Central Information Repository
USACE New York District Office
26 Federal Plaza
New York, NY 10278

Information can also be found through the USACE New York District website for the FRA: http://www.nan.usace.army.mil/Raritan

The ***public comment period*** for this proposed plan is July 5 to August 7, 2021.

For further information on the proposed plan for Areas 6, 6A, 6B and DSA 1, please contact:

Amanda Regan
Project Manager
U.S. Army Corps of Engineers
2890 Woodbridge Ave.
Edison, NJ 08837
917-790-8618
Email address:
Amanda.M.Regan@usace.army.mil

Scott Vondy
Case Manager
NJDEP – Bureau of Case Management
401 East State Street
5th Floor CN-028
Trenton, NJ 08628-0420
609-292-2403
Email address:
Scott.Vondy@dep.state.nj.us

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ABBREVIATIONS AND ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
BERA	baseline ecological risk assessment
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CH2M	CH2M HILL, Inc.[2]
COC	constituent of concern
COPC	constituent of potential concern
CSM	conceptual site model
DERP	Defense Environmental Restoration Program
DSA	Dredge Spoil Area
DoD	Department of Defense
EPA	U.S. Environmental Protection Agency
FRA	Former Raritan Arsenal
FS	Feasibility Study
FUDS	Formerly Used Defense Sites
GSA	General Services Administration
HHRA	human health risk assessment
HI	hazard index
HTW	hazardous and toxic waste
LEAD	Letterkenny Army Depot
MC	munitions constituents
MEC	munitions and explosives of concern
MRS	munitions response site
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NJDEP	New Jersey Department of Environmental Protection
PCB	polychlorinated biphenyl
RI	remedial investigation
SVOC	semi-volatile organic compound
TBD	to be determined
TCDD	tetrachlorodibenzo-p-dioxin
TEQ	toxic equivalent

[2] CH2M HILL, Inc. is a wholly owned subsidiary of Jacobs Engineering Group Inc.

USACE	U.S. Army Corps of Engineers
VOC	volatile organic compound
Weston	Weston Solutions, Inc.

GLOSSARY OF TERMS

Administrative Record: The Administrative Record (file) contains the documents that form the basis for the selection of a CERCLA response action and serves as a vehicle for public participation in selection of a response action. Pursuant to Section 9613(j)(1) of CERCLA, judicial review of any issue concerning the adequacy of any response action is limited to the contents of the Administrative Record.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA): The U.S. Congress enacted CERCLA, commonly known as Superfund, on December 11, 1980. This law created a tax on chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment.

Defense Environmental Restoration Program (DERP): Congressionally authorized in 1986, DERP promotes and coordinates efforts for the evaluation and cleanup of contamination at Department of Defense (DoD) installations and Formerly Used Defense Sites (FUDS). The DERP statue [10 U.S.C. 2701(a)] requires that the environmental restoration program be subject to, and in a manner consistent with, CERCLA and the NCP.

Decision Document: A generic term used to describe the documentation of the selection of a removal action, remedial action, or other type of environmental restoration action. Examples of decision documents include an action memorandum (i.e., a document describing a removal action selected in accordance with subpart 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan) and a record of decision.

Feasibility Study (FS): During the FS, the remedial investigation (RI) data are analyzed and remedial alternatives are identified. The FS serves as the mechanism for the development, screening, and detailed evaluation of alternative remedial actions. The CERCLA process does not require completion of an FS if evaluation of the RI data indicate there is no unacceptable risk to human health or the environment.

FUDS Property: Facilities or sites (property) that were under the jurisdiction of the Secretary of Defense and owned by, leased to, or otherwise possessed by the United States at the time of actions leading to contamination by hazardous substances for which the Secretary of Defense shall carry out all response actions with respect to releases of hazardous substance from that facility or site. Under DERP policy, the FUDS program is limited to those real properties that were transferred from DoD control prior to October 17, 1986. FUDS property can be located within the 50 states, District of Columbia, Territories, Commonwealths, and possessions of the United States.

Human Health Risk Assessment (HHRA): An HHRA evaluates the carcinogenic and noncarcinogenic risks presented by contaminants at a site for current and potential future property uses.

Information Repository: A repository, generally located at libraries or other publicly accessible locations in or near the community affected by the FUDS project, which contains accurate and up-to-date documents reflecting ongoing environmental restoration activities. The information repository may contain information beyond the scope of the administrative record because the documents in the administrative record relate to a particular response action selection decision at a site. This may include historical documents, public notices, public comments, and responses to those comments.

Munitions Constituents (MC): Any materials originating from unexploded ordnance, discarded military munitions, or other military munitions, including explosive and nonexplosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions.

Munitions Debris (MD): Remnants of munitions remaining after munitions use, demilitarization, or disposal.

Munitions and Explosives of Concern (MEC): Specific categories of military munitions that may pose unique explosive safety risks, such as unexploded ordnance, discarded military munitions, or MC, that are present in high enough concentrations to pose an explosive hazard.

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

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): Also referred to as the National Contingency Plan, it is a plan required by CERCLA and codified at 40 *Code of Federal Regulations* § 300 that provides a framework for responding to releases or threats of releases of hazardous substances and oil discharges.

Proposed Plan: A public participation requirement of CERCLA Section 117 in which the lead federal agency summarizes the preferred cleanup strategy, the rationale for the preference, the alternatives evaluated in the RI/FS, and any applicable or relevant and appropriate requirement waivers proposed for site cleanup. The proposed plan is issued to the public to solicit public review and comment on all alternatives under consideration.

Public Comment Period: A prescribed period during which the public may comment on various documents and actions taken by the government and regulatory agencies.

Remedial Investigation (RI): A process undertaken by the lead agency to determine the nature and extent of the problem presented by the release. The RI emphasizes data collection and site characterization, and is generally performed concurrently and in an interactive fashion with the feasibility study. The RI includes sampling and monitoring, as necessary, and includes the gathering of sufficient information to determine the necessity for remedial action and to support the evaluation of remedial alternatives.