



**Final Proposed Plan  
Former Olowalu Rifle Range  
Military Munitions Response Program  
Munitions Response Site, Hawaii  
AEDB-R Site ID HIHQ-002-R-01  
June 2024**

## 1.0 INTRODUCTION

This **Proposed Plan** presents the **Preferred Alternative** for addressing lead (a **munitions constituent [MC]**) in soil at the following **Military Munitions Response Program (MMRP)** site at the Former Olowalu Rifle Range **Munitions Response Site (MRS)** in Maui, Hawaii. The Former Olowalu Rifle Range, a former small arms range used by the Hawaii Army National Guard (HIHQ-002-R-01), is hereafter referred to as “the MRS” (**Figure 1**).

NOTE: Definitions for terms shown in **boldface** are included in a glossary in **Section 13** of this document. Acronyms and abbreviations used throughout this document are listed in **Section 12**.

The purpose of this Proposed Plan is to provide the rationale for the Preferred Alternative for the MRS pursuant to the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**. This Proposed Plan discusses the MRS history, findings, and conclusions from previous environmental investigations conducted at the MRS and explains how the public can participate in the selection of the remedial action at the MRS (**Box 1**).

This document is being prepared by the National Guard Bureau Army Guard Directorate (ARNG), the lead agency for the site cleanup activities, and has been prepared in coordination with the Hawaii Department of Health (HDOH), the State regulatory authority for site cleanups, the Hawaii Army National Guard (HIARNG), the United States Army Corps of Engineers (USACE)-Sacramento District (CESPK), the

**BOX 1. MARK YOUR CALENDAR  
FOR THE PUBLIC COMMENT  
PERIOD  
FROM JUNE 20, 2024 THROUGH  
JULY 22, 2024**

The ARNG will accept written comments on the Proposed Plan during the public comment period. Comment letters must be postmarked by July 22, 2024, and should be submitted to:

MAJ Milaflor Kluth  
Army National Guard Branch Chief (Acting)  
Army National Guard Installations and Environment  
111 South George Mason Dr.  
Arlington, VA 22204-3231  
703-601-6818  
Milaflor.E.Kluth.mil@army.mil

To request an extension, send a written request to the above.

**PUBLIC MEETING:**

The ARNG will hold an open house and public meeting to explain this Proposed Plan and answer questions. Oral and written comments will also be accepted at the meeting. The open house and public meeting are scheduled for June 21, 2024, at 6:00 pm at the Kūlanihāko‘i High School (Library), 901 Pi‘ilani Highway, Kihei, HI 96753.

**Information Repository:**

For more information, see the Former Olowalu Rifle Range project documents at:

Kihei Public Library  
35 Waimahaihai St  
Kihei, HI 96753  
808-875-6833

Or online at:  
<https://dod.hawaii.gov/env/olowalu-site-information/>

Figure 1  
**Site Layout**  
**Feasibility Study**  
**Military Munitions Response Program**  
**Former Olowalu Rifle Range**  
**Maui, Hawaii**



**Legend**

- Firing Point Distance Marker
- MRS Boundary
- Parcel
- Road

MRS - Munitions Response Site

**TMK Parcel Owners**

- TMK# 2470010570001 - Cricklewood Property LLC
- TMK# 2470010390001 - Peter Klint Martin Trust
- TMK# 247001030 - Maui County Mayor

**Index Map**



PARSONS | U.S. ARMY CORPS OF ENGINEERS HUNTSVILLE CENTER

DESIGNED BY: BT	<b>Site Layout</b>	
DRAWN BY: BT		
CHECKED BY: AK	SCALE: As Shown	PROJECT NUMBER: 100801.0238.1.0206.0002
SUBMITTED BY: DS	DATE: October 2023	PAGE NUMBER: 
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USACE-Baltimore District, and private landowners. As a result of the previous environmental investigations conducted at the MRS detailed below, the ARNG and USACE, in consultation with HDOH, have concluded a soil excavation with off-site disposal is recommended at the MRS.

The ARNG is required under CERCLA §117(a) and the **National Oil and Hazardous Substances Pollution Contingency Plan (NCP)** §300.430(f)(2) to issue this Proposed Plan and seek public comment and participation. The ARNG will select the final action for the Former Olowalu Rifle Range after reviewing and considering all information submitted during the public comment period and the public meeting. The ARNG may modify the remedial action based on new information or public comments. A final remedial action will not be selected until the public comment period ends, and all comments are reviewed and addressed. Therefore, the public is encouraged to review and comment on the information and rationale presented in this Proposed Plan. See **Box 1** (Page 1) for public participation information.

This Proposed Plan summarizes information that can be found in greater detail in the **Remedial Investigation (RI)** (Na Ali'i, 2021) Report and the **Feasibility Study (FS)** Report (Parsons, 2024) and other documents contained in the **Administrative Record** File for this MRS, which can be viewed at the Information Repository listed in **Box 1** (Page 1). 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. Public input to this Proposed Plan will be documented in a **Responsiveness Summary** that will be included in a **Record of Decision (ROD)** that documents the selected final remedial action.

## 2.0 SITE BACKGROUND

The Former Olowalu Rifle Range MRS is located approximately four miles southeast of Lahaina on the island of Maui, Hawaii. The privately-owned property was leased to the Hawaii Army National Guard. The MRS cuts across three tax map key (TMK) parcels (illustrated on **Figure 1**); the two mauka properties are held by private owners, while the makai TMK is owned by the County of Maui. In April 2018, construction was completed on Phase 1B-2 of the Lahaina Bypass Road, or Route 3000. The road was built to ease traffic along the Honoapiilani Highway, and to shift traffic further inland because the existing highway has been affected by shoreline erosion (Uechi, C. 2018). The road cuts through the southernmost portion of the MRS.

The Former Olowalu Rifle Range MRS was utilized by Company A, 299th Infantry HIARNG reportedly began using the Former Olowalu Rifle Range as a sniper and small arms qualification and training range, beginning in May 1931. Records indicate that a 200-yard rifle range was established with one pit and three targets. Based on the range layout visible in a 1959 aerial photograph, firing was from southwest to northeast. Although the exact end-use date is unknown, the range was identified on a 1961 United States Geological Survey (USGS) topographic map as the “National Guard Rifle Range”. Lists of “Armories, Reservations, Storage Facilities, and Rifle Ranges” included in subsequent Adjutant General’s reports identify the use of this range through 1961 (ARNG, 2012).

The site includes a 7-foot-high rock-mason parapet, with two small concrete storage/bunker structures at each end, and metal target holders in the trench (target pit) adjacent to the parapet (ARNG, 2012). During range operations, range users fired at targets held by large metal frames extending from the floor of the target pit, significant amounts of small

arms ammunition presumably may have landed within the pit. A **berm** and a cliff behind the target pit presumably acted as a natural backstop (**Figure 2**).

**Figure 2: Cliff**



Three environmental investigations have been completed at the Former Olowalu Rifle Range MRS. These include:

1. State/Territory Inventory Report (EA Engineering Science and Technology, Inc., 2009)
2. Site Inspection (SI) (Native Hawaii Veterans, 2012)
3. Remedial Investigation Report (Na Ali`i Consulting & Sales LLC, 2021)

***State/Territory Inventory Report (EA., 2009)***

– The MRS was included in a 2009 **non-Department of Defense-owned, non-operational defense sites (NDNODS)** inventory. In June 2009, **munitions debris (MD)** including .30 and .50 caliber ammunition debris were observed during a site visit as part of the NDNODS Inventory Report (ARNG, 2009).

