



2025

MAKU‘U

REGIONAL PLAN



HAWAIIAN HOME LANDS
HAWAIIAN HOMES COMMISSION • DEPARTMENT OF HAWAIIAN HOME LANDS

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Executive Summary

Regional Plans build a sense of community and capacity, stimulate partnerships for development and improvements, and give beneficiaries within the region an opportunity to have a voice in planning for their future. The existing 23 Regional Plans empower beneficiaries by providing a recurring opportunity to convene as a community and a platform for them to talk to each other about their common issues and concerns in order to identify and solve their own problems.

Working with the Department of Hawaiian Home Lands (DHHL) Planning Office staff and consultants, the community identifies priority projects to respond to issues and areas of concern within existing and planned homestead areas. At a minimum, the Regional Plan documents current conditions and trends and identifies a prioritized list of projects important to the community and the department. In this way, Regional Plans ensure that beneficiaries are an integral part of the solutions to the issues that they have identified. The Hawaiian Homes Commission approves each regional plan for various homestead communities across the state, ensuring that they all have this same opportunity.

Vision. A vision for Maku‘u was developed by its beneficiaries through this planning effort. The purpose of a vision statement is to provide a unified direction for homestead, Departmental and Commission actions in Maku‘u. The vision statement is as follows:

“As established by the Hawaiian Homes Commission Act of 1920, Maku‘u strives to ho‘opulapula and perpetuate Native Hawaiian values and traditions. We support our ‘ohana to become self-sustaining by being grounded in ‘ike kūpuna and growing through educational and employment opportunities for future generations.”

Planning Area. The Maku‘u Region is located in the eastern section of Hawai‘i Island, encompassing a collective total of 2,105 acres across 2 ahupua‘a, Maku‘u (also Pōpōkī and Hālona) and Keonepoko Iki, and is in the moku (district) of Puna. This region includes the following homestead communities: Maku‘u Makai (500 acres), Maku‘u Farm Lots (868 acres), Maku‘u Mauka (637 acres), and Keonepoko Nui (100 acres).

Planning Process. This plan updates the 2010 Maku‘u Regional Plan. The process began with a virtual meeting with the Maku‘u Farmers Hawaiian Homestead Association (MFHHA). This meeting introduced the Regional Plan Update project and gathered guidance from the leadership on how the process could be tailored to best fit the Maku‘u community. Leadership was able to advise on the format and schedule for beneficiary consultations and offered assistance with publicity for the meetings.

A series of four Beneficiary Consultations were held over three months at the MFHHA site. Beneficiary Consultation #1 was held on July 17, 2025. This meeting introduced the Regional Plan Update project to the meeting participants and identified community values for future land uses in

Maku'u. Beneficiary Consultation #2 was held on July 31, 2025. In this meeting, participants reviewed and revised the draft community values from Beneficiary Consultation #1, renaming community values to 'O Maku'u Ke Kahua, and developed a draft vision statement for Maku'u. At Beneficiary Consultation #3, held on August 7, 2025, participants identified a list of potential project ideas and narrowed it down to seven for Maku'u lessees to vote on as priority projects.

Selection of the priority projects was conducted through a polling process where homesteaders could participate via postage mail, an online form, e-mail, or over the phone. Notification of the voting process was e-mailed to MFHHA for distribution within their networks. Information about voting details were also sent to beneficiary consultation attendees and posted on the project page hosted on DHHL's website. Maku'u lessees were asked to participate in the poll to select the top five priority projects to be included in the update to the Maku'u Regional Plan. The poll was open for participation from August 14 to August 28, 2025. A total of 12 responses were collected from verified Maku'u lessees.

Beneficiary Consultation #4 was held on September 4, 2025, to gather feedback from the community on the draft project profiles for the top five priority projects. An informational submittal and draft of the update to the Maku'u Regional Plan will be presented to the Hawaiian Homes Commission (HHC) for feedback in September. The Comment Period for beneficiaries is open until September 25, 2025. Feedback from the Commissioners and beneficiaries will be incorporated into the Final Maku'u Regional Plan Update, which will be presented to the HHC in October 2025 for adoption and authorization to distribute.

Priority Projects. The priority projects summarized in the table below reflect the projects that the community identified as priorities for the Maku'u region.

Priority Project	Issues & Opportunities	Desired Outcomes
Homestead Safety and Security	<ul style="list-style-type: none"> • The Maku'u community regularly experiences unauthorized access, illegal dumping, illegal hunting, animal carcass dumping, arson and wildfires, squatters on unoccupied lots, drug activity, destructive invasive species, and other unlawful activities. • Beneficiaries need financial support for fencing installation to improve security for their lots. 	<ul style="list-style-type: none"> • Improve communication and reporting systems to support homestead safety and security. • Increase enforcement and compliance efforts to enhance overall community safety. • Provide financial assistance or a loan program to help community members install fencing and improve the security of their properties.
Hālau Initiative	<ul style="list-style-type: none"> • Beneficiaries need a dedicated community gathering space with permanent structures to provide opportunities for educational programs, cultural activities, and community events. • A gathering space is important to strengthen community capacity and support long-term programming. • Families want access to a homestead cemetery to keep kūpuna in Maku'u after passing. 	<ul style="list-style-type: none"> • Support the existing Māla Ho'oulu 'Ike programs. • Create permanent and functional spaces. • Provide the community beneficiaries with resources to farm on their own land and encourage economic self-sufficiency to improve the success of homesteaders. • Designate an appropriate area for a cemetery.
Support for Agricultural Use & Infrastructure	<ul style="list-style-type: none"> • Need financial and resource support, training and technical support for successful agricultural operations. • Need for additional infrastructure and facilities to support homesteading and for agricultural operations. 	<ul style="list-style-type: none"> • Enhance food security and economic self-sufficiency. • Develop a butcher processing station, a product co-op store, shared use of large equipment for residents, