JONATHAN J. CHUN (2928)
3135 Akahi Street, Suite A
Lihue, Kauai, Hawaii 96766-1388
Telephone: (808) 245-4705
Facsimile: (808) 245-3277

Attorney for Petitioner
MOLOAA LOT 10A LLC,
a Hawaii limited liability company

BEFORE THE BOARD OF LAND AND NATURAL RESOURCES

OF THE STATE OF HAWAII

In The Matter Of The Application Of MOLOAA LOT 10A LLC, a Hawaii limited liability company, for a Petition to amend a portion of Unit 4 of The Estates At Moloaa Bay from the limited conservation district subzone to the general conservation district subzone identified as Tax Map Key No. (4) 4-9-009-002-0004.	**ADDENDUM TO AMENDED PETITION TO AMEND A PORTION OF UNIT 4 OF THE ESTATES AT MOLOAA BAY FROM THE LIMITED CONSERVATION DISTRICT SUBZONE TO THE GENERAL CONSERVATION DISTRICT SUBZONE; REVISED EXHIBITS "C" AND "G" AND NEW EXHIBIT "L"**

ADDENDUM TO AMENDED PETITION TO AMEND A PORTION OF UNIT 4 OF THE ESTATES AT MOLOAA BAY FROM THE LIMITED CONSERVATION DISTRICT SUBZONE TO THE GENERAL CONSERVATION DISTRICT SUBZONE

Petitioner MOLOAA LOT 10A LLC, a Hawaii limited liability company, respectfully submits the following Addendum to the Amended Petition To Amend A Portion Of Unit 4 Of The Estates At Moloaa Bay From The Limited Conservation District Subzone To The General Conservation District Subzone (hereinafter "Petition") submitted to the Department of Land and

Natural Resources on June 3, 2025, to address the comments from the Department of Land and Natural Resources, Office of Conservation and Coastal Lands ("OCL") received on July 7, 2025.

1. **Exhibit "C"**. OCL commented "your resubmission of the petition contains the topo map with incorrect TMKs identified … that has been previously brought to you and your client's attention."

Response. The Petition was submitted on June 3, 2025. On June 26, 2025, after the Petition was filed, raised a concern that Exhibit "C" was incorrect. Your Petitioner communicated with OCL that Exhibit "C" properly identified the map as being for property located at Moloaa, Kawaihau, Kauai, County of Kauai, State of Hawaii with a TMK of (4) 4-9-009:002-0000 as indicated on the map's heading. The map also correctly labeled the surrounding parcels as TMK (4) 4-9-014-001-0001, (4) 4-9-014-005-0000, (4) 4-9-014-004-0000, (4) 4-9-014-003-0000, (4) 4-9-014-002-0000 and (4) 4-9-012-002-0000. Two other surrounding parcels, however, had the wrong island identifier (3) and were labeled (3) 4-9-014-007-0000 and (3) 4-9-009-003-0000. Petitioner acknowledged to OCL that those two parcels should have been labeled (4) 4-9-014-007-0000 and (4) 4-9-009-003-0000 and inquired if the labels of two of the surrounding parcels made the map confusing. OCL's response was to fix the map. Based on OCL's direction, the Petitioner hereby submits a revised Exhibit "C" to the Petition. Please replace Exhibit "C" that was attached to the Petition with revised Exhibit "C" that is attached to this Addendum.

2. **Exhibit "F"**. OCL commented that "Exhibit F appears to be a "Soils Map"; however, it does not identify the parcel and petition area."

Response: As stated in the Petition, Exhibit "F is Sheet No. 26 of the Soils Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii, prepared by the United States Department of Agriculture, Soil Conservation Service and issued in August 1972. We did not alter Sheet No. 26 and Sheet No. 26 shows the approximate location of the different soil types in the area. Sheet No. 26 does not show parcel boundary lines and we do not believe we should edit Sheet No. 26.

3. **Exhibit "G"**. OCL commented that "Exhibit G of your June 2, 2025, re-submission appears to be a "Report of Subsurface Investigation, yet it does not appear to contain a map identifying where 3 borings took place in relation to the proposed petition area."

Response: Page 4 of Exhibit "G" described where and how deep the three borings were made and stated the locations are shown on Figure 2. We apologize if you did not get the attachments to the Report of Subsurface Investigation. Enclosed with this Addendum is Exhibit "G" with all of the attachments. Figure 2 shows the location of all the borings in relation to the Petition Area which is labeled Unit 4 Home Site. Please replace Exhibit "G" that was attached to the Petition with revised Exhibit "G" that is attached to this Addendum.

4. **Exhibits "H" and "I"**. OCL commented that "Exhibits H & I appear to be various relevant maps to you and your client's petition but does not identify the parcel, project, or petition area."

Response: As stated in the Petition, Exhibit "H" is a "copy of Map No. 96 from the Detailed Land Classification – Island of Kauai published in 1967 by the Land Study Bureau of the University of Hawaii. We did not alter Map No. 96 and Map No. 96 shows the land classification

of soils on or around the Petition Area. Map No. 96 does not show parcel boundary lines and we do not believe we should edit Map No. 96.

Exhibit "I" is the official State of Hawaii Agricultural Lands of Importance to the State of Hawaii ("ALISH") map for Kauai that was revised on November 1977. This map was obtained directly from the State of Hawaii website at https://geoportal.hawaii.gov/datasets/HiStateGIS::alish/explore?location=22.188787%2C-159.349154%2C14.00 . Exhibit "I" shows the location of agricultural lands of importance as determined by the State Department of Agriculture. Exhibit "I" does not show parcel boundary lines and we did not edit Exhibit "I". As the State of Hawaii Department of Agriculture stated on Exhibit "I", "This map was produced by the Office of Planning (OP) for planning purposes. It should not be used for boundary interpretations or other spatial analysis beyond the limitations of the data. Information regarding compilation dates, accuracy of the data can be obtained from OP."

5. Digital Copies. OCL commented that your "June 3, 2025, letter and re-submission does not appear to contain a digital copy of the petition."

Response: The Petitioner was expressly informed that Petitioner needed to follow the department's rules regarding rezoning a subzone. The Petitioner followed HAR Sections 13-5-5 and 13-5-16 as to the petition requirements. The Petition was also directed to HAR Chapter 13-1, Subchapter 3. The above-mentioned rules do not mention the submittal of digital copies of the petition. Petitioner apologizes for not following any required rules and attaches a digital copy of the Petition and all exhibits with this Addendum.

6. **Slope Analysis Map**. On June 27, 2025, OCL requested Petitioner provide a "slope analysis map." On July 3, 2025, a slope analysis map was provided to OCL. OCL noted that the slope analysis map was not included in the Petition.

Response: The slope analysis map was requested and provided after the Petition was filed. Exhibit "L" to this Addendum is the requested signed and stamped slope analysis map. Petitioner respectfully requests that the Petition include Exhibit "L". This Addendum supplements the statements made on Page 6, Section V.B.1 of the Petition by stating: "A Slope Analysis and Topographical Map prepared by Thomas G. Pattison, licensed engineer, shows that the slopes within the Petition Area are between 20 to 40 percent and there are no slopes greater than 40 percent within the Petition Area. A copy of Thomas G. Pattison's Slope Analysis And Topographic Map is attached hereto as Exhibit "L" and by reference incorporated herein."

Dated: Lihue, Hawaii, _____.

BELLES GRAHAM LLP

By: _____
JONATHAN J. CHUN
Attorney for Petitioner
MOLOAA LOT 10A, a Hawaii limited liability company

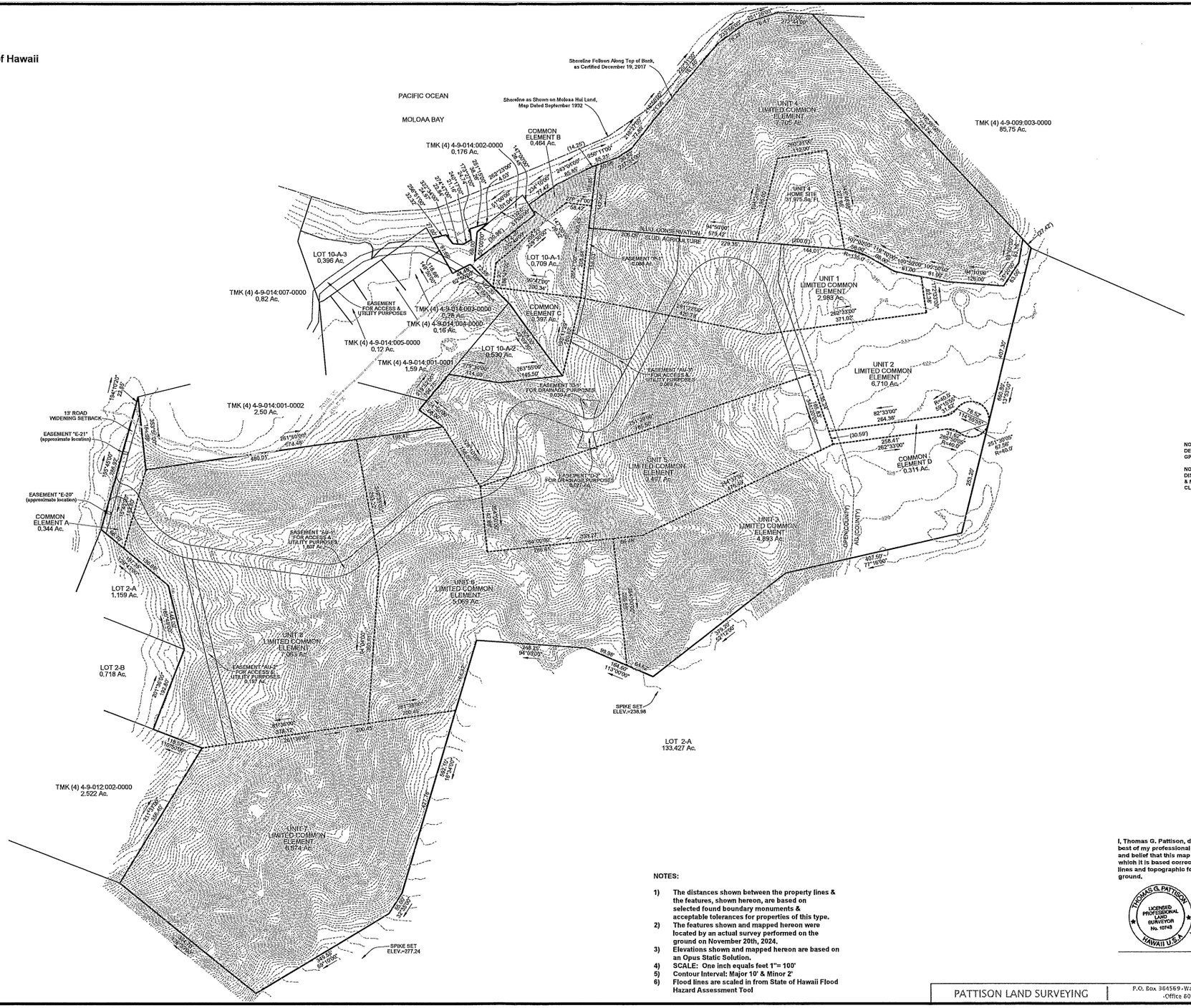
EXHIBIT "C"

TOPOGRAPHIC MAP SHOWING EXISTING CONDITIONS UPON

THE ESTATES AT MOLOA'A BAY

Moloaa, Kawaihau, Kauai, County of Kauai, State of Hawaii
TMK (4) 4-9-009:002-0000

EXHIBIT "C"



FLOOD NOTE
According to the F.I.R.M. # 155166 0079 F, dated 09-29-2017 this property does lie in "Zone X", "Zone VE".