***Site Inspection (Native Hawaii Veterans, 2012)*** – The 2012 SI identified MD from .30- and .50-caliber projectiles, and a rock/masonry parapet and adjacent trench (target pit) containing metal target holders, with two small storage areas at each end. Personnel also observed scarring from .50-caliber projectiles on the cliff face northeast of the parapet. The SI concluded that no further action (NFA) was

required for **munitions and explosives of concern (MEC)**; however, the presence of small arms ammunition debris and **munitions constituents (MC)** concentrations (antimony and lead) in soil exceeding both the background levels and Hawaii Department of Health Environmental Action Levels (EALs) indicated the need for additional evaluation in a RI (ARNG, 2012).

***Remedial Investigation (Na Ali`i, 2021)*** –

The RI was performed to determine the nature and extent of the MC contamination at the MRS and to investigate the potential **risk** to human health and the environment as a consequence of previous site activities. Based on historical records and the SI results, the potential for MEC hazard was not investigated as part of the RI. RI field work was conducted in August 2019 and supplemented in December 2020.

The activities and findings of the RI are summarized in **Sections 3 and 5**.

### **3.0 SITE CHARACTERISTICS**

#### **PHYSICAL SETTING**

Site topography consists of a short flat plain rising steeply towards the mountains to the northeast. The Former Olowalu Rifle Range MRS is situated at the southern edge of the West Maui Mountains near the south rift zone. The base of Pu`u Mahanalua Nui, a trachyte dome erupted during the Honolua Volcanic Series, forms the natural backstop for the rifle range (ARNG 2012).

The 4.35-acre area is currently undeveloped, and vegetation consists of knee- to shoulder-high grass, shrubs, and trees. Portions of the site closest to the Lahaina Bypass Road are covered with dense vegetation that includes mature trees, shrubs and undergrowth (**Figure 3**). There is no physical delineation of the boundaries of the former range. The entire MRS is considered to be fully accessible, with unrestricted access to pedestrians.

**Figure 3: Range Portion of MRS**



#### CURRENT AND FUTURE USE

Currently, land use within the MRS includes the Honoapiilani Highway, agricultural lands used primarily for livestock grazing, and occasional recreational use (hiking, hunting). The parcels are all undeveloped, and future development is not currently planned. Land use is not expected to change in the future. Maui County has not developed a long-range development plan for their parcel, and currently list it as open space (future park).

#### FIELD INVESTIGATION ACTIVITIES

The 2019 RI field work included the collection of surface (0-6 inches below ground surface [bgs]) and subsurface (6-12 inches bgs) multi increment (MI) soil samples from five Decision Units (DUs) (DU01 through DU05) as illustrated in **Figure 4**. Based on site features and SI results, the area within the MRS was divided into three DUs (DU01 through DU03). Two DUs (DU04 and DU05) were established on either side of DU03 to assess the presence of contamination outside the MRS boundary. In addition, an additional MI sample was collected from a presumably unimpacted location over 100 feet east of the MRS boundary to establish background metals concentration levels.

Among the five DUs (DU01 through DU05) investigated during the 2019 field effort, MC concentrations exceeding the Project Action Limits (PALs) were only found in soil

collected from DU03. In order to further delineate the extent of MC contamination within DU03 and quantify the volume of soil potentially requiring remedial action, a supplemental RI was conducted in December 2020. The 2020 RI included dividing the accessible portions of DU03 into four smaller sample units (DU03A through DU03D), collecting MI samples from these sample units, and conducting a topographic survey and a soil depth survey. As part of the soil depth survey, seven test pits were dug and composite or discrete soil samples were collected. Of the four sample units in DU03, DU03A, DU03B, and DU03D were roughly based on the 2019 DU03 sample units, and DU03C was a new sample unit (**Figure 5**).

#### NATURE AND EXTENT OF MC

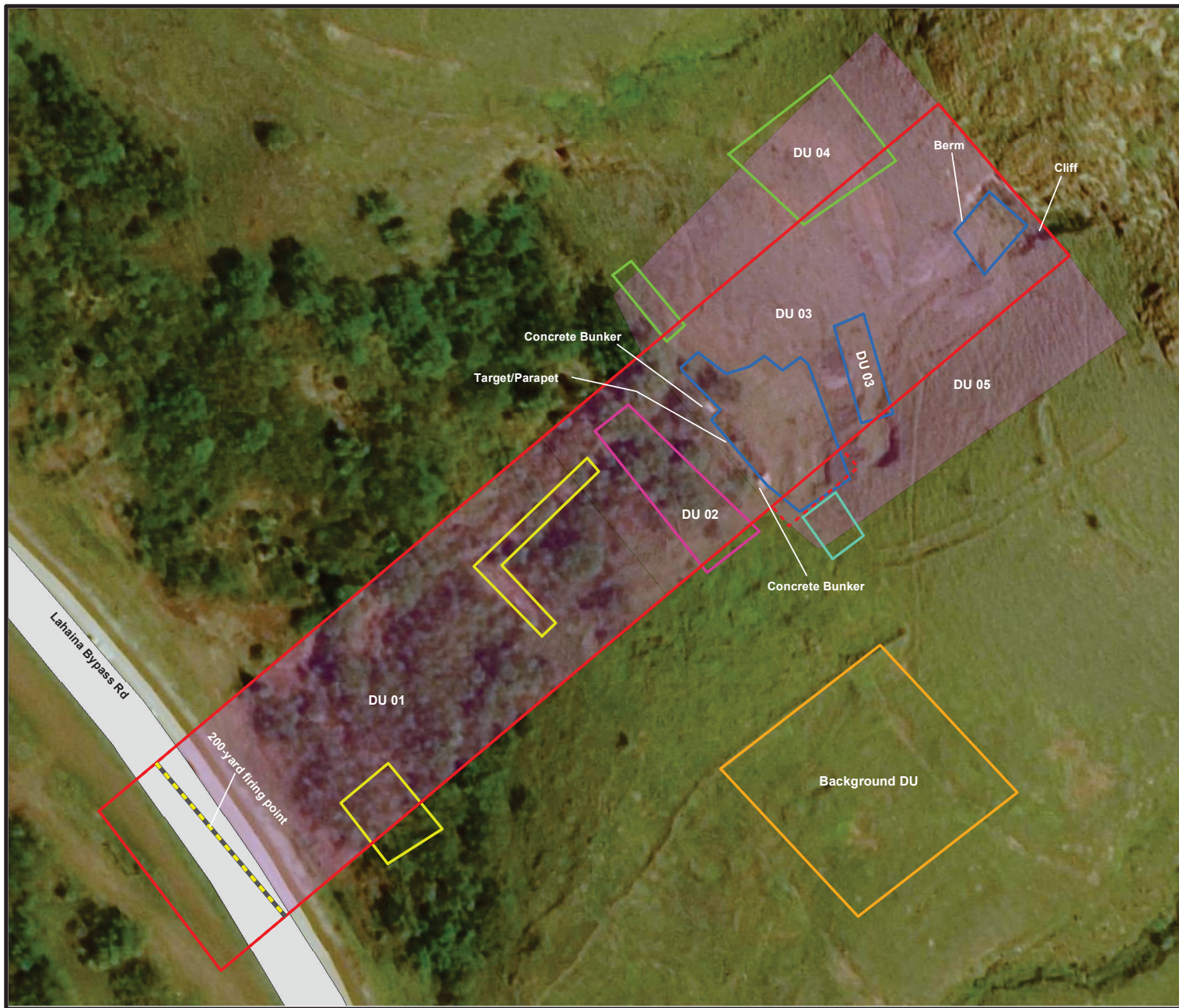
Soil is the only exposure medium identified at the Former Olowalu Rifle Range MRS. Site soils are shallow, in places less than 12 inches. Groundwater as drinking water is not a potential exposure medium, because the site is located downgradient of the HDOH Underground Injection Control (UIC) Line, therefore, the underlying aquifer is not considered a drinking water source. Direct contact with groundwater is not expected as depth to groundwater is approximately 30- 65 ft bgs in DU03A and DU03B (USGS, 2024). No surface water exists on site; therefore, surface water and sediment are not exposure media.

As detailed in **Section 5**, MC concentrations exceeding the project action limits (PALs) were only found in soil collected from DU03. To further delineate contamination, DU03 was divided into four smaller sample units. Specifically, lead and antimony concentrations in sample unit DU03A soils exceed their PALs to at least 12 inches bgs; lead and antimony are present in DU03A (including the target pit) through at least 36 inches bgs; lead and antimony concentrations in DU03B exceed PALs to at least 12 inches bgs. MC concentrations in DU03C and



Figure 4

**Remedial Investigation  
2019 Sample Locations  
Military Munitions Response Program  
Former Olowalu Rifle Range  
Maui, Hawaii**



**Legend**

- Firing Point Distance Marker
- MRS Boundary
- MRS Boundary Expansion
- DU Boundary
- Background DU
- DU01 Sample Area
- DU02 Sample Area
- DU03 Sample Area
- DU04 Sample Area
- DU05 Sample Area
- Road

MRS - Munitions Response Site  
DU - Decision Unit

**Index Map**



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DRAWN BY: BT		
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SUBMITTED BY: DS	DATE: October 2023	PAGE NUMBER: 1
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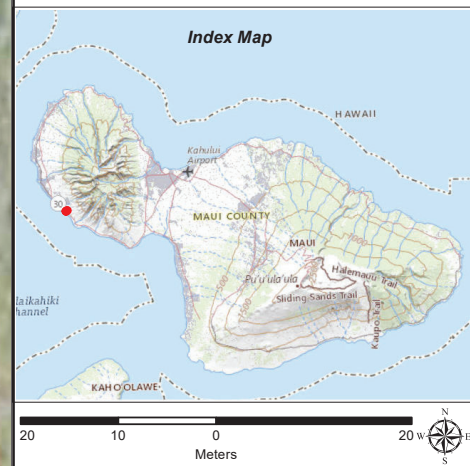
Figure 5

**Remedial Investigation  
2020 Sample Locations  
Military Munitions Response Program  
Former Olowalu Rifle Range  
Maui, Hawaii**



**Legend**

- Test Pit
  - ▭ MRS Boundary
  - ▭ DU03A
  - ▭ DU03B
  - ▭ DU03C
  - ▭ DU03D
  - ▭ Hazardous Slope
  - ▭ Talus Slope Areas (Not Sampled)
  - ▭ Push Pile (Not Sampled)
- MRS - Munitions Response Site  
DU - Decision Unit  
TP - Test Pit



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DU03D did not exceed PALs (Na Ali`i, 2021).

The full results of the MC sampling are provided in the Remedial Investigation Report (Na Ali`i, 2021).

#### **4.0 SCOPE AND ROLE OF THE ACTION**

This Proposed Plan addresses the Former Olowalu Rifle Range MRS (HIHQ-002-R-01). The overall strategy of the ARNG is to protect human health and the environment. The proposed strategy is appropriate at this MRS because the results of the RI illustrated that the MRS has been sufficiently characterized and the Preferred Alternative is protective of human health and the environment. Therefore, it is the ARNG's, USACE's, and HDOH's current judgement that the Preferred Alternative, soil excavation with off-site disposal, is appropriate at the Former Olowalu Rifle Range MRS to protect human health, welfare, and the environment.

#### **5.0 SUMMARY OF SITE RISKS**

Analytical data generated from soil samples collected during the RI field investigation were compared to background reference data, also collected concurrently during the RI, to evaluate whether past small arms training activities have resulted in **contaminant** releases. A risk assessment was conducted to determine if an unacceptable risk to human health or the environment is present as a result.

The results of the risk assessment were used to support risk management decisions at the MRS.

#### HUMAN HEALTH RISK SUMMARY

Based on the 2019 RI field effort results, lead and antimony were identified as chemicals of potential concern (COPCs) at the MRS. Antimony was further evaluated in the baseline Human Health Risk Assessment for exposure by residents, workers, and

recreational visitors using United States Environmental Protection Agency (USEPA) guidelines. Evaluation of the hazard associated with exposure to antimony in soil did not result in Hazard Quotients (HQs) greater than one; therefore, antimony is not a human health chemical of concern (COC). Only evaluation of the hazard associated with exposure to lead in soil resulted in elevated estimates of hazard in the baseline Human Health Risk Assessment, based on modeling conducted using the Integrated Exposure Uptake Biokinetic Model for Lead in Children (IEUBK) for residents and the Adult Lead Model (ALM) for workers. Lead was identified as the primary contributor, or risk driver, at the site. Therefore, lead is a human health COC and was further evaluated in an FS. The Human Health Risk Assessment concluded that recreational visitors are not at risk due to exposure to soil at the MRS (Na Ali`i, 2021).

#### ECOLOGICAL SUMMARY

Receptor populations considered representative of the Former Olowalu Rifle Range MRS were used for the Ecological Risk Assessment. The baseline Ecological Risk Assessment results indicated that the HQ for mammals, represented in the Ecological Risk Assessment by goats, for surface soils in DU03 for antimony exceeded one. The HQs for lead in surface soil in DU03 exceeded one for all ecological receptor categories (i.e., plants, invertebrates, birds [gray francolin], and mammals [goats]). Evaluation of lead in subsurface soil at DU03 resulted in HQs greater than one for plants and invertebrates. It should be noted that risks to vertebrate wildlife receptors may be overestimated. Since DU03 is only 1/2 acre in size, it forms a very small part of the surrounding habitat; approximately 1/3 of the size of the home range of the francolin. The small size of the site suggests that few individual receptors would contact the site on a chronic basis. The habitat is not unique for the surrounding area,



and there is no attractant to draw the animals into the area. Therefore, if few individuals are exposed, population-level effects for animal populations in the surrounding area are unlikely. No local populations are likely to be adversely affected. Additionally, no special status species are expected to be present at the site. Most of the bird species are likely to be exotics, or species introduced to Hawaii. All mammal species are expected to be exotic, since only two native mammalian species are present in Hawaii. The hoary bat (*Lasiurus cinereus semotus*) is an endangered native mammal, but documented breeding populations no longer occur on Maui, and even if present the bat is not expected to contact soils and therefore will not be exposed to site media (Na Ali`i, 2021).

#### RISK ASSESSMENT CONCLUSION

In summary, the RI (Na Ali`i, 2021) concluded that lead is a human health COC resulting in unacceptable risk associated with exposure to soil at the MRS. Since the preliminary remediation goals (PRGs) established to support the Remedial Action Objective are considered protective of human health and the environment, only those portions of DU03 that contain soil with concentrations exceeding the PRGs were evaluated for remedial alternatives in the FS. Based on the MI soil sampling results from the 2020 supplemental RI field effort, the areas evaluated for remedial alternatives are DU03A and DU03B.

#### **6.0 REMEDIAL ACTION OBJECTIVES**

The risk assessment determined that there are unacceptable human health risks due to exposure to lead in surface soil and ecological risks due to exposure to antimony and/or lead in surface soil and lead in subsurface soil at the Former Olowalu Rifle Range MRS. This Proposed Plan recommends actions to address the MC contamination in the soil at the Former Olowalu Rifle Range MRS that poses a risk to human health and the environment. The

**Remedial Action Objective (RAO)** is to:

1. Prevent hypothetical future resident direct contact with lead concentrations in soil greater than 185 mg/kg.
2. Prevent hypothetical future adult worker direct contact with lead in soil at concentrations greater than 510 mg/kg.

Given that no special status species are expected to be present and that the ecological risk assessment concluded that no local populations are likely to be adversely affected, ecological specific RAOs were not developed.

#### **7.0 SUMMARY OF REMEDIAL ALTERNATIVES**

Based on the findings of the RI at the Former Olowalu Rifle Range MRS four alternatives were proposed in the FS. Each alternative was assessed individually against the assessment criteria required by law provided by the USEPA in CERCLA §121(b) (full list of criteria is provided in **Section 8.0**). The alternatives as proposed in the FS were as follows:

##### ALTERNATIVE 1 – NO ACTION

Alternative 1 is no action towards the potential MC contamination at the Former Olowalu Rifle Range. Alternative 1 does not involve implementing any remedial actions. The NCP requires that a No Action alternative be evaluated to provide a baseline for comparison to other alternatives. This alternative provides no actions to protect human health or the environment at the MRS. Because this alternative does not change the conditions at the MRS, it is not included in the evaluation of alternatives (**Section 8.0**).

##### ALTERNATIVE 2 – LEGAL LAND USE CONTROLS

Alternative 2 would implement **legal land use controls (LUCs)** that would restrict land use at the MRS within DU03. The implementation of a legal LUC alternative would include environmental covenants (e.g.,

deed restrictions) as an option. Legal LUCs would include:

- Restrict residential use of the site.
- Restrict commercial use of the site (i.e. office building).
- Restrict off-site re-use of the soil from the site.

Implementing the Legal LUCs would mean that sensitive receptors (residents and pregnant workers) would not be potential future receptors and therefore would not have continual access to the contaminated soil, thereby reducing the potential for an unacceptable risk and achieving the RAO. Successful implementation of LUCs is contingent upon the cooperation and active participation of the existing landowner, HDOH, and other government agencies to agree upon a Land Use Control Implementation Plan (LUCIP) to protect potential receptors from MC hazards.

The implementation of any LUC is conditionally feasible; the private property owner would have to voluntarily participate in any LUC implementation. This would require an appraisal by USACE before finalization of the ROD to determine any diminished value of the property. MC-impacted media in the privately-owned portion of the MRS (DU03) is limited to soil.

Legal LUCs for the Former Olowalu Rifle Range MRS will not result in conditions that allow for unlimited use and unrestricted exposure (UU/UE) at the MRS (DU03). Any reviews by ARNG following initiation of the remedy to ensure that the remedy continues to be protective of human health and the environment will be described in the ROD. This could include Five-Year Reviews required under CERCLA Section (§) 121(c) and NCP, CFR §300.430(f)(4)(ii) and/or annual inspections. A statutory review will be conducted within 5 years after initiation of remedial action to ensure that the remedy continues to be protective of human health

and the environment.

### ALTERNATIVE 3 – GRAVEL COVER WITH LUCS

Alternative 3 would involve installation of a gravel cover over the contaminated areas (DU03A and DU03B) to reduce contact with surface soil (**Figure 6**). Sensitive receptors (residents and pregnant workers) would not have ready access to the contaminated soil as it would no longer be on the surface, thereby reducing the potential for an unacceptable risk and achieving the RAO. Consequently, legal LUCs should restrict off-site re-use of the soil without prior approval from HDOH, as the contaminated soil should not be used at any site with the potential for the abovementioned sensitive receptors.

Approximately two feet of gravel would be placed on top of the source areas and graded for proper drainage. Angular gravel will be used for slope stability. A mesh covering may be placed on top of the gravel to prevent erosion, depending on the steepness of the hillside in that location. This will cover approximately a half-acre of land across the MRS (0.37-acre on DU03A, and 0.17-acre on DU03B). The target/parapet and concrete bunker in DU03A would not be removed as part of this alternative, thereby eliminating the disturbance of the soil. The measures conducted for post closure care would include annual inspection and maintenance of the cover to ensure the continuing integrity of the cover. It is anticipated that access roads will be required below each of DU03A and DU03B to enable construction equipment to operate within the reach of long-reach equipment.

The two feet of gravel cover is only protective if the soil is never dug, regraded, or used for agriculture or a home garden. If the site were to be developed for residential or commercial use the covered area would need to remain covered and exist as part of an open space or recreational area. Risks related to contact with subsurface MC-impacted soil may be






Figure 6

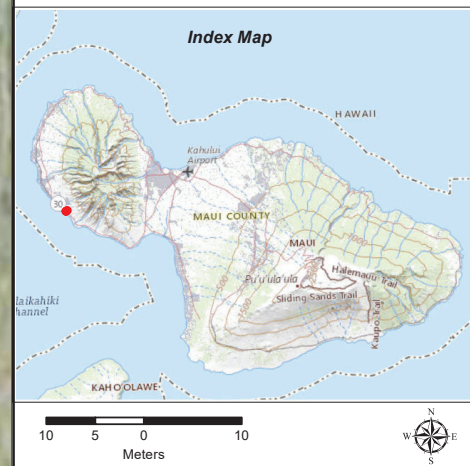
**Cover or Excavation Area  
Feasibility Study  
Military Munitions Response Program  
Former Olowalu Rifle Range  
Maui, Hawaii**




**Legend**

-  MRS Boundary
-  DU03A
-  DU03B

MRS - Munitions Response Site  
DU - Decision Unit



PARSONS		U.S. ARMY CORPS OF ENGINEERS HUNTSVILLE CENTER	
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managed for the Former Olowalu Rifle Range MRS through the addition to the alternative of legal LUCs. The implementation of a legal LUC alternative would include environmental covenants (e.g., deed restrictions) as an option. Legal LUCs for the Former Olowalu Rifle Range MRS will not result in conditions that allow for UU/UE at the MRS. Any reviews by ARNG following initiation of the remedy to ensure that the remedy continues to be protective of human health and the environment will be described in the ROD. This could include, Five-Year Reviews required under CERCLA Section (§) 121(c) and NCP, CFR §300.430(f)(4)(ii)) and/or annual inspections. A statutory review will be conducted within 5 years after initiation of remedial action to ensure that the remedy continues to be protective of human health and the environment. The LUCs would specifically seek to restrict land use and disturbance of the gravel cover and the underlying soil at the MRS. Successful implementation of LUCs is contingent upon the cooperation and active participation of the existing landowners/users, HDOH, and other government agencies to agree upon a Land Use Control Implementation Plan (LUCIP) to protect the public from MC hazards.

The implementation of any LUC is conditionally feasible; the private property owner would have to voluntarily participate in any LUC implementation. This would require an appraisal by USACE before finalization of the ROD to determine any diminished value of the property. MC-impacted media in the privately-owned portion of the MRS is limited to soil; UU/UE would not be achieved under the gravel cover with LUCs alternative.

**Figure 6** shows the approximate cover area.

#### ALTERNATIVE 4 – SOIL EXCAVATION WITH OFF-SITE DISPOSAL

Alternative 4 involves excavation and off-site disposal of the MC-contaminated soil with concentrations above the established RAO. The excavation would eliminate the risk of

encountering MC- contaminated soil. Following the completion of the MC removal and disposal, the site would not require any LUCs to be implemented because UU/UE conditions would have been achieved. Approval from landowners would be needed to implement this remedy at DU03A and DU03B.

Based on the results of the RI, the extent of MC-contaminated soil was determined to cover 0.54 acres to a depth of between 1 foot and 3 feet (ft). Alternative 4 would involve excavating soil from DU03A and DU03B. The required excavation depth is anticipated to range from approximately 1 foot up to 3 feet with approximately 16,000 ft<sup>2</sup> to be excavated at DU03A and 7,500 ft<sup>2</sup> at DU03B. If possible, the soil will be excavated in 0.5-foot lifts, however, it is likely that the roots and soil are all bound together creating slope stability and the first lift of soil may be more than 0.5-foot. The approximate volume of soil to be excavated is 1,739 cubic yards (1,180 from DU03A and 560 from DU03B). Excavation volumes assume an average of 2 feet of soil excavated across each area. Excavation would most likely include removal of the target/parapet and concrete bunker in DU03A. Note that it may be necessary to remove small trees from DU03A.

Prior to excavation, soil will undergo waste classification by sampling and analysis conducted per the requirements of the **Resource Conservation and Recovery Act (RCRA)** Part 261, which establishes standards for generators of solid and hazardous waste and Subtitle D solid waste disposal facilities.

It is anticipated that soil may need to be stabilized 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 soil stabilization.



A pilot test is recommended to determine the most effective way to stabilize soil and classify it for re-use or disposal. The pilot test will determine if bullet fragments can be separated from soil and if the resulting sieved soil has a lead concentration that is less than background criteria established in the Remedial Action Work Plan (RAWP) it can be left on-site and UU/UE can be achieved. If the sieved soil cannot be re-used on site, the pilot test will determine if it is hazardous waste (determined using TCLP), and if so, if it can be treated so that it can be disposed of as non-hazardous waste (determined using TCLP).

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 require the site to meet HDOH requirements for manifesting hazardous waste off-site, such as obtaining a hazardous waste manifest number for the Installation Restoration Program (IRP) site. 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 in-situ using X-Ray Fluorescence Analysis (XRF) in compliance with USEPA Method 6200. XRF field screening, DU-MIS, and laboratory analysis will be conducted in accordance with the 2017 HDOH HEER Office Technical Guidance Manual (TGM) and all other applicable HEER Office Guidance. The field delineation value for lead in soil (0-15 feet bgs), as measured using XRF, is selected as the hypothetical future

resident PRG of 185 mg/kg. XRF Analysis will only be used for field delineation.

If XRF results indicate lead concentrations are above the field delineation value of 185 mg/kg, an additional 0.5 feet of soil will be removed, and the area will be reevaluated by XRF, to a maximum depth of 15 feet bgs or bedrock is encountered. Once XRF results indicate the lead concentration is less than 185 mg/kg (up to 15 feet bgs), Decision Unit Multi-Increment Sampling (DU-MIS) confirmation samples will be collected in compliance with Interstate Technology Regulatory Council's (ITRC) Incremental Sampling Methodology (ISM-1 and ISM-2, ITRC 2012 and ITRC 2020, respectively) and 2017 HDOH HEER Office Technical Guidance Manual (TGM) and all other applicable HEER Office Guidance and submitted for laboratory analysis. Soil excavation and subsequent sampling and analysis will proceed until the DU-MIS results indicate the contaminant concentrations are less than their established cleanup criteria or until bedrock is reached.

Soil will be excavated with heavy equipment with enclosed cabs to the extent practicable 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, site workers, and any run-off. It is anticipated that access roads will be required below each of DU03A and DU03B to enable construction equipment to operate within the reach of a long-reach excavator.

In areas steeper than 20 degrees, soils will be completely removed to eliminate backfilling and re-establishment of vegetation in these areas. This will likely require the use of a vacuum truck with a long-reach hose and an air lance for loosening the soils in the final stage of the excavation. This is because the bedrock surface is likely to be very rough and an excavator bucket would not be able to remove soil in the rough areas. Cobble-sized

rock not removed by the excavator bucket may remain after the vacuum truck removal. Complete removal using this technique would likely eliminate the need for confirmation sampling because the exposed bedrock would be visible. The exposed bedrock surface would remain after removals so soil erosion protection or backfill would not be required.

In areas flatter than 20 degrees, only lead impacted soils will be removed. If bedrock is exposed over large areas, it will remain exposed after remediation. Areas with exposed soils will be covered with a foot of soil suitable for establishing vegetation, seeded, and covered with a biodegradable erosion control blanket after seeding. Alternatively, the soils may be covered with a foot of angular gravels or cobbles to prevent erosion while allowing local plants to reseed themselves in the granular surface.

Excavated soil will be loaded directly into off-road dump trucks and transported to the staging area where soil will be sieved and/or mixed with stabilizers. Once sieved and/or stabilized, soil will be segregated appropriately for re-use on-site or transported off-site to a licensed disposal facility. Haul trucks will be properly labeled, licensed, and insured for the transportation of soil. When transporting contaminated soil, transport vehicles will be fitted with a tarp or other covering to prevent wind dispersal of material during transport. Before departing from the soil staging area, vehicles will be inspected to ensure the material is properly sealed in the vehicle and “dry” decontaminated to remove visible soil accumulation from the vehicle body, undercarriage, and tires, so no soil is tracked onto the roadways.

Backfill sources would be sampled and submitted for approval prior to use. Excavated areas would be backfilled, graded, and returned to pre-excavation conditions. Right-of-entry (ROE) would be obtained from the landowner, and its conditions followed. Closure documentation would be

completed for the remedial action.

Based on the data from the RI, the results of the baseline risk assessment, and achieving the RAO, the lead-contaminated removal action area is approximately 0.54 acres (**Figure 6**), to a depth of 1 foot to 3 feet bgs. The approximate volume of soil to be excavated is 1,739 cubic yards (1,180 from DU03A and 560 from DU03B). The removal action is estimated to take approximately three (3) weeks.

