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MEETING NOTES

Department of Hawaiian Home Lands
Hawai'i Island Plan Update
Beneficiary Consultation, Round 2
Kohala & Hāmākua – Kūhiō Hale DHHL West Hawai'i Office

MEETING DATE: April 10, 2025 6:00 pm - 8:00 pm

PRESENT:

Project Team:

- 1. Lillie Makaila, DHHL
- 2. Julie-Ann Cachola, DHHL
- 3. Kialoa Mossman, DHHL
- 4. Nathalie Razo, PBR HAWAII
- 5. Makena Bassett, PBR HAWAII

Beneficiaries / Community Members:

TOTAL ATTENDEES:	38
Total Beneficiaries:	24
Applicants:	3
Lessee:	16
Both:	5
Other:	5
No response:	9

ATTACHMENTS: A) PowerPoint Presentation, B) Proposed Land Use Designation Round 2 Maps, C) Fact Sheets, D) Comment Cards

1. Meeting Overview and Highlights

This meeting was the second of three rounds of meetings to discuss and receive feedback from DHHL beneficiaries on updated land designations for the Hawai'i Island Plan Update. The purpose of this meeting was to educate the beneficiaries on the current Hawai'i Island Plan and receive input on the proposed Land Use Designations for the Hawai'i Island Plan Update, which incorporated edits suggested by beneficiaries from Round One.

The Proposed Land Use Designation Maps for Round 2 (Attachment B) and Fact Sheets (Attachment C) for each tract were posted along the windows of Kūhiō Hall. As the meeting attendees arrived, they were asked to sign in and were given comment cards (Attachment D) for attendee review and use during the rest of the meeting. The comment cards listed each tract of DHHL land and included space for beneficiaries to leave their input about the proposed land use designations. During sign-in, attendees were encouraged to visit the maps posted along the windows prior to the start of the formal

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presentation. Sticky notes and markers were also provided for beneficiaries to leave comments on each map. The meeting opened with a pule by a community member.

Lillie Makaila of DHHL led the presentation (Attachment A) and the meeting. She began the presentation with a review of the meeting agenda, as well as the overview and approach for the Hawai'i Island Plan Update. She gave background information on the original Hawai'i Island Plan (2002) and the purpose/process of the Plan Update, and introduced the timeline of the project. She supplemented the explanation of the timeline with a brief description of the data, research, and analysis that PBR HAWAII conducted to create the maps for this Island Plan Update. She also explained the difference between an Island Plan (which is land focused) and a Regional Plan (which is people focused). Lillie followed this with an emphasis on the importance of incorporation of beneficiary knowledge in the Plan Update and land use designation maps and gave a brief explanation of the updated Land Use Designations from the 2022 Department of Hawaiian Home Lands General Plan Update. The presentation included a brief description of each Land Use Designation, categorized by homesteading and non-homesteading uses. Lillie emphasized that a major role of the Plan Update is to redesignate lands previously identified as General Agriculture which was removed as a category in the 2022 Department of Hawaiian Home Lands General Plan Update. It was replaced by the Stewardship designation to signify the lands could be used for homestead in the future, but something is keeping them from being used as a homestead designation right now.

Lillie also discussed the process by which the DHHL Hawai'i Island Plan Update project team incorporated beneficiary comments from Round 1 into the Round 2 maps, and emphasized the importance of beneficiary feedback in creating a plan that meets the needs of beneficiaries of the present and future. She asked the beneficiaries to share any and all feedback that they have for the proposed land use designations identified in these maps for the Round 2 Beneficiary Consultation so that comments and feedback can be incorporated into the draft plan and land use designations that will be presented during the Round 3 Beneficiary Consultation. It was also mentioned that the map making process includes an ongoing effort to aggregate paper record data and GIS updates, so some data represented on the maps may be incomplete, and discrepancies may be present on the maps at present. Lillie asked the beneficiaries to notify the team if they identified one. Lillie emphasized that beneficiaries have an intimate and expert knowledge on the land, and that their comments can assist the project team in creating an Island Plan and maps that are accurate and best fit the needs of beneficiaries. Lillie shared methods for submitting comments including physical mail, email, phone call, and online comment form in addition to the comment card at the meeting.

Following this, she went over each DHHL tract in Kohala, Hāmākua, and the 'Āina Mauna Legacy Lands. The presentation outlined the land use designations identified in the 2002 Hawai'i Island Plan¹, the Round 1 Proposed Land Use Designation Maps, and compared them to the proposed

¹ Note: The 2002 Hawai'i Island Plan is the main source for identified land use designations; however, some tracts are more recent acquisitions or were subject to planning efforts more recently than 2002, such as the 2009 West Hawai'i Island Plan Update which accounted for the acquisition of lands in Kona, which increased DHHL's inventory of land in Hawai'i by 605 acres or the Āina Mauna Legacy Program. In such instances the most recent reference was utilized.

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Land Use Designation Maps produced for Round 2. Lillie explained the reason for the proposed land use designations, and whether they were changed from Round 1 or remained the same. Lillie also explained that the DHHL Kuleana land use designation is only proposed in areas where it was expressed by beneficiaries as an interest for their community. It was also shared that the Hawaiian Homes Commission Act mandates a space for beneficiaries to practice agriculture, which the community agriculture designation fulfills. During the presentation, Lillie spent extra time going over the changes and corrections made to the Round 2 maps based off the feedback received during Round 1 (see below for a summary of these explanations).

• Kawaihae:

- o Round 1 striped area for industrial/renewable energy is designated as industrial to reflect beneficiary concern and feedback regarding renewable energy.
- Missing residential areas along Kawaihae Road were corrected and added to the map.
- o Special District was designated around the coast to reflect the complicated environment/geography of the area.
- Striped subsistence agriculture/supplemental agriculture designations was switched to only subsistence agriculture designation to accommodate a higher number of residences and leases.
- o Conservation areas were removed from an existing pastoral lease but added to encompass critical habitat surrounding a non-perennial stream.

• 'Upolu Point:

o Community use replaced the special district designation from Round 1 to reflect high support from beneficiaries.

• Keoniki:

o Entire tract designated as pastoral to reflect beneficiary input.

• Lālāmilo:

- o Increase in residential designation to reflect beneficiary input.
- o Industrial designation has been adjusted to accurately reflect current DHHL land holdings.

• Pu'ukapu:

o 201-acre parcel at the bottom of the tract was changed to special district to reflect the presence of a pu'u on the land.

• Kamoku-Kapulena:

o Addition of 20-acres of conservation designation to align with the adjacent Hāmākua forest Reserve.

• Honoka'a:

- o Residential designated in west area of the tract to reflect beneficiary input.
- o Subsistence agriculture designated in the east above the special district area to reflect beneficiary input.
- 'Āina Mauna Legacy Lands—Humu'ula and Upper Pi'ihonua:
 - o Special District area designation was added to reflect the gorse located in the area.
 - o The remaining designations reflect the 'Āina Mauna Legacy Program Plan.

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Lillie went through each tract in Kohala and Hāmākua before opening the floor for questions and comments. Beneficiaries could participate by raising their hands to provide oral comments and/or walk around the room to review the maps and leave comments on their comment cards, sticky notes, or discuss their input with the project team. Oral comments brought up during the question-and-answer period were recorded by PBR HAWAII and are summarized below. A more detailed account of beneficiary oral comments can be found in Section 5.

The meeting ran late and was closed at 8:30 pm, which allowed only a portion of the planned Q&A time and may have left some beneficiary questions and comments unshared. This led to the team asking beneficiaries to share any additional or unshared feedback via comment card, email, online comment form, or paper mail during the forthcoming comment period, which they would each be emailed by DHHL about with more information and instruction. Team members also remained at the venue after the meeting to listen to any pressing feedback or questions.

The following key topics were identified in oral comments:

- Concerns about hazards on and surrounding DHHL lands, including UXOs and a dump.
- Potential map discrepancies about existing leases.
- Concerns about water access and rights.
- Concerns about private entities using DHHL land and resources.
- Desire for an increase in residential opportunities and trading conservation land for lands more suitable for residential uses.

2. Comment Card Comments

a. We received 9 comment cards at the meeting from beneficiaries with comments regarding the proposed Land Use Designations.

3. Fact Sheet Comments

a. We received 0 comments on the Fact Sheets.

4. Large Map Sticky Note Comments

a. We received 55 Large Map comments and questions about land characteristics, map discrepancies, Land Use Designation suggestions, and expressed priority for projects.

5. Beneficiary Question and Answer Input

a. **Q&A**:

- 1. A question arose about the Right of Entry (ROE) location for Kahua Ranch, which DHHL staff pointed out on the map.
- 2. There was also a question about potential hydroelectric renewable energy projects since there had been previous discussions about a potential hydroelectric renewable project in the area. The DHHL team will follow up with their internal team to discuss if there are any planned hydroelectric projects in the area.

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3 Participants

- 3. Participants noted potential missing residences near the harbor in Kawaihae, and questions as to why reinterment and water sources are not represented in the maps. Lillie answered that the Island Plan project team will investigate the missing residences but that out of concern for privacy, ground water wells and burial sites will not be specifically shown on the maps.
- 4. There was a note and question regarding five lots in Kawaihae makai that are not developed and whether they have been awarded. DHHL responded that they will investigate it.
- 5. Participants identified potential discrepancies around vacant lots in Keoniki, the boundary between DHHL tracts and Kohala Ranch, and 11 acres that appears to be missing in Lālāmilo. The Island Plan project team will follow up on these items.
- 6. Participants asked about the dump in Lālāmilo, noting that there had been plans to move the dump, and asked why infrastructure was installed and then allowed to sit without homesteading. DHHL will check on the status of the dump in Lālāmilo. A subsequent question was whether the unexploded ordnances (UXO) have been cleared and if the area will be used for residential or agricultural awards too. DHHL claimed that UXOs have been removed and the area is clear, and will be available for awards; however, the use depends on the designation, which the community can help determine with the Island Plan Update.
- 7. It is claimed that Parker Ranch is illegally accessing DHHL land to mill Sugi Pine trees on pastorally designated lands in that area. The project team is going to check with DHHL Land Management Division (LMD).
- 8. Some beneficiaries believe that the striped land in Nienie and Kamoku-Kapulena; along with the conservation designated lands in Waimanu, should be exchanged with DLNR for land that can more easily be utilized for residential uses. Beneficiaries also noted that the trees in Nienie, and surrounding tracts, are vital to aquifer recharge so should be designated as conservation, and the remainder of the tracts should be designated pastoral.
- 9. There was another request to review how much of the DHHL lands are in the State forest reserve and to determine if there could be a land exchange with DLNR.
- 10. There are infrastructure issues in Honokāia and many beneficiaries are not able to access water or electricity while there are non-beneficiaries that are receiving utilities (infrastructure/electric/water) that run through DHHL lands. Lillie noted that she believes there was a prior agreement made with the non-beneficiaries for utilities to run through the DHHL lands. The main concern is when infrastructure will be provided to Honokāia lessees.
- 11. It was also noted that there is a standpipe in Honokāia by Old Mamalahoa Highway; Beneficiaries need water now and they shouldn't have to wait for million-gallon reservoir. There was also a request for the "need for water" topic to be encapsulated

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in the Island Plan Update, and for DHHL to prioritize working closely with the county Department of Water (DOW) to get water.

- 12. Participants also asked about the prioritization of lots and what will be done to assure beneficiaries that what is identified in the Island Plan will be done, particularly related to access to infrastructure. There was a request for DHHL to better communicate priorities with beneficiaries.
- 13. There was a comment that there are flooding issues that cause traffic issues in Honoka'a.
- 14. There was a clarification question about the community use in the Pu'ukapu tract, the project team noted that Kanu o ka 'Āina is on DHHL lands and that is why that designation was selected.

This is our understanding of the topics discussed, and the conclusions reached. Please give PBR HAWAII written notification of any errors or omissions within seven calendar days. Otherwise, this report will be deemed an accurate record and directive.

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DEPARTMENT OF HAWAIIAN HOME LANDS
HAWAI'I ISLAND PLAN UPDATE
BENEFICIARY MEETING, ROUND 2
KOHALA & HĀMĀKUA – KŪHIŌ HALE DHHL WEST HAWAI'I OFFICE
APRIL 10, 2025
ATTACHMENTS TO SUMMARY

ATTACHMENT A: PowerPoint Presentation



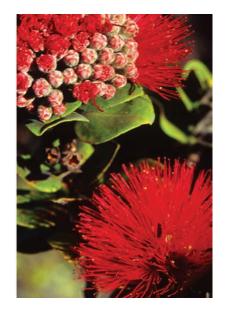
Agenda

- Welina, pule, introductions
- Presentation:
 - Project Overview & Timeline
 - Background information
 - Land Inventory & Maps
- Q&A, Discussion, & Comments
- Closing & next steps

HAWAI'I ISLAND PLAN UPDATE

DEPARTMENT OF HAWAIIAN HOME LANDS

Overview and Approach



Plan Purpose

To assess and recommend future uses for DHHL lands on Hawai'i Island







YEAR TIMEFAME

IDENTIFY LAND USES

DETERMINE PRIORITIES

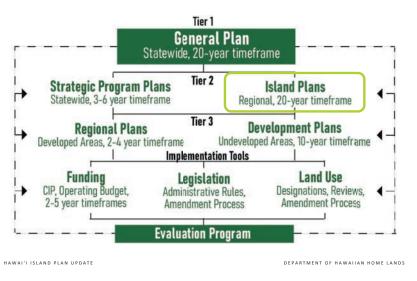
COORDINATION

HAWAI'I ISLAND PLAN UPDATE

DEPARTMENT OF HAWAIIAN HOME LANDS

HAWAI'I ISLAND PLAN UPDATE

DEPARTMENT OF HAWAIIAN HOME LANDS





About the Hawai'i Island Plan (HIP) Update



Last HIP occurred in 2002

- Provided an evaluation and land use plan of DHHL lands to meet beneficiary needs based on various criteria
- 10 Designations included the intent/purpose, minimum lot sizes, and minimum infrastructure required for each land use designation
- Criteria: Slope, Soil, Water/Rainfall, Proximity to Infrastructure, Parcel Size, Proximity to Town Centers, Carrying Capacity



• 2022 DHHL General Plan Update

- Identifies new policies, land use designations, approach to land use designations, and associated criteria
- Designations for island plans updated to include 13 designations
 - New designations: DHHL Kuleana, Stewardship, Community Agriculture, Renewable Energy
- Added Criteria: + Climate Change and Hazards, Critical Habitats, Archaeological Sites, Flood risk, State and County Land Use Designations

HAWAI'I ISLAND PLAN UPDATE DEPARTMENT OF HAWAIIAN HOME LANDS

Project Schedule* 2024 2025 2026 EXISTING INFO / IDENTIFY CRITERIA **AUGUST** MARCH 2023 **REFINE LAND USE** DESIGNATIONS JULY SEPTEMBER **FEBRUARY** JULY BENEFICIARY ENGAGEMENT Mtg 3 SEPTEMBER AUGUST Mtg 1 Mtg 2 FINAL ANALYSIS & PLAN RECOMMENDATIONS We are here! MAY JANUARY *Subject to change HAWAI'I ISLAND PLAN UPDATE DEPARTMENT OF HAWAIIAN HOME LANDS

About the Process

Learn about current conditions

- Develop full inventory of known DHHL lands on Hawai'i Island and current land use designations (including acquisitions and Development Plans since 2002)
- Consider environmental aspects and DHHL land use designation criteria

Build an understanding of the desired end goal AND identify land use designations

- Iterative process: Run analysis based on criteria discuss – refine options/priorities – discuss
- Incorporating beneficiary knowledge to review and refine preliminary land use analysis and designations

Final product is a guide for future development

Consider uses, placement, and how uses may work together overall





HAWAI'I ISLAND PLAN UPDATE

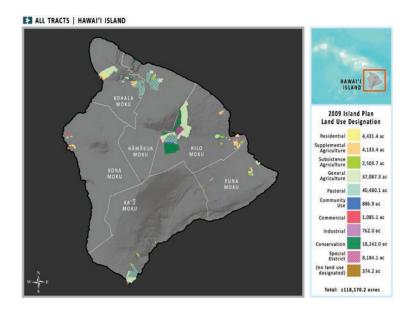
Incorporating Beneficiary Knowledge

- Three rounds of touchpoints with Beneficiaries four meetings each round by area (Hilo+Puna, Ka'ū, Kona, and Kohala+Hāmākua)
 - 1. Feedback on draft recommended land uses
 - 2. Feedback on refined land uses
 - 3. Feedback on final land use recommendations and plan
- Each round to be followed by a 30-day comment period with materials posted online
- Compilation of community comments and resulting changes to recommendations and plan will follow each comment period

HAWAI'I ISLAND PLAN UPDATE

DEPARTMENT OF HAWAIIAN HOME LANDS





2022 General Plan Update Land Use Designations

Homestead Uses	Description
Residential	Residential lot subdivisions built to County standards in areas close to existing infrastructure. Subdistricts may be established for multi-generational and single family housing types.
Subsistence Agriculture	Small lot agriculture in areas close to existing infrastructure. Lifestyle areas intended to allow for home consumption of agricultural products.
Supplemental Agriculture	Large lot agriculture intended to provide opportunities for agricultural production for supplemental income and home use. Agricultural plan required.
Pastoral	Large lot agriculture specifically for pastoral uses. Ranch plan and fencing required.
DHHL Kuleana	Raw (without infrastructure) lots intended for "off-grid" subsistence lifestyles to allow for more choices as to how lessees wish to develop their lots. Must participate in maintenance of the right-of-way to the Kuleana Homestead tract.

Non-Homestead Uses	Description
Community Use	Common areas for community uses and public facilities. Includes space for parks and recreation, cultural activities, community based economic development, utilities, and other public facilities and amenities.
Community Agriculture	Common areas used for the cultivation of fruits, vegetables, plants, flowers, or herbs by multiple users. The land must be served by a water supply sufficient to support the cultivation practices used on the site.
Commercial	Lands suitable for a concentration of commercial activities.
Industrial	Lands suitable for processing, construction, manufacturing, transportation, wholesale, warehousing, and other industrial activities.
Renewable Energy	Lands suitable for siting projects for the generation and transmission of renewable energy.
Stewardship	Land not currently used for homesteading. Allow uses that maintain or enhance the value and condition of the land to the benefit of beneficiaries and the Trust. May serve as an interim use until opportunities for higher and better uses become available.
Conservation	Environmentally sensitive areas. Lands with watersheds, endangered species, critical habitats, sensitive historic and cultural sites, other environmental factors. Very limited uses.
Special District	Areas requiring special attention because of unusual opportunities and/or constraints. Subdistricts include: hazard areas, open spaces/greenways, cultural resources.

Your Feedback

Your input will help refine proposed land uses

HAWAI'I ISLAND PLAN UPDATE

DEPARTMENT OF HAWAIIAN HOME LANDS

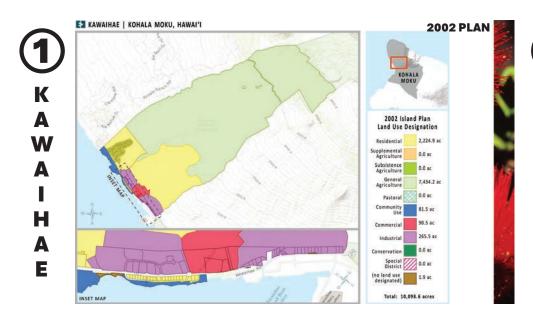


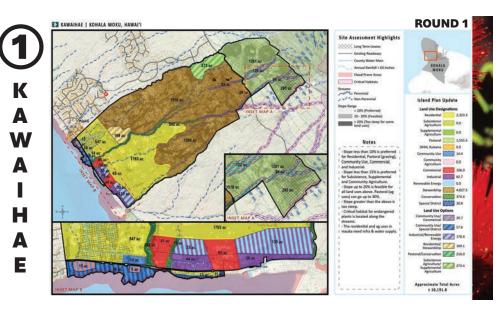
Concept Maps for your Consideration

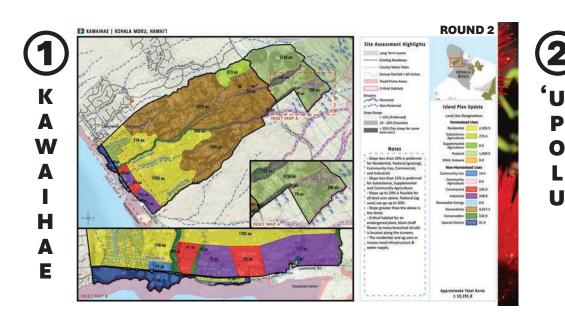
- First map is from the 2002 Hawai'i Island Plan
- Second map identifies the Round 1 Beneficiary
 Consultation proposed land use designations
 which generally add more residential
 opportunities
- Third map identifies modifications to proposed land use designations based on input and feedback to date

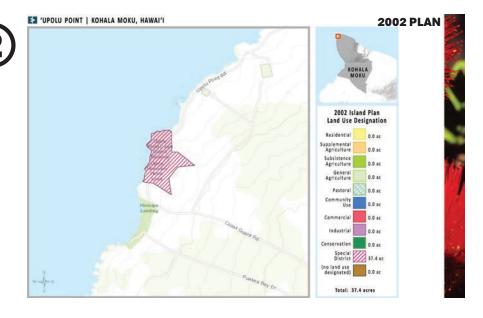
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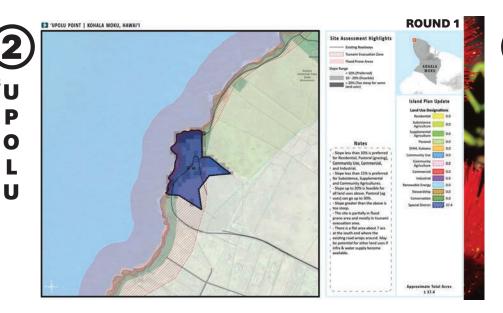
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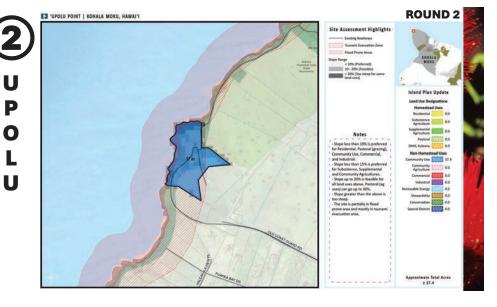


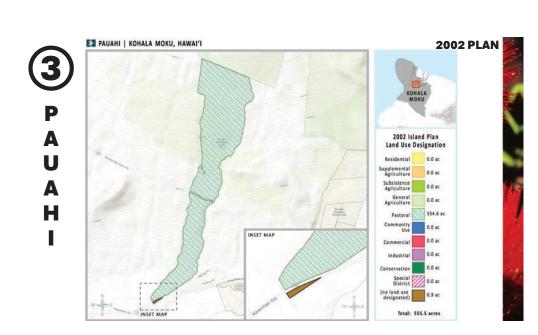


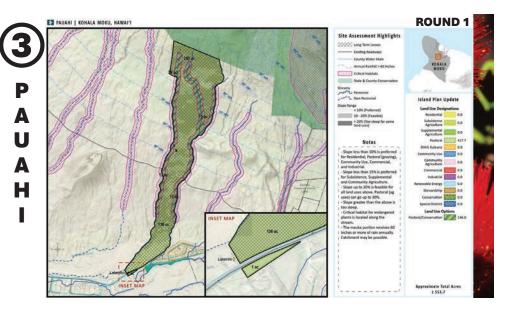


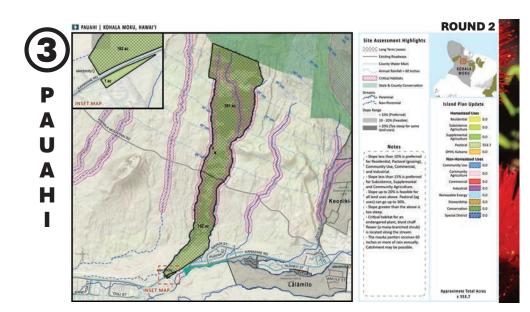




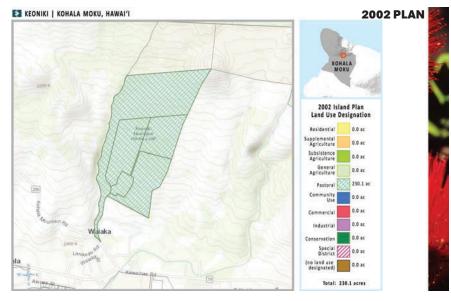


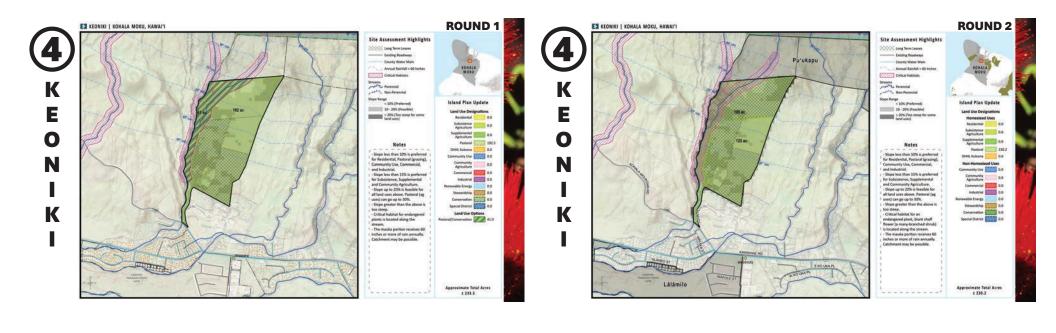


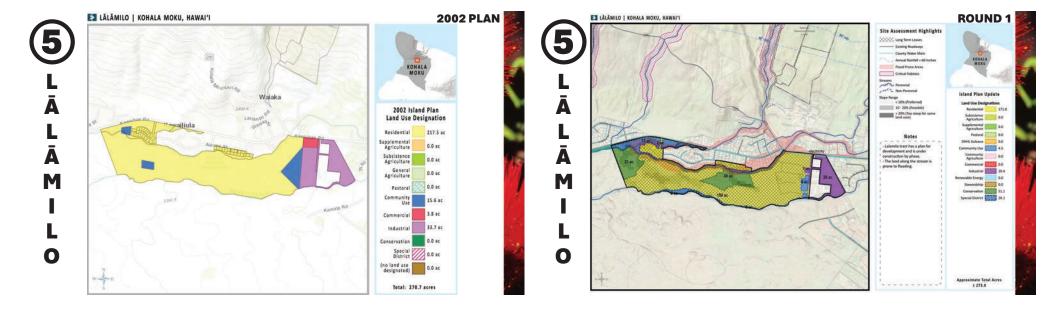


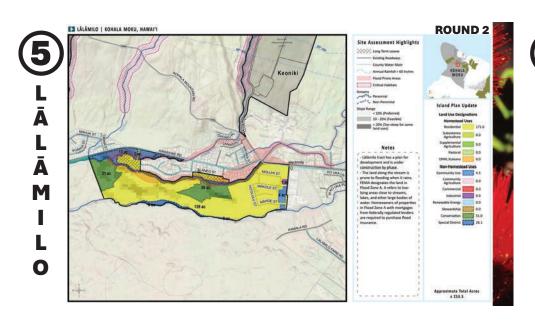


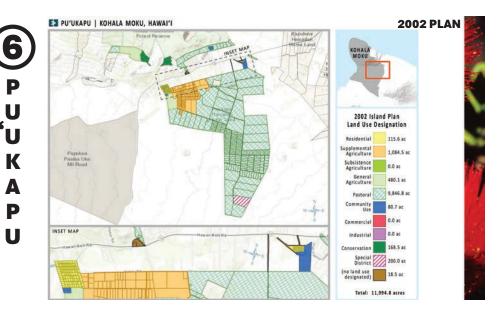


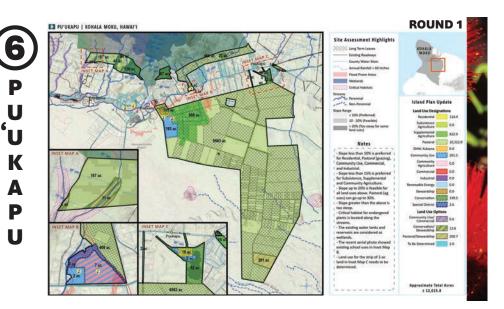


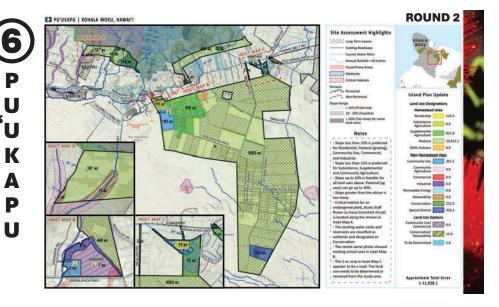


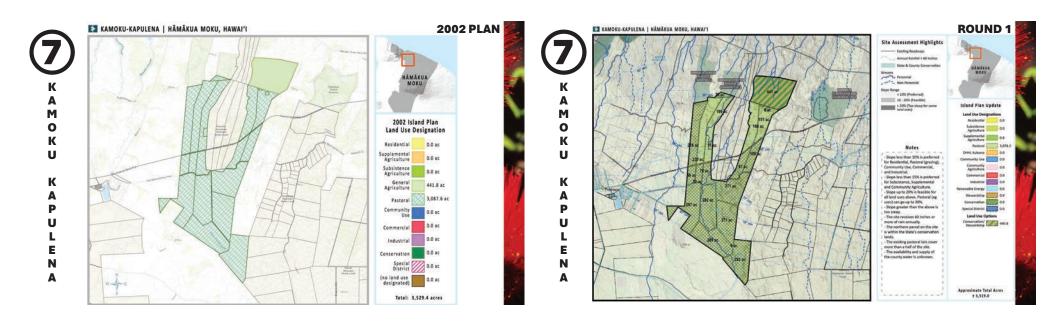


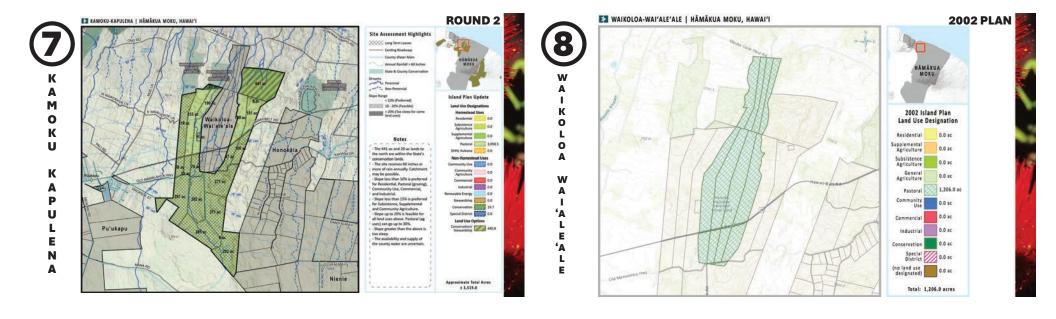


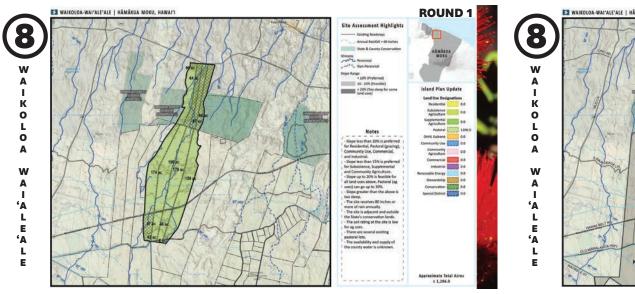


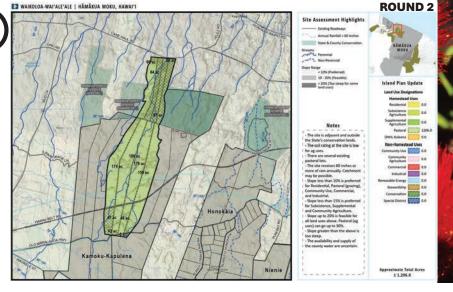


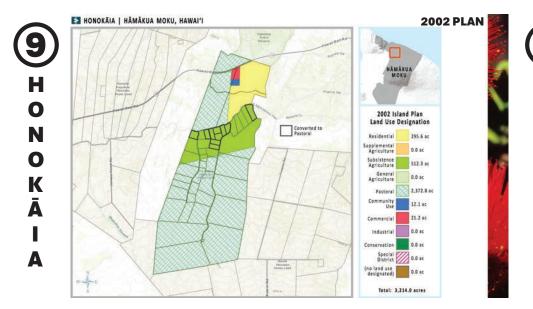


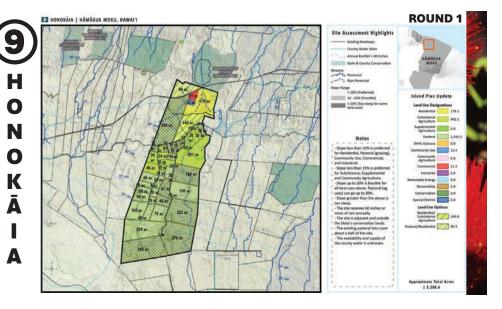


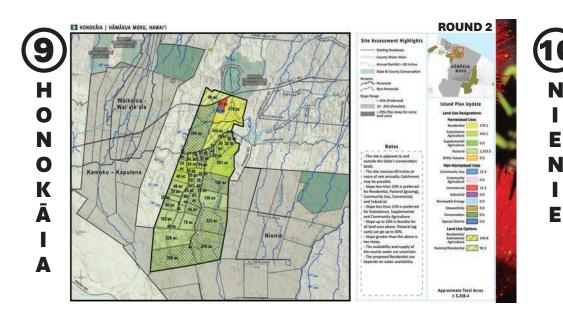


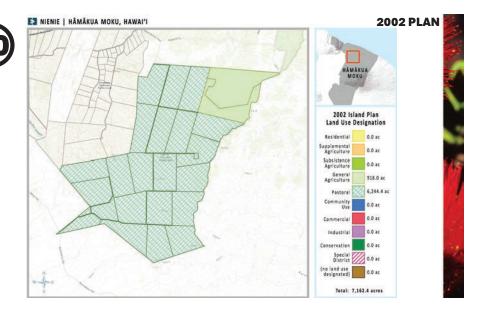


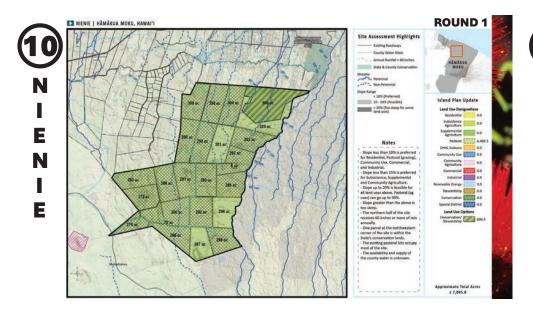


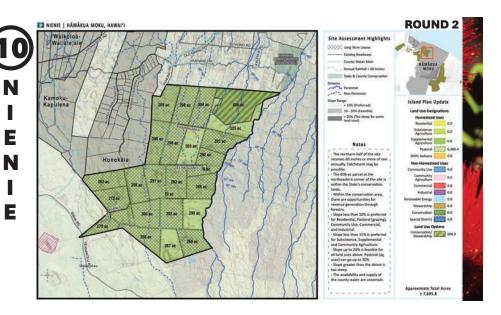




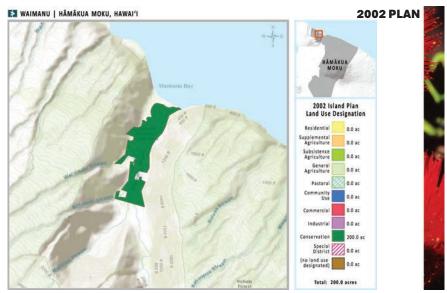


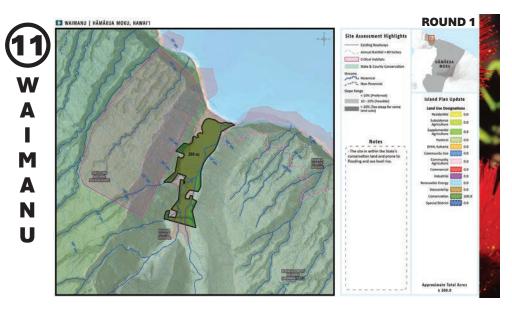


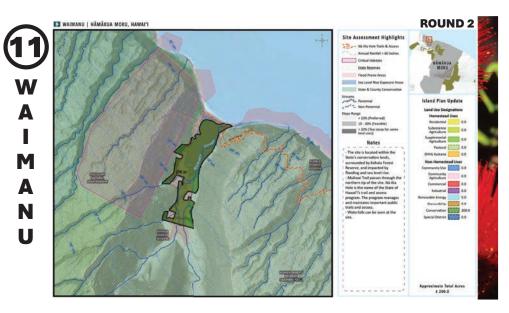






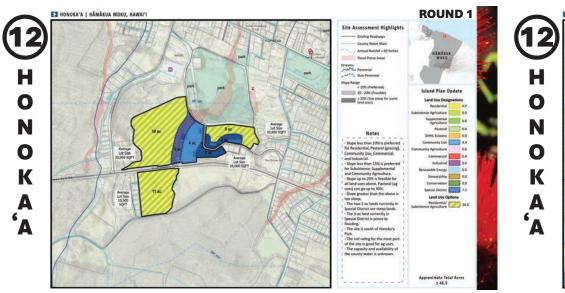


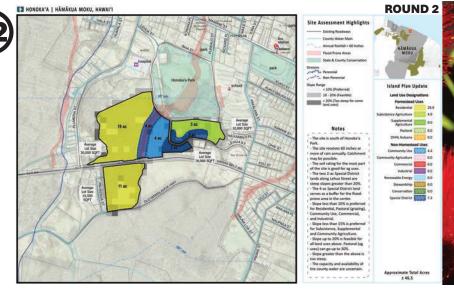


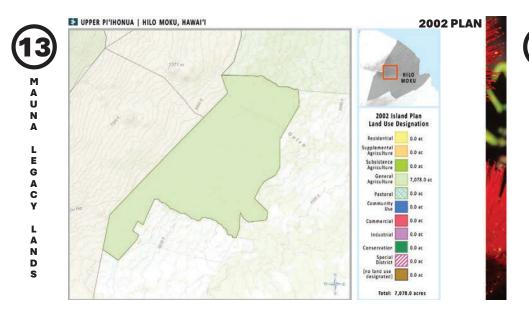


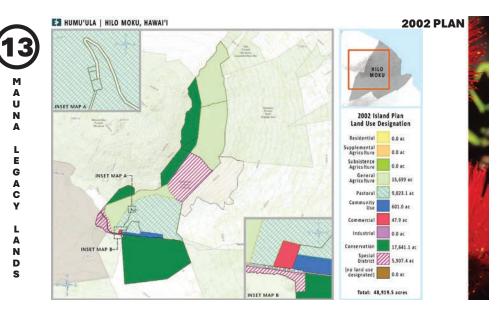
- 12 H O N O K A 'A
- New land acquisition
- Purchased with Act 279 funding
- Proposed residential use of lands
- 296 single family homes