NOTE: BASIS OF AZIMUTH DERVED USING HEMISPHERE GPS RTK SYSTEM

NOTE: ALL AZIMUTHS & DISTANCES ARE SHOWN & MAPPED HEREON IN A CLOCKWISE DIRECTION

NOTES:

1) The distances shown between the property lines & the features, shown hereon, are based on selected found boundary monuments & acceptable tolerances for properties of this type.
2) The features shown and mapped hereon were located by an actual survey performed on the ground on November 20th, 2024.
3) Elevations shown and mapped hereon are based on an Opus Static Solution.
4) SCALE: One inch equals feet 1"= 100'
5) Contour Interval: Major 10' & Minor 2'
6) Flood lines are scaled in from State of Hawaii Flood Hazard Assessment Tool

I, Thomas G. Pattison, do hereby certify to the best of my professional knowledge, information, and belief that this map and the survey upon which it is based correctly shows the boundary lines and topographic features as shown on the ground.

THOMAS G. PATTISON
LICENSED PROFESSIONAL LAND SURVEYOR
No. 10743
HAWAII U.S.A.

THOMAS G. PATTISON
December 12th, 2024
Hawaii License No. 10743

Setback Lines are shown from current data, but should be verified by builder, The description on this plat was provided to us by the client, and does not guarantee ownership, and should be compared to your Deed, Abstract or Certificate of Title. All building restrictions, building lines and easements may or may not be shown, check your Deed, Abstract, Title Report, and local ordinances, no responsibility is assumed by Surveyor, Compare all points before building by same and report any discrepancy at once, Dimensions are shown in feet and decimal parts thereof, no dimension is to be assumed by scaling.

PATTISON LAND SURVEYING | P.O. Box 364569 • Waikoloa Hawaii • 96738 • Office 808.327.9439 •

EXHIBIT "G"

META ENGINEERING
PO Box 4606 Honolulu, HI 96812
Tel: 808-372-8887 E-mail: paul.metaeng@gmail.com

REPORT OF SUBSURFACE INVESTIGATION

Project:

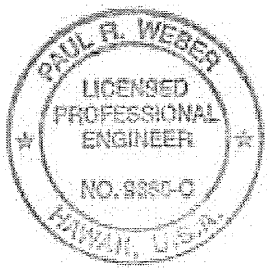
Unit 4 – Estates at Moloa'a Bay
TMK: 49009002004
Unit 4, Moloa'a Rd.,
Anahola, HI 96703

Attention:

Moloa'a Lot 10A LLC
Unit 4, Moloa'a Rd.,
Anahola, HI 96703
Att: Bill Campbell – bcmpbll@aol.com

Owner:

Moloa'a Lot 10A LLC
2443 Fillmore St., PMB 368
San Francisco, CA 94115



4/30/2026
License Expiration Date

This work has been prepared by me or under my supervision and construction of this project will be under my supervision

META ENGINEERING
PO Box 4606 Honolulu, HI 96812
Tel: 808-372-8887 E-mail: paul.metaeng@gmail.com

February 4, 2025

Unit 4 – Estates at Moloa'a Bay
TMK: 49009002004
Unit 4, Moloa'a Rd.,
Anahola, HI 96703

RE: Report of Subsurface Investigation
Unit 4, Moloa'a Rd., Anahola, HI 96703

To Whom it May Concern,

Following the completion of field and lab work, this presents our report of the soil conditions at the lot of a planned structure on Kaua'i. Three (3) test borings were completed on December 18, 2024. Our findings and recommendations are presented in the attached report.

The property lot occupies a generally grassy and bouldered site on a natural level terrain of a conservation lot in Moloa'a on Kaua'i. The surface soil is red dirt overlying residual soil. The depth and character of the soils were the focus of our investigation work.

The scope of our work was defined in your geotechnical report request and this soils investigation has generally conformed to the scope described therein. Selected soil samples were used in the laboratory testing. The remaining samples will be kept for a period of time for possible inspection and examination. Unless requested otherwise, the samples will be discarded three months from the date of this report.

It has been a pleasure to perform this assignment for you. If you have any questions, please feel free to contact us for clarification.

Sincerely,

Paul R. Weber, P.E.
Meta Engineering

META ENGINEERING
PO Box 4606 Honolulu, HI 96812
Tel: 808-372-8887 E-mail: paul.metaeng@gmail.com

TABLE OF CONTENTS

META ENGINEERING
PO Box 4606 Honolulu, HI 96812
Tel: 808-372-8887 E-mail: paul.metaeng@gmail.com

INTRODUCTION

This presents the results of our soils investigation at the site of an existing conservation property in the Moloa'a lots in Anahola on the Island of Kaua'i. The purpose of our exploration was to determine engineering properties of the soil on the site to prepare recommendations for foundation design.

The subject lot is in an area on which we have performed several other investigations. The lot has distant views of a small creek beds and ocean and is deeply sloped on the backside of the lot.

The general location of the site is shown on the Vicinity Map, Figure 1.

PROJECT DESCRIPTION

No plot plan for the planned building was provided for our use. Further details of design development may alter or add to the recommendations of this report. Other site improvements will likely include landscaping and walkways. The project site is shown on Site Plan, Figure 2.

SCOPE OF WORK

The scope of work for this project included subsurface investigations and laboratory testing to prepare recommendations for the residence foundation.

FIELD EXPLORATION

To obtain the subsurface information, three exploratory borings B-1 thru B-3 were drilled on December 18, 2024. The boring depths were approximately 2 - 12 feet and probably have ended on hard material, probably lava rock. Soil samples were obtained at various depths from each boring. The borings were logged, and the soils classified by field personnel. The boring locations are shown on the Site Plan, Figure 2. A more detailed description of the field exploration program and the Logs of Borings are presented in the appendix. The retrieved soil samples were packaged and transported to the Meta Engineering soil mechanics laboratory in Honolulu for further examination and testing.

LABORATORY TESTING

A laboratory testing program was performed to verify visual field classifications and to determine pertinent soil engineering properties of the earth materials encountered in the borings. The tests performed included in-situ moisture determinations and plasticity tests. A description of the laboratory test procedures and the results of the laboratory testing are available upon request.

META ENGINEERING
PO Box 4606 Honolulu, HI 96812
Tel: 808-372-8887 E-mail: paul.metaeng@gmail.com

NATURAL HISTORY of THE HAWAIIAN ISLANDS

General Geology

The Hawaiian chain of islands stretches back in time on a line toward the Aleutian Islands of Alaska, starting with the most recent outflow of Kilauea. This 40-million-year march is the result of the movement of one of the earth's crustal plates over a stationary magma hot spot. The Mid Pacific hot spot is but one of several places around the earth where magma is close to the surface, Yellowstone being another.

A new Hawaiian island appears to be forming in the sea south of the Big Island.
The Hawaiian Islands are shield volcanoes. That is, they are formed by molten lava surging out and flowing over the adjacent terrain. Successive flows build up a high shield that resembles a cone shaped layer cake. This quiet and ponderous building process is interrupted from time to time by explosive lava fountains, cinder, ash, and tuff cones. A high ash cloud was ejected in 1924. Kilauea started its recent continuous activity with lava fountain explosions in 1983.

As soon as the new lava hardens, a process of weathering and decomposition begins that also can be traced back in time over the 40-million-year span. The oldest islands are barely discernable, being but submerged mounds in the Pacific waters. On an oceanic map one sees a straight line of islands stretching back from the present to a kink at about 24 million years ago. Another straight line of remnant islands makes a bee line for the Aleutians. This engineer detected a new kink at Maui starting about one million years ago. The new kink, whose portent is totally unknown to science, was confirmed by geologists at UH Manoa.

President Obama designated part of the older islands a national monument to be preserved and protected.

The inhabited islands, starting with Kaua'i and progressing to Oahu, Maui, and the Big Island, show decreasing weathering, until on the Big Island there is fresh, intact lava for all to see. Kaua'i was formed roughly five million years ago, Oahu about three million, and Maui about one million years ago.

The weathering process is of great interest to engineers who must design building projects in the islands. Curiously, volcanic rocks – the newest "earth" on earth – weather quickly. Lava rock cracks, crumbles, and then rusts as the iron minerals are oxidized in the warm, humid, tropical atmosphere. Weathering varies greatly in areal distribution and with depth below the ground surface making it quite interesting for builders. As with the laterite soils in all tropical zones, the Hawaiian red dirt weathers in another way by varying from highly plastic expansive soil to almost inert low plastic soil. The difference cannot be detected by the eye; soil lab tests are required to determine just how plastic and expansive a particular local deposit might be. cannot be detected by the eye; soil lab tests are required to determine just how plastic and expansive a particular local deposit might be.

Tectonic Plates

As noted above, the islands are formed as the crustal plate rides over a Mid-Pacific hot spot. The crustal plates have a life cycle; the plates spread apart in mid ocean, and this allows magma to well up from below the crust. The pressure pushes against the continents forming coastal mountains. The continents are more rigid than the plates, so the plates bend downward and are forced back into the molten rock where they melt.

The pressure of the plates grinding at the continental boundaries causes earthquakes and the chain of volcanoes that in the Pacific are called the "Ring of Fire". Hawaii is not at a plate boundary and none of this activity occurs here.
Hawaii seismic activity can be related to the movement of magma under the Big Island. As a result, seismic activity is highest on the Big Island and lowest on Kaua'i.

Water

Hawaii is located in the middle of the Pacific in an area of low rainfall. Trade winds blow across the islands and what moisture there is gets pushed up to the higher elevations near the tops of the volcanoes. It is cooler up there, the moisture precipitates, and rain falls on the windward sides of the islands. The leeward sides stay dry and would be termed 'desert' if not for our irrigation systems.

Water is stored on the islands in two ways. Volcanic rocks are fractured and full of holes. Subsequent underground magma flows have inserted hard barriers into the fractured rock called dykes. These dykes act like dams and hold the water in storage in the volcanic rocks. When a waterfall is seen issuing from a point below the crest of the mountain, it is overflow above a dyke.

Fresh water floats on salt water. This allows the rainfall to build up on top of the seawater. Groundwater wells that tap this freshwater lens are a major source of island water.

Flora

There is an abundance of tropical plants in Hawaii – especially on the windward side and higher in the mountains. Before Polynesian voyagers brought their familiar crops, the plants evolved in isolation; many are found here and nowhere else on earth. Those introduced crops (many quintessentially Hawaiian) include coconut, mango, breadfruit, bananas, yams, taro, and sugarcane.

Fauna

Similarly, to the plants that evolved in the Hawaiian Islands, many unusual and endemic animal species make their home here. Certain species of snails, birds, and sea life – including coral – are unique to these islands. Before human settlement, there were no land mammals except the Hawaiian Hoary bat.

The Polynesians brought with them useful domesticates such as dogs, pigs, and the red jungle fowl, some of which have established wild populations. Other, less useful creatures have entered Hawaii on incoming boats and planes, including the mongoose and centipede. Great efforts are made, though not always successfully, to protect this delicate ecosystem from other invasive snakes, rodents, and insects, as trade and travel increase in Hawaii.

The Hawaiian Islands abound in birds of all kinds, some of which are found only in Hawaii. The Hawaiian Nene, a protected goose, is found here also. The Nene is a smaller version of the Canadian variety. Unfortunately, Nene's nest on exposed surfaces making their eggs subject to predation such as the introduced mongoose.

THE NATURAL HISTORY OF KILAUEA/ANAHOLA

Kilauea is situated in the northeast quadrant of the Island of Kauai, one of the main inhabited islands of Hawaii. Like the newer islands, Kauai was formed of a shield volcano as it occupied the seabed over a magmatic hot spot. The magma hot spot is relatively fixed; the Pacific crustal plate moves generally to the northeast toward the Aleutian Islands of Alaska. The now extinct original Kauai shield volcano (Napili Member) is about 5 million years old and has greatly weathered and eroded from its original condition. In fact, Kauai cracked in half about 3 1/2 million years ago and the eastern portion fell into the sea. Lava welled up again in the eastern portion to rebuild the island with much younger volcanic on the east side (Koloa Volcanoes). Waimea Canyon is the trace of the big fissure where the island broke in half. This project sits on the Koloa Volcanic series.

More than ½ million years ago the island cracked again (minor cracking this time around) and cinder cones erupted from the fissures. Kilauea Crater and other craters west of Anahola Mountains discharged cinders at that time. Erosion and weathering are the most pronounced on this island. Virtually all the buildable surface is red clay derived from weathering of the original shield lava.

Near Kilauea is one of the wettest places on the planet. One of the highest swamps in the world is located above Princeville in the Alakai Swamp at elevation 4,000 feet. Much of this high rainfall drains out of the mountains and on to the sea by way of Hanalei, Kalihiwai and Kilauea Streams. Drainage above the site meanders and forms a variety of channels that eventually merge to form Kalihiwai Stream. Elevation of the site surroundings is generally at sea level.

The original vegetation includes a wide variety of tropical plants, hardwoods, and flowers. Mammals and other land animals were not found on the Hawaiian Islands, but birds and marine life was plentiful.

The site is in the northern area of Kauai above sea level.

META ENGINEERING
PO Box 4606 Honolulu, HI 96812
Tel: 808-372-8887 E-mail: paul.metaeng@gmail.com

CULTURAL HISTORY OF KILAUEA/ANAHOLA

Occupation of the Hawaiian Islands in general and Kauai in particular dates from about 1,500 years earlier than present. Specific historical sites are sparse in the Kilauea area, but Kalihiwai Stream and its tributaries would provide suitable resources for human habitation.

European and American explorers opened the islands to occupation in the eighteenth century (Captain Cook landed in 1778) and initiated whaling and hardwood extraction. Later settlers established cash crops such as sugar cane and pineapple that soon covered large tracts of land. The first sugar cane mill in the islands was established in Koloa in 1835.

In 1969 Howard Taylor, a brother of Elizabeth Taylor, established Taylor Camp on seven acres he owned on North Kauai. Taylor Camp was a hippie commune; clothes optional, pot smoking, free love, live-off-the -land commune. The 100 or so residents assembled natural and scrap lumber tree houses for habitation.

In 1977 the State condemned the Camp and burned the structures to the ground. The remnants of Taylor Camp presently occupy Na Pili Park.

SURFACE CONDITIONS

The site is a steep, terraced section on a native lot on a graded hillside. The local landscape is vegetated with tropical plants.

SUBSURFACE CONDITIONS

The subsoil in this area of Kaua'i is characterized by deeply weathered red clays. Three (3) borings may have exposed red clay underlain by weathered rock. The soils located in this area are designated as Lihue silty clay, 0 to 8 percent slopes (LhB). The Lihue series consists of well-drained soils on uplands on the island of Kauai. These soils developed in material weathered from basic igneous rock.

The soils encountered varied from medium to hard depending on the location on the site.

Groundwater was not encountered in the borings.

DISCUSSIONS AND RECOMMENDATIONS

Based on our investigations, we conclude from a geotechnical engineering standpoint that it is feasible to construct the planned structure provided the recommendations presented in this report are fully incorporated into the design and implemented during the construction.

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Tel: 808-372-8887 E-mail: paul.metaeng@gmail.com

FOUNDATIONS

Foundations shall be designed for an allowable soil bearing pressure of 2,500 psf. Minimum footing depth and width shall be 18 inches. If excavation reveals softer subgrade at inspection, over excavate and replace with a minimum 18 inches of select compacted fill.

RETAINING WALLS

Free-standing retaining walls shall be designed for a lateral soil pressure of 35 pcf. Walls fixed at the top shall be designed for a lateral soil pressure of 45 pcf. These values of pressure assume a freely drained condition behind the retaining walls. Crushed rock or drainage composite shall be used for the backfill immediately behind the walls.
The allowable soil bearing pressure shall be taken as 2,500 psf. Passive resistance of intact or newly compacted select fill can be taken as 400 psf. Friction between the base of concrete and the soil is 0.40.

EARTHWORK

Earthwork on residential property has become formalized and decisions often left by default to the grading contractor. This can leave out important economic and sustainable practices that are unknown or of little value to the grading contractor. This section of our report provides conclusions and recommendations to be incorporated in the project plans and specifications.

Grading
Healthy soil: in general, the earth has spent millennia making healthy soil for the growth of life sustaining plants. In Hawaii, this process occurs more in terms of centuries, but the result is the same. Husbandry of healthy soils is essential to sustainable development. Site grading has probably removed the majority of healthy soils from this lot.

Balance Cut and Fill: within the parameters of the soil conditions, design of the grading to the extent possible may be organized to balance the cut and fill. Disposal of cut and import of select borrow shall be minimized. The main floor level and that of secondary facilities such as garage, pool, ohana, or storage shall be set at least six inches above the adjacent grades.

Subgrade: subgrade under concrete slabs, and footings (including soil supported retaining wall footings) shall be compacted to 95% of modified proctor for that subgrade soil. Care shall be taken to protect the exposed subgrade after compaction until the concrete is poured. Inspection and approval of the subgrade shall be made by this engineer just as the rebar is being placed and as immediately preceding concrete pour as is practicable.

Borrow select shall be approved by this engineer prior to importing. Recycled concrete both satisfies select fill criteria and saves mineral resources. All select fill shall be compacted to 95% of modified proctor density.

Site preparation for this project will include excavation for foundation support.

Select structural fill material should be free of expansive soils, debris, rock fragments greater than three inches in largest dimension, or organic matter. On-site soils may be used as select borrow upon approval by this engineer.

Prior to fill placement, the ground surface shall be scarified to a minimum of six inches and compacted to a minimum of 95 percent of the maximum dry density as determined by the ASTM D 1557 method. Fill shall be moisture conditioned to within two percent of the optimum moisture content and placed in horizontal lifts not to exceed eight inches. Slab-on-grade subgrade and selected structural fill shall be compacted to a minimum of 95 percent of the maximum dry density with compaction equipment of enough weight to achieve the required compaction.
Dust control, temporary drainage, and erosion control measures shall be specified according to County of Kaua'i requirements and implemented by the grading contractor.

REVIEW OF PLANS AND SERVICES DURING CONSTRUCTION

Meta Engineering shall review the project plans and specifications prior to finalization to see that the intent of these recommendations and design considerations are properly reflected in the project design.

During construction, Meta Engineering shall be retained to provide the following construction monitoring services:

During excavation and backfilling;
During compaction of fill material; and
When any unusual conditions are encountered.

LIMITATIONS

This report has been prepared for the Moloa'a Lot 10A LLC property and their designated professionals for the purpose of designing a structure on Kaua'i, Hawaii. Recommendations have been prepared in accordance with generally accepted foundation engineering practices. No other warranty, expressed or implied, is made as to the professional advice contained in this report. This report has not been prepared for other parties and may not contain sufficient information for their purposes or other uses.

META ENGINEERING
PO Box 4606 Honolulu, HI 96812
Tel: 808-372-8887 E-mail: paul.metaeng@gmail.com

This report is written based on subsurface information obtained from borings drilled for the subject property. It does not reflect variations that may occur in the subsurface conditions between borings. The nature and extent of the variations of the subsurface conditions may not become evident until construction. Should subsurface conditions differ materially from those encountered during this study, Meta Engineering shall be notified immediately so that the appropriate construction modifications can be developed and implemented, if necessary.

