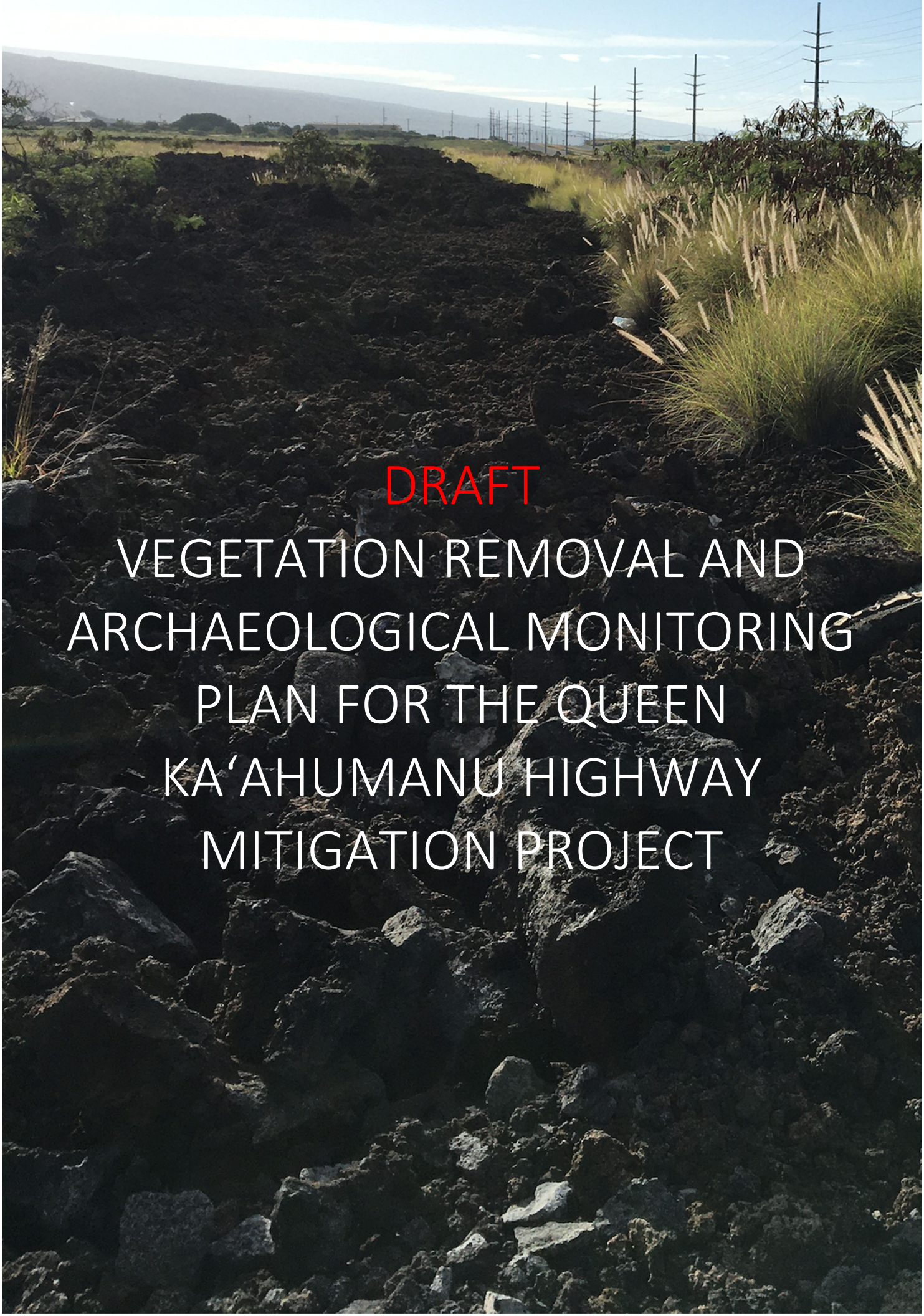

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# VEGETATION REMOVAL AND ARCHAEOLOGICAL MONITORING PLAN FOR THE QUEEN KA‘AHUMANU HIGHWAY MITIGATION PROJECT

