



Final Record of Decision

Bangor Range, Maine

Munitions Response Site MEHQ-002-R-01
Maine Army National Guard

Army National Guard



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Appendix A: Stakeholder Participation and Response

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Acronyms and Abbreviations

°F	degrees Fahrenheit
ALM	Adult Lead Methodology
ARAR	Applicable or Relevant and Appropriate Requirement
ARNG	Army National Guard
BCY	bank cubic yards
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CHE	Chemical Warfare Materiel Hazard Evaluation
COC	Chemicals of concern
CSM	Conceptual Site Model
CWM	Chemical Warfare Materiel
DoD	Department of Defense
DU	Decision Unit
EHE	Explosive Hazard Evaluation Module
FS	Feasibility Study
gpm	gallons per minute
HHE	Health Hazard Evaluation
HHRA	Human Health Risk Assessment
HRR	Historical Records Review
IEUBK	Integrated Exposure Uptake Biokinetic
ISM	Incremental Sampling Methodology
LUC	Land Use Control
MC	munitions constituents
MEARNG	Maine Army National Guard
MEC	munitions and explosives of concern
MEDEP	Maine Department of Environmental Protection
mg/kg	milligrams per kilogram
µg/L	micrograms per liter
MMRP	Military Munitions Response Program
MRS	Munitions Response Site
MRSPP	Munitions Response Site Prioritization Protocol
NCP	National Contingency Plan
O&M	operations and maintenance
NDNODS	Non-Department of Defense Non-Operational Defense Sites
NFA	No Further Action

NGB	National Guard Bureau
NOAA	National Oceanic and Atmospheric Administration
PA	Preliminary Assessment
PP	Proposed Plan
PTW	principal threat wastes
RAG	Remedial Action Guideline
RAO	remedial action objective
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROD	Record of Decision
RSL	regional screening level
SDZ	Surface Danger Zones
SI	Site Inspection
SLERA	Screening Level Ecological Risk Assessment
TCLP	toxicity characteristic leaching procedure
TMV	toxicity, mobility, or volume
U.S.	United States
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UU/UE	unlimited use and unrestricted exposure
XRF	x-ray fluorescence

1 Declaration

1.1 Site Name and Location

Site Name: Bangor Range Munitions Response Site (MRS) (MEHQ-002-R-01).

Site Location: Bangor, Penobscot County, Maine (**Figure 1-1**).

1.2 Statement of Basis and Purpose

This Record of Decision (ROD) is issued by the Army National Guard (ARNG) as the lead federal agency and presents the selected remedy for the Bangor Range MRS (MEHQ-002-R-01), a former small arms training range. The selection of the remedy for the MRS resulted from the investigation and assessment of the site adhering to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, 42 United States (U.S.) Code §9601 et. seq., the Superfund Amendments and Reauthorization Act of 1986, and to the extent practical, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) 40 Code of Federal Regulations (CFR) Part 300. The ROD is based on the administrative record for the MRS, which includes previously generated site-specific reports and investigations. Maine ARNG (MEARNG) maintains the administrative record file, which is available for public review.

The ARNG, in coordination with the Maine Department of Environmental Protection (MEDEP), developed this ROD and agree with the selected remedy. This ROD is the final decision to address the presence of military munitions constituents (MC) at the Bangor Range MRS.

1.3 Assessment of Bangor Range MRS

The response action selected in this ROD is necessary to protect the public health and the environment from the potential exposure to MC-contaminated soil that is present from past munitions-related activities (e.g., small arms training). Under the Military Munitions Response Program (MMRP), a Remedial Investigation (RI) was conducted at the MRS in 2019. The presence of unacceptable risks to human receptors from MC-contaminated media (specifically lead in soil and sediment) warranted a Feasibility Study (FS) for the Bangor Range MRS. The remedy selected in this ROD addresses the remediation of MC-contaminated media at the MRS.

1.4 Description of Selected Remedy

The ARNG developed and evaluated remedial alternatives for the MRS through an FS (AECOM, 2020b). Based on the results of the FS, the ARNG selected Alternative 4 - Soil Stabilization and Excavation with Off-site Disposal, and Groundwater/Sediment Sampling. Under Alternative 4, MC-contaminated soil with lead above 140 milligrams per kilogram (mg/kg) would be excavated and disposed of offsite; subsequent groundwater and sediment sampling would then be conducted to confirm the effectiveness of source area removal on potential MC transport to Shaw Brook via shallow groundwater. The remedial action objective (RAO) is 140 mg/kg, which is the MEDEP Remedial Action Guideline (RAG) for residential exposure to lead in soil; 290 mg/kg, which is the MEDEP RAG for recreator exposure to lead in sediment; and 5.0 micrograms per liter (µg/L), which is the MEDEP RAG for residential exposure to lead in groundwater (MEDEP, 2018a). Soil with lead concentrations above landfill disposal criteria will undergo in-situ soil stabilization prior to excavation. If areas of soil remain above alternative land disposal restrictions after multiple soil stabilization efforts, then soil that exceed criteria from these areas will be disposed of at an approved Resource Conservation and Recovery Act (RCRA) Subtitle C disposal facility. Soil that

has undergone stabilization successfully will be excavated and disposed of at an appropriate disposal facility. This alternative mitigates lead in source area soil via stabilizing treatment and removal from the MRS.

Based on the RI, the lead-contaminated removal action area is approximately 0.151 acres, to a depth of 2.5 feet. As a conservative measure, excavation will be conducted to a minimum depth of 3 feet, resulting in a minimum disposal volume of 731 BCY of soil (AECOM, 2020). The 731 BCY of soil will be stabilized using a mixing reagent (e.g., Portland cement), resulting in approximately 1,755 tons of stabilized soil to be excavated and disposed of based on waste classification analysis per the requirements of RCRA Part 261. Lead concentrations in confirmation soil samples will be measured in the field using x-ray fluorescence (XRF), and discrete samples will be submitted for laboratory analysis to confirm that the RAO is achieved during excavation. If necessary, additional soil excavation beyond 3 feet, in 0.5-foot increments, and subsequent sampling and analysis will proceed until the results indicate that contaminant concentrations are below their established screening criteria. Lead concentrations will be evaluated in the field using XRF in compliance with MEDEP SOP No. RWM-DR-025 and EPA Method 6200.

MC-contaminated soil removal is expected to mitigate MC transport to Shaw Brook based on the limited evidence of elevated lead found in RI sediment samples and the lack of historical training activities at Shaw Brook. As such, confirmation sediment sampling after source removal, but not sediment removal, is included in the selected alternative.

Alternative 4 also includes groundwater sampling in addition to the confirmation sediment sampling at the MRS. Two rounds of groundwater sampling and a single round of sediment sampling will be conducted to evaluate the presence of MC-contamination (small arms indicator metals) in groundwater and sediment within approximately 1 year of source area removal. If groundwater or sediment samples exceed human health screening criteria/MEDEP RAGs following soil excavation, and conditions that allow for unlimited use and unrestricted exposure (UU/UE) at the MRS are not met, then the ARNG will reevaluate the MRS for further investigation. Five-Year Reviews may be required under CERCLA in this scenario.

The estimated total cost of Alternative 4 is \$515,443. The cost estimate includes the total cost for excavation and disposal of MC-contaminated soil with additional groundwater/sediment sampling activities.

1.5 Statutory Determinations

The selected remedy for the Bangor Range MRS (MEHQ-002-R-01) satisfies the statutory requirements of CERCLA §121(b), and to the extent practicable, NCP §300.130(f)(5)(ii). The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are applicable and appropriate to the remedial action, is cost effective, utilizes permanent solutions to the maximum extent practicable, and satisfies the statutory preference for treatment through the stabilization, removal, and disposal of MC-contaminated soil. If groundwater and sediment sample data indicate that no MC are present above human health screening criteria after MC-contaminated soil removal, then Five-Year Reviews will not be required because the hazardous substances and pollutants or contaminants will have been removed from the MRS, allowing UU/UE. Statutory review may be required within 5 years after initiation of the remedial action if groundwater and sediment sample data exceed human health screening criteria.

1.6 Data Certification Checklist

The following information in **Table 1-1** is included in this ROD’s Decision Summary (**Section 2**). Additional information can also be found in the Bangor Range MRS administrative record located on the City of Bangor online information repository (<https://www.bangormaine.gov/mearng>).

TABLE 1-1 ROD DATA CERTIFICATION CHECKLIST

Data	Location
Chemicals of concern (COCs) and their respective concentrations	Sections 2.2 and 2.7
Baseline risk represented by the COC	Section 2.7
Cleanup levels established for COC and the basis for these levels	Section 2.8.1
How source materials constituting principal threats are addressed	Section 2.11
Current and reasonably anticipated future land use assumptions and potential future beneficial uses of groundwater used in the risk assessment	Section 2.5.8 and 2.6
Potential land and groundwater use that will be available at the site as a result of the selected remedy	Section 2.12.2
Estimated capital, operations and maintenance (O&M), and total net present worth costs; discount rate; and number of years over which the remedy costs are projected	Section 2.10.7
Key factors that led to the selection of the remedy	Section 2.12

1.7 Authorizing Signature

On the basis of the RI and FS performed for the Bangor Range MRS (MEHQ-002-R-01), the selected remedy meets the requirements for remedial action set forth in CERCLA. The signature below documents the ARNG's approval of the selected remedy for the Bangor Range MRS (MEHQ-002-R-01).

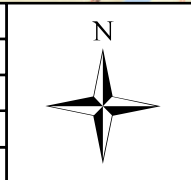
APPROVED:

Anthony Hammett
Colonel, U.S. Army
Chief, G-9 Army National Guard

Date



CLIENT	Army National Guard			
PROJECT	Record of Decision for Bangor Range, ME MRS			
REVISION NO	0	GIS BY	SK	1/15/2021
SCALE	1:126,720	CHK BY	JW	1/15/2021
SOURCE	ARNG; State of Maine, ESRI & Partners		PM	LS
				1/15/2021



Bangor Range Site Location	
 12420 Milestone Center Drive Germantown, MD 20876	
Figure 1-1	

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2 Decision Summary

The Decision Summary identifies the selected remedy, explains how the remedy fulfills statutory and regulatory requirements, and provides a substantive summary of the Administrative Record File that supports the remedy selection.

2.1 Site Name, Location, and Description

The Bangor Range MRS is a 6.4-acre area located on the west side of Hildreth Street North, north of its intersection with Hammond Street, and approximately 0.9 miles west of Bangor International Airport in Bangor, Maine (**Figure 1-1**). The area surrounding the MRS is predominantly forested; the properties surrounding the MRS include the MEARNG Regional Training Institute to the north, storage units and commercial buildings to the south, and the Bangor International Airport to the east; no residences exist in the vicinity of the former range.

The MRS includes a historical concrete target foundation structure and two berm impact areas referred to as the Concrete Structure, Earthen Berm 1 and Earthen Berm 2, respectively (discussed in greater detail below; **Figure 2-1**). The concrete structure and berms, which were used during small arms training, are surrounded by a mixed hardwood and coniferous tree community. Soils at the MRS are classified as silt loams with significant organic content.

2.2 Site History and Enforcement Activities

This section provides background information for the site, including a description of site activities and a general summary of the types of contamination found. There have been no enforcement actions at the site to date.

The Historical Records Review (HRR; Parsons, 2011) states that Bangor Range was operational between 1920 and 1925 and was used by MEARNG as a 1,000-yard known distance rifle range. Firing at the range occurred in a northerly direction towards ten targets: two targets each at 200, 400, 600, 800, and 1,000 yards. The range complex included barracks, a mess house, storehouses, a magazine, and quarters for the range keeper. The historical firing point was located in the vicinity of the intersection of Hammond Street (Route 2) and Hildreth Street North, in an area that is currently developed with commercial structures. A 1987 Trustee's Deed and 1988 Warranty Deed confirm the termination of site use as a rifle range in 1925. Personnel interviews conducted during the HRR suggested that the concrete structure onsite was used to hold targets. The 2012 Site Inspection (SI; Parsons, 2012) identified potential munitions used at the site as .22 caliber, .30 caliber, .38 caliber, and .45 caliber small arms ammunition.

Access to the site is unrestricted and includes access to berms along Hildreth Street North and the Regional Training Institute driveway. Currently, the majority of the MRS is owned by the City of Bangor; a small portion of the MRS is owned by Hardy Associates, Inc.

Six environmental investigations and reports have been completed at the Bangor Range since 2009. These include the following:

- Final State/Territory Inventory Report, National Guard Bureau, NDNODS Inventory for Maine, 2009 (Preliminary Assessment [PA]; Malcom Pirnie Inc., 2009)
- Final Historical Records Review/Work Plan, 2011 (Parsons, 2011)

- Final Maine Site Inspection Report, ARNG MMRP, 2012 (Parsons, 2012)
- Final Remedial Investigation Report (AECOM, 2020a)
- Final Feasibility Study (AECOM, 2020b)
- Final Proposed Plan (AECOM, 2020c)

2.2.1 NDNODS Inventory for Maine (Preliminary Assessment; Malcom Pirnie Inc. 2009)

In 2009, the ARNG completed its Non-Department of Defense (DoD) Non-Operational Defense Sites (NDNODS) Inventory that resulted in the identification of more than 500 sites where guardsmen trained and discharged munitions. NDNODS Inventory Reports are considered to have met the requirements of a PA under CERCLA. In 2009, the NDNODS Inventory for Maine was completed, and it identified the Bangor Range as one of seven eligible MRSs within Maine with a potential munitions risk and was recommended for further investigation.

2.2.2 Historical Records Review Report (Parsons 2011)

An HRR and SI for Bangor Range were conducted concurrently by Parsons in 2011/2012. These investigations resulted in significant revisions to the size and shape of the MRS. The MRS boundary presented in the 2009 Inventory Report (Malcolm Pirnie, 2009) was based on the MRS's use as a 1,000-yard known distance range and included approximately 79.8 acres. During the 2011 HRR, modifications were made to the MRS boundary based on application of standard Surface Danger Zones (SDZs) and topographic conditions that limit bullet trajectory. The HRR revised the MRS acreage to include an additional 266.6 acres. The MRS boundary was subsequently divided into two MRSs to distinguish between the former range area (including the target area and range floor, totaling 6.7-acres; referred to as MEHQ-002-R-01) and the remainder of the MRS (including the SDZ, totaling 259.9-acres; referred to as MEHQ-002-R-02). These two MRSs were the subject of the concurrent SI.

2.2.3 Site Inspection Report (Parsons 2012)

The SI approach included both visual survey and targeted soil sampling for MC to confirm the distance range location and to evaluate the potential presence of munitions and explosives of concern (MEC) and MC at the revised 6.7-acre MRS (MEHQ-002-R-01). The magnetometer-assisted visual survey identified Berm 1 as an earthen berm, downrange from the historical firing point, that is approximately 30 feet long by 6 feet wide. The historical firing point was included in the Bangor Range SDZ MRS (MEHQ-002-R-02). The survey also recorded Berm 2 as an earthen berm that is 1,000 yards downrange from the historical firing point; it measures approximately 30 feet long by 6 feet wide. The concrete structure measures approximately 12 feet deep, with one wall collapsed inward. No MEC or munitions debris were observed during the visual survey.

Shaw Brook was also identified west of the MRS. Vegetation is very dense at the MRS, and Shaw Brook is approximately 400 feet west of the MRS target features. Overland migration of solid (particulate) MC from the berms and concrete structure was determined to be unlikely to reach the brook due to the retardation of transport from vegetation and adhesion to soil.

Soil samples at the MRS were screened using XRF. In total, five composite surface soil samples were collected from the earthen berms and the concrete structure area using a spoke and hub compositing method. An additional three background surface soil samples (called ambient samples

in the SI) were collected near but outside the MRS for comparison. All soil samples were analyzed for small arms indicator metals antimony, copper, and lead.

Samples collected from Earthen Berms 1 and 2 exceeded background concentrations and human health screening criteria (regional screening levels [RSLs]) for lead. Antimony did not exceed background concentrations in any samples.

The results of the HRR and SI resulted in additional revisions to the size and shape of the MRS. The original MRS acreage identified in the 2009 Inventory Report was divided into two MRSs. The revised NDNODS Bangor Range MRS (MEHQ-002-R-01) boundary was drawn to incorporate the target berms and exclude areas not suspected of MC contamination. The SI-revised Bangor Range MRS acreage was 6.7 acres and moved forward to an RI. The portion of land that was the range fan and portions of the former range floor (259.9 acres) was renamed “NDNODS Bangor Range SDZ MRS” (MEHQ-002-R-02). Based on former range use, this area is not expected to be contaminated with MEC or MC, and no range-related features are expected to be found within the downrange portion of the SDZ. The SI investigation recommended no further action (NFA) for the NDNODS Bangor Range SDZ MRS (MEHQ-002-R-02).

2.2.4 Remedial Investigation (AECOM 2020a)

The RI was conducted in June 2019 to characterize the nature and extent of MC contamination in soil, sediment, porewater, and surface water at the MRS. For data interpretation purposes and for assessing risks, the MRS was divided into three decision units (DUs) (the Earthen Berm 1, Earthen Berm 2, and Concrete Structure), and a 500-foot section of Shaw Brook that reflect the distinct areas of potential contamination as indicated by site history and remaining physical evidence of the target areas (**Figure 2-1**). Field investigation included XRF screening of soil at each DU to evaluate the lateral extent of lead in soil, and the collection of composite surface soil samples using incremental sampling methodology (ISM) for evaluating risks. Discrete subsurface soil samples were also collected to evaluate the vertical extent of MC in soil. Porewater samples were collected randomly based on safe and suitable access points to porewater within Shaw Brook. The results of the porewater sampling guided the decision to collect discrete sediment and surface water samples within Shaw Brook. Soil was also collected using ISM from a background reference area adjacent to the MRS that was not affected by historical training activities. All media sampled were analyzed for small arms metals: lead, antimony, copper, and zinc.

Human health screening criteria for lead and ecological screening criteria for antimony, copper, lead and zinc were exceeded based on ISM Sample results. As a result, a human health risk assessment (HHRA) and screening level ecological risk assessment (SLERA) were performed. The results of the SLERA indicated there is no ecological risk to receptors within the soil macroinvertebrate community, and there is only negligible risk for receptors of the terrestrial wildlife community, benthic macroinvertebrate community within Shaw Brook, and aquatic and semi-aquatic wildlife community of Shaw Brook. The SLERA concluded that there is adequate information to conclude that ecological risks are negligible, and therefore, there is no need for remediation on the basis of ecological risk.

Although the HHRA determined minimal risk to current trespasser and recreational user receptors from exposure to lead in soil and sediment at the MRS, it also indicated that potential future construction workers may experience adverse health effects from exposure to lead in soil. The HHRA also determined hypothetical child receptors would likely experience adverse health effects from exposure to lead in both soil and sediment.

The MRS boundary was revised to include an approximately 500-foot section of Shaw Brook; the revised acreage is 6.40 acres (**Figure 2-2**). The entirety of the revised MRS was recommended to move forward to an FS.

2.2.5 Feasibility Study (AECOM 2020b)

Potentially complete pathways for exposure and interactions between MC-contaminated media and receptors were identified during the RI. Due to the presence of unacceptable risk to human receptors from MC-contaminated media within the MRS, an FS was conducted to evaluate possible actions appropriate to remediate the Bangor Range MRS. The FS evaluated possible alternatives in detail and completed a comparative analysis based on criteria outlined in the NCP.

The four alternatives evaluated for MC-contaminated media were as follows:

- Alternative 1 – No Action, a baseline to which other alternatives are compared
- Alternative 2 – Land use controls (LUCs)
- Alternative 3 – Soil Stabilization and Excavation with Off-Site Disposal and Additional LUCs
- Alternative 4 – Soil Stabilization and Excavation with Off-Site Disposal and Additional Groundwater/Sediment Sampling

2.2.6 Proposed Plan (AECOM 2020c)

The Proposed Plan (PP) presented the findings of the FS and identified the preferred alternative for addressing MC-contaminated media at Bangor Range MRS. The preferred alternative was Alternative 4 – Soil Stabilization and Excavation with Off-Site Disposal and Additional Groundwater/Sediment Sampling. Alternative 4 is technically and administratively feasible, is protective of human health, provides the best balance of long-term effectiveness and reduction of risk to human health, achieves the RAO, is cost-effective, and has the potential to achieve UU/UE, following post remedial action confirmation groundwater and sediment sampling results.

2.3 Community Participation

The ARNG solicited public input on the PP (AECOM 2020c) in the newspaper ‘The Bangor Daily News’ on 14 November 2020. The public comment period was held from 14 November 2020 through 15 December 2020. The RI (AECOM 2020a), FS (AECOM 2020b), and PP (AECOM 2020c) were made available to the public online at the City of Bangor online information repository (<https://www.bangormaine.gov/mearng>). No public comments or questions were received on the Bangor Range MRS PP during the public comment period, and the public did not request a meeting. The public notice and affidavit of publication are included in **Appendix A**.

2.4 Scope and Role of Response Action

The selected remedy will be the final action for the Bangor Range MRS (AEDBR # MEHQ-002-R-01). ARNG’s overall strategy is to eliminate the potential for direct contact with MC-contaminated media by human receptors, considering the current and potential future land uses. This response will remove access to source area MC-contaminated media, which constitute the hazard at the MRS. No additional response actions will be needed upon implementation of the selected remedy if post-remedial action confirmation groundwater and sediment sample data indicate that metals MC are not present above their respective RAOs. If MC concentrations are

found in excess of the RAOs, then ARNG will reevaluate the MRS for further investigation and potential additional remedial action.

2.5 Site Characteristics

This section summarizes the physical setting of the MRS and the conceptual site model (CSM), a tool for understanding how contaminants enter the environment and potentially affect human health or ecological resources.

2.5.1 Surface Topography

The Bangor Range MRS lies along moderately southward- and westward-sloping land. Along the northern border of the MRS, the land gradually slopes upward, and an elliptically shaped hill occurs immediately north of the MRS. The apex of the hill represents the highest point of land in the area, with an elevation of over 220 feet mean sea level (U.S. Geological Survey [USGS], 1996; Google Earth, 2011).

2.5.2 Climate

The climate at Bangor Range is classified as humid and continental and is characterized by warm summers and cold winters with high precipitation. Temperature in the area varies from the 60 degrees Fahrenheit (°F) in summer to the 10 °F in winter. The average maximum temperature is 79.4° F in July, and the average minimum temperature is 6.7 °F in January. The long-term average annual temperature is 44.3 °F for the Bangor, Maine area. Summertime (June through August) temperatures range from an average low of 56 °F in the evenings to an average high of 77 °F during the daytime (National Oceanic and Atmospheric Association [NOAA], 2020).

The total annual average rainfall is 42 inches. Snowfall also significantly contributes to annual precipitation. The month with the most snowfall of the year is February. Rainfall is fairly evenly distributed throughout the year, with the wettest month being July, with an average rainfall of 4.7 inches, and the driest month being March, with an average of 2.3 inches. Winter snowstorms can occur from November through April, with the harshest conditions occurring December through March (NOAA, 2020).

The percent relative humidity for the region averages 75 percent, although it frequently reaches into the 90th percentile (NOAA, 2020). The annual wind speed is approximately 7.3 miles per hour, blowing on average in a westerly direction (NOAA, 2020).

2.5.3 Geology

Surficial geology along the Bangor Range MRS consists of Ordovician to Silurian aged clastic and carbonate rocks, with the Vassalboro Formation best represented in the area. The Vassalboro Formation is typically described as massive, bluish gray sandstone; calcareous beds are commonly found. Locally, the Vassalboro Formation has undergone metamorphism and is quartzite, with shaley layers being altered to pyritiferous mica schist. Glacial outwash lies over the bedrock in the Penobscot River Valley, where most of the range is located (USGS, 2011).

2.5.4 Hydrogeology and Hydrology

Groundwater in Maine occurs in glacial deposits, unconsolidated Coastal Plain sediments, and in bedrock. A regional surficial aquifer system consists of glacial deposits of sand and gravel laid

down during several episodes of glaciation that advanced and retreated from the northwest. The areas where sand and gravel were deposited near the face of a glacier often provide very high-yield well production from wells typically ranging from 10 to 1,000 gallons per minute (gpm), and in some cases, as much as 3,000 gpm. Wells set in outwash deposits commonly range from 10 to 400 gpm, with extremely high yields of 2,000 gpm in a few wells.

Below the surficial glacial aquifer lies the bedrock aquifer. The bedrock aquifer is made up of carbonate and crystalline rock hydrogeologic units. Carbonate rocks of Silurian age form an aquifer in northeastern Maine, where they supply about four million gallons per day, primarily for industrial and domestic use. Due to the impermeable nature of these rocks, groundwater in crystalline rocks is essentially limited to secondary porosity consisting of fracture planes or joints. These openings are typically heterogeneous in spacing, orientation, size, and degree of interconnection. Generally, openings in these rocks are more prevalent near land surface and decrease in the number and size with depth.

Several monitoring wells used for the purposes investigating a nearby Dow Air Force Base Fire Training Area exist approximately 0.2 miles east of the MRS. Static water levels in these wells ranged from 3.4 to 6.45 feet below ground surface (bgs) during a sampling event in 2008 (MEDEP, 2018b).

Shallow groundwater near the MRS is influenced by topography and is therefore anticipated to flow to the west and discharge to Shaw Brook. Regionally, shallow groundwater is influenced by the presence of stream valleys with a general eastward flow from the area around Bangor toward the Penobscot River. Residents near the Bangor Range MRS area live in the Bangor Water District. The source of drinking water for the City of Bangor is Floods Pond in the town of Otis, which is over 18 miles from the Bangor Range. The watershed for Floods Pond is estimated at 8.7 square miles (Bangor Water District, 2010).

Shaw Brook runs along the base of the west side of the hill found north of the MRS and flows southward. All storm water runoff from the Bangor Range MRS flows toward the brook; however, a direct pathway from the target area to the brook is not present. The brook flows in a southerly direction for approximately 2.5 miles, where it discharges into the Souadabscook Stream. The Souadabscook Stream, in turn, flows to the southeast and discharges into the Penobscot River (USGS, 1996; US Fish and Wildlife Service [USFWS] National Wetland Inventory, 2017a).

2.5.5 Vegetation

The NDNODS Bangor Range MRS is located within the Acadian Plains and Hills Ecoregion. The Acadian Plains and Hills Ecoregion is mostly forested, with dense concentrations of continental, glacial lakes. Vegetation consists of mostly spruce and fir on lowlands, with maple, beech, and birch on the hills. Near the coastal areas, fine and coarse-loamy, frigid inceptisols and spodosols are typical. The boreal features of this ecoregion include rocky woodlands of patchy black spruce (*Picea mariana*) as well as some boreal plant species that are otherwise restricted to alpine and subalpine areas of Maine, such as black crowberry (*Empetrum nigrum*), baked appleberry (*Rubus chamaemorus*), and roseroot (*Rhodiola rosea*). Coastal raised peat bogs are also present in this ecoregion. There are also some areas of jack pine (*Pinus banksiana*) woodland near the southern range limit of this ecoregion (Griffith, et al., 2009).

2.5.6 Wildlife

The MRS is located within a region of Maine federally designated as critical habitat for the Atlantic salmon (*Salmo salar*); however, there are no aquatic habitats within or near the MRS that could support fish species. There are a variety of species that are federally and/or state-listed as threatened or endangered in the general geographic location of the MRS, but it is unlikely that any of these species would inhabit the MRS, based on the habitat of each species.

2.5.7 Cultural Resources

According to the National Heritage Areas Program and the National Historic Landmarks Program, no cultural or archaeological resources are listed in Penobscot county (National Park Service, 2018a, 2015). According to the National Register of Historic Places, cultural and archaeological resources are present in Penobscot county, but no cultural or archaeological resources are listed within the MRS boundary (National Park Service, 2018b).

2.5.8 Conceptual Site Model

Using the above site characteristics and the results of the RI sampling, the RI updated the CSM based on sampling results and assessed potential MC migration. The CSM was developed to depict the potential relationship or exposure pathway between MC sources and receptors. A pictorial CSM is presented on **Figure 2-3**, and a CSM diagram depicting exposure pathway relationships is presented on **Figure 2-4**.

Small arms MC have been released directly to berm soil during historical small arms training activities through fragmentation and pulverization of bullets on impact. XRF analysis of the DUs was able to fully delineate the lateral extent of metals MC in surface soil, verifying that impacted soil is not migrating away from the source areas (DU soil) and specifically not being transported west towards Shaw Brook via overland flow.

The vertical extent of MC was delineated for the Earthen Berm 2 and Concrete Structure DUs. Sample concentrations show that small arms metals are decreasing with depth. Generally, small arms metals were shown to decrease with depth at the Earthen Berm 1 DU. The increased concentrations at the 24-26 inches bgs soil layer relative to the 12-18 inches bgs soil at Earthen Berm 2 are likely due to mechanical movement of soil during active range use to fill in bullet pockets or other range maintenance. Additional vertical delineation of MC in soil at this DU will need to be assessed during future phases.

Metals MC also has the potential to be released to groundwater through leaching and/or infiltration mechanisms where groundwater is shallow (≤ 5 feet bgs). Groundwater depth in the area is about 7 feet bgs, and there is some evidence that subsurface soil (>2 feet bgs) has elevated concentrations of lead. Elevated concentrations of lead above screening criteria were also detected in porewater samples and sediment samples, indicating that although these metals typically form oxides or hydroxides that have low mobility in soil, there is a potential that MC from MRS soil is reaching the groundwater and subsequently discharging to Shaw Brook.

Metals do not readily weather in the environment. Typically, metals in soil form reaction products that become incorporated into soil minerals, precipitate as oxides or hydroxides, or form coatings on minerals (Oak Ridge National Laboratory, 1989). These forms of metals have low mobility in soils. The inherent insolubility of metals, coupled with their related high soil/water partition coefficients, indicate that the metals would be relatively immobile in DU soil and sediment. This

indication is supported by the low MC concentrations in surface water; any MC transport via groundwater would discharge to Shaw Brook and likely be found in sediment. There is no evidence that people use Shaw Brook for swimming, fishing, or any recreational purposes. There are no current receptors for groundwater.

2.6 Current and Potential Future Land and Resources Uses

The area surrounding the MRS is primarily forested, with some commercial, industrial and airport land uses. The area within the MRS is currently unused. Future land use is unlikely to significantly change (City of Bangor, 2020).

2.7 Summary of Site Risks

MC analytical data generated during the RI (AECOM 2020a) were compared with human health and ecological risk screening criteria to evaluate whether past munitions-related practices have resulted in contaminant releases exceeding human health or ecological screening criteria.

ISM samples were collected from surface soil at each DU to determine the concentration of MC that a receptor visiting the site may be exposed to. These data were used to evaluate potential risk at each DU because the methodology provides a robust estimate of the true concentration for an area sampled. Discrete subsurface samples were collected for the purpose of conservatively determining the vertical extent of MC. Discrete porewater, surface water, and sediment samples were also collected from the Shaw Brook DU to assess potential risk.

2.7.1 Human Health Risk Summary

The results of the ISM sampling showed that of the four analytes, only lead exceeded its respective human health screening criterion for exposure to surface soils. Lead exceeded human health screening criterion at the Earthen Berm 1, Earthen Berm 2 and Concrete Structure DUs. Additionally, one sediment sample collected from Shaw Brook exhibited a lead concentration that exceeded its human health screening criterion. Therefore, an HHRA was performed to further evaluate risk. No surface water samples exceeded respective human health screening criteria. The HHRA screening identified lead as a surface soil, subsurface soil, and sediment constituent of potential concern; all other MC metals (antimony, copper, and zinc) were eliminated from further evaluation. The USEPA's Adult Lead Methodology (ALM) and Integrated Exposure Uptake Biokinetic (IEUBK) model results indicate that adverse health effects are likely for the hypothetical child resident from exposure to lead in soil at all the DUs and sediment in Shaw Brook. For the child recreational user, the IEUBK lead model results for exposure to soil at the Earthen Berms 1 and 2 DUs showed likely adverse health effects. The future construction worker may experience adverse health effects from exposure to lead in Earthen Berm 1 soil, but not from soil at the Concrete Structure DU, Earthen Berm 2 DU, or sediment at Shaw Brook. HHRA ALM and IEUBK model results are shown in **Table 2-1**.

TABLE 2-1 ALM AND IEUBK MODEL RESULTS FOR SITE RECEPTORS

Receptor	Lead Mean EPC (mg/kg)	Estimated PbB (PbB Threshold of 5 µg/dL)	Percent Probability Threshold of 5%	Pass? (Yes/No)
Concrete Structure DU (ISM Surface Soil, 0-6 in bgs)				
Construction Worker	185.3	2.9	0.5%	Yes
Trespasser/Recreational User (Teen/Adult)	185.3	1.9	0.05%	Yes
Child Recreational User	185.3	NE	NE	Yes
Resident (Child/Adult/Lifetime)	185.3	> 5	10%	No
Earthen Berm 1 DU (Discrete Subsurface Soil, 12 – 18 and 24-30 in bgs)				
Construction Worker	820.6	7.8	19%	No
Trespasser/Recreational User (Teen/Adult)	820.6	3.4	1%	Yes
Child Recreational User	820.6	> 5	86%	No
Resident (Child/Adult/Lifetime)	820.6	> 5	86%	No
Earthen Berm 1 DU (ISM Surface Soil, 0 -6 in bgs)				
Construction Worker	779.7	7.5	17%	No
Trespasser/Recreational User (Teen/Adult)	779.7	3.3	1%	Yes
Child Recreational User	779.7	> 5	84%	No
Resident (Child/Adult/Lifetime)	779.7	> 5	84%	No
Earthen Berm 2 DU (ISM Surface Soil, 0 -6 in bgs)				
Construction Worker	407.3	4.6	4%	Yes
Trespasser/Recreational User (Teen/Adult)	407.3	2.4	0.2%	Yes
Child Recreational User	407.3	> 5	12%	No
Resident (Child/Adult/Lifetime)	407.3	> 5	47%	No
Sediment (Shaw Brook)				
Construction Worker	147.6	2.6	0.3%	Yes
Trespasser/Recreational User (Teen/Adult)	147.6	1.8	0.03%	Yes
Child Recreational User	147.6	NE	NE	Yes
Resident (Child/Adult/Lifetime)	147.6	> 5	5.5%	No

Notes:

EPC = exposure point concentration; NE = not evaluated (lead EPC below MEDEP park user screening level of 290 mg/kg);
in = inches; ug/dL = micrograms per deciliter; PbB = blood lead concentration

Red text = Indicated threshold has been exceeded

Black text = Indicated threshold has not been exceeded

2.7.2 Ecological Risk Summary

A SLERA was conducted due to ecological screening criteria exceedances in concentrations of lead, copper, and zinc in soil at all ISM sampling locations, exceedances in concentrations of

antimony in soil at the Earthen Berm 1 and 2 DUs, exceedances in concentrations of lead and copper in Shaw Brook porewater samples, and exceedances in concentrations of antimony, copper, lead, and zinc in Shaw Brook sediment samples. The risk characterization results indicate that there is no ecological risk to receptors within the soil macroinvertebrate community and only negligible risk exists for receptors of the terrestrial wildlife community, benthic macroinvertebrate community of Shaw Brook, and aquatic and semi-aquatic wildlife community of Shaw Brook. No direct contact or wildlife-based chemicals of concern were identified in any media within the MRS DUs or Shaw Brook. The SLERA concluded that there is adequate information to conclude that ecological risks are negligible, and therefore, there is no need for remediation on the basis of ecological risk.

2.7.3 Basis for Action

The RI assessments indicated that there is unacceptable risk to human health from MC-contaminated media within the MRS. The response action selected in this ROD is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

2.7.4 Munitions Response Site Prioritization Protocol

In 2005, DoD published the MRS Prioritization Protocol (MRSP) as a Federal Rule (32 CFR Part 179) to assign a relative risk priority to each defense site in the MMRP Inventory for response activities. These response activities are based on the overall conditions at the MRS, taking into consideration various factors related to explosive safety and environmental hazards. In assigning a relative priority for response activities, DoD generally considers MRSs posing the greatest hazard as being the highest priority.

Investigative results undergo three different evaluations to determine the MRSP priority. The Explosive Hazard Evaluation Module (EHE) assesses the explosive hazards of a site based on the known or suspected presence of an explosive hazard. The Chemical Warfare Materiel (CWM) Hazard Evaluation (CHE) Module provides an evaluation of the chemical hazards associated with the physiological effects of CWM. The Health Hazard Evaluation (HHE) Module provides a consistent approach for evaluating the relative risk to human health and the environment posed by munition-related contaminants (i.e., MC). MRSP scores range from 1 to 8. Priority 1 indicates the highest potential hazard and Priority 8 indicates the lowest potential hazard. Only a site with a potential Chemical Warfare Hazard can receive a Priority of 1. The priority is determined by selecting the highest rating from among the EHE, CHE, and HHE Modules.

The overall MRSP priority for the Bangor Range MRS (MEHQ-002-R-01) was assigned a 6. The EHE and CHE, module ratings were each No Known or Suspected Hazard, but the HHE rating was E, indicating an HLL media combination (sediment/ecological endpoint) and MML media combination (sediment/human endpoint). The HHE rating E corresponds with a priority rating of 6. Other media/endpoint combinations received lower ratings of F and G, which correspond to priority ratings of 7 and 8, respectively. The EHE, CHE, and HHE Module ratings are presented in **Table 2-2**.

TABLE 2-2 MUNITIONS RESPONSE SITE PRIORITY EVALUATION

Explosive Hazard Evaluation	Factors			EHE Combination Level	EHE Module Rating
	Explosive Hazard	Accessibility	Receptor		
Bangor Range MRS (MEHQ-002-R-01)	3	16	18	37	NKSH

Chemical Warfare Materiel Hazard Evaluation	Factors			CHE Combination Level	CHE Module Rating
	CWM Hazard	Accessibility	Receptor		
Bangor Range MRS (MEHQ-002-R-01)	0	0	0	0	NKSH

Health Hazard Evaluation	Factors			HHE Combination Level	HHE Media Rating
	HHE Hazard	Migration Pathway	Receptor		
Bangor Range MRS (MEHQ-002-R-01) Surface Water / Human Endpoint	L	L	L	LLL	G
Bangor Range MRS (MEHQ-002-R-01) Sediment / Human Endpoint	M	M	L	MML	E
Bangor Range MRS (MEHQ-002-R-01) Surface Water / Ecological Endpoint	L	L	L	LLL	G
Bangor Range MRS (MEHQ-002-R-01) Sediment / Ecological Endpoint	H	L	L	HLL	E
Bangor Range MRS (MEHQ-002-R-01) Surface Soil	M	L	L	MLL	F
HHE Module Rating:					E

Munitions Response Site Priority	EHE Module Rating	CHE Module Rating	HHE Module Rating	MRSPP Priority
Bangor Range MRS (MEHQ-002-R-01)	NKSH	NKSH	E	6

Notes:

CHE = Chemical Warfare Materiel Hazard Evaluation	L = Low
CWM = Chemical Warfare Materiel	M = Medium
EHE = Explosive Hazard Evaluation	MRS = Munitions Response Site
H = High	MRSPP = Munitions Response Site Prioritization Protocol
HHE = Health Hazard Evaluation	NKSH = No Known or Suspected Hazard

2.8 Remedial Action Objectives

RAOs are site-specific cleanup objectives that are established based on the nature and extent of contamination, potential for human and environmental exposure, and Applicable or Relevant and Appropriate Requirements (ARARs).

2.8.1 Munitions Constituents

The general goal of an MC remedial action is to reduce the risk to ensure the protection of human health, public safety, and the environment. The RAO for MC is to prevent human exposure to lead above its human health screening criterion in soil (140 mg/kg; the MEDEP RAG for residential exposure to lead in soil), in sediment (290 mg/kg; the MEDEP RAG for recreator exposure to lead

in sediment), and in groundwater (5 µg/L; the MEDEP RAG for residential exposure to lead in groundwater) within the Bangor Range MRS.

The primary remedial goal is to prevent human contact with MC-contaminated media. The MC RAO will address the likelihood of exposure to workers, residents, visitors, and trespassers such that an acceptable condition of negligible risk of injury or exposure due to dermal contact or incidental ingestion with MC-contaminated media is achieved. It is anticipated that any remediation conducted to remove exposure risks to human receptors will also reduce the exposure risk to ecological receptors as well. This remediation is appropriate given the size of the revised MRS and the lack of critical habitats within the MRS. It is anticipated that the Preferred Alternative 4 will constitute the final response action for MEHQ-002-R-01, following confirmation groundwater and sediment sampling included within the alternative.

2.9 Description of the Alternatives for MC-Contaminated Media

The alternatives designed to satisfy the RAO for the MC-contaminated media at the Bangor Range MRS (MEHQ-002-R-01) include the following:

- Alternative 1 – No Action
- Alternative 2 – LUCs
- Alternative 3 – Soil Stabilization and Excavation with Off-Site Disposal and Additional LUCs
- Alternative 4 – Soil Stabilization and Excavation with Off-Site Disposal and Additional Groundwater/Sediment Sampling

The MRS consists of public and private property, not owned by ARNG; implementation of Alternatives 2-4 would require the approval and participation of the landowners.

2.9.1 Alternative 1 – No Action

The No Action alternative assumes that no remedial action will be taken to change the current existing condition at Bangor Range MRS (MEHQ-002-R-01). This alternative would leave the MRS in its present condition, with no LUCs, remedial actions, or other mitigating activities. This alternative provides a comparative baseline against which other alternatives can be evaluated. This alternative is required by the NCP for baseline comparison purposes (40 CFR 300.430[e][6]). This alternative will have no capital, O&M, or periodic costs.

2.9.2 Alternative 2 – Land Use Controls

This alternative consists of a limited action alternative consisting of legal LUCs that include environmental covenants (e.g. deed restrictions), which are enforceable by MEDEP, as an option. The LUCs would specifically seek to restrict land use, usage of groundwater, and disturbance of sediment at the MRS. Successful implementation of LUCs is contingent upon the cooperation and active participation of the existing landowners/users, MEDEP, and other government agencies to protect the public from MC hazards. MC-impacted media in the privately-owned portion of the MRS is limited to sediment at Shaw Brook; UU/UE would not be achieved under the LUC alternative. This alternative does not require construction activities; therefore, there would be no short-term impacts to the community, workers, or environment. The implementation of any LUC is conditionally feasible; the private property owner and the City of Bangor would have to voluntarily participate in any LUC implementation.

2.9.3 Alternative 3 – Soil Stabilization and Excavation with Off-Site Disposal and Additional LUCs

Alternative 3 involves stabilization, excavation, and off-site disposal of the lead-contaminated soil with concentrations above established MEDEP RAGs for residential exposure to lead (140 mg/kg) at MEHQ-002-R-01. Excavation would eliminate the risk of encountering MC-contaminated soil; however, this alternative would not achieve UU/UE at the MRS, as it does not address potential groundwater contamination. Based on the results of the RI, the extent of MC-contaminated soil was determined to cover 0.151 acres (encompassing approximately 1.5% of the revised MRS; **Figure 2-5**) to a depth of 2.5 feet (AECOM, 2020b). As a conservative measure, excavation will be conducted to a minimum depth of 3 feet. The initial estimate of contaminated soil to be stabilized and removed is 731 bank cubic yards (BCY). Prior to excavation, soil will undergo waste classification by sampling and analysis conducted per the requirements of the RCRA Part 261, which establishes standards for generators of solid and hazardous waste and Subtitle D solid waste disposal facilities.

Application of the “20 times rule” to the maximum detected total lead concentration indicates that soil may need to be stabilized in-situ for the excavated soil to pass toxicity characteristic leaching procedure (TCLP) criteria and allow disposal as nonhazardous waste. Soil with lead concentrations above landfill disposal criteria will undergo in-situ soil stabilization consisting of the following:

- Mixing a reagent (e.g., Portland cement), ensuring adequate reagent contact and distribution in soil, to stabilize lead prior to excavation.
- Post-treatment sampling and TCLP analysis of stabilized soil to evaluate stabilization effectiveness.
- If the soil is determined to be a hazardous waste, it will be determined if RCRA Land Disposal Restrictions apply (40 CFR Part 268).

Following soil stabilization, characterization samples will again be collected and analyzed for TCLP lead. If contaminant concentrations remain above landfill disposal criteria, additional treatment, sampling, and analysis will be completed. If, after multiple soil stabilization efforts, areas of soil remain above disposal criteria, then soil exceeding criteria from these areas will be disposed of at an approved RCRA Subtitle C disposal facility. This will be conditional upon MEDEP approval, which may include licensure of the MRS as a hazardous waste generator and obtaining a license to treat hazardous waste unless such permits are not required as provided under 42 USC 9621(e)(1). Soil that has undergone stabilization successfully will be excavated and disposed of at an appropriate disposal facility. For cost-estimation purposes, it is assumed that all excavated soil will be successfully stabilized.

Lead concentrations will be evaluated in the field using XRF in compliance with MEDEP SOP No. RWM-DR-025 and EPA Method 6200. If XRF results indicate lead concentrations are above the field delineation value of 140 mg/kg, an additional 0.5 feet of soil will be removed, and the area will be reevaluated by XRF. Once XRF results indicate the lead concentration is below 140 mg/kg, discrete confirmation samples will be collected in compliance with Section 9.7 of EPA Method 6200 and submitted for laboratory analysis. Soil excavation and subsequent sampling and analysis will proceed until the results indicate the contaminant concentrations are below their established screening criteria.

Soil will be excavated with heavy equipment with enclosed cabs to minimize the potential for worker exposure to contaminated media. Erosion control and air and dust monitoring will be implemented to prevent any contamination to the surrounding soils and site workers, and any. Soil will be mixed with stabilizers using the excavation equipment; this will occur in three, 12-inch lifts. Excavated soil will be loaded directly into haul trucks waiting in the excavation areas and transported off-site to a licensed disposal facility. Measures will be taken to prevent contaminated soil particles from dispersing during transport.

Based on the RI, the lead-contaminated removal action area is approximately 0.151 acres (**Figure 2-5**), to a depth of 2.5 feet. Excavation will be conducted to a minimum depth of 3 feet, resulting in a minimum disposal volume of 731 BCY of soil. The removal action is estimated to take approximately 12 days, which include one (1) day for characterization sampling, three (3) days for pre-, post-, and final-topographic surveys, six (6) days for stabilization, excavation, XRF sampling, transport and disposal, one (1) day for confirmation sampling, and one (1) day for site restoration.

Alternative 3 also includes the implementation of LUCs at the MRS in the form of environmental covenants (e.g., deed restrictions) enforced by MEDEP. Such LUCs would specifically seek to restrict usage of groundwater and disturbance to sediment in Shaw Brook. Alternative 3 will not result in conditions that allow for UU/UE at the MRS; therefore, Five-Year Reviews are required under CERCLA to ensure the remedy continues to be protective of human health and the environment.

Successful implementation of LUCs is contingent upon the cooperation and active participation of the existing land-owners/users, ARNG, MEARNG, and other government agencies to protect the public from MC hazards.

2.9.4 Alternative 4 – Soil Stabilization and Excavation with Off-Site Disposal and Additional Groundwater/Sediment Sampling

Alternative 4 involves stabilization, excavation and off-site disposal of the lead-contaminated soil with concentrations above established MEDEP RAGs for residential exposure to lead (140 mg/kg) at MEHQ-002-R-01 in the same manner described under Alternative 3. Alternative 4 also includes groundwater and sediment sampling following soil removal. The excavation would eliminate the risk of encountering MC-contaminated soil and has the potential to achieve UU/UE at the MRS. The MRS is comprised of different parcels owned by the City of Bangor and private landowners. Approval from all landowners would be needed to implement this remedy across the entire MRS. Should the remedy be implemented on sub-portions of the MRS, approval from those affected landowners would be needed. Based on the results of the RI, the extent of MC-contaminated soil was determined to cover 0.151 acres (approximately 1.5% of the revised MRS; **Figure 2-5**) to a depth of 2.5 feet (AECOM, 2020b). As a conservative measure, excavation will be conducted to a minimum depth of 3 feet. The initial estimate of contaminated soil to be stabilized and removed is 731 BCY.

Soil stabilization, characterization and off-site disposal will occur as described under Alternative 3; however, Alternative 4 does not include the implementation of LUCs. Excavated areas would be backfilled, graded, and returned to pre-excavation conditions. A right-of-entry would be obtained from the landowner, and its conditions followed. Closure documentation would be completed for the remedial action.

Based on the RI, the lead-contaminated removal action area is approximately 0.151 acres (**Figure 2-5**), to a depth of 2.5 feet. Excavation will be conducted to a minimum depth of 3 feet, resulting in a minimum disposal volume of 731 BCY of soil. The removal action is estimated to take approximately 12 days, which include one (1) day for characterization sampling, three (3) days for pre-, post-, and final-topographic surveys, six (6) days for stabilization, excavation, XRF sampling, transport and disposal, one (1) day for confirmation sampling, and one (1) day for site restoration.

Once soil stabilization and removal activities are completed, two rounds of groundwater sampling and a single round of sediment sampling will be conducted to evaluate the presence or absence of MC-contamination in groundwater and sediment following MC removal from soil. This will require the development of a groundwater and sediment sampling plan.

Groundwater sampling will involve the construction of four temporary wells using direct push technology (DPT). Temporary well locations will be selected to assess areas where MC leaching to groundwater is most likely to occur, as well as areas where downgradient migration may occur. Each well will be sampled from within the screened interval using low-flow sampling methods. The wells will be sampled twice, once during the wet season, and one during the dry season. It is anticipated that sampling will be completed within approximately 1 year of soil removal. All groundwater samples will be submitted to a DoD Environmental Laboratory Approval Program-certified laboratory that is also MEDEP-certified for appropriate analyses, and a data report will be developed. For cost-estimation purposes, it is estimated that up to four rounds of groundwater sampling may be performed.

Sediment samples will be collected from a minimum of four locations in Shaw Brook. Sample locations will be determined by personnel in the field to assess the areas most likely to experience MC deposition. A background reference sediment sample will be collected from a location upstream of the MRS. All sediment samples will be submitted to a DoD Environmental Laboratory Approval Program-certified laboratory that is also MEDEP-certified for the appropriate analyses, and a data report will be developed.

Groundwater and sediment samples will be compared to the MEDEP RAGs for recreator exposure to lead in sediment (290 mg/kg) and residential exposure to lead in groundwater (5 µg/L), respectively (MEDEP, 2018a). Depending on the results of the groundwater and sediment sampling described above, this alternative has the potential to achieve UU/UE. It is anticipated that removal of MC-contaminated soil via excavation will eliminate source material that may contribute to potential groundwater contamination; however, ARNG will re-evaluate the need for additional monitoring and remedial technologies if MC remains present in these media at unacceptable levels.

2.10 Summary of Comparative Analysis of Alternatives for MC-Contaminated Media

During the process of selecting the most appropriate remedial alternative for Bangor Range MRS (MEHQ-002-R-01), a comparative analysis of the remedial alternatives was performed (**Table 2-2**). Section §300.430(e) of the NCP lists nine CERCLA criteria against which each remedial alternative must be assessed. The NCP (Section 300.430[f]) states that the first two criteria, protection of human health and the environment and compliance with ARARs, are 'threshold criteria,' which must be met by the selected remedial action unless a waiver is granted under

Section 121(d)(4) of CERCLA. The next five criteria are 'primary balancing criteria,' and the trade-offs within this group must be balanced.

TABLE 2-3 COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES FOR MC-CONTAMINATED MEDIA

Screening Criteria		Alternative 1 No Action	Alternative 2 LUCs	Alternative 3 Soil Stabilization and Excavation with Off-Site Disposal and LUCs	Alternative 4 Soil Stabilization and Excavation with Off-Site Disposal and Additional GW/SD Sampling
Threshold	Overall Protection of Human Health and the Environment	○	○	●	●
	Compliance with ARARs	○	○	●	●
Balancing	Long-Term Effectiveness	○	■	■	●
	Reduction of TMV Through Treatment	○	○	■	●
	Short-Term Effectiveness	●	●	■	■
	Implementability	●	■	■	■
	Cost	\$0	\$110	\$522	\$515
Modifying	State Acceptance	○	○	○	●
	Community Acceptance	No comments received from the community or landowners.			

Notes:

- Favorable ('YES' for threshold criteria)
- Moderately Favorable
- Not Favorable ('NO' for threshold criteria)

ARAR = Applicable or Relevant and Appropriate Requirement
GW = Groundwater
LUC = Land Use Control

NA = Not Applicable
SD = Sediment
TBD = To Be Determined
TMV = toxicity, mobility, or volume

The selected alternative is the alternative that is protective of human health and the environment, complies with ARARs, and provides the best combination of primary balancing attributes. The final two criteria, state and community acceptance, are 'modifying criteria', which have been considered based on any comments submitted by the public on the PP. The defining characteristics of the nine CERCLA criteria are listed below.

Threshold Criteria:

- Overall protection of human health and the environment – determines whether an alternative eliminates, reduces, or controls threats to public health and the environment.
- Compliance with or an applicable waiver of ARARs – evaluates whether the alternative meets selected federal and state environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.

Balancing Criteria:

- Long-term effectiveness and permanence – considers the ability of an alternative to maintain protection of human health and the environment over time.
- Reduction of toxicity, mobility, or volume (TMV) through treatment – evaluates an alternative’s use of treatment technologies to reduce the TMV of a contaminant at a site.
- Short-term effectiveness – considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.
- Implementability – considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.
- Cost – includes estimated capital and annual O&M costs. Cost estimates are expected to be accurate within a range of +50 percent to –30 percent.

Modifying Criteria

- State acceptance – considers whether the State agrees with the remedial alternative.
- Community acceptance – considers whether the local community agrees with the remedial alternative. Comments received on the PP are an important indicator of community acceptance.

2.10.1 Overall Protection of Human Health and the Environment

Alternative 1 would provide no protection of human health and the environment. Alternative 2 would provide protection of human health by limiting or preventing disturbance of the soil/sediment and groundwater; however, it would not be protective of the environment because it leaves contamination in place and does not control potential leaching of lead. Alternatives 3 and 4 would be protective of human health because the MC-contaminated soil would be removed from the MRS. However, Alternative 4 would provide the most overall protectiveness because it seeks to determine the presence or absence of MC-contaminated groundwater and sediment by sampling, the results of which could potentially lead to the MRS achieving UU/UE.

2.10.2 Compliance with Applicable or Relevant and Appropriate Requirements

There are no ARARs associated with Alternative 1. For Alternative 2, Environmental Covenants can be implemented in accordance with applicable guidance documents and Maine’s Uniform Environmental Covenant Act 39 MRS Sec. 3001-3013. Because the aforementioned Uniform Environmental Covenant Act is procedural in nature, it is not considered a formal ARAR. The MEDEP RAG for lead in soil is 140 mg/kg. The MEDEP RAG for recreator exposure to lead in sediment is 290 mg/kg, and RAG for residential exposure to lead in groundwater is 5 µg/L. The RSL values are based on complete exposure pathways and is considered by MEDEP to be protective for human receptors over a lifetime. The MEDEP RAGs for lead in soil, sediment, and groundwater are not ARARs because they are not intended to have the force of law; however, remedial action at the MRS will use the RAGs standards as RAOs because of the relatively small size and low degree of complexity of the MRS. Because the RAGs are a to-be-considered guidance, they are not included in **Table 2-4**. MC-contaminated soil will remain in-situ for

Alternatives 1 and 2. Removal of MC-contaminated soil under Alternative 3 and 4 would be performed to comply with all ARARs (**Table 2-4**).

2.10.3 Long-Term Effectiveness and Permanence

Alternative 1 would not be effective or permanent in the long-term. The long-term effectiveness of Alternative 2 is contingent upon the cooperation and active participation of the State of Maine as well as the landowners that own portions of the MRS. Maintaining the LUCs in the long term is administratively feasible. Alternative 2 does not eliminate the possibility of lead leaching and migrating into the environment or mitigate the risk to potential future residents from contacting/handling contaminated soil. Both Alternatives 3 and 4 would provide long-term effectiveness in eliminating the possibility of lead leaching and migrating into the environment. Alternative 4 would provide the most long-term effectiveness and permanence, as MC impacted soil would be removed, and sampling of groundwater and sediment will verify the presence or absence of MC-contamination in those media, the results of which could potentially lead to the MRS achieving UU/UE.

TABLE 2-4 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

Standard, Requirement, Criteria or Limitation	Citations	Description	ARAR Type	Applicability to Site
Environmental Control				
Storm Water Management	38 MRSA Part 420-D; 06-096 CMR Part 500	Storm water management measures must be in place before activities such as filling, displacing, or exposing soil or other earthen material occur.	Location	Applicable. These controls would be applicable to alternatives that need to address storm water management. Applicable plans would be coordinated with MEDEP before implementation.

Notes:

ARAR = Applicable or Relevant and Appropriate Requirement

CMR = Code of Maine Rules

MRSA = Maine Revised Statutes Annotated

2.10.4 Reduction of TMV through Treatment

Alternatives 1 and 2 will not reduce the TMV at the MRS. Alternatives 3 and 4 would satisfy the statutory preference for treatment as a principal element of the remedy and would reduce the mobility of leachable lead. Alternatives 3 and 4 would also be effective in meeting the RAO and would reduce the toxicity of the contaminated soil since the material would be stabilized via treatment, excavated, and disposed off-site in a RCRA Subtitle D landfill. Alternative 3 would not entirely reduce the toxicity and volume at the MRS due to potentially persisting MC-contaminated groundwater and sediment.

2.10.5 Short-Term Effectiveness

Alternative 2 would be the most effective in the short term, whereas Alternatives 3 and 4 would be less effective in the short term due to required site disturbance and handling of the contaminated soil. Because there are no construction or operation activities associated with Alternatives 1 or 2, there would be no additional risks to the community, site workers, or the environment. Approximately 6 months would be required to establish LUCs associated with Alternative 2, and the behavior of site workers and visitors would be expected to change immediately thereafter. Exposure to contaminants during implementation of the in-situ soil treatment portion of Alternative 3 and 4 would be minimal because the material handling would be conducted using appropriate equipment and following proper health and safety procedures. Alternative 3 and 4 consist of transporting the soil off-site and creates additional potential risks that must be evaluated.

2.10.6 Implementability

Alternative 1 would be implementable, as it requires no action. The administrative LUCs recommended under Alternative 2 can be implemented by MEDEP; there are no technical difficulties associated with this alternative, and the materials and services needed to implement this alternative are available. Alternatives 3 and 4 would be straight-forward to implement, as the MRS is relatively small (0.151 acre) and shallow (extends to a depth of 3 feet bgs). However, Alternatives 3 and 4 would require vegetation clearance to allow for the treatment or excavation to be implemented, making the alternatives more difficult to implement. The equipment needed to complete the project is readily available. Successful implementation of Alternatives 2, 3, or 4 is contingent upon the cooperation and active participation of the existing landowners/users, ARNG, MEARNG, and other government agencies to protect the public from MC hazards.

2.10.7 Cost

The net present value costs for each remedial alternative are presented in **Table 2-5** below. Remedy costs are projected over a duration of thirty (30) years.

TABLE 2-5 COST COMPARISON OF REMEDIAL ACTION ALTERNATIVES FOR MC-CONTAMINATED MEDIA

Cost	Alternative 1 No Action	Alternative 2 LUCs	Alternative 3 Soil Stabilization and Excavation with Off- Site Disposal and LUCs	Alternative 4 Soil Stabilization and Excavation with Off-Site Disposal and Additional GW/SD Sampling
Capital	\$0	\$25,300	\$436,866	\$515,443
O&M / Periodic	\$0	\$85,031	\$170,062	\$0
Total	\$0	\$110,331	\$521,896	\$515,443
Total Present Value	\$0	\$91,358	\$502,923	\$515,443

Notes:

LUCs = Land Use Controls
O&M = operations and maintenance

GW = Groundwater
SD = Sediment

As shown in **Table 2-5**, Alternative 1 incurs no cost to implement, while Alternative 3 would be the costliest to implement. The cost for each alternative includes:

- Alternative 1 – No Action: No associated capital, O&M, or periodic costs.
- Alternative 2 – LUCs: Capital costs include implementation of an environmental covenant. Periodic costs for Five-Year Reviews include site inspections and reporting. The cost estimate is based on a duration of 30 years and the best available information regarding the anticipated scope of the remedial alternative.
- Alternative 3 – Soil Stabilization and Excavation with Off-Site Disposal and Additional LUCs: Capital costs include labor and materials for mechanized excavation, stabilization and disposal of soil containing elevated MC as well as the implementation of an environmental covenant. Periodic costs for Five-Year Reviews include site inspections and reporting.
- Alternative 4 – Soil Stabilization and Excavation with Off-Site Disposal and Additional Groundwater/Sediment Sampling: Capital costs include labor and materials for mechanized excavation, stabilization, and disposal of soil containing elevated MC as well as labor and materials for groundwater and sediment sampling.

2.10.8 State Acceptance

MEDEP supports the implementation of Alternative 4 at the Bangor Range MRS (MEHQ-002-R-01).

2.10.9 Community Acceptance

No comments were received from the community, the City of Bangor, or the private landowner, and there were no requests for a public meeting. No change to the proposed remedy is warranted based on the community response.

2.11 Principal Threat Wastes for Elevated MC in Soil

MC-contaminated media present at the Bangor Range MRS may constitute a principal threat to human health due to the potential exposure to lead in soil and sediment. The ARNG will make a determination if the material encountered poses a risk and should be classified as a Principal Threat

Waste (PTW), as defined by CERCLA, the NCP, and USEPA guidance. If the material is determined to be a PTW, the ARNG will take the necessary actions to ensure protectiveness of human health and the environment to address unacceptable risks posed by the material designated as a PTW.

The principal threat identified at the Bangor Range MRS (MEHQ-002-R-01) is addressed by Alternatives 3 and 4. Both alternatives address the potential for PTW to exist by taking actions to avoid such risk by physically removing MC-contaminated soil from the MRS.

2.12 Selected Remedy

The primary indicator of remedial action performance will be satisfying the RAO for the MRS. Performance measures are defined herein as the RAO plus the required actions to achieve the objectives, as defined in this section. It is anticipated that successful implementation, operation, maintenance, and completion of the performance measures will achieve a protective and legally compliant remedy for the Bangor Range MRS (MEHQ-002-R-01).

Alternative 4 – Soil Stabilization and Excavation with Off-Site Disposal and Additional Groundwater/Sediment Sampling was selected based on its ability to achieve the RAO, its cost effectiveness, and ability to potentially achieve UU/UE pending results of post-remedial action groundwater and sediment sampling. The selected remedy focuses on providing effective control and elimination in mobility and toxicity by stabilizing MC in the soil and removing the source of MC-contaminated soil from the MRS.

2.12.1 Remedy Cost Estimate Summary

The estimated total cost of Alternative 4 is \$515,443. This cost is an order-of-magnitude engineering cost estimate that is expected to be within +50 to -30 percent of the actual project cost. The cost estimates include the total for implementation of the MC-contaminated soil excavation and disposal with additional groundwater/sediment sampling. For cost-estimation purposes, it is estimated that up to four rounds of groundwater sampling may be performed. Changes in the costs are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. Major changes may be documented in the form of a memorandum in the Administrative Record File, an Explanation of Significant Differences, or a ROD amendment.

2.12.2 Expected Outcomes of Selected Remedy

The expected outcome of Alternative 4 will be to reduce and/or eliminate exposure to MC-contaminated media to human receptors and achieve UU/UE following confirmation groundwater and sediment sampling.

2.13 Statutory Determinations

The selected remedy for the MRS is protective of human health and the environment, complies with federal and state requirements that are ARARs (unless justified by a waiver), is cost effective, and uses permanent solutions and alternative treatment technologies to the maximum extent practicable.

The ARNG and MEDEP have determined that the selected remedy meets the requirements of CERCLA §121 and the NCP. Based on the information available at this time, the ARNG and MEDEP believe the selected remedy will be protective of human health and the environment, will comply with ARARs, will be cost-effective, and will utilize permanent solutions to the maximum

extent practicable. This selected remedy also satisfies the statutory preference for treatment as a principal element of the remedy (i.e., reduces the TMV of hazardous substances, pollutants, or contaminants as a principal element through treatment).

2.13.1 Protection of Human Health and the Environment

The selected remedy will protect human health and the environment by permanently removing MC-contaminated soil from the Bangor Range MRS (MEHQ-002-R-01).

2.13.2 Compliance with Applicable or Relevant and Appropriate Requirements

Section 121(d) of CERCLA and NCP 40 CFR §300.430(f)(1)(ii)(B) state that on-site remedial actions selected in a ROD must attain those ARARs that are identified at the time of ROD signature or provide grounds for invoking a waiver under §300.430(f)(1)(ii)(C). Applicable requirements were previously defined in **Section 2.10.2**.

Table 2-4 summarizes the ARARs for the selected remedy at the Bangor Range MRS. The selected remedy complies with the chemical-specific, location-specific, and action-specific ARARs. The implementation of the remedy is required to meet the substantive portions of these requirements at agreed-upon points of compliance.

2.13.3 Cost Effectiveness

In the ARNG's judgement, the selected remedy is cost-effective and represents a reasonable value for the money to be spent. In making this determination, the following definition was used: "A remedy shall be cost-effective if its costs are proportional to its overall effectiveness" (40 CFR 300.430[f][1][ii][D]). This determination was accomplished by evaluating the "overall effectiveness" of those alternatives that satisfy the threshold criteria (i.e., protection of human health and the environment).

Overall effectiveness was evaluated by assessing three of the five balancing criteria in combination: long-term effectiveness and permanence; reduction in TMV through treatment; and short-term effectiveness. Overall effectiveness was then compared to costs to determine cost-effectiveness. The overall effectiveness of the selected remedy for the Bangor Range MRS (MEHQ-002-R-01) was demonstrated in the comparative analysis of alternatives (**Section 2.10**). The estimated present value cost of the selected remedy (in 2020 dollars) is \$515,443. Alternative 4 reduces or eliminates potential human exposure to MC-contaminated soil by direct removal and disposal of source area contamination and confirms the presence or absence of MC in groundwater and sediment following removal. Alternative 4 provides achievement of the RAO at a reasonable cost for implementation, making it the most cost-effective alternative to achieve the RAO for this MRS.

2.13.4 Use of Permanent Solutions and Alternative Treatment Technologies

The ARNG has determined that the selected remedy provides the best balance of trade-offs among the alternatives considered with respect to the five-balancing criteria set out in NCP §300.430(f)(1)(i)(B). The selected remedy represents the maximum extent to which permanence can be practicably applied at the Bangor Range MRS (MEHQ-002-R-01). NCP §300.430(f)(1)(ii)(E), provides that the balancing will emphasize the factors of "long-term effectiveness" and "reduction of toxicity, mobility or volume through treatment", and will consider the preference for treatment and bias against off-site disposal.

The ARNG has determined that the selected remedy represents the maximum extent to which permanent solutions and treatment technologies can be used in a practicable manner at the MRS. Of the alternatives that are protective of human health and the environment and that comply with ARARs, the ARNG has determined that the selected remedy provides the best balance of trade-offs in terms of the five balancing criteria, while also considering the (a) statutory preference for treatment as a principal element; (b) the bias against off-site treatment; and (c) disposal and considering state and community acceptance.

The selected remedy manages the potential risks to human health and the environment by permanently removing MC-contaminated soil from the MRS, and it results in a permanent reduction in exposure that can be implemented in a relatively short period of time. The selected remedy is technically and administratively feasible and provides the best balance of long-term effectiveness and reduction of risk to human health.

2.13.5 Preference for Treatment as a Principal Element

The selected remedy and the remedial action at the Bangor Range MRS (MEHQ-002-R-01) focus on treatment of the principal site threat (i.e. lead in source area soil) by stabilizing MC in soil and removing the source of MC-contaminated soil from the MRS. The Selected Remedy satisfies the statutory preference for treatment as a principal element of the remedy. The selected remedy would subject soil with lead concentrations above landfill disposal criteria to in-situ soil stabilization prior to excavation and off-site disposal at an approved facility.

2.13.6 Recurring Review Requirements

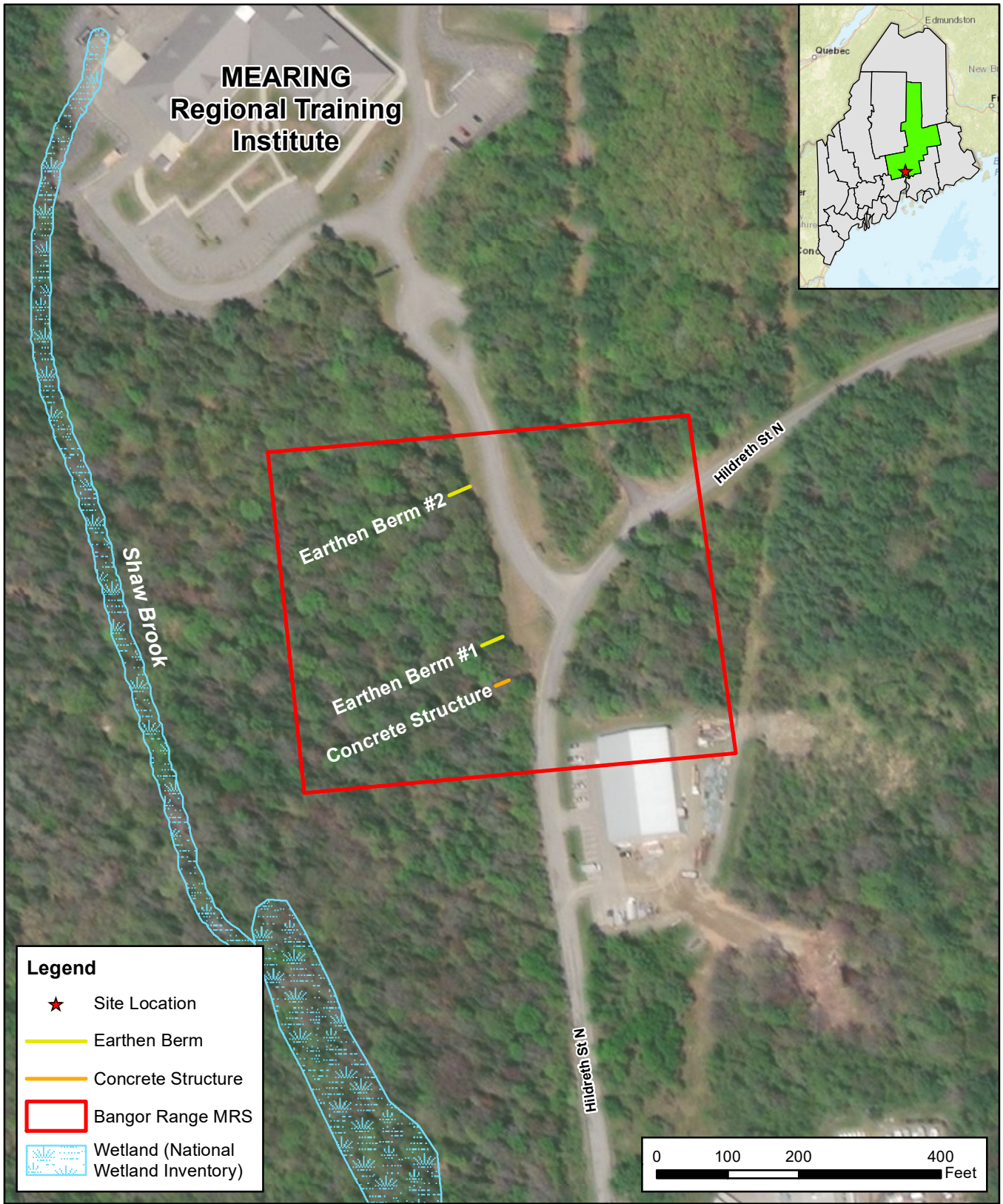
Pursuant to CERCLA §121(c) and NCP §300.430(f)(5)(iii)(C), Five-Year Reviews are not required because it is anticipated that the selected remedy will achieve UU/UE by removing MC-contaminated soil from the MRS; however, achieving UU/UE is contingent upon post-remedial action confirmation groundwater and sediment sampling results.

ARNG will re-evaluate the need for additional monitoring and remedial technologies if MC remains present in groundwater and sediment at unacceptable levels. A statutory review may be required within 5 years after implementation of the remedial action. Five-Year Reviews would be required in this scenario pursuant to CERCLA §121(c) and NCP §300.430(f)(5)(iii)(C) to ensure that the remedy continues to achieve the RAO. If required, the NGB will conduct the five-year reviews and will document findings in a report to state regulators.


2.14 Documentation of Significant Changes

ARNG released the PP (AECOM 2020c) for public comment and identified Alternative 4 – Soil Stabilization and Excavation with Off-Site Disposal and Additional Groundwater/Sediment Sampling as the preferred alternative for the Bangor Range MRS (MEHQ-002-R-01) to address MC-contaminated media. No comments were received from the community, City of Bangor, or the private landowner, and there were no requests for a public meeting. No change to the proposed remedy is warranted based on the community response.


Site conditions, as well as current and potential future land and resource uses, have not changed at the MRS. Therefore, ARNG has determined that no significant changes to the selected remedy were necessary. Accordingly, ARNG has not made any significant changes to the preferred remedy identified in the PP.



CLIENT		Army National Guard			
PROJECT		Record of Decision for Bangor Range, ME MRS			
REVISION NO	0	GIS BY	SK	2/15/2021	
SCALE	1:2,400	CHK BY	JW	2/15/2021	
SOURCE	ARNG; State of Maine, ESRI & Partners	PM	LS	2/15/2021	



Bangor Range Site Layout



12420 Milestone Center Drive
Germantown, MD 20876


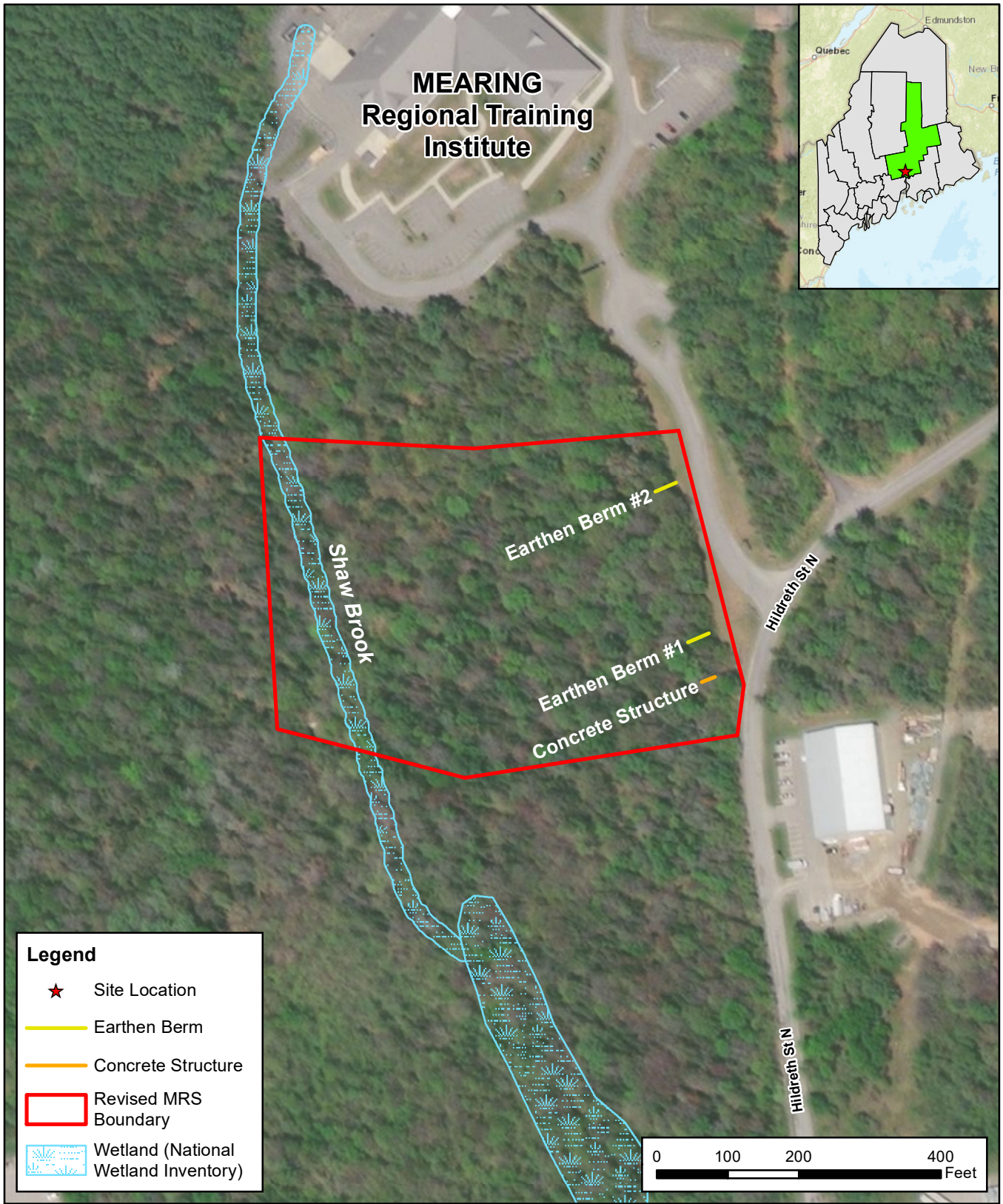


Figure 2-1


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CLIENT	Army National Guard			
PROJECT	Record of Decision for Bangor Range, ME MRS			
REVISION NO	0	GIS BY	SK	2/15/2021
SCALE	1:2,400	CHK BY	JW	2/15/2021
SOURCE	ARNG; State of Maine, ESRI & Partners	PM	LS	2/15/2021



Bangor Range Revised MRS Boundary

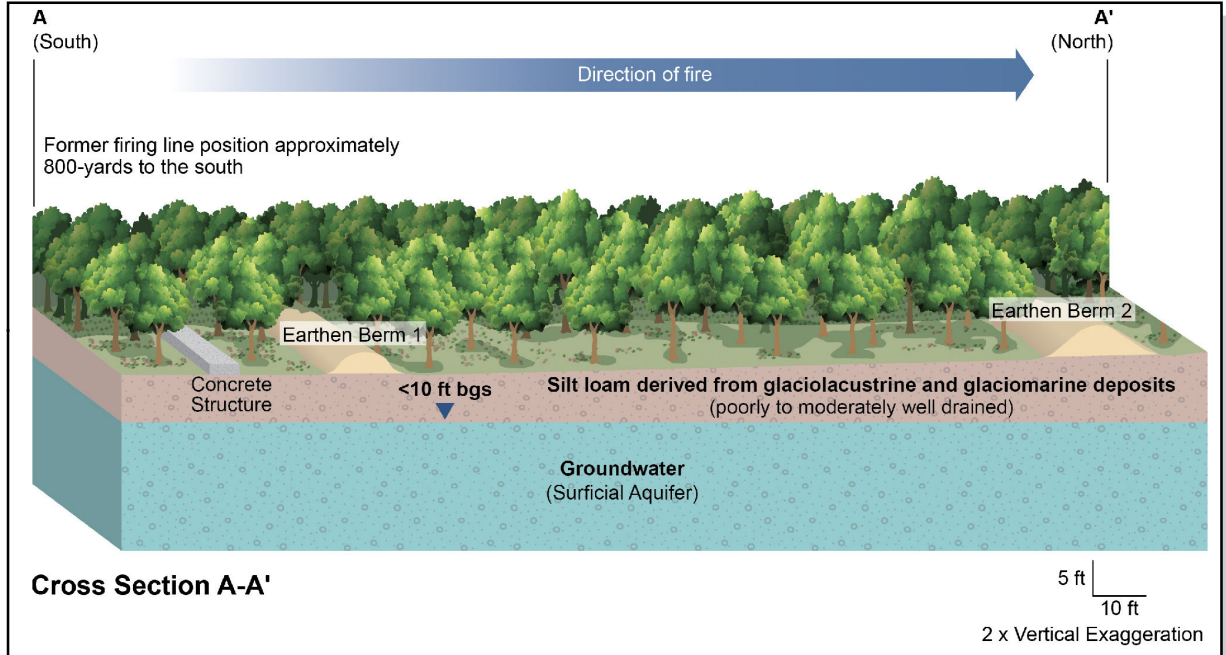
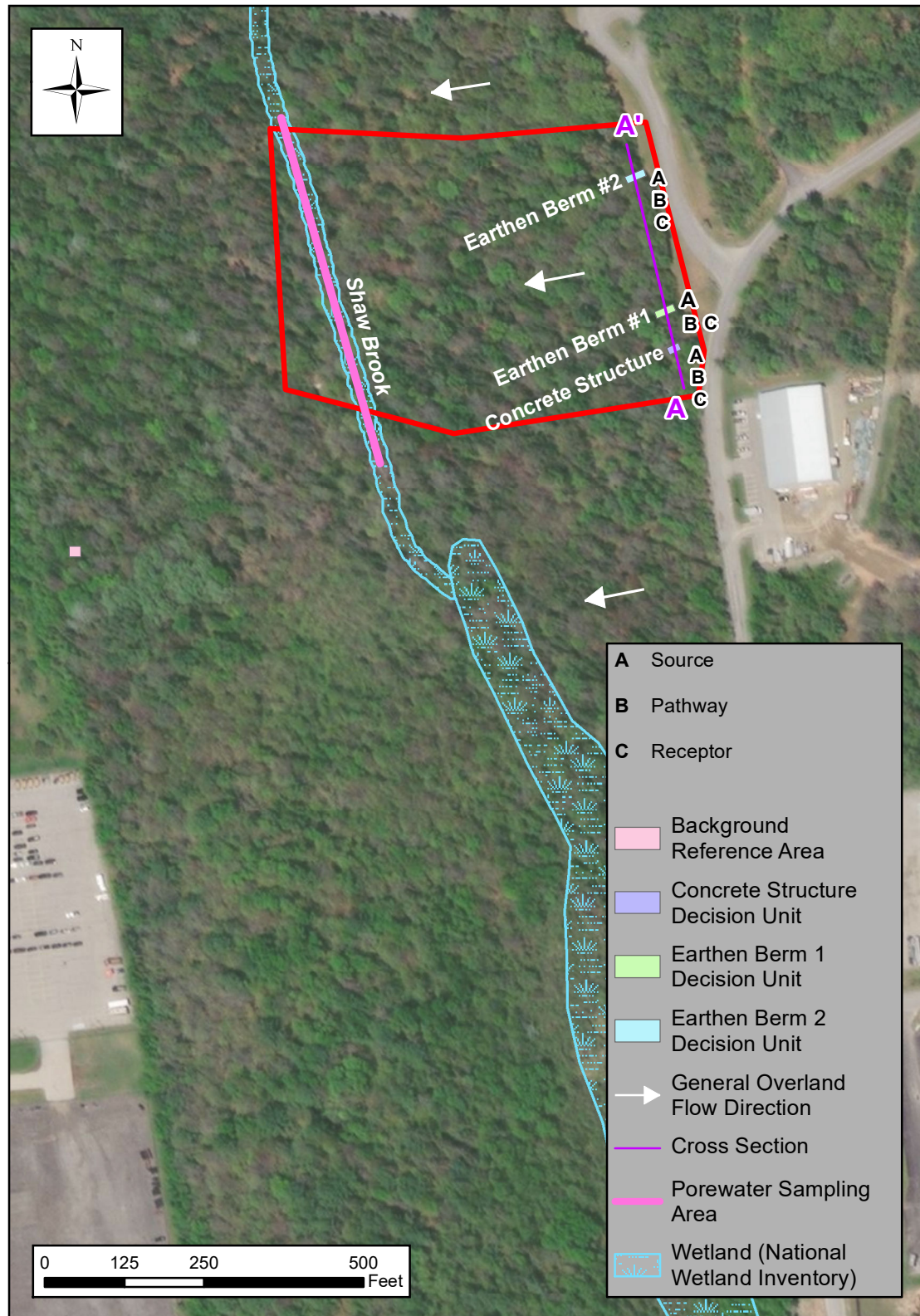

 12420 Milestone Center Drive
 Germantown, MD 20876



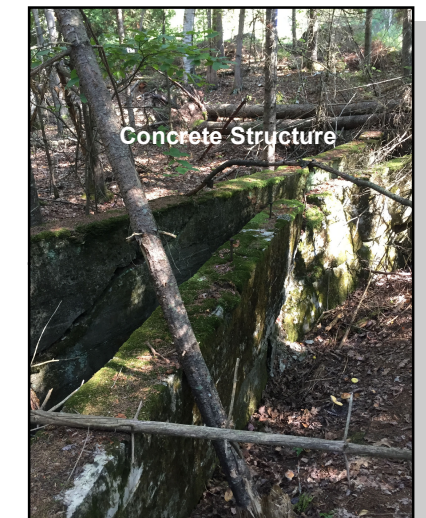
**Figure
2-2**

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A – Sources
Metals, particularly lead, in soil on the earthen berms and in front of the concrete target structure as a result of historical small arms training.



B – Pathways
MC deposited in surface soil as a result of firing activities at the MRS has limited potential to migrate from source areas (i.e., earthen berms, soil in front of the concrete structure). Given the MRS topography, range orientation, and heavy vegetation, stormwater runoff from significant rain events is unlikely to transport suspended MC off site or to surface water west of the MRS. Stormwater runoff from the MRS flows west, but MC from the Earthen Berms and Concrete Structure is encumbered due to the retardation of transport from thick vegetation and adhesion to soil. While current migration is highly unlikely, historical migration could have occurred.



Depth to groundwater at wells less than 0.25 miles from the MRS is less than 7 feet bgs. Shallow groundwater flows to the west and discharges to Shaw Brook, approximately 200 feet from the western MRS boundary. Groundwater pathways are potentially complete for the Bangor Range MRS.

The primary exposure pathways between MC and receptors are expected to be limited to direct exposure to potentially contaminated soil at source areas, the earthen berms, and soil in front of the concrete structure. RI field activities examined if soil with elevated concentrations of MC has migrated from the MRS, and if groundwater with elevated concentrations of MC are entering Shaw Brook.

C - Receptors
The area surrounding the MRS is predominantly forested; the properties surrounding the MRS include the MEARNG Regional Training Institute to the north, storage units and commercial buildings to the south, and the Bangor International Airport to the east. No residences exist in the vicinity of the former range. Access to the MRS is unrestricted. Potential human receptors include visitors, trespassers or workers (e.g., construction and commercial/industrial), and potential recreational users (e.g., hikers). The MRS area is zoned for airport development and urban industry, with few restrictions on the land use. As such, there is potential that the site could be used for residential and/or recreational purposes

in the future. There is no evidence that people use Shaw Brook for swimming, fishing, or any recreational purposes. There are no current receptors for groundwater.

The MRS is located within a region of Maine federally designated as critical habitat for the Atlantic salmon (*Salmo salar*); however, there are no aquatic habitats within or near the MRS that could support fish species. There are a variety of species that are federal and/or state listed as threatened or endangered in the general geographic location of the MRS, but it is unlikely that any of these species would inhabit the MRS, based on the habitat of each species

Figure 2-3
Conceptual Site Model
Bangor, Maine

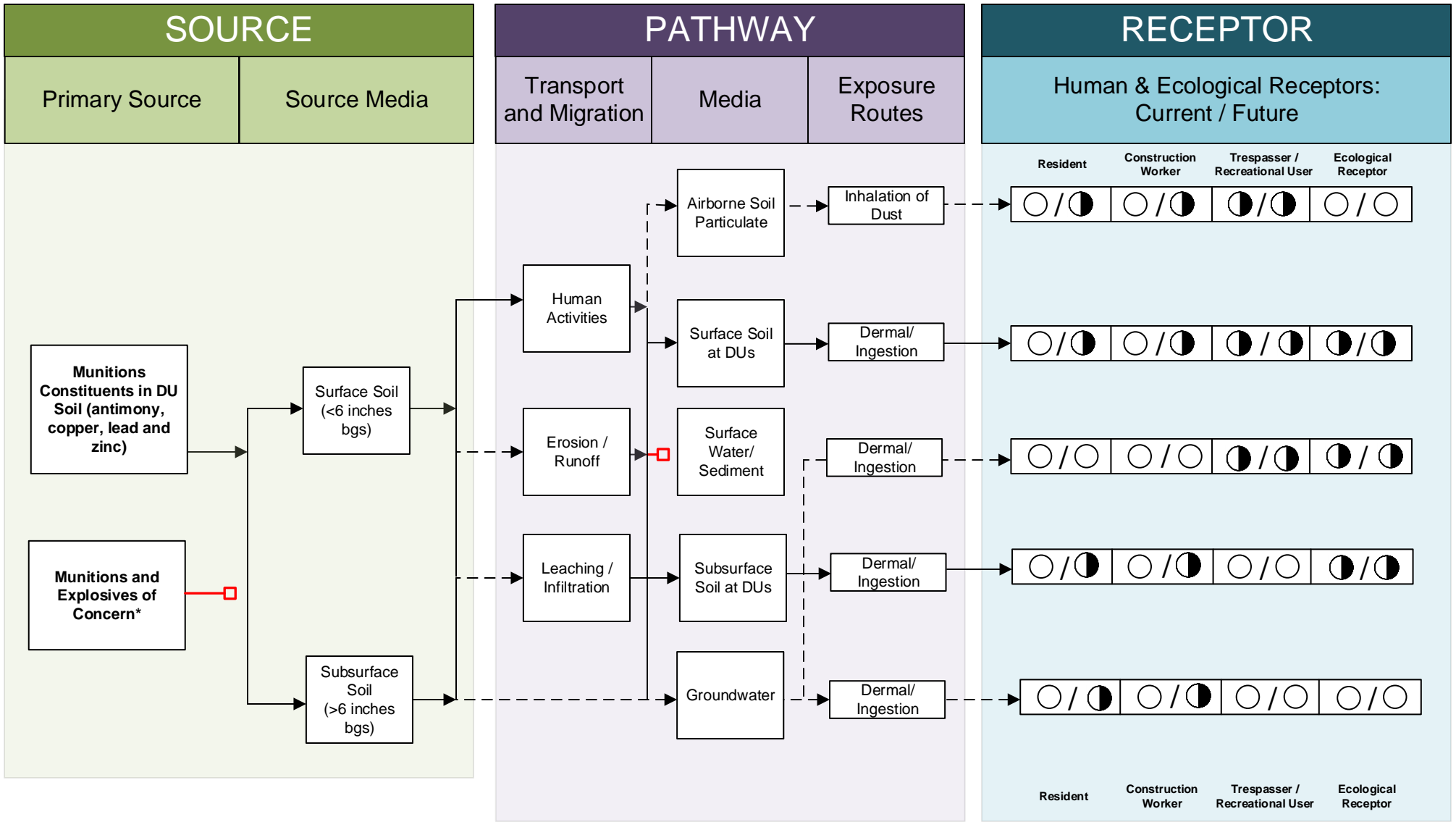


Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Date.....January 2018
Prepared by.....AECOM

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LEGEND





- Flow-Chart Stops
- Flow-Chart Continues
- - - - -> Partial / Possible Flow
- Incomplete Pathway
- ◐ Potentially Complete Pathway
- Complete Pathway

*Munitions and explosives of concern are not present at the MRS

Figure 2-4
 Conceptual Site Model Diagram
 Bangor Range MRS, Maine

AECOM
2-31

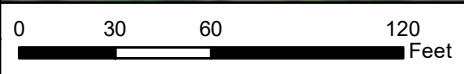
Legend

-  Excavation
-  Revised Concrete Structure Decision Unit
-  Revised Earthen Berm 1 Decision Unit
-  Revised Earthen Berm 2 Decision Unit

* Extent of excavation is subject to change based on in-field confirmation sampling





Earthen Berm 1 Decision Unit: 0.1120 Acres
 Earthen Berm 2 Decision Unit: 0.0284 Acres
 Concrete Structure Decision Unit: 0.0103 Acres



CLIENT	Army National Guard			
PROJECT	Record of Decision for Bangor Range, ME MRS			
REVISION NO	0	GIS BY	SK	1/19/2021
SCALE	1:720	CHK BY	JW	1/19/2021
	ARNG; State of Maine, ESRI & Partners	PM	LS	1/19/2021



TITLE			Figure 2-5
Excavation Area - Bangor Range			
 12420 Milestone Center Drive Germantown, MD 20876			

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3 Responsiveness Summary

This section provides a summary of the public comments regarding the PP for the preferred alternative at the Bangor Range MRS and the ARNG response to comments. The public comment period was announced through a notice that was placed in the newspaper ‘The Bangor Daily News’ on 14 November 2020 (**Appendix A**). The public comment period was held from 14 November 2020 through 15 December 2020. No public comments or questions were received during the public comment period, and the public did not request a meeting.

3.1 Stakeholder Comments and Lead Agency Responses

No issues with the selected remedial alternative were identified by the public, the property owners, or by MEDEP (**Appendix A**).

3.2 Technical and Legal Issues

No technical or legal issues were identified during the public review period of the PP.

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4 References

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Appendix A: Stakeholder Participation and Response

Witte, Joe

From: McLeod, Iver J <Iver.J.McLeod@maine.gov>
Sent: Thursday, December 3, 2020 11:56 AM
To: Witte, Joe
Cc: Flint, Andrew C NFG NG MEARNG (USA); Haines, John B CTR (USA); Li, Jennifer J (Germantown); Whiting, Finn
Subject: [EXTERNAL] RE: Bangor Range, ME Draft Final Proposed Plan Transmittal

Joe/John,

Thanks for the responses. **MEDEP has no further comments on the DF Proposed Plan.** However, Response to Comment 3 indicated a copy of the newspaper notice would be included with the responses and I did not see this. I realize it will be included with the ROD but please send me a copy before then at your convenience.

Thanks,

Iver McLeod
Project Manager
Bureau of Remediation and Waste Management Maine DEP

iver.j.mcleod@maine.gov
ph: (207) 592-2981 cell
fx: (207) 287-7826

MEDEP front desk: (207) 287-7688

-----Original Message-----

From: Witte, Joe <joe.witte@aecom.com>
Sent: Monday, November 30, 2020 5:03 PM
To: McLeod, Iver J <Iver.J.McLeod@maine.gov>
Cc: Flint, Andrew C NFG NG MEARNG (USA) <andrew.c.flint2.nfg@mail.mil>; Haines, John B CTR (USA) <john.b.haines.ctr@mail.mil>; Li, Jennifer J (Germantown) <jennifer.j.li@aecom.com>
Subject: RE: Bangor Range, ME Draft Final Proposed Plan Transmittal

EXTERNAL: This email originated from outside of the State of Maine Mail System. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon Iver,

Please find the attached responses to your comments (RTCs) on the Draft Final Bangor Range Proposed Plan. Please let us know if you have any remaining concerns, or if the attached RTCs are sufficient to finalize the Proposed Plan following the public comment period.

Thanks again for your continued support.

Joe Witte
Environmental Scientist, Remediation, DC Metro Region D +1-301-944-3617 (NEW) M +1-301-300-9873
joe.witte@aecom.com



Jeanne Luetjen | Print Sales Manager

November 14, 2020

AFFIDAVIT OF PUBLICATION

This is to certify the advertising

OF: AECOM

RE: Public Input on Proposed Plan For Bangor Range MRS (MEHQ-002-R-01) for Army National Guard

ON: November 14, 2020

Signed:


Jeanne Luetjen
Print Sales Manager

Then personally appeared the above named Jeanne Luetjen, Print Sales Manager, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said corporation.

Barbara G. Mower
Notary Public

My commission expires November 9, 2024

Legal Notices



Army National Guard Seeks Public Input on Proposed Plan for Bangor Range MRS (MEHQ-002-R-01)

The Response Site (MRS) was historically used by the National Guard for small arms ammunition storage from approximately 1925. The Proposed Plan (PP) provides information on how the proposed munitions constituents (MC) in environmental media at the MRS and the evaluation process, and selection of the preferred alternative. The PP identifies Excavation with Off-Site Disposal and Groundwater/Sediment Sampling as the preferred alternative for addressing MC in environmental media at MEHQ-002-R-01. This alternative addresses the protection of human health, public safety, and the environment from results for ensuring the protection of human health, public safety, and the environment from affected environmental media. The ARNG is required to issue a PP and seek public input on the preferred decision.

Information that can be found in greater detail in the Final Remedial Investigation Report, and other documents contained in the Information Repository. The ARNG encourages the public to gain a more comprehensive understanding of the MRS and investigation process. The public is invited to review and comment on the Bangor Range MRS PP. The public may submit comments or requests for a public meeting received during the public comment period (through 15 December 2020) and will accept comments by e-mail or postal mail. All comments should include the name, address, and telephone number of the person commenting. A public meeting will be held to review the information provided in the PP. Public input to the PP will be included in the Summary Report that will be included in a Record of Decision that documents the final decision.

Comments may be submitted to the following address:
Donna Wu, ARNG G9, Cleanup & Restoration Branch
S. George Mason Drive, Arlington VA 22204-1382
Phone: 703-732-3726; Email: donna.s.wu.mil@mail.mil

Comments may be reviewed online at the Information Repository at:
City of Bangor Online Information Repository
<https://www.bangormaine.gov/MEARNG>
73 Harlow St., Bangor, ME 04401
Phone: 207-992-4200; Business Hours: Monday - Friday; 8am to 4:30pm

Comments may be delivered for review by mail upon request. To request a hard copy of the PP, contact Donna Wu. Comments may also be delivered via email upon request by contacting LTC Wu.

bangordailynews.com
P.O. Box 1329 | Bangor, ME 04402-1329 | 207-990-8000 | 800-432-7964

BARBARA G. MOWER
NOTARY PUBLIC
State of Maine
My Commission Expires
November 9, 2024

Legal Notices

LEGAL NOTICE: NOTICE OF HEARING

STATE OF MAINE DISTRICT COURT
LOCATION: BANGOR
DOCKET NO.: BAN-PC-20-073

IN RE: EVERLEE C.

NOTICE IS HEREBY GIVEN TO Herbert Willey Jr., whereabouts unknown:
Pursuant to 22 M.R.S. §4001 et seq., the Maine Department of Health & Human Services (hereafter, "DHHS") has petitioned the Court for a Child Protection Order and/or Termination of Parental Rights Order, concerning the child: Everlee C. d/o/b: 10/17/18 born at Bangor ME. The mother is Kara Coulombe and the father is Herbert Willey Jr. DHHS has met the requirements of M.R. Civ. P. Rule 4(e)(1)(A)-(C). Hearing on the pending Petition will be held at **Maine District Court, 78 Exchange Street, Bangor, ME 04401, on 12/28/2020 at 1:00 p.m.** Failure to appear at this hearing may result in the termination of your parental rights, and/or any other order permissible under 22 M.R.S. §4001 et seq. You may be entitled to legal counsel in these proceedings. Contact the court at the above address or 207-561-2300. To obtain a copy of the Petition(s), contact the court or DHHS at 207-561-4100, 19 Maine Avenue, Bangor, ME 04401. DHHS is represented by the Maine Office of the Attorney General, 84 Harlow Street, Bangor, ME 04401.


Date: 10/13/20

Maxine Capron
Judge, Maine District Court

John J. Kelly
A True Attested Copy A TRUE COPY
Clerk, Maine District Court

Published Nov. 7, 14, 21, 2020

Legal Notices



**Army National Guard
Seeks Public Input on Proposed Plan
For Bangor Range MRS (MEHQ-002-R-01)**

The former Bangor Range Munitions Response Site (MRS) was historically used by the National Guard for small arms training from 1920 through approximately 1925. The Proposed Plan (PP) provides information on how the Army National Guard (ARNG) assessed munitions constituents (MC) in environmental media at the MRS and summarizes the multiple alternatives, evaluation process, and selection of the preferred alternative. The PP identifies Alternative 4 Soil Stabilization and Excavation with Off-Site Disposal and Groundwater/Sediment Sampling as the preferred remedial alternative for addressing MC in environmental media at MEHQ-002-R-01. This alternative achieves the most effective long-term results for ensuring the protection of human health, public safety, and the environment through the removal of affected environmental media. The ARNG is required to issue a PP and seek public comment and participation on the preferred decision.

The PP summarizes information that can be found in greater detail in the Final Remedial Investigation Report, Feasibility Study and other relevant documents contained in the Information Repository. The ARNG encourages the public to review these documents to gain a more comprehensive understanding of the MRS and investigation activities that have been conducted. The public is invited to review and comment on the Bangor Range MRS PP. The ARNG will consider all written comments or requests for a public meeting received during the public comment period (14 November 2020 through 15 December 2020) and will accept comments by e-mail or postal mail. All comments and requests must include the name, address, and telephone number of the person commenting. A public meeting will be held, if requested, to review the information provided in the PP. Public input to the PP will be documented in a Responsiveness Summary Report that will be included in a Record of Decision that documents the selected remedial action.

Written comments may be submitted to the following address:
LTC Donna Wu, ARNG G9, Cleanup & Restoration Branch
111 S. George Mason Drive, Arlington VA 22204-1382
Phone: 703-732-3726; Email: donna.s.wu.mil@mail.mil

The PP can be reviewed online at the Information Repository at:
City of Bangor Online Information Repository
<https://www.bangormaine.gov/MEARNG>
73 Harlow St., Bangor, ME 04401
Phone: 207-992-4200; Business Hours: Monday - Friday; 8am to 4:30pm

Hard copies of the PP may be delivered for review by mail upon request. To request a hard copy of the PP, contact LTC Donna Wu. Electronic versions may also be delivered via email upon request by contacting LTC Wu.

Nov. 14, 2020

Legal Notices

CITY OF BANGOR

The City of Bangor Assessing Office has been unable to identify the owner(s) of the following properties. As allowed by State Law the annual taxes have been assessed in the name of "Unknown Owner" or "Party in Possession" until such time as the legal owner(s) of the property provides sufficient documentation of proof of ownership. To date, no such owner(s) have contacted the City and foreclosure notices have been prepared for the annual taxes for the 2019 tax year pursuant to Title 36 Sections 942 and 943. If payment is not received by certified funds on or before December 11, 2020, the lien will mature and the City will hold title to the property. Anyone who may have an ownership interest in any of these properties should contact the City of Bangor Tax Collector at (207) 992-4290.

Unknown Owner - Vacant Land - 18 Mecaw Road - City Tax Map R27 Lot 003-K

Unknown Owner - Vacant Land - Union Street - City Tax Map R04 Lot 013

Kevin & Cindy Connors (Party in Possession) - 175 Cedar Falls Mobile Home Park - City Tax Map R21 Lot 011

Nov. 7, 14, 21, 2020

Legal Notices

INVITATION TO BID

Notice is hereby given that the Town of Hermon, Maine will receive sealed Bids for the Stoneybrook Drainage Improvements Project in accordance with the Invitation to Bid, Bid Form, Agreement, General Conditions, Supplementary Conditions, Specifications, and Drawings. The award decision is based on the bid most advantageous to the Town. Award of project is subject to review and approval by the Town Council.

Three (3) copies of the Bid shall be submitted and clearly marked "Bid for Stoneybrook Drainage Improvements Project". Sealed Bids will be received at the Town of Hermon municipal office, 333 Billings Road, Hermon, ME, until December 1, 2020 at 11:00 AM, and then opened by the Town soon after. A bid tab summary will be distributed to all submitting bidders by end of day December 3, 2020.

Work may begin after a pre-construction meeting with the Town, which will be scheduled as quickly as possible after Award. Substantial completion of work will be required no later than December 30, 2020 unless extended by the Owner. The work shall consist of the installation of approximately 530 linear feet of underdrain along the southern (rear) property boundaries of the Tax Map 33, Lots 13&14, including the construction of a new, gravel maintenance accessway off Stoneybrook Way in Hermon, Maine.

Digital (pdf) copies of the Project Manual will be distributed to interested parties via email starting November 16, 2020. Requests for a Project Manual shall be made to CES, Inc. via phone (207-989-4824) or email (ccyr@cesincusa.com) using a subject line, "Stoneybrook Drainage Improvement Project - Project Manual Request". All requests shall include complete contact information for the potential Bidder, as CES, Inc. will create a list of eligible Bidders based on received phone/email requests. Bids submitted by Bidders not included on that list will NOT be considered for selection by the Town of Hermon.

The Town of Hermon reserves the right to reject any or all Bids, to waive any technical or legal deficiencies, to reject any unbalanced bids, to accept any Bid that it may deem to be in the best interests of the Owner, to negotiate the Contract Price with any Bidder, and to omit any item or items deemed advisable for the interest of the Owner.

November 14, 2020 Owner: Town of Hermon

Legal Notices

PUBLIC NOTICE

STATE OF MAINE

DEPARTMENT OF DEFENSE VETERANS AND EMERGENCY MANAGEMENT

RFP# 202005089

HVAC & PLUMBING/PREVENTIVE MAINTENANCE AND EMERGENCY REPAIR FOR STATE OF MAINE MILITARY BUREAU FACILITIES

The State of Maine is seeking proposals for HVAC & Plumbing and Associated Controls/Preventive Maintenance and Emergency Repair For Various State of Maine Military Bureau Facilities

A copy of the RFP, as well as the Question & Answer Summary and all amendments related to this RFP, can be obtained at the following website: <https://www.maine.gov/dafs/bbm/procurementservices/vendors/rfps>

Multiple Bidders' Conferences will be held on multiple dates, times and locations. Please see the RFP for details.

Proposals must be submitted to the State of Maine Division of Procurement Services, via e-mail, to the following email address: Proposals@maine.gov. Proposal submissions must be received no later than 11:59 pm, local time, on 12/22/2020. Proposals will be opened at the Burton M. Cross Office Building, 111 Sewall Street - 4th Floor, Augusta, Maine the following business day. Proposals not submitted to the Division of Procurement Services' aforementioned email address by the aforementioned deadline will not be considered for contract award.

Nov. 13, 14, 2020

Legal Notices

PUBLIC NOTICE:

NOTICE OF INTENT TO FILE

Please take notice that Versant Power, P.O. Box 932, Bangor, ME 04402-0932, 207-973-2000 is intending to file a Permit Application with the Maine Department of Environmental Protection pursuant to the Natural Resources Protection Act pursuant to provisions of 38 M.R.S.A. §§ 480-A thru 480-BB on or about November 17, 2020. The application is for the permitting of a new transmission line right-of-way located in Blue Hill, Maine.

A request for a public hearing or a request that the Board of Environmental Protection assume jurisdiction over this application must be received by the Department in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. A public hearing may or may not be held at the discretion of the Commissioner or Board of Environmental Protection. Public comment on the application will be accepted throughout the processing of the application.

Applications will be filed for public inspection at the Department of Environmental Protection's office in Bangor during normal working hours. A copy of the applications may also be seen at the municipal offices in Blue Hill, Maine.

Written public comments on the Applications may be sent to the Department's regional office in Bangor where the applications are filed for public inspection: MDEP, Eastern Maine Regional Office, 106 Hogan Road, Bangor Maine 04401.

Nov. 14, 2020

Legal Notices

NOTICE OF MEETING

A video conference/conference call meeting of the Wild Blueberry Commission of Maine is scheduled for **3 pm on Monday, November 16, 2020** to listen to arguments regarding the USITC's 201 Global Safeguards Investigation. To attend the video conference meeting, please follow this link: <https://maine.zoom.us/j/81609931615?pwd=eEpOM3VhOjFBWGV0TVZlZkVhOjVUNBZ209> and use the password 549351. To call into the meeting by phone please dial (646) 876-9923; enter the Meeting ID, 816 0993 1615; and enter Password/Participant ID, 549351.

Nov. 14, 2020

Legal Notices

PUBLIC NOTICE

After 41 years in practice, **DR. ROBERT W. HAEBERLEIN JR.** located at 700 Mount Hope Avenue, Suite 601, Bangor, ME 04401, is announcing his retirement on December 18, 2020, and permanently closing the office. Dr. Haerberlein would like to thank his patients, referring providers, and community at large for the trust they have placed in him.

Sept. 19, Oct. 17, Nov. 14, 2020

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Legal Notices

NOTICE OF RETIREMENT

After 40 years Dr. Sally R. Weiss is announcing her retirement on December 23, 2020. She would like to thank her patients and community at large for the trust they have placed in her. Patients are asked to contact Dr. Sally R. Weiss's office at (207) 947- 2591 or 700 Mt. Hope Ave., Suite 600 Bangor, ME 04401, so they may arrange for appropriate record transfers.

Nov. 14, 21, 2020



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American Heritage

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Graham Lake, Mariaville
Beautiful waterfront lot on Graham Lake in Mariaville, Maine. 300 feet of frontage. Private and quiet yet just 12 miles to Ellsworth, 28 miles to Bangor International Airport and 33 miles to Acadia National Park. Lot is cleared and soils tested. Possible owner financing. Call 207-412-3855



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- 13 Honda Fit FWD AT 168K
- 12 Chevy Silverado 4WD AT 182K
- 11 Kia Optima FWD AT 164K
- 10 Subaru Forester AWD AT 151K
- 08 Toyota Tundra 4WD AT 147K
- 2 mi fr/Brewer Walmart, Rt1A, Holden

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Witte, Joe

From: Kuhl, Ryan <ryan.kuhl@bangormaine.gov>
Sent: Tuesday, April 20, 2021 2:39 PM
To: Witte, Joe
Subject: [EXTERNAL] RE: W9133L-14-D-0001/0006: Draft Final Record of Decision for Bangor Range MRS, Maine Submittal

Hello Mr. Witte:

The City of Bangor does not have any comments for the Draft Final Bangor Range MRS Record of Decision.

Thank You

Ryan Kuhl, M.S., CSP Risk and Safety Manager

City of Bangor
73 Harlow Street
Bangor, ME 04401
207-992-4259

From: Witte, Joe <joe.witte@aecom.com>
Sent: Friday, March 19, 2021 10:57 AM
To: Burke, Allison L CPT USARMY NG NGB ARNG (USA) <allison.l.burke2.mil@mail.mil>; 'john.b.haines.ctr@mail.mil' <john.b.haines.ctr@mail.mil>; 'andrew.c.flint2.nfg@mail.mil' <andrew.c.flint2.nfg@mail.mil>; ACREY, SHANDORA F NH-03 USAF ANG NGB/NGB-AQ-C <shandora.acrey@us.af.mil>; 'iver.j.mcleod@maine.gov' <iver.j.mcleod@maine.gov>; Kuhl, Ryan <ryan.kuhl@bangormaine.gov>
Cc: Li, Jennifer J (Germantown) <jennifer.j.li@aecom.com>; Stenberg, Laurie <laurie.stenberg@aecom.com>; Salvatore, Amibeth <amibeth.salvatore@aecom.com>; Gwinn, Rosa <rosa.gwinn@aecom.com>; Whiting, Finn <Finn.Whiting@maine.gov>
Subject: W9133L-14-D-0001/0006: Draft Final Record of Decision for Bangor Range MRS, Maine Submittal

This message's contents have been archived by the Barracuda Message Archiver.

[Draft_Final_Bangor_ROD.pdf](#) (8.6M)

[DraftFinal_Bangor_ROD_CommentsMatrix.xlsx](#) (20.0K)

[DraftFinal_ROD_Bangor_TransLetter.pdf](#) (79.5K)

WARNING: This email originated outside of our organization. Messages claiming or appearing to be from someone within our organization may be fraudulent. **DO NOT CLICK** links or attachments unless you can verify the sender and know the content is safe.

Good morning,

We are pleased to submit the Draft Final Record of Decision (ROD) for the Bangor Range Munitions Response Site in Maine. Attached to this email are the subject document, the transmittal letter and a comment response table. Additional copies will be distributed as indicated on the transmittal letter. If you have any trouble receiving the ROD, please let me know and I will resend the document using the DoD SAFE website.

Comments are respectfully requested from MEDEP, the City of Bangor, and Hardy Associates, Inc. by Monday, 19 April 2021. Please provide comments on the attached comment response table.

Thank you and have a great weekend,

Joe Witte

Environmental Scientist, Remediation, DC Metro Region
D +1-301-944-3617 **(NEW)**
M +1-301-300-9873
joe.witte@aecom.com

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Witte, Joe

From: Haines, John B CTR (USA) <john.b.haines.ctr@mail.mil>
Sent: Tuesday, April 20, 2021 3:20 PM
To: Witte, Joe
Cc: Stenberg, Laurie; Flint, Andrew C NFG NG MEARNG (USA)
Subject: [EXTERNAL] Draft Final Record of Decision for Bangor Range MRS, Maine Submittal

Joe,
Yes. Good news.

I confirm that Mr. Tim Hardy has no comments.

Thanks,

John

Office 703-607-7986 Cell 703-314-6135 john.b.haines.ctr@mail.mil

From: Witte, Joe <joe.witte@aecom.com>
Sent: Tuesday, April 20, 2021 2:59 PM
To: Haines, John B CTR (USA) <john.b.haines.ctr@mail.mil>
Cc: Stenberg, Laurie <laurie.stenberg@aecom.com>; Flint, Andrew C NFG NG MEARNG (USA) <andrew.c.flint2.nfg@mail.mil>
Subject: [Non-DoD Source] FW: W9133L-14-D-0001/0006: Draft Final Record of Decision for Bangor Range MRS, Maine Submittal

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Hi John,

I have good news to report: the City of Bangor has provided us notice below that they have no comments on the Draft Final Bangor Range ROD. So, we now have approval from the City of Bangor, and minor comments from MEDEP. I believe Mr. Hardy expressed to you during a phone call that he has no comments on the document as well, but can you please confirm that for us?

I also wanted to touch base regarding NGB JA review. We have not received comments yet from Burr. We will wait until JA is finished with their review to provide MEDEP with our responses. And of course, we will first provide those RTCs to ARNG/MEARNG for review.

Thanks,

Joe Witte
Environmental Scientist, Remediation, DC Metro Region
D +1-301-944-3617
M +1-301-300-9873
joe.witte@aecom.com < Caution-mailto:joe.witte@aecom.com >



JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



MELANIE LOYZIM
COMMISSIONER

May 26, 2021

John B. Haines, PG
Contractor CSU-CEMML
Army National Guard
G-9, Cleanup & Restoration Branch
111 South George Mason Drive
Arlington, VA 22204

Re: Record of Decision, Bangor Range, Munitions Response Site MEHQ-002-R-01, Bangor, ME.

Dear Mr. Haines,

The Maine Department of Environmental Protection (MEDEP) has reviewed the March 2021 draft Record of Decision for the Bangor Range, Bangor, ME, being cleaned up under DoD's CERCLA authority. The Record of Decision (ROD) summarizes the results from the investigations and actions conducted at the site between 2009 and 2019 to determine the nature and extent of small arms ammunition (SAA) and munitions constituents (MC) in soil and surface water, and documents the Army National Guard's (ARNG) rationale for selecting Soil Stabilization and Excavation with Off-Site Disposal and Additional Groundwater/Sediment Sampling for the remedy. The MEDEP concurs with the selected remedy. Excavation of lead-contaminated soil with offsite disposal, will achieve the Remedial Action Objective (RAO) of preventing human exposure to lead above its human health screening criterion (140 mg/kg), the MEDEP May 2021 Remedial Action Guideline for residential exposure to lead in soil. Groundwater and sediment sampling will determine if exceedances of lead exist in those media.

The State's concurrence of the selected decision, as described above, should not be construed as the State's concurrence with any conclusion of law or finding of fact, which may be set forth in the ROD or supporting documents for the site listed above. The State reserves any and all rights to challenge any such finding of fact or conclusion of law in any other context.

This concurrence is based on the State's understanding that the ARNG will continue to solicit MEDEP's review and concurrence with the Remedial Design and groundwater and sediment sampling plan for the Bangor Range MRS.

If you have any questions or comments, please contact Iver McLeod at iver.j.mcleod@maine.gov or 207-592-2981.

Sincerely,

Wright, David W Digitally signed by Wright, David W
Date: 2021.05.26 13:24:45 -04'00'

David Wright, Director
Division of Remediation, BRWM

pc: Iver McLeod, RPM, MEDEP

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143