The following figures and appendix are attached to complete this report:

Figure 1	Vicinity Map
Figure 2	Site Plan
Appendix A -	Field Exploration and Laboratory Testing

Respectfully Submitted,

Paul R. Weber, P.E.
Meta Engineering

Report Distribution:

Moloa'a Lot 10A LLC (1)
File (1)

PAUL R. WEBER
LICENSED PROFESSIONAL ENGINEER
NO. 8656-C
HAWAII, U.S.A.

4/30/2026
License Expiration Date

This work has been prepared by me or under my supervision and construction of this project will be under my supervision

META ENGINEERING
PO Box 4606 Honolulu, HI 96812
Tel: 808-372-8887 E-mail: paul.metaeng@gmail.com

APPENDIX A

FIELD INVESTIGATION AND LABORATORY TEST RESULTS

FIELD INVESTIGATION

To obtain the subsurface information reported herein, a total of three (3) borings, B-1 thru B-3 were drilled on December 18, 2024. The boring was drilled to depths of 2 to 12 feet below the existing ground surface and all terminated on hard material, probably lava rock. The boring locations are shown on the Site Plan, Figure 2. Soils Maps, Figure 3 and 4.

The exploratory borings were drilled by META using portable drilling equipment. One of our field engineers observed the drilling operation and logged each boring. Soil samples were obtained at regular intervals of depth. The retrieved soil samples were packaged and transported to our Honolulu laboratory for testing.

The Logs of Borings are presented in the Appendix on Figures A-1. The soils encountered were classified according to the Unified Soil Classification System, Figure A-7.

LABORATORY TEST RESULTS

Selected soil samples were tested to evaluate classification and pertinent engineering properties. The tests included moisture content determinations and plasticity tests. All testing procedures were performed in accordance to the American Society for Testing Materials (ASTM) standards, unless otherwise noted. The results of the laboratory tests are to be presented upon request.

The following Figures and Exhibits are attached to complete this Appendix:

Figures A-1 through A-3	Logs of Borings
Figure A-4 through A-8	Liquid, Plastic Limits, Sieve Test Reports
Figure A-9	Unified Soil Classification System

Moloa'a Lot 10A LLC
Unit 4, Moloa'a Rd., Anahola, HI 96703 –
TMK: 49009002004

FIGURE 1 VINCINITY MAP

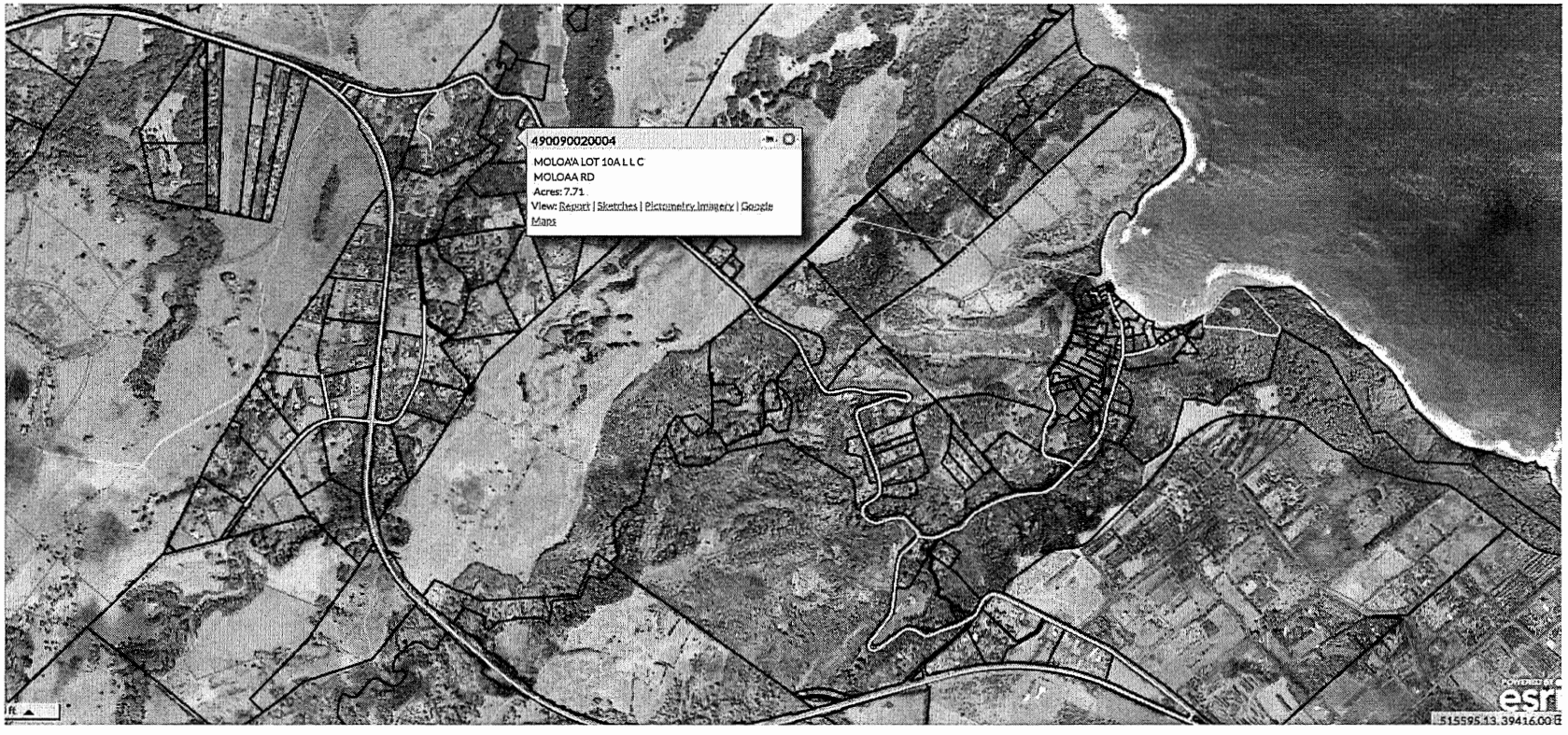
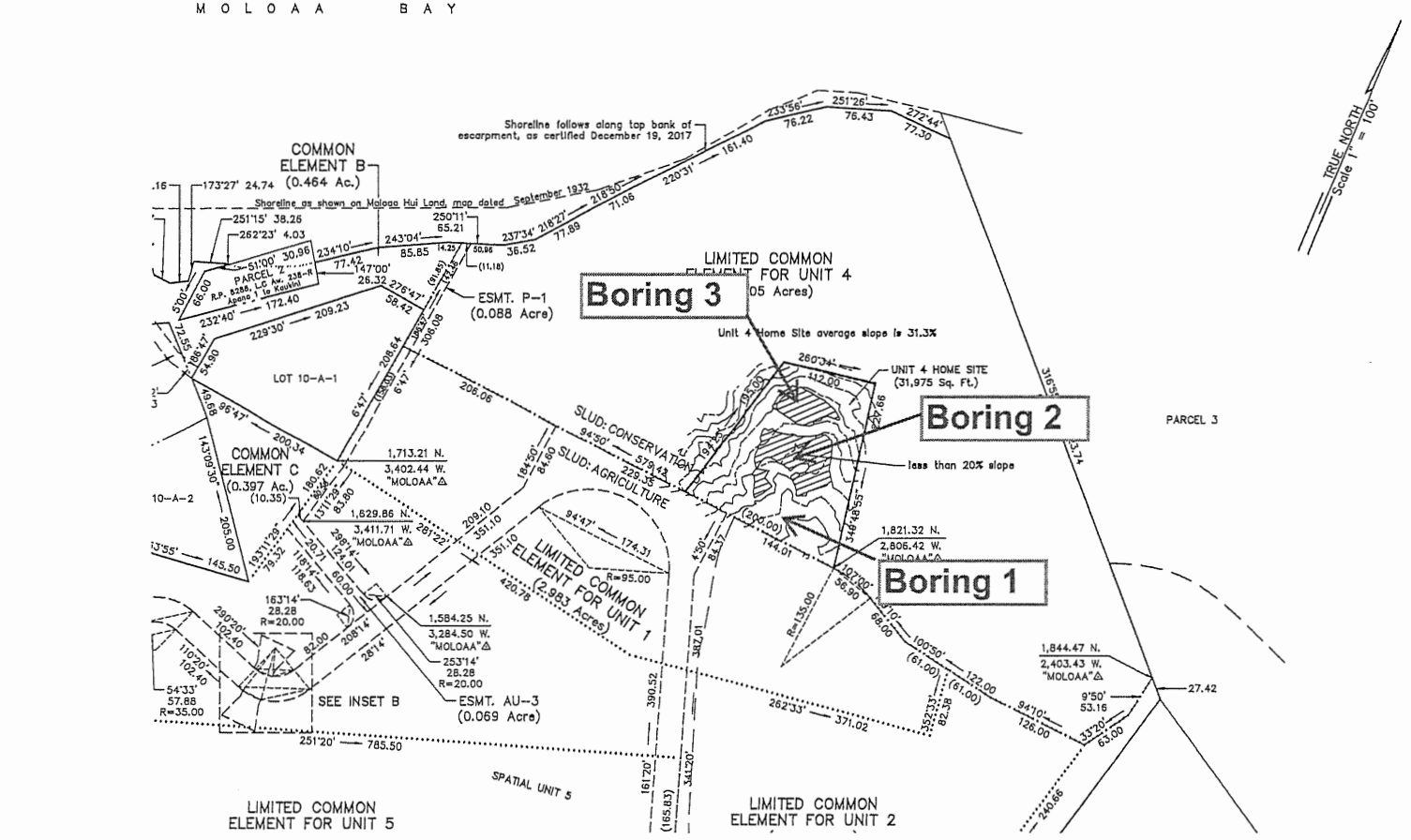


FIGURE 2 VICINITY MAP



GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

THE ESTATES AT MOLOAA BAY
UNIT 4 HOME SITE

BEING PORTION OF LOT 10-A-4
MOLOAA HUI LANDS
MOLOAA, KAWAIHAU, KAUAI, HAWAII
TMK: (4) 4-9-09: 02
Owner: Moloaa Lot 10A LLC.
Date: June 16, 2023