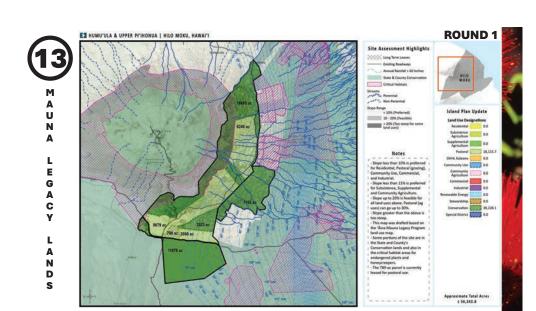


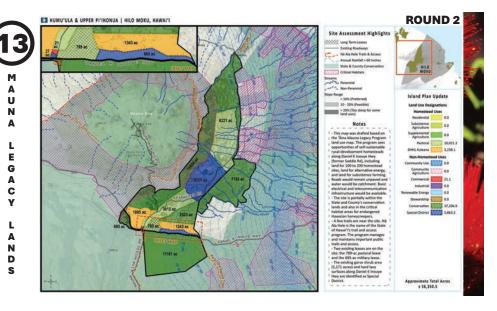












Next Steps







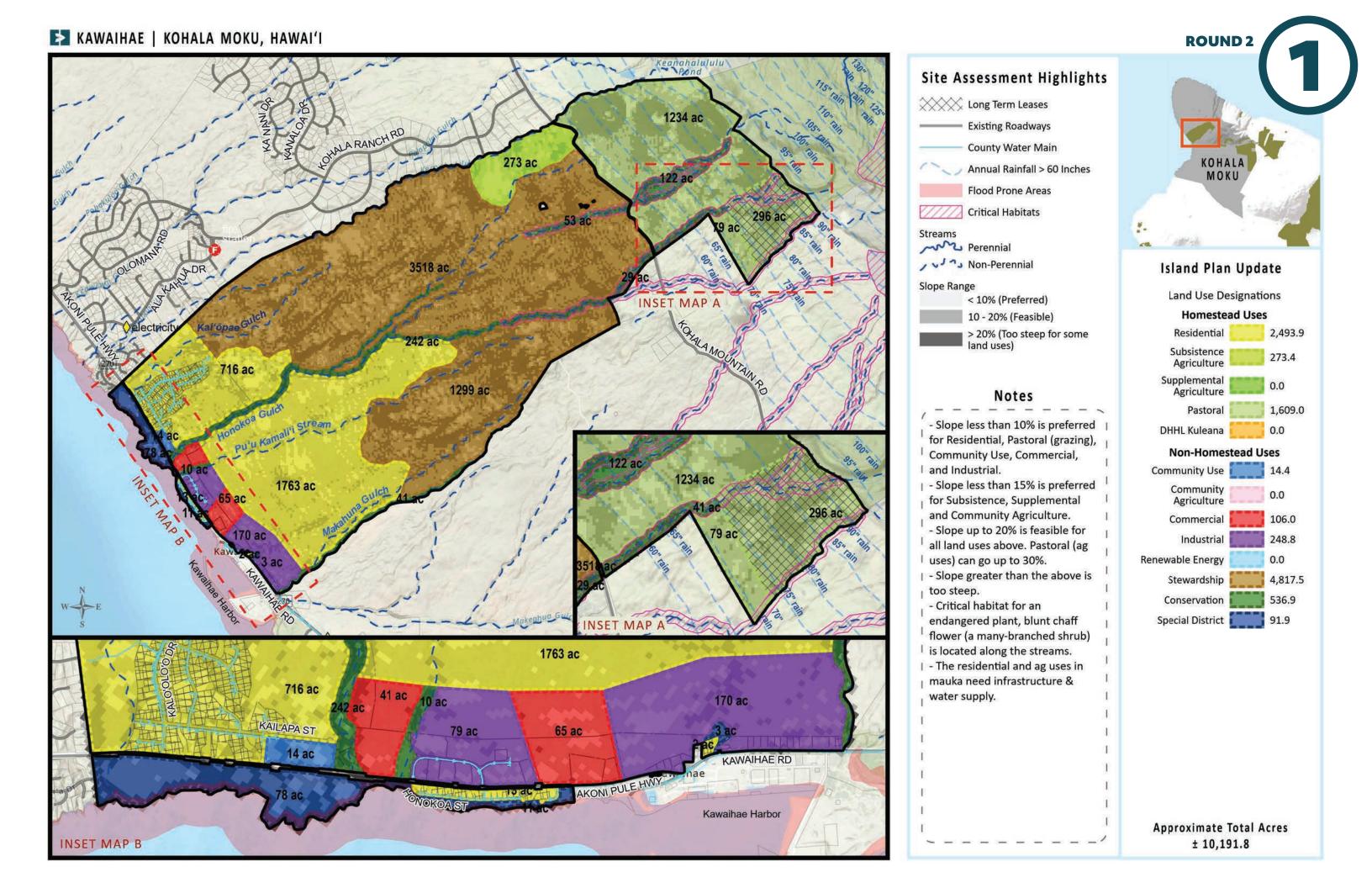
DEPARTMENT OF HAWAIIAN HOME LANDS

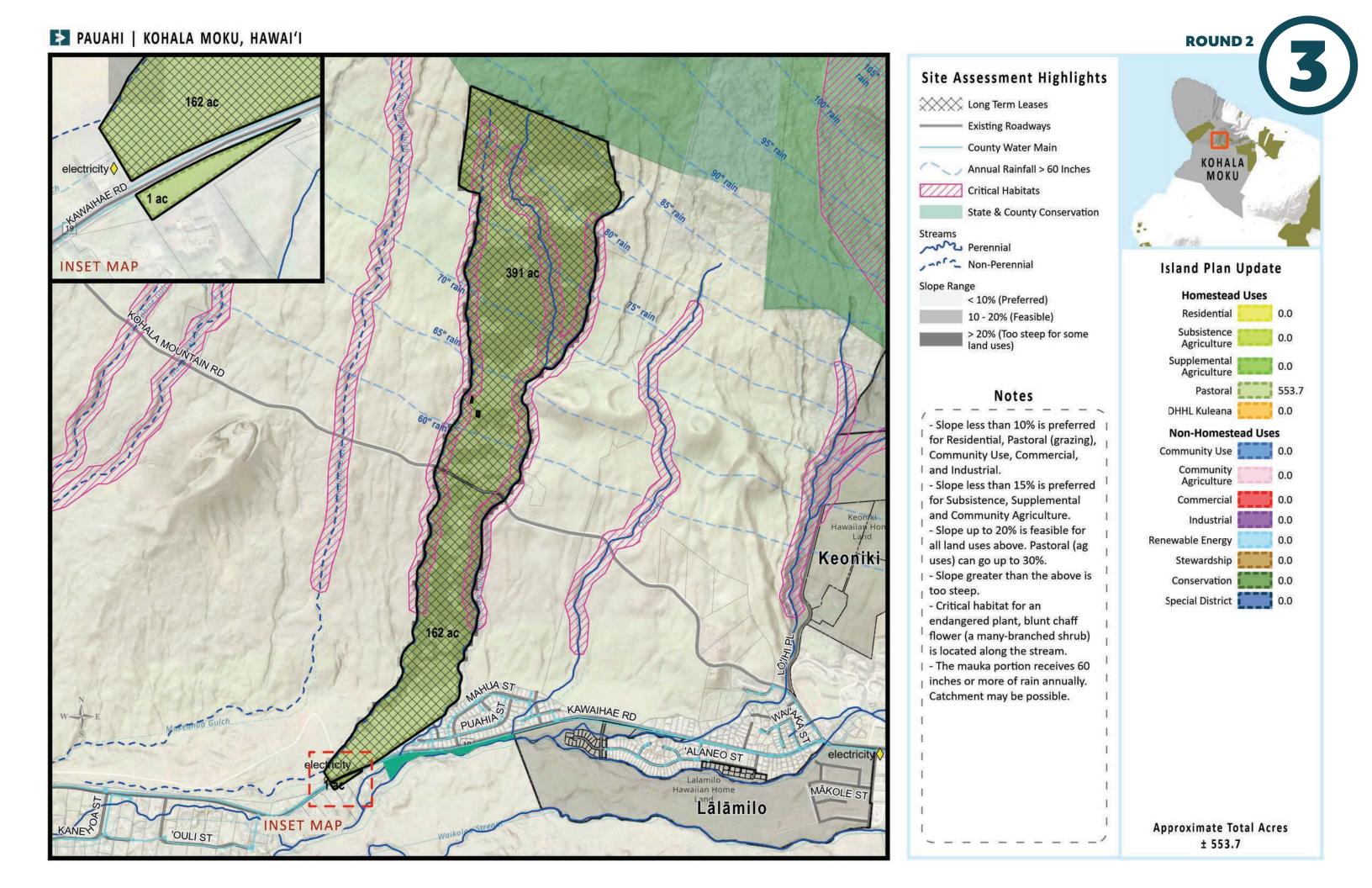
HAWAI'I ISLAND PLAN UPDATE

DEPARTMENT OF HAWAIIAN HOME LANDS

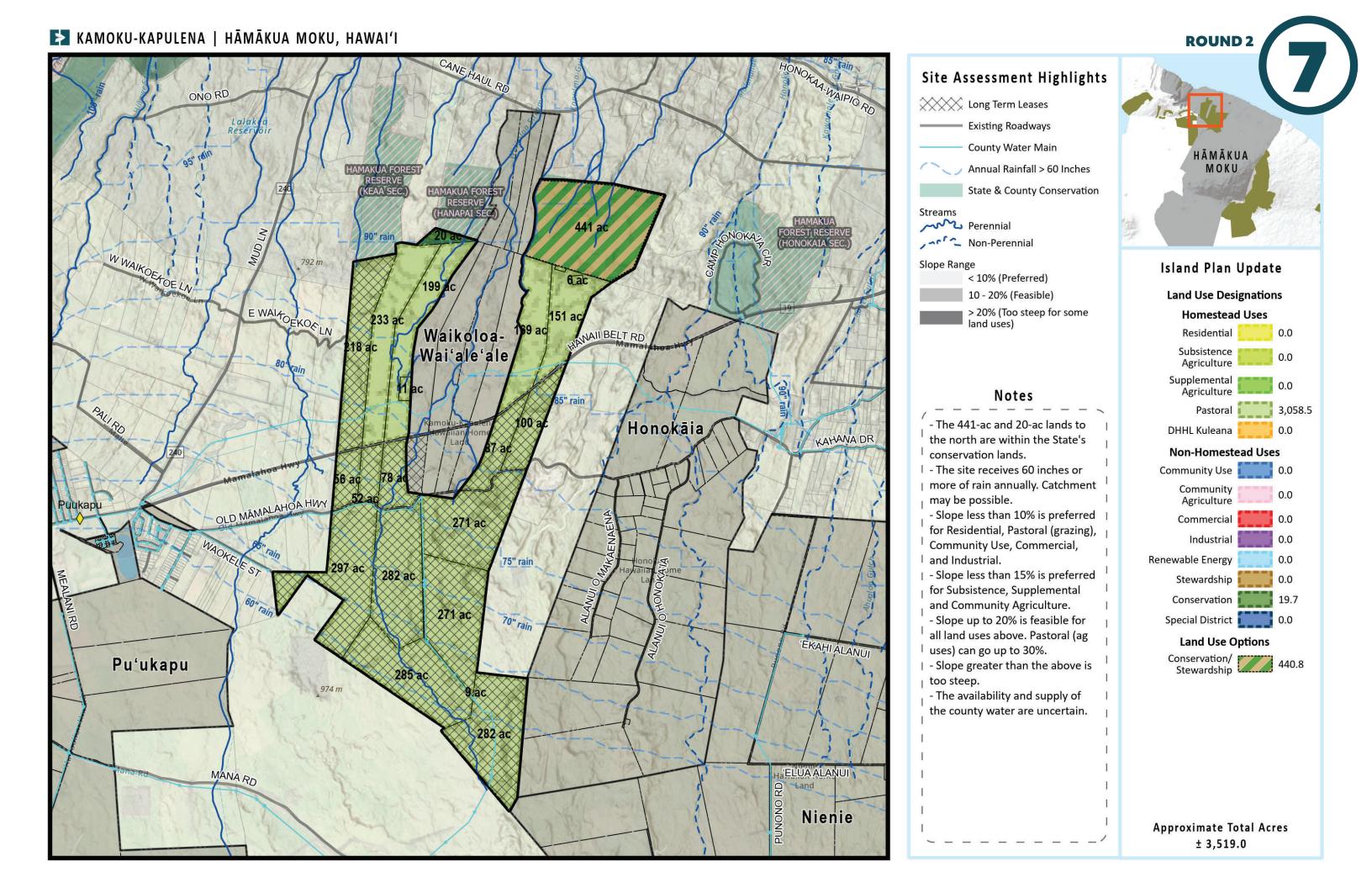
DEPARTMENT OF HAWAIIAN HOME LANDS
HAWAI'I ISLAND PLAN UPDATE
BENEFICIARY MEETING, ROUND 2
KOHALA & HĀMĀKUA – KŪHIŌ HALE DHHL WEST HAWAI'I OFFICE
APRIL 10, 2025
ATTACHMENTS TO SUMMARY

ATTACHMENT B: Land Use Designation Round 2 Maps





▶ LĀLĀMILO | KOHALA MOKU, HAWAI'I **ROUND 2** Site Assessment Highlights Hawaiian Home Long Term Leases Existing Roadways County Water Main KONAK A MOUNTAIN RD KOHALA MOKU Annual Rainfall > 60 Inches Keoniki Flood Prone Areas Critical Habitats Streams Perennial Non-Perennial Island Plan Update Slope Range < 10% (Preferred) **Land Use Designations** 10 - 20% (Feasible) **Homestead Uses** > 20% (Too steep for some Residential 171.0 MAHUA ST Subsistence 'OHI'AKUP~ 0.0 Agriculture LANKEPU Supplemental 0.0 Agriculture Notes KAWAIHAE RD 0.0 **Pastoral** - Lālāmilo tract has a plan for DHHL Kuleana 0.0 development and is under electricity Non-Homestead Uses construction by phase. 'ALANEO ST MOLUHI ST KO UKA LA - The land along the stream is Community Use 4.5 21 ac prone to flooding when it rains. Community 0.0 FEMA designates the land in Agriculture MĀKOLE ST HO'OLULU ST 30 ac Flood Zone A. A refers to low-Commercial 0.0 lying areas close to streams, Industrial 0.9 lakes, and other large bodies of MAHOEST Renewable Energy 0.0 water. Homeowners of properties | in Flood Zone A with mortgages Stewardship 0.0 from federally regulated lenders Conservation 51.0 are required to purchase flood 26.1 Special District insurance. KAMALA RD Approximate Total Acres ± 253.5



▶ WAIKOLOA-WAI'ALE'ALE | HĀMĀKUA MOKU, HAWAI'I **ROUND 2** 240 Site Assessment Highlights 95" rain **Existing Roadways** CANE HAUL! Annual Rainfall > 60 Inches ONO RD State & County Conservation HĀMĀKUA MOKU Streams Perennial Non-Perennial Slope Range < 10% (Preferred) 10 - 20% (Feasible) Island Plan Update > 20% (Too steep for some land uses) RESERVE (KEAA SEC.) MUDIN **Land Use Designations Homestead Uses** RESERVE (HANAPAI SEC Residential 0.0 HAMAKUA FOREST (HONOKAIA SEC.) Subsistence 0.0 Agriculture Supplemental 0.0 Agriculture Notes 1206.0 **Pastoral** - The site is adjacent and outside **DHHL Kuleana** 0.0 the State's conservation lands. **Non-Homestead Uses** - The soil rating at the site is low ENANFOEKOELN Community Use for ag uses. 0.0 MPH 190 ac | - There are several existing Community 0.0 pastoral lots. Agriculture 179 ac - The site receives 80 inches or Commercial 0.0 more of rain annually. Catchment 0.0 Industrial may be possible. - Slope less than 10% is preferred Renewable Energy 0.0 for Residential, Pastoral (grazing), Stewardship 0.0 Community Use, Commercial, 0.0 Conservation and Industrial. 85" ra - Slope less than 15% is preferred Special District 0.0 for Subsistence, Supplemental Honokāia and Community Agriculture. HAWAII BELT RD | - Slope up to 20% is feasible for all land uses above. Pastoral (ag uses) can go up to 30%. - Slope greater than the above is too steep. OLD MAMALAHOA HWY - The availability and supply of I the county water are uncertain. Kamoku-Kapulena Nienie Approximate Total Acres ± 1,206.0

NONOKĀIA | HĀMĀKUA MOKU, HAWAI'I **ROUND 2** CANE HAUL RD Site Assessment Highlights **Existing Roadways** County Water Main Annual Rainfall > 60 Inches HĀMĀKUA MOKU State & County Conservation HAMAKUA Streams FOREST RESER (HONOKAIA'S Perennial Non-Perennial KAPUNA RO 90 ac Slope Range Waikoloa < 10% (Preferred) KINIMAKA RD Island Plan Update Wai'ale'ale 10 - 20% (Feasible) 12 ac > 20% (Too steep for some **Land Use Designations** PU'AONO RD land uses) **Homestead Uses** OLD MAMALAH Residential 179.1 Subsistence 289 ac 441.1 Agriculture KAHANA DR Supplemental 0.0 Agriculture Notes 2,319.5 **Pastoral** - The site is adjacent to and **DHHL Kuleana** 0.0 outside the State's conservation 201 ac 24 ac 11 ac Non-Homestead Uses lands. 10 ac 20 ac Kamoku - Kapulena - The site receives 60 inches or Community Use 12.4 more of rain annually. Catchment Community 0.0 10 30 may be possible. Agriculture 150 ac 75" rain ac ac 25 ac 49 ac - Slope less than 10% is preferred | Commercial 21.2 for Residential, Pastoral (grazing), 20/61 0.0 Industrial Community Use, Commercial, 150 ac 0.0 and Industrial. Renewable Energy 50 ac | - Slope less than 15% is preferred Stewardship 0.0 45 ac for Subsistence, Supplemental EKAHI ALANUI 0.0 Conservation and Community Agriculture. 102 ac 223 ac Special District 0.0 - Slope up to 20% is feasible for 40/ac all land uses above. Pastoral (ag **Land Use Options** uses) can go up to 30%. 974 m Nienie Residential/ | - Slope greater than the above is 226 ac Subsistence 144.8 too steep. Agriculture 279 ac - The availability and supply of Pastoral/Residential 90.3 the county water are uncertain. - The proposed Residential use 289 ac ELUA ALANUI depends on water availability. 5" rain Approximate Total Acres ± 3,208.4