**Figure 6** shows the approximate excavation area.

## **8.0 EVALUATION OF ALTERNATIVES**

The Alternatives were evaluated with respect to the nine NCP criteria, as outlined by CERCLA (**Table 1**). The nine NCP criteria are categorized into three groups: threshold criteria, primary balancing criteria, and modifying criteria.

The comparative analysis evaluates the relative performance of Alternatives 2, 3, and 4 with respect to each of the nine NCP criteria (**Table 2**). Because Alternative 1 does not change the conditions at the MRS it is not included in the evaluation of alternatives. Identifying the advantages and disadvantages of each alternative, with respect to each other, helps identify relative strengths of the Preferred Alternative. These strengths, combined with risk management decisions made by the ARNG, USACE, and HDOH, as well as input from the community, will serve as the basis for selecting the remedy.

### Threshold Criteria

Remedial Alternatives 2, 3, and 4 would be protective of human health and the environment by addressing the exposure of receptors to MC in surface soil such that there are no unacceptable risks remaining at the Former Olowalu Rifle Range MRS.

All remedial alternatives identified to address MC risk at the Former Olowalu Rifle Range MRS comply with **Applicable or Relevant**



**and Appropriate Requirements (ARARs)** where applicable (**Table 3**).

Primary Balancing Criteria

Alternatives 2 and 3 offer long-term protection as a buffer to receptor contact with source hazards; however, neither are permanent solutions. The source removal associated with Alternative 4 provides the greatest long-term effectiveness and permanence.

Alternatives 2 and 3 would not achieve any reduction in toxicity, mobility, and volume (TMV) of wastes because they do not involve source removal. Alternative 4 achieves reduction in TMV of wastes because it involves removal of the affected soil within the MRS.

Alternative 2 has no short-term hazards to workers, ecological receptors, or the surrounding area. Alternatives 3 and 4 would present greater short-term hazards to workers than Alternative 2 because they involve installation of cover and source removal respectively. In all cases, hazards to workers would be managed using industry standard safety procedures (e.g., engineering controls, etc.), which would also minimize associated potential hazards to the surrounding area.

All technologies and methods involved in implementing Alternatives 2, 3, and 4 are well established and would be readily implementable using existing technology.

The cost associated with each is as follows: \$944,460 (Alternative 2), \$2,298,497 (Alternative 3), and \$2,361,625 (Alternative 4). A summary of the detailed analysis of alternatives is shown in **Table 2**.

Modifying Criteria

Based on input from HDOH, Alternatives 2, 3, and 4 are acceptable to HDOH.

Community acceptance cannot be evaluated fully until public comments are received on the Proposed Plan (this document).

**Table 1 – Evaluation Criteria for Remedial Alternatives**

<b>Threshold Criteria</b>	<b>Overall Protectiveness of Human Health and the Environment</b> determines whether an alternative adequately protects human health and the environment from unacceptable risks.
	<b>Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)</b> evaluates whether the alternative meets Federal and State environmental regulations and requirements that pertain to the site.
<b>Primary Balancing Criteria</b>	<b>Long-Term Effectiveness and Permanence</b> considers the ability of an alternative to maintain protection of human health and the environment over time.
	<b>Reduction of Toxicity, Mobility, and Volume (TMV) of Contaminants through Treatment</b> evaluates use of treatment to reduce harmful effects of principal <b>contaminants</b> , their ability to move in the environment, and the amount of contamination present.
	<b>Short-Term Effectiveness</b> considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.
	<b>Implementability</b> considers the technical and administrative feasibility of implementing the alternative, including factors such as the availability of goods and services.
<b>Modifying Criteria</b>	<b>Cost</b> includes estimated capital and annual operations and maintenance costs for a specific time period.
	<b>State/Support Agency Acceptance</b> considers whether the State agrees with the Army's analyses and recommendations, as described in the Remedial Investigation/Feasibility Study and Proposed Plan.
	<b>Community Acceptance</b> considers whether the local community agrees with the Army's analyses and Preferred Alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

**Table 2 – Comparative Analysis of Remedial Alternatives for MC-Contaminated Soil**

Screening Criteria		Alternative 1 No Action	Alternative 2 Legal Land Use Controls	Alternative 3 Gravel Cover with LUCs	Alternative 4 Soil Excavation with Off-Site Disposal
Threshold	Overall Protection of Human Health and the Environment	NO. Not protective of human health or environment	YES. Protective of human health and the environment.	YES. Protective of human health and the environment.	YES. Protective of human health and the environment.
	Compliance with ARARs	N/A	YES	YES	YES
Balancing	Long-Term Effectiveness	Not effective over long-term.	Effective over long term if LUCs are upheld; precludes sensitive receptor contact/interaction with source area.	Effective over long term if cover is well maintained and LUCs are upheld; precludes contact/interaction with source area.	Effective over long term; contaminated soil removed from site.
	Reduction of TMV Through Treatment	No reduction in TMV of wastes ( <i>no contaminated source removal</i> ).	No reduction in TMV of wastes ( <i>no contaminated source removal</i> ).	No reduction in TMV of wastes ( <i>no contaminated source removal</i> ).	Provides greatest reduction in TMV ( <i>contaminated soil removed from site</i> ).
	Short-Term Effectiveness	No short-term hazards to workers, ecological receptors, or the surrounding area.	No short-term hazards to workers, ecological receptors, or the surrounding area.	Low short-term hazards to workers and surrounding area ( <i>associated with installation of cover</i> ).	Low short-term hazards to workers and surrounding area ( <i>associated with soil excavation and transport</i> ).
	Implementability	Readily implementable ( <i>no actions required</i> )	Readily implementable, but the MRS is privately owned.	Readily implementable ( <i>uses well established technologies</i> ), however access roads for equipment will need to be built.	Readily implementable ( <i>uses well established technologies</i> ), however access roads for equipment will need to be built.
	Cost <sup>(1)</sup>	\$0	\$944,460	\$2,298,497	\$2,361,625
Modifying (a)	State Acceptance	Unacceptable	Acceptable	Acceptable	Acceptable
	Community Acceptance	TBD	TBD	TBD	TBD

Notes:

Favorable ('YES' for threshold criteria)

Moderately Favorable

Not Favorable ('NO' for threshold criteria)

ARAR = Applicable or Relevant and Appropriate Requirement

LUC = Land Use Control

RAO = Remedial Action Objective

TBD = To Be Determined

TMV = toxicity, mobility, or volume

(1) Costs shown are based on alternative implementation duration estimates with recurring costs based on 30-year planning horizons specified in the Remedial Investigation/Feasibility Study Guidance (USEPA, 1988) for the purposes of evaluating and comparing alternatives with a 20% contingency reported as a **total present value (TPV)**. The TPV is based on a discount rate of 7 percent. Details of the cost estimates and the development of the TPVs are provided in Appendix A of the Feasibility Study Report.



**Table 3 - Potential Federal and State Applicable or Relevant and Appropriate Requirements and To Be Considered (TBCs)**

Requirement	Citation(s)	Description	Applicability or Relevance
<b>Chemical-Specific ARARs</b>			
None			
<b>Chemical-Specific TBCs</b>			
HDOH Environmental Action Levels (EALs) (HDOH, 2017)	HEER Office Tier 1 Environmental Action Levels (EALs) published in the HDOH <i>Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater, Volume 2: Background Documentation for the Development of Tier 1 Environmental Action Levels, Appendix 1: Detailed Lookup Tables, Table B-1, Lead</i>	Used for MC Screening. Concentrations of contaminants in soil, soil vapor and groundwater below which contaminants are assumed to not pose a significant threat to human health or the environment.	Tier 1 EALs are not promulgated cleanup goals, however, where there are exceedances of Tier 1 EALs, remediation and/or long-term management are required to mitigate exposure hazards as described in TGM Section 13.5.7.  Exceeding the EAL does not necessarily indicate that contamination at the site poses environmental hazards; alternative action levels can be proposed on a case-specific basis and submitted to the Hazard Evaluation and Emergency Response (HEER) Office for review and approval.
<b>Location-Specific ARARs</b>			
None			
<b>Location-Specific TBCs</b>			
None			
<b>Action-Specific ARARs</b>			
Hawaii Administrative Rules Title 11 Department Of Health Chapter 60.1 Air Pollution Control	HAR 11-60.1-33	Air Pollution Control regulates the emission of fugitive dust or solid airborne particulate matter from any source other than combustion and other air contaminant sources. Cleanup operations (e.g., excavation) must take reasonable precautions to ensure that visible dust does not become airborne and that airborne emissions meet substantive requirements of the regulation.	Will apply to any activities causing fugitive dust or other airborne contaminant emissions.
Hawaii Administrative Rules Title 11 Department Of Health Chapter 46 Community Noise Control	HAR 11-46-4;	Federal actions must comply with substantive requirements to restrict excessive noise pollution.	Will apply to activities causing excessive noise pollution.
<b>Action-Specific TBCs</b>			
None			

Note: While not listed in Table 2-1 because there are no known designated species or cultural resources at the site, the following regulations must still be complied with if certain designated species, human remains, or cultural resources are discovered: HAR 13-124-3; HAR 13-124-11, HAR 13-300-33 through HAR 13-300-43, HRS Chapter 6E-8; HRS Chapter 6E-10; or HRS Chapter 6E-43.6.

## 9.0 PREFERRED ALTERNATIVE

The Preferred Alternative is Alternative 4: Soil Excavation with Off-Site Disposal.

Based on the information available at this time, ARNG, USACE, and HDOH believe that this alternative would be protective of humans and the environment, would achieve the RAO of minimizing risk to human receptors from exposure to MC, and would achieve unlimited use/unrestricted exposure (UU/UE). The Preferred Alternative may be modified in response to public comments or new information.

Based on information currently available, ARNG and USACE believe the Preferred Alternative meets the threshold criteria and provides the best balance of trade offs among the other alternatives with respect to the balancing and modifying criteria. USACE expects the Preferred Alternative to satisfy the following statutory requirements of CERCLA §121(b):

1. Protects humans and the environment;
2. Complies with ARARs;
3. Is cost-effective;
4. Utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and
5. Satisfies the preference for treatment as a principal element (or justify not meeting the preference).

## 10.0 REGULATORY PARTICIPATION

HDOH and USACE actively participated with the ARNG to evaluate the Former Olowalu Rifle Range (HIHQ-002-R-01)

during development of the Remedial Investigation Report and the Feasibility Study Report. In cooperation, ARNG and USACE, in consultation with HDOH, are in mutual agreement that Alternative 4 – Soil Excavation with Off-Site Disposal is the appropriate decision for the MRS.

**Appendix A** contains a letter from HDOH concurring with the Feasibility Study Report and a letter concurring with this Proposed Plan.

The proposed decision can change in response to public comment or if new information is obtained for the MRS.

## 11.0 COMMUNITY PARTICIPATION

Public input is important to the decision-making process. Information regarding the implementation of the proposed Alternative 4 – Soil Excavation with Off-Site Disposal decision at HIHQ-002-R-01 is provided to the public through information and documents in the ARNG Administrative Record File, and an announcement published in the local newspaper. The public is encouraged to refer to these sources to stay informed on issues pertaining to activities at the MRS.

The dates for the public comment period and the location of the Remedial Investigation Report and Feasibility Study report at the local public library are provided on Page 1 of this Proposed Plan. Nearby residents and other interested parties are encouraged to use the comment period for questions and concerns about the proposed decision for the MRS. ARNG will summarize and respond to public comments in a Responsiveness Summary, which will become part of the Record of Decision.



## 12.0 ACRONYMS AND ABBREVIATIONS

ALM	Adult Lead Method
ARARs	Applicable or Relevant and Appropriate Requirements
ARNG	National Guard Bureau Army Guard Directorate
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESPK	USACE-Sacramento District
COC	chemical of concern
COPC	chemicals of potential concern
DU	Decision Unit
EAL	Environmental Action Level
FS	Feasibility Study
ft	feet
GRA	General Response Actions
HDOH	Hawaii Department of Health
HIARNG	Hawaii Army National Guard
HQ	Hazard Quotient
IEUBK	Integrated Exposure Uptake Biokinetic
IRP	Installation Restoration Program
ISM	incremental sampling methodology
ITRC	Interstate Technology Regulatory Council
LUC	Land Use Controls
MC	munitions constituents
MD	munitions debris
MEC	munitions and explosives of concern
mg/kg	milligrams per kilogram
MI	multi-increment
MMRP	Military Munitions Response Program
MRS	Munitions Response Site
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NDNODS	Non-Department of Defense owned, Non-Operational Defense Site
PAL	project action limit
PIMS	Phosphate-Induced Metals Stabilization
PP	Proposed Plan
PRG	preliminary remediation goal
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROD	Record of Decision
ROE	right-of-entry
SI	Site Inspection
TBC	to be considered
TCLP	toxicity characteristic leaching procedure
TGM	Technical Guidance Manual
TMK	tax map key
TMV	toxicity, mobility, and volume

TPV	Total Present Value
UIC	Underground Injection Control
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UU/UE	unlimited use/unrestricted exposure
XRF	X-ray fluorescence

## 13.0 GLOSSARY

**Administrative Record** – A collection of documents made available to the public that includes all the information considered and relied on in selecting a remedy for a contaminated site.

**Applicable or Relevant and Appropriate Requirements (ARARs)** – State or federal requirements, standards, criteria, or limitations that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site, or that are sufficiently similar to those encountered at the CERCLA site that their use is well-suited to the particular site. Generally, the federal standards are the ARARs; state standards only apply if they are either more stringent or more broadly applied than their federal counterparts.

**Berm** – A flat strip of land, raised bank, or terrace that is used at a firing range to help limit the spread of fired bullets.

**Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)** - Passed in 1980 and subsequently amended, this law provides for liability, compensation, cleanup, and emergency response in connection with the cleanup of inactive hazardous waste disposal sites that endanger public health and safety of the environment.

**Contaminant** – A compound or element that upon exposure will or may reasonably be anticipated to cause certain specified harmful health effects.

**Feasibility Study (FS)** - A document that describes and evaluates potential cleanup alternatives for a contaminated site based on data and risk assessments documented in the RI.

**Land use controls (LUC)** - Government ordinances, codes, and permit requirements that restrict the private use of land and natural resources. The primary private land-use control is deed restrictions, limiting what can be done on the property by the owner. Land use controls also include public education and warning signs.

**Military Munitions Response Program (MMRP)** - A program under the Defense Environmental Restoration Program that addresses training ranges that are no longer used but are suspected or known to contain munitions or contamination from munitions.

**Munitions Response Site (MRS)** - A site that was formerly used as a military training range or for munitions disposal but is no longer in use. An MRS may contain munitions and/or munitions contamination.

**Munitions and Explosives of Concern (MEC)** - This term, which distinguishes specific categories of military munitions that may pose unique explosives safety risks, means unexploded ordnance, discarded military munitions, or munitions constituents (for example, TNT) that are present in high enough concentrations to pose an explosive hazard.

**Munitions Constituents (MC)** – Materials that originate from ordnance or other military munitions such as bullets.

**Munitions Debris (MD)** – Remnants of munitions (e.g., penetrators, projectiles, shell casings, links, fins) remaining after munitions use, demilitarization or disposal. Munitions debris is confirmed inert and free of explosive hazards by technically-qualified personnel.

**National Oil and Hazardous Substances Pollution Contingency Plan (NCP)** - A set of federal regulations that provide the organizational structure and procedures for preparing for and responding to discharges of oils and releases of hazardous substances, pollutants, or contaminants



into the environment. (See 40 CFR Part 300).

**No Action** - A determination that no contaminants are present at the site in amounts presenting an unacceptable risk to human and ecological health.

**Non-Department of Defense Non-Operational Defense Sites (NDNODS)** – Defense sites that were exclusively used by a state ARNG and never owned, leased or otherwise possessed or used by the Army or other DoD component. NDNODS are a subcategory of Munitions Response sites.

**Preferred Alternative** – The alternative that, when compared to other alternatives, best meets the Comprehensive Environmental Response, Compensation, and Liability Act evaluation criteria, and is proposed for implementation at a site.

**Proposed Plan** - A document used to facilitate public involvement in the remedy selection process for a CERCLA contaminant release site. The document presents the lead agency's preliminary recommendation concerning how best to address contamination at a site.

**Record of Decision** - A legal document that certifies that the remedy selection process was carried out in accordance with CERCLA and the NCP, that documents the cleanup action or remedy selected for a site, the basis for the choice of that remedy, and public comments received on the Proposed Plan.

**Remedial Action Objective** – A site-specific objective developed based on evaluation of potential risks to human health and the environment for future protection of environmental resources.

**Remedial Investigation (RI)** - A study of a contaminant release site that includes data collection and analysis to determine 1) the nature and extent of the contamination, 2) the potential risks to human health and the environment from that contamination, and 3) whether or not remedial action is warranted.

**Resource Conservation and Recovery Act** – Enacted in 1976 as an amendment of the Solid Waste Disposal Act of 1965. Principal federal law governing the disposal of solid waste and hazardous waste to protect human health and the environment from the potential hazards of waste disposal.

**Responsiveness Summary** – A summary of responses to comments made by the public during the public comment period.

**Risk** - A measure of the probability that damage to life, health, property, and/or the environment will occur as a result of a given hazard.

**Total Present Value (TPV)** – The current value of a future sum of money.

**X-ray fluorescence (XRF)** – A technique that uses the emission of x-rays to determine the elemental composition of a material.

## 14.0 DOCUMENT REFERENCES

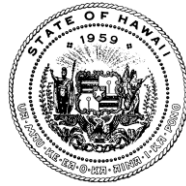
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## APPENDIX A

### Hawaii Department of Health Correspondence



JOSH GREEN, M.D.  
GOVERNOR OF HAWAII  
KE KIA'ĀINA O KA MOKU'ĀINA 'O HAWAII



KENNETH S. FINK, MD, MGA, MPH  
DIRECTOR OF HEALTH  
KA LUNA HO'ŌKELE

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
KA 'OIHANA OLAKINO  
P. O. BOX 3378  
HONOLULU, HI 96801-3378

In reply, please refer to:  
File:  
**210241 JO**

May 16, 2024

Mr. Rob Halla  
Army National Guard  
Installation and Environmental Cleanup Branch  
111 South George Mason Drive  
Arlington, Virginia 22204-1373  
*Sent via e-mail to: [Walter.R.Halla2.civ@army.mil](mailto:Walter.R.Halla2.civ@army.mil)*

**Facility/Site:** HIARNG Olowalu Rifle Range

**Subject:** 1) Backcheck of Response to Comments (RTCs) for *Draft Final Feasibility Study Report, Former Olowalu Rifle Range* (dated January 2024); and 2) Review of *Final Feasibility Study Report, Former Olowalu Rifle Range* (dated May 2024)

Dear Mr. Halla:

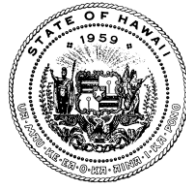
This Hawaii Department of Health (HDOH) Hazard Evaluation and Emergency Response (HEER) Office has reviewed the RTCs and Final Feasibility Study (FS) for the Former Olowalu Rifle Range. HDOH finds the revisions made to the FS acceptable and has no additional comments. Please feel free to contact me at (808) 586-4653 or via email at [jennah.oshiro@doh.hawaii.gov](mailto:jennah.oshiro@doh.hawaii.gov) if you have any questions. Thank you.

Sincerely,

*Jennah Oshiro*  
Jennah Oshiro

Remedial Project Manager  
Site Discovery, Assessment, and Remediation Section  
Hazard Evaluation and Emergency Response Office  
Hawaii Department of Health

JOSH GREEN, M.D.  
GOVERNOR OF HAWAII  
KE KIA'ĀINA O KA MOKU'ĀINA 'O HAWAII



KENNETH S. FINK, MD, MGA, MPH  
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P. O. BOX 3378  
HONOLULU, HI 96801-3378

In reply, please refer to:  
File:  
**210484 JO**

June 12, 2024

Mr. Rob Halla  
Army National Guard  
Installation and Environmental Cleanup Branch  
111 South George Mason Drive  
Arlington, Virginia 22204-1373  
*Sent via e-mail to: [Walter.R.Halla2.civ@army.mil](mailto:Walter.R.Halla2.civ@army.mil)*

**Facility/Site:** HIARNG Olowalu Rifle Range

**Subject:** 1) Second backcheck of Response to Comments (RTCs) for *Draft Final Proposed Plan, Former Olowalu Rifle Range*; and 2) Review of *Draft Final Proposed Plan, Former Olowalu Rifle Range, Revision 2*; received 11 June 2024

Dear Mr. Halla:

The Hawaii Department of Health (HDOH) Hazard Evaluation and Emergency Response (HEER) Office has reviewed the RTCs and second revised Draft Final Proposed Plan (PP) for the Former Olowalu Rifle Range. HDOH finds the revisions made to the PP acceptable and has no additional comments at this time. Please finalize the PP and provide HDOH with an electronic copy. Please contact me at (808) 586-4653 or via email at [jennah.oshiro@doh.hawaii.gov](mailto:jennah.oshiro@doh.hawaii.gov) if you have any questions or comments. Thank you.

Sincerely,

*Jennah Oshiro*

Jennah Oshiro  
Remedial Project Manager  
Site Discovery, Assessment, and Remediation Section  
Hazard Evaluation and Emergency Response Office  
Hawaii Department of Health