Job Number: 16-110 JH
Drawing File: 16-110 Unit 4 noted 6-16-23.dwg

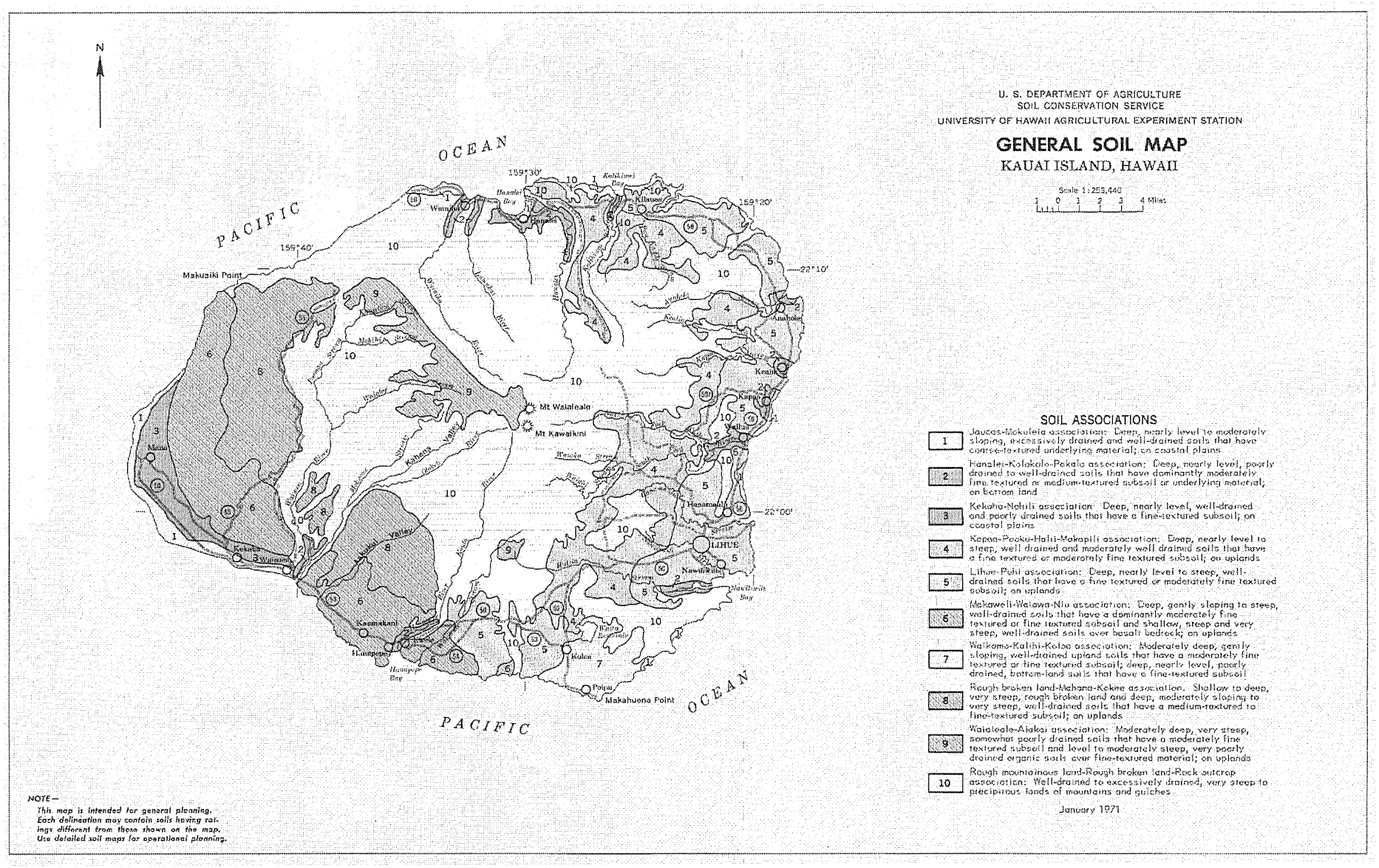
ESAKI SURVEYING & MAPPING, INC.
Civil Engineers - Land Surveyors - Planners

1610 Haleukana Street
Lihue, Kauai, Hawaii 96766

Moloa'a Lot 10A LLC

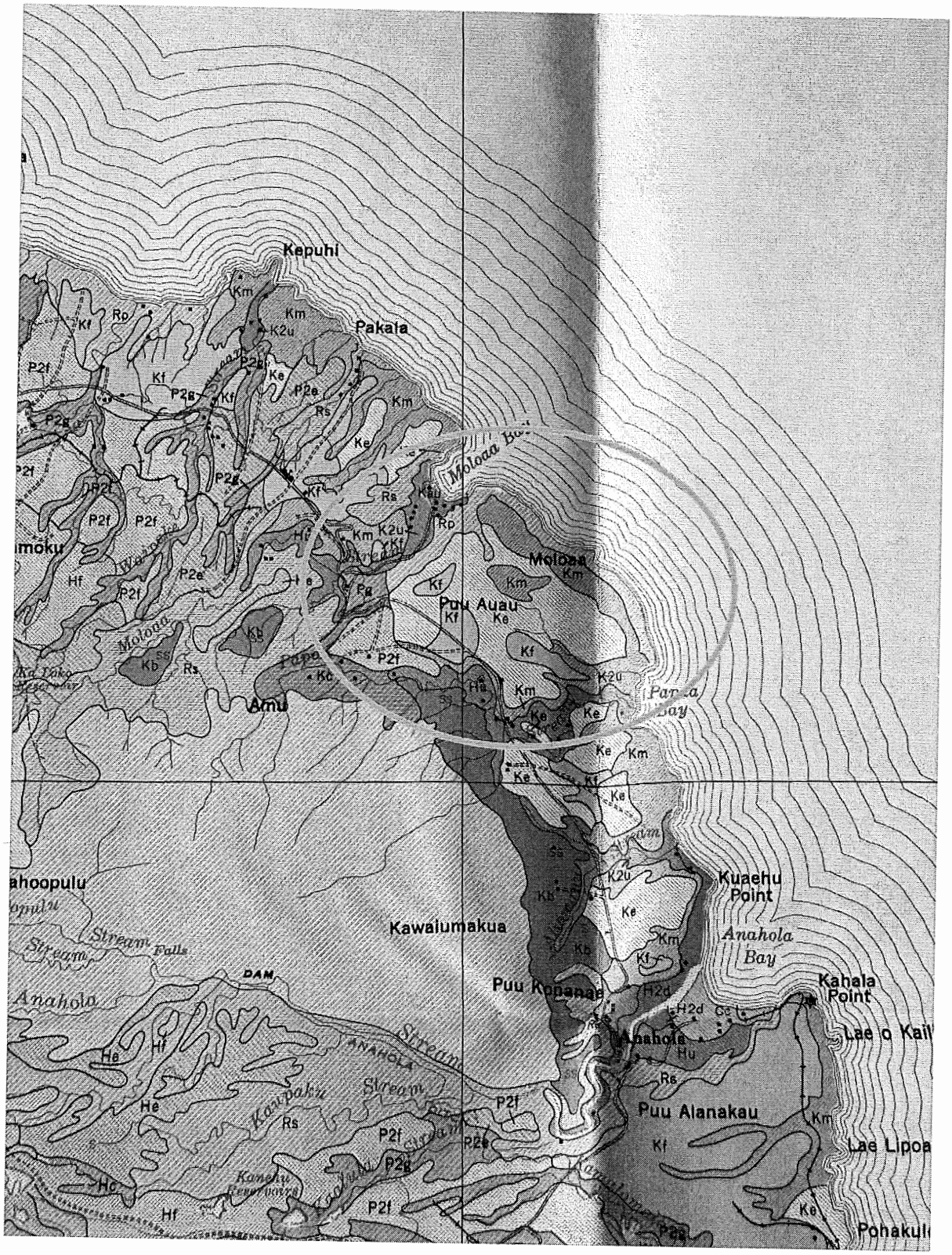
Unit 4, Moloa'a Rd., Anahola, HI 96703 - TMK: 49009002004

FIGURE 3 SOILS MAP



Moloa'a Lot 10A LLC
Unit 4, Moloa'a Rd., Anahola, HI 96703 - TMK: 49009002004

FIGURE 4 SOILS MAP



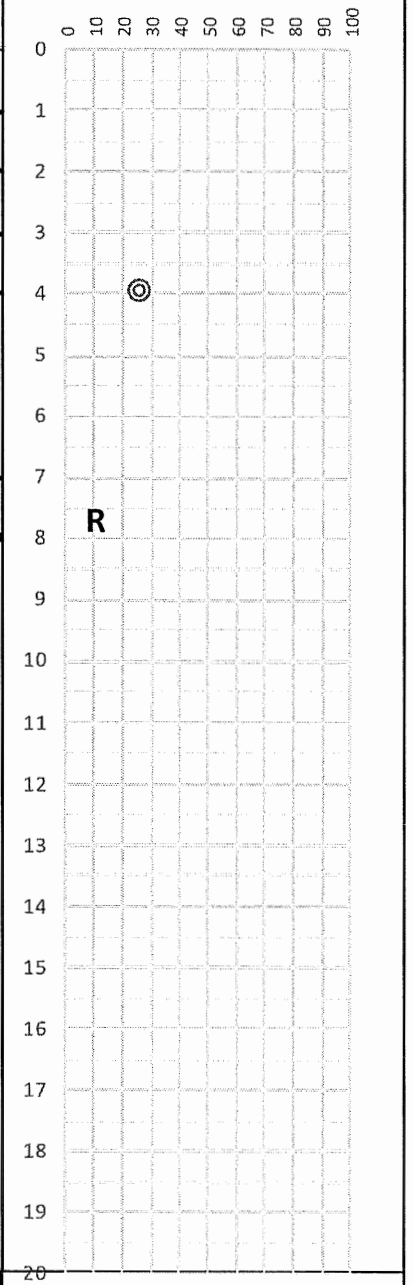
BORING LOG B-1

CLIENT: MOLOA'A LOT 10A LLC | DATE: 12-18-24

PROJECT: Soils Data Collection & Investigation | LOCATION: UNIT 4 EMB, MOLOAA, HI 96703

ELEV	DEPTH	SOIL TYPE	DESCRIPTION Level forested & boulder area	DRY DNSTY	SAMPLE
	1				
	2	CH	Red Brown Sandy Clay		X
	3				
	4	CH	Red Brown Dense Volcanic Soil		X
	5				
	6				
	7				
	8	CH	Red Brown Dense Volcanic Soil		X
	9		Practical Refusal @ 8'		
	10		Boring completed at 8'		
	11		No Groundwater		
	12				
	13				
	14				
	15				
	16				
	17				
	18				
	19				
	20				

