Final No Further Action Proposed Plan for
RVAAP-008-R-01 Load Line #1A Munitions Response Site
Version 1.0

Former Ravenna Army Ammunition Plant
Portage and Trumbull Counties, Ohio

Contract No. W912DR-09-D-0005
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Prepared for:

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U.S. Army Corps of Engineers
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14. ABSTRACT

This No Further Action (NFA) Proposed Plan provides the public with information to comment upon the selection of the recommended response action for RVAAP-008-R-01 Load Line #1A Munitions Response Site (MRS) at the former Ravenna Army Ammunition Plant under the Military Munitions Response Program. This NFA Proposed Plan presents the U.S. Army's preliminary recommendations concerning how best to address the Load Line #1A MRS where no munitions and explosives of concern (MEC) were found that may have resulted from historical activities associated with manufacturing, storing, transporting, testing, training, and/or disposal that occurred at the facility. The U.S. Army is issuing this NFA Proposed Plan as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 and Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations 300). Implementation of the selected remedy for the MRS will also satisfy the requirements of the Ohio EPA Director's Final Findings and Orders.

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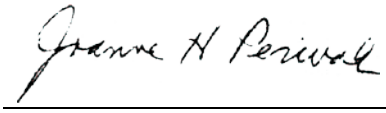
CONTRACTOR'S STATEMENT OF INDEPENDENT TECHNICAL REVIEW

CB&I Federal Services LLC has completed the *Final No Further Action Proposed Plan for RVAAP-008-R-01 Load Line #1A Munitions Response Site*, Version 1.0, at the former Ravenna Army Ammunition Plant in Portage and Trumbull Counties, Ohio. Notice is hereby given that an independent technical review has been conducted that is appropriate to the level of risk and complexity inherent in the project. During the independent technical review, compliance with established policy, principles, and procedures, utilizing justified and valid assumptions, was verified. This included review of data quality objectives; technical assumptions; methods, procedures and materials to be used; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets customer's needs consistent with law and existing United States Army Corps of Engineers policy.

Reviewed/Approved by:  Date: May 6, 2015

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ARNG—Army National Guard
CB&I—CB&I Federal Services LLC
Ohio EPA—Ohio Environmental Protection Agency
RVAAP—former Ravenna Army Ammunition Plant
USACE—United States Army Corps of Engineers

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ACRONYMS AND ABBREVIATIONS

AMEC	AMEC Earth and Environmental, Inc.
amsl	above mean sea level
ARNG	Army National Guard
bgs	below ground surface
Camp Ravenna	Camp Ravenna Joint Military Training Center
CB&I	CB&I Federal Services LLC
CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
COC	chemical of concern
COPC	chemical of potential concern
COPEC	chemical of potential ecological concern
e^2M	environmental-engineering Management, Inc.
EPA	U.S. Environmental Protection Agency
ERA	ecological risk assessment
Final RI Report	*Final Remedial Investigation Report for RVAAP-008-R-01 Load Line #1A MRS, Version 2.0*
FWCUG	Facility-Wide Cleanup Goal
HA	Hazard Assessment
HHRA	human health risk assessment
HHRAM	*Facility-Wide Human Health Risk Assessor Manual*
IRP	Installation Restoration Program
ISM	incremental sampling methodology
MC	munitions constituents
MEC	munitions and explosives of concern
mg/kg	milligrams per kilogram
MMRP	Military Munitions Response Program
MRS	Munitions Response Site
NFA	No Further Action
OHARNG	Ohio Army National Guard
Ohio EPA	Ohio Environmental Protection Agency
RI	Remedial Investigation
RVAAP	former Ravenna Army Ammunition Plant
SAIC	Science Applications International Corporation
Shaw	Shaw Environmental & Infrastructure, Inc.
SI Report	*Final Site Inspection Report*
SRC	site-related chemical
TNT	trinitrotoluene
U.S.	United States
USACE	U.S. Army Corps of Engineers
U.S. Army	U.S. Department of the Army

1.0 INTRODUCTION

This *No Further Action Proposed Plan* is presented by the United States Department of the Army (U.S. Army) to involve the public in the remedy selection process for the RVAAP-008-R-01 Load Line #1A Munitions Response Site (MRS) requiring No Further Action (NFA) at the former Ravenna Army Ammunition Plant (RVAAP) in Portage and Trumbull Counties, Ohio (**Figure 1**). The U.S. Army, in consultation with the Ohio Environmental Protection Agency (Ohio EPA), is the lead agency for investigating, reporting, making remedial decisions, and taking remedial actions at the RVAAP. This NFA Proposed Plan presents the U.S. Army's preliminary recommendations concerning how best to address the Load Line #1A MRS where no munitions and explosives of concern (MEC) were found that may have resulted from historical activities associated with manufacturing, storing, transporting, testing, training, and/or disposal that occurred at the facility.

This NFA Proposed Plan provides the public with information to comment upon the selection of the recommended response action. The U.S. Army, in consultation with the Ohio EPA, will review and consider all comments during the 30-day public comment period. Therefore, the public is encouraged to review and comment on all recommendations presented in this NFA Proposed Plan.

The U.S. Army is issuing this NFA Proposed Plan as part of its public participation responsibilities under Section 117(a) of the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA), as amended by the *Superfund Amendments and Reauthorization Act of 1986* and Section 300.430(f)(2) of the *National Oil and Hazardous Substances Pollution Contingency Plan* (40 Code of Federal Regulations 300). Implementation of the selected remedy for the MRS will also satisfy the requirements of the *Director's Final Findings and Orders* (Ohio EPA, 2004).

This NFA Proposed Plan summarizes information that can be found in greater detail in the *Final Remedial Investigation Report for RVAAP-008-R-01 Load Line #1A MRS, Version 2.0,* (CB&I Federal Services LLC [CB&I] 2014; hereafter referred to as the "Final RI Report"). The U.S. Army encourages the public to review this document to gain a more comprehensive understanding of the MRS and activities that have been conducted to date at the MRS under the Military Munitions Response Program (MMRP).

2.0 FACILITY AND MRS BACKGROUNDS

This section presents the descriptions and background history for the RVAAP and the Load Line #1A MRS presented in this NFA Proposed Plan.

2.1 Facility History

The RVAAP (Federal Facility ID No. OH213820736), now known as the Camp Ravenna Joint Military Training Center (Camp Ravenna), is located in northeastern Ohio within Portage and Trumbull Counties and is approximately 3 miles east-northeast of the city of Ravenna. The facility is federally owned and is approximately 11 miles long and 3.5 miles wide. The facility is bounded by State Route 5, the Michael J. Kirwan Reservoir, and the CSX System Railroad to the south; Garret, McCormick, and Berry Roads to the west; the Norfolk Southern Railroad to the north; and State Route 534 to the east. In addition, the facility is surrounded by the communities of Windham, Garrettsville, Newton Falls, Charlestown, and Wayland (**Figure 1**).

Public Comment Period:
May 27, 2015, to June 26, 2015

Public Meeting:
The U.S. Army will hold an open house and public meeting to explain the NFA Proposed Plan. Oral and written comments will also be accepted at the meeting. The open house and public meeting are scheduled for 6:00 p.m., June 3, 2015, at the Newton Falls Community Center, 52 East Quarry Street, Newton Falls, Ohio 44444.

Information Repositories:
Information used in selecting the conclusion is available online for public review at www.rvaap.org and at the following locations:

Reed Memorial Library
167 East Main Street
Ravenna, Ohio 44266
(330) 296-2827
Hours of operation:
9 a.m.–9 p.m. Monday–Thursday
9 a.m.–6 p.m. Friday
9 a.m.–5 p.m. Saturday
1 p.m.–5 p.m. Sunday

Newton Falls Public Library
204 South Canal Street
Newton Falls, Ohio 44444
(330) 872-1282
Hours of operation:
10 a.m.–8 p.m. Monday–Thursday
9 a.m.–5 p.m. Friday and Saturday

The **Administrative Record File**, containing information used in selecting the preferred alternative, is available for public review at the following location:

Camp Ravenna Joint Military Training Center (Camp Ravenna)
Environmental Office
1438 State Route 534
Newton Falls, Ohio 44444
(330) 872-8003

Note: Access is restricted to Camp Ravenna, but the file can be obtained or viewed with prior notice to Camp Ravenna.

Administrative control of the 21,683-acre facility has been transferred to the U.S. Property and Fiscal Officer for Ohio and subsequently licensed to the Ohio Army National Guard (OHARNG) for use as a training site, Camp Ravenna. The restoration program involves cleanup of former production areas across the facility related to former operations under the RVAAP.

The RVAAP was constructed between 1940 and 1941 for depot storage and ammunition assembly/loading. During operations as an ammunition plant, the RVAAP was a government-owned and contractor-operated industrial facility. Industrial operations at the facility consisted of 12 munitions assembly facilities, referred to as "load lines." Load Lines 1 through 4 were used to melt and load 2,4,6-trinitrotoluene (TNT) and Composition B (mixture of TNT and Research Department Explosive or RDX) into large-caliber shells and bombs. The operations on the load lines produced explosive dust, spills, and vapors that collected on the floors and walls of each building. Periodically, the floors and walls were cleaned with water and steam. Following cleaning, the "pink water" waste water, which contained TNT and Composition B, was collected in concrete holding tanks, filtered, and pumped into unlined ditches for transport to earthen settling ponds. Load Lines 5 through 11 were used to manufacture fuzes, primers, and boosters. From 1946 to 1949, Load Line 12 was used to produce ammonium nitrate for explosives and fertilizers prior to use as a weapons demilitarization facility.

In 1950, the facility was placed in standby status and operations were limited to renovation, demilitarization, and normal maintenance of equipment, along with storage of munitions. Production activities were resumed from July 1954 to October 1957 and again from May 1968 to August 1972. In addition to production missions, various demilitarization activities were conducted at facilities constructed at Load Lines 1, 2, 3, and 12. Demilitarization activities included

disassembly of munitions and explosives melt-out and recovery operations using hot water and steam processes. Periodic demilitarization of various munitions continued through 1992.

In addition to production and demilitarization activities at the load lines, other facilities at the RVAAP include MRSs that were used for the burning, demolition, and testing of munitions. These burning and demolition grounds consist of large parcels of open space or abandoned quarries. Other areas of concern present at the facility include landfills, an aircraft fuel tank testing area, and various general industrial support and maintenance facilities (Science Applications International Corporation [SAIC], 2011).

2.2 MRS Historical Investigations

The following environmental investigations and/or reports have been completed for the Load Line #1A MRS under the MMRP:

- *Final Military Munitions Response Program Historical Records Review* (engineering-environmental Management, Inc. [e^{2}M], 2007)
- *Final Site Inspection Report* (e^{2}M, 2008; hereafter referred to as the "SI Report")
- Final RI Report (CB&I, 2014)

The Load Line #1 itself is approximately 164 acres in area and is located at the eastern portion of the facility (**Figure 2**). It was used to melt and load TNT and Composition B explosives into large-caliber shells during World War II and the Korean War.

Investigation and remediation activities under the Installation Restoration Program (IRP) have been ongoing at the Load Line #1 area of concern, in which the MRS is collocated, since 1996. From 1996 through 1998, salvage operations continued, with the removal of the overhead steam lines, major rail spurs, and all telephone lines. The majority of the buildings were demolished and removed by 2000. The remainder of the floor slabs were demolished and removed in 2009.

The MRS was originally referred to as "Load Line #1 MRS" during the previous investigations and activities that occurred at the MRS under the MMRP and prior to the Remedial Investigation (RI) field work. In coordination with the Ohio EPA and the U.S. Army, the designation for the current MRS area was revised to "Load Line #1A MRS" following the RI field work due to propellants that have since been observed outside the current MRS boundary. The purpose of revising the MRS name designation to "1A" is to differentiate it from other areas at Load Line #1 that may require further actions under the MMRP.

The Load Line #1A MRS was originally a 4.63-acre area composed of several buildings associated with packing and shipping (CB-13/CB-13B), the location of the former popping furnace located adjacent to the former building CB-13B, and the area around the former propellant charge building (CB-14). Based on the recommendations in the SI Report (e^{2}M, 2008), the MRS was reduced to a 0.41-acre area located near the northwest side of the former propellant charge building (CB-14) where triple-base propellants were observed on the ground surface and elevated lead concentrations and low concentrations of explosives were detected in surface soil during the site inspection activities. The MRS is located at the north end of Load Line #1 (CB&I, 2014). **Figure 3** presents the current MRS boundaries and cultural features that remain near the Load Line #1A MRS.

The principle sources of MEC identified during the previous investigations at the Load Line #1A MRS were reported to be accidental releases during the loading of munitions during World War II and the Korean War. These activities resulted in the potential for MEC consisting of triple-base propellants to be present in surface soil at the Load Line #1A MRS (e^{2}M, 2008).

2.3 MRS Characteristics

The characteristics, nature and extent of contamination, and the conceptual site model for the Load Line #1A MRS included herein is based on the review of historical records and investigations conducted at the MRS.

Topography across the Load Line #1A MRS is relatively flat with little change in elevation. The MRS is located in a slight depression related to its immediate surroundings. Based on topographical maps, local surface drainage is to the east. The ground surface elevation at the MRS is approximately 990 feet above mean sea level (amsl).

No surface water features, natural streams or ponds, wetlands, bogs, kettle lakes, or kames are located at the Load Line #1A MRS. The MRS is not located in a floodplain. The nearest surface water drainage is an unnamed drainage outlet at the northeast corner of Load Line #1 and is considered an intermittent surface water drainage channel.

Groundwater is present at the MRS at approximately 32 feet below ground surface (bgs) in unconsolidated sediments (MKM Engineers, Inc., 2007; Environmental Quality Management, Inc., 2012). Groundwater flow is generally to the northeast (SAIC, 2003).

The Load Line #1A MRS is located over the Sharon Sandstone formation, and the depth to bedrock is less than 3.5 feet bgs (U.S. Department of Agriculture et al., 1978). The approximate elevation of bedrock at the MRS is 987 feet amsl (AMEC Earth and Environmental Inc. [AMEC], 2008).

The native soil type at the Load Line #1A MRS is the Mitiwanga silt loam with 0-to-2–percent slopes (AMEC, 2008). This is a nearly level soil type in wide flat areas such as the MRS. Permeability is very slow in the subsoil and underlying glacial till with an average rate of 1.04×10^{-7} centimeters per second. Runoff is slow and ponding is common after heavy rains or seasonally wet weather.

The vegetation community present at the Load Line #1A MRS is categorized as the "Dry Midsuccessional Cold-Deciduous Shrubland Alliance." This shrubland alliance is associated with relatively open areas characterized by shrub species covering more than 50 percent of the area, with relatively few large trees. This alliance often is found within previously disturbed areas, and is dominated by gray dogwood, northern arrowwood, blackberry, hawthorn, and multiflora rose (AMEC, 2008).

Biological inventories have not occurred specifically within the MRS boundary, although no confirmed sightings of federal- or state-listed species have been reported. Although there is the potential for federal, state-listed, or rare species to be within the MRS boundary, the potential is unlikely due to the minimal size of the MRS (Camp Ravenna, 2010).

Current activities at the Load Line #1A MRS include maintenance and natural resource management activities.

2.4 Remedial Investigation Results

Taking into consideration the historical activities that occurred at the MRS, it is expected that triple-base propellants that may be present at the MRS would be found primarily on the ground surface. The RI field work for MEC consisted of nonintrusive visual surveys that were performed over 100 percent of the MRS. No MEC were found at the MRS during the RI field work.

Environmental samples for munitions constituents (MC) were collected at the Load Line #1A MRS during the RI field work. Two surface soil samples were collected using the incremental sampling methodology (ISM). Each ISM sample comprised one half of the MRS acreage (0.2 acres) and was collected at depths between 0 and 0.5 feet bgs. Together,

the two ISM sampling units represented 100-percent coverage of the MRS that was the decision unit and is considered the exposure unit area where human and ecological receptors potentially are exposed to potential site-related chemical (SRCs). The ISM samples were analyzed for lead using U.S. Environmental Protection Agency (EPA) Method SW846 6010B, explosives by EPA Method SW846 8330B, nitrocellulose by EPA Method SW846 9056, total organic carbon by the Lloyd Kahn Method, and pH by EPA Method SW846 9045D.

The MC sample results were evaluated using the RVAAP data screening process that provides a statistical analysis of the results and as well as a comparison of the results against established facility-wide background value (inorganics only). If a MC was retained as an SRC, then it was carried forward for evaluation of human and ecological risks.

Lead concentrations were found in both samples with a maximum detected concentration of 109 milligrams per kilogram (mg/kg). Both of the detected lead concentrations were above the facility background value of 26.1 mg/kg; therefore, lead was retained as an SRC.

The propellant Nitroguanidine was detected in both ISM sampling unit locations and was retained as an SRC because it was a detected organic. The maximum detected concentration was 0.25 mg/kg. No other explosives or propellants were detected at either of the ISM sample locations.

Based on the results of the laboratory analysis, both lead and Nitroguanidine that are considered MC at Load Line #1A were carried forward as SRCs for the evaluation of human and ecological risks. The detected concentrations were considered to be low and were below the applicable risk screening levels. Further discussions of human and ecological risks are provided in more detail in Section 4.0.

3.0 SCOPE AND ROLE OF RESPONSE ACTION

Load Line #1, inclusive of the MRS, is federal property, which is licensed to the OHARNG for use as a military training site. The purpose of the RI field work was to evaluate for the presence of MEC and MC associated with the historical activities at the MRS in support of the intended future use. This NFA Proposed Plan addresses surface soil at the MRS where the release of MEC consisting of triple-base propellant reportedly occurred. There are no nearby surface water features where surface water and/or sediment may be impacted. The selected remedy at any MRS must also be protective of groundwater, which is monitored under the facility-wide groundwater monitoring program and in accordance with the *Director's Final Findings and Orders* (Ohio EPA, 2004).

Due to former operations and the fact that the site is still being investigated under the IRP, the potential exists for non-MMRP chemicals of concern (COCs) or other non-munitions related hazards to be present at the Load Line #1A MRS. Response actions associated with non-MMRP related hazards will be addressed under the IRP and are not included in this NFA Proposed Plan.

4.0 SUMMARY OF HUMAN AND ECOLOGICAL RISKS

Although no MEC were encountered at the Load Line #1A MRS during the RI field work, sampling for MC was specified in the *Final Work Plan for Military Munitions Response Program Remedial Investigation Environmental Services* (Shaw Environmental & Infrastructure, Inc. [Shaw], 2011). The results from the RI field work, including the data results for MC, were used to evaluate risk in terms of potential exposures associated with MEC and/or MC and evaluation of the potential transport pathways MEC and/or MC may take from a source to a receptor. Each pathway includes a source, activity, access, and receptor component with complete, potentially

complete, or incomplete exposure pathways identified for each receptor.

Both a human health risk assessment (HHRA) and an ecological risk assessment (ERA) were performed to further evaluate the SRCs identified during the RI. The purpose of the HHRA was to evaluate whether site conditions may pose a risk to current or future human receptors. The ERA was conducted to evaluate the potential for adverse ecological effects to ecological receptors.

4.1 MEC Hazard Assessment

The *Interim Munitions and Explosives of Concern Hazard Assessment Methodology* (EPA, 2008) addresses human health and safety concerns associated with potential exposure to MEC at a MRS under a variety of site conditions, including various cleanup scenarios and land use assumptions. If an explosive hazard is identified, the MEC Hazard Assessment (HA) evaluation will include the information available for the MRS up to and including the RI field activities and provide a scoring summary for the current and future land-use activities. If no explosive hazard is found at the MRS, then there is no need to calculate a MEC HA score since there are no human health safety concerns.

No MEC were identified at the Load Line #1A MRS during RI field activities, and no explosive safety hazards are present at the MRS. Therefore, calculation of a MEC HA score was not warranted for the Load Line #1A MRS and the MEC exposure pathways for all receptors at the MRS are incomplete.

4.2 Human Health Risk Assessment

The HHRA was prepared based on the RI data results using the streamlined approach to risk decision making as described in the *Ravenna Army Ammunition Plant Final Position Paper for the Application and Use of Facility-Wide Cleanup Goals* (U.S. Army Corps of Engineers [USACE], 2012). The approach identifies chemicals of potential concern (COPCs) by comparing concentrations to background screening values, eliminating essential nutrients, and comparing site concentrations to the Facility-Wide Cleanup Goals (FWCUGs). The COCs are identified through additional screening of the COPCs by comparing site concentrations to specific FWCUGs and using a "Sum of Ratios" approach to account for cumulative effects.

The HHRA evaluates the intended Representative Receptor for the future land use at each of the MRSs where sampling for MC occurred during the RI field work. The Representative Receptor for the future land use, in conjunction with the evaluation of the Resident Receptor (Adult and Child) for Unrestricted Land Use, forms the basis for identifying COCs in the RI. Evaluation for Unrestricted (Residential) Land Use is performed to assess for baseline conditions and the no action alternative under CERCLA, and as outlined in the *Facility-Wide Human Health Risk Assessor Manual* (USACE, 2005; hereafter referred to as the "HHRAM"). The facility has defined exposure scenarios for the identified receptors that are presented in the HHRAM (USACE, 2005).

The future land use at the Load Line #1A MRS is military training. The Representative Receptor for the future land use is the National Guard Trainee (USACE, 2005).

Surface soil for the Resident Receptor (Adult and Child) that is evaluated in conjunction with the National Guard Trainee is defined as 0 to 1 foot bgs. Because the National Guard Trainee is exposed more often to the upper 4 feet of soil during training activities, surface soil for this receptor is defined as 0 to 4 feet bgs (SAIC, 2010).

The samples collected for the RI at the Load Line #1A MRS were both collected from 0 to 0.5 feet bgs, and, although this sample interval is less than the 0 to 4 feet surface soil interval as defined for the National Guard Trainee, it is considered to be representative of potential MC

exposure to receptors in surface soil at the MRS. The soils at the MRS consist of silty clay loam where MC such as metals tend to absorb and the low permeability associated with the soils would limit the migration of any mobile MC. Therefore, if MC was detected then it would be expected to be found on or just below the ground surface, since this is the depth that the triple-base propellants were reportedly released at the MRS (CB&I, 2014).

The first screening step of the HHRA process showed that maximum concentrations of lead and Nitroguanidine did not exceed relevant screening values and were not identified as COPCs. Therefore, these SRCs were not further evaluated as COCs and are not likely to pose risks to human receptors. Since no COCs were identified for the Resident Receptor (Adult and Child), the MC exposure pathways for all human receptors at the Load Line #1A MRS are incomplete.

4.3 Ecological Risk Assessment

The ERA process at the facility includes characterizing the ecological communities in the vicinity of the MRS, determining the particular SRCs that are present, identifying pathways for receptor exposure, and estimating the magnitude of the likelihood of potential adverse effects to identified receptors. The ERA process is consistent with the process described in the EPA *Ecological Risk Assessment Guidance for Superfund* (1997) and the Ohio EPA *Ecological Risk Assessment Guidance Document* (2008), and also follows the facility Unified Approach (USACE, 2011) to ERAs established at MRSs under environmental investigation at the facility. The ecological receptor species selected for evaluation in the ERAs for the MRSs where data was collected for the evaluation of MC were identified in the *RVAAP Facility-Wide Ecological Risk Assessment Work Plan* (USACE, 2003).

Both of the SRCs—lead and Nitroguanidine—were identified as chemicals of potential ecological concern (COPECs) in the soil samples collected at 0 to 0.5 feet bgs for the RI at the Load Line #1A MRS. Given the low overall concentrations detected, the potential that exposure to the COPECs would adversely impact populations of ecological receptors at the Load Line #1A MRS was considered to be very low. Therefore, no further investigation or action was considered necessary at the Load Line #1A MRS for ecological purposes and the exposure pathways for all ecological receptors are incomplete.

5.0 CONCLUSIONS AND RECOMMENDATIONS

No evidence of MEC was found at the Load Line #1A MRS during the RI field work that was conducted under the MMRP. The MRS was further evaluated for MC at locations specified in the *Final Work Plan for Military Munitions Response Program Remedial Investigation Environmental Services* (Shaw, 2011) and no COCs or COPECs that presented potential risks to human or environmental receptors were found. Based on these results, no risks associated with exposures to MEC or MC are present and the U.S. Army, in consultation with the Ohio EPA, is recommending NFA under the MMRP for the Load Line #1A MRS. This recommendation is not a final decision. The U.S. Army, in consultation with the Ohio EPA, will select the remedy for the MRS after reviewing and considering all comments submitted during the 30-day public comment period.

6.0 COMMUNITY PARTICIPATION

Public participation is an important component of the remedy selection. The U.S. Army, in coordination with Ohio EPA, is soliciting input from the community on the preferred alternative. The comment period extends from May 27, 2015, to June 26, 2015. This period includes a public meeting at which the U.S. Army will present this NFA Proposed Plan. The U.S. Army will accept oral and written comments at this meeting.

6.1 Public Comment Period

The 30-day comment period is from May 27, 2015, to June 26, 2015, and provides an opportunity for public involvement in the decision-making process for the proposed action. The public is encouraged to review and comment on this NFA Proposed Plan. All public comments will be considered by the U.S. Army and Ohio EPA before selecting a remedy. During the comment period, the public is encouraged to review documents pertinent to the Load Line #1A MRS. This information is available at the Information Repositories and online at www.rvaap.org. To obtain further information, contact the Camp Ravenna Environmental Office.

6.2 Public Meeting

The U.S. Army will hold an open house and public meeting on this NFA Proposed Plan on June 3, 2015, at 6:00 p.m., at Newton Falls Community Center, 52 East Quarry Street, Newton Falls, Ohio 44444, to accept comments. This meeting will provide an opportunity for the public to comment on the proposed action. Comments made at the meeting will be transcribed.

6.3 Written Comments

If the public would like to comment in writing on this NFA Proposed Plan or other relevant issues, please deliver comments to the U.S. Army at the public meeting or mail written comments (postmarked no later than June 26, 2015).

POINT OF CONTACT FOR WRITTEN COMMENTS

Camp Ravenna Environmental Office
1438 State Route 534 SW
Newton Falls, Ohio 44444

6.4 U.S. Army Review of Public Comments

The U.S. Army will review the public's comments as part of the process in reaching a final decision for the most appropriate action to be taken. The Responsiveness Summary, a document that summarizes the U.S. Army's responses to comments received during the public comment period, will be included in the Record of Decision. The U.S. Army's final choice of action will be documented in the Record of Decision. The Record of Decision will be added to the RVAAP Administrative Record and Information Repositories.

GLOSSARY OF TERMS

Administrative Record: This is a collection of documents, typically reports and correspondence, generated during site investigation and remedial activities. Information in the Administrative Record is used to select the preferred alternative. It is available for public review at the Camp Ravenna Environmental Office; call (330) 872-8003 for an appointment.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA): This federal law was passed in 1980 and is commonly referred to as the Superfund Program. It provides for liability, compensation, cleanup, and emergency response in connection with the cleanup of inactive hazardous waste release sites that endanger public health or the environment.

Chemical of Concern (COC): A chemical substance specific to an area of concern that potentially poses significant human health risks. COCs are typically further evaluated for remedial action.

Chemical of Potential Ecological Concern (COPEC): A chemical substance specific to an area of concern that potentially poses significant ecological risks. COPECs are typically further evaluated for remedial action.

Complete Pathway: Complete pathways imply potential risks or hazards that may exist and need to be addressed by managing the pathway.

Discarded Military Munitions (DMM): Military munitions that have been abandoned without proper disposal or removed from storage in a military magazine or other storage area for the purpose of disposal. The term does not include unexploded ordnance (UXO), military munitions that are being held for future use or planned disposal, or military munitions that have been properly disposed of consistent with applicable environmental laws and regulations.

Incomplete Pathway: No risk or hazard associated with the pathway. No further data required to confirm the pathway is incomplete.

Land Use Controls (LUCs): Used in CERCLA remedies to prevent or control exposures of potential receptors to contamination remaining in place at the site and to assure continued effectiveness of the response action. LUCs include access controls and monitoring.

Military Munitions Response Program (MMRP): A Department of Defense program consisting of actions necessary to ensure protection of human health, welfare, and the environment from the hazards associated with MEC and MC at locations impacted by historical military activities.

Munitions Constituent (MC): Any material originating from UXO, DMM, or other military munitions, including explosive and nonexplosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions.

Munitions and Explosives of Concern (MEC): A munitions or explosive that may pose an explosive safety risk because it either did not function as designed, was discharged and/or abandoned, or is an explosive constituent. MEC includes UXO, DMM, and explosive constituents of munitions present in high enough concentrations to pose an explosive hazard.

Munitions Response Site (MRS): Any area on a defense site that is known or suspected to contain MEC or MC.

National Contingency Plan: The National Oil and Hazardous Substances Pollution Contingency Plan. These CERCLA regulations provide the federal government the authority to respond to the problems of abandoned or uncontrolled hazardous waste disposal sites as well as to certain incidents involving hazardous wastes (e.g., spills).

Potentially Complete Pathway: Data needs determine if the pathway is complete. If the pathway is determined to be incomplete, there is no risk or hazard. If the pathway is determined to be complete, a potential risk or hazard exists.

Proposed Plan: This CERCLA document provides the public with information necessary to participate in the selection of a

remedy. It is designed to solicit public comment on a preferred alternative before a ROD is established.

Record of Decision (ROD): A legal record signed by the U.S. Army following coordination and concurrence with the Ohio EPA as per a June 10, 2004, agreement between the two parties. It describes the cleanup action or remedy selected for a site, the basis for selecting that remedy, public comments, responses to comments, and the estimated cost of the remedy.

Remedial Investigation (RI): A CERCLA investigation that involves sampling environmental media, such as air, soil, and water, to determine the nature and extent of contamination and to calculate human health and environmental risks that result from the contamination.

Responsiveness Summary: A section of the ROD where the U.S. Army documents and responds to written and oral comments received from the public about the Proposed Plan.

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

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FIGURES

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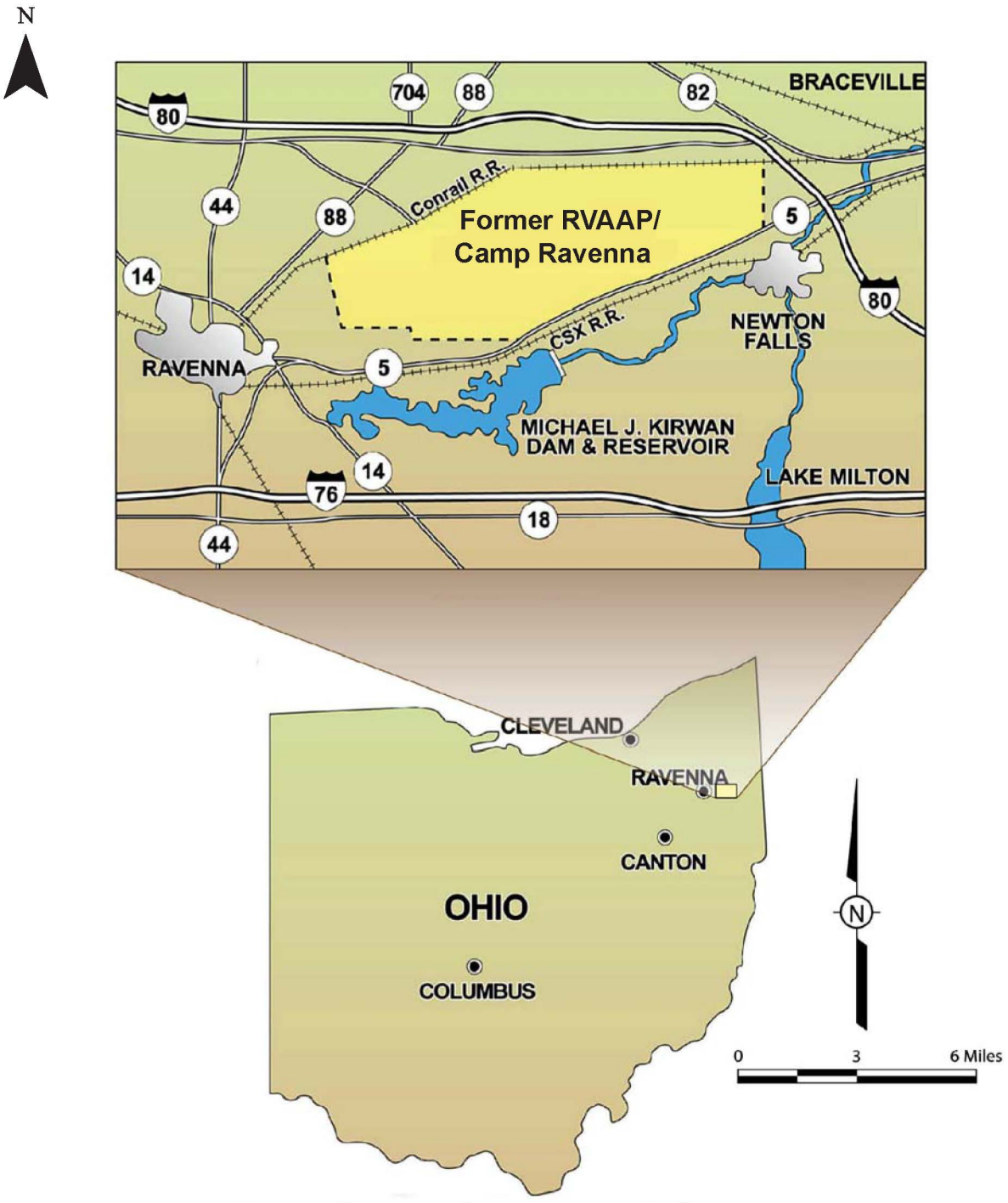