PRIME CONTRACTOR

- Responsible for overall compliance with contract
- Support on all tasks

KUAHIWI FENCING & WILDLIFE SERVICES, LLC- SUBCONTRACTOR

- Vegetation removal
- Support on plans

'ĀINA ARCHAEOLOGY – SUBCONTRACTOR

- Archaeology monitoring
- Development of plans

# INTRODUCTION

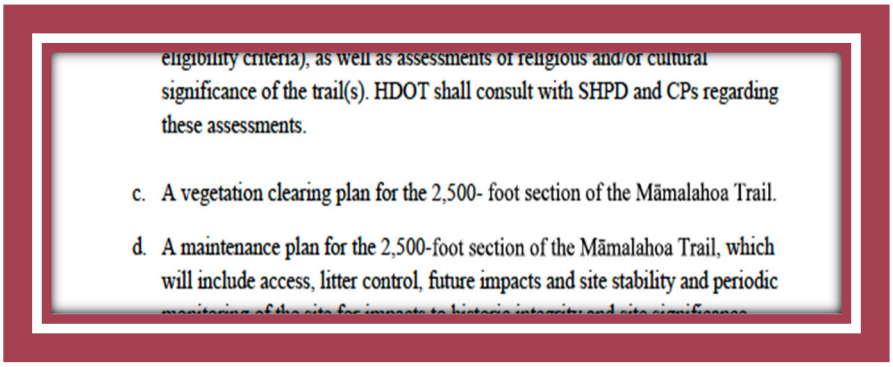
## BACKGROUND

Māmalahoa Trail circumnavigates the entire Island of Hawai'i. The trail serviced agricultural and coastal resources integral to Kānaka maoli throughout time. Portions of the trail have been damaged through improvements to the Queen Ka'ahumanu Highway efforts, and in response, a preservation plan is being enacted to sustain the character and integrity of 2,500 feet of this historic and continuously culturally significant site.

This vegetation clearing plan, in accordance with the Secretary of Interior's (SOI) guidelines and Hawaii Administrative Rules (HAR) §13-277, details procedures to initiate the on-site phase of this trail preservation. As called for in DOT-2021-003, it also includes an archaeological monitoring component.

## MEMORADUM COMPLIANCE

This vegetation clearing plan was created to comply with Stipulation 27.A.4.c. of *Amendment Two of the Memorandum of Agreement Among the Advisory Council on Historic Preservation, Federal Highway Administration, and the Hawaii State Historic Preservation Officer Regarding the projects in the vicinity of the District of North Kona, Island of Hawaii, State of Hawaii which are known as the Queen Ka'ahumanu Highway Intersection Improvements for the Kaloko-Honokōhau National Historic Park and the Queen Ka'ahumanu Highway Widening, Kailua to Ke'āhole (MOA).*



eligibility criteria), as well as assessments of religious and/or cultural significance of the trail(s). HDOT shall consult with SHPD and CPs regarding these assessments.

c. A vegetation clearing plan for the 2,500- foot section of the Māmalahoa Trail.

d. A maintenance plan for the 2,500-foot section of the Māmalahoa Trail, which will include access, litter control, future impacts and site stability and periodic

Separately, but simultaneously to the vegetation clearing, archaeological documentation of the 2,500-foot Māmalahoa Trail will be conducted. That documentation will be presented to the consulting parties to the MOA in early 2022 as part of a facilitated discussion regarding the development of a preservation plan for the trail.

# EXISTING SITE CONDITION

Kuahiwi Fencing & Wildlife, LLC conducted a site visit to the project area in September 2021. A preliminary survey was conducted to document existing vegetation. Running alongside the trail on both sides is an established groundcover of fountain grass (*Pennisetum setaceum*), along with sporadic woody Koa Haole trees (*Leucaena leucocephala*) (**Figure 1**).

Invasive grasses and trees have grown throughout the area, covering a substantial part of the trail pathway and historic features. This vegetation can cause mechanical or chemical deterioration of historic sites and features. Left unmanaged, these non-native weeds will continue to encroach on the trail, reducing walkability, obscuring visibility and archeological resources, displacing native species historically present in the area, and increasing fire risk.

Figure 1. Portion of SIHP # 50-10-27-00002 showing vegetation overgrowth. Photo: Josiah Jury

# HISTORIC PRESERVATION CONSIDERATIONS

Per the MOA, overall preservation measures call for the Hawaii Department of Transportation (HDOT) to preserve (e.g., stabilize, rehabilitate, reconstruct) as appropriate and as agreed to within the PP, the 2,500-foot segment of the Māmalahoa trail in accordance with Secretary of Interior guidelines and with Hawaii Administrative Rules (HAR) 13-277 and the approved preservation plan (PP).


Figure 2. 2,500-foot segment of the trail identified for mitigation and preservation with the 30-foot buffer identified.

# EVALUATION OF VEGETATION

Per SOI standards, it is important to first determine whether the vegetation is a character defining feature of the historic property. Based on research on traditional trails on Hawai'i Island, there is no indicator that vegetation would part of the processes by which these trails were built or maintained. Additionally, the vegetation currently in the historic property is invasive and does not contribute to the historic property's integrity, specifically its location, setting, design, materials, workmanship, feeling or association.

For these reasons, the vegetation present in the historic property is not a character defining feature and thereby removal of the vegetation is advised to support the preservation and rehabilitation of the property.

# VEGETATION REMOVAL

## Goals and Objectives

- Restore landscape context and emphasize ecological change by clearing existing vegetation alongside trail within a 30-foot buffer, which extends from the outside edge of each side of the trail, totaling approximately a 70-foot swath, to maintain structural integrity, trail walkability, and reduce fire hazard. Native plant species will be left intact and in place.
- Maintain existing archeological resource integrity.

## Management Methods

- The management area will be walked with a Secretary of Interior (SOI) qualified archaeologist to identify archaeological resources prior to management. Vegetation removal efforts will adapt around existing structures and resources, leaving stones intact and undisturbed, to best maintain the physical historical record while considering project efficiency standards. The archaeologist will be consulted immediately if potentially significant sites are encountered during vegetation removal.
- Woody species will be cut down using hand saws, stripping bark remaining on stumps to prevent regrowth.
- Grasses will be cut back using mechanized weed whackers. Fire reduction practices will be implemented to mitigate risk of unintended hazard (e.g. spark arrestor maintenance, fire-proof fuel canisters, use of plastic whips, etc.).
- Based on consultation conducted via email with and guidance from Jackson Bauer (Department of Land and Natural Resources, Hawai'i Island Nā Ala Hele) and Fred Cachola and Isaac "Paka" Harp (Makani Hou o Kaloko-Honokōhau, a Native Hawaiian Organization as defined under 36 C.F.R. 800.16 and consulting party to the MOA), spot herbicide treatment will be applied on cut stumps and fountain grass clumps. If possible, spot treatment will be applied a few days after fountain grass (*Pennisetum setaceum*) has been cut on newly formed grass blades. Otherwise, spot treatment will be applied after fountain grass has been cut back per the methods described above. Round Up will be used for the treatment of grasses by being spot sprayed onto weed whacked clumps. Spot treatment will be applied to Koa Haole trees (*Leucaena leucocephala*) immediately after cutting, while the cambium, xylem, and phloem are exposed. Garlon 4 will be used for the woody species by being dripped onto cut stumps. Both Round Up and Garlon 4 are commercially available off-the-shelf (COTS) and do not require special licenses or certifications to use. Kuahiwi Fencing & Wildlife will consult with Nā Ala Hele (Jackson Bauer) as needed if any additional questions arise regarding herbicide treatments.
- Tarps and bags will be used to collect plant cuttings and refuse from clearing activities to properly dispose of them off-site.
- Plant cuttings and refuse will be removed after vegetation clearing activities to maintain aesthetics and reduce fire hazard.

# ARCHAEOLOGICAL MONITORING

The purpose of archaeological monitoring is to ensure that historic properties and features are protected and preserved during the vegetation clearing activities. The vegetation clearing is necessary in order to fully survey the historic trail. On-site archaeological monitoring by a qualified archaeologist, ʻĀina Archaeology, will take place during all vegetation removal activities.

The management area will be walked with ʻĀina Archaeology and Honua Consulting, including any consulting parties who want to participate in that walk-through, to identify archaeological resources prior to management. Prior to the start of work, a meeting will be held to inform workers on protective measures outlined in this plan. The role and duties of the qualified archaeologist will be to record project activities, investigate potential cultural resources, and help to protect sites within the project area.

It will also be conveyed to the project team that in the event that human skeletal remains are encountered, the landowner, County Coroner, Police Department, and SHPD will be notified, and all project-related construction will be halted in the vicinity until approval to proceed is given from the SHPD. It is noted that Hawaiʻi County does not currently have a medical examiner and the appropriate notification and review will be coordinated with SHPD Hawaiʻi Island staff.

All human skeletal remains encountered during this archaeological monitoring work will be termed "inadvertent discoveries" and will be handled in compliance with Hawaii Administrative Rules (HAR) Chapter 13-300-40.

Archaeological monitoring fieldwork will adhere to current standard archaeological recording techniques to the extent possible, including drawing of profiles, documentation of stratigraphy, taking of photographs, and plotting features with a handheld GPS. The SHPD will be notified in the event of significant findings. Following completion of archaeological monitoring, a letter report will be provided to SHPD for review and acceptance by the SHPD.