WATER CONTENT (%) ◎



UNDISTURBED SAMPLE

DISTURBED SAMPLE X

SAMPLE ATTEMPTED

△ STANDARD PENETRATION RESISTANCE (blows)

GEOTECH KAUAI

DRILLED BY: Geotech Kauai, LLC | JOB NUMBER: 1693GT01

Figure A1

BORING LOG B-2

CLIENT: MOLOA'A LOT 10A LLC | DATE: 12-18-24

PROJECT: Soils Data Collection & Investigation | LOCATION: UNIT 4 EMB, MOLOAA, HI 96703

ELEV	DEPTH	SOIL TYPE	DESCRIPTION Level Grassy Area	DRY DNSTY	SAMPLE
	1				
	2	CH	Red Brown Sandy Clay		X
	3				
	4	CH	Red Brown Dense Volcanic Soil		X
	5				
	6				
	7				
	8	CH	Red Brown Dense Volcanic Soil		X
	9		Practical Refusal @ 8'		
	10		Boring completed at 8'		
	11		No Groundwater		
	12				
	13				
	14				
	15				
	16				
	17				
	18				
	19				
	20				

WATER CONTENT (%) ◎

0 10 20 30 40 50 60 70 80 90 10C

R ◎

GEOTECH KAUAI

UNDISTURBED SAMPLE ■

DISTURBED SAMPLE X

SAMPLE ATTEMPTED

△ STANDARD PENETRATION RESISTANCE (blows)

DRILLED BY: Geotech Kauai, LLC | JOB NUMBER: 1693GT01

Figure A2

BORING LOG B-3

CLIENT: MOLOA'A LOT 10A LLC	DATE: 12-18-24
PROJECT: Soils Data Collection & Investigation	LOCATION: UNIT 4 EMB, MOLOAA, HI 96703

ELEV	DEPTH	SOIL TYPE	DESCRIPTION Level Grassy Area	DRY DNSTY	SAMPLE	WATER CONTENT (%) ◎
	1					
	2	CH	Red Brown Sandy Clay		☒	
	3					
	4	CH	Red Brown Dense Volcanic Soil		☒	
	5					
	6					
	7					
	8	CH	Red Brown Dense Volcanic Soil		☒	
	9					
	10					
	11					
	12	CH	Red Brown Dense Volcanic Soil		☒	R ◎
	13		Practical Refusal @ 12'			
	14		Boring completed at 12'			
	15		No Groundwater			
	16					
	17					
	18					
	19					
	20					

0 10 20 30 40 50 60 70 80 90 100

UNDISTURBED SAMPLE ■
DISTURBED SAMPLE ☒
SAMPLE ATTEMPTED

◬ STANDARD PENETRATION RESISTANCE (blows)

GEOTECH KAUAI

DRILLED BY: Geotech Kauai, LLC

JOB NUMBER: 1693GT01

Figure A3

hayremcelroy & associates, llc

MOISTURE CONTENT RESULTS (D2216)

PROJECT: Campbell DATE: 12/18/2024
CLIENT: Geotech Kauai JOB NO.: 24-1608

Description/Location:	B1-4'	B2-8'	B3-12'
Sample ID:	6293	6294	6295
Wet Wt. and Tare (g):	100.32	104.13	137.48
Dry Wt. and Tare (g):	86.98	89.29	114.86
Tare (g):	38.59	38.64	38.74
Moisture Content:	**27.6%**	**29.3%**	**29.7%**

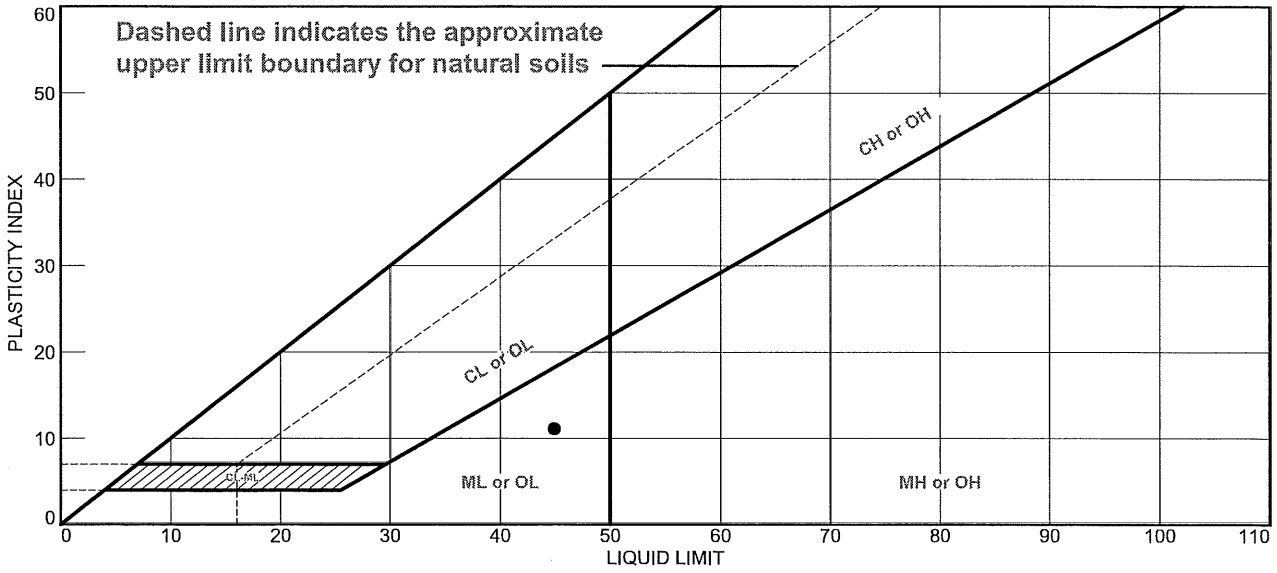
Description/Location:			
Sample ID:			
Wet Wt. and Tare (g):			
Dry Wt. and Tare (g):			
Tare (g):			
Moisture Content:	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**

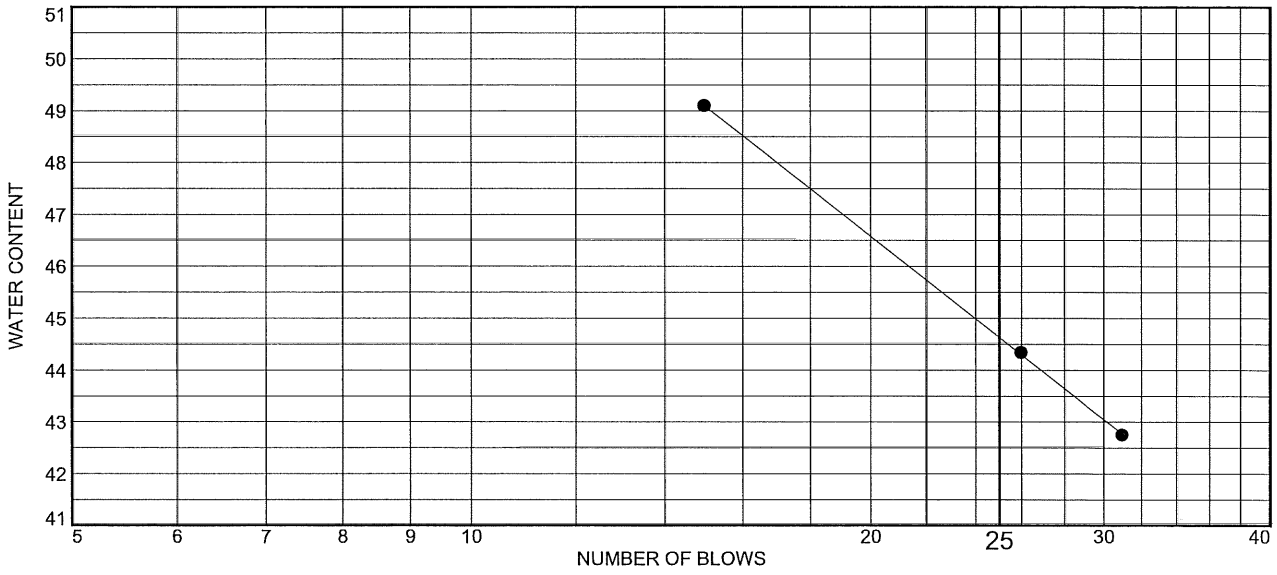
Description/Location:			
Sample ID:			
Wet Wt. and Tare (g):			
Dry Wt. and Tare (g):			
Tare (g):			
Moisture Content:	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**

Description/Location:			
Sample ID:			
Wet Wt. and Tare (g):			
Dry Wt. and Tare (g):			
Tare (g):			
Moisture Content:	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**

Remarks: None			
Performed By:	JI	Checked By:	ML

LIQUID AND PLASTIC LIMITS TEST REPORT





	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Reddish Brown Soil	45	34	11			

Project No. 24-1608 **Client:** Geotech Kauai

Project: Geotech Kauai Lab Testing (Campbell)

Location: B1-4'
Sample Number: 6293

Remarks:

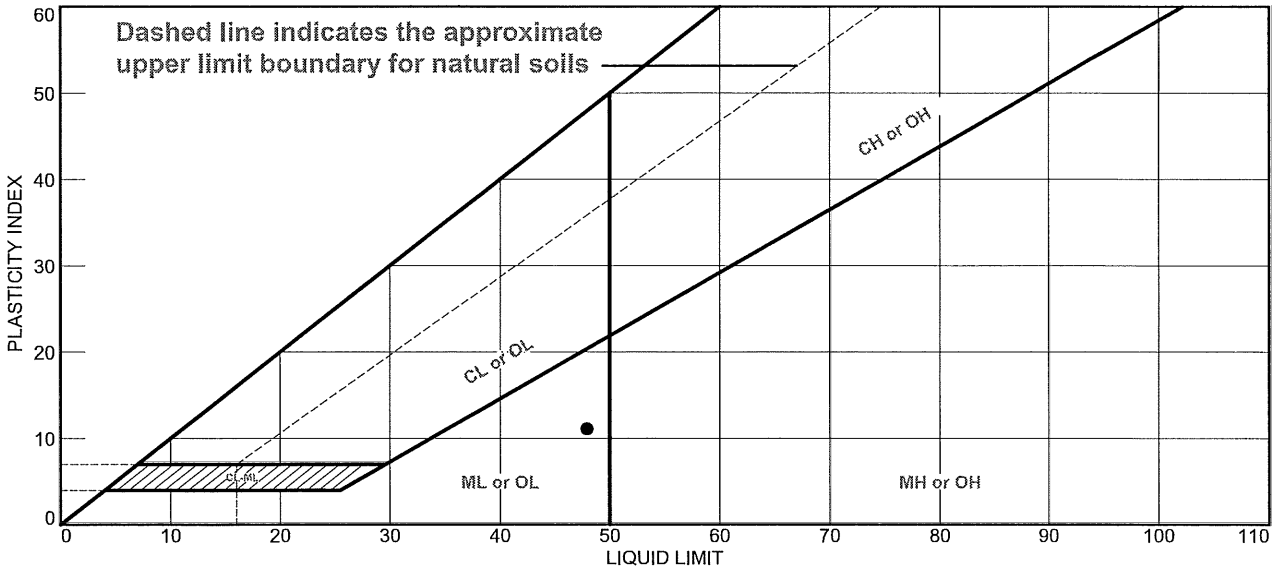
Hayre McElroy & Associates, LLC

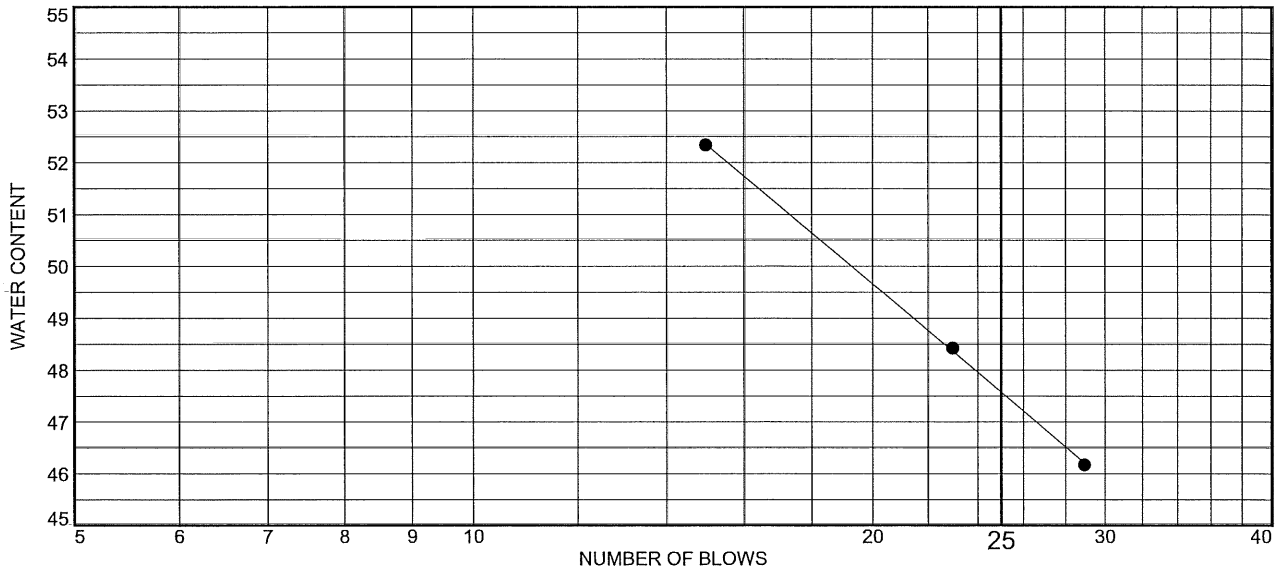
Kapolei, HI

Figure

Tested By: JI **Checked By:** ML

LIQUID AND PLASTIC LIMITS TEST REPORT





	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Reddish Brown Soil	48	37	11			

Project No. 24-1608 **Client:** Geotech Kauai

Project: Geotech Kauai Lab Testing (Campbell)

Location: B2-8'
Sample Number: 6294

Remarks:

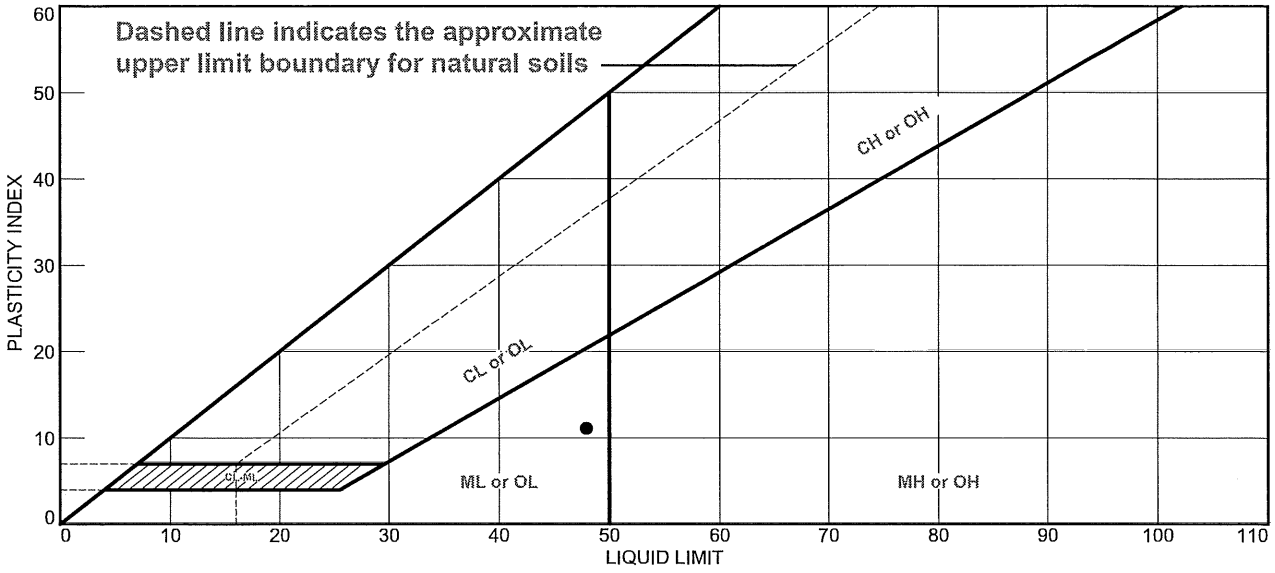
Hayre McElroy & Associates, LLC

Kapolei, HI

Figure

Tested By: JI **Checked By:** ML

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Sandy Silt	48	37	11	76.6	53.9	ML

Project No. 24-1608 **Client:** Geotech Kauai

Project: Geotech Kauai Lab Testing (Campbell)

Location: B3-12'
Sample Number: 6295

Hayre McElroy & Associates, LLC

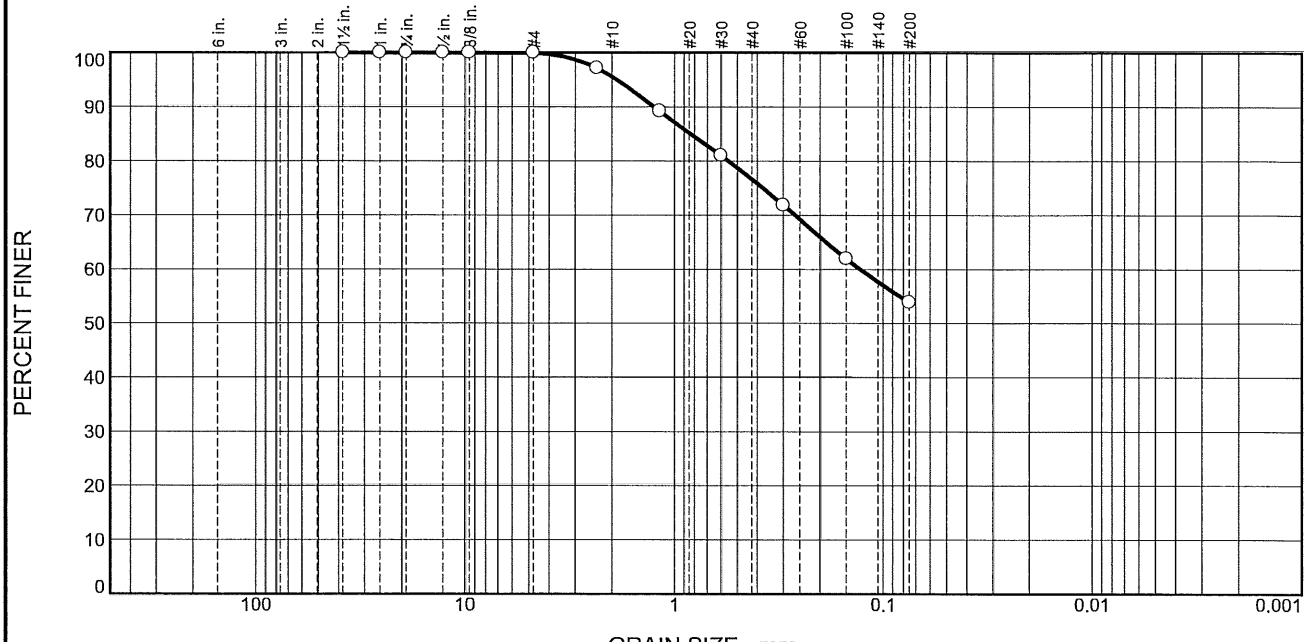
Kapolei, HI

Remarks:

Figure

Tested By: JI **Checked By:** ML

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	4.4	19.0	22.7	53.9	

Test Results (ASTM C 136 & ASTM C 117)

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
1-1/2"	100.0		
1"	100.0		
3/4"	100.0		
1/2"	100.0		
3/8"	100.0		
#4	100.0		
#8	97.1		
#16	89.2		
#30	81.0		
#50	71.9		
#100	61.9		
#200	53.9		

* (no specification provided)

Material Description

Sandy Silt

Atterberg Limits (ASTM D 4318)

PL= 37 LL= 48 PI= 11

Classification

USCS (D 2487)= ML AASHTO (M 145)= A-7-5(5)

Coefficients

D_{90}= 1.2571 D_{85}= 0.8357 D_{60}= 0.1290
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Remarks

Date Received: 1/24/2025 **Date Tested:** 1/28/2025

Tested By: JI

Checked By: ML

Title: Manager

Location: B3-12'
Sample Number: 6295

Date Sampled: 12/18/2024

Hayre McElroy & Associates, LLC

Kapolei, HI

Client: Geotech Kauai
Project: Geotech Kauai Lab Testing (Campbell)

Project No: 24-1608 **Figure**

MAJOR ROCK TYPES

BASALT

TUFF

DECOMPOSED ROCK

CORAL

SOIL CLASSIFICATION CHART

MAJOR DIVISION			GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTION
COARSE GRAINED SOILS — MORE THAN 50% OF SOIL MATERIAL IS LARGER THAN NUM. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS — MORE THAN 50% RETAINED ON NUMBER 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY SOILS — MORE THAN 50% OF COARSE FRACTION PASSING #4 SIEVE	CLEAN SAND (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND-SILT MIXTURES
				SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS — MORE THAN 50% OF MATERIAL IS SMALLER THAN NUM. 200 SIEVE SIZE	SILTS AND CLAYS — LIQUID LIMIT LESS THAN 50			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS — LIQUID LIMIT GREATER THAN 50			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

FOR LABORATORY CLASSIFICATION OF FINE-GRAINED SOILS

NOTES:

1 DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE CLASSIFICATIONS
2. WHEN SHOWN ON THE BORING LOGS, THE FOLLOWING TERM ARE USED TO DESCRIBE THE THE CONSISTENCY OF OF COHESIVE SOILS AND THE RELATIVE COMPACTNESS OF COHESIONLESS SOILS.