Note:
The Scale is for the Upper Map Only
Showing the Former RVAAP/Camp Ravenna Location

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT

MILITARY MUNITIONS RESPONSE PROGRAM

FORMER RVAAP/CAMP RAVENNA
PORTAGE AND TRUMBULL COUNTIES, OHIO

CB&I Federal Services LLC
150 Royall Street
Canton, MA 02021

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FIGURE 1 INSTALLATION LOCATION MAP

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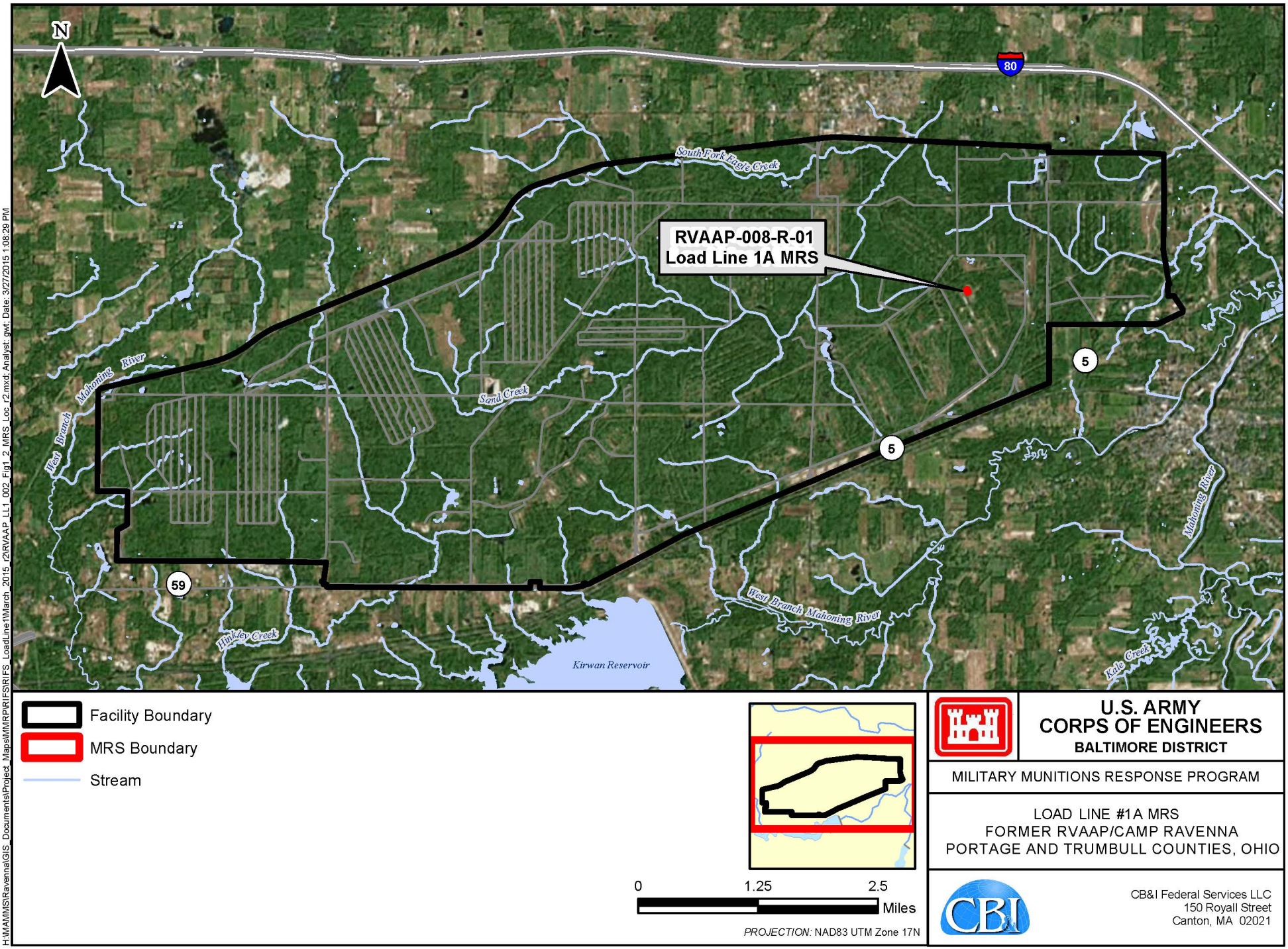