Under HAR Chapter 13-279-3, "Archaeological monitoring may be an identification, mitigation, or post-mitigation contingency measure. Monitoring shall entail the archaeological observation of, and possible intervention with, on-going activities, which may adversely affect historic properties.

HAR Chapter 13-279-4 requires that an archaeological monitoring plan discuss the following eight specifications:

**1) <u>Anticipated Properties:</u>**

The project is taking place within the boundary of a historic property (SIHP # 50-10-27-00002, the Māmalahoa Trail) (**Attachment A**). Given all available information, traditional sites, features, isolated artifacts and/or midden, including human skeletal remains and burials, dating from pre-Contact to early historic-period times may be found.

**2) Locations of Historic Properties:**

Component features of the historic property are expected to be encountered throughout in the proposed project area.

**3) Fieldwork:**

On-site archaeological monitoring is being implemented for all project-related activities. ʻĀina Archaeology will be on-site during vegetation removal.

Any cultural features or artifacts that are exposed due to the vegetation clearing will be documented. Archaeological fieldwork will use current standard archaeological recording techniques including drawing of wall profiles or other features and documentation of stratigraphy where cultural features or artifacts may be exposed as well as in representative areas throughout the project area. Profiles and features exposed due to the vegetation clearing will be photographed and noted on a map.

SHPD will be notified in the event of significant findings including human skeletal remains. If human skeletal remains are identified, SHPD, the County Coroner's Office and the County Police Department (in accordance with HAR § 13-300-40) will be immediately notified. All construction work within the vicinity of the finding of a human burial will be stopped and no exploratory work will be conducted unless requested by SHPD. All human skeletal remains encountered during archaeological monitoring will be handled in compliance with HAR § 13-300-40, which states all treatment of inadvertent burials be determined by the SHPD in consultation with recognized descendants.

State Historic Preservation Division (Hawaii Island): (808) 933-7652 (Christian Omerod, Burial Sites Specialist, Hawaii Island, Kona)
Hawaii Island County Coroner (position vacant, calls would go to Honolulu): (808) 768-3090
Hawaii Police Department (non-emergency line): (808) 935-3311

**4) Archaeologist's Role:**

Field archaeologists will have the authority to stop work immediately in the area of any findings exposed due to the vegetation clearing so that documentation of the feature can proceed, and appropriate treatment can be determined. In addition, the archaeologist will have the authority to slow and/or suspend vegetation removal activities in order to ensure necessary archaeological documentation will be conducted.

**5) Coordination Meeting:**

A coordination meeting will be held prior to any vegetation removal activities to orient the vegetation removal crew to the requirements of the archaeological monitoring program. At this meeting, archaeological monitors shall emphasize their authority to temporarily halt work and state that all finds (including artifacts such as bottles) are the property of the landowner and may not be removed from the work site.

**6) Laboratory Work:**

Laboratory work will be conducted in accordance with HAR Chapter 13-279-5 (6). Laboratory analysis of non-burial related finds exposed due to the vegetation clearing will be recorded, and standard artifact recording will be used. Artifacts will be recorded with measurements, weight, type of material, and presumed function. Photographs of representative artifacts will be taken for inclusion in the archaeological monitoring report. Collected marine shell and animal bone will be tabulated, weighed, and analyzed for taxonomic (i.e., species and/or genus) identification. Collected charcoalized material suitable for chronometric analysis will be sent for charcoal identification and a selected sample(s) may be sent to Beta Analytic, Inc. for radiocarbon dating.

Traditional basalt artifacts may be sent for Energy Dispersive X-ray Fluorescence (EDXRF) analysis to identify where the material may have been procured. All analyzed samples, methods for sample selection, results, and provenience information will be presented and summarized within the archaeological monitoring report.

**7) <u>Report Preparation:</u>**

The archaeological monitoring report, in the form of an archaeological monitoring letter report (report), will follow the requirements of HAR Chapter 13-279-5 to the extent possible and will include sections on archaeological methods and results, stratigraphy, laboratory analyses of artifacts and collected materials, and identified historic properties exposed due to the vegetation clearing. If human skeletal remains are encountered during monitoring, the stratigraphic context in which they were found, and detailed descriptions of the skeletal elements and condition, will be presented in the report. The monitoring report will be shared with the parties to the MOA and submitted to the SHPD for review.

Any archaeological information gathered that is unrelated to the vegetation clearing or monitoring thereof will not be included in the monitoring report but will instead be incorporated into the preservation plan after review and consultation with the consulting parties.

**8) <u>Archiving Materials:</u>**

All collected materials from these activities belong to the landowner, in this case HDOT. All collected materials will be stored in the archaeological company's climate-controlled storage unit. The location of the curated artifacts can be changed to a separate agreed-upon location through consultation between HDOT, the SHPD, DLNR Nā Ala Hele program, and the consulting parties to the MOA.

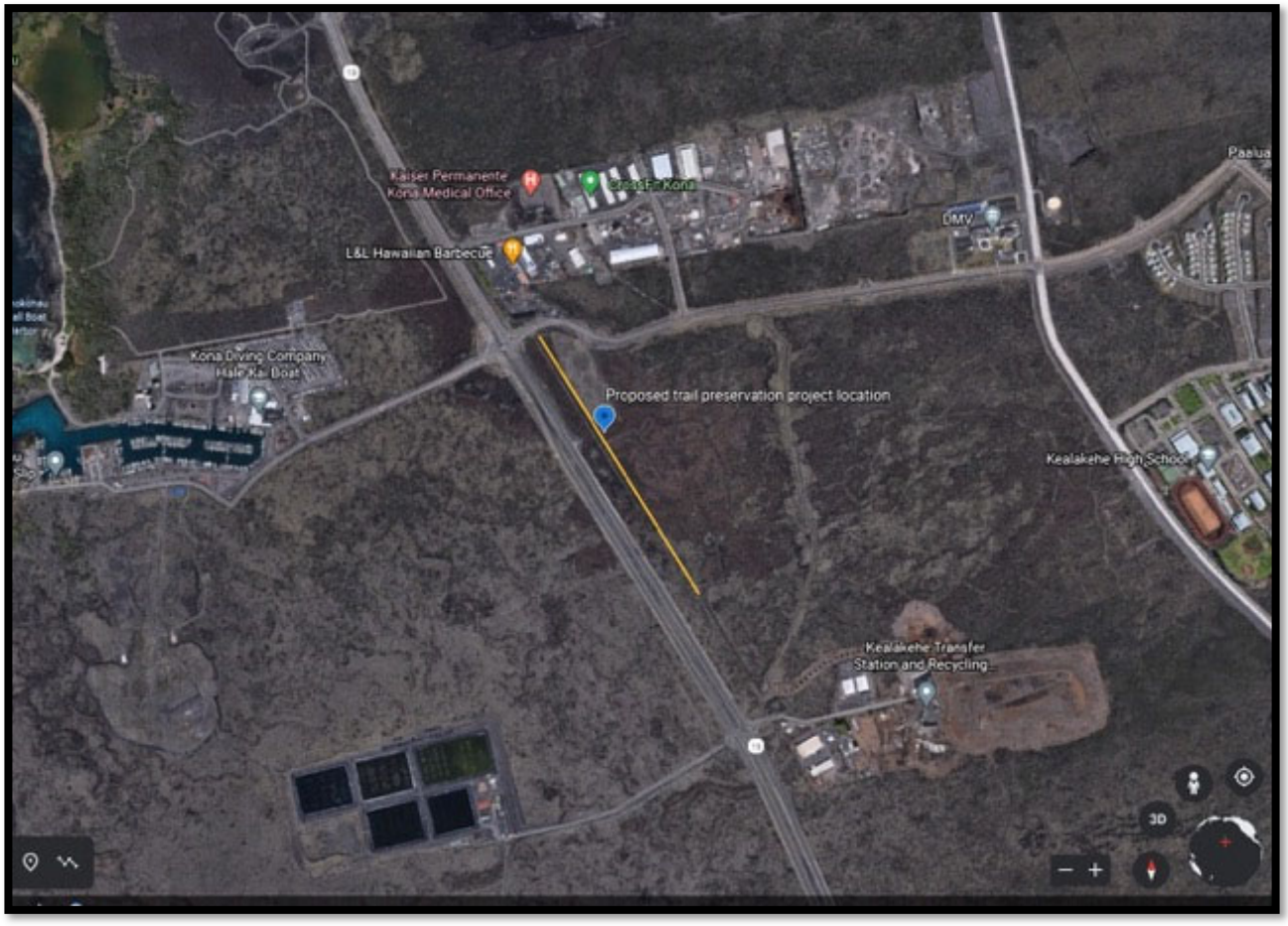



Figure 3. Proposed trail preservation project location.