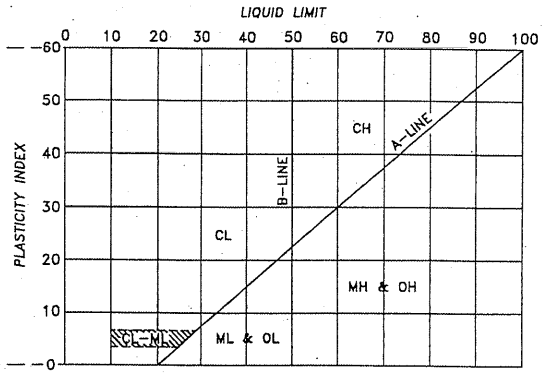
COHESIVE SOILS	(APPROXIMATE SHEARING STRENGTH IN KSF)	COHESIONLESS SOILS	
VERY SOFT	LESS THAN .25	VERY LOOSE	THESE ARE USUALLY
SOFT	0.25 TO 0.5	LOOSE	BASED ON EXAMINATION
MEDIUM SOFT	0.5 TO 1.0	MEDIUM DENSE	OF SOIL SAMPLES,
STIFF	1.0 TO 2.0	DENSE	PENETRATION RESISTANCE,
VERY STIFF	2.0 TO 4.0	VERY DENSE	AND SOIL DENSITY DATA.
HARD	GREATER THAN 4.0		

GRADATION CHART

MATERIAL SIZE		PARTICLE SIZE			
		LOWER LIMIT		UPPER LIMIT	
		MILLIMETER	SIEVE SIZE	MILLIMETER	SIEVE SIZE
SAND	FINE	.074	#200 ●	0.42	#40 ●
	MEDIUM	0.42	#40 ●	2.00	#10 ●
	COARSE	2.00	#10 ●	4.76	#4 ●
GRAVEL	FINE	4.76	#4 ●	19.1	3/4" ▪
	COARSE	19.1	3/4" ▪	76.2	3" ▪
COBBLES		76.2	3" ▪	304.8	12" ▪
BOULDERS		304.8	12" ▪	914.4	36"

● U.S. STANDARD ▪ CLEAR, SQUARE OPENINGS

PLASTICITY CHART



SAMPLES

■ INDICATES UNDISTURBED SAMPLE
⊠ INDICATES DISTURBED SAMPLE
□ INDICATES SAMPLING ATTEMPT WITH NO RECOVERY
I INDICATES LENGTH OF CORING RUN

NOTE:
DEFINITIONS OF ANY ADDITIONAL DATA REGARDING SAMPLES ARE ENTERED ON FIRST LOG ON WHICH THE DATA APPEAR.

ROCK QUALITY DESIGNATION (RQD) -- Is the sum of akk core pieces equal to or longer than 4 inches divide by the total length of core run. The result is multiplied 100 to express RQD in percent. RQD is only for NX size core samples. Fresh irregular breaks are ignored and counted as intact lengths.

UNIFIED SOIL CLASSIFICATION SYSTEI

EXHIBIT "L"

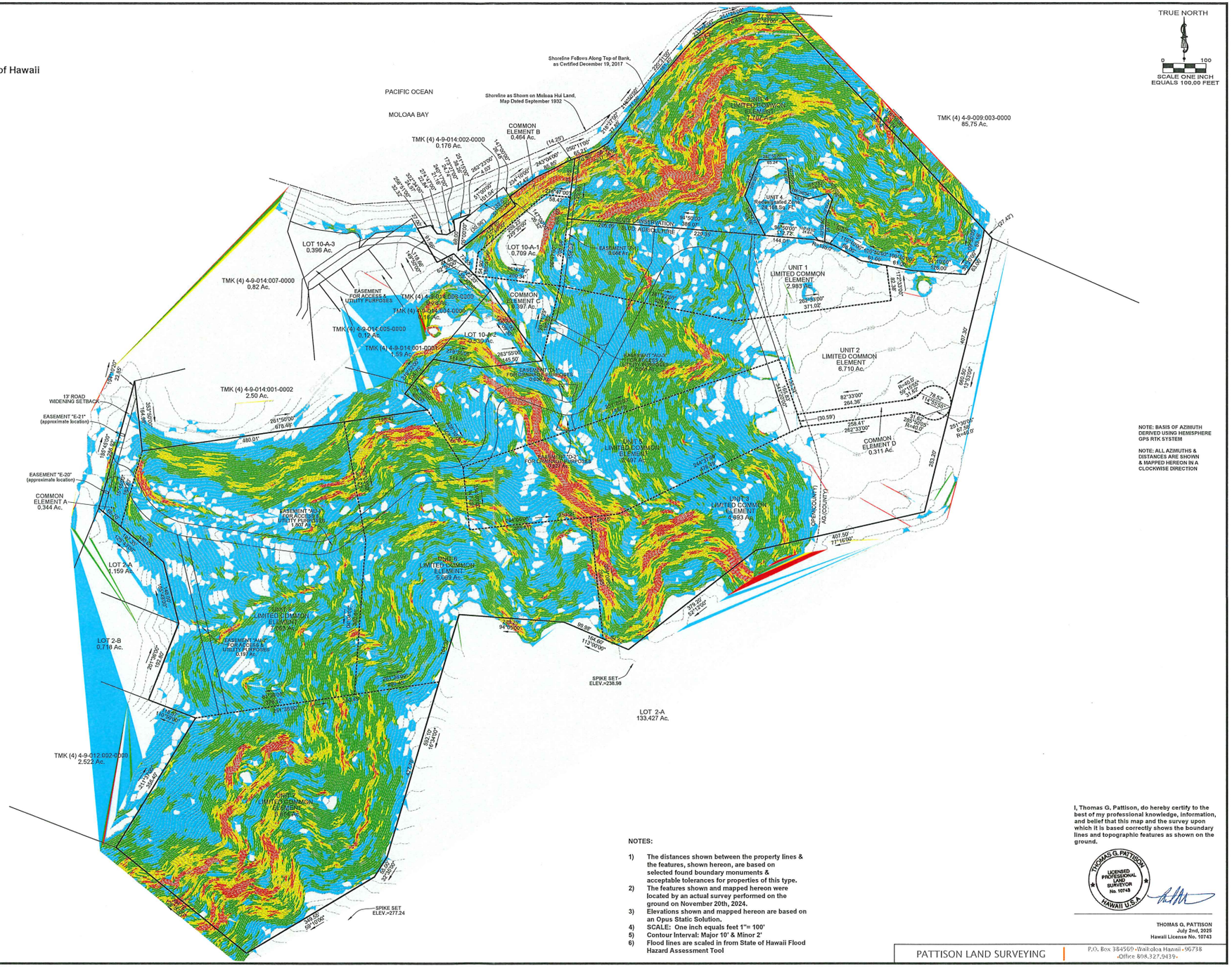
SLOPE ANALYSIS AND TOPOGRAPHIC MAP SHOWING EXISTING CONDITIONS UPON

THE ESTATES AT MOLOA'A BAY

Moloaa, Kawaihau, Kauai, County of Kauai, State of Hawaii

TMK (4) 4-9-009:002-0000

EXHIBIT "L"



Percent Slope

- < 20
- 20 to 40
- 40 to 60
- 60 to 80
- > 80

FLOOD NOTE
According to the F.I.R.M. # 155166 0079 F, dated 09-29-2017 this property does lie in "Zone X", "Zone VE".

NOTE: BASIS OF AZIMUTH DERIVED USING HEMISPHERE GPS RTK SYSTEM

NOTE: ALL AZIMUTHS & DISTANCES ARE SHOWN & MAPPED HEREON IN A CLOCKWISE DIRECTION

NOTES:

1) The distances shown between the property lines & the features, shown hereon, are based on selected found boundary monuments & acceptable tolerances for properties of this type.
2) The features shown and mapped hereon were located by an actual survey performed on the ground on November 20th, 2024.
3) Elevations shown and mapped hereon are based on an Opus Static Solution.
4) SCALE: One inch equals feet 1"= 100'
5) Contour Interval: Major 10' & Minor 2'
6) Flood lines are scaled in from State of Hawaii Flood Hazard Assessment Tool

I, Thomas G. Pattison, do hereby certify to the best of my professional knowledge, information, and belief that this map and the survey upon which it is based correctly shows the boundary lines and topographic features as shown on the ground.

THOMAS G. PATTISON
LICENSED PROFESSIONAL LAND SURVEYOR
No. 10743
HAWAII U.S.A.

THOMAS G. PATTISON
July 2nd, 2025
Hawaii License No. 10743

Setback Lines are shown from current data, but should be verified by builder. The description on this plat was provided to us by the client, and does not guarantee ownership, and should be compared to your Deed, Abstract or Certificate of Title. All building restrictions, building lines and easements may or may not be shown, check your Deed, Abstract, Title Report, and local ordinances, no responsibility is assumed by Surveyor. Compare all points before building by same and report any discrepancy at once. Dimensions are shown in feet and decimal parts thereof, no dimension is to be assumed by scaling.

PATTISON LAND SURVEYING
P.O. Box 384569 • Waikoloa Hawaii • 96738
Office 808.327.9439