FIGURE 2 MRS LOCATION MAP

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MRS Boundary

0 50 100 Feet

Projection : NAD_1983_UTM_Zone_17N

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT

MILITARY MUNITIONS RESPONSE PROGRAM

LOAD LINE #1A MRS
FORMER RVAAP/CAMP RAVENNA
PORTAGE AND TRUMBULL COUNTIES, OHIO

CB&I Federal Services LLC
150 Royall Street
Canton, MA 02021

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FIGURE 3 SITE MAP

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OHIO EPA CORRESPONDENCE

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John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

April 14, 2015

Mr. Mark Leeper, P.G., MBA
Army National Guard Directorate
Environmental Programs Division
ARNG-ILE-CR
111 South George Mason Drive
Arlington, VA 22204

Re: US Army Ravenna Ammunition Plt RVAAP
Remediation Response
Plans
Remedial Response
Portage County
267000859210

Subject: Approval for the "Draft No Further Action Proposed Plan for RVAAP-008-R-01 Load Line # 1A Munitions Response Site, Version 1.0" Former Ravenna Army Ammunition Plant, Ravenna, Ohio: Dated March 31, 2015 (Work Activity No. 267-000859-210)

Dear Mr. Leeper:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) has received and reviewed the document entitled, "Draft No Further Action Proposed Plan for RVAAP-008-R-01 Load Line # 1A Munitions Response Site, Version 1.0," dated March 31, 2015. This document, received by Ohio EPA's NEDO on April 1, 2015, was prepared by the CB&I Federal Services, LLC.

Ohio EPA has completed the review of the "Draft No Further Action Proposed Plan for RVAAP-008-R-01 Load Line # 1A Munitions Response Site, Version 1.0" and has no comments. Please add the updated figure and the dates in which the public meeting will take place in the final version of the No Further Action Proposed Plan for RVAAP-008-R-01 Load Line # 1A Munitions Response Site, Version 1.0. Also, note that the work activity number has changed to reflect the progression of the project. When sending documents pertaining to the proposed plan for the Load Line # 1A Munitions Response Site, Version 1.0 in the future please use the 267-000859-210 numerical identification as shown above.

If you have any questions or concerns, please do not hesitate to contact me at (330) 963-1235.

Sincerely,

Nicholas Roope
Site Coordinator
Division of Environmental Response and Revitalization

NCR/nvr

cc: Gregory F. Moore, USACE, Louisville District
Katie Tait/Kevin Sedlak, Camp Ravenna Environmental Office, Newton Falls
Haney/Harris, Camp Ravenna Environmental Office, Vista Sciences

ec: Rod Beals, Ohio EPA, NEDO, DERR
Justin Burke, Ohio EPA, CO, DERR
Andrew Kocher, Ohio EPA, NEDO, DERR

OhioEPA

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

May 18, 2015

Re: **US Army Ravenna Ammunition Plt RVAAP**
Remediation Response
Plans
Remedial Response
Portage County
267000859210

Mr. Mark Leeper, P.G., MBA
Army National Guard Directorate
Environmental Programs Division
ARNG-ILE-CR
111 South George Mason Drive
Arlington, VA 22204

Subject: **Approval of the "Final No Further Action Proposed Plan for RVAAP-008-R-01 Load Line #1A Munitions Response Site, Version 1.0" Former Ravenna Army Ammunition Plant, Ravenna, Ohio: Dated May 6, 2015 (Work Activity No. 267-000859-210)**

Dear Mr. Leeper:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) has received and reviewed the, "Final No Further Action Proposed Plan for RVAAP-008-R-01 Load Line #1A Munitions Response Site, Version 1.0" document, dated May 6, 2015. This document, received by Ohio EPA's Northeast District Office (NEDO) on May 7, 2015, was prepared by CB&I Federal Services, LLC. Ohio EPA concurs with the remedy.

The Military Munitions Response Program (MMRP) Remedial Investigation (RI) for the Load Line #1 munitions response site investigated the potential presence of Munitions Debris and Munitions of Explosives of Concern within a defined portion of the Load Line #1 Area of Concern (AOC). The area investigated was renamed Load Line #1A to differentiate any other areas within the Load Line #1 AOC that may require further investigation under the MMRP. In addition to the MMRP RI, investigation and remediation activities under the installation restoration program have been ongoing at the Load Line #1 area of concern, since 1996.

If you have any questions or concerns, please do not hesitate to contact me at (330) 963-1235.

Sincerely,

Nicholas Roope, Site Coordinator
Division of Environmental Response and Revitalization

NCR/nvr

cc: Gregory F. Moore, USACE
Haney/Harris, Vista Sciences
Katie Tait/Kevin Sedlak, Newton Falls

ec: Rod Beals, NEDO, DERR
Andrew Kocher, NEDO, DERR
Justin Burke, Ohio EPA, CO, DERR

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