NIENIE | HĀMĀKUA MOKU, HAWAI'I **ROUND 2** Waikoloa-Site Assessment Highlights Wai'ale'ale PU'AONO RD Long Term Leases **Existing Roadways** KAHANA DR County Water Main HĀMĀKUA MOKU Annual Rainfall > 60 Inches State & County Conservation Streams Perennial Non-Perennial Kamoku-Slope Range Island Plan Update Kapulena 298 ac 304 ac 309 ac < 10% (Preferred) 10 - 20% (Feasible) **Land Use Designations** > 20% (Too steep for some **Homestead Uses** land uses) Residential 0.0 KAHIJALANUI 325 ac Subsistence 0.0 Agriculture 298 ac Supplemental 292 ac 0.0 298 ac Agriculture Notes 303 ac 6,489.4 Pastoral 292 ac - The northern half of the site **DHHL Kuleana** 0.0 Honokāia receives 60 inches or more of rain Non-Homestead Uses annually. Catchment may be 8 ac ELUA ALANUI possible. Community Use 0.0 | - The 606-ac parcel at the Community 0.0 northeastern corner of the site is Agriculture 291 ac 282 ac 292 ac 299 ac within the State's conservation 60" rain 0.0 Commercial 286 ac lands. 0.0 Industrial 70 ac - Within the conservation area, 272 ac Renewable Energy 0.0 I there are opportunities for revenue generation through Stewardship 0.0 forestry. 0.0 298 ac Conservation 300 ac 292 ac - Slope less than 10% is preferred | 0.0 for Residential, Pastoral (grazing), Special District Community Use, Commercial, **Land Use Options** and Industrial. Conservation/ | - Slope less than 15% is preferred 606.4 Stewardship 266 ac for Subsistence, Supplemental 269 ac and Community Agriculture. 267 ac - Slope up to 20% is feasible for all land uses above. Pastoral (ag uses) can go up to 30%. MakaBalau I - Slope greater than the above is too steep. - The availability and supply of the county water are uncertain. Approximate Total Acres ± 7,095.8

🔁 WAIMANU | HĀMĀKUA MOKU, HAWAI'I **ROUND 2** Site Assessment Highlights Nā Ala Hele Trails & Access Annual Rainfall > 60 Inches Critical Habitats HĀMĀKUA MOKU State Reserves Flood Prone Areas Sea Level Rise Exposure Areas State & County Conservation Streams Perennial Island Plan Update Non-Perennial **Land Use Designations** Slope Range **Homestead Uses** < 10% (Preferred) Residential 0.0 10 - 20% (Feasible) Subsistence > 20% (Too steep for some 0.0 Agriculture Supplemental 0.0 Agriculture Notes 0.0 **Pastoral** - The site is located within the 0.0 DHHL Kuleana State's conservation lands, Non-Homestead Uses surrounded by Kohala Forest Reserve, and impacted by Community Use 0.0 | flooding and sea level rise. Community Agriculture 0.0 - Muliwai Trail passes through the northern tip of the site. Nā Ala Commercial 0.0 Hele is the name of the State of Industrial 0.0 Hawai'i's trail and access Renewable Energy 0.0 program. The program manages and maintains important public Stewardship 0.0 trails and access. Conservation 200.0 - Waterfalls can be seen at the Special District 0.0 site. KOHALA FOREST RESERVE **Approximate Total Acres**

± 200.0

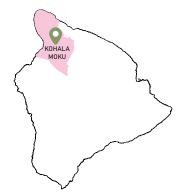
▶ HONOKA'A | HĀMĀKUA MOKU, HAWAI'I **ROUND 2** MAMANE'ST ST HONOKAA United Methodist Site Assessment Highlights LEHUA ST **Existing Roadways** RICKARD County Water Main station 'AKIA ST Annual Rainfall > 60 Inches School HĀMĀKUA park \$ NHERC Library Flood Prone Areas MOKU hospital State & County Conservation Streams park Perennial Non-Perennial Honoka'a Park KUKUIST KUKUI MAUKA RO Slope Range Island Plan Update school < 10% (Preferred) 10 - 20% (Feasible) **Land Use Designations** 95" rain > 20% (Too steep for some **Homestead Uses** land uses) PLUMERIA ST Residential 29.9 4.9 Subsistence Agriculture Average Supplemental 0.0 5 ac Lot Size Agriculture KAMANI ST 19 ac Notes 10,800 SQFT 0.0 **Pastoral** NA KAMALIIPL 0.0 **DHHL Kuleana** - The site is south of Honoka'a EHUASX Park. OHAIST Average **Non-Homestead Uses** - The site receives 60 inches or Lot Size Community Use 4.4 30,000 SQFT Average more of rain annually. Catchment Tex Drive I Lot Size 16,000 SQFT HAWAII BELT RD Lot Size 0.0 Community Agriculture may be possible. KOUST - The soil rating for the most part Commercial 0.0 of the site is good for ag uses. 0.0 Industrial ii Belt Rd - The two 2-ac Special District Renewable Energy 0.0 lands along Lehua Street are PALIKEKUA steep slopes greater than 20%. Stewardship 0.0 11 ac Average | - The 4-ac Special District land 0.0 Lot Size Conservation serves as a buffer for the flood-10,500 Special District 7.3 prone area in the center. SQFT - Slope less than 10% is preferred WAILANA PI for Residential, Pastoral (grazing), Community Use, Commercial, and Industrial. - Slope less than 15% is preferred for Subsistence, Supplemental and Community Agriculture. - Slope up to 20% is feasible for all land uses above. Pastoral (ag I uses) can go up to 30%. | - Slope greater than the above is too steep. - The capacity and availability of the county water are uncertain. Approximate Total Acres ± 46.5

DEPARTMENT OF HAWAIIAN HOME LANDS
HAWAI'I ISLAND PLAN UPDATE
BENEFICIARY MEETING, ROUND 2
KOHALA & HĀMĀKUA – KŪHIŌ HALE DHHL WEST HAWAI'I OFFICE
APRIL 10, 2025
ATTACHMENTS TO SUMMARY

ATTACHMENT C: Fact Sheets



2002 Hawai'i Island Plan



ACREAGE: +/-10,098.6 ac

LAND USE Residential: +/- 2,224.9 ac

DESIGNATION: General Agriculture: +/- 7,434.2 ac Community Use: +/- 81.5 ac Commercial: +/-90.5 ac

Industrial: +/- 265.5 ac No land designation: +/- 1.9 ac

From 2002 HIP:

Kawaihae is a 10,153-acre tract on the leeward side of the Kohala Mountains. Elevation ranges from sea level to 4,600 feet. Kawaihae Road and Akoni Pule Highway provide access to the makai portion of the site, and the Kohala Mountain Road enables access to the mauka portion.

Much of Kawaihae Tract is undeveloped and used for cattle and horse grazing. Other uses include a partially developed 90-acre industrial park, and subdivided homestead lots in the makai portion.

The Honokoa Gulch and a number of other gulches, gullies and swales cross the parcel. Segments of Honokoa Gulch are over 450 feet deep, presenting a significant constraint on development. Parts of the tract are steep, while others are not so. Slope on most of the property ranges between 10 and 15 percent. A number of archaeological sites have been identified on the site.

Mixed uses are recommended for the tract, including Homestead Residential, General Agriculture/Pastoral, Commercial, Industrial, and Community uses. Constraints limiting immediate development include high costs associated with providing sufficient water to the site, and beneficiary preferences for the cooler Lālāmilo and Honokaia tracts. The geo-physical conditions in the mauka portions also constrain development.

ENVIRONMENTAL CONDITIONS

ELEVATION:

TOPOGRAPHY/ Elevation for the tract ranges from sea level up to 5,000 feet in the mauka regions. Topography is mostly less than 20% slope with some areas around Honokoa Gulch and mauka reaching slopes greater than 20%.

Elevation ranges from sea level to 4,600 feet.

The Honokoa Gulch and a number of other gulches, gullies and swales cross the parcel. Segments of Honokoa Gulch are over 450 feet deep, presenting a significant constraint on development. Parts of the tract are steep, while others are not so. Slope on most of the property ranges between 10 and 15 percent.

SOILS: Various

Kemole stony medial silt loam, 12 to 20 percent slopes

Waikui-Hapuna complex, 2 to 10 percent slopes

Waikui-Hapuna complex, 2 to 10 percent slopes

Kawaihae very cobbly very fine sandy loam, 6 to 12 percent slopes

Kawaihae very cobbly silt loam, 6 to 20 percent slopes

GROUND COVER: Hawaiian Introduced Perennial Grassland

CLIMATE/TEMP: The climate is typically hot and dry along the coast, with cooler conditions in the upper portions of the tract. Temperatures in the lower elevations range between 55°F and

95°F, with higher elevations three to five degrees cooler.

RAINFALL: Mauka side of tract receive approximately 60 to 90 inches of rainfall annually with the

possibly of depending on the season.

Makai side of tract recieves and average annual rainfall of 10 to 20 inches.

WIND: Wind speeds range from approximately 3 mph in the lower elevation regions up to

Middle of the tract recieves 20 to 40 inches.

approximately 10 mph in the higher elevation mauka regions with prevailing winds

typically running from north to south through the tract.

SOLAR

Avg High: 5.6 kWh/m2/day RADIATION: Avg Low: 4.8 kWh/m2/day

HUMIDITY: 84%

STREAMS/ WETLANDS: Tributaries of Honokoa Gulch, Kawaihae Stream, Pu'u Kamali'i, Kaiopae Gulch, and Keanahalululu Gulch exist in the tract. Wetland types that accompany these streams include Riverines and Freshwater Forested/Shrub Wetland as well as Freshwater

Emergent Wetlands and Freshwater Ponds found at higher elevations.

FLORA/FAUNA:

Critical habitats for endangered species exist along the mauka areas of Honokoa

Gulch tributaries.

FLOOD ZONE: X - Outside 0.2% annual chance floodplain.

TSUNAMI Tsunami evacuation zones are present along coastal areas of the tract

EVACUATION ZONE:

VOLCANO HAZARD: Lava zone: 9 - Kohala Volcano, which last erupted over 60,000 years ago.

SEA LEVEL RISE: Coastal regions are projected to be partially affected by a 3.2-foot sea level rise with no highways being affected and a total economic loss of less than \$250,000.

PROMINANT CULTURAL A number of archaeological sites have been identified within the tractwith no high-RESOURCES: ways being affected and a total economic loss of less than \$250,000.

PUBLIC SERVICES

Road enables access to the mauka portion.

SCHOOLS: (~8.5 mi south) Waikōloa Elementary & Middle School

(~10.5 mi SE) Waimea Elementary, MIddle School

FIRE/POLICE:

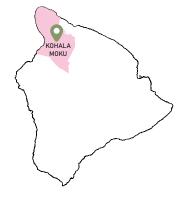
(~1 mi south) Spencer Beach Park

ELECTRICITY: (~0.75 mi south) Kawaihae Substation

Hospital

| 'UPOLU | Kohala Moku, Hawai'i |

2002 Hawai'i Island Plan



ACREAGE: 37.4 Acres

LAND USE Special District: +/- 34.7 ac

DESIGNATION:

PROPOSED USE: Recommended for Special District

Designation

From 2002 HIP:

'Upolu Point is a 37-acre parcel between 'Umiwai and Holana Bays near the northern tip of Hawaii Island aquired from the federal government in 2000. This site contains remnant structures from former Naval operations. The Old Coast Guard Road provides access to the property, connecting it to Akoni Pule Highway through lands owned by Parker Ranch. Related access issues would need to be resolved prior to significant development or changes in land use.

The terrain at 'Upolu is flat, with slopes ranging between zero to five percent. The climate is very dry with annual rainfall between zero and ten inches. Temperatures typically range between 60°F and 82°F. Soils at the tract are stony silty clay.

Given that the parcel has limited electricity and water service, and a decommissioned wastewater treatment plant, there is potential for reuse of existing buildings. The DHHL has issued a revocable permit for use of portions of the property for community and cultural uses. This use and/or other uses are not considered long-term at this time given access issues and more pressing priorities in other DHHL regions. Given the historical importance of this region for Native Hawaiians, a complete archaeological survey is recommended prior to development on the property.

ENVIRONMENTAL CONDITIONS

TOPOGRAPHY/ The terrain at 'Upolu is fairly flat, with slopes ranging between 0-5%.

ELEVATION: The site itself ranges from sea level and up to 500 feet.

SOILS: Various

Primary: Hawi silty clay, 3 to 12% slope

Secondary: Hawi very stony silty clay 6 to 12% slope

GROUND COVER: Primarily baren land with Hawaiian introduced perennial grasses.

CLIMATE/TEMP: Dry area; Average annual temperature is 74 degrees fahrenheit.

RAINFALL: Tract is in a dry climate range within the mokupuni of Hawai'i. The average rainfall is

between 0 to 10 inches per year.

WIND: Prevailing winds coming from the east-northeast region with wind speed ranging

between 10.5mph to 13.2mph.

SOLAR **RADIATION:**

Annual Average: 5.9 - 6.0 kWh/m²/day

HUMIDITY: 70%

STREAMS/ WETLANDS:

are no streams or wetlands on site. The 'Upolu stream is located approximately 2.5 miles northeast of the sites northern boundary and approximately 1.5 miles of the

Kukuipahu riverine from its southern boundary.

FLOOD ZONE: Flood zone: VE

**1% annual chance coastal flood with base flood elevation. This is approximately 100 feet along the shoreline. Majority of the site stands at a flood zone X designation. Meaning moderate to low risk for floods (Outside 0.2% annual chance floodplain).

FLORA/FAUNA:

No critical habitat is found along 'Upolu region and within site. Nearest critical habitat is located southeast from site which is the Hala Pepe (Dracaena konaensis).

EVACUATION ZONE:

Approx. 80% of the site is within the Tsunami Evacuation Zone with the exception of

the eastern most point of the site boundaries.

VOLCANO HAZARD: Lava zone: 9 - Kohala Volcano, which last erupted over 60,000 years ago

SEA LEVEL RISE: The tract itself will be partially affected by a 3.2-foot sea level rise. However, no major roadways will be affected by the SLR with the exception of Ulolu Point Rd. The total economic loss for the projected 3.2-foot sea level rise will be no more than \$17,000

(\$16.999.94).

PROMINANT CULTURAL Given the historical importance of this region for native Hawaiians, a complete ar-RESOURCES: chaeological survey is recommended prior to development on the property. Approximately 0.5 miles from the center of the site is the birth site of King Kame-

hameha I and the Kohala State Monument, Moʻokini Heiau.

PUBLIC SERVICES

ACCESS/ROADS: No direct access road to site. Old Coast Guard Rd. takes

la area, then into a dirt path to entre site.

Moʻokini Heiau

ELECTRICITY: Limited electricity in the 'Upolu region; none cur-



| PAUAHI | Kohala Moku, Hawai'i |

2002 Hawai'i Island Plan



ACREAGE: 555.5 Acres

LAND USE Pastoral: +/- 554.57 ac

DESIGNATION: NO land use designation: +/-0.9 ac

PROPOSED USE: Recommended for Pastoral Use

ENVIRONMENTAL CONDITIONS

TOPOGRAPHY/ The southern part of the tract is 2,500 feet in elevation and goes up to approximately 5,000 feet the further up north you go up the site. Between the southern boundary to the northern boundary, the estimated slope is at 16%.

SOILS: Various

Kemole stony medial silt loam 6 to 12%

Waimea medial silt loan, 12 to 20% slope Palapalai hydrous silt loam, 12 to 20%

Rock outcrop-Kamakoa 6 to 20%

Pu'u pa very cobbly medial very fine sandy loam, 6 to 12%.

GROUND COVER: Hawaiian introduced perennial grasses.

CLIMATE/TEMP: Temperature within the tract averages 62 degrees Fahrenheit annually.

RAINFALL: Rainfall ranges between 60 inches of rain to 85 inches of rain. Northern parcel has

WIND: Prevailing winds coming from the east-northeast region with wind averaging about

11.64 mph annually.

SOLAR Annual Average: 5.26 kWh/m²/day

RADIATION:

HUMIDITY: 86.1%

STREAMS/ Waiulaula stream and the Kukui stream border the east and west boundaries of the

WETLANDS:

FLORA/FAUNA: There is critical habitat that borders the east and west property boundaries along with

the streams that flow around the site. The species is Achyranthes mutica.

FLOOD ZONE: X - Outside 0.2% annual chance floodplain.

TSUNAMI **EVACUATION ZONE:**

Tract is not within the tsunami evacuation zone

VOLCANO HAZARD: Lava zone: 8 - Remaining part of Mauna Kea. Only a few percent of this area has been

covered by lava in the past 10,000 years.covered by lave in the past 10,000 years.

SEA LEVEL RISE: Tract not within sea level rise vulnerability area.

PUBLIC SERVICES

ACCESS/ROADS: Access to the north parcel is accessible through the Ko-

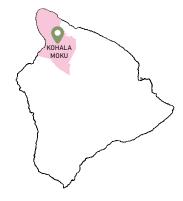
SEWER/ Ouli Ekahi Affordable Housing, approximately 2.5 miles west from the tract, and another at the Waimea Town Pla-

tract shares with the park.



| KEONIKI | Kohala Moku, Hawai'i |

2002 Hawai'i Island Plan



ACREAGE: +/-230.127 acres **LAND USE** +/-230.127 ac **DESIGNATION:**

PROPOSED USE: Recommended for homestead pastoral use

From 2002 HIP:

Keoniki is a 230-acre parcel located on the lower slopes of the North Kohala Mountains within a mile of Waimea town. DHHL's Pu'ukapu 3 is directly north of the parcel. About 105 acres are available for development.

Elevation ranges from 2,500 to 3,600 feet. Keoniki is used as pasture land. The terrain is generally steep, with slopes ranging between 15 to 20 percent. The climate is typical of the area, with temperatures ranging between 55°F and 80°F. Keoniki typically receives 75 to 100 inches of rain annually. The predominate soil type is silt loam. The carrying capacity index is two acres per animal unit year.

While the soil conditions, abundant rainfall, and cool climate make the parcel amenable for rural homesteading, site access is limited. Relatively steep slope also is a limiting factor.

ENVIRONMENTAL CONDITIONS

TOPOGRAPHY/ Elevation ranges from 2,500 to 3,600 feet. The terrain is generally steep, with

ELEVATION: slopes ranging between 15-20%

SOILS: Various

Waimea medial silt loam, 12 to 20% slopes

Rock outcrop-Kamakoa complex, 6-20% slopes

Palapalai hydrous silt loam, 20 to 50%, 12 to 20% and 6 to 12% slopes

GROUND COVER: Hawaiian introduced perennial grassland.

CLIMATE/TEMP: Ranges between 55 to 80 degrees fahrenheit

RAINFALL: An average of 75 to 100 inches of rain annually.

WIND: Prevailing come from the eastern side of the island. wind speed ranges from

10.2 to 12.4mph annually.

SOLAR Avg High: 7.1148 kWh/m²/day **RADIATION:** Avg Low: 3.1175 kWh/m²/day

HUMIDITY: 86%

STREAMS/ The Waiulaula stream follows the northern most point of our site from the

WETLANDS: Kohala mountain range, and flows down west to mean the ocean, just 1.2 miles

north of Mauna Kea Beach.

FLOOD ZONE: X - Outside of the 0.2% annual chance floodplain and the 100 year flood

projection.

TSUNAMI Site is not within the coastal region of Hawaii Island.

EVACUATION ZONE:

VOLCANO HAZARD: Lava zone: 9 - Kohala Volcano, which last erupted over 60,000 years ago. (least

severe classification of lava zone on the island of Hawai' i.)

SEA LEVEL RISE: The tract is not within the tsunami evacuation zone.

FLORA/FAUNA: Critical habitat found along the Waiulaula stream that borders western

boundary of the tract. Species identified as Achyranthes mutica.

PUBLIC SERVICES

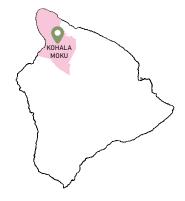
PROXIMITY TO AIRPORT: (~3.25 mi SE) Waimea Kohala Airport

ELECTRICITY: Substation along Kawaihae Rd. (Within Lālamilo Point



| LĀLĀMILO | Kohala Moku, Hawaiʻi |

2002 Hawai'i Island Plan



ACREAGE: +/-270 acres

LAND USE Residential: +/- 217.5 ac **DESIGNATION:** Community: +/- 15.6 ac

Commercial: +/- 3.6 ac

Industrial: +/- 33.7 ac

PROPOSED USE: Recommended for residential use

NECESSARY IMPROVEMENTS TO ACHIEVE DESIRED OUTCOMES:

- The proposed development is in close proximity to existing infrastructure serving the neighboring subdivision.
- Off-site costs do include a wastewater treatment plant, and water system improvements.
- Country standard roads and full utilities are reflected in the relatively high on-site costs
- Extensive site preparation requirements also increase onsite cost estimates for Lālāmilo.

DEVELOPMENT COST/MANAGEMENT CONSIDERATIONS?

- Projected costs for residential lots at Lālāmilo need extensive site preparation requirements. \$6,355,000 is required for off-site improvements which is approximately \$15,877
- On site improvements would need a total cost of \$21,890,000, which is \$54,725 per lot, in total, Lalamilo. would need \$28,245,000 to develop the area.

ENVIRONMENTAL CONDITIONS

Lalamilo is relatively flat and amenable to development with an elevation between

ELEVATION: 2,225 to 2,403

SOILS: Various

Puu Pa, very cobbly medial very fine sandy loam, 6 to 12% slopes.

Waimea medial very fine sandy loam, 0 to 6% slopes.

Rock outcrop-Kamakoa complex, 6-20% slopes.

CLIMATE/TEMP: With temperatures typically ranging from 55 degrees Fahrenheit in the evenings to 80

degrees Fahrenheit during the day.

RAINFALL: Annual average rainfall of 50 to 70 inches.

In recent years the area has been experiencing drought conditions.

Prevailing winds come from the northeastern region on the island with wind speed ranging between 7.5mph to 12mph.

SOLAR Avg High: 7.1148 kWh/m²/day

GROUND COVER: Hawaiian introduced perennial grassland.

RADIATION: Avg Low: 3.1175 kWh/m²/day

HUMIDITY: 86%

STREAMS/ Tract is not classified within wetland boundary. The Waiulaua stream runs along the

WETLANDS: northern and southern boundary of the site.

FLOOD ZONE: A - 1% annual chance flood, no BFE (base flood elevation) due to the Waiulaua stream

running across the tracts northern and southern boundary.

FLORA/FAUNA: The tract does not have any critical habitat to that is protected, the closest habitat under protection/conservation is within the Keoniki tract and the species under this

jurisdiction is Achyranthes mutica.

Site is not within the coastal region of Hawaii Island. TSUNAMI **EVACUATION ZONE:**

VOLCANO HAZARD: Lava zone: 8 - Remaining part of Mauna Kea. Only a few percent of this area has been

coered by lava in the past 10,000 years

SEA LEVEL RISE: Tract is not vulnerable to sea level rise due to its elevation and distance from the

coastal region

PROMINANT CULTURAL Tract is not vulnerable to sea level rise due to its elevation and distance from the **RESOURCES**: coastal region

PUBLIC SERVICES

ACCESS/ROADS: Tract accessible from from Waimea Kawaihae Rd. and

Lalamilo house lot subdivision.

Lalamilo house lot subdivision.

(~2.2 mi east) Lily Yoshimatsu Senior Center

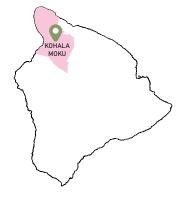
ELECTRICITY: Substation along Kawaihae Rd. (Within Lalamilo

Point Homelands.)



| PU'UKAPU | Kohala Moku, Hawai'i |

2002 Hawai'i Island Plan



ACREAGE: 11,994.8 Acres

LAND USE Residential: +/- 115.6 ac

DESIGNATION: Supplemental Agriculture: +/- 1,084.5 ac

General Agriculture: +/- 480.1 ac Pastoral: +/- 9,846.8 ac Community Use: +/- 80.7 ac Conservation: +/- 168.5 ac Special District: +/- 200 ac

No land designation: +/- 18.5 ac

PROPOSED USE: Pu'ukapu: Recommended for Homestead Supplemental Agriculture, and General

Agriculture

Pu'u kapu 3: Recommended for Homesteading Pastoral

ENVIRONMENTAL CONDITIONS

TOPOGRAPHY/ Located in the saddle of Mauna Kea and Kohala Mountains at about 2,700 feet above **ELEVATION:** sea level. The terrain is mostly flat with gentle rolling hills and fenced enclosures.

SOILS: Various

Kikoni medial very fine sandy loam, 0 to 6 percent slopes

Kikoni medial very fine sandy loam, 6 to 12 percent slopes

Waimea medial very fine sandy loam, 0 to 6 percent slopes Kemole extremely stony medial very fine sandy loam, 6 to 12 percent slopes

Kahaumanu-Lava flows complex. 2 to 10 percent slopes

Kemole-Waimea complex, 12 to 20 percent slopes

GROUND COVER: Hawaiian introduced perennial grasses.

CLIMATE/TEMP: The area is cool with temperatures ranging between 55 to 80 degrees Fahrenheit.

RAINFALL: 20 to 50 inches of rain annual, through the area has experienced a drought in the last

few years

WIND: Winds predominantly come from the east north east region of the site and flows west.

Wind speeds fluctuate with an average of 8 to 10mph on average.

SOLAR

Annual Average: 4.9 - 5.0 kWh/m²/day

RADIATION:

HUMIDITY: 86%

STREAMS/ WETLANDS:

The Haloa riverine that flows west to east, cutting through the center of the site. The Lamimaumau stream partially boarders the north west of the property, with-

in the residential and supplementary agriculture portion of the tract, as well as the Waipunahoe, that borders the east boundary of the site and flows north and reaches

Waipio bay.

No critical habitat within the boundaries of the tract. FLORA/FAUNA:

Aupaka, or Isodendrion hosakae, is approximately 1.25 miles south from the northern

pastoral land of the tract.

FLOOD ZONE: X - Outside 0.2% annual chance floodplain.

TSUNAMI The tract is not within an evacuation zone area.

EVACUATION ZONE:

VOLCANO HAZARD: Lava zone: 8 - Remaining part of Mauna Kea. Only a few percent of this area has been

covered by lave in the past 10,000 years.

SEA LEVEL RISE: The tract is not within sea level rise vulnerability

PUBLIC SERVICES

ACCESS/ROADS: The three parcels are located adjacent to DHHL's P'ukapu

SEWER/ (~0.25 mi north) Waimea Town plaza WASTEWATER:

on the property but its relatively close in proximity

to the existing subdivision would facilitate ease of

AIRPORT:



| KAMOKU-KAPULENA | Hāmākua Moku, Hawai'i |

2002 Hawai'i Island Plan

HĀMĀKUA MOKU

ACREAGE: +/- 3,529.124 acres

LAND USE +/-441.8ac General Agriculture DESIGNATION: +/-3,087.6ac Pastoral

RESIDENTIAL:

Kukuihaele is the nearest residential area to the tract which is located 3.2 miles northwest.

Hāmākua is another residential area located 5 miles east. This area is accessible via Hawai'i Belt Road and the Old Māmalahoa Highway.

Waimea is also a residential area located 5.5 miles west. This area is also accessible via Hawai'i Belt Road and the Old Māmalahoa Highway.

PARKS/REC:

State: Hāmākua Forest Reserve and Kalōpā State Recreation Area are 7 miles east.

Kukuihaele park and cemetery are 3.5 miles northwest. Waimea Park, Soccer Field, cemetery, and Church Row Park and Ke Ala Kahawai 'o Waimea are 6 miles west.

County: Honoka'a Sport Complex and Haina County Park are approximately 4.5 miles east.

Waipi'o community park and lookout are 3.5 miles northwest. Spencer Kalani Schutte District Park is 6.5 miles west.

FIRE/POLICE:

The nearest fire station and police station are Honoka'a stations which are approximately 4.5 miles northeast of the tract. Waimea fire station and police states are also located approximately 6.5 miles southwest of the tract.

