Record of Decision

for

Waikoloa Maneuver Area, Project 1 – Areas A and G
Waikoloa, Island of Hawai‘i, Hawai‘i

FUDS Project No. H09HI035901

Prepared for:
U.S. ARMY CORPS OF ENGINEERS, HONOLULU DISTRICT
Building 230
Fort Shafter, Hawai`i 96858-5440

June 2025

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LIST OF ACRONYMS AND ABBREVIATIONS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CSM	Conceptual site model
DERP	Defense Environmental Restoration Program
DoD	Department of Defense
EE/CA	Engineering Evaluation/Cost Analysis
FS	Feasibility Study
FUDS	Formerly Used Defense Site
HDOH	Hawai`i Department of Health
HE	High explosive
MC	Munitions constituents
MD	Munitions debris
MEC	Munitions and explosives of concern
mm	Millimeter
MMRP	Military Munitions Response Program
MRS	Munitions response site
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEU	No Evidence of Use
RI	Remedial investigation
ROD	Record of Decision
UIC	Underground injection control
USACE	U.S. Army Corps of Engineers
WMA	Waikoloa Maneuver Area

1. DECLARATION

1.1 PROJECT NAME AND LOCATION

Project Name: Waikoloa Maneuver Area, Project 1 – Areas A and G
FUDS ID: H09HI035901

Location: South Kohala, Hawai‘i Island, Hawai‘i

1.2 STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) presents the decision to take no further action at Waikoloa Maneuver Area (WMA), Project 1 (known as Areas A and G), in Waikoloa, Hawai‘i Island, Hawai‘i. This decision was made in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 Code of Federal Regulations (CFR) Part 300, and the Defense Environmental Restoration Act (10 U.S. Code § 2701 et seq.). As per 40 CFR 300.800(a) of the NCP, the documentation supporting the decision to take no further action is contained in the Administrative Record.

The Hawai‘i Department of Health (HDOH) concurred with the decision to take no further action in a letter dated November 14, 2024.

1.3 DESCRIPTION OF DECISION

Based on the data collected during the remedial investigation (RI) and multiple lines of evidence reviewed during the RI reporting process, Areas A and G do not have a munitions and explosives of concern (MEC) or munitions constituents (MC) hazard. Areas A and G are confirmed to be no evidence of use (NEU) areas (U.S. Army Corps of Engineers [USACE] 2024b). Therefore, no further action is necessary to protect public health or the environment from actual or threatened releases of MEC or MC.

1.4 STATUTORY DETERMINATIONS

No further action is necessary to protect human health and the environment from MEC or MC at Areas A and G. Because no remedial action is necessary, statutory 5-year reviews are not required. The public participation requirements of Section 117(a) of CERCLA and the NCP at 40 CFR 300.430(f)(3) have been met.

1.5 AUTHORIZING SIGNATURE

This ROD presents the decision to take no further action for MEC and MC at WMA Areas A and G Munitions Response Sites (MRS). The DoD is the lead agency under the Defense Environmental Restoration Program (DERP) at the WMA Formerly Used Defense Site (FUDS), and USACE has developed this ROD for DoD consistent with CERCLA, as amended, and the NCP. This ROD will be incorporated into the Administrative Record for this project, which is available for public review at the Thelma Parker Memorial Library (67-1209 Mamalahoa Highway, Kamuela, Hawai'i 96743-8429) and the USACE office upon request (230 Otake Street, PPE Room 104, Fort Shafter, Hawai'i 96858-5440).

This document, presenting the decision to take no further action with a total cost to complete estimate recorded in the Formerly Used Defense Site Management Information System of $0, is approved by the undersigned and pursuant to the delegated authority by the Chief of Engineers USACE Memorandum dated 22 May 2025, Subject: Amendment to the 08 July 2022 Re-delegation of Assignment of Mission Execution Functions Associated with Department of Defense Lead Agent Responsibilities for the Formerly Used Defense Site Program.

APPROVED:

RIDILLA.PETER.A.1074504236 Digitally signed by RIDILLA.PETER.A.1074504236 Date: 2025.07.03 13:18:49 -10'00'

PETER A. RIDILLA, P.E., SES
Director of Programs

03-Jul-2025
Date

2. DECISION SUMMARY

2.1 SITE NAME, LOCATION, AND BRIEF DESCRIPTION

WMA FUDS property consists of approximately 185,309 acres and is located on the northwest side of the Island of Hawai‘i, Hawai‘i, in the South Kohala District, approximately 30 miles north of the city of Kailua-Kona. It is divided into 22 MRSs that were identified as requiring investigation for MEC and MC. This ROD addresses Areas A and G, FUDS project number H09HI035901 (**Figure 2-1**). DoD is the lead agency under the DERP, and USACE has developed this ROD for DoD with concurrence and support from the HDOH.

Areas A and G consist of 6,887.9 acres located along the southern border of the WMA. Area A West is located south of Waikoloa Road and is bordered on the east by Mamalahoa Highway. Area A East is located west of Saddle Road with Saddle Road defining the eastern boundary. Area G is located just to the south of Area A East with Saddle Road defining the western boundary.

Area A West is a combination of multiple large properties leased by Parker Ranch and owned by nine different entities. Area A East is owned by multiple residents that belong to the Waiki‘i Ranch subdivision. Although the land use class is determined as important agricultural land for Waiki‘i Ranch, parcels are individually owned and may be residential. The ranch is over 2,000 acres and consists of 10, 20, and 40-acre residential lots. Area G is owned by Parker Ranch. Area A West is currently an unused open area classified as extensive and important agricultural land (**Figure 2-2**). Area A West has possible future development of low density agricultural-related residential areas and the potential for development of alternative energy such as solar or wind farms. The South Kohala Community Development Plan defines the Important Agricultural Lands as those lands with better potential for sustained high agricultural yields because of soil type, climate, topography, or other factors. Extensive agriculture lands are lands that are not capable of producing sustained, high agricultural yields without the intensive application of modern farming methods and technologies due to certain physical constraints such as soil composition, slope, machine tillability, and climate. Other agricultural uses such as grazing, and pasture may be included in the extensive agricultural category. Area A East has been subdivided into residential parcels with homes on several lots with continued development likely (**Figure 2-3**). Area G is similar to Area A West and is expected to remain unchanged with a potential for low density agricultural-related residential property (**Figure 2-4**) (USACE 2024a).

The Assistant Secretary of the Army (Installations, Energy and Environment) has lead agent responsibilities, and USACE has been delegated mission execution authority. The WMA is being addressed under the FUDS Program. Funding for the decision was provided by Environmental Restoration Account, FUDS. HDOH is the lead regulatory agency.. HDOH has reviewed the ROD and is in concurrence with the decision to take no further action for Areas A and G.

2.2 SITE HISTORY AND ENFORCEMENT ACTIVITIES

This section summarizes the history of the WMA, as well as previous investigations and removal actions conducted at Areas A and G.

2.2.1 Site History

The WMA was acquired by the U.S. Navy in 1943 through a licensing agreement with Richard Smart of the Parker Ranch. The land was obtained for use as a World War II military training camp (Camp Tarawa), non-fire maneuver range, and live fire range. Portions of the WMA were used as an artillery firing range, while other portions were used for troop maneuvers. Some areas may not have been used for any military training activities.

According to **Figure 2-5**, the 5th Marine Division Land Use Circa 1945, Area A East was in the "Maneuver Area 2 'Non-Firing'" section of WMA. Area G was between Maneuver Area 2 and the Army Artillery Range. Area A West was primarily within "Maneuver Area 3 'Non-Firing"; however, Area A West was also adjacent to the Impact Area and a small portion of the western edge of the parcel is shown within the expanded live-fire area near Pu‘u Hinai. On 1 October 1945, the United States and Parker Ranch cancelled the license for the 37,905-acre "Maneuvering Area" portion of WMA. The Marines transferred jurisdiction over the 466-acre Camp Tarawa to the U.S. Army on 1 February 1946. The Marines retained responsibility for the cleaning and restoration of the Firing Range and the beach areas. On 10 September 1946, the license for the two parcels of land referred to as the "Firing Range" and "Camp Area" between the United States and Parker Ranch was cancelled. The 1522nd Middle Pacific Engineers Operation Search Dud Team conducted the first ordnance cleanup in 1946. The sweep took place over 2.5 months and focused on impact areas used for artillery and bombing practice. At completion, the officer in charge declared that the area had been thoroughly policed for dud shells, within the limitations of the visual clearance.

In 1954, explosive ordnance disposal units based at Fort Shafter and Hickam Air Force Base searched 1,100 acres and identified and disposed of thousands of munitions (USACE 2018). The results of this clearance with respect to Areas A and G are shown in **Figure 2-6**. Although Areas A East and G were not included in the clearance, Area A West was "spot checked" shown as green triangles on figure and no munitions were observed. There has been no documentation of specific munitions training use within Area A West, Area A East, or Area G. Several MEC investigations have been conducted since the WMA was determined to be Defense Environmental Restoration Program (DERP)-FUDS eligible. Varied historical agricultural activities are documented on the Waiki‘i Ranch Clubhouse displays. Historical buildings at Waiki‘i were built prior to WWII based on the building permit records.

2.2.2 Previous Investigations and Removal Actions

Several MEC investigations have been conducted since the WMA was determined to be DERP-FUDS eligible. These investigations have included multiple Engineering Evaluation/Cost Analysis (EE/CAs) and MEC risk assessments at select areas throughout the WMA. Over the course of these previous investigations, the WMA has been divided and sub-divided into sectors, areas, and project sites based on results of the investigations.

2002 Phase II Engineering Evaluation/Cost Analysis. During the 2002 Phase II EE/CA investigation, visual reconnaissance was conducted in portions of Area A West (part of Phase II EE/CA Sector 1) and Area G (part of Phase II EE/CA Sector 3), and no MEC or MEC-related munitions debris (MD) was encountered. Based on the findings of the Phase II EE/CA, all three areas of the Project 1 MRSs were considered to have a low probability of encountering MEC and determined to require no further investigation.

2013 – MMRP Realignment. In May 2013, through Miliary Munitions Response Program (MMRP) Realignment, the three original MMRP Projects on WMA (Project 01 [Parker Ranch], Project 02 [Waikoloa Village], and Project 04 [Phase III]) underwent an administrative change that revised them into munitions response area/MRS definitions mandated by DoD. The three original projects were revised and renamed, and 19 MMRP projects were added to create subdivisions of the previously approved projects for the purpose of managing multiple response actions (USACE 2018). Project 01, the subject of this ROD, was re-aligned to be an MRS covering Areas A East and West as well as Area G.

2014 – Remedial Investigation for Area S. Using information from a 2011 removal action and the Phase III EE/CA (USACE 2006), the RI investigated the nature and extent of MEC contamination at the Area S, Saddle Road MRS (USACE 2014). This is important for this conceptual site model (CSM) because Saddle Road MRS is adjacent to Area A East and Area G. The removal action consisted of surface and subsurface investigation along 11 miles of Saddle Road from the center line of the road extending 40 feet in either direction. During the investigation, no MEC or MEC-related MD were found, and historically only expended small arms ammunition debris have been discovered on the Saddle Road MRS. (USACE 2018). This information supports that the area on the west adjacent to Areas A East and G (ie. Saddle Road) was used for troops transport/maneuvers.

2015 – Final Remedial Investigation/Feasibility Study Report for Area C. An RI/Feasibility Study (FS) was conducted to define the nature and extent of MEC at Area C (USACE 2015). This is important for this CSM because the most southern portion of Area C is adjacent to Area A West. Fieldwork from this investigation returned no MEC or MEC-related MD at or near Area A West. One anomaly was detected along the border between Area A West and Area C. This item was intrusively investigated and was determined to be non-munitions related debris. This information supports the fact that no munitions from activities in Area C have impacted Area A West.

2016 – Final Remedial Investigation/Feasibility Study Report for Area T. An RI/FS was conducted to define the nature and extent of MEC at Area T (USACE 2016e). This is important for this CSM because Area T encompassed most of the Pu‘u Hinai Live-Fire Area. Also, Area T’s southern border is adjacent to Area A West. Two MEC items were recovered (more than 1 mile north of the Area A West realigned boundary) during the visual surveys on the ground surface consisting of one 155-millimeter (mm) high explosive (HE) projectile and one 60-mm HE mortar. A combination of geophysical survey and analog-based surveys were conducted along parallel transects with spacing of approximately 250 feet between centerlines. Where the two MEC items were recovered, grids were identified for additional geophysical survey. The rest of Area T was identified as a low use area. This information supports the fact that munitions use within the Pu‘u Hinai Live-Fire Area of Area T was well north (>1 mile) of the boundary with Area A West.

2016 – Final Remedial Investigation Report for Area E. An RI was conducted to define the nature and extent of MEC in Area E (USACE 2016c). This is important for this conceptual site model because Area E was within the historical impact area. Also, Area E is adjacent to the northwest corner of the original boundary of Area A West. Through the RI fieldwork, 618 MEC-related MD items were recovered, mostly on the surface and mostly in the northwestern and southcentral portions of Area E; no MEC were recovered. Furthermore, the RI also confirmed:

- A high density anomaly area is not present within Area E; therefore, there is no high use or target area.
- Scattered low density areas of MEC and MD are present in the MRS, which suggests use as an impact area rather than a maneuver area.

The RI identified that MEC in the form of a 75-mm HE APC-T M61 were found on the surface in Area E during the 2011 removal, approximately 1 mile from the original Area A West's northwestern border (USACE 2016b). This information supports the fact that munitions from activities in Area E (the historical impact area) may have impacted the northwest corner of Area A West.

2016–2018 Remedial Investigation Field Effort. The 2016–2018 RI field effort involved geophysical data collection and intrusive investigations to establish the presence or absence of munitions and, if determined to be present, the type and distribution of the items. Munitions by design break into many smaller fragments when expended, which results in a high density of metallic items where they were used. Areas with high densities of MD are also likely places to find munitions. As such, the field team looks for high density areas of MD, which may be indicated by a high number of detections called anomalies. The geophysical surveys conducted identified potential high density areas and low density areas within Areas A West (USACE 2024b), Area A East and Area G. All detected anomalies within the high density areas were intrusively investigated and no MEC or MD were found. In addition, a selected number of anomaly sources along transects in low anomaly density areas were dug up to visually confirm that the anomalies were not MEC or MD.

In total, 12,785 anomalies were investigated: 7,024 digs in Area A West, 2,836 digs in Area A East, and 2,925 digs in Area G. Of these 12,785 anomalies, no MEC were found in the MRS and MD ([1] fragment from a 155-mm projectile) resulting from munitions use was found within the northwest corner of Area A West which is on the edge of the Pu‘u Hinai live fire range. No MEC or MD were found within Area A East and Area G and only small arms ammunition debris was found within the remaining area of Area A West. All remaining dug anomaly sources were confirmed to be iron-rich rock or iron rich soil, and non-MEC debris like horse shoes, nails, and pieces of scrap metal. The RI investigation results for Area A West, Area A East and Area G are presented in **Figures 2-7, 2-8, and 2-9**, respectively.

2021 – Historical Photographic Analysis. This report analyzed aerial photography to identify previous military and other historically significant activities across the WMA. The Historical Photographic Analysis (Army Geospatial Center 2021) notes two trails, one in each of the Area A parcels, but does not make any specific conclusions about munitions use. With regards to Area G, the Historical Photographic Analysis notes:

> *"In 1954, numerous tracks and trails are observed crisscrossing through this section. A water tank is located north just outside of the sector boundary. Most of the tracks are leading to an area west of this tank. Areas of disturbed ground are evident, but do not appear to lean toward munitions activity."*

2022 – Preliminary Assessment. The 2022 Preliminary Assessment involved compiling information obtained through historical research, as well as investigating areas that may or may not warrant further action by the DoD. The assessment concluded that the current munitions response area at the time, which consisted of 22 MMRP Projects, had evidence of a release in

some areas, and the assessment of the potential contamination would continue through the CERCLA process. This PA effort did not result in any recommendations to revise the current MRS boundaries.

2024 – Remedial Investigation Findings and Conclusions. Based on the results of the anomaly investigation and other lines of evidence, the RI recommended that Area A West be divided into two separate parcels: Area A West-Remaining Lands and Area A West-Live Fire Area. The 2015 RI/FS for Area C (USACE 2015), 2016 RI/FS for Area E (USACE 2016a), and 2016 RI/FS for Area T (USACE 2016b) were reviewed to support the determination of MEC nature and extent for Area A West. Area C and Area T are located immediately north of Area A West and Area E is immediately west of Area A West. The results shown in **Figure 2-10** are consistent with the military use of these areas and supported the recommendation that Area A West be divided into two subareas. Area A West – Live Fire Fan was designated as a low use area and determined to have a potential source for MEC with an unacceptable risk for explosive hazards.

Area A West – Remaining Lands, Area A East, and Area G were determined to have no evidence of use. All lines of evidence support the conclusion that operations with military munitions containing an explosive hazard were not conducted in these areas of the MRS. The small arms ammunition debris found within Area A West – Remaining Lands does not pose an explosive hazard and in accordance with USACE interim guidance, in the absence of MEC or MD associated with an explosive hazard does not indicate designation as a munitions use area when considering risk associated with explosive hazards. (USACE 2024c).

2024 – Simplified Inventory Project Report. The 2024 Simplified Inventory Project Report documents the approved delineation of the FUDS projects H09HI0359-01, Areas A and G and H09HI0359-16. The delineation transfers 466.6 acres from Project 01 – Area A West to Project 16 – Area T based on the results of the Project 01 RI (see above). At the conclusion of the RI, Area A West was divided into two separate parcels: Area A West – Remaining Lands and Area A West – Live Fire Area. The Simplified Inventory Project Report re-assigned 466.6 acres of Project 01 (Area A West – Live Fire Area) to Project 16 (Area T) because most of the Pu‘u Hinai live fire range (shown in **Figure 2-11**) is within the boundary of Project 16 – Area T, and two MEC items (a 155 mm HE projectile and a 60 mm HE mortar) were found during the Area T RI. The re-assignment results in a reduction of Areas A and G combined acreage from 7,354.5 to 6,887.9 as shown on **Figure 2-1 and Figure 2-12**.

2.2.3 Comprehensive Environmental Response, Compensation, and Liability Act Enforcement Actions

There have been no CERCLA enforcement actions at Areas A and G.

2.3 COMMUNITY PARTICIPATION

Community involvement for the WMA began in July 1999 with an initial public meeting by the USACE Honolulu District to inform the public of plans to conduct environmental cleanup projects through the DERP FUDS program. USACE invited representatives from neighborhood boards, community associations, environmental groups, community organizations, state and local government agencies, local business organizations, area residents, and elected officials. The WMA Community Involvement Program is still strong in supporting neighborhood outreach events and an active Restoration Advisory Board, which holds biannual meetings to present the

progress to the community. The USACE Community Involvement Program provides the community with information essential to their understanding of USACE activities, promotes two-way communication between USACE and the community, and supports opportunities for input during the decision-making process regarding future USACE activities at WMA. USACE participated in outreach events at local farmers' markets and other community events.

As part of Public Outreach and Community Participation, the Final RI Report (USACE 2024b) and the Final Proposed Plan (USACE 2025) for Areas A and G were made available to the public on 9 January 2025. The notice announcing the availability of these documents was published in the *West Hawai‘i Today* on 4, 11, and 18 January 2025. A public comment period was provided from 9 January 2025 to 10 February 2025. In addition, a public meeting was held on 23 January 2025 to present the Proposed Plan. At the meeting, representatives from USACE answered questions and presented information about Areas A and G and the proposed decision to take no further action. Detailed information about the previous studies and restoration activities can be found in the reports and documents contained in the information repository located at Thelma Parker Memorial Library, 67-1209 Mamalahoa Highway, Kamuela, Hawai‘i 96743-8429; telephone 808-887-6067. A digital copy of the Proposed Plan can be downloaded at: www.poh.usace.army.mil/Missions/Environmental/FUDS/Waikoloa.aspx.

2.4 SCOPE AND ROLE OF DECISION

This ROD documents the decision to take no further action related to MEC and MC at this MRS. USACE has concluded that no CERCLA action is necessary to ensure protection of human health or the environment from MEC or MC. Of the remaining 21 MRSs at the Waikoloa Maneuver Area FUDS property, 3 have achieved "response complete" and 18 are being addressed under other response actions in accordance with CERCLA.

2.5 PROJECT CHARACTERISTICS

This section provides an overview of the physical characteristics of Areas A and G including topography, geology, and ecology, and describes the nature and extent of contamination.

2.5.1 Conceptual Site Model

A conceptual site model (CSM) describes the contaminant sources, release and transport mechanisms, exposure media, exposure pathways, and potentially exposed human populations for a site. The CSM is broken into three sections: (1) Sources—areas where MEC or MC has or may enter the environment, (2) Interactions—the hazard from MEC or MC that may arise as a result of receptors coming in contact with source areas, and (3) Receptors—organisms (human or ecological) that have the potential to come in contact with a chemical or physical agent at the present time or in the reasonably anticipated future. The CSM summarizes potential receptor exposure pathways for MEC or MC that are or may be "complete," "potentially complete," or "incomplete." All elements of the pathway must be present for a pathway to be considered "complete" or "potentially complete," including a source of MEC, a receptor that might be affected by contamination, and a method for which the receptor may be exposed to the contaminant.

Potential Sources—No potential sources were identified. Based on the results of the RI, including the additional lines of evidence reviewed during the data gap analysis, no MEC

contaminated areas and no MC sources were identified within Areas A and G. There are no known contamination areas or sources of MEC or MC within Areas A and G.

Receptors—Potential human receptors include current/future landowners (which includes outdoor workers), current/future residents, current/future site visitors and trespassers, and current/future workers (i.e., indoor). Future land use in Areas A and G is anticipated to be similar to current use; therefore, residents are considered as potential future receptors throughout Areas A and G. For MC, potentially affected ecological receptors include terrestrial plants, soil invertebrates, birds, and mammals. Ecological receptors are not considered receptors for MEC.

Exposure Pathways—The preliminary CSM for Areas A and G indicated that potentially complete exposure pathways are present at the site that might result in site visitors (e.g., tourists) and/or residents being exposed to MEC in soil. However, the RI supports a conclusion that Areas A and G are areas having no evidence of use (NEU) by DoD, so no potentially complete exposure pathways have been identified in the MRS (see Section 2.7). With regard to MC, the preliminary CSM indicates that, based on previous investigation results (no MEC encountered) and analysis of historical information, no MC contamination is present at the MRS. Therefore, the MC exposure pathways are incomplete for all receptors (landowners, residents, site visitors and trespassers, workers, and ecological receptors).

2.5.2 Physical Characteristics

2.5.2.1 Regional Climate

The climate in Waimea, located just northwest of the project site, consists of mild temperatures and moderate high humidity. The annual mean temperature is 75.2 degrees Fahrenheit. Seasonal differences in rainfall define wet and dry seasons on Hawai‘i. The months of October–March (the wet season) receive 80% (17.37 inches) of the annual rainfall and April–September (the dry season) receive 20% (4.33 inches) of the rainfall. The dominant winds in Hawai‘i are northeasterly trade winds. During the winter months (October–April) the trade winds may be interrupted by stormfronts or migratory cyclones from the northern latitudes. As a result, the winter months have more frequent clouds and rainstorms as well as southerly and westerly winds (USACE 2024b).

2.5.2.2 Topography and Vegetation

The WMA includes rolling terrain that includes slightly dissected uplands and lava plains. The elevation across the MRS ranges from approximately 1,300–5,800 feet above sea level. Vegetation consists of dry grasslands, dry shrublands, and dry forests as well as rolling upland slopes of ancient basaltic lava flows that are now covered with grassland vegetation and cut by widely spaced erosional gullies. Portions of the MRS also consist of agricultural lands (USACE 2018).

2.5.2.3 Geology and Soils

The WMA is surrounded by three of the five shield volcanoes that comprise the Island of Hawai‘i. To the north are the Kohala Mountains, the oldest volcanic feature on the island; to the southwest are the Hualalai Cone and Crater; and to the east is Mauna Kea. Coastal land bounds the WMA on the west. The majority of the WMA lies within the Waimea Plains. The plains were

formed by Mauna Kea lava flows that ponded against the older Kohala Mountains and are now covered with volcanic ash-type soils. The interior plains at Pohakuloa are covered with more recent lava flows from Mauna Loa that banked against Mauna Kea. The lava is predominantly basalt flows and scoria of the Hamakua Volcanics. These rocks, like all Hawaiian basalts, are extremely iron rich. The composition of some basalt rocks exceeds 40% iron minerals. In areas where volcanic flows have not recently occurred, the terrain is eroded by seasonal rivers and streams. In other areas, the terrain is undissected and quite barren, revealing a large area of exposed lava. The specific depth to bedrock within the MRS is not known but is expected to vary from exposed lava at the surface to depths of several feet. The 1973 soil survey of the Island of Hawai‘i indicates that the depth to bedrock within the various soil classifications across the island varies from ground surface to depths of 8 feet below ground surface (U.S. Department of Agriculture 1973).

2.5.2.4 Groundwater

Area A West is in the West Mauna Kea and Northwest Mauna Loa aquifer sectors of the Island of Hawai‘i, within the Waimea and Anaehoomalu systems. These systems are comprised of three separately defined aquifers that are all considered irreplaceable fresh water sources with high vulnerability to contamination (Mink and Lau 1993). The northern aquifer is an unconfined dike aquifer while the remaining portions are indistinguishable. (Dikes are thin, near-vertical sheets of low permeability rock that can impede the flow of groundwater thereby creating localized aquifers often found in the rift zones and caldera of volcanoes.) These aquifers are currently used or have potential for use as drinking water (Mink and Lau 1993). Area A East is in the West Mauna Kea aquifer sector of the Island of Hawai‘i, within the Waimea system. This aquifer is a high level (freshwater not in contact with seawater), unconfined, dike aquifer that is considered an irreplaceable, fresh, potential drinking-water source with high vulnerability to contamination (Mink and Lau 1993). Area G is in the West Mauna Kea aquifer sector of the Island of Hawai‘i, within the Waimea system. It is comprised of both upper and lower aquifers. The upper aquifer is identified as a perched, currently used drinking water source that is highly vulnerable to contamination. The lower aquifer is identified as a potential drinking water source in dike compartments and only moderately vulnerable. Both aquifers are considered to be irreplaceable fresh water sources (Mink and Lau 1993).

All of Areas A and G are located above (upgradient) of the underground injection control (UIC) line as shown on the UIC map of Hawai‘i published by HDOH. This typically indicates that the underlying aquifer is considered a drinking water source, limited types of injection wells are allowed, injection wells need a UIC Permit or Permit Exemption, and those UIC Permit limitations are more stringent than for those downgradient of the UIC line. However, the State of Hawai‘i, Commission of Water Resources Management records indicate that there are no water wells within the Areas A and G boundaries (Commission of Water Resource Management 2021).

2.5.2.5 Surface Water Hydrology

There are no permanent watercourses in the vicinity of the WMA due to the low level of annual precipitation. Waikoloa Stream and other minor watercourses are seasonal, flowing only during the rainy season (typically October–March) and at times subject to occasional flash flooding. Sheet wash (or sheet flooding) is known to occur in downslope areas throughout the WMA and

is considered a high-energy event that causes soil and rock movement, as well as the movement of MEC and MC.

2.5.2.6 Ecology

Area A West is currently an unused open area classified as extensive and important agricultural land (**Figure 2-2**). Area A West has possible future development of low density agricultural-related residential areas and the potential for development of alternative energy such as solar or wind farms. The South Kohala Community Development Plan defines the Important Agricultural Lands as those lands with better potential for sustained high agricultural yields because of soil type, climate, topography, or other factors. Extensive agriculture lands are lands that are not capable of producing sustained, high agricultural yields without the intensive application of modern farming methods and technologies due to certain physical constraints such as soil composition, slope, machine tillability, and climate. Other agricultural uses such as grazing, and pasture may be included in the Extensive Agricultural category. Area A East has been subdivided into residential parcels with homes on several lots with continued development likely (**Figure 2-3**). Area G is similar to Area A West and is expected to remain unchanged with a potential for low density agricultural-related residential property (**Figure 2-4**) (USACE 2024a and 2024b).

2.5.2.7 Cultural and Archaeological Resources

Cultural resource sites potentially located within the project site were determined by archaeological surveys prior to and during RI field activities. Archaeological sites identified during the archaeological reconnaissance surveys and monitoring work include possible burial markers, habitation features, agricultural enclosures, rock mounds/alignments, terraces, and ranch walls (USACE 2024b).

2.5.2.8 Threatened and Endangered Species

Threatened and endangered species that may potentially be located within the project site were determined by conducting a biological survey prior to and during field activities. In general, the survey concluded that the probability of encountering rare, threatened, or endangered plant species in over 90% of the survey area was low because of substrate, topography, elevation, history of grazing, and evidence of prior surveys. Aside from common migratory birds and the Blackburn’s sphinx moth, the potential presence of rare, threatened, or endangered animal species is low.

2.6 CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES

2.6.1 Land Uses

Area A West is currently an unused open area that is classified by the Hawaii Department of Agriculture as extensive and important agricultural land, which means that the land has better potential for sustained high agricultural yields because of soil type, climate, topography, or other factors (South Kohala Community, 2008). Area A West has possible future development of low density agricultural-related residential areas and the potential for development of alternative energy such as solar or wind farms. Area A East has been subdivided into residential parcels with homes on several lots with continued development likely. Area G is similar to Area A West

and is expected to remain unchanged with a potential for low density agricultural-related residential property (USACE 2024b).

2.6.2 Resource Use

Current groundwater and surface water uses. The aquifer that runs beneath Areas A and G is usable for drinking water; however, the State of Hawai‘i Commission of Water Resources Management records indicate that there are no water wells within the Areas A and G boundaries. There is no surface water present in Areas A and G.

2.7 SUMMARY OF SITE RISKS

Risk assessments are MRS-specific evaluations, which consider current and future land use and activities and may vary in both detail and extent to which qualitative and quantitative inputs are used. In order for a risk to be present, there must be a source, exposure pathway, and receptor. If one of these factors is not present, then there is no potential for a complete exposure pathway, and there is no unacceptable risk.

2.7.1 Summary of Munitions and Explosives of Concern Risk

The RI concluded the area was not used for training with munitions with no source area identified or suspected. Because no source of MEC was identified, the exposure pathway is incomplete, and Areas A and G do not have a MEC hazard. Areas A and G are confirmed to be areas having no evidence of use (NEU) by the DoD (**Figure 2-12**). Though USACE is confident that this site presents little or no risk due to MEC, if new information, including facts that would bring a significant change in risk due to MEC, is brought to USACE attention, then USACE will take all appropriate and legal actions required.

2.7.2 Summary of Munitions Constituents Risk

The RI concluded the area was not used for training with munitions with no source area identified or suspected. Because no source of MC was identified, the exposure pathway is incomplete, and Areas A and G do not have a MC hazard.

2.8 DOCUMENTATION OF SIGNIFICANT CHANGES FROM THE PREFERRED ALTERNATIVE IN THE PROPOSED PLAN

Written comments on the Proposed Plan were received during the public comment period of 9 January 2025 to 10 February 2025 and orally at the Public Meeting held on 23 January 2025. Comments and the responses are included in the Responsiveness Summary. After careful consideration of all the comments, there are no significant changes from the preferred alternative presented in the Proposed Plan.

3. RESPONSIVENESS SUMMARY

Section 3.1 includes formal comments received during the public meeting or the comment period, as well as USACE responses. The meeting transcript has been placed in the Administrative Record at the Thelma Parker Memorial Library, 67-1209 Mamalahoa Highway, Kamuela, Hawai‘i 96743-8429; telephone 808-887-6067.

3.1 STAKEHOLDER COMMENTS AND LEAD AGENCY RESPONSES

HDOH reviewed the Proposed Plan and had no comments, attended the public meeting, and, during the public meeting, concurred with the decision to take no further action. The following are comments and responses that were received for the Project 01 – Areas A and G Proposed Plan.

Written:

None

Oral:

1. Mr. Gary Grisham:· Who did this preliminary assessment?

   Response: Mr. Dave Griffin WMA Program Manager USACE Honolulu District:· Army Corps of Engineers.

2. Mr. Gary Grisham. One of the things I worry about is you not getting the full story, especially if you're at Waiki'i Ranch. Did anybody talk to the Portuguese, Hawaiians, Chinese, Japanese that lived up here, preferably before 1942 but after 1942?·Did anybody talk to these people? · Second thing is -- and this used to be a gravel road way back when.· When they paved it, that ditch right there as you come out of the road and you turn right heading -- or turn left heading down the hill, that ditch was pretty impressive.· And it took a decent amount of work -- bulldozer work and stuff to get in there. The report for that thing is -- I think there was a little more than just pieces of .50-caliber links and stuff like that because the troopers on their way up to Pohakuloa stopped up here because it's flat, and they would sit there and take a break and whatever else. And that ditch is quite convenient. That survey did center line and 40 feet; I don't think it covered enough. We also have William Bergin. William Bergin is the grandson of Bill Bergin -- or Billy Bergin. And the son of Bill Bergin lives here. He did a -- for college, he did a investigation here and survey of the seven -- what do you call -- foundations back when they built -- when they removed the buildings here and moved them down to Waimea because they weren't going to have enough -- they weren't sending a schoolteacher up here to the schools. At any rate, bottom line is somebody needs to talk to them. He's done a lot of research and especially -- like the reason I'm worried about is· because that's where I live.· And I'm just disappointed that the owner did not authorize use to come in here. I will talk to him and see if I can't get somebody in there. I would like somebody to go in that ditch and go take a look-see, you know, just a quick whip through and make sure that they got everything. But the survey reporter -- the builder's report of that bridge up here, you need to read that.

   Response: Mr. Dave Griffin: Okay.

3. Mr. Gary Grisham. Because they had -- they had to do removal, but it may not have been anything more than just, you know, like .50-caliber links that were left over and they just decided to throw it out into· the ditch on their way up or down, either way. But that's a convenient place, and we do have a manager here in 1954 here who mentioned -- oh, I'm sorry, I think it was 1950 -- who mentioned the military using the road up and down because that was the only way back to Pohakuloa.· And they would stop up here and they would take their breaks and throw their sodas and whatever else. It would not surprise me much to find out that they did a little cleaning up here, but I would ask the preliminary assessment folks to go a little deeper and go talk to the county. · And, you know, William Bergin did a lot of work researching this history of this place. He talked to a lot of people that actually lived here back in the day before World War II. Of course, World War II, everybody was evacuated and this became an army -- or I'm sorry -- Marine Corps station there. There was a Marine major and a bunch of about 60 troopers in there. And they were theoretically protecting the place because they still -- Parker Ranch still had the old turkey runs and still had the heavy equipment across the street there at what we now call Suzuki Ranch, or it's something else now. But there will be another place because 40 feet, I don't think made it, you know, or would be enough. I certainly would like to see the PA folks go talk a little bit more to the folks that lived here. They're still around.

Response: Mr. Dave Griffin. I really appreciate that. And I would tell you I think that that is one area where we probably do fall a little short is the interviews and trying to find those people; right? And those kupuna, they are starting to age out a little, too. And I wanted -- just one point of clarification. When they did the road, although they only did go out 40 feet, they did find evidence of small arms ammunition which supports either them throwing their shell casings out or actually live -- you know, firing down into the flat area sort of thing. But no berms were built, you know as a backstop.

4. Mr. Gary Grisham. And I don't expect it, been in and out of that ditch a bunch of times chasing my dang horses. But I doubt there's anything -- you know, I'm hoping I'm not gonna see a 155 shell or grenade or something else, I don't think.· I would have discovered it by now. But I would like to have somebody go down there with the old -- what do you call it -- metal detector here and see what they have and also up against the walls here of the place because they have the -- he wrote it down -- if there was something down there, it may have gotten covered up. · There is, by the way, an old 1932 rear end of the -- I think it's a Ford in that ditch when they lived up here. It would process 1200 acres of corn.

Response: Mr. Dave Griffin. All right. Well, good. Thank you for that. I appreciate that, and we'll reach out.

Mr. David Griffin WMA Program Manager made contact with Dr. Billy Bergin to discuss the history of Waikii Ranch. Dr. Bergin confirmed that Mr. A. W Carter moved the homes for the ranch hands from Waikii to Waimea so the children of the employees could attend school. Approximately 8 homes were relocated. When asked about the military use of Waikii Ranch, Dr. Bergin replied he was unaware of any military munitions use or use by the military. When asked about the Marine Corps station at Waikii he stated he was unaware that there was ever a Marine Corps Station at Waikii. Further he stated the military use was south of the belt road down near Waikoloa Village. He said that the old tank road which was the road the soldiers used to transport equipment

from Kawaihae Harbor to Pohakuloa ran adjacent to Waikii which supports Mr. Grisham's description of the military road. For additional details on the history of the area, Dr. Bergin recommended his series of books Loyal to the Land specifically Volume 1 which detailed the history of Waikii Ranch.

5. Ms. Gloria Wagner:· Why -- why are those two parcels don't qualify after 1986?

Response: Mr. Dave Griffin:· So when the SARA and DERP was established -- it was signed on October 17th, 1986, and they said the only things that qualify as Formerly Utilized Defense Sites are properties that were used before the signing date of SARA.

6. Ms. Gloria Wagner:· Oh.· But they still could have munitions?

Response: Mr. Dave Griffin:· And they're cleaned up under -- by -- Army Garrison Hawaii is dealing with this under their installation restoration program, and the PTA Garrison performs range cleanup.· It's a different process than what we do with the, you know, 1940s legacy area munitions.

7. Ms. Mary Beth Bartlett:· My name is Mary Beth Bartlett.· And I have a question on regarding your review on the check on Waiki'i Ranch, you mentioned that you weren't able to access properties. When was this done?

Response: Mr. Dave Griffin:·2016 we came out to get right of entry.

8. Ms. Mary Beth Bartlett:· So this is just the result as of 2016?

Response: Mr. Dave Griffin:·The investigation that was started back then.· The field effort as 2018 that teams were actually on the ground here.

Response: Ms. Tess Rottero: It ran through 2018.· I think it was a couple of seasons.

9. Ms. Mary Beth Bartlett: Okay.· And I have a second question. How does this affect, like, our water system since you guys -- I mean, did you guys ever check -- do you guys check on that or is that not your purview to check the water system?

Response: Mr. Dave Griffin: So, not in our purview, but as part of the overall WMA -- so what your concern would be with the water system is the munitions constituents leaking; right?

Response: Ms. Mary Beth Bartlett:· Yeah.

Response: Mr. Dave Griffin: So here on the Big Island, on the island of Hawaii, blessed and cursed that the aquifers are so deep.· So we did look on the impact area which is the -- kind of the worst-case scenario, an area that was heavily used where a lot of leaching could take place, and we didn't find any impact to the aquifer.· It was deep enough even down there kind of by Waikoloa Village. And so, as part of that, we said if we looked in the worst possible area and we didn't find any impacts, then probably where the land and the maneuver areas and elsewhere like here, Waiki'i Ranch, wasn't used as heavily or used at all.· We could use that data and apply it elsewhere. So there is really not a munitions constituent concern or an aquifer impact associated with the DOD's activities.

10. Ms. Mary Beth Bartlett: I was just wondering, do you guys have, like, a list of what is acceptable as far as what type of -- like, for example, like radon or uranium? Is there -- do you guys have, like, a list?

Response: Mr. Dave Griffin: So the EPA does.

11. Ms. Mary Beth Bartlett: Oh, so I should contact them?

Response: Mr. Dave Griffin: Well, yeah.· And I think it would be -- they use an MCL -- I'm slightly outside my area of expertise, but the maximum contaminant limit for drinking water -- and that's posted -- actually, the water board tests the wells quarterly or whatever and produces a report. I don't know about your well here at Waiki'i Ranch, but we used the -- when we did that study -- Benjamin, do you know when that study was done?

Response: Ms. Tess Rottero:· It's the 2013 soil and groundwater study that was done for all of Waikoloa.

Response: Mr. Benjamin Konshak:· And that's a key point to Mary Beth is that the -- when they said that they looked at the water system, there was extensive soil sampling that was done in different parts of the Waikoloa Maneuver Area, areas that had heavy munitions use, moderate munitions use, light munitions use. That was the report, but the testing might have been done before that.· But the soil is connected to the water.· So the fact that we did extensive testing of soil samples for munitions constituents, did not find any concerns, translates to your aquifer concerns about the aquifer because all of the water is filtering through.

12 Ms. Mary Beth Bartlett:· So if I want to get the results, would I go to the EPA for that?· I just want to see in comparison.

Response: Mr. Dave Griffin: It might be at the Thelma Parker Library, but it wasn't associated with a project, though.· It was a sort of a program wide -- you know what? I'll take an action.· I mean, again, I think the best place to get the most current data is actually from Board of Water Supply because they're required to test your wells. But if you wanted historical data, I think we can probably dig that report up.· It should be in the public domain.

Ms. Jennah Oshiro from Hawaii Department of Health gave Ms. Bartlett the URL address to the Hawaii Department of Health Hazard Evaluation and Emergency Response (HEER) website https://eha-cloud.doh.hawaii.gov/iHEER/#!/site/428/documents where the report could be downloaded from. Ms. Barlett committed to download the file and thanked Ms. Oshiro for the information.

13. Christian Huilani: Do you know if military wants to obtain more land after the cleanup?

Response: Mr. Dave Griffin:· So this is all private land. That's my kind of swim lane is cleaning up the private land. So, I don't really know what plans are as far as trying to buy lots out here from individuals. Yeah, no idea. I know they've got a study going on up at PTA but that's not part of WMA. So, again, I encourage you to join our mailing list.·

3.2 TECHNICAL AND LEGAL ISSUES

No technical or legal issues have been identified for the WMA Areas A and G.

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FIGURES

Figure 2-1. Area A West (Re-Aligned), Area A East and Area G Location and Overview

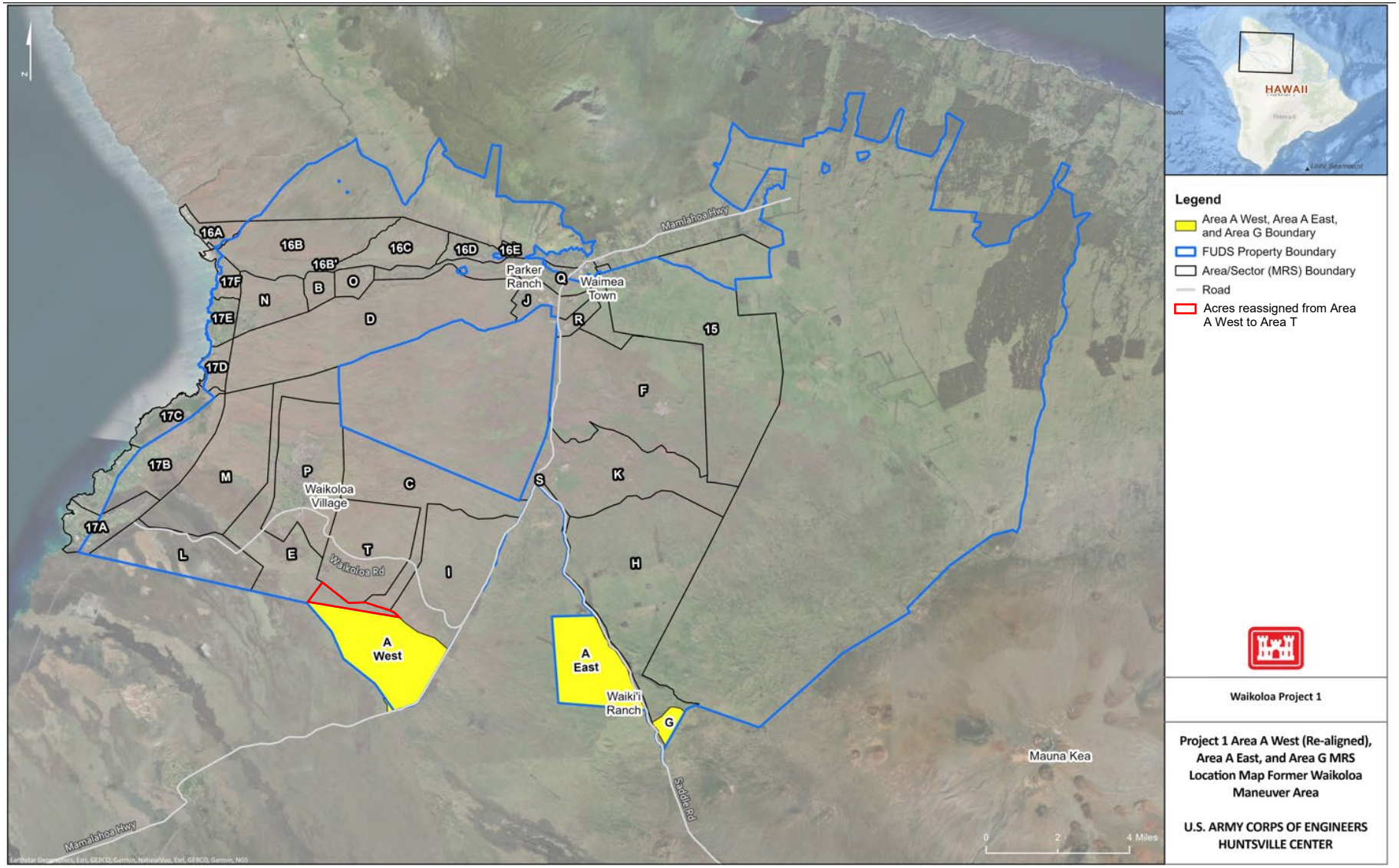

Figure 2-2. Area A West (Re-aligned) Land Use and Tax Map Key

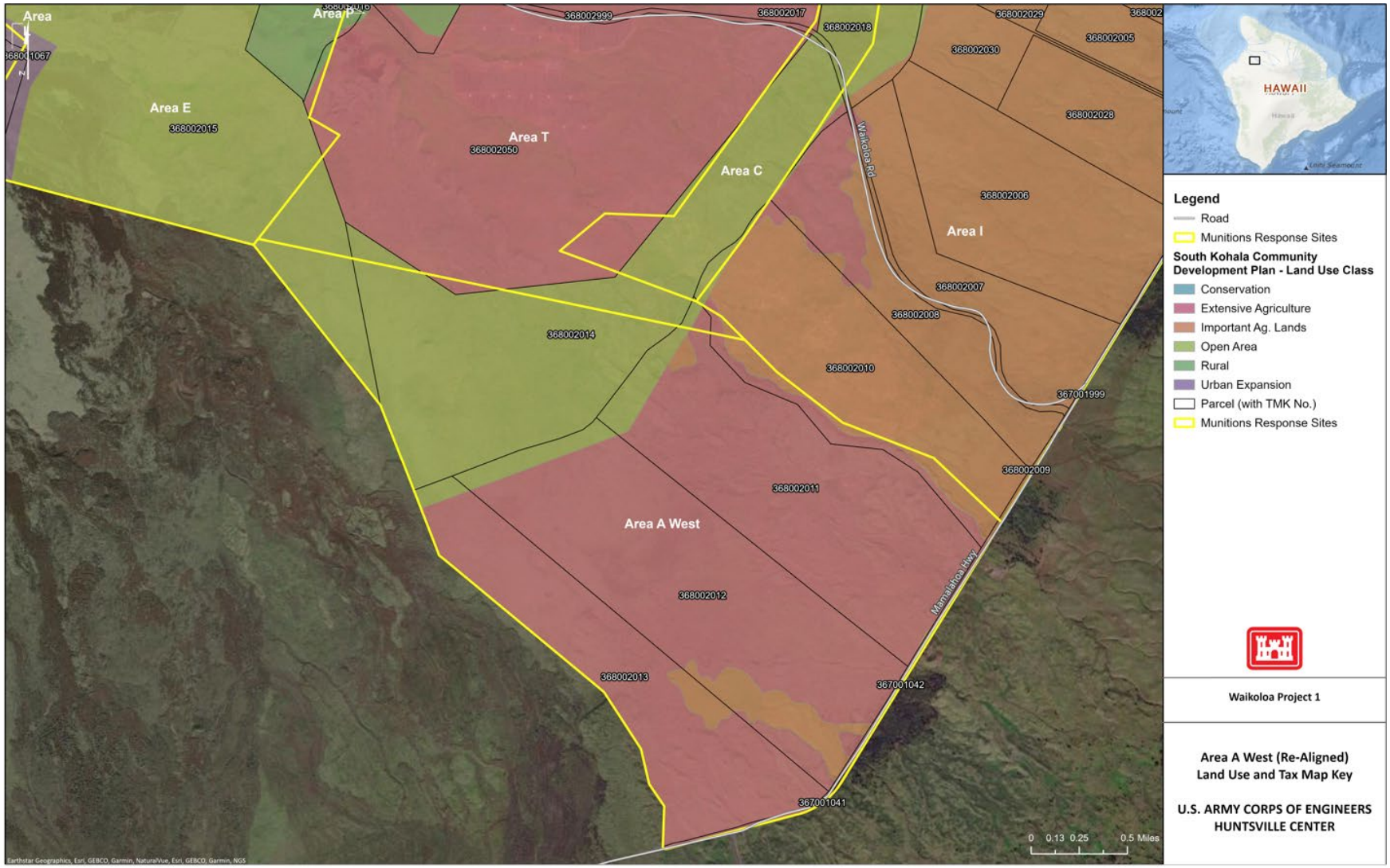

Figure 2-3. Area A East Land Use and Tax Map Key

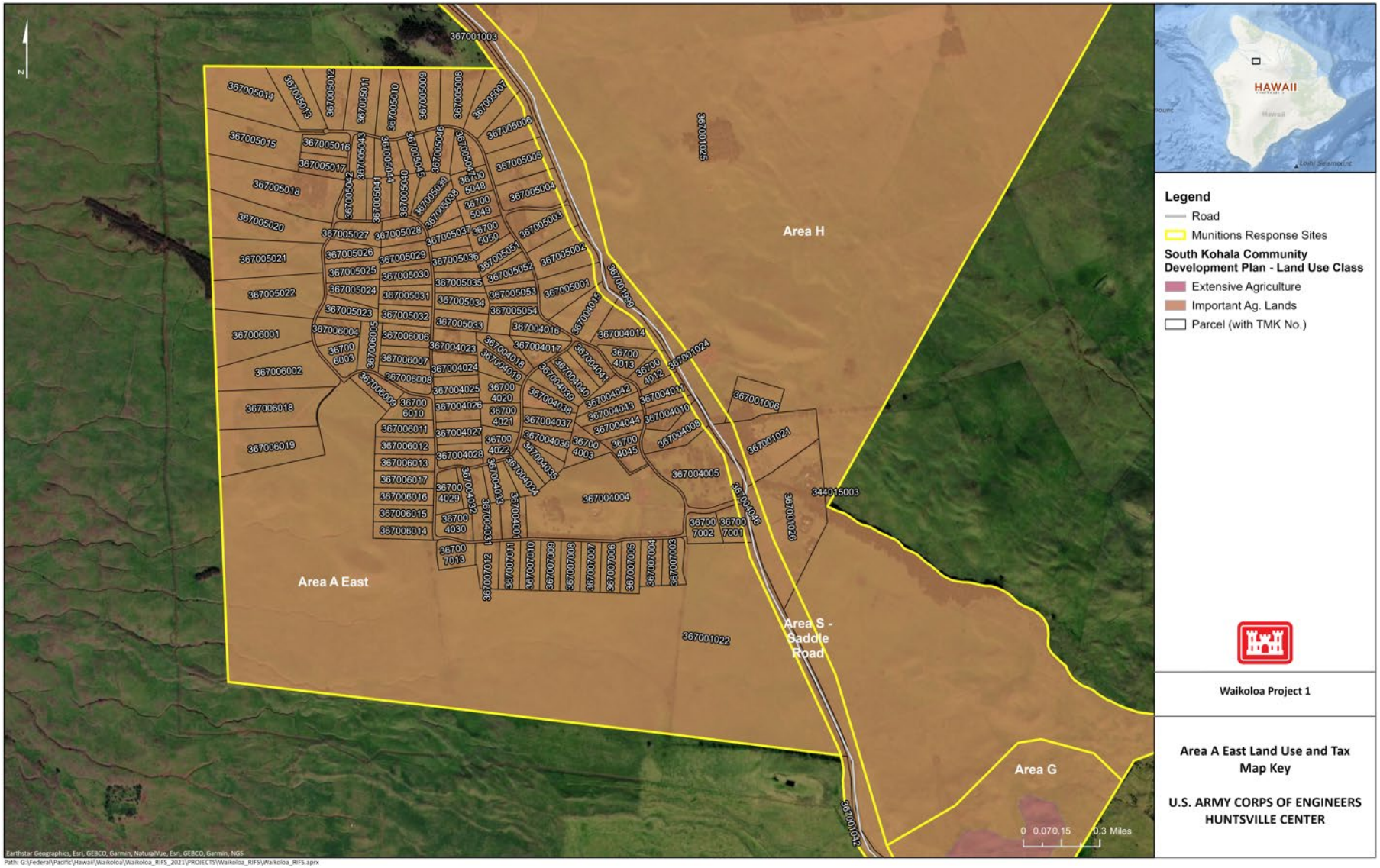

Figure 2-4. Area G Land Use and Tax Map Key

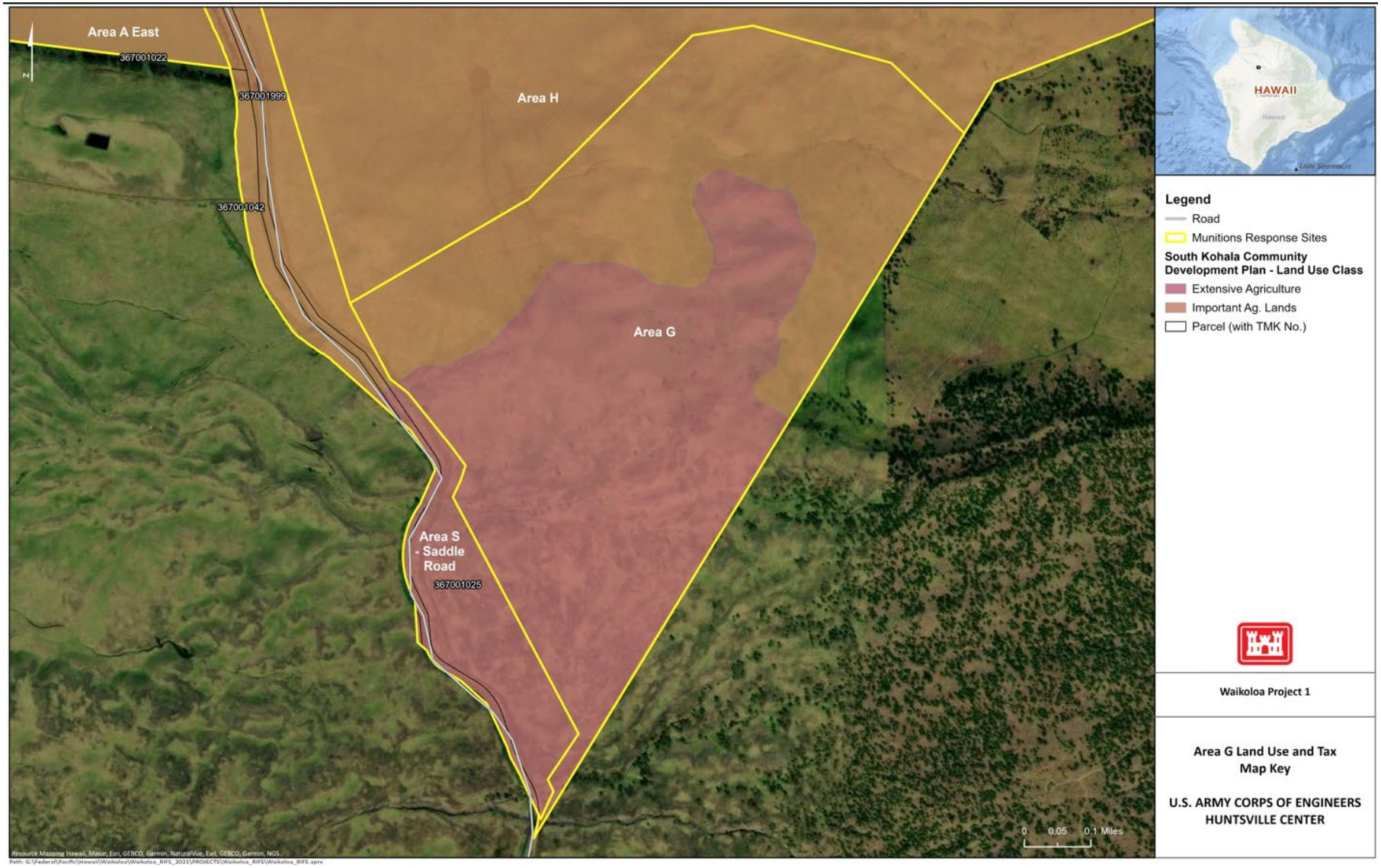

Figure 2-5. Areas A and G, 5th Marine Division Land Use Circa 1945

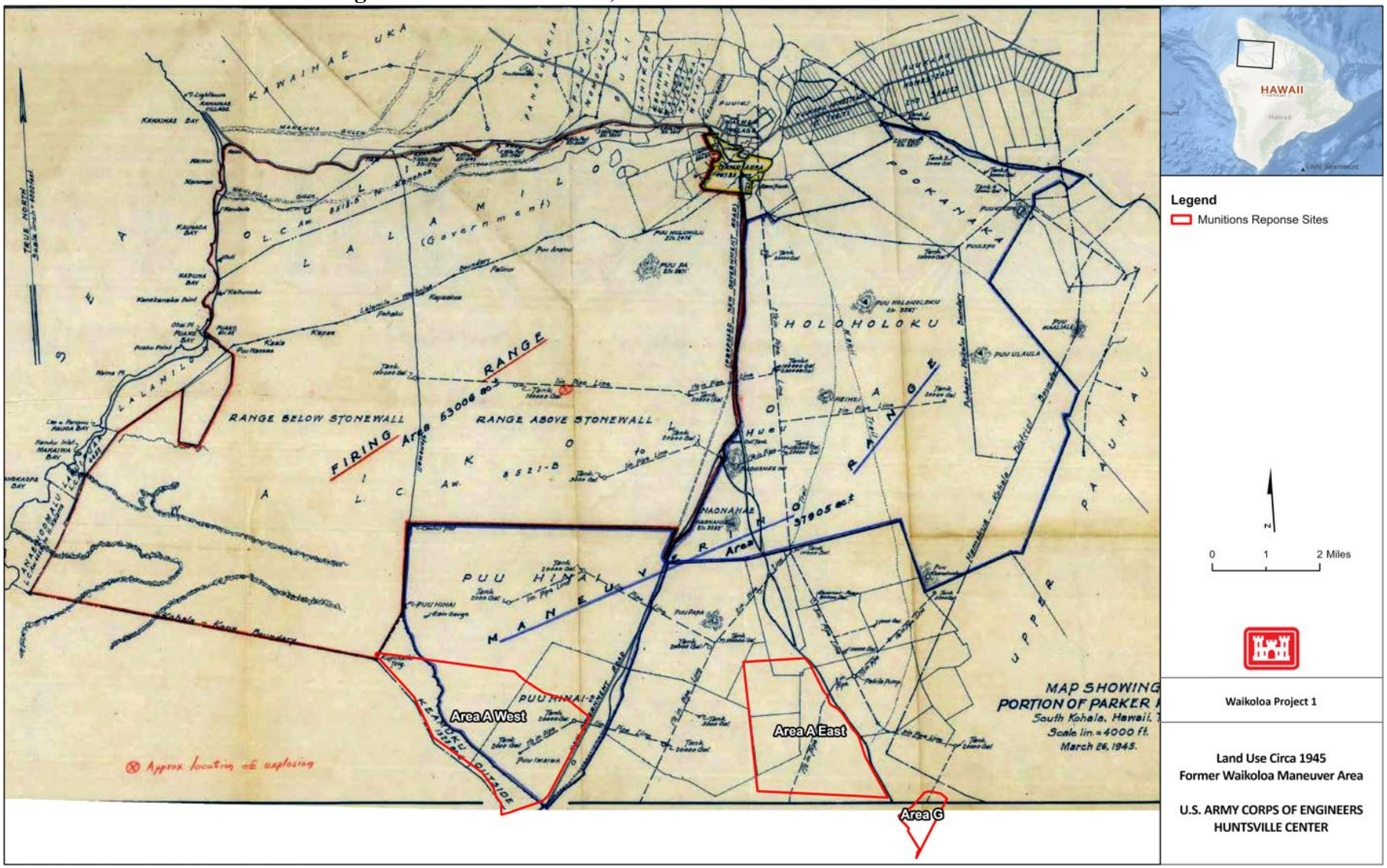

Figure 2-6. Areas A and G 1954 Explosive Ordnance Disposal Clearance Map

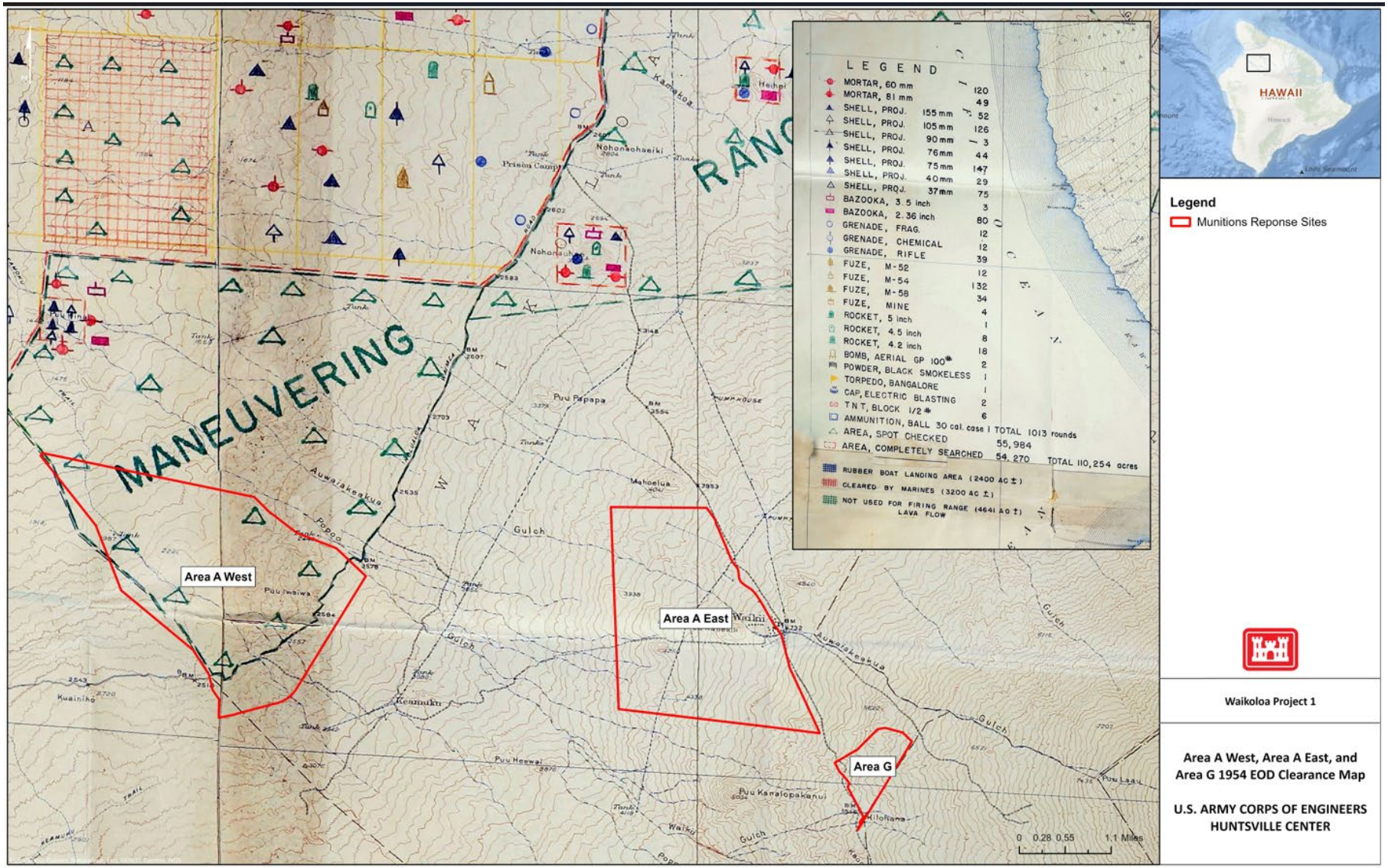

Figure 2-7. Area A West Remedial Investigation Results

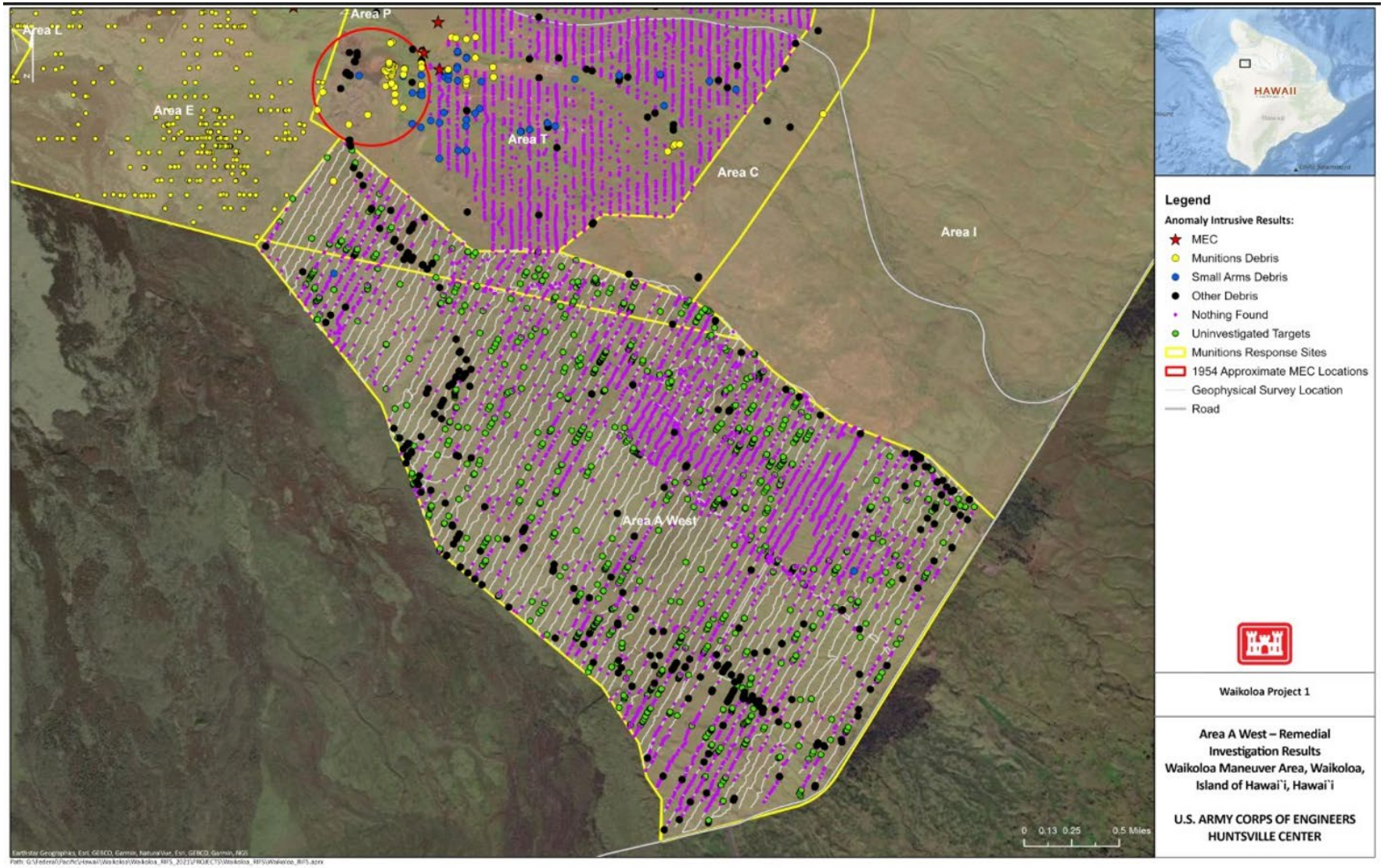

Figure 2-8. Area A East Remedial Investigation Results

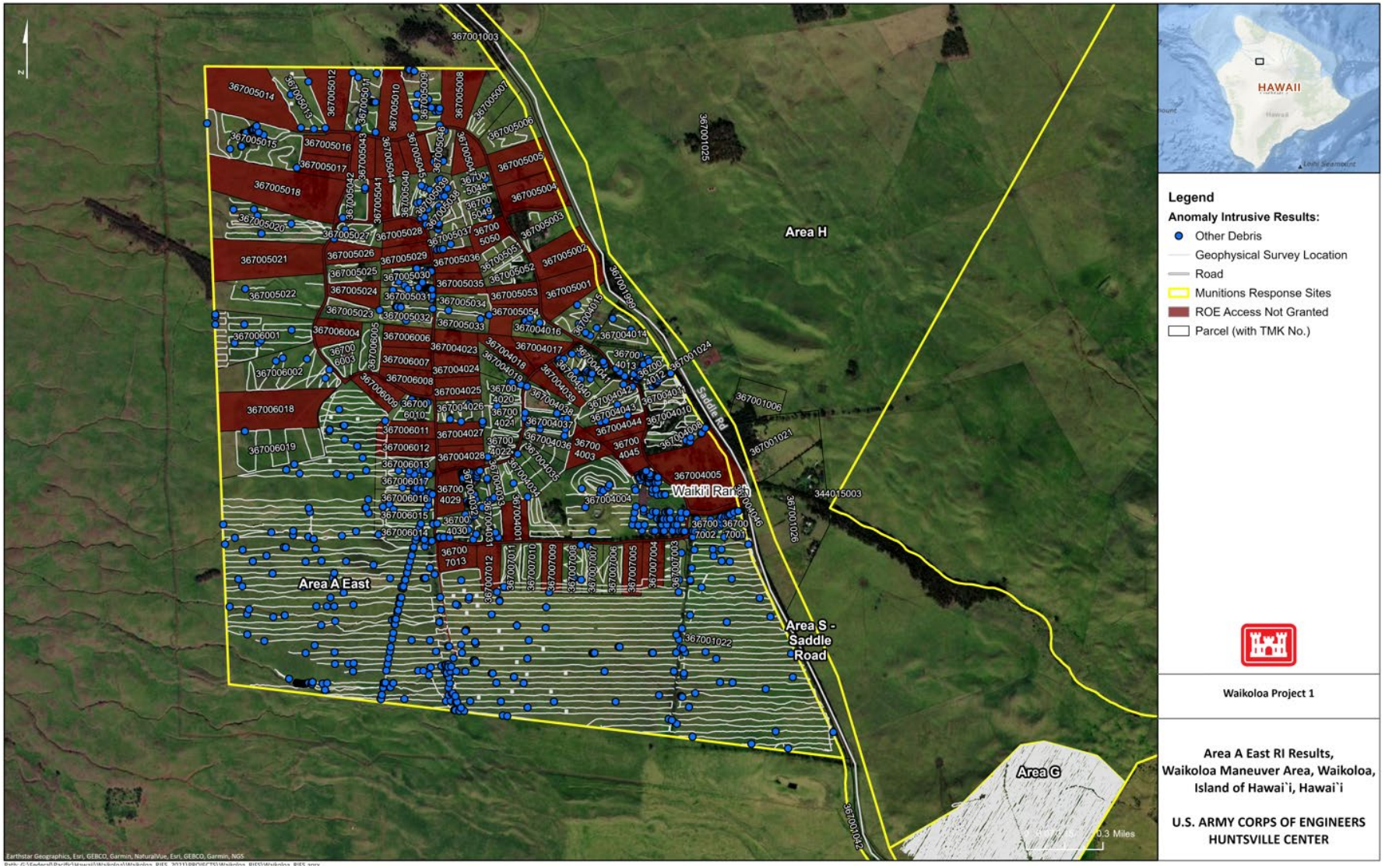

Figure 2-9. Area G Remedial Investigation Results

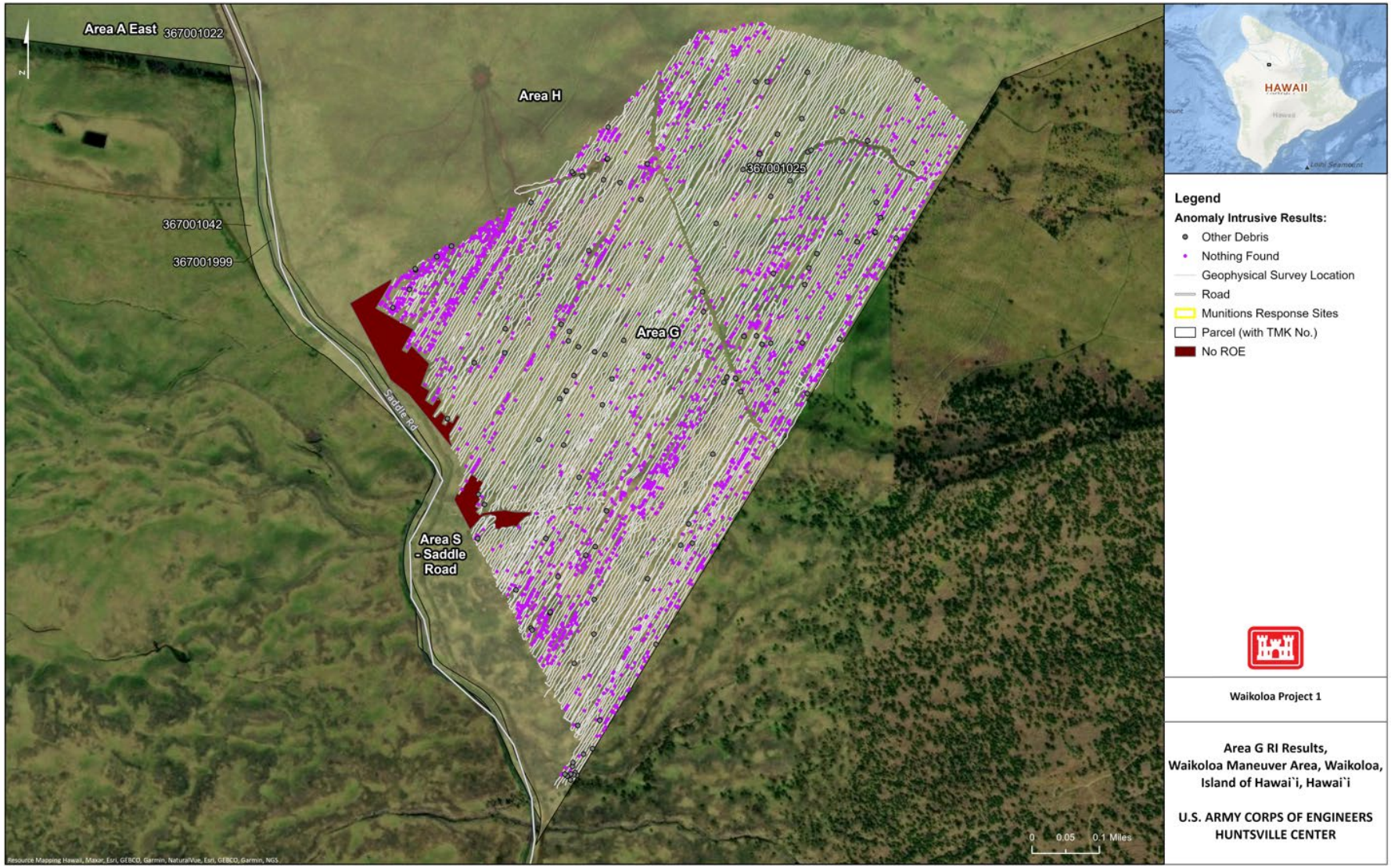

Figure 2-10. MEC and MD Found in MRSs Adjacent to Area A West

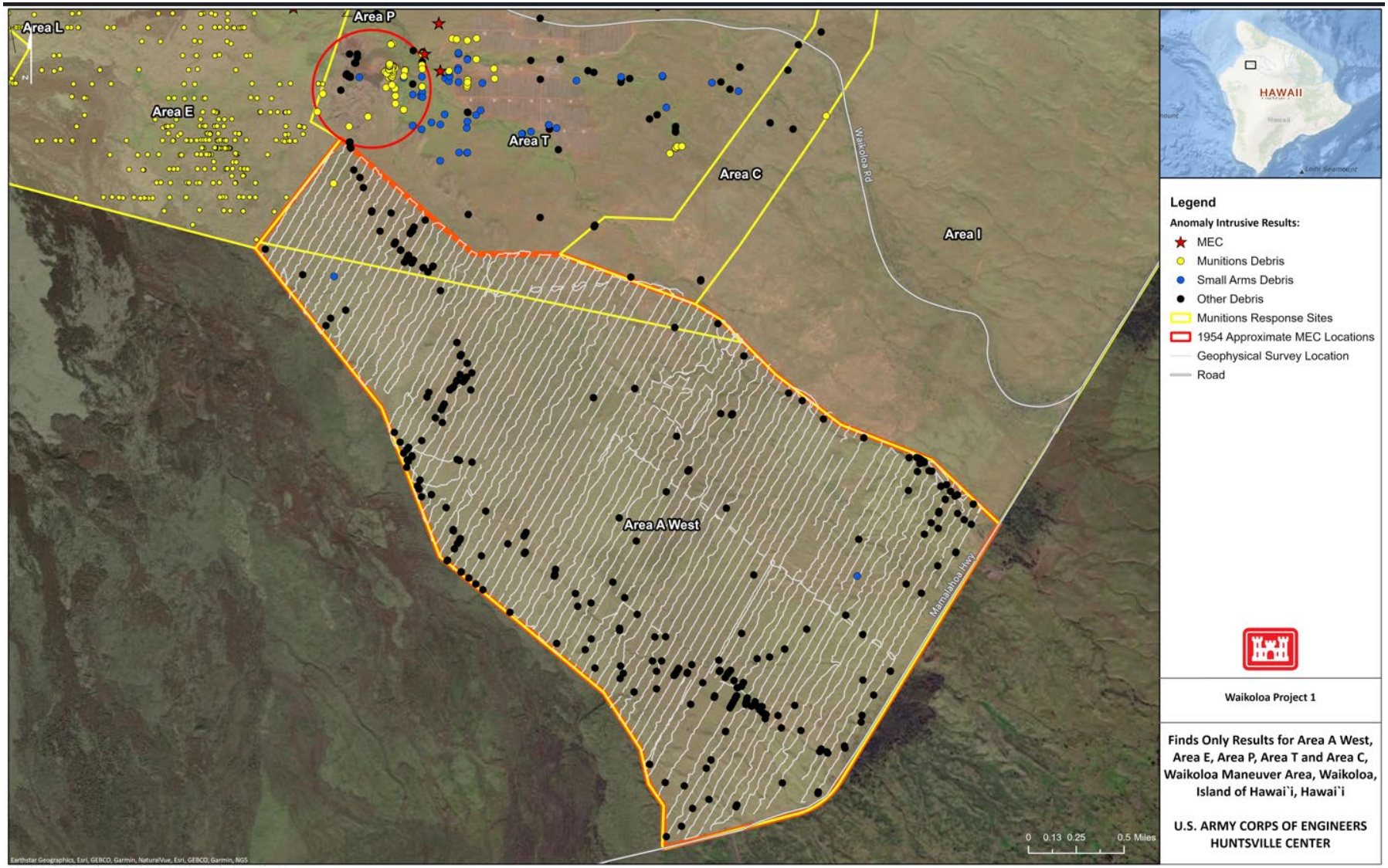

Figure 2-11. Location of Pu‘u Hanai Live Fire Area With Respect to Area A West

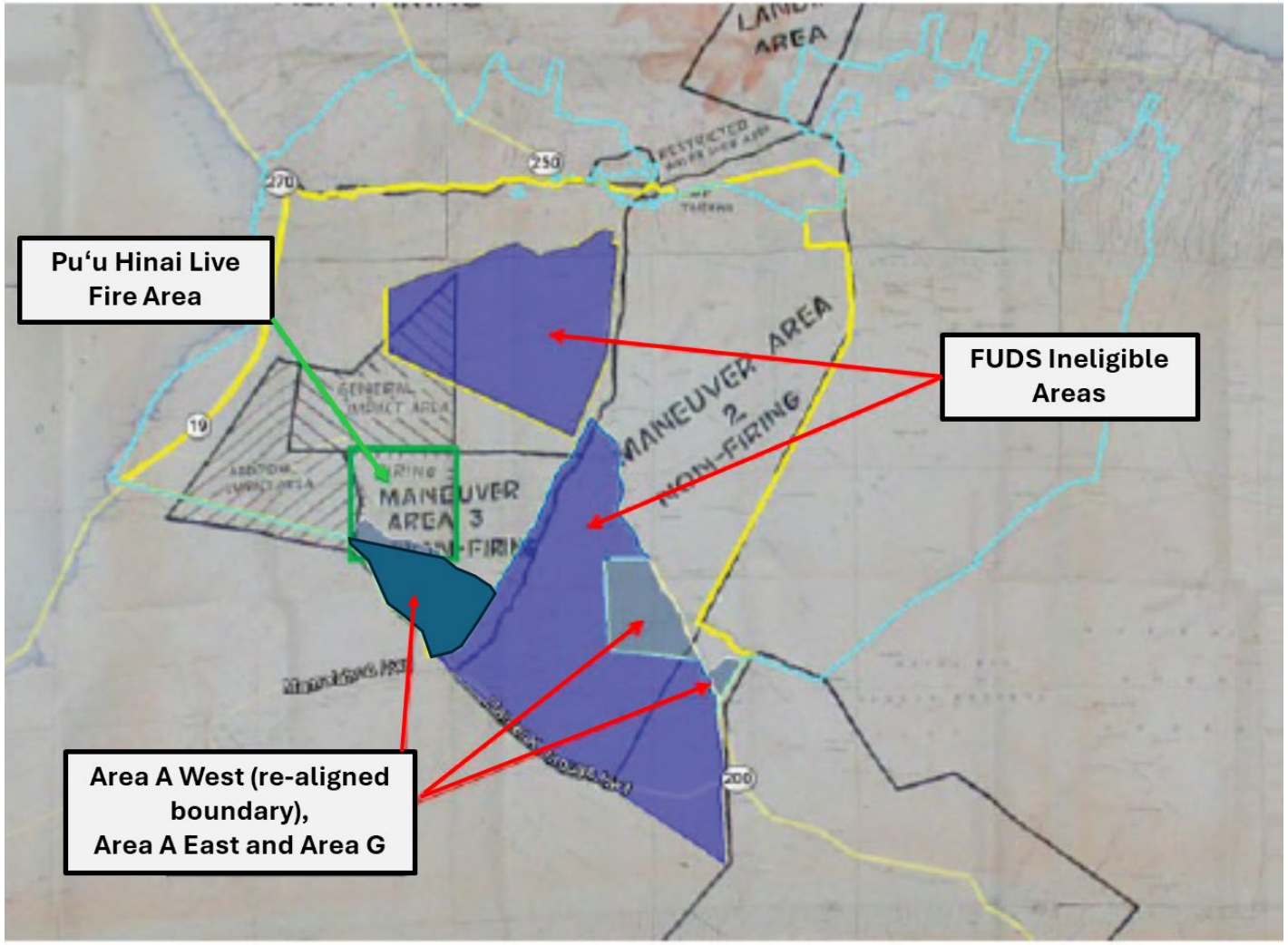

Figure 2-12. Determination of Risk for Areas A and G