Final Record of Decision

Kanaio Local Training Area – Area 1 and Area D Munitions Response Site, Hawaii

AEDB-R Site ID HIHQ-006-R-01

Army National Guard



Contract No. W12DR-15-D-0020 Delivery Order No. W912DR19F0538

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Acronyms and Abbreviations

AEDB-R	Army Environmental Database Restoration
AGC	advanced geophysical classification
AOI	Area of Interest
ARAR	Applicable or Relevant and Appropriate Requirements
ARNG	National Guard Bureau Army Guard Directorate
BIP	blow(n)-in-place
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CESPK	(USACE) Sacramento District
CFR	Code of Federal Regulations
COC	contaminant of concern
COPC	chemical of potential concern
COPEC	chemical of potential ecological concern
cm	centimeters
CSM	conceptual site model
DGM	Digital Geophysical Mapping
DMM	Discarded Military Munitions
DoD	Department of Defense
DU	Decision Unit (for ISM sampling)
EA	Environmental Assessment
EOD	Explosive Ordnance Disposal (unit of US Army)
FS	Feasibility Study
gpm	gallons per minute
HAR	Hawaii Administrative Rules
HD	high (anomaly) density
HDOH	Hawaii Department of Health
HE	high explosive
HEAT	high explosive anti-tank
HIARNG	Hawaii Army National Guard
HIDLNR	Hawaii Department of Land and Natural Resources
HRR	Historical Records Review
HUA	high-use area
ISM	incremental sampling methodology
LAW	light anti-armor weapon (rockets)
LD	low (anomaly) density
LTA	(Kanajo) Local Training Area
LUA	low-use area
	land use controls
LUCIP	Land Use Control Implementation Plan
MC	munitions constituents
MD	munitions debris
MEC	munitions and explosives of concern
MPPEH	material potentially presenting an explosive hazard
mg/kg	milligrams per kilogram
mm	millimeter
MMRP	military munitions response program
MRS	munitions response program
msl	mean sea level
11101	

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NEUno evidence of use (area)NFANo Further ActionPPProposed PlanPTWPrincipal Threat WasteRAORemedial Action ObjectiveRCRAResource Conservation and Recovery ActRIRemedial InvestigationRI/FSRemedial Investigation/Feasibility StudyRMMRisk Management MethodologyRODRecord of DecisionROEright-of-entryRDRemedial DrestigationSLRegional Screening LevelSCPState Contingency PlanSISite InvestigationSPPSystematic Planning ProcessSUsampling unitT&Ethreatened & endangeredTMVtoxicity, mobility, or volumeTPVTotal Present ValueUFP-QAPPUnited StatesUSACEUnited States Corps of EngineersUSACEUnited States Environmental Protection AgencyUV/UEunlimid use and unrestricted exposureUXOwexploded ordnanceVOCvolatile organic compoundsWPwhite phosphorous	NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFANo Further ActionPPProposed PlanPTWPrincipal Threat WasteRAORemedial Action ObjectiveRCAResource Conservation and Recovery ActRIRemedial InvestigationRI/FSRemedial Investigation/Feasibility StudyRMMRisk Management MethodologyRODRecord of DecisionROEright-of-entryRDRemedial Screening LevelSCPState Contingency PlanSISite InvestigationSVUsampling unitT&Ethreatened & endangeredTMVtoxicity, mobility, or volumeTPVTotal Present ValueUFP-QAPPUnited States Corps of EngineersUSACEUnited States Corps of EngineersUSACEUnited States Corps of EngineersUXOunexploded ordnanceVOCvolatile organic compoundsWPwhite phosphorous	NEU	no evidence of use (area)
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UXOunexploded ordnanceVOCvolatile organic compoundsWPwhite phosphorous	UU/UE	unlimited use and unrestricted exposure
VOCvolatile organic compoundsWPwhite phosphorous	UXO	unexploded ordnance
WP white phosphorous	VOC	volatile organic compounds
	WP	white phosphorous

1 Declaration

1.1 Site Name and Location

This Record of Decision (ROD) presents the final decision for the 1983-acre project site located within the 4771-acre Kanaio Local Training Area (LTA) proper Munitions Response Site (MRS). The site is located in Maui, Hawaii; Army Environmental Database Restoration Number (AEDB-R) HIHQ-006-R-01. The site includes the 1946-acre "Area 1" portion of the larger Kanaio LTA MRS (as subdivided during the 2018 Site Inspection) and the 37-acre "Area D" Area of Interest (AOI); a noncontiguous parcel located due east of Area 1 and along the coastline and accessible via King's Trail (**Figures 1-1 and 1-2**). For consistency, the terms "Kanaio LTA MRS" or "the MRS" will be used throughout this document from here forward to specifically refer to the combined 1983 acres associated with Area 1 and Area D.

1.2 Statement of Basis and Purpose

This ROD is issued by the National Guard Bureau Army Guard Directorate (ARNG). As the lead federal agency, ARNG has determined that remedial action is necessary at the Kanaio LTA MRS, a live-fire training complex used between as early as World War II to as recently as 2003. The remedial action decision 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. This ROD is based on the administrative record for the MRS which includes previously generated site-specific investigations and reports. Hawaii Army National Guard (HIARNG) maintains this administrative record file, which is available for public review.

The environmental investigations at the MRS were conducted under the Military Munitions Response Program (MMRP). After sampling of available surface soil for munitions constituents (MC) at selected locations during the Site Inspection (SI) in 2017, it was concluded that "MC does not pose a risk to human health or the environment" as a result of historical HIARNG training activities at the MRS. Soil samples did not contain detectable explosives analytes and metals' concentrations were present well below Project Action Levels (PALs). Based on the SI conclusions and known absence of soil within most of the impact area (the subject of the Remedial Investigation [RI], and in accordance with the approved Unified Federal Policy - Quality Assurance Project Plan [UFP-QAPP]), MC sampling was not conducted during the RI fieldwork in 2021 and *No Action* for MC was recommended by the ARNG and agreed to by the Hawaii Department of Health (HDOH).

The RI confirmed a current munitions and explosives of concern (MEC) risk at the Kanaio LTA MRS based on the presence of MEC, munitions debris (MD) indicative of potential residual MEC, and a receptor population. This determination is also supported by MEC and MEC-related findings documented during the SI and previous field investigations and removal actions at the Kanaio LTA MRS. Specifically during the RI, one MEC item was recovered and numerous MD items were identified; despite prior MEC recovery and removal actions. As a result, the RI concluded that a Feasibility Study (FS) was warranted to evaluate viable response alternatives to address MEC contamination at the Kanaio LTA MRS.

The ARNG developed this ROD in coordination with the HDOH, and HDOH agrees with the Preferred Action response alternative selected. This is the final decision to address the presence of MEC at the Kanaio LTA MRS (HIHQ-006-R-01).

1.3 Assessment of Site

The response action selected in this ROD is necessary to protect public health or welfare from MEC contaminants from this site which may present an imminent and substantial endangerment to public health or welfare.

1.4 Description of Selected Remedy

Based on the results of the RI/FS, a MEC response action is warranted to address MEC contamination within the MRS as detailed in the FS and selected as the "preferred" action alternative in the Proposed Plan (PP). The Preferred Action response alternative selected, Focused Surface and Subsurface MEC Removal and Land Use Controls (LUCs), will utilize instrument-aided surface sweeps and subsurface anomaly resolution and removal throughout 100 percent of a 126-acre noncontiguous "focus" area (derived based on RI findings and land use plus buffer). Subsurface removal of anomalies will extend to a maximum depth of detection of the instrument which is a minimum of 34 centimeters (cm) in accordance with the remedial action objectives (RAO) or until rock (a'a lava) is encountered. The focus area includes the primary defined impact area, three small subareas, and a high-traffic recreational trail (King's Trail) (Figure 1-3). The impact area was confirmed and delineated during the RI as a 36-acre high-use area (HUA) historically used as a target area for various munitions from a variety of local firing points. Inclusive of the application of a 59-acre buffer around the HUA, this portion of the focus area captures the majority of the MEC as well as MD that have been identified during prior investigations to include the SI and RI. In addition, the focus area was expanded to include three small subareas, approximately 5.65 acres each (inclusive of buffer), where elevated concentrations of MD (compared to the surrounding area) were observed during the RI. Lastly, the King's Trail, which crosses the southern portion of the MRS, was included as part of the "focus" area consisting of a 50-foot swath (25 feet on each side of the centerline of the trail) along the entire length of the trail within the "Area 1" portion of the MRS, northern edge of "Area D", and portion connecting both areas and covering a total of 14.05 acres. Land Use Controls (LUCs) are included in this alternative because MEC could potentially remain (although a low likelihood) on the surface or in the subsurface within the balance of the MRS and outside the "focus" area. Therefore, a Land Use Controls Implementation Plan (LUCIP) will be prepared as part of the Remedial Design (RD) phase for the Selected Remedy (in collaboration with HDOH and the primary property owner Hawaii Department of Land and Natural Resources [HI DLNR]). Public education and warning signs will be used to modify behavior and as a result reduce the likelihood of human interaction with any residual MEC. To educate the receptors of potential explosive hazards, educational pamphlets will be developed (also in collaboration with HDOH and HI DLNR). These pamphlets would be distributed to local residents, posted on community boards, and distributed to those applying for a hunting permit. Warning signs will be installed at MRS access points along the Piilani highway (Hawaii state route HI-37) to the north of the Kanaio LTA and the King's Trail (also referred to locally as Hoapili Trail or the King's Highway) in the south section of the Kanaio LTA MRS. Additional warning signs may be made available with sufficient advance notice from HI DLNR. While not a component of the Selected Remedy, Five-Year Reviews will be conducted to ensure that the LUCs remain protective of potential human receptors.

Implementation of the Preferred Action response alternative selected, *Focused Surface and Subsurface MEC Removal and LUCs*, captures 99.7 percent of where all MEC and MD were recovered during the RI and results in a change in the MEC site risk from "unacceptable" to "acceptable" using the MEC Risk Management Methodology (RMM) detailed in the FS. This reduction in MEC risk is primarily driven by a significant reduction of potential remaining MEC as well as an associated reduced likelihood for encounter of MEC by receptors. The inclusion and implementation of LUCs in conjunction with the MEC remedial action further decreases the likelihood of encounter by a receptor as well as modifies human behavior in the unlikely event of an encounter.

1.5 ROD Data Certification Checklist

The following information is included in the Decision Summary section of this ROD. Additional information can be found in the Administrative Record file for this site.

- Contaminants of Concern (MEC) and their respective concentrations (density).
- Baseline risk (RMM) represented by the contaminants of concern (MEC).
- Cleanup levels established for chemicals of concern (MEC) and the basis for these levels.
- How source materials constituting principal threats are addressed.
- Current and reasonably anticipated future land use assumptions and RMM assessment and ROD.
- Potential land use that will be available at the site as a result of the Selected Remedy.
- Estimated capital, annual operation and maintenance (O&M), and total present worth costs, discount rate, and the number of years over which the remedy cost estimates are projected.
- Key factor(s) that led to selecting the remedy (i.e., how the Selected Remedy provides the best balance of tradeoffs with respect to the balancing and modifying criteria, highlighting criteria key to the decision).

1.6 Statutory Determinations

The ARNG's Preferred Action response alternative decision is the appropriate decision for the Kanaio LTA MRS (HIHQ-006-R-01) because the MEC RMM confirms there are no unacceptable human health or ecological risks due to exposure to MEC at the MRS following implementation and complies with federal and State of Hawaii requirements that are legally Applicable or Relevant and Appropriate Requirements (ARARs).

The ARNG expects the Preferred Action response alternative selected will satisfy the following statutory requirements of CERCLA §121(b):

- To be protective of human health and the environment,
- be cost-effective;
- utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and
- satisfy the preference for treatment as the principal element of the remedy.

Because this remedy will result in potential MEC remaining on site thus preventing unlimited use and unrestricted exposure (UU/UE), a statutory review will be conducted every five years after initiation of remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment from MEC. Final Record of Decision Kanaio Local Training Area MRS, HI

1.7 Authorizing Signature

On the basis of the RI performed for the Kanaio LTA MRS (HIHQ-006-R-01), it was determined that the Preferred Action response alternative selected, *Focused Surface and Subsurface MEC Removal and LUCs,* is suitable as per the requirements set forth in CERCLA. The signature below documents the ARNG's approval of the Preferred Action response alternative determination.

Approved:

20 July 2023

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

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2 Decision Summary

2.1 Site Name, Location, and Brief Description

The Kanaio LTA MRS is located on the southernmost extent of the Island of Maui, Hawaii. The 1983-acre project investigation area included the 1946-acre "Area 1" portion of the Kanaio LTA MRS (as divided during the 2018 SI and the 37-acre "Area D" AOI; a noncontiguous parcel located due east of Area 1 along the coastline and accessible via King's Trail (see **Figure 1-1**). Aside from two privately-owned parcels located in the northern portion of the project investigation area, the site is owned by the HI DLNR and includes a portion of the publicly accessible King's Trail. The private parcels are very small (2.488 acres and 2.55 acres; respectively), undeveloped (no structures or residential component), land-locked (no defined access routes), and both are significantly outside of the preferred remedial alternative cleanup area (**Figure 1-3**). For consistency, the terms "Kanaio LTA MRS" or "the MRS" are used throughout this document to specifically refer to the combined 1983 acres associated with Area 1 and Area D. The 2788-acre balance of the 4771-acre MRS was previously designated for No Further Action for both MC and MEC following the SI and is not further addressed in this ROD (Na Ali'i, 2018).

The Kanaio LTA MRS was utilized for live-fire practice as early as World War II by various branches of the military including the U.S. Army, U.S. Marine Corps, and the HIARNG and has been inactive since 2003. Area 1 was used from 1965 through the mid-1990s for training with 40-mm grenades and M72 light anti-armor weapon (LAW) rockets. In addition, evidence from prior studies indicated that recoilless rifles, high explosive (HE) anti-tank (HEAT) projectiles, various mortars, and artillery rounds may have also been used in Area 1. Historical accounts indicate Area D was predominately used as a livestock watering area (Na Ali`i, 2018). The area was reportedly declared off-limits to HIARNG personnel as early as the 1960s. Anecdotal evidence suggests that Area D may at one point have been the target area for 4.2-inch mortars from Area B (Na Ali`i, 2018).

The majority of the Kanaio LTA MRS is characterized by extremely adverse terrain with elevations ranging from sea-level in the south to 1800 feet above mean sea level (msl) to the north (**Figure 2-1**). Vegetation within the investigation area is largely nonexistent with the surface consisting mostly of a'a lava fields characterized by minimal to no surface soil. With the exception





of the extremely difficult hike within the footprint of King's Trail, the vast majority of the Kanaio

LTA MRS is near impassible and does not represent a recreational attraction to current receptors. Further, the MRS is isolated and offers no amenities. The coastline, primarily south of the King's Trail, does experience recreational use for cultural artifact collection, scenic viewing, photography, and religious activities and study. Permitted, as well as non-authorized hunting and fishing does occur within the Kanaio LTA MRS. Future, non-residential development is planned by HI DLNR.

2.2 Site History and Enforcement Activities

Earlier historical studies and cleanup efforts documented in the Historical Records Review (HRR) prepared in support of the SI (Na Ali`i, 2017a) confirmed MEC item recovery and removal actions as early as 1981 and continuing in 1988, 1995, and 1998. Reported findings included M72 LAW rockets, 105-mm projectiles, 106-mm projectiles, 40-mm HE projectiles, and 81-mm mortars. Various MD from LAW rockets, 3.5-inch rockets, 40-mm HE grenades, 105-mm projectiles, 106-mm HEAT projectiles 4.2-inch mortars, 81-mm white phosphorus (WP) mortars, and 81-mm HE mortars were also identified during previous investigations and studies. Most of the findings, where identified, were within the 1983-acre project investigation area. All prior MEC were reported as removed or detonated.

Several environmental investigations have been completed at the Kanaio LTA MRS. These include:

- 1981 HIARNG Clearance (HIARNG, 1996)
- 1988 UXO Consolidation Plan (USACHPPM, 2003)
- 1996 Ordnance Removal Plan (HIARNG, 1996)
- 1998 Surface Ordnance Removal (HIARNG, 1999)
- 2003-2004 UXO Surveys and Clearance (HIARNG, 2004/2005)
- Site Inspection (SI) Report (Na Ali'i, 2018)
- Remedial Investigation (RI) Report (Parsons, 2022)
- Proposed Plan (PP) (Parsons, 2022)

2.2.1 1981 HIARNG Clearance (1996)

In August and September 1981, HIARNG personnel, assisted by US Army munitions disposal specialists, conducted an on-foot sweep of large portions of the Kanaio LTA MRS. Two areas, Impact Areas 1 and 2, were deemed "unclearable" by the munitions' specialists, who suspected the presence of subsurface unexploded munitions. The explosive ordnance disposal (EOD) team concluded that the brittle a'a lava potentially allowed high-angle steel-cased and delay fuzed mortars to penetrate and detonate underground, resulting in a heaving effect, covering debris and UXO from the surface. (Note: Surface clearance at Impact Areas 1 and 2 was performed in future clearance efforts.) The sweep of the King's Trail produced debris from various projectiles. Sweeps along fishermen's trails and the area between King's Trail and the ocean produced no unexploded ordnance (UXO). A sweep of the 3.5-inch rocket range produced practice rounds, which contained no explosive hazards. Several UXO were reportedly located and destroyed in place; the locations of these munitions were not specified (HIARNG, 1996).

2.2.2 1988 UXO Consolidation Plan (2003)

HIARNG planned to conduct a UXO removal action during August through September 1988, including onsite detonation of UXO, and consolidation of inert ordnance and other scrap metal into a single location for abandonment. No direct follow-up to this plan was located on record, however prior to a 1998 removal operation, practice and illumination rounds were located in a pile within a ravine at the northern part of Impact Area 2. US Army EOD experts concluded that consolidation was likely carried out as planned and that the material was carried in sandbags to a consolidation point to be detonated (USACHPPM, 2003).

2.2.3 1996 Ordnance Removal Plan (1996)

In September 1995, an Ordnance Field Survey, an Archaeological Inventory Survey, and a Biological Resources Survey of Impact Areas 1, 2, 3A and 3B were conducted to prepare an Ordnance Removal Plan for these areas of the Kanaio LTA (HIARNG, 1996). The surveys characterized the nature and extent of surface and subsurface UXO in the four recognized impact areas, identified targets for removal and disposal, documented perceived immediate hazards, and identified any rare/endangered wildlife or plants and archaeological sites that may impact ordnance removal activities.

Outside of the four surveyed impact areas, teams located discarded unexpended blank and expended munitions, mainly near former firing points or in areas where troops had been maneuvering in the past. Also noted were car-related debris, scrap material, and trash, including three cars, a small dumpster, and a trash-filled lava tube near the entrance to the range on a privately-owned parcel. This investigation discovered several MEC items including: two unexploded M72 LAW anti-tank rockets and one unexploded 40-mm M79 grenade.

The surveys ultimately concluded that no significant cultural resources were located within the surveyed impact areas that would preclude ordnance removal, but that areas outside the surveyed impact areas would require archaeological inventory prior to ordnance clearing. Because one of the plants known to occur on the Kanaio LTA MRS was not visible at the time of the surveys, biological monitoring was recommended during removal activities to reduce the potential of impacts. Activities outside of the impact areas require biological surveys to determine the presence or absence of rare or endangered species on site.

2.2.4 1998 Surface Ordnance Removal (1999)

During the 1998 Ordnance Removal, erosion and sediment control measures, as well as pollution control measures were followed. The access road to the Kanaio LTA was reconstructed prior to field activities (HIARNG, 1999). The four impact areas were swept; a 100% surface inspection was conducted by teams moving at 5-foot separation intervals. Live ordnance items that could not be moved were marked with flagging tape, and the coordinates recorded. Scrap metal was removed from all areas of the site. No HE items were found in the areas outside of the impact areas, though considerable live, blank small arms cartridges were recovered.

The four abandoned cars and small dumpster were removed and properly disposed of, as well as the refuse in the lava tube. Three biased soil samples were collected from depths of 1-15 inches below ground surface (bgs) in areas expected to have the heaviest range use in Impact Area 3B (**Figure 1-2**). Samples indicated lead concentrations below action levels. A soil sample was also collected from the bottom of the lava tube and analyzed for volatile organic compounds (VOCs);

sample results were non-detect. In all, 997-lbs of scrap were removed and 10 MEC items were disposed of by detonation.

2.2.5 2003-2004 UXO Surveys and Clearance (2005)

During 2003 through 2004, 1500 acres were surveyed for UXO in conjunction with archaeological and biological monitoring at Kanaio LTA MRS. Due to targeting inaccuracy and the uncertainty of firing points, areas surrounding the formally delineated impact areas were suspected to contain UXO. The surveys took place in three separate phases, each covering 500 acres. Phase 1 encompassed Impact Areas 1, 2, and 3A (Figure 1-2). As a result of the findings of Phase 1, which identified 81-mm illumination and 81-mm HE MD, the survey was extended south. Phase 2 extended south encompassing a portion of Area C, including the Target Site. The results of Phase 2 also indicated the need to extend the survey further. Phase 3 covered the southwestern portion of Area B. The surveys were conducted to identify and report expended munitions, live or potentially live munitions, dispose of munitions scrap, and dispose of any live and potentially live munitions (HIARNG, 2005). The surveys/clearance did not cover the entire Kanaio LTA MRS.

Approximately 2470 lbs. of munitions scrap were collected during Phases 1 and 2. Two unexploded 81-mm HE mortars and one unexploded 81-mm white phosphorus mortar were identified and disposed of by detonation. Five 3.5-inch rockets were found buried in a crevice adjacent to several sensitive archaeological features; this site was named T-26 Burial Complex. One 3.5-inch rocket was imbedded in a vertical rock face above this discovered cache; due to potential for impact on the identified cultural features these items were not disposed by detonation. The site, southeast of Pu'u Pimo'e, is roughly 60 meters long by 50 meters wide, and consists of a minimum of 24 features identified by the project archaeologist as burial terraces. Based on the findings of the first two phases, additional survey and disposal were recommended, particularly beyond the southern and eastern boundaries of the Phase 2 survey (HIARNG, 2004). Approximately 500 lbs. of munitions scrap were collected during the Phase 3 survey. These munitions items were dispersed throughout the Phase 3 boundary and outside the previously delineated boundaries for the Impact Areas and the 3.5-inch Rocket Range.

Over all three phases, more than 3000 ordnance and ordnance-related items were collected, inspected, and demilitarized. More than 40 UXO items including LAWs, 3.5-inch rockets, 60-mm mortars, and 81-mm mortars were detonated in place (Figure 2-2). Confirmation soil sampling performed following the single demilitarization detonation to vent munitions scrap indicated no significant environmental impact. Further surveying was recommended to the east and south of the Phase 3 investigation boundary due to the presence of munitions scrap and potential target drums at the eastern and southern boundaries of the Phase 3 area (HIARNG, 2005).

2.2.6 Site Inspection Report (2018)

The SI fieldwork was conducted in November 2017 to gather data and determine whether the site warranted further response actions. The SI was conducted over the entire 4771-acre Kanaio LTA of which the Kanaio LTA MRS, that is the subject of this ROD, comprises a portion (1983 acres - Area 1 and Area D) (**Figure 2-1**). The inspection included an instrument-assisted visual survey along predetermined transects covering approximately one percent of the total site area. Transects were completed in areas not previously investigated, as well as in known impact areas. Much of the eastern half of the Kanaio LTA, particularly the southern area, was deemed inaccessible due

to terrain and limited access, a small portion of this inaccessible area is at the eastern edge of the subject Kanaio LTA MRS. The instrument-assisted visual survey resulted in the discovery of one MEC item, one item designated as material potentially presenting an explosive hazard (MPPEH) and requiring EOD response, and 61 MD items. These items were predominately located in the central to southern portion of the site (east central portion of Area 1). Survey results and HRR data were used to identify 10 Incremental Sampling Method (ISM) Decision Units (DUs) within the investigation area. One ISM surface soil sample was collected from each DU containing soil, to evaluate the presence and concentration of MC. Many of the proposed sample locations lacked sufficient soil for sample collection; only six of the intended 10 samples could be collected. Antimony, lead, and explosive compounds were not detected in any of the samples. Copper and zinc concentrations did not exceed project action limits.

Based on the historical data and SI findings, it was recommended that Kanaio LTA be managed as two distinct areas:

- Area 1, Approximately 1946 acres comprised of the highest density of potential explosive hazards based on the SI and historical findings. The SI Report recommended that Area 1 proceed to a RI/FS.
- Area 2, Approximately 2268 acres comprised of the remainder of the MRS. No explosive hazards have been identified in this area. Small arms debris has been detected but does not present an explosive hazard. No Further Action (NFA) was recommended for this area in the SI.

2.2.7 Remedial Investigation (2022)

The 2021 RI was performed for the Kanaio LTA MRS based on the recommendations of the 2018 SI (Na Ali'i, 2018). The RI was focused on Area 1 as Area 2 was recommended for NFA. However, as a result of discussions during the Systematic Planning Process (SPP), conducted to engage key stakeholders (HI DLNR) and regulators (HDOH), the 37-acre Area D was added to the investigation area addressed under this project. (Figure 1-2).

The RI MEC sampling was designed to determine the nature and extent of MEC contamination within the project site with contingencies to sample for and characterize the nature and extent of MC in soil based on the findings of the MEC sampling effort. The findings of the RI are summarized in Sections 3 and 5.

The RI survey was designed to obtain data to sufficiently characterize the presence or absence as well as nature and extent of MEC and MC contamination at the Kanaio LTA MRS in order to evaluate potential hazards or risks related to MEC and MC. These findings were planned to support the development of potential remedial alternatives where complete exposure pathways were identified. Therefore, the RI field activities were divided into two segments:

- MEC Sampling consisted of three phases: A Digital Geophysical Mapping (DGM) transect survey, a DGM grid survey, and a "modified analog" transect survey where DGM wasn't physically possible. Followed by an intrusive investigation.
- MC Sampling the MC sampling plan consisted of only sampling soil in locations where MEC was discovered.

The MEC sampling effort was designed to delineate potential high use areas, low use areas, and

no evidence of usage areas. Given the SI recommendation that "MC does not pose a risk to human health or the environment" and the lack of soil over the majority of the MRS, the RI MC sampling effort was limited to following circumstances; encountering low-order detonation munitions, encountering suspected contamination sources (e.g., a cache of Discarded Military Munitions [DMM]), conducting blow-in-place (BIP) activities for single munitions, or conducting consolidated detonation events and only in areas where there was sufficient soil to collect a sample.

Characterization of MEC consisted of a series of steps beginning with gathering both analog and DGM data on preliminary transects strategically spaced across the MRS. Analog data collection techniques were not originally planned; however, due to the extreme adverse terrain and presence of a'a lava fields, data collection techniques were modified and documented in the RI/FS Report (Parsons, 2022a). The transect geophysical data were used to identify both surface and subsurface geophysical anomalies indicating the potential presence of metallic objects. This data was used to evaluate the horizontal distribution across the MRS and subsequently to differentiate between high anomaly density (HD) and low anomaly density (LD) areas within the Kanaio LTA MRS based on threshold criteria.

Following identification of both HD and LD areas, 13 0.25-acre sampling grids were established at locations selected by the SPP Project Team for transect mapping and intrusive investigation (**Figure 1-3**). Transect surveys were conducted on each of the 13 grids. However, as previously stated, a large section of the site (roughly 90%) is covered in a'a lava which caused limitations in the ability to capture data accurately and safely with certain equipment. Therefore, modified analog techniques were significantly used to augment conventional DGM and Advanced Geophysical Classification (AGC) mapping. Grids were intrusively investigated to confirm if individual HD or LD areas represented a high-use area (HUA) (i.e., an area contaminated with MEC or a significant amount of MD), low-use area (LUA), or neither. A determination of the vertical extent of MEC and MD contamination was also accomplished through the intrusive investigation.

Three grids (all LD) fell outside of the a'a lava field and were on terrain on which DGM and AGC data collection was feasible. The remaining 10 grids (5 HD, 5 LD) were placed in the a'a lava field and were unable to be collected in a safe and reliable manner with the DGM technology. In order to investigate these grids safely and accurately, a modified analog system was utilized. Analog sensors swept transects over the grids and any anomalies were intrusively investigated.

A single 36-acre HUA was identified based on the distribution of MEC and MD found during the RI and with consideration to known historical MD and MEC findings (where documented). The remaining 1947-acres were classified as an LUA (**Figure 1-3**). One MEC item, an 81-mm HE mortar (Grid 12), was discovered during the remedial Investigation inside the boundary of the identified HUA. Historically MEC items have been reported in this area. Most of the MEC findings, where documented, were within the Remedial Investigation HUA or in proximity. All prior identified MEC were reported as removed or detonated.

During the RI, a total of 854 MD items were recovered of which 371 were associated with the transect survey. The balance of the MD consisted of 357 MD items from 5 HD area grids and 96 MD items from 8 LD area grids. Additionally, a cache of 30 MD items (US Rocket Practice M29 Series rockets) were discovered by the field team while traversing the site on the way to Grid 4. All MD was recovered from depths of less than 34 cm (~13.4 inches) bgs and 92.5 percent of MD was recovered at less than 15 cm bgs (~6 inches). Within much of the project area to include all of the HUA, minimal to no surface soil was present due to the presence of a'a lava fields. As such,

the MD recovered in this area (transects and grids) was generally located on the surface.

Details of the sampling methodology are documented in the RI Work Plan/UFP-QAPP (Parsons, 2021) The full results of the MEC sampling survey are provided in the RI/FS Report (Parsons, 2022a).

Previous investigations determined that throughout most of the Kanaio LTA MRS insufficient soil was present to collect MC samples. The SI Report concluded "Based on the analytical results, MC does not pose a risk to human health or the environment" (Na Ali`i, 2018). Based on the SI conclusions and known absence of soil within the impact area (the subject of this ROD) and in accordance with the approved RI/FS UFP-QAPP, MC sampling would be conducted only in the following circumstances; encountering low-order detonation munitions, encountering suspected contamination sources (e.g., a cache of DMM), conducting BIP activities for single munitions, or conducting consolidated detonation events and only in areas where there was sufficient soil to collect a sample.

During the RI, a single BIP (intact 81-mm HE mortar from Grid 12) was conducted and a stockpile of US Rocket Practice M29 Series rockets (MD) were found; however, in both cases no soil was present.

Upon completion of the MEC investigation and intrusive operations one MEC item was found (81mm HE Mortar) during the 2021 RI for Kanaio LTA MRS. Based on this finding, and distribution of MD items recovered during the RI field effort, with consideration to known historical MD and MEC findings (where documented), one 36-acre HUA was identified and confirmed at the MRS. The remaining 1947-acres were determined to be LUA. No "no evidence of use" (NEU) areas were identified.

MC contamination (i.e., contaminants of potential concern) was not identified within the MRS. Insufficient soil was present to sample in both areas meeting the sampling criteria (BIP and DMM stockpile).

A baseline risk assessment (RMM) was conducted to evaluate potential risk from MEC at the MRS using RMM. This RMM involves the use of four matrices to define acceptable and unacceptable risk from MEC hazards based on an evaluation of site conditions related to the likelihood of an encounter, the severity of an incident, and the sensitivity of interaction based on expected land use activities. Based on the discovery of MEC, combined with the MD items found during the RI and current land use and accessibility of the assessment area, an unacceptable risk was determined to exist for current human receptors to come in direct contact with explosive hazards at the MRS.

The absence of soil precluded MC sampling during this RI. Combined with the results of the limited soil sampling conducted during the SI and absence of surface soil to provide a complete exposure pathway throughout most of the site, no MC contamination was identified within the project area. Therefore, no risk assessment for MC was conducted.

2.2.8 Proposed Plan (2022)

The PP presented the rationale for the preferred decision of *Focused Surface and Subsurface MEC Removal and Land Use Controls* for addressing MEC at the Kanaio LTA MRS based on the history, findings, and conclusions from previous environmental investigations conducted at the MRS. The PP also explained how the public could participate in the decision-making process.

2.3 Community Participation

The Community Relations Plan (Parsons, 2020) was prepared to establish processes to keep the public informed of activities at the Kanaio LTA MRS. The plan is available in the administrative record maintained by HIARNG.

In accordance with CERCLA Section 117(a) and NCP Section 300.430(f)(3), ARNG released the PP (Parsons, 2022) to the public on August 9, 2022. The PP and other project-related documents are available to the public in the administrative record maintained by HIARNG and in the information repository at the Makawao Public Library (1159 Makawao Avenue, Makawao, HI 96768). A notice of availability for the PP was published in the Maui News on August 13/14, 2022 (Appendix A), as specified in the Community Relations Plan (Parsons, 2020). The conduct of the PP Public Meeting on August 23, 2022 initiated the 30-day public comment period beginning August 23, 2022 and ending September 23, 2022. No members of the public attended the meeting; therefore no direct public comments or questions were received at the meeting. Representatives from both HI DLNR and HDOH were present at the meeting and an official transcript of the meeting was prepared (Appendix B). In addition, no comments or questions were received via phone or email contact from the public as a result of reviewing the documents in the administrative record or information repository during the public comment period (August 23, 2022 through September 23, 2022).

2.4 Scope and Role of Operable Unit or Response Action

The Preferred Action response alternative - *Focused Surface and Subsurface MEC Removal and Land Use Controls* - will constitute the final action for the Kanaio LTA (HIHQ-006-R-01). A No Action determination for MEC is not appropriate at this MRS because the results of the RI illustrated that the MRS has been sufficiently characterized and unacceptable risks to human health or the environment is present. The Preferred Action response alternative is appropriate at this MRS because as a result of implementation of this alternative MEC risks are reduced to acceptable levels per the RMM risk analysis. Because the remedial action does not allow for unlimited use and unrestricted exposure, full use of the MRS without restrictions is not recommended and LUCs are included as part of the Preferred Action response alternative. The Preferred Action response alternative decision presented in this ROD is protective of human health, welfare, and the environment.

2.5 Site Characteristics

This section summarizes the physical setting of the 1983-acre 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 Climate

The Kanaio LTA MRS is located on the leeward side of east Maui, opposite prevailing trade winds (prevailing winds are from the northeast), thus the climate is generally arid and wind-swept, with a mean annual rainfall ranging from about 25-30 inches at approximately 1,800 feet above mean sea level (msl), to about 20 inches at the coast. Despite the arid climate, almost daily cloud cover collects over the mountain slopes, producing a heavy mist. The mean daily average temperature is between 70 and 75 degrees Fahrenheit (°F), with a mean daily temperature range of 65 to 85°F (U.S. Army Center for Health Promotion and Preventative Medicine [USACHPPM], 2003).

2.5.2 Geology

The Kanaio LTA MRS is on the southwestern slope of Haleakala, the younger of the two volcanoes that form eastern Maui. Haleakala was formed during the Pleistocene Era, approximately 1.1 million years ago, by Kula series volcanic eruptions. Kula andesitic rocks were deposited on top of the Honomanu basal basalts and olivines. The current landscape of the Kanaio area was formed when the Hana volcanic series was deposited on the deeply eroded Kula volcanic shield surface (Na Ali'i, 2018). The Kanaio LTA MRS lies in an area of very recent volcanic activity. The estimated age of Pu'u Pimo'e cinder cone in the northwest region of the range is approximately 1,000 years old. The substrate, primarily a'a lava with some cinder deposits is probably less than 10,000 years old.

2.5.3 Surface Topography

The Kanaio LTA MRS is characterized by steep terrain with elevations ranging from sea-level in the south to 1800 feet above mean sea level to the north. Vegetation within the investigation area is largely non-existent with the surface consisting mostly of a'a lava fields with loose rock, boulders, small cliffs, and several caves and tubes that have formed within lava voids. The most prominent features are two cinder cones in the north-west portion of the Kanaio LTA MRS. No surface water bodies are present but trenchlike channels that align downslope have formed throughout the site.

2.5.4 Hydrogeology and Hydrology

The interconnected void spaces in the pahoehoe, and layers of clinker (a typed of partially melted sedimentary rock that can form shale-like sheets) between highly fractured a'a flows result in high permeability. The lava in the core of an a'a flow is generally a massive, solid body of rock; the resulting lower permeability may inhibit vertical groundwater flow. The formation beneath the Hana, the Kulu formation, is known to act as an aquitard in some locations, and an aquifer in others. Perched freshwater lenses are possible in this area; the Hana may also contain basal groundwater near the coast. Depth to groundwater at the site is not known (Na Ali'i, 2018).

On a regional scale, the Kanaio area is underlain by the Lualailua aquifer system. Basal groundwater within the Lualailua occurs mostly within the underlying Honomanu series basalts. The Honomanu aquifer is one of the principal developable aquifers of eastern Maui; where it is unconfined, it is susceptible to contamination from surface sources. The Honomanu may be recharged in upcountry areas, due to increased surface water infiltration, as well as in deeply eroded gulches where the unit is exposed. The depth to groundwater in this unit has not been established; groundwater flow is assumed to be towards the coast (Na Ali'i, 2018).

Due to the lack of precipitation and the permeable nature of the surface lava, there are few surface water features within the Kanaio LTA MRS. A channel, which crosses Piilani Highway about 0.75 miles east of the site reportedly fills with water and flows during rain events. Anchialine pools, landlocked bodies of water formed in porous lava, having an underground connection to the ocean, reportedly exist along the coast to the south of the Kanaio LTA MRS. The water in these pools is brackish due to their connection with the ocean (Na Ali'i, 2018). According to the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) there are no known wetlands within the MRS (USFWS, 2021).

2.5.5 Soils

Most of the Kanaio LTA MRS is dominated by recent lava flows with very little soil development on the fresh Hana flow surfaces. Over 60% of the Kanaio LTA MRS, and the entirety of Area 1, is covered with a'a lava, a type of cooled, hardened volcanic rock that is formed as lava flows downhill. The top layer of the flow begins to harden and fracture as the molten core continues to flow. Ultimately this hardens into a rough, spiny surface that is extremely difficult to traverse with a solid core underneath. Some locations on site composed of older pahoehoe flows are covered with a thin layer of soil and ash materials.

2.5.6 Ecological Receptors

Five rare plant species and four rare animal species are known or potentially present within the Kanaio LTA MRS (Na Ali'i, 2017a). The four animal species in the area and their status according to the U.S. Fish and Wildlife Service (ecos.fws.gov) are the endangered Hoary Bat (r Ōpea'ape'a), the rare Hawaiian Owl (Pueo), the endangered Blackburn's Sphinx Moth, and the rare Koa Bug.

This critical habitat unit is described in the Federal Register (USFWS, 2016) to be occupied by six endangered plant species, Bonamia menziesii, Cenchrus agrimonioides, Flueggea neowawraea, and Melicope adscendens, Santalum haleakalae var. lanaiense, and Spermolepis hawaiiensis. Additionally, it has been designated as suitable habitat for species that do not currently reside in the area, including: Alectryon micrococcus, Bidens micrantha ssp. Kalealaha, Canavalia pubescens, Colubrina oppositifolia, Ctenitis squamigera, Hibiscus brackenridgei, Melanthera kamolensis, Melicope mucrunulata, Neraudia sericea, Notothrichium humile, Sesbania tomentosa, Solanum incompletum, and Zanthoxylum hawaiiense.

During the RI, onsite biological monitoring was performed to (1) insure that any action taken during field activities was not likely to jeopardize the continued existence of any threatened or endangered (T&E) species or result in the destruction or adverse modification of designated critical habitat, and (2) prohibit any action that results in a "take" of a T&E species without a determination that any "take" was not likely to jeopardize the continued existence of any T&E species, in accordance with 16 U.S.C. 1538(a)(1)(B), 50 CFR 17.21(a), and 16 U.S.C. 703(a). A biologist joined the survey team daily in order to support avoidance of T&E species and redirect field activities as necessary away from sensitive habitat. The majority of the MRS is characterized by a'a lava fields that are mostly depauperate of plants. No T&E plant or animal species were encountered during the RI fieldwork.

Given the combination of absence of significant site soil and the lack of MC contamination and associated MC risk (both ecological and human health), there are no current or future receptor exposures to MC.

2.5.7 Cultural Resources

Previous studies found multiple archaeological sites within the project area, several of which were suspected to contained human remains (Na Ali'i, 2017b). As such, caution was exercised to avoid potential or known sites, as the area contains numerous traditional Hawaiian burial and religious sites, in addition to historic sites (Na Ali'i, 2017b).

Archaeological monitoring was conducted to support RI field activities to ensure that those activities avoided potentially significant known and previously unknown archaeological resources. During transect mapping, ten archaeological sites that did not appear to be previously documented

were identified by the onsite archaeologist. As a result, the RI field team was able to avoid impacting or disturbing these cultural resources. Several stone features were also observed that do not appear to be part of previously recorded sites and were similarly avoided. In accordance with the project Work Plan and reporting requirements, the locations of recorded archaeological sites have not been released to the general public.

2.5.8 Conceptual Site Model

A CSM is used to qualitatively describe potential exposures to contaminants at or migrating from a site. The CSM describes on-site release mechanisms, affected physical media, types of contaminant transport and fate mechanisms that may be involved at the site, each group of potentially exposed populations or receptors, and how each receptor group may contact site-related contamination. The CSM is used to summarize existing site characterization data, including assumptions about land use, and to complete the qualitative exposure pathway assessment. The CSM diagram developed for the Kanaio LTA MRS is presented as **Figure 2-3**.

Based on the results of the prior site investigations as well as the RI, no chemicals of potential concern (COPCs) or chemicals of potential ecological concern (COPECs) were identified within the Kanaio LTA MRS due to the lack of sampleable soil in the impact areas in locations identified for sampling in accordance with the UFP-QAPP. Combined with the results of the limited soil sampling conducted during the SI and the absence of soil precluding MC sampling during this RI, no MC contamination was identified and the soil exposure pathway is considered incomplete. In addition, exposure to surface water and sediment is not anticipated due to the absence of a perennial water body within the MRS.

Current and future receptors to MEC include recreational users and site workers with surface exposure generally confined to public trails. Both small private parcels are located well outside the HUA and are undeveloped and likely to remain undeveloped given the inhospitable conditions, prohibitive cost, and the absence of infrastructure. Potential future receptors include hunters and support personnel as DLNR is actively pursuing approvals for the establishment of a Forestry and Wildlife Management Area within a portion of the Kanaio LTA MRS. Under this development scenario several extensive fence construction efforts are planned; therefore, future construction workers are also potential future receptors.

Receptors at the Kanaio LTA MRS may be exposed to MEC via direct contact on the surface as well as via possible intrusive activities by on-site workers and site visitors/recreational users.

2.6 Current and Potential Future Land and Resource Uses

The 1983-acre project area consists of almost exclusively HI DLNR owned land. The MRS is open to the public but the majority of the MRS is characterized by extremely adverse terrain with significant natural barriers limiting public access for recreational activities characteristic of the a'a lava conditions. With the exception of the difficult hike within the footprint of King's Trail, the vast majority of the MRS is near impassible and does not represent a recreational attraction to current receptors. Further, the MRS is isolated and offers no amenities. The coastline, primarily south of the King's Trail, is visited for cultural artifact collection, scenic viewing, photography, and religious activities and study. Recreational and subsistence hunting, fishing, and nonauthorized shooting occur within the few areas of the Kanaio LTA MRS that are somewhat accessible. Future land use is likely to change. The DLNR is actively evaluating the establishment of a Forestry and Wildlife Management Area that would include a portion or all of the Kanaio LTA MRS. Per direct conversations with HI DLNR, this anticipated change in designation is not expected to have a significant impact on current and future recreational use of the area. When the designation moves forward, a moderate increase in site use could result to include potential seasonal hunters and support personnel. Some limited development is expected to include boundary fence construction, access road installation/construction, hunter kiosks, and placement of game "water units". UXO Construction Support can be requested by HDOH/DLNR and will be provided by ARNG for development actions within the MRS where the risk of potential encounter with UXO remains before or following application of selected response actions. The request must be submitted with sufficient advance notification to ARNG to allow coordination and secure funding. At present this potential change in land use is in the preliminary stages and has been under consideration for a number of years. Currently an Environmental Assessment (EA) is being developed which will outline the specifics of planned actions for the area.

2.7 Summary of Site Risks

Based on the results of the RI, by default no COPCs or COPECs were identified within the Kanaio LTA MRS due to the lack of soil in the impact areas in locations identified for sampling in accordance with the UFP-QAPP. Combined with the results of the limited soil sampling conducted during the SI and the absence of soil precluding MC sampling during this RI, no MC contamination was identified and the soil exposure pathway is considered incomplete. Therefore, no risk assessment for MC was conducted.

MEC RMM was applied to the MRS. Based on the presence of surface (historical) MEC, the current land use and accessibility of the project site, there is an unacceptable risk for human receptors to be exposed to explosive hazards within the Kanaio LTA MRS.

The presence of MEC hazards negates the potential acceptability of the "no-action" response. Therefore, a risk management decision to address unacceptable explosive risks from MEC was necessary to develop and evaluate appropriate remedial alternatives for presentation to decision-makers and to support remedy selection for explosive hazards. The Preferred Action alternative selected, *Focused Surface and Subsurface MEC Removal and LUCs* protects human health by eliminating, reducing, and managing explosive risks posed through each exposure pathway.

The collected MEC data and associated characterization described in the RI report are considered sufficient to fully characterize the Kanaio LTA MRS, to identify and evaluate associated potential MEC hazards, and to support the Preferred Action alternative selected. The PP was prepared to convey this finding to the public, followed by a ROD (this document) to formally document the remediation plan at the MRS.

2.7.1 Human Health Summary

During the SI, a total of eight surface soil samples were collected in triplicate and submitted to a laboratory and analyzed for select explosives and metals based on the munitions historically used at the site. No explosives analytes were detected in any of the samples. Copper and zinc were detected in all samples at levels an order of magnitude below PALs. Antimony and lead were non-detect in all samples. Based on the analytical results, the SI Report concluded that MC does not pose a risk to human health or the environment. Consequently, all MC exposure pathways for humans and ecological receptors are incomplete. Based on these findings, both Areas 1 and 2 of the Kanaio LTA were recommended for NFA with respect to MC (Na Ali`i, 2018).

No additional MC investigation was conducted during the RI for the following reasons: (1) the nature and extent of contaminants detected in soil (where soil was present) at the site has been characterized; (2) no contaminants of concern (COCs) posing risks to human health or the environment were identified at the MRS; and (3) No Action is recommended by the ARNG and agreed to by HDOH. Therefore, No Action for MC was required for the Kanaio LTA MRS.

A baseline risk assessment was conducted to evaluate potential risk from MEC at the MRS using RMM. Based on the discovery of MEC, combined with the MD items found during the RI and current land use and accessibility of the assessment area, an unacceptable risk exists for human receptors to come in direct contact with explosive hazards at the MRS. Implementation of the Selected Remedy mitigates the risk to an acceptable level.

2.7.2 Ecological Summary

Although there are five rare plant species and four rare animal species known or potentially present within the Kanaio LTA MRS, the SI Report concluded that MC does not pose a risk to ecological receptors due to the absence of COPECs in surface soil (where soil was present). As such, an Ecological Risk Assessment was not performed during the RI/FS.

2.7.3 Risk Assessment Conclusion

The absence of soil precluded MC sampling during this RI. Combined with the results of the limited soil sampling conducted during the SI and absence of surface soil to provide a complete exposure pathway throughout most of the site, no MC contamination was identified within the project area. Therefore, no risk assessment for MC was conducted and no unacceptable human health or ecological risks due to exposure to MC in surface soil at the Kanaio LTA MRS have been identified.

MEC RMM was applied to the MRS. Based on the presence of surface (historical) MEC, the current land use and accessibility of the project site, there is an unacceptable risk for human receptors to be exposed to explosive hazards within the Kanaio LTA MRS. Because unacceptable MEC risks were found at the Kanaio LTA MRS, the RI concluded that an FS was warranted and No Action was not applicable for the MRS. The remedial alternatives identified to address MEC risk at the Kanaio LTA MRS were evaluated against the NCP evaluation criteria. The comparative analysis of alternatives was conducted using the current CSM for the Kanaio LTA MRS, which is based on the present state of knowledge concerning contamination and both current and reasonably anticipated future land use.

This FS evaluated various alternatives with the selection of the Preferred Action alternative, *Focused Surface and Subsurface MEC Removal and LUCs*, selected by the stakeholders and documented in the PP. The ROD, this document, is issued presenting the selected remedy for the Kanaio LTA MRS.

2.8 Remedial Action Objectives

This ROD presents actions to address MEC contamination at the Kanaio LTA MRS that pose a risk to human health. The RAO is to reduce the MEC risk due to presence of previously identified rockets, mortars, projectiles, and grenades within the Kanaio LTA MRS both on the surface and in the subsurface and to minimize the likelihood of exposure to trespassers and recreational users (hikers) via direct contact, through source removal, implementation of land use controls, and access restrictions, or a combination thereof, such that an acceptable condition is achieved.

Medium	Soil, a'a lava	
Contaminant	MEC (UXO): Surface to depth based on RI intrusive data to be primarily less than 17 cm (6.7 inches) bgs in Kanaio LTA MRS. Historically MEC was identified at c immediately below the surface. 99.7% of MD and MEC was recovered from 17 cr or less bgs. The maximum depth of MD was 34 cm (~13.4 inches) bgs.	
Receptors	Site workers, trespassers, and recreational users (hikers/hunters).	
Exposure Pathways	Presence at site; direct contact (e.g., recreational users).	
RAO	To reduce the risk due to presence of LAW rockets, 3.5-inch rockets, 40-mm HE grenades, 105-mm rounds, 106-mm HEAT rounds, 4.2-inch mortars, 81-mm WP mortars, and 81-mm HE mortars within the Kanaio LTA MRS on the surface and in the subsurface to the depth of contamination (depths up to 34 cm bgs confirmed in RI) to address likelihood of exposure to site workers, trespassers, and recreational users (hikers/hunters) via direct contact, through a source removal, an implementation of land use controls, access restrictions, or a combination thereof, such that an acceptable condition (as defined by RMM Matrix 4) is achieved.	

Table 2-1Remedial Action Objectives

2.9 Description of Alternatives

Based on the findings of the RI conducted at the Kanaio LTA MRS, five remedial action alternatives were identified and evaluated in the FS. These included:

- Alternative 1 No Action
- Alternative 2 Public Education and Warning Signs (LUCs)
- Alternative 3 Surface MEC Removal and LUCs
- Alternative 4 Focused Surface and Subsurface MEC Removal and LUCs
- Alternative 5 Complete Surface and Subsurface MEC Removal (UU/UE)

Each alternative was assessed individually against the assessment criteria required by law provided by the United States Environmental Protection Agency (USEPA) in CERCLA §121(b) and Section 300.430(e)(9)(iii) of the NCP (40CFR 300.430(e)(9)(iii)). The criteria are as follows:

- 1) Overall protection of Human Health and the Environment
- 2) Compliance with ARARs
- 3) Long-term effectiveness and permanence
- 4) Reduction of toxicity, mobility, or volume through treatment (TMV)
- 5) Short-term effectiveness
- 6) Implementability
- 7) Cost

- 8) State acceptance
- 9) Community acceptance

ALTERNATIVE 1 – NO ACTION

Alternative 1 is no action to address the potential MEC at the Kanaio LTA MRS. 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.

<u>ALTERNATIVE 2 – PUBLIC EDUCATION AND WARNING SIGNS (LAND USE</u> <u>CONTROLS)</u>

Alternative 2 is the implementation of public education and warning signs which would serve to limit human interaction with surface and subsurface MEC within the MRS by increasing the awareness of potential MEC hazards. The LUCs would focus on modifying human behavior through public education and warning signs. To educate the receptors of potential explosive hazards, educational pamphlets would be developed and distributed to local residents, posted on community boards, and included with hunting permits. Warning signs would be installed at MRS access points along the Piilani highway (Hawaii state route HI-37) to the north of the Kanaio LTA and the King's Trail (also referred to locally as Hoapili Trail or the King's Highway) in the south section of the Kanaio LTA MRS. Additional warning signs may be made available with sufficient advance notice from HI DLNR. Specifics regarding LUCs will be outlined in a LUCIP prepared as part of the RD phase for the Selected Remedy (in collaboration with HDOH and HI DLNR).

This alternative would require that Five-Year Reviews be conducted to ensure that the land use controls remain protective of potential human receptors.

<u>ALTERNATIVE 3 – SURFACE MEC REMOVAL AND LAND USE CONTROLS</u>

Alternative 3 is the implementation of a complete instrument-aided surface MEC removal and land use controls across the entire 1983-acre MRS which would serve to reduce risks by removing surface MEC throughout the MRS and would limit human interaction with surface and subsurface MEC at the MRS by increasing the awareness of potential hazards.

The first step MEC detection would be accomplished with an instrument aided-sweep of the MRS. UXO-qualified personnel would systematically walk the MRS and mark, identify, and record the locations of all MEC found on the surface for removal or subsequent disposal. The search would be conducted with a handheld analog magnetometer.

This alternative would consist of 100% coverage of the 1983-acre MRS. If the instrument indicates a response but the source item is not found on or just below the ground surface, the UXO Technician would move on without extensive digging into the subsurface.

The same land use controls as described in Alternative 2 would be utilized. Five-Year Reviews would be conducted to ensure that the implementation of the selected remedy and land use controls remain protective of potential human receptors.

<u>ALTERNATIVE 4 – FOCUSED SURFACE AND SUBSURFACE MEC REMOVAL AND</u> <u>LAND USE CONTROLS</u>

Alternative 4 is the implementation of a 126-acre "focus" surface and subsurface MEC removal and land use controls which would serve to reduce risks by removing surface and subsurface MEC throughout a portion of the MRS and would limit human interaction with surface and subsurface MEC by increasing the awareness of potential hazards.

The 126-acre "focus" area is an area that is determined to be the area with the highest likelihood of MEC contamination at the MRS. The "focus" area includes the 36-acre HUA which is where the majority of the MD and single MEC item (81-mm HE mortar) were identified during the RI, as well as where the majority of the SI findings were located, plus a 90-acre buffer area. While it was determined to be low anomaly density, the King's Trail is the highest traffic area onsite; therefore, a 50-foot swath (25 feet on each side of the centerline of the trail) was also included as part of the "focus" area to include the entire length of the trail within the "Area 1" and "Area D" portion of the MRS as well as the connecting trail.

Following field-delineation of the 126-acre "focus" area (derived based on RI findings and land use plus buffer area) and establishing a subgrid network for progress tracking purposes, analog sweeps would be conducted to investigate 100% of the surface and subsurface (if present, to a maximum depth of 34 cm in accordance with the RAO or until rock is encountered).

The same land use controls as described in Alternative 2 would be utilized. Five-Year Reviews would be conducted to ensure that the implementation of the selected remedy and land use controls remain protective of potential human receptors.

ALTERNATIVE 5 – COMPLETE SURFACE AND SUBSURFACE MEC REMOVAL

Alternative 5 is the implementation of a complete surface and subsurface MEC removal across the entire 1983-acre MRS and would serve to reduce risk by removing all surface and subsurface MEC throughout the MRS.

Alternative 5 would accomplish MEC detection using dynamic AGC methods where accessible, and analog methods elsewhere, followed by MEC removal though intrusive investigation of geophysical anomalies over all of the MRS.

MEC Detection would be accomplished with the goal of achieving 100% coverage of the accessible areas of the MRS with AGC equipment. Finally, all of the anomalies retained by the AGC survey would be intrusively investigated until the maximum equipment detection depth is attained.

Analog methods detailed in Alternatives 3 and 4 would be used on the remainder of the MRS where AGC methods are not feasible.

After implementation of this remedy Unlimited Use/Unlimited Exposure (UU/UE) conditions would be assessed. The depths that MEC is detected and removed and whether 100% coverage was attained would be evaluated post-removal to verify that UU/UE is achieved. UU/UE would also require that all right-of-entry (ROE) is granted or renewed for 100% of the MRS (to include the two private parcels). If UU/UE is not achieved land use controls as described in Alternative 2 would also be implemented with this alternative.

2.10 Comparative Analysis of Alternatives

The comparative analysis evaluates the relative performance of Alternatives 1, 2, 3, 4, and 5 with respect to each of the nine NCP criteria. 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, the United States Army Corps of Engineers (USACE), HI DLNR, and HDOH, as well as input from the community, served as the basis for selecting the remedy (**Table 2-2**).

Threshold Criteria

Remedial Alternatives 2, 3, 4 and 5 would be protective of human health and the environment by addressing the exposure of receptors to MEC such that there are no unacceptable risks remaining at the Kanaio LTA MRS. Remedial alternatives are either protective or not and, therefore, no comparison of overall protectiveness is possible between alternatives.

All remedial alternatives identified to address MEC risk at the Kanaio LTA MRS comply with ARARs. There are no chemical-specific or location-specific ARARs identified for any alternatives. One Action-Specific ARAR may be applicable to Alternatives 3, 4, and 5. Alternatives 3, 4, and 5 will include MEC disposal if MEC is encountered and will comply with Resource Conservation and Recovery Act (RCRA) 40 CFR Part 264 subpart X which is the USEPA guidance document for non-typical hazardous waste.

Primary Balancing Criteria

Notably, there are different degrees of long-term effectiveness and permanence associated with Alternatives 2, 3, 4, and 5. Alternatives 3 through 5 are more effective over the long-term and more permanent than Alternative 2 because they involve some measure of MEC removal. Of the alternatives, Alternative 5 is the most effective because the MEC removal is complete resulting in potential UU/UE.

Alternative 2 does not implement any treatment technologies, therefore does not provide any reduction of the toxicity, mobility, or volume of MEC. Alternatives 3 through 5 achieve reduction in TMV of wastes because they all involve some measure of MEC removal/disposal. Of these alternatives, Alternative 5 achieves the greatest reduction in TMV of wastes because the associated MEC removal/disposal includes both surface and subsurface MEC. The MEC removal associated with Alternative 3 only focuses on potential MEC located on the surface; therefore, the reduction achieved with Alternative 3 is not as great as with Alternative 4 or 5. The MEC removal associated with Alternative 4 only focuses on potential MEC located in a portion of the MRS; therefore, the reduction achieved with Alternatives 4 is not as great as with Alternative 5.

Implementation of Alternatives 2 through 5 would result in short-term hazards to workers involved with the MEC removal activities or the installation of warning signs because of the increased likelihood of MEC exposure. Of Alternatives 2, 3, 4, and 5, Alternatives 3 through 5 would present the greatest short-term hazards to workers because the associated MEC remedial actions. In all cases, hazards to workers during implementation of the alternatives would be managed using industry standard safety procedures (e.g., using qualified UXO personnel, enforcement of safe separation distances, engineering controls, etc.), which would also minimize any associated potential risks to the surrounding community. Alternatives 2 through 5 would not cause any adverse short-term effects on the environment. The estimated timeframe for implementing the remedial actions of Alternative 2 is 2 weeks, Alternative 3 is 54 weeks, Alternative 4 is 18 weeks, and Alternative 5 is 75 weeks. Maintenance of warning signs and distribution of public educational materials will continue to be implemented annually.

Alternatives 2, 3, 4, and 5 are all technically and administratively feasible but require (1)

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
CERCLA Evaluation Criteria	No Action	LUCs	Surface MEC Removal with LUCs	Focused Surface and Subsurface MEC Removal and LUCs ⁽¹⁾	Complete Surface and Subsurface MEC Removal
Protective of Human Health and the Environment	No	Yes Change in Decision Logic to Assess Risk (Unacceptable to Acceptable)	Yes Change in Decision Logic to Assess Risk (Unacceptable to Acceptable)	Yes Change in Decision Logic to Assess Risk (Unacceptable to Acceptable)	Yes Change in Decision Logic to Assess Risk (Unacceptable to Acceptable)
Complies with Applicable or Relevant and Appropriate Requirements	Not Applicable	Not Applicable	Yes	Yes	Yes
Effective and Permanent	No	Medium	High	High	Highest
Reduces Toxicity, Mobility, or Volume through Treatment	None (no treatment)	None (no treatment)	Reduction in volume of MEC on ground surface	Reduction in volume of MEC on ground surface and in subsurface in 126-acre "focused" area	Reduction in volume of MEC on ground surface and in subsurface
Short-Term Effectiveness	No short-term hazards to workers and surrounding area	Some short-term hazards to workers and surrounding area	Significant short-term hazards to workers and surrounding area	Greatest short-term hazards to workers and surrounding area	Greatest short-term hazards to workers and surrounding area
Implementable	Readily Implementable	Readily Implementable	Readily Implementable	Readily Implementable	Readily Implementable
State Acceptance	State Acceptance HDOH actively participated in preparation of documents and field activities and concurs with Alternative 4 as the Preferred Alternative.			1 Alternative.	
Community Acceptance	The Proposed Plan Public Meeting was conducted on August 23, 2022 with public review and comment period beginning August 23, 2022 and ending September 23, 2022. No members of the public attended the meeting or provided comments. Based on the lack of public comments, the community appears to be satisfied with the work the ARNG has performed and to be in support of the selected response action.				
Cost (2)	\$0	\$639,694	\$15,128,084	\$3,344,876	\$23,256,301

Table 2-2Comparison of Alternatives

(1) Conceptual "Focused Area" and "Remainder of MRS" areas are shown on Figure 1-3.

(2) 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 J of the Remedial Investigation/Feasibility Study Report.

specialized personnel and equipment to implement MEC removal and (2) the development of detailed work plans. Additionally, ROE is required to perform any remedial action and implementation of these alternatives is dependent on landowner participation.

The cost associated with each is as follows: \$639,694 (Alternative 2), \$15.13M (Alternative 3), \$3.34M (Alternative 4), and \$23.26M (Alternative 5). Alternative 5 has the highest costs. Alternative 5 is more expensive than Alternatives 3 and 4 because it requires a complete removal of potential MEC, both surface and subsurface, while Alternative 3 only involves a surface MEC removal and Alternative 4 only involves a portion of the MRS. Alternative 2 is the least expensive of the three acceptable remedial alternatives as it does not involve a MEC remedial action, only land use controls. Both Alternatives 2, 3, and 4 would require follow-on costs (i.e., operation & maintenance, periodic, or Five-Year Reviews).

Modifying Criteria

Based on input from HDOH during the SPP Team meetings, HDOH concurs with the conclusions documented in the RI/FS Report. A PP Public Meeting was held locally near the MRS on August 23, 2022. No members of the public attended despite public notification via various media. All pertinent project documents were maintained in the Administrative Record. The public comment period concluded on September 23, 2022. No comments were received from the community. Based on the lack of public comments, the community appears to be satisfied with the work the ARNG has performed and to be in support of the selected response action. As such, no change to the proposed decision is warranted based on the community response.

2.11 Principal Threat Waste

The NCP establishes an expectation that USEPA will use treatment to address the principal threats posed by a site wherever practicable [NCP \$300.430(a)(1)(iii)(A)]. Identifying principal threat wastes combines concepts of both hazard and risk. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur. Conversely, non-principal threat wastes are those source materials that generally can be reliably contained and that would present only a low risk in the event of exposure. The manner in which principal threats are addressed generally will determine whether the statutory preference for treatment as a principal element is satisfied.

MEC present at the Kanaio LTA MRS constitutes a principal threat waste (PTW). MEC found during the previous investigations and removal actions was considered PTW and was treated on site (BIP). In addition to the remediation response which includes treatment to address PTW, the LUCs to be implemented are intended to limit the potential for people to encounter MEC that may still be present following remediation.

2.12 Selected Remedy

Based on information included in the Administrative Record and set forth in CERCLA/SARA and the NCP; ARNG and USACE have selected *Alternative 4: Focused Surface and Subsurface MEC Removal and LUCs* as the Preferred Action response alternative.

2.12.1 Summary of the Rationale for the Selected Remedy

Alternative 4 – Focused Surface and Subsurface MEC Removal and LUCs

This alternative would be protective of humans and the environment and would achieve the RAO of minimizing risk to human receptors from exposure to MEC. 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).

2.12.2 Description of the Selected Remedy

<u>ALTERNATIVE 4 – FOCUSED SURFACE AND SUBSURFACE MEC REMOVAL AND</u> <u>LAND USE CONTROLS</u>

Alternative 4 is the implementation of a 126-acre "focus" surface and subsurface MEC removal and land use controls which will serve to reduce risks by removing surface and subsurface MEC throughout a portion of the MRS and will limit human interaction with surface and subsurface MEC by increasing the awareness of potential hazards.

The 126-acre "focus" area is an area that is determined to be the area with the highest likelihood of MEC contamination at the MRS. The "focus" area includes the 36-acre HUA which is where the majority of the MD and single MEC item (81-mm HE mortar from Grid 12) were identified during the RI, as well as where the majority of the SI findings were located, plus a 90-acre buffer area. While it was determined to be low anomaly density, the King's Trail is the highest traffic area onsite; therefore, a 50-foot swath (25 feet on each side of the centerline of the trail) was also included as part of the "focus" area to include the entire length of the trail within the "Area 1" and "Area D" portion of the MRS and the connecting trail.

Following field-delineation of the 126-acre "focus" area (derived based on RI findings and land use plus buffer area) and establishing a subgrid network for progress tracking purposes, analog sweeps will be conducted to investigate 100% of the surface and subsurface (if present, to a maximum depth of 34 cm in accordance with the RAO or until rock is encountered). Note that rock is exposed at most areas of the surface, so subsurface work will not be needed in most of the "focus" area.

This alternative includes LUCs including the implementation of public education and warning signs which will serve to limit human interaction with potential post-remediation residual surface and subsurface MEC within the MRS by increasing the awareness of potential MEC hazards. The LUCs implemented will focus on modifying human behavior by educating receptors to potential explosive hazards, educational pamphlets will be developed and distributed to local residents, posted on community boards, and included with hunting permits. Warning signs will be installed

at MRS access points along the Piilani highway (Hawaii state route HI-37) to the north of the Kanaio LTA and the King's Trail (also referred to locally as Hoapili Trail or the King's Highway) in the south section of the Kanaio LTA MRS. Specifics regarding LUCs will be outlined in a LUCIP prepared as part of the RD phase for the Selected Remedy (in collaboration with HDOH and HI DLNR).

The warning signs will stress the importance of the "3Rs" — Recognize, Retreat, and Report. Any MEC that is found during current and future activities will be left undisturbed and will be reported to the appropriate authorities, per the "3Rs." The focus of educational pamphlets will be the prevention of handling of suspected MEC and encouragement of reporting of suspected MEC. The warning signs will reinforce the link between appropriate access and safety.

The specific pamphlet language, distribution points and mailings, and public meeting frequency and location will be developed in close collaboration with HI DLNR, HDOH, and ARNG as part of the subsequent response/remedial action phase of the project. The warning sign numbers, locations and text will similarly be addressed. Annual O&M will be conducted on the warning signage at the MRS. Long-term monitoring will include O&M of signage, periodic future assessments regarding changes to land use, and five-year reviews to evaluate the continued effectiveness and permanence of the alternative and to ensure that the LUCs remain protective of potential human receptors.

The ARNG is responsible for implementing, maintaining, reporting on, and enforcing the LUCs. This may be modified to include another party should the site-specific circumstances warrant it. Although the ARNG may transfer some of these procedural responsibilities to another party by contract, such as the operating contractor for HI DLNR, the ARNG shall retain ultimate responsibility for remedy integrity. An LUCIP will be prepared as the land use component of the RD that will contain implementation and maintenance actions, including periodic inspections.

2.12.3 Summary of the Selected Remedy Costs

The cost associated with the selected remedy is \$3.34M. A detailed breakdown of costs is summarized in Appendix J of the RI/FS.

2.12.4 Expected Outcome of the Selected Remedy

As a result of the implementation of the selected remedy, the MRS will not pose an unacceptable risk to human health or the environment. There are no socio-economic or community impacts anticipated associated with this remedy. There are no environmental or ecological benefits or negative impacts anticipated associated with this remedy.

2.13 Statutory Determinations

2.13.1 Protection of Human Health and the Environment

The selected remedy will provide adequate protection of human health and the environment as long as LUCs remain in place to control access to the MRS. The LUCs minimize interaction with potential MEC.

2.13.2 Compliance with ARARs

The selected remedy will meet ARARs. ARARs are divided into three categories as chemical-specific, location-specific, and action-specific.

Chemical-Specific ARARs are typically health-based or risk-based numerical values or methodologies which, when applied to site-specific conditions, result in the establishment of numerical values. These values, in turn, establish the acceptable amount or concentration of a chemical that may be found in, or discharged to, the environment (soil, groundwater, surface water, or air) as a result of the remedial action. There are no chemical-specific ARARs identified for the selected remedy at the MRS.

Location-Specific ARARs are requirements that affect the management of hazardous constituents, or the sites in which they are managed, due to the location of the site. Examples are sensitive locations such as wetlands, flood plains, historic areas, and wildlife refuges. Location-specific ARARs set restrictions on the types of activities that can be performed based on site-specific characteristics or location. There are no location-specific ARARs identified for the selected remedy at the MRS.

Action-Specific ARARs are technology-based or activity-based requirements that may be triggered by the particular remedial activities chosen. Action-specific ARARs do not in themselves determine the remedial alternative; rather they place restrictions on the manner in which a selected alternative may be achieved. One action-specific ARAR was identified for the MRS regarding MEC disposal if MEC is encountered during implementation of the selected remedy and will comply with RCRA 40 CFR Part 264 subpart X which is the USEPA guidance document for nontypical hazardous waste.

2.13.3 Cost Effectiveness

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." [NCP §300.430(f)(1)(ii)(D)]. This was accomplished by evaluating the "overall effectiveness" of those alternatives that satisfied the threshold criteria (i.e., were both protective of human health and the environment and ARAR-compliant). Overall effectiveness was evaluated by assessing three of the five balancing criteria in combination (long-term effectiveness and permanence; reduction in toxicity, mobility, and volume through treatment; and short-term effectiveness). Overall effectiveness was then compared to costs to determine cost-effectiveness. The relationship of the overall effectiveness of this remedial alternative was determined to be proportional to its costs and hence this alternative represents a reasonable value for the money to be spent.

The Selected Remedy (*Alternative 4: Focused Surface and Subsurface MEC Removal and LUCs*) utilizes both MEC removal and LUCs to prevent human interaction with MEC potentially remaining in the surface and subsurface. This approach builds on the work already completed during the RI (and prior clearance efforts) in which MEC exposed at the ground surface and in the subsurface was detonated and/or removed. With a significant percentage of MEC already removed, the ARNG has already eliminated the most accessible MEC and therefore broken the most common pathway of human interaction with MEC. For any MEC that potentially remains at the surface or in the subsurface, the LUCs should be effective at eliminating future interactions. Therefore, the Selected Remedy provides excellent long-term and short-term effectiveness and permanence. Although MRS-wide removal of MEC in Alternative 5 may provide greater effectiveness, permanence, and reduction in volume, the overall effectiveness at protecting human health and the environment is not significantly greater and is not proportional to the additional cost of \$3.34M to \$23.26M. Therefore, the Selected Remedy for MEC, with a total cost of \$3.34M, is

the most cost effective of the acceptable alternatives.

2.13.4 Use of Permanent Solutions and Alternative Treatment Technologies to the Maximum Extent Possible

The ARNG has determined that the Selected Remedy represents the maximum extent to which permanent solutions and treatment technologies can be utilized in a practicable manner at the MRS. Of those alternatives that are protective of human health and the environment and 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 statutory preference for treatment as a principal element and bias against off-site treatment and disposal and considering State and community acceptance.

The Selected Remedy utilizes a partial remedial action in combination with LUCs to prevent human exposure to MEC. LUCs are deemed to be an effective remedy in the long term. Although full-scale removal of MEC would provide a more permanent solution, the effort and cost to completely search the MRS for MEC would be excessive given the low potential for human contact. With munitions detection technology improving, more cost-effective techniques may be available in the future.

2.13.5 Preference for Treatment Which Reduces Toxicity, Mobility, or Volume

The Selected Remedy implements a focused remedial action, therefore provides reduction of the toxicity, mobility, or volume of MEC.

2.13.6 Five-Year Review Requirements

Because this remedy will result in the possibility of MEC remaining on site that prevent unrestricted land use, a statutory review will be conducted every five years after initiation of remedial action to ensure that the remedy is, or will be, protective of human health and the environment.

2.14 Documentation of Significant Changes

ARNG released the PP (Parsons, 2022b) for public comment and identified *Focused Surface and Subsurface MEC Removal and Land Use Controls* as the preferred decision for the Kanaio LTA MRS on August 9, 2022. A PP Public Meeting was held on August 23, 2022 although there was no public attendance. The public comment period concluded on September 23, 2022. No comments were received from the community. No change to the proposed decision 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 decision were necessary. Accordingly, ARNG has not made any significant changes to the preferred decision identified in the PP.

Final Record of Decision Kanaio Local Training Area MRS, HI



Figure 2-3

CONCEPTUAL SITE MODEL DIAGRAM

Site/MRS Name: Kanaio Local Training Area

Completed By:

Steve Rembish, PARSONS

Date Completed: August 24, 2021



3 Responsiveness Summary

The final component of the ROD is the Responsiveness Summary. The purpose of the Responsiveness Summary is to provide a summary of the stakeholders' comments, concerns, and questions about the selected response action for the MRS and the ARNG's responses to these concerns.

A newspaper notification inviting public comment on the PP appeared in the Maui News on August 13/14, 2022. The public notice summarized the PP and the Preferred Action response alternative selected. The notice specified a public comment period as well as the address to which written comments could be sent. Public comments were accepted from August 23, 2022 through September 23, 2022. The newspaper notification identified the Makawao Public Library (1159 Makawao Avenue, Makawao, HI 96768) as the location of the information repository. The newspaper notification is included in Appendix A. The public notice and PP were also posted on the HIARNG "Kanaio Clean Up" website for public access as well as the HDOH public website. The public notice was also posted at 4 community board locations.

The conduct of the PP Public Meeting on August 23, 2022 at the Kula Elementary School (5000 Kula Hwy, Kula, HI) initiated the 30-day public comment period beginning August 23, 2022 and ending September 23, 2022. No members of the public attended the meeting; therefore no direct public comments or questions were received at the meeting. Representatives from both HI DLNR and HDOH were present at the meeting and an official transcript of the meeting was prepared (Appendix B). In addition, no comments or questions were received via phone or email from the public as a result of reviewing the documents in the Administrative Record or information repository during the public comment period (August 23, 2022 through September 23, 2022).

3.1 Stakeholder Comments and Lead Agency Responses

No issues were identified by the public, HDOH, HI DLNR, HIARNG, ARNG, or USACE with the Preferred Action response alternative selected - *Focused Surface and Subsurface MEC Removal and LUCs.* HDOH and USACE actively participated with the ARNG to evaluate the Kanaio LTA MRS (HIHQ-006-R-01) during development of the RI Work Plan/UFP-QAPP and the RI/FS Report. In cooperation, ARNG and USACE, in consultation with HDOH, are in mutual agreement that *Alternative 4 – Focused Surface and Subsurface Removal and Land Use Controls* is an appropriate decision for the MRS. HDOH issued a formal letter concurring with the RI/FS Report on July 8, 2022. As part of that concurrence, HDOH suggests that UXO construction support be provided by the ARNG regarding construction activities by HI DLNR associated with creation of the anticipated wildlife management area. The ARNG will arrange for UXO construction support related to such construction activities provided adequate advance notice and description is provided of the need and adequate funding is available to support the activity.

The conduct of the PP Public Meeting on August 23, 2022 initiated the 30-day public comment period beginning August 23, 2022 and ending September 23, 2022. No members of the public attended the meeting; therefore no direct public comments or questions were received at the meeting. Representatives from both HI DLNR and HDOH were present at the meeting and an official transcript of the meeting was prepared (Appendix B). In addition, no comments or questions were received via phone or email from the public as a result of reviewing the documents in the Administrative Record or information repository during the public comment, the community 23, 2022 through September 23, 2022). Based on the lack of public comments, the community

appears to be satisfied with the work the ARNG has performed and to be in support of the selected response action.

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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Appendix A: Public Notice and Maui News Tear Sheet



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Army National Guard Public Meeting to be held on 23 August 2022 for: Kanaio Local Training Area MRS (HIHQ-006-R-01)

The Kanaio Local Training Area (LTA) Munitions Response Site (MRS)/ HIHQ-006-R-01 was utilized for live-fire practice as early as World War II by various branches of the military including the U.S. Army, U.S. Marine Corps, and the Hawaii Army National Guard (HIARNG) and has been inactive since 2003. The Kanaio LTA MRS is being addressed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The Proposed Plan (PP) provides information on how the Army National Guard (ARNG) assessed munitions constituents (MC) and munitions and explosives of concern (MEC) in environmental media at the MRS and summarizes the multiple clean up alternatives considered, how the alternatives were evaluated, and the selection of the preferred alternative. The PP identifies Alternative 4: Focused Surface and Subsurface MEC Removal and Land Use Controls (LUCs) as the preferred remedial alternative for addressing MC and MEC in environmental media at the Kanaio LTA MRS. This alternative achieves protection of human health, public safety, and the environment. The ARNG is required to issue a Proposed Plan 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/Feasibility Study Report (RI/FS) and other relevant documents that are available for review. 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. All reports, including the Proposed Plan, are available for public review at the Makawao Public Library (1159 Makawao Avenue, Makawao). The reports are also available online at http:// dod.hawaii.gov/env/kanaio-clean-up/.

The public is invited to attend a public meeting on the Kanaio LTA MRS Proposed Plan. The public meeting will be held on 23 August 2022 at 6:00 pm at Kula Elementary School (Cafeteria), 5000 Kula Hwy Hawaii. The Army National Guard will briefly describe the MRS investigation, present the recommendations for the MRS, and then request verbal comments from the public. An informal open house where technical staff will be available to answer questions will follow the presentation.

The public is invited to review and comment on the Kanaio LTA MRS PP. The final remedy for the MRS will be selected based, in part, on public comments. After reviewing and considering all written comments received during the 30-day public comment period from 23 August 2022 to 23 September 2022, the Army National Guard will select a final remedy in coordination with the Hawaii Department of Health and the Hawaii Department of Land and Natural Resources. All comments must include the name, address, and telephone number of the person commenting. Public input to the Proposed Plan 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 and/or inquiries may be submitted to the following address:

Mr. Rob Halla Army National Guard Program Manager \$696.25 Army National Guard Installations and Environment 111 S. George Mason Drive, Arlington, VA 22204-3231 \$919.15 Phone: (703) 607-7995; Email: Walter.R.Halla2.civ@army.mil \$1,139.98 (MN: Aug. 13, 2022) \$1,207.71

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WASTEWATER SYSTEMS

PUBLIC NOTICE OF

VARIANCE APPLICATION

NO. WW 687

DOCKET NO. 21 - VWW - 51

Pursuant to Hawaii Revised Statutes (HRS) Section 342D-7(i), the State Department of Health (DOH) seeks

written comments from interested persons

Ms. Claire Gibo, Property Manager of

SHK REALTY LLC

NATIONAL ASSOCIATION of REALTORS

regarding the following.

Ms. Gibo is requesting for a variance to connect three (3) dwellings to an existing septic system at 44 Hoolai Street, Makawao, Hawaii at TMK (2) 2-4-023: 067.

If you would like to review the complete application, please visit the State of Hawaii, Wastewater Branch, 2827 Waimano Home Rd, #207, Pearl City, Hawaii 96782. For more information or if you have special needs in inspecting and/ or commenting on the public notice, please contact Mr. Mark Tomomitsu, Supervisor of the Planning & Design Section at the above address or call (808) 586-4294 (voice) at least seven (7) calendar days before the comment deadline. For those who use a TTY/TDD, please call Sprint Relay Hawaii at 1-711 or 1-877-447-5991. DOH will consider all written comments received within 30 days of this notice. If warranted, DOH may hold a public hearing on the application, after receipt of related documents and written comments, if any.

ELIZABETH A. CHAR, M.D. Director of Health (MN: Aug. 13, 2022)





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(MN: Aug. 13, 15, 16, 2022)

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STATE OF HAWAII, County of Maui.

Brandy Emmanuel	
denoses and save, that she is the Advertis	being duly sworn
	01
the Maul Publishing Co., Ltd., publishers of TH	E MAUI NEWS, a
newspaper published in Wailuku, County of Ma	ui, State of Hawaii;
that the ordered publication as to	
ARMY NATIONAL GUARD PUBLIC	MEETING
of which the annexed is a true and correct p	printed notice, was
published time in THE MAUI NEWS, afor	esaid, commencing
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on the <u>13th</u> day of <u>August</u> , 2022,	(one day inclu-
sive), to-wit: on	
August 13 , 2022	
and that affiant is not a party to or in any way inte	erested in the above
entitled matter.	
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ARMY NATIONAL GUARD PUB	IC MEETING
1his <u>~</u> page	7
datedAugust 13,	2022,
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August, 2022, in the Second Circuit of th	ne State of Hawaii,
by Brandy Emmanuel	SWWWWWW.
Emere Wadano	NOTARE POLE
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Circuit, State of Hawaii	PURING
Kimberly Uradomo Commission exp: 07/02/2026	OF HAWAII MUM



Army National Guard Public Meeting to be held on 23 August 2022 for: Kanaio Local Training Area MRS (HIHQ-006-R-01)

The Kanaio Local Training Area (LTA) Munitions Response Site (MRS)/ HIHQ-006-R-01 was utilized for live-fire practice as early as World War II by various branches of the military including the U.S. Army, U.S. Marine Corps, and the Hawaii Army National Guard (HIARNG) and has been inactive since 2003. The Kanaio LTA MRS is being addressed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The Proposed Plan (PP) provides information on how the Army National Guard (ARNG) assessed munitions constituents (MC) and munitions and explosives of concern (MEC) in environmental media at the MRS and summarizes the multiple clean up alternatives considered, how the alternatives were evaluated, and the selection of the preferred alternative. The PP identifies Alternative 4: Focused Surface and Subsurface MEC Removal and Land Use Controls (LUCs) as the preferred remedial alternative for addressing MC and MEC in environmental media at the Kanaio LTA MRS. This alternative achieves protection of human health, public safety, and the environment. The ARNG is required to issue a Proposed Plan and seek public comment and participation on the preferred decision.

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Mr. Rob Halla

Army National Guard Program Manager Army National Guard Installations and Environment 111 S. George Mason Drive, Arlington, VA 22204-3231 Phone: (703) 607-7995; Email: Walter.R.Halla2.civ@army.mil (MN: Aug. 13, 2022)

Appendix B: Proposed Plan Public Meeting Transcript



COURT REPORTING LEGAL VIDEOGRAPHY VIDEOCONFERENCING TRIAL PRESENTATION MOCK JURY SERVICES LEGAL TRANSCRIPTION COPYING AND SCANNING LANGUAGE INTERPRETERS



(800) 528-3335 NAEGELIUSA.COM IN RE: KANAIO LOCAL TRAINING AREA REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

TRANSCRIPT OF

PROPOSED PLAN PUBLIC MEETING

HELD ON TUESDAY, AUGUST 23, 2022 6:04 P.M.

KULA ELEMENTARY SCHOOL 5000 KULA HIGHWAY KULA, HAWAII 96790

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Page 2
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1
                            APPEARANCES
 2
 3
   Army National Guard (ARNG):
 4
   Rob Halla, Project Manager (via teleconference)
 5
   Leslie Chau, HIARNG
 6
 7
   United States Army Corps of Engineers (USACE):
 8
   Jim Lukasko, SPK Project Manager
 9
   Terra Salamida, SPK Deputy PM/Environmental Engineer
10
   Kyle Lindsay, SPK Project Geophysicist
11
   Mark Jones, SPK Project Risk Assessor
12
13
   Stakeholders:
14
   Sven Lindstrom, Regulator, Hawaii Department
15
    of Health (HDOH)
16
   Shane DeMattos, Primary Landowner,
17
   Hawaii Department of Land and
18
    Natural Resources (HI DLNR)
19
20
   Parsons Corporation:
21
   Don Silkebakken, Project Manager
22
   Janelle Bartscherer, Deputy Project Manager
23
   Ahmed Kamali, Technical Manager
24
25
```

TRANSCRIPT OF 1 2 PROPOSED PLAN PUBLIC MEETING 3 HELD ON 4 TUESDAY, AUGUST 23, 2022 6:04 P.M. 5 6 7 MR. SILKEBAKKEN: Good evening, everyone. 8 Welcome to the Kanaio Local Training Area 9 public meeting to discuss the recently completed 10 Remedial Investigation Feasibility Study, RI/FS. We 11 appreciate your attendance and look forward to your 12 participation and engagement. 13 Before we introduce the team, I'd like to start with a couple formalities to get out of the 14 15 I think most of us already know in this case, way. comment cards. If you have any comments, we have 16 them on the table here. We have an information 17 18 repository that is located in the library. I have 19 the details on the location of the library on the 20 next slide or so. 21 Everyone signed in? 22 Everyone on the sign-in sheet? Yes? 23 Everyone nodding. Say yes out loud if I'm the only 24 one speaking. 25 MR. LINDSAY: Yes.

DEPOSITION & TRIAL

MR. SILKEBAKKEN: Yes, thank you.
Appreciate it. We got water and snacks. And we
have, as we mentioned earlier before we started, we
have a Court Reporter who's taking down the
transcript.

6 The information repository is located at 7 the Makawao Public Library, and that library is located about seven miles from this location. We 8 have confirmed that in that library is the RI/FS 9 10 final document and the proposed plan documents as 11 well available for public comment, 30-day review cycle, and that information and any responses from 12 13 the public will be documented in the responsiveness 14 summary as part of the decision document or record 15 of decision.

Project team introductions. You people are very important to the project, all you public folks out here.

19 Key to the representing of the public is
20 HDOH, Sven, who's with us today, and other folks
21 from the SPK and other agencies who are mentioned
22 here. We don't normally go through introductions.
23 You want to do that, Jim? Okay. All
24 right.
25 So we'll start with the Army National



1	Kanaio Local Meeting August 23, 2022 NDT Assgn # 59054	Page 5
1	Guard, Rob Halla, who is on speakerphone over here.	
2	Rob, can you introduce yourself?	
3	Can you hear me?	
4	MR. HALLA: I can hear you well.	
5	MR. SILKEBAKKEN: Okay.	
6	MR. HALLA: Rob Halla. I'm the ESD for	
7	actually, at some point all the work out in Hawaii,	
8	but right now munitions work.	
9	MR. SILKEBAKKEN: Thanks, Rob. Appreciate	
10	it.	
11	Leslie?	
12	MS. CHAU: I'm Leslie Chau. I'm with the	
13	Hawaii Army National Guard. I'm the Relation	
14	Restoration Program Manager.	
15	MR. SILKEBAKKEN: And then from the Core	
16	of Engineers, Sacramento. Jim?	
17	MR. LUKASKO: Hello. I'm Jim Lukasko.	
18	I'm the Project Manager out of Sacramento.	
19	MS. SALAMIDA: I'm Terra Salamida, also	
20	out of Sacramento, Environmental Engineering.	
21	MR. LINDSAY: Kyle Lindsay, also out of	
22	Sacramento. I'm a Project Geophysicist.	
23	MR. JONES: Mark Jones, Sacramento, too,	
24	and I am a Risk Assessor for the project.	
25	MR. SILKEBAKKEN: And from Parsons, I'm	

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1	Don Silkebakken, the Project Manager for this.
2	And Janelle?
3	MS. BARTSCHERER: Janelle Bartscherer, the
4	Deputy Project Manager.
5	MR. KAMALI: Ahmed Kamali, Scientist and
6	Technical Manager.
7	MR. SILKEBAKKEN: And from the
8	stakeholders, we have Hawaii Department of Health.
9	Sven?
10	MR. LINDSTROM: Sven Lindstrom, HDOH.
11	MR. SILKEBAKKEN: And then lastly,
12	primarily the Primary Landowner from HDL, DLNR.
13	MR. DE MATTOS: Shane De Mattos, Wildlife
14	Biologist.
15	MR. SILKEBAKKEN: Thanks.
16	Okay. So the first thing we wanted to
17	kind of introduce is the process.
18	We are at the RI/FS process, Remedial
19	Investigation Feasibility Process, we've completed
20	now through the preliminary assessment and site
21	inspection process, and then subsequent to the RI/FS $$
22	that we're doing now, we move to a remedial design
23	and then remedial action with the potential of long-
24	term monitoring as well.
25	So currently we've completed this RI/FS,



1 and the meeting here is to present the alternative 2 selection, and engage the public in the selection of 3 the preferred alternative.

Okay. From the standpoint of meeting 4 5 agenda, we're going to provide a brief overview of 6 the history of the site and prior response actions 7 that have been conducted to date, summarize the RI/FS, the Remedial Investigation Feasibility Study, 8 results from the current phase of work, discuss 9 10 interpretation, conclusions, and recommendations 11 from the information we've collected, and then 12 ultimately solicit public information and comments, 13 30-day review cycle for the documents that are in 14 the repository, and hope to achieve concurrence of a 15 preferred alternative of remedial actions.

16 And as I mentioned previously, this --17 this -- this meeting will have a transcript prepared 18 by the Court Reporter here, so anything that's 19 mentioned or questions that are asked will be 20 recorded and responses made to those questions. 21 In regard to comments and questions, I 22 think I'll pretty much skip this slide if that's 23 okay with everybody. We're going to talk through a

24 lot of acronyms.

25

We -- the focus of the meeting is not to

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1	discuss any DLNR actions other than the ownership
2	activity on the on the property. We are here to
3	present the RI/FS information and the details
4	associated with that study.
5	Number of definitions here. I'll touch on
6	them really quickly, because most folks here do
7	already know what these are.
8	Munitions Response: So the translation of
9	the I'm not going to read these slides because
10	they're complicated and there's a lot of information
11	here, but basically, the action that may be needed
12	to fix the site or or munitions concerns.
13	Also have what's referred to as Munitions
14	Response site, which is the project area. That has
15	morphed over time. We'll discuss the details of the
16	size of the site and details of it coming up, but
17	that is a Munitions Response site. It's, in
18	essence, the current boundary defined on the site
19	and it relates to ordinance and munitions
20	constituents, MC associated with the site. And we,
21	again, are in this RI/FS stage.
22	Additional definitions: Munitions and
23	Explosives of Concern. Basically those are
24	hazardous bombs and materials that might be left on
25	the site.

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1	There's a couple of different
2	subcategories. One is the Unexploded Ordinance,
3	UXO. That would be something associated with, in
4	essence, a dud, a fired round that didn't completely
5	detonate.
6	Discarded Military Munitions, DMM, would
7	be practice rounds or rounds that were fired or were
8	not fired, might be in a cache or a stockpile,
9	otherwise aren't configured yet to explode, but
10	still ultimately a danger.
11	Munitions Constituents: As I said, MC,
12	that's any materials originating from those
13	munitions that might pose a $$ a risk to the
14	environment and the soil or the groundwater, just an
15	environmental contamination issue from the munitions
16	debris, or MEC.
17	So Site Inspection, SI, that's what was
18	done in the previous part of the investigation that
19	led to this RI/FS determination.
20	The SI is a presence or absence survey
21	investigation, and then subsequently after an SI is
22	done, it passes to the next phase, which is an
23	RI/FS, which is a nature and extent evaluation.
24	So if and once you move through the
25	RI/FS, then ultimately you look at remedial actions

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1	or response actions that might be, you know,
2	necessary.
3	So moving to where we are now, again, the
4	Remedial Investigation Feasibility Study, the RI/FS,
5	that's what we're going to focus on today, and that
6	is ultimately all the sampling and geophysics that
7	we did during the course of this RI/FS
8	investigation.
9	There will be a whole lot of acronyms, and
10	I think everybody here pretty much knows them, but
11	I'll try to call them out as much as I can.
12	Okay. So one of the things I like to do
13	at these presentations is because a lot of this is
14	kind of lengthy and and somewhat hard to follow
15	at times, put the bottom line up front.
16	So we've got a very simplistic slide here
17	that tells us from start to finish what the
18	situation is.
19	So we have a project site that's
20	approximately 1983 acres. We'll discuss in upcoming
21	slides how we got to that exact number, but 1983
22	acres are what we're calling the MRS, Munitions
23	Response Site, for this particular investigation.
24	The site conditions are extremely adverse,
25	undeveloped property. A lot of it covers probably

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1	85 to 90 percent of the property, which is almost
2	entirely owned by the Hawaii Department of Labor
3	not labor Department of Land and Natural
4	Resources.
5	Historically, a number of live-fire
6	training exercises have occurred from the '50s and
7	'60s all the way to closure in 2003 in varying
8	varying locations throughout the site. The
9	munitions ranged all the way from small arms up to
10	larger 3.5-inch rockets, grenades, mortars, 155 as
11	well.
12	Prior studies, there have been a number.
13	We'll touch on some of those coming up in in
14	other slides.
15	But beginning in '81, several of these
16	were focused areas or surveys evaluating the
17	property, but not yet following the CERCLA
18	preliminary assessment guidance, or the SI that led
19	to the that came in in 2008, I believe.
20	And then ultimately what we did is a
21	feasibility study and an RI/FS, recommendations for
22	surface and subsurface munitions removal action over
23	126-acre focused area, which that focused area
24	covers most of where the impact areas are. It's not
25	contiguous. There's several other areas, including

1 the King's Trail footprint, as well as several other 2 smaller five-acre areas near and around the impact 3 area.

4 So those areas are what we ultimately are 5 proposing as a preferred alternative for a surface 6 and a subsurface clearance, keeping in mind that 7 most of the site has limited soil to no soil profile, and that the depth of the findings is --8 deepest finding was 34 centimeters, which is just a 9 10 little over a foot or so, and most of the items are 11 on the surface as a result of the 'A'? lava 12 condition.

13 So orientation-wise, it's -- the site is on the southern portion of Maui here. It is about 14 15 13 miles south of -- of where we are, Highway 31, 16 Piilani Highway, and basically, the distance or the 17 location that you access the site is through the --18 the Triple R Ranch horseback riding facility that is 19 in the general area of where the site is, and then, 20 in essence, you have to hike down the site because 21 there's really no real roadway there.

Picture is worth a thousand words. Most of you seen these pictures, but this just give you a feel for what the conditions look like. This 'A'? lava is quite treacherous to walk on. It's breaking

1	up. It's eroding. Minimal vegetation growth.
2	Substantial topographic relief across the site.
3	Very difficult to hike down, and no other real
4	access to portions of the site other than walking
5	through and across this down to the coastline.
6	Couple other pictures just to kind of give a feel
7	for what the site looks like.

Okay. General site layout boundary and 8 distances and things. So the 1946 acres is the 9 10 primary area in red. Then we have an area D, a small area that's 37 acres that was added to the 11 12 project as well. So the combined acreage is 1983 13 acres. And a couple of notes there, it's almost two miles from the road to the coast across the site and 14 15 it's about 4,000 feet to the top of the MRS from the 16 road before we even get to the site. And as I 17 mentioned prior, it's probably 90 percent 'A'? lava 18 conditions with the only soil up in the very 19 northwestern portion of the site, very limited soil 20 profile area.

King's Trail is also shown here as well, crosses along east to west near the coastline, and as part of our investigation, we did walk up and down King's Trail looking for ordinance with a instrumented geophysical instrument.



1	How do we get here? Well, originally the
2	site acreage, the MRS, was over 4,000, almost 4800
3	acres, and as part of the previous investigation,
4	specifically the site inspection investigation, that
5	area was modified down to a smaller acreage for the
6	MRS.
7	Starting in 1981, there was an
8	investigation, a clearance. A lot of the early
9	investigations and clearance activities did not
10	really specify locations and documentation of where
11	an ordinance was found, but did document that
12	several items were located and destroyed onsite.
13	And then we move through several of these
14	investigations until we get to, ultimately, through
15	2008. We did a phase one qualitative assessment,
16	and it suggested the need, in that particular case,
17	for MC sampling on the site. All of these
18	investigations shown on this slide are specifically
19	in advance of the preliminary assessment phase which
20	started in 2008.
21	Just a couple of maps here showing the
22	original site boundary, which, again, was the 4,771
23	acres, and then on the right, the historic findings
24	shows some of the findings from the SI in prior
25	studies before that, the ones where the

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1	documentation was known, and kind of gives an area
2	of focus to where the impact area primarily was, and
3	we use that information from the SI, and all
4	previous investigations, to focus our area of
5	technical approach and how we would approach the
6	RI/FS with this in mind.
7	Any questions so far? Okay.
8	So more recent timeline, we get into the
9	CERCLA process. So we start with the site
10	inspection now was 2017 to 2018. At that point, a
11	portion referred to as Area 1 in the SI figures of
12	almost 2,000 acres was deemed to be no further
13	action I'm sorry, was the 2,000 was it 2,268-
14	acre, Area 2, was deemed no further action. Area 1
15	was our 1946 acres, what the MRS is now reduced to.
16	Area 1 was recommended for RI/FS, and that's what we
17	started with our project, subsequently adding back
18	in that small 37 acres considered Area D, as well.
19	Okay. Not to get into too much detail
20	here, but ultimately what we did is we had four
21	technical project planning of site systematic
22	project line of meetings. We had interaction with
23	HDOH and engagement with DLNR in developing the work
24	plan and other documents associated with the field
25	work and real-time during the phase one and phase

NAEGELI (800)528-3335 DEPOSITION & TRIAL 1 two selection of grids and other issues associated 2 with the field work. Ultimately, we distributed the 3 final RI/FS document on May 24th of 2022.

All right. So some of the more details of 4 5 the remedial investigation approach results. Again, 6 as I mentioned before, so the RI/FS is the nature 7 and extent of MEC, Munitions and Explosives of Concern, and Munitions Constituents. So we knew 8 from the SI that MC was no further action, but we 9 10 knew that there was an MEC presence because the SI 11 is a yes or no absence or presence. We knew 12 obviously in this case based on the findings that 13 there was a MEC concern. So ultimately the focus of the RI was to ascertain the nature and extent of 14 15 that and to support the risk assessment, as well as 16 the feasibility study itself.

17 So with the MEC investigation, one of the 18 key parts of that is to develop a mechanism to find 19 the High Density areas for anomalies and see if 20 those High Density areas convert to High Use Areas. 21 The differentiation between a High Density area is -22 - is a high anomaly area but that in itself could be 23 cultural debris and other non-munitions related 24 materials. So the first step is determine the High 25 Density area, and then after that to determine if it

1 qualifies as a High Use Area for munitions. And so 2 there's a process that we'll go through here as how 3 we do that. And then ultimately, the rest of the 4 site is either a Low Use Area or evidence of a No 5 Use Area, NU.

From the MC sampling standpoint, Munitions Constituent sampling standpoint, we knew that there was already a no further action for soil on the site, and as I mentioned, soil profile is minimal across the majority of the site.

However, we did in our work plans in 11 12 preparation for the field work anticipate that there 13 could be an opportunity to take a soil sample, and that would be in the case of encountering or doing a 14 15 detonation for a live MEC round that we had to deal with on the site, or if we had a low order one that 16 17 partially detonated where there might be some 18 exposure to some explosives to the soil or if there 19 was a large cache of discarded military munitions, 20 all three of these type of things, or consolidated 21 shot of multiple munitions, if that were to take 22 place, we would ultimately take a soil sample after 23 that -- or at that location if there was soil 24 present, and spoiler alert, there was no soil 25 present and we only had one blow-in-place

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1	opportunity for an 81 millimeter mortar, and that
2	particular location, there was absolutely no soil.
3	Site boundary refresher, similar to what
4	we talked about before, the red area, the 1946
5	acres, is the reduced MRS size that we utilized for
6	this project, as the rest of the prior MRS was
7	determined to be no further action during the SI.
8	So the only difference between the the no further
9	action area and the area that was deemed to go
10	forward to RI/FS was the addition of the 37-acre,
11	Area D, which that was really as a result of some
12	information that was included in some daily reports
13	suggesting anecdotally that there might have been
14	some debris there that might represent an impact
15	area. So to be on the conservative side, we added
16	that back into the project to evaluate that as well.
17	Any questions or comments so far? Okay.
18	So as we started, our first step in this
19	is to assess via Transects to delineate the
20	potential High Use Areas, HUAs, by determining if we
21	have High Density areas. So to do that, we run
22	Transects across the entire site spacing 300 to 600
23	feet, depending on what portion of the site it was
24	located in. If it was 300-foot spacing was the
25	vast majority of the site. Six-hundred foot spacing

1 was only on the known impact areas seen in the SI 2 and other documents that we had seen so far. That 3 would give us a 100 percent certainty that we would 4 not have missed an impact area at that spacing using 5 a -- a software model that evaluates the spread of 6 impact of various types of munitions.

7 So we conducted this transect survey, we have a map here coming up in a second that will show 8 that we basically went north to south on most of the 9 10 site and then after south of King's Trail we went 11 primarily east to west, and that was a topographic decision, but, ultimately, all the items that we 12 13 would encounter on the surface, munitions debris, or 14 MEC, were picked up at the time of doing the 15 transect survey, and, therefore, keep in mind when 16 we see the what we call the heat map, which is an 17 extrapolation of the potential density across the 18 site, that that is artificially elevated in that it 19 shows what was there, not what currently is there, 20 and we kept that in mind when we were making our 21 decisions moving forward.

All right. So ultimately we wanted to -after we did the transects, we had to determine if the HD areas that were -- that were determined to be present, if they were determined to be present, were

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1	actually HUAs, High Use Areas, or Low Use Areas. So
2	subsequent to that, we added grids, border acre
3	grids, in multiple locations, both biased towards
4	expectation of confirming the presence of munitions
5	debris or MEC, and also in the Low Use Areas that we
6	intended to be or expected to be Low Use Areas to
7	determine if the Low Use Areas were actually correct
8	as Low Use Areas and didn't reflect any other
9	presence of munitions debris. So going through that
10	process, we ultimately identified a 36-acre area
11	that was specifically an HUA and confirmed to be a
12	HUA.
13	This particular map is an SI map, and it
14	just shows the the prior SI findings and and
15	the the area dotted with the black perforated
16	lines is where the most of the munitions were found,
17	and that corresponds very closely to what we saw
18	during our investigation, specifically in the
19	transect investigation portion of this, that that
20	area was indeed correct. Keeping in mind that those
21	shown munitions items debris and MEC were also
22	removed during that opportunity during that that
23	study as well.
24	So conceptually, we started with, as I
25	mentioned, that basically going north and south and

1	south and north back and forth all the way to King's
2	Trail, and then ultimately below King's Trail, south
3	of King's Trail, going east and west, and that
4	this is our conceptual model. It's perfectly
5	straight lines, the spacing of 300 feet. Also on
6	here referencing the two small parcels that are
7	privately owned, neither of those two parcels
8	contain any structures, fences, or significant other
9	cultural structures, information, or anything there
10	that would otherwise look any different than the
11	rest of the property.
12	One of them, the one on the right, is
13	actually owned by a consortium of folks in the West
14	Indies. I don't know that that anyone knows as to
15	how long they've owned it or why that that piece
16	of property specifically is a private parcel.
17	Similarly, the other one on the left is about five
18	acres, I believe, is also owned by a an entity, a
19	company, located in Honolulu. It there's no road
20	to it. There's no specific use to it. So from that
21	standpoint since we did have right of entry to go on
22	those parcels and didn't deem those parcels to be
23	critical, we ultimately did not go on those
24	properties and get right of entry.
25	Any questions or comments?



Kanaio Local Meeting August 23, 2022 NDT Assgn # 59054 Page 22 Do you, Shane, have any information on 1 2 those two properties that you can shed any light on 3 as regard to have you ever been approached by those property owners or anything? 4 5 Not to date? MR. DE MATTOS: Not -- not that I can 6 7 recall. 8 MR. SILKEBAKKEN: So their -- their --9 their existence is just from maps that we have, and 10 they're punchouts in the middle of the DLNR 11 property. Do you have to do anything specific ever 12 if you're doing stuff out there to recognize those 13 properties for any reason? 14 MR. DE MATTOS: I believe during the 15 environmental assessment, those land owners will be 16 contacted. 17 MR. SILKEBAKKEN: Well, like I said, one 18 of them is in the West Indies and there's multiple 19 names. I don't know how you can contact them, but -20 - so you have some process as part of the EIS to do 21 that? 22 MR. DE MATTOS: Correct, but I don't think 23 those areas are deemed -- I think useless would be 24 the right word because there's no access --25 MR. SILKEBAKKEN: Right.

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Kanaio Local Meeting August 23, 2022 NDT Assgn # 59054 1 MR. DE MATTOS: -- you know, so it's 2 pretty much --3 MR. SILKEBAKKEN: Yeah, they're -- they're landlocked and --4 5 MR. DE MATTOS: Yes. MR. SILKEBAKKEN: -- no roads --6 7 MR. DE MATTOS: Yes. 8 MR. SILKEBAKKEN: -- so they don't look 9 any different. So I'm not sure what the holdout or 10 why those are -- are separate, but I'm sure they've 11 been that way for eons --12 MR. DE MATTOS: Yes. 13 MR. SILKEBAKKEN: -- is my guess, yes. 14 MR. LINDSTROM: How did you avoid those 15 properties? 16 Did you have someone survey them? 17 MR. SILKEBAKKEN: Yeah. Yeah, we had the 18 coordinates put into our -- our survey, so we walked 19 exactly all around it, even though, again, it looks exactly the same so there wouldn't be anything that 20 21 would be obvious, but no structures, no fences, no 22 access roads, no nothing. 23 So this particular map now is -- is what 24 we call the heat map, and that takes the data that

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25 we've collected from running these transects that



1	are now showing actual as they occurred, and they're
2	obviously not quite as straight as they were before,
3	but they, in essence, are 300 foot apart, as I
4	mentioned before, for the majority of the site, and
5	600 foot when you get into the really the impact
6	area that we have designated from the SI.

7 And ultimately what that has led to is this outlined area here which has all the red and 8 yellow, is the 36-acre High Use Area, and that is --9 10 that -- that is an area that was drawn in based on 11 professional judgment and topographic lines and 12 anomaly density contours and a variety of other 13 things to get that -- that shape. And subsequently 14 after that shape was defined and we assessed where 15 to pot grids, quarter-acre grids, in there to now 16 confirm this High Density anomaly area, is actually 17 an HUA, or High Use Area.

18 Typically, in most sites, HD areas could 19 easily be filled with cultural debris and may have 20 nothing to do with munitions, but, in this 21 particular case, because the fact that we're, in 22 essence, in a non-developed area, it was almost 23 certain the HD area would convert directly to an HUA 24 area, which it did. We found almost no generic 25 cultural debris on the site from anybody who had

1 been out there doing hunting or whatever they might 2 have been doing, walking the trails. All of it was 3 munitions debris.

So we also put grids in in several areas, 4 5 as I mentioned before, to confirm Low Use Areas, 6 which is the balance of the site. So this site --7 this map reflects the -- all the transecting details that we collected, some digitally mapped, some from 8 qualitative and anomaly sampling using audible 9 10 signals because some of the conditions were too 11 rough to use the equipment, the -- the mapping 12 equipment.

So some more pictures to show, transect work, the survey work, and just to kind of get a feel for what the equipment looks like.

16 Actually, some of these pictures that 17 we're looking at right now are -- are probably the 18 best conditions on the whole site right here. We 19 did use an instrument called PDM8, which is a -- is 20 an instrument that you typically use to -- to 21 capture subsurface anomalies, as well as find 22 surface anomalies that might be otherwise not 23 visible just because of the color of the dirt, or 24 what have you. And so we tracked all this 25 information and built the heat map from that.

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1	A couple more pictures. That's more
2	closely to what most of the site looked like, very
3	adverse terrain, difficult to navigate, to carry the
4	equipment, definitely a a lengthy walk from the
5	roadway itself carrying equipment. But ultimately
6	those transects back and forth, I believe, 77 miles
7	of transects back and forth.
8	So kind of to reiterate some of the things
9	I've already mentioned here.
10	The grids were established. We put in 13
11	grids with, again, quarter-acre grids, five of them
12	in the known HD areas, as well as the balance of
13	them in potential Low Use Areas to assess the
14	confirmation of the HUA areas and LUA areas.
15	We did do digital geophysical mapping on a
16	portion of the site where there was a soil profile,
17	and to back up, I can show you that real quick.
18	The white lines on the western edge are
19	where there actually is a soil profile presence, and
20	we were able to utilize digital geophysical mapping
21	recording devices there.
22	The balance of the site, the absence of
23	soil and the adversity from the 'A'? lava
24	conditions, we used the PDM8 instrument on those
25	areas, the black lines.

Kanaio Local Meeting August 23, 2022 NDT Assgn # 59054 Page 27 1 MS. BARTSCHERER: What happened? 2 You're going forward. 3 MR. SILKEBAKKEN: I'm going both places. 4 I'm --5 MS. BARTSCHERER: That's a lot. 6 MR. LINDSTROM: So, Don, you said that 7 because there's not a lot of cultural debris there or any, really, where there was an HD area pretty 8 9 much translates to an HUA because --10 MR. SILKEBAKKEN: Right. 11 MR. LINDSTROM: -- the only thing there is MEC and MD. So what does that mean for the areas 12 13 where you've got these, you know, yellow dots, where 14 you've got, you know, not really High Density. You 15 got Low Density. 16 MR. SILKEBAKKEN: Oh, here. 17 MR. LINDSTROM: All of those areas --18 MR. SILKEBAKKEN: So --19 MR. LINDSTROM: -- where --20 MR. SILKEBAKKEN: -- you're talking about 21 around on the left and right -- all the other places 22 where there's slight discoloration? Keep in mind that when we walked those 23 24 transects, we picked up whatever probably caused 25 If we were to run those same transects, most that.



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1	of those areas would be green, but we used that data
2	to extrapolate in between this route.
3	So that that doesn't necessarily mean
4	there's a concern, of course, but that means that
5	there was at least a piece of munitions debris at
6	that location.
7	And so you'll see there's a few spots
8	around, but it didn't represent a trend or a an
9	impact zone or anything like that. So as a result,
10	evaluating the process that we used for determining
11	where there was a High Use Area, the 36-acre that's
12	circled there, is what we ended up with.
13	That doesn't mean ultimately that would be
14	the area that we'd do removal action or anything.
15	It's just a definition of what we start with, what
16	is the HUA area. And as we move along here in the
17	slides, you'll see that we did expand that area to
18	consider what we call the focused area and discuss
19	the alternative associated with that, and it's much
20	larger than that.
21	Any other questions?
22	See if I can go in the right direction
23	this time. No.
24	MS. BARTSCHERER: Yeah, forward.
25	MR. SILKEBAKKEN: What I'm trying to get
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1 to -- let's do it this way. Well, just before. 2 There we go, yeah.

So a couple things I wanted to mention as well on this particular slide, that grid number 12, you can see is in the HUA area that we form our HD area. That's the only place where we did find a single 81 millimeter HE, High Explosive round mortar, and that is where we did a blow-in-place at that location.

10 Now, all the other places we found lots of 11 residual munitions debris that could represent the 12 potential for other MEC to be at the site, and, 13 historically, we know there's other -- MEC has been found and removed from the site. So utilizing MD as 14 15 an indicator of potential MEC is really a big component of how we picked that 36-acre area, but, 16 17 ultimately, we only did find a single MEC item that 18 had to be detonated. I think there's a picture.

So this is just some pictures of the Analog Intrusive -- Modified Analog Intrusive, that we did and you can see by that first picture on the left it almost looks like a 90-degree angle. It's not quite that. The picture is a little distorted from the -- the way it looks, but it's certainly a major slope. And some of the -- just the general



1 items that we found, pieces and parts of various 2 different tailfins and -- and mortars and various 3 other things that we found out there, quite a bit of 4 it, actually.

5 Okay. Then this is a picture of the 81 6 millimeter mortar specifically just before 7 detonation. Its got the -- the explosives wrapped around it to detonate and blow-in-place. And again, 8 as we talked about before, there was -- this is the 9 10 only MEC item that we blew up. There was no soil 11 profile here so there was no sample of soil taken as 12 a result of doing that blow-in-place.

13 So just to -- to circle back on the MC 14 aspect, again, the soil sampling that was planned, 15 there was no soil present. We've only encountered 16 the one item. None of the other triggers led to us 17 having to take a sample, either we didn't find a 18 significant cache of any items. There was a group 19 of practice rounds found at one point that were left 20 stacked up by probably the previous contractor. We 21 moved those out of there as well. Again, those 22 things would have reflected on the map with 23 increased anomaly density, but has been removed from 24 the site, so keep that in consideration. 25 And again, we talked about the one MC item



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25 MS BARTSCHERER. So I was going to say	24	MR. SILKEBAKKEN: Okay.
2.5 Martine Martine Martine Conservation and the service of the se	25	MS. BARTSCHERER: So I was going to say

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1	Kanaio Local Meeting August 23, 2022 NDT Assgn # 59054	Page 32
1	when we greeted you we forget to tell you that out	
2	this door to the left is the men's restroom. It's	
3	actually boys because this is an elementary school.	
4	And out this door to the right is the is the	
5	girls' restroom. If you guys need to take a break	
6	at any point.	
7	MR. SILKEBAKKEN: Girls girls and boys?	
8	MS. BARTSCHERER: It's girls and boys.	
9	That's how it's labeled. So did you mess up the	
10	clicker before it was	
11	MR. SILKEBAKKEN: I don't know.	
12	MS. BARTSCHERER: my turn?	
13	MR. SILKEBAKKEN: I was having a lot of	
14	trouble with it for some reason.	
15	MS. BARTSCHERER: Okay. We'll see.	
16	Okay. So to kind of we we did this	
17	investigation and we learned all these things, but	
18	what does it mean for what we now know about the	
19	site and, you know, does that make the site	
20	conditions acceptable or unacceptable?	
21	MR. LINDSTROM: Leslie, do you have a	
22	question?	
23	MS. CHAU: Oh, no. I was just going to	
24	say push forward instead of taking a break.	
25	MR. SILKEBAKKEN: Oh, push forward?	

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1	MS. CHAU: Yeah.
2	MR. SILKEBAKKEN: Continue, yes.
3	MS. BARTSCHERER: So in order to assess
4	explosive risk at a site, we use something called
5	the risk management method, and it's a qualitative
6	method and it considers three primary factors and it
7	walks you through these matrices, these four
8	matrices.
9	So the first factor that it considers is
10	the likelihood of encounter, and that takes two
11	two things into account. One is how often is the
12	site used. The other is what's there, how much MEC
13	is at the site, Munitions of Explosive Concern, that
14	someone might see when they're when they're at
15	the site.
16	So from there, you go onto step two. You
17	say okay, if someone was at the site and if there
18	was an item at the site to see, what's what's the
19	severity of an incident that would occur should they
20	impart energy on that item and and have it
21	explode, how severe would it be. So you take that
22	into account, what type of injury, you know, how bad
23	would the injury be.
24	Then you move onto step three. You take
25	in the likelihood of it detonating. So that's the

sensitivity of the item plays into account. 1 The 2 other thing that plays into account is the person, 3 what does the person know, does that person know to recognize that it's a potential Munition of 4 5 Explosive Concern and not to touch it. And then all 6 that comes together to give you a conclusion about 7 the site conditions are either acceptable or unacceptable. 8

9 So for this site we looked at three 10 different distinct areas and assessed them 11 separately, because they had different answers to 12 those three primary contributors to the risk. So we 13 took a look at that 36-acre High Use Area and came up with a risk assessment for that. We took a look 14 15 at the King's Trail, which is again the walking path 16 on the south boundary of the MRS, and then the Low 17 Use Area, which is the remainder of the MRS, the 18 other 1,947 acres. So each of those got looked at 19 separately as far as are conditions acceptable or 20 unacceptable.

The answer to that question was conditions are not -- if we were to do nothing at the site, the conditions are unacceptable as they are currently. We need to do something to -- to bring conditions to acceptable. As far as Munitions Constituent risks

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1	are considered, and again that degradation of a
2	munition that could leave metals in soil or
3	explosives in soil, and again it's not talked about,
4	but there was not soil in any places where we would
5	have taken a sample, and in the SI they did do some
6	limited sampling and did not get any results that
7	were at levels of concern, and so, therefore, there
8	was no Munitions Constituents. There was no risk
9	assessment performed based on those for for this
10	RI/FS.
11	So just kind of wrap it all up on one side

12 for the remedial investigation, is there 13 unacceptable risk? Yes, there is. There was no 14 risk assessment done for MC risk because we were not 15 -- we did not identify any reason to perform a risk assessment for MC risks. And we are recommending 16 17 that further action take place, and that is because there's potential MEC hazard posing unacceptable 18 19 risk at the site.

So once you have a site that has this unacceptable risk, the way that you approach it is with a feasibility study. So what a feasibility study does is it develops different response actions that you could take at that site and it evaluates them to find -- to -- in order to make a choice

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1	about	what	will	be	the	best	one	for	the	site.
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So I'll go into a little detail of each of 2 3 the steps, but step one is you identify available technologies and you screen them for what might work 4 5 at the site. Step two is you develop different 6 alternatives. Step three is you evaluate those 7 alternatives against each other. A very important 8 part of evaluating the alternatives is stakeholder 9 input, how your stakeholders understand and agree to 10 what the preferred remedial alternative would be, 11 and that's the point of this proposed plan public meeting is to present the alternatives to the 12 13 stakeholders, present our preferred alternative to stakeholders, and gain public input and comment from 14 15 them.

16 So step one of an FS is to establish and 17 identify and screen technologies is to establish a 18 remedial action objective, and that's basically just 19 what are we trying to do, where -- you know, what 20 are we trying to accomplish, right? So you -- you -21 - the team thinks about all the technologies that 22 are out there to remediate MEC, and we screen them 23 and we say which one of those technologies would 24 actually work at the site.

So this remedial -- remedial action

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1 objective I've been talking about, that's -- it's
2 official up there, but it's basically how do we
3 reduce the risk of these possible explosives that
4 might be onsite having an adverse effect to a
5 receptor, right?

6 And we use that, and we say, okay, so what 7 we want to do, what our end goal is here, our remedial -- our remediation goal is that there's 8 going to be no unacceptable risk to humans from 9 10 exposure to MEC. And the way that we determine that 11 we've gotten there is we go back to that risk 12 management method that I was showing you on the 13 previous slide and we ask ourselves all those 14 questions again. What can we do with this site 15 that's going to change one of the answers to those 16 questions that's going to make -- that's going to 17 improve site conditions and make it -- make the site 18 conditions acceptable?

So for the step of identifying technologies, we identified three main remedial technologies that will work for this site. The first is land use controls. So there's a lot of different kinds of land use controls, but the goal of land use control is to prevent or limit exposure of a receptor to Munitions of Explosive Concern.

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1	So there's institutional controls. Those
2	are like paper paper things, deed notices. You
3	need a permit. There's restrictions on excavation.
4	There's engineering controls. Those are like
5	physical controls. There's a fence. There's a
6	barrier. You can't get to the site. And then
7	there's educational controls, which would be like
8	warning signs, pamphlets, teaching people that if
9	they see a suspected Munitions of Explosive Concern
10	not to mess with it, not to touch it.
11	The other another technology that we
12	identified was detection of MEC and removal of MEC,
13	so finding the MEC on the site and then either
14	safely exploding it in place so that it's no longer
15	a hazard, or if it's munitions debris, removing it
16	from the site.
17	And then the last thing is is what I
18	just said, treatment and disposal, is actually once
19	you once you locate the MEC, making sure it's no
20	longer a hazard and removing it from the site.
21	So when we looked at all these
22	technologies, we said, okay, we can we can put
23	together these five alternatives, right? So the
24	first is no action. The second is public education
25	and warning signs, which is that land use controls.

1 The third is surface MEC removal and also includes 2 land use controls. The fourth is a focused surface 3 and subsurface MEC removal with some land use 4 controls. And then the last is a complete and total 5 surface and subsurface MEC removal. And I'm going 6 to go through each alternative and explain them in 7 more detail.

So the first alternative is no action, and 8 9 that would be doing absolutely nothing to protect 10 human health or the environment. We would just 11 leave the site exactly as it is in the condition 12 that exactly that it is, and that seems crazy, but 13 we have that alternative in here because we're 14 required to have that alternative in here because it 15 produces the baseline that we can compare the other 16 alternatives to when we're doing our evaluation of 17 the alternatives.

18 So alternative two is public education and 19 warning signs. So this would be pamphlets produced 20 that are passed out to residents. If someone 21 applies for a hunting permit, they would get one. 22 We hang signs in libraries and community centers, 23 and then also install signs at the site, so mostly 24 along the Piilani Highway where people might access 25 the site or along the King's Trail where people

1 might access the site.

And these signs and pamphlets will be 2 3 focused on what we call the three Rs, recognize, retreat and report, so educating people to recognize 4 5 that it could be a suspected Munitions of Explosive 6 Concern; retreat, move away from the item slowly and 7 carefully; and report the location of the item that you found out so -- to the authorities so that they 8 can come and determine if it is a danger, and if it 9 10 is, blow it in place in a safe way or remove it from 11 the site in a safe way.

And then this alternative would come with what's called a five-year review. So every five years we check back in on the site and we make sure that this response of action is still keeping conditions at the site acceptable, because now the public knows what to do should they come in contact with an item.

Alternative three says, okay, let's go over the entire surface of the site, walk the entire 1,983 acres and we'll see any MEC that we find, we're going to remove it or we're going to, you know, safely blow it in place and no longer have that MEC that we found on the entire surface of the site be there anymore.

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There	WOI	ıld	still	be	a p	otent	cial	_ fc	or t	ther	е
thing	in	the	subsi	ırfa	ce,	and	SO	we	WOI	ıld	

to be something in the subsurface, and so we would still have all of those land use controls that we talked about before, the educational pamphlets and the warning signs teaching people what to do should site conditions change and something that was on the subsurface now at the surface, they know what to do safely.

9 And again, that would come again with a 10 five-year review to make sure that the response 11 action that's been completed at the site still 12 remains protective of human health and the 13 environment.

Alternative four -- spoiler alert -- this is our preferred alternative. So if you've stopped paying attention, now is a good time to start paying attention again.

So alternative four is a focused surface 18 19 and subsurface MEC removal, and we've come up with a 20 proposed focused area. The exact focused area would 21 be, you know, finalized in whatever remedial action 22 work plan that would be written about the site in 23 the future, but our proposed focused area includes -24 - you can see it's smaller -- does this have a thing 25 on it?

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r	Kanaio Local MeetingAugust 23, 2022NDT Assgn # 59054Page 42
1	MR. SILKEBAKKEN: In the middle.
2	MS. BARTSCHERER: Oh, really?
3	MR. SILKEBAKKEN: The
4	MS. BARTSCHERER: Okay.
5	So you can see this white line here. That
6	was our High Use Area that we came up came up
7	with out of the RI.
8	So in this focused area we're going to add
9	a little buffer to that where we we've seen also
10	more a higher amount of MD detections in this
11	area around here.
12	We're also going to add a couple of the
13	grids where we found more of the MD than we did on
14	the rest of the site. It's going to have these
15	little little spots here and then all of the
16	King's Trail and 25 feet in either direction of that
17	trail because that's going to be the most access
18	that people are likely to have at the site. So
19	that's going to comprise our focused area.
20	And in the focused area we would do a very
21	we would do a surface and subsurface MEC removal,
22	so that's anything that's detected on the surface,
23	and then using our instruments, anything that we
24	find, we basically intrusively investigate, which is
25	a fancy way of saying dig, until you find that

NAEGELI (800)528-3335 DEPOSITION & TRIAL 1 Munitions of Explosive Concern item.

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2 MR. LINDSTROM: Is that King's Trail? 3 Does that only include the section that 4 goes through Area 1, or does it extend over to Area 5 D?

> MR. SILKEBAKKEN: All the way to Area D. MR. LINDSTROM: All the way to D, right? MR. SILKEBAKKEN: Mm-hmm.

9 MS. BARTSCHERER: So this would be -- so 10 that would be our focused area where, again, we 11 would do all surface and subsurface removal. And then this alternative still includes those land use 12 13 controls because there's a balance of the site 14 where, again, that's not where we're finding the 15 bulk of anything that might indicate MEC, but 16 because there is a possibility that something could 17 be there, we keep the land use controls at the site, so -- so you're still educating people should you 18 19 come across something, you shouldn't touch it.

And then that would also come with fiveyear reviews because you're going to check again, what -- did the decision we made for the site, is that still protective of the public?

And then the last alternative to consider is alternative five, which would be a complete



1	surface and subsurface MEC removal, so over the
2	entire 1,983 acres of the site you're removing every
3	everything that you can find from the surface and
4	the subsurface, 100 percent of the site. And so in
5	theory, if you covered 100 percent of the site, then
6	that would make it so you would not have to have any
7	land use controls, any five-year reviews, but it is
8	it is an interesting site and so should anything
9	come up where you wouldn't be able to guarantee that
10	you had covered 100 percent of the site or you'd
11	gotten like, for instance, like an inaccessible
12	area, or those private land owners never gave us
13	right of entry, then it would still have to go to
14	land have land use controls and have a five-year
15	review. But the idea of this alternative was what -
16	- what's the most significant thing that you could
17	at the site.
1 0	

So in the FS, we take these five 18 19 alternatives and we evaluate them against this 20 criteria. The overall protectiveness of human 21 health and the environment, that's a yes or no 22 question. Does it protect human health or not? 23 Does it protect the environment or not? 24 Compliance with applicable, relevant, and 25 appropriate requirements, ARARs, that's basically

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1	does it follow the laws and regulations. Long-term
2	effectiveness and permanence, once you implement
3	this remedial alternative, does it actually stick
4	for the long run?

5 Reduction of toxicity, mobility, or volume 6 through treatment, and that's because that's for any 7 remedial sites. If the wording for MEC really means 8 did you reduce the amount of MEC that's out there?

9 Short-term effectiveness, is it -- is it a 10 technology that would work right away, and also if 11 you're sending a team of people out there, what is 12 the short-term effect on them, how dangerous is it 13 for them to implement this alternative?

Implementability, that just basically means is technology available, are the things that you need readily available to begin remediation? Oh, I didn't mean to skip. And then cost of -l8 detailed cost estimate was produced for each alternative.

20 State acceptance means the state 21 regulator, and like we've said, we've been working 22 with HDOH throughout the process making sure that 23 any alternative we select will be acceptable to the 24 state. And then community acceptance, the reason 25 for being here today, making sure that the public



1 understands what the alternatives are, what the 2 preferred alternative is, and would they find that 3 preferred alternative acceptable.

So this says preferred alternative, but 4 5 really this is still talking about the FS. This is 6 the slide that we were changing when we got the call 7 that the -- two hours before the meeting that school was cancelled so we got distracted, but -- this 8 should -- this is still part of the FS approach 9 10 that, you know, we look at all these remedial 11 alternatives, and we make sure that they are all compared against the evaluation criteria. How do 12 13 they compare to each other.

And in the FS, the FS actually ends 14 15 without selecting a preferred alternative. It's 16 meant really to just lay all the alternatives out, 17 and have, you know, each category of criteria 18 evaluated for each alternative so you can see 19 everything. And then in the proposed plan, that's 20 when the -- the technical team decides their 21 preferred alternative and presents that to the 22 public, and the public is able to give comments and 23 input.

24 So just to give you an idea, in the FS, 25 this is what the table would look like when we're

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1	looking at all the alternatives and all the criteria	
2	and how they relate and and, you know, high	
3	you see high, medium, low, and you see highest, and	
4	you see yes and no, and that's a way for the team to	
5	look at all the alternatives and to really gauge	
6	what the best alternative can be.	
7	MS. CHAU: No, sorry.	
8	MS. BARTSCHERER: Yeah.	
9	MS. CHAU: I have to go, but thank you.	
10	MS. BARTSCHERER: Yeah. Thank you for	
11	MR. SILKEBAKKEN: Thanks, Leslie.	
12	MS. BARTSCHERER: joining us. Yeah.	
13	MS. CHAU: having the meeting. Does	
14	anybody want this hard copy?	
15	MR. SILKEBAKKEN: It's all yours.	
16	MS. BARTSCHERER: That's yours.	
17	MS. CHAU: Okay.	
18	MS. BARTSCHERER: Would you like to take a	
19	proposed plan, too? That's this right here	
20	(indicating).	
21	MR. SILKEBAKKEN: Perfect.	
22	MS. CHAU: Yeah, I'll take one also.	
23	MR. SILKEBAKKEN: Thank you.	
24	MS. CHAU: Okay.	
25	MS. BARTSCHERER: Thanks for making the	

1 trip.

2 MS. CHAU: (Inaudible). 3 MS. BARTSCHERER: So the preferred -- the preferred alternative that we're proposing is 4 5 alternative four, the focused surface and subsurface 6 removal and the land use controls, and that 7 alternative may be modified in response to any public comments we receive. So it's not the final 8 9 alternative yet. It's just the proposed 10 alternative. 11 But based on the information that's available, the Army Corp of Engineers, the Army 12 13 National Guard, believes that this alternative would 14 meet the criteria that it needs to meet, and it's 15 also expected to satisfy the -- the requirements of 16 CERCLA, that it protects human health and the 17 environment, that it complies with the ARARs, again 18 that's laws and regulations, that it's cost-19 effective, that it utilizes permanent solutions, and 20 that it satisfies the preference for treatment as a 21 principal element. 22 As far as regular -- regulatory 23 participation in this process, again, we've been 24 working with Hawaii Department of Health, and 25 they've actively participated in the evaluation of



1 the Kanaio training area. That was during the work
2 plan. That was during the writing of the RI/FS and
3 the proposed plan, and they have concurred with
4 those documents and were in mutual agreement that
5 the focused surface and subsurface removal and land
6 use controls is an appropriate decision for the MRS.

7 As far as public participation is concerned, public input is super important to 8 decision making, and the public is encouraged to use 9 10 the comment period for questions and concerns about 11 the proposed decision for the MRS. Comments can be 12 made verbally during this meeting tonight or on 13 comment cards at this meeting or they can be made 14 via mail or email. The comment period is August 22 15 through September 23rd. And then the Army National 16 Guard will summarize and respond to public comments 17 in what's called a responsiveness summary which will be part of the record of decision. 18

And so what's happened thus far is the black text up there, and we're here today at the public meeting. So there's going to be a 30-day public review period and then, like we said, there's files available at the information repository at the library. There's comment cards you can -- public can submit comments by mail, email or phone, and

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1 then a decision document or record of decision will 2 be written that if there's no disagreement with this 3 preferred alternative, the preferred alternative 4 will become the decision for the site, estimated 5 sometime in February 2023.

6 Before concluding our meeting, we would 7 like to remind everybody to practice the three Rs, and, again, this is something similar that you might 8 see on a -- on one of the warning signs out at the 9 10 site, maybe with a little bit more information, but 11 to recognize any suspicious object that could be 12 MEC, that it should not be touched, retreat and 13 carefully leave the area, and report, immediately 14 call 911 and report what was found and where it was 15 found.

16 So just to wrap up the meeting today, I'd 17 like to open it up for discussion, questions, if anybody has any comments on the preferred 18 19 alternative, and then after formal comments and 20 questions are done, you know, all the technical team 21 will stick around and happy to have you look at the 22 posters or answer any -- any questions anyone might 23 have. But that -- that concludes our formal 24 presentation, if anybody has any questions or 25 comments on the preferred alternative.



MR. LUKASKO: Would you please describe if this was put in the newspaper?

3 MS. BARTSCHERER: Yes. So this was put in the newspaper on Saturday, August 13th, a notice to 4 5 the public about this meeting itself and also about 6 the public comment period with information to 7 contact Mr. Rob Halla, who's the Army National Guard Project Manager for this site, with any comments or 8 9 questions that they might have about the site and 10 comments or questions that they might have about the 11 preferred alternative with information about that 12 they could read that preferred alternative either at 13 the library or online.

Hawaii Army National Guard has a website 14 15 for this site specifically where you can access 16 documents, and that website was listed in that 17 newspaper, and that notice was also posted around 18 the community nearby on the community boards, on the 19 outside of the coffee shop, outside of the general 20 store, at the library where -- where people 21 generally post community notices and people know to 22 look for that type of information. 23 MR. SILKEBAKKEN: I believe that newspaper

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24 was The Maui Times. Is that right, Ahmed?

25

MR. KAMALI: Yes.

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1	MR. LINDSTROM: So I know we haven't had a
2	lot of turnout here tonight from the public, but
3	have you received any input from the public, be it
4	email or phone calls or anything?
5	MS. BARTSCHERER: Yeah. We spoke with one
6	gentleman on the phone when we were requesting if
7	anybody was interested in forming a RAB, and also
8	for this particular meeting, and he was not
9	interested in being part of a RAB, but he wanted to
10	let us know that he was not going to be able to make
11	the meeting and he said he doesn't really have any
12	comments for us. He just finds it interesting.
13	He's former military, and he just finds the work
14	that we're doing interesting, so he's just curious,
15	but he doesn't have any any particular comments
16	for the preferred alternative or what we're doing,
17	and made sure, you know, he knows where to read
18	read the documents should he choose to do so.
19	And then another gentleman that we've
20	spoken with, the same thing, he's former military,
21	former contractor for Army Corp Engineers working at
22	sites like this, and, again, just finds the site
23	hearing interesting, but doesn't have a

- 24 particularly, as far as I can tell, passionate
- 25 opinion about it, just finds it very interesting.

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1	MR. LINDSTROM: And HDOH is supportive of
2	the you know, the preferred alternative in this
3	case. We just you know, we've had experiences at
4	other sites where the public either doesn't find out
5	about the meetings or they just don't come to the
6	meetings, and you kind of don't get the information
7	until you're at the step where you're actually
8	trying to implement the remedial action and then all
9	of a sudden it gains interest with the community.
10	MS. BARTSCHERER: Right.
11	MR. LINDSTROM: So we just encourage you
12	to do
13	MS. BARTSCHERER: Yeah.
14	MR. LINDSTROM: as much as you can, you
15	know, even between now and September 23rd to, you
16	know, make sure that you continue to try to get the
17	word out so if anybody's going to, you know, hear
18	about it, they'll they'll have advanced notice
19	and know what's going on and be aware of it so when
20	it comes to the point where you guys want to
21	implement your plan, you know, that's not where
22	you're going to start meeting resistance and having
23	problems. We've had that with other sites where
24	you know, it takes a while for people to absorb
25	things.

1	MS. BARTSCHERER: True. And, yeah, we did
2	have the advantage of, you know, trying to stand up
3	for RAB if there was interest, so they have been
4	hearing about it now since it was probably March
5	of 2021 when we ran that that first ad. So
6	they've had time to kind of hear about the site and
7	hear what's going on.
8	Some contact with, you know, nearby
9	residents. The owner of the ranch that's right
10	that's right next to the site actually helped us out
11	with some of the field work, letting us, you know,
12	park a car at her on her property so
13	MR. SILKEBAKKEN: Janelle, I'm not sure
14	that we defined RAB, and I'm not sure if the
15	MS. BARTSCHERER: Oh.
16	MR. SILKEBAKKEN: Court Reporter got
17	it. Restoration Advisory Board.
18	THE REPORTER: Thank you.
19	MR. DE MATTOS: Just a question. I know
20	you said the paper, right?
21	What paper did you guys publish this?
22	MR. SILKEBAKKEN: Maui Times.
23	MS. BARTSCHERER: The Maui
24	MR. DE MATTOS: Okay. Because The Maui
25	News is the more

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1	MS. BARTSCHERER: It was The Maui News.
2	MR. DE MATTOS: Oh, okay.
3	MR. SILKEBAKKEN: Did I say the wrong one?
4	Maui
5	MS. BARTSCHERER: Yeah.
6	MR. DE MATTOS: Okay. I just wanted to
7	make sure.
8	And, you know, another question regarding
9	the you know, the preferred alternative which is
10	four, I believe, correct?
11	MR. SILKEBAKKEN: Yes.
12	MR. DE MATTOS: You know, not looking at
13	cost or anything like that, I would assume that
14	alternative five would be the ideal solution, but I
15	think from a cost perspective, that's not feasible
16	at this time.
17	If we were to go with preferred
18	preferred alternative, but during this whole process
19	funds became available, would we potentially be able
20	to transfer into alternative five, or would that be
21	something that once we determine if alternative four
22	is the way, that's kind of where we're headed?
23	MS. BARTSCHERER: Yeah.
24	MR. LUKASKO: So we're headed for
25	alternative four.

Kanaio Local Meeting August 23, 2022 NDT Assgn # 59054 Page 56 MR. DE MATTOS: Right. But I'll assume 1 2 that the reason why would be funding, right? 3 MR. LUKASKO: It's not funding. Alternative five is the option where we dig up the 4 entire site. There's no interest. Nobody wants to 5 6 see the whole site dug up. 7 MR. DE MATTOS: Right. So --8 MS. SALAMIDA: And all those other 9 criteria do play into that. 10 MR. DE MATTOS: Okay. 11 MS. SALAMIDA: (Inaudible) if it's possible go into (inaudible) site conditions and 12 13 things like that. 14 MR. LUKASKO: That is the point of this 15 proposed plan meetings, to seek other people's --16 MR. DE MATTOS: Right. 17 MR. LUKASKO: -- input before we finalize 18 a decision. 19 MR. DE MATTOS: Right. 20 MR. SILKEBAKKEN: Obviously, in -- in --21 in a vacuum, the answer would always be if all the 22 other criteria weren't considered, that you would 23 always do the entire cleanup of the entire site --24 MR. DE MATTOS: Right. 25 MR. SILKEBAKKEN: -- to reduce the risk of



ſ	Kanaio Local Meeting August 23, 2022 NDT Assgn # 59054	Page 57
1	rust, but that's generally not feasible for a	
2	variety of different reasons and parameters, not	
3	not just funding.	
4	MR. LINDSTROM: Yeah, there is a table and	
5	a feasibility study that kind of compares all of	
6	those	
7	MR. DE MATTOS: Yes.	
8	MR. LINDSTROM: (inaudible) area.	
9	MR. DE MATTOS: Yeah.	
10	MR. LINDSTROM: So there is more, but just	
11	the cost of it cost is a big one.	
12	MR. DE MATTOS: Yeah, I'm looking at the	
13	difference.	
14	MR. LINDSTROM: Yeah.	
15	MR. DE MATTOS: Twenty-three million to	
16	three million.	
17	MR. LINDSTROM: Right.	
18	MR. DE MATTOS: You know, how much of a	
19	factor does that play into.	
20	MR. LINDSTROM: And you always have to	
21	look sort of at the cost benefit ratio	
22	MR. DE MATTOS: Right.	
23	MR. LINDSTROM: right, because there's	
24	going to be a lot of areas there, like she	
25	mentioned, where they're just not going to be able	



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Kanaio Local Meeting August 23, 2022 NDT Assgn # 59054 to get in there --1 2 MR. DE MATTOS: Right. 3 MR. LINDSTROM: -- and clear --4 MR. DE MATTOS: Right. 5 -- because of all the 'A'? MR. LINDSTROM: 6 7 MR. DE MATTOS: Right. 8 MR. LINDSTROM: -- and, you know, steep 9 terrain, whatnot. 10 MR. DE MATTOS: Right. 11 MR. LINDSTROM: So at the end of the day, you're still going to have to have land use controls 12 13 _ _ 14 MR. DE MATTOS: Right. 15 MR. LINDSTROM: -- for those areas so --16 those are the factors that went into the selection. 17 MR. DE MATTOS: Right. 18 MR. LINDSTROM: But, yeah, I mean, if 19 everything else was equal, clearing -- clearing it 20 all is not (inaudible) ultimate goal in most cases. 21 MR. DE MATTOS: Got it. 22 MR. LINDSTROM: So, you know, looking at 23 this site from -- from Google Earth, which is the 24 only way I've ever viewed it, it doesn't seem like 25 there's really any -- any -- anything out there. I

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Kanaio Local Meeting August 23, 2022 NDT Assgn # 59054 Page 59 mean, when we talk about the community around there, 1 2 how far away is the community from here, is there --3 is there some, you know, houses along the road there 4 or --5 MR. SILKEBAKKEN: Yes. MS. BARTSCHERER: Yeah. Yeah. Let me go 6 7 8 MR. SILKEBAKKEN: If you go back -- yes. 9 MS. BARTSCHERER: Or -- let me go -- I can 10 go to a map here. So this is the road, and so this is -- this right here, this property cutout, is that 11 12 ranch, which is the resident that we've had any 13 contact with at all, and there are -- you know, 14 there are residents along this main road. But 15 there's no -- there's no road -- there's no access 16 into here. If we're talking about those two private 17 parcels, there's no -- there's not a way to get to 18 them. There's not a road. 19 MR. LINDSTROM: And the people who live in 20 those houses aren't necessarily the people who are 21 accessing the property. You said there's a few 22 hunters, or whatever, that go down there, or 23 fisherman, who --24 MR. DE MATTOS: Right. So they normally 25 use the Kanaio Beach boat (indiscernible) to access

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1	the coastline. So anybody who is engaged in hunting	
2	within that area is actually illegally doing it.	
3	There are there is one house that is not part of	
4	this. It's in the broader area that sits pretty	
5	much right dab in the middle to the what would it	
6	be west of this project. There is a structure	
7	there, but most of the houses are pretty much	
8	sporadic	
9	MR. LINDSTROM: Mm-hmm.	
10	MR. DE MATTOS: around that entire	
11	piece of property.	
12	MR. LINDSTROM: Have you tried doing like	
13	a mailing to the people that live in that area?	
14	MS. BARTSCHERER: We have not done a	
15	mailing. The again, the woman that owns that	
16	ranch has sort of like a HOA, kind of email type of	
17	you know, it's not an HOA, right, but like has	
18	some kind of neighborhood organization of like a	
19	list of emails, and so she did not want to be the	
20	one to give those to us, but had agreed to forward	
21	some things that we had sent her.	
2.2	MR. LINDSTROM: Great, great,	

23MR. SILKEBAKKEN: As well as allow us to24post a sign for the meeting on that part as well.

(Speaking simultaneously.)

25



Kanaio Local Meeting August 23, 2022 NDT Assgn # 59054 Page 61 1 MR. LINDSTROM: And then, Shane, if you 2 don't mind, can you kind of point out here exactly 3 where your management area is going to be within 4 this --5 MR. DE MATTOS: So it's --6 **MR. LINDSTROM:** -- discussion? 7 MR. DE MATTOS: -- it's actually the 8 entire piece there. So --9 MS. BARTSCHERER: This black line. 10 MR. LINDSTROM: I think this is only like 11 12 MR. DE MATTOS: Yeah, so the area actually 13 14 MS. BARTSCHERER: We can pull out a map if 15 _ _ 16 MR. DE MATTOS: -- from here. It's --17 MS. BARTSCHERER: Yeah, it's the black 18 line. 19 MR. LINDSTROM: So I believe the --20 MR. DE MATTOS: If this is the road that 21 goes down to the east of -- actually it extends 22 further west. 23 MS. BARTSCHERER: Yeah. 24 MR. DE MATTOS: So this area, I believe, 25 is, what, 1900 -- what was it?

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1	MR. LINDSTROM: This just		
2	MS. BARTSCHERER: 1,983.		
3	MR. LINDSTROM: Okay. So all of that's		
4	4400.		
5	MR. DE MATTOS: Forty-four the entire		
6	area, I believe, is 65- or 7,000 acres.		
7	MS. BARTSCHERER: I think is this		
8	(indiscernible) this or is that still only the		
9	combined boundary?		
10	MR. DE MATTOS: That that is		
11	MS. BARTSCHERER: That's not the DNLR		
12	boundary.		
13	MR. SILKEBAKKEN: Right, it's Kanaio.		
14	MR. DE MATTOS: Yeah, so that is just the		
15	the a study area. So I think we can we can		
16	add on another 2,000 acres to this parcel and then		
17	you're also working with the there's an addition		
18	adjacent land owner that is potentially willing		
19	to get into like a cooperative agreement with us, so		
20	the entire area would be about 8500 acres.		
21	MR. LINDSTROM: But you said there was an		
22	area		
23	THE REPORTER: I'm sorry.		
24	MR. DE MATTOS: Yes.		
25	THE REPORTER: I I can't hear what		
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you're saying. I'm sorry. 1 2 MR. DE MATTOS: Sorry. 3 MR. LINDSTROM: You said there's an area 4 that's going to be fenced? 5 MR. DE MATTOS: So two areas that we are 6 fencing off. The first area is Pu'u Pimo'e. We 7 plan to fence off the entire Pu'u Pimo'e. And then we're also running a fence line from the boundary, 8 the eastern boundary, above -- you know, roughly 9 10 from here all the way across into the potential 11 cooperating landowner, and we're going to fence off this entire bottom section, completely fence it off. 12 13 MR. LINDSTROM: Above the King's Highway? 14 MR. DE MATTOS: Yes, correct, yeah, above 15 the King's Trail. 16 MS. SALAMIDA: And what's the purpose of 17 that fence? 18 MR. DE MATTOS: Two reasons. This coastal 19 area has a lot of historical sites, and so we want to go ahead and protect that from further damage, 20 21 and there's a lot of -- being that there is a ton of 22 goats in that area, so we want to go ahead and 23 protect this area, remove all the goats, and -- and 24 there's -- there can be some deer in there. 25 We're going to protect that entire area so

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that we -- we hopefully end the damage that they're 1 2 doing to our historical sites. And we felt that 3 this area by conserving -- this is like prime area of historical -- historical sites in the area. 4

5

MR. LINDSAY: The goats have no say. 6 MR. DE MATTOS: So those -- and we also 7 are planning to -- you know, if we get permission from the land owner and we get into a cooperative 8 agreement, our access point would be here. 9 The 10 problem is that there's no road that connects that 11 parcel to this border piece so we do want to go ahead and build a road to allow the public to come 12 13 in and access the entire area through -- with 14 vehicles, so --15 MR. SILKEBAKKEN: Can I ask we just -- off 16 the record for a minute? 17 THE REPORTER: Yeah. 18 (WHEREUPON, a recess was taken.) 19 MR. DE MATTOS: Any other questions? 20 MS. BARTSCHERER: Thank you. 21 MR. LINDSTROM: Thank you, Shane. 22 MS. BARTSCHERER: Any other questions for 23 us? 24 MR. SILKEBAKKEN: Okay. 25 MR. LINDSTROM: So are you -- so -- so are



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1	you contracted to do the decision document and the	
2	remedial action?	
3	MS. BARTSCHERER: The the decision	
4	document.	
5	MR. LINDSTROM: Decision document.	
6	MR. SILKEBAKKEN: Right.	
7	MR. LINDSTROM: And there will be	
8	MR. SILKEBAKKEN: The record.	
9	MR. LINDSTROM: a contract for the	
10	remedial action?	
11	MR. SILKEBAKKEN: That's right.	
12	MS. BARTSCHERER: Correct.	
13	MR. LINDSTROM: Remedial to sign for the	
14	action. What's the timeline?	
15	MR. LUKASKO: Rob?	
16	MR. SILKEBAKKEN: You awake, Rob?	
17	MR. LUKASKO: Is he sleeping?	
18	MR. HALLA: I'm awake. I heard something	
19	about timeline. What's	
20	MS. BARTSCHERER: What	
21	MR. HALLA: What was the question about	
22	the timeline?	
23	MS. BARTSCHERER: What would the timeline	
24	potentially be for the response action. Parsons	
25	MR. HALLA: Well, I'm not	



1	MS. BARTSCHERER: Parsons is contracted
2	through the decision document only.
3	MR. HALLA: Right. After that, I mean,
4	it's all dependent on funding. But it it's in
5	the mix with a couple other places that have a ton
6	of I mean, way way more MEC sitting on the
7	surface, way more MEC in the site.
8	This one, I think, has an MRSPP of two,
9	although it has to get through the the QA Board
10	on that. That would put it up pretty high. So
11	really it all depends on funding.
12	MR. LINDSTROM: And now, is isn't there
13	some sort of timeline or some sort of clock that
14	gets started once there's a decision document or a
15	record of decision on it?
16	MR. HALLA: There there there is
17	there is for metrics. There isn't one for for
18	our metrics that we have to report to the Army, yes,
19	there
20	is
21	MS. BARTSCHERER: Metrics
22	MR. HALLA: But there isn't one yeah,
23	we have to do a some sort of a five years
24	afterwards you have to go back and review
25	basically kick in the five-year review, but there is

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1 no timeline that -- to be held to because there's no 2 funding.

3 MR. LINDSTROM: Okay. Well, I think if --4 if it comes to, you know -- I don't know -- I'm not 5 exactly sure what the timeline is for what Shane's 6 got in mind out there, but if it comes to a point 7 where this site is becoming more used, then we might have to talk about like, you know, an NTIC or 8 something to at least get the signage up or 9 10 something so that we're, you know, being --11 MR. HALLA: Yeah -- yeah, we could do that 12 13 MR. LINDSTROM: -- (inaudible) --14 MR. HALLA: Now, we can do pieces of it, 15 Absolutely we can do it in pieces, that sort yes. of thing. Like if -- obviously you and I, we've 16 17 already -- and -- and Shane, we've already talked about doing, you know, UXO support (indiscernible) 18 19 to work at the (indiscernible) -- some sort of a --20 you know, I mean, we ought to work on, you know, how much lead time -- lead time I need on something for 21 22 like that. 23 But, you know, we can obviously do parts 24 of it up front, the signage and all that sort of 25 stuff. That's -- that's the lower end. That's the



Г	Kanaio Local Meeting August 23, 2022 NDT Assgn # 59054	Page 68
1	cheaper part of the the equation. That's not	
2	It would just be the actual remedial	
3	action going in to do the the concentrated	
4	surface and subsurface. That that may be a slow	
5	slower process.	
6	But, absolutely, the signage and things	
7	like that, we can work that piece of it separately	
8	as a separate action.	
9	MR. LINDSTROM: Okay. It's something	
10	we'll just keep track of as as we move forward.	
11	MR. HALLA: Yes, sir.	
12	MR. SILKEBAKKEN: Any other questions or	
13	comments? All right.	
14	MS. BARTSCHERER: All right. That that	
15	concludes our meeting. Thanks, guys. We'll stick	
16	around if anybody has any specific questions, but	
17	appreciate your time this evening.	
18	(WHEREUPON, the Proposed Plan Public	
19	Meeting concluded at 7:34 p.m.)	
20		
21		
22		
23		
24		
25		

1	CEDUTETCAUE
T	CERTIFICATE
2	
3	I, Megan Ramirez, do hereby certify that I reported
4	all proceedings adduced in the foregoing matter and that the foregoing transcript pages constitutes a full, true
5	and accurate record of said proceedings to the best of my
6	ability.
7	I further certify that I am neither related to
8	counsel or any party to the proceedings nor have any interest in the outcome of the proceedings.
9	IN WITNESS HEREOF, I have hereunto set my hand this
10	29th day of September, 2022.
11	
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15	Megan Ramirez
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Final Record of Decision Kanaio Local Training Area MRS, HI

Appendix C: Stakeholder Response

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DAVID Y. IGE GOVERNOR OF HAWAII



ELIZABETH A. CHAR, M.D. DIRECTOR OF HEALTH

STATE OF HAWAII DEPARTMENT OF HEALTH P. O. BOX 3378 HONOLULU, HI 96801-3378

In reply, please refer to: File: 201111 AH

April 17, 2023

Mr. Rob Halla Army National Guard Directorate ATTN: ARNG-ILE 111 S. George Mason Drive Arlington, Virginia 22204 (sent via e-mail to: walter.r.halla2.civ@army.mil)

Facility/Site: HIARNG Kanaio Local Training Area

Subject:

Review of Responses to Comments and Red-line Revisions to Draft Final Record of Decision, Kanaio Local Training Area Munitions Response Site, Hawaii, dated April 2023

Dear Mr. Halla:

The Hawaii Department of Health (HDOH) Hazard Evaluation and Emergency Response (HEER) Office has reviewed the Responses to Comments and red-lined Draft Final Record of Decision referenced above and has determined that all previous comments have been satisfactorily addressed. HDOH has no additional comments at this time. Please finalize the Record of Decision and provide a PDF copy for our records.

If you have any questions, please do not hesitate to contact me at 808-586-5815 or via e-mail at sven.lindstrom@doh.hawaii.gov.

Sincerely,

Sven Lindstrom Voluntary Cleanup Program Specialist Site Discovery, Assessment and Remediation Hazard Evaluation and Emergency Response Office Hawaii Department of Health

cc: Ms. Janelle Bartscherer (via e-mail)

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