ENVIRONMENTAL CONDITIONS

TOPOGRAPHY/ ELEVATION: The elevation ranges from approximately 2,000 feet at the tract's northern boundaries up to approximately 3,500 feet at the tract's southern boundaries.

SOILS:

The tract's soil type is mostly Honoka'a highly organic hydrous silty clay loam. In southern and northern edges there are areas covered with Honoka'a hydrous silty clay loam.

The soil within the tract classified mostly as 'Other ALISH' by the Agricultural Lands of Importance to the State of Hawai'i (ALISH). "Unclassified" area also can be found all over the tract especially in the north. The Land Study Bureau (LSB) classified the northern half portion of the tract as "Poor" and the southern area as "Fair".

GROUND COVER:

Ground cover for the area consists mainly of Hawaiian Introduced Perennial Grassland with some Hawaiian Managed Tree Plantation ground

cover in the northern area.

CLIMATE/TEMP:

Average temperatures in the area range between approximately 66°F and 63°F, with colder temperatures in the winter months and higher elevations and higher temperatures in the summer months and lower elevations.

WIND:

The wind speed is from 5.3 mph in northern areas to 9.4 mph in southern boundaries

boundaries.

SOLAR RADIATION:

Solar radiation ranges from approximately 4.5 kWh/m2/day to approximately 4.3 kWh/m2/day, with more solar radiation in the eastern areas of the tract.

HUMIDITY: Re

Relative humidity ranges from approximately 85.5% to 86.5%, with humidity tending to be higher during the midday hours and lower during

night to early morning. Relative humidity is lower at higher elevations and

higher in lower elevations of the tract.

STREAMS/

There are multiple Freshwater Ponds, Freshwater Emergent Wetlands, as well as Riverine wetlands throughout the tract.

WETLANDS: well as Ri

3

FLORA/FAUNA:

The tract is not designated as a critical habitat.

FLOOD ZONE:

X - Subject to a less than 0.2% chance of annual flood risk and is considered low- to moderate- risk.

SEA LEVEL RISE:

The area is not anticipated to be impacted by sea level rise.

VOLCANO HAZARD:

The tract is designated as 8 on the Volcano Hazard Zone map, which are among the lowest tiers for volcano hazard.

TSUNAMI EVACUATION ZONE:

This tract is not affected by tsunami evacuation zones.

PUBLIC SERVICES

ACCESS/ROADS: The tract is easily accessed via Hawai'i Belt Road and the Old Māmala-

noa Highway.

(~4 mi east) Ka Hale O Na keiki preschool, Honoka'a public elementary

intermediate, and high school

(~4.5 mi west) Pūnana Leo O Waimea preschool, Kamehameha schools

and Waimea preschool

SEWER/WASTEWATER: The nearest Wastewater Treatment Plants are 5 miles

ELECTRICITY: (~4 mi NE) Encogen Facility

(~4 mi NE) Honoka'a Facility (~2 mi west) Pu'ukapu facility

PROXIMITY TO AIRPORT (~38 mi SW) Kona International Airport

(~41 mi SE) Hilo International Airport

MEDICAL FACILITIES: (~4.5 mi NE) Hale Ho'ola Hamakua (~6 mi SW) North Hawai'i Community Hospita



| WAIKOLOA-WAI'ALE'ALE | Hāmākua Moku, Hawai'i |

2002 Hawai'i Island Plan



ACREAGE: +/- 1,206 acres

LAND USE +/-1,206ac Pastoral **DESIGNATION:**

PARKS/REC:

State: Hāmākua Forest Reserve and Kalōpā State Recreation Area are 5.5 miles east.

Kukuihaele park and cemetery are 2.5 miles northwest. Waimea Park, Soccer Field, cemetery, and Church Row Park and Ke Ala Kahawai 'o Waimea are 7 miles southwest.

County: Honoka'a Sport Complex and Haina County Park are approximately 5 miles east.

Waipi'o community park and lookout are 2.5 miles northwest. Spencer Kalani Schutte District Park is 8 miles southwest.

RESIDENTIAL:

Kukuihaele is the nearest residential area to the tract which is located 2.2 miles northwest.

Hāmākua is another residential area located 5 miles east. This area is accessible via Hawai'i Belt Road and the Old Māmalahoa Highway.

Waimea is also a residential area located 7.5 miles southwest. This area is also accessible via Hawai'i Belt Road and the Old Māmalahoa Highway.

ENVIRONMENTAL CONDITIONS

TOPOGRAPHY/ **ELEVATION:** The elevation ranges from approximately 1,500 feet at the tract's northern boundaries up to approximately 3,000 feet at the tract's southern

boundaries.

SOILS:

In the northern area of the tract, the soil is classified as Honoka'a hydrous silty clay loam. The soil in the remaining area is mostly Honoka'a highly

organic hydrous silty clay loam.

The soil within the tract classified mostly as 'Other ALISH' by the Agricultural Lands of Importance to the State of Hawai'i (ALISH). "Unclassified" area also can be found all over the tract especially in the

The Land Study Bureau (LSB) classified most portions of the tract as

"Poor". the southern edge of the tract is classified as "Fair".

GROUND COVER:

Ground cover for the area consists mainly of Hawaiian Introduced Perennial Grassland with some Hawaiian Introduced Wet Mesic Forest, Hawaiian Managed Tree Plantation, and Hawai'i Lowland Mesic Forest

ground cover in the northern area.

CLIMATE/TEMP:

Average temperatures in the area range between approximately 68°F and 64°F, with colder temperatures in the winter months and higher elevations and higher temperatures in the summer months and lower elevations.

WIND:

The wind speed is from 5.7 mph in northern areas to 8 mph in southern

boundaries.

SOLAR **RADIATION:**

Solar radiation ranges from approximately 4.9 kWh/m2/day to approximately 4.4 kWh/m2/day, with more solar radiation in the eastern

areas of the tract.

HUMIDITY:

Relative humidity ranges from approximately 83% to 86%, with humidity tending to be higher during the midday hours and lower during night to

early morning. Relative humidity is lower at higher elevations and higher in lower elevations of the tract.

STREAMS/ WETLANDS: Riverine is the only type of wetland that exists in the tract.

FLORA/FAUNA: The tract is not designated as a critical habitat.

FLOOD ZONE:

X - Subject to a less than 0.2% chance of annual flood risk and is consid-

ered low- to moderate- risk.

The area is not anticipated to be impacted by sea level rise.

SEA LEVEL RISE: VOLCANO HAZARD:

The tract is designated as 8 on the Volcano Hazard Zone map, which are

among the lowest tiers for volcano hazard.

TSUNAMI EVACUATION ZONE:

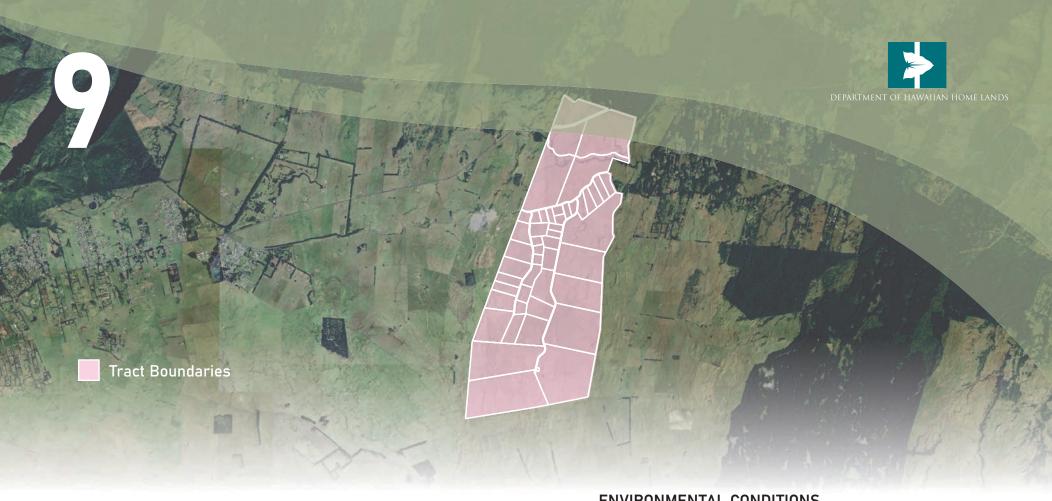
This tract is not affected by tsunami evacuation zones.

PUBLIC SERVICES

PROXIMITY TO AIRPORT

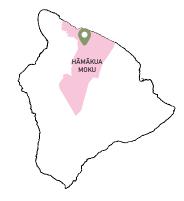
ELECTRICITY:

WASTEWATER:



| HONOKĀIA | Hāmākua Moku, Hawaiʻi |

2002 Hawai'i Island Plan



ACREAGE: +/- 3,243 acres

LAND USE +/-295.6ac Residential

DESIGNATION: +/-512.3ac Subsistence +/-2,372.8ac Pastoral

+/-12.1ac Community Use +/-21.2ac Commercial

PROPOSED USE: Recommended for Residential and Subsistence Agriculture Use.

> The northeast portion of Honokāia Tract is recommended for Residential Homestead

Central portions of Honokāia are

considered suitable for Subsistence Agriculture Use.

Large portions of the Honokāia Tract are recommended for Pastoral Use. These are in the northwest and southern components.

BENEFICIARY SURVEY INPUT FOR INTEREST IN THE AREA?

The climate is cool, and rainfall is plentiful --attractive attributes for beneficiaries. Extensive acreage is available, with gentle slopes suitable for residential development and agricultural use. Each of these factors was central in designating the tract as a high priority site for both Residential and Subsistence Agriculture uses.

Located between Honoka'a and Waimea, with plenty of room for growth, Honokāia Tract is considered suitable for a range of potential uses, including Residential, Subsistence Agriculture, Pastoral, and Commercial.

ENVIRONMENTAL CONDITIONS

TOPOGRAPHY/ **ELEVATION:** The tract's elevation ranges from approximately 2,250 feet at the tract's northern side and southern boundaries up to approximately 3,500 feet.

SOILS:

Soil types within the tract vary. Honoka'a highly organic hydrous silty clay loam can be found in northern areas. Maile hydrous silt loam and Maile- Waiākea -Rock outcrop complex are present at the southern end of the area. The soil within the tract is could potentially be suitable for agriculture, with all the land classified as 'Other ALISH' by the Agricultural Lands of Importance to the State of Hawai'i (ALISH) and as 'Agricultural" by the State Land Use District (SLUD). Most of the land classified 'D' (Poor) by the Land Study Bureau (LSB).

GROUND COVER:

Hawaiian lowland mesic Forest and Hawaiian introduced perennial

grassland.

CLIMATE/TEMP:

Annual Temp: 63 Fahrenheit to 66 Fahrenheit. Temperatures typically range from 55 to 80 degrees Fahrenheit. The climate is cool.

RAINFALL:

60" in southern boundaries to 90" in northern area.

Annual rainfall across the nearly Fourmile long site ranges from 60 to 120

inches

WIND:

The wind speed is from 6.2 mph in northern areas to 9.2 mph in southern

boundaries.

SOLAR RADIATION: Solar radiation ranges from approximately 4.5 kWh/m2/day all around the

tract.

Annual relative humidity ranges from approximately 85.5% to 86.5%.

STREAMS/ WETLANDS:

HUMIDITY:

There are multiple Freshwater Ponds throughout the tract as well as

Riverine wetlands.

FLORA/FAUNA:

The tract is not designated as a critical habitat.

FLOOD ZONE:

X - Subject to a less than 0.2% chance of annual flood risk and is considered low-to-moderate risk.

SEA LEVEL RISE:

The area is not anticipated to be impacted by sea level rise.

VOLCANO HAZARD:

The tract is designated as 8 on the Volcano Hazard Zone map, which are

among the lowest tiers for volcano hazard.

TSUNAMI EVACUATION ZONE: This tract is not affected by tsunami evacuation zones.

PUBLIC SERVICES

SCHOOLS: (~3.5 east) Ka Hale O Na Keiki preschool, Honoka'a public elementary,

MEDICAL FACILITIES:

PARKS/REC:

SEWER/WASTEWATER:

ELECTRICITY:

PROXIMITY TO AIRPORT

FIRE/POLICE:



| NIENIE | Hāmākua Moku, Hawaiʻi |

2002 Hawai'i Island Plan



ACREAGE: +/- 7,134.94 acres

LAND USE +/-918ac General Agriculture DESIGNATION: +/-6,244.4ac Pastoral

ENVIRONMENTAL CONDITIONS

TOPOGRAPHY/ **ELEVATION:** The elevation ranges from approximately 2,500 feet at the tract's northern boundaries up to approximately 4,500 feet at the tract's southern

boundaries.

SOILS:

The tract's soil type in the northern portion is Honoka'a highly organic hydrous silty clay loam. The soil in the central area of the tract is classified as Maile hydrous silt loam. 'Umikoa medial silt loam is the soil type of the southern portion.

The soil within the tract classified mostly as 'Other ALISH' by the Agricultural Lands of Importance to the State of Hawai'i (ALISH). "Unclassified" area also can be found all over the tract especially in the

The Land Study Bureau (LSB) classified the northern portion of the tract

as "Poor" and the southern area as "Fair".

GROUND COVER:

Ground cover for the area consists mainly of Hawaiian Introduced Perennial Grassland with some Hawaiian Managed Tree Plantation ground cover in the northern area.

CLIMATE/TEMP:

Average temperatures in the area range between approximately 66°F and 63°F, with colder temperatures in the winter months and higher elevations and higher temperatures in the summer months and lower elevations.

WIND:

The wind speed is from 6.2 mph to 9.8 mph. The wind speed is at its lowest value in the northern forest reserve portion. The highest wind speed is

measured in the central area of the tract.

SOLAR RADIATION: Solar radiation ranges from approximately 4.4 kWh/m2/day to

approximately 4.6 kWh/m2/day

Relative humidity ranges from approximately 84.3% to 86.2%, with

HUMIDITY:

humidity tending to be higher during the midday hours and lower during night to early morning. Relative humidity is lower at higher elevations and

higher in lower elevations of the tract.

STREAMS/ **WETLANDS**:

There are multiple Freshwater Ponds, as well as Riverine wetlands throughout the tract. In the eastern boundaries, a Freshwater Forested/

Shrub Wetland exists.

FLORA/FAUNA:

The tract is not designated as a critical habitat.

FLOOD ZONE:

X - Subject to a less than 0.2% chance of annual flood risk and is consid-

ered low- to moderate- risk.

SEA LEVEL RISE:

The area is not anticipated to be impacted by sea level rise.

VOLCANO HAZARD:

The tract is designated as 8 on the Volcano Hazard Zone map, which are

among the lowest tiers for volcano hazard.

TSUNAMI EVACUATION ZONE:

This tract is not affected by tsunami evacuation zones.

PUBLIC SERVICES

SCHOOLS: (~3.5 mi north) Ka Hale O Na keiki preschool, Honoka'a public elemen-

FIRE/POLICE:

PARKS/REC:

SEWER/WASTEWATER:

ELECTRICITY:

PROXIMITY TO AIRPORT



| WAIMANU | Hāmākua Moku, Hawaiʻi |

2002 Hawai'i Island Plan



ACREAGE: +/- 200 acres

LAND USE +/-200ac Conservation

DESIGNATION:

PROPOSED USE: Recommended for Conservation

BENEFICIARY SURVEY INPUT FOR INTEREST IN THE AREA?

The 3,600-acre Waimanu valley was proposed for designa-

tion as the Waimanu National Estuarine

Research Reserve, one of 25 such reserves in the United States to be managed through a Federal and State (Natural Area Reserves System) partnership for research and education.

Given access constraints, designated conservation uses on surrounding lands, and lack of infrastructure, the Tract is considered suitable for conservation use only

RESIDENTIAL:

Kukuihaele is the nearest residential area to the tract

which is located 4.5 miles east.

Hāmākua is located approximately 12 miles east and Waimea is approximately 8 miles south of the tract.

PARKS/REC:

State: Kukuihaele park and cemetery are approximately 4.5

County: Waipi'o community park and lookout are approximately 4 miles east.

ENVIRONMENTAL CONDITIONS

TOPOGRAPHY/ The elevation ranges from approximately 2,000 feet at the tract's western **ELEVATION:**

boundaries down to approximately 500 feet at the tract's eastern

While elevations at Waimanu range from approximately sea level to 2,000 feet, slopes in the valley floor DHHL portion averages between zero and

five percent.

SOILS: The soil type is Hanalei complex all over the tract.

The Land Study Bureau (LSB) classified the entire tract as "Good".

Soils are classified as weathered bedrock

GROUND COVER: Ground cover consists of Hawai'i Lowland Mesic Forest in north and south

and Hawaiian Induced Wet Mesic Forest and Hawaiian Induced Wetland

Vegetation-Herbaceous in the central area. Vegetation is native forest and wetland

CLIMATE/TEMP: Average temperature in the area range between approximately 73.1°F and

73.6 °F

The area is relatively wet and warm.

temperatures generally between 70 and 80 degrees Fahrenheit.

RAINFALL: Annual rainfall ranging from between 60 and 120 inches

WIND: The wind speed is from 2.6 mph in northern areas to 1.7 mph in southern

boundaries. SOLAR Solar radiation ranges from approximately 3.8 kWh/m2/day to

RADIATION: approximately 4.4 kWh/m2/day, with more solar radiation in the northern

areas of the tract.

HUMIDITY: Relative humidity ranges from approximately 70% to 72%, with humidity

tending to be lower during the midday hours and higher during night to

early morning.

STREAMS/ The entire tract is covered with wetlands. The tract mostly consists of WETLANDS:

Freshwater Emergent Wetlands, also some Freshwater Forested/Shrub Wetlands exist in the central areas of the tract. Estuarine and Marine Wetland can be detected in northern edges close to the shoreline.

Waimanu River is the only Riverine that runs through the tract. FLORA/FAUNA: The tract is not designated as a critical habitat.

FLOOD ZONE: The northern portion of the tract is designated as "VE" under the Flood

> Insurance Rate Map which is subject to 1%-Annual-Chance Coastal Flood, with BFE. The BFE ranges from 16' to 27' in this flood zone. In the southern edge of the Ve zone, tract is designated as "AE" under the Flood Insurance Rate Map which means 1%-Annual-Chance Flood, with BFE. The BFE in this flood zone ranges from 24' to 16'. The remaining areas of the tract is zones as "A" under the Flood Insurance Rate Map which is subject to

1%-Annual-Chance Flood, no BFE.

SEA LEVEL RISE: The tract is projected to be affected by 3.2-ft sea level rise in northern and

northeastern edges. The Potential Economic Loss is estimated to be less

than \$250K.

VOLCANO HAZARD: the tract is designated as 9 on the Volcano Hazard Zone map, which is the

lowest tiers for volcano hazard.

TSUNAMI EVACUATION ZONE:

This tract is not affected by tsunami evacuation zones.

PUBLIC SERVICES

ACCESS/ROADS: No Access/Road based on GIS data.

MEDICAL FACILITIES:

ELECTRICITY:

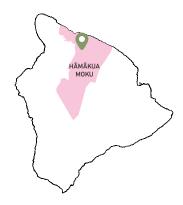
SEWER/WASTEWATER:

PROXIMITY TO AIRPORT

FIRE/POLICE:



| HONOKA'A | Hāmākua Moku, Hawai'i |



ACREAGE: LAND USE DESIGNATION:

PROPOSED USE:

BENEFICIARY SURVEY INPUT FOR INTERST IN THE AREA:

NECESSARY IMPROVEMENTS TO ACHIEVE DESIRED OUTCOMES:

DEVELOPMENT COSTS/MANAGEMENT CONSIDERATIONS?

ENVIRONMENTAL CONDITIONS

TOPOGRAPHY/ ELEVATION: The tract is fairly flat with topography reaching 1,500 feet above sea

level.

SOILS: One primary soil classification for the entire tract.

· Honoka'a hydrous silty clay loam, warm, 10 to 20% slopes

GROUND COVER: Hawaiian lowland mesic Forest and Hawaiian introduced perennial

grassland.

CLIMATE/TEMP: Annual Temp: 63 Fahrenheit to 66 Fahrenheit. Temperatures typically

range from 55 to 80 degrees Fahrenheit. The climate is cool.

RAINFALL: Average rainfall for the tract ranges between 95 – 100 inches of

WIND: The wind speed is from 6.2 mph in northern areas to 9.2 mph in

southern boundaries.

SOLAR Solar radiation ranges from approximately 4.5 kWh/m2/day all

RADIATION: around the tract.

rain annually.

HUMIDITY: Annual relative humidity ranges from approximately 85.5% to 86.5%.

STREAMS/ WETLANDS:

Although no streams flow through the site, the closest stream, Papua'a can be found on the west end of tract flowing from the 2,000

feet elevation of the moku of Hāmākua, and down to the coast line. Secondary streams, approximately 0.75 – 1 mile from the tract are Ouli, Kukuiaonanipahu, and Kahaupu'u (classified as a gulch).

FLORA/FAUNA:

There are no critical habitat to consider within a 5 mile radius.

FLOOD ZONE:

Approximately 90% of the tract has an X flood classification, while

10% is classified as AH.

· X - Outside 0.2% annual chance floodplain

· AH – 1% annual chance flood, flood depths of 1–3 ft, with BFE

TSUNAMI EVACUATION ZONE:

The tract is not within a tsunami evacuation zone area.

VOLCANO HAZARD:

The tract falls within lava zone 8

 Lava Zone 8 – Remaining part of Mauna Kea. Only a few percent of this area has been covered by lava in the past 10,000 years

SEA LEVEL RISE:

The tract is not identified within a sea level rise exposure or vul-

nerable area.

PUBLIC SERVICES

ACCESS/ROADS: The entire tract is accessible through Hawaii Belt Rd

as a route from Hilo to Kona.

RESIDENTIAL: The tract itself falls south of an already established

residential area in the town of Honoka'a

SCHOOLS: (~0.25 mi north) Honoka'a Elementary School

(~0.5 mi north) Honoka'a Intermediate and High

School

SEWER/ WASTEWATER:

(~2 mi north) Honoka'a WWTP

FIRE/POLICE: (~0.5 mi north) Honoka'a Police Station

(~0.5 mi north/NE) Honoka'a Fire Station

MEDICAL FACILITIES: (0.3 mi north from center of site – Hawaiian Belt Rd.)

Hale Hoʻola Hamakua

RPORT: (~15 mi SW) Waimea Kohala Airport

(~39.5 mi SW) Hilo International Airport

(~46 mi SE) Kona International at Keahole Airport

```Omnlev

(~0.45 mi north) Honoka'a Tennis Courts (~0.6 mi NE) Honoka'a Swimming Pool (~0.75 east/SE) Honoka'a Rodeo Arena

CITY: (~>0.1 mi west)Honoka'a SW

(~1.75 mi north)ENCOGEN



### **HUMU'ULA & UPPER PI'IHONUA** Hilo Moku, Hawai'i



**ACREAGE**: +/-48,919.5acres (+/-32,475ac - 2002 HIP)

LAND USE +/-15,699ac General Agriculture **DESIGNATION:** +/-9,023.1ac Pastoral

> +/-601ac Community Use +/-47.9ac Commercial

+/-17,641.1ac Conservation

+/-5,907.4ac Special District

PROPOSED USE: Recommended for Homestead Pastoral, General Agriculture/Pastoral, Commercial,

Conservation, and Special District Uses

#### FLORA/FAUNA:

The northern and western portions of the tract near Mauna Kea are designated as critical habitats for the critically endangered Palila (Hawaiian honeycreeper), which can only be found on the slopes of Mauna Kea. Downstream of the tract to the east and southeast are critical habitats for 'Oha wai, Kiponapona, Haha, 'aku'aku, Maunaloa silversword, Ha'iwale, and the Hawaiian picture wing fly.

The property harbors several rare and endangered species such as the Hawaiian Hawk (I'o), Hawaiian Duck (Koloa), Hawaiian Goose (Nënë), and native honeycreeper species (Mamane and Palila). Koa trees are also present.

#### **SEA LEVEL RISE:**

The tract is not projected to be affected by sea level rise.

#### **VOLCANO HAZARD:**

In Upper Pi'ihonua, most of the tract is designated 8 on the Volcano Hazard Zone map with a southwest portion of the tract designated 7, which are among the lowest tiers for volcano hazard.Humuʻula is designated as 3 on the Volcano Hazard Zone map.

#### **TSUNAMI EVACUATION ZONE:**

This tract is not affected by tsunami evacuation zones.

#### **ENVIRONMENTAL CONDITIONS**

TOPOGRAPHY/ **ELEVATION:** 

The tract is located at a high elevation near the peak of Mauna Kea. The elevation ranges from approximately 5,000 feet at the tract's eastern and southern boundaries up to approximately 9,500 feet at the tract's northern and western boundaries toward the peak of Mauna Kea.

This is high country, with elevations varying from approximately 5,800 feet at the southeast end of the property to 9,500 feet at the west boundary. Slopes in both parcels range from 10 to 15 percent.

SOILS:

Soil types within the tract vary and include Pu'u O'o silty clay loam for most of the eastern portion of the tract. Other soil types include Pu'u O'o rock outcrop and various Laumaia silt loams and toward the western portions of the tract. Huikau ashy sandy loam and various lava flow complexes are present at the southern end of the area as well as at the western edge of the northern portion of the tract. The soil within the tract is could potentially be suitable for agriculture, with most of the land classified as 'Other ALISH' by the Agricultural Lands of Importance to the State of Hawai'i (ALISH) and some of the lands on the eastern fringes classified 'C' (Fair) by the Land Study Bureau (LSB).

GROUND COVER:

Ground cover for the area consists mainly of Hawaiian Introduced Shrublands with some subalpine forest and woodland.

Vegetation in the area is mostly shrubs and gorse. If the gorse continues to grow and cover the land, it could disturb the ecological balance and the growth of other plants, resulting in loss of productive use of the area.

CLIMATE/TEMP:

Average temperatures in the area range between approximately 46°F and 56°F, with colder temperatures in the winter months and higher elevations and higher temperatures in the summer months and lower elevations.

RAINFALL:

Average low temperatures range from 58°F at 5,000 feet to 45°F at 9,000 feet. Average annual rainfall varies from 120 inches in the lower elevations to 40 inches in the upper elevations. The land above 7,000 feet elevations is very dry most of the year due to high evaporation rates.

WIND:

Wind speeds and direction for the tract vary highly, with minimum wind speeds of about 2.5 mph in the eastern and lower-altitude portions of the tract and maximum wind speeds of about 10 mph at the southwestern end of the tract. Wind speeds tend to be higher with higher elevations. Nighttime and early morning winds originate east of the tract and move offshore as well as westward through the tract and around the peak of Mauna Kea. Daytime winds mainly take the shape of tradewinds, coming from offshore to the east and moving westward/mauka.

**SOLAR** RADIATION: Solar radiation ranges from approximately 6.5 kWh/m2/day to approximately 4.5 kWh/m2/day, with more solar radiation in the western and mauka areas of the tract. Solar radiation reaches as low as 3.7 kWh/m2/day during the winter months.

**HUMIDITY**:

Relative humidity ranges from approximately 58% to 81%, with humidity tending to be higher during the midday hours and lower during night to early morning. Relative humidity is lower at higher elevations and higher in lower elevations of the tract.

STREAMS/ WETLANDS: Multiple tributaries of Wailuku River run through the tract, originating towards the peak of Mauna Kea. Tributaries of Umauma, Kolekole, and Kapue Streams originate within the tract and run west to east (mauka to makai). Ka'ula Gulch originates near Mauna Kea Peak and runs along the northern end of the tract, constituting its northern boundary. There are multiple Freshwater Ponds throughout the tract as

FLOOD ZONE:

well as Riverine wetlands along all stream corridors. Most of the tract is designated as 'X' under the Flood Insurance Rate Map, which is subject to a less than 0.2% chance of annual flood risk and is considered low- to moderate- risk. Portions of the tract at its southern end and southwest are designated as 'D,' or unstudied.

## **PUBLIC SERVICES**

SEWER/WASTEWATER: (~10 miles SE) Kulani Correctional Facility Wastewater Treatment

PROXIMITY TO AIRPORT: (~18 mi east) Hilo International Airport

MEDICAL FACILITIES: (~15 mi east) Hilo Medical Center

**ELECTRICITY:** There are two substations north/northwest of the tract

DEPARTMENT OF HAWAIIAN HOME LANDS
HAWAI'I ISLAND PLAN UPDATE
BENEFICIARY MEETING, ROUND 2
KOHALA & HĀMĀKUA – KŪHIŌ HALE DHHL WEST HAWAI'I OFFICE
APRIL 10, 2025
ATTACHMENTS TO SUMMARY

**ATTACHMENT D:** Comment Cards

KAMOKU - KAPULENA



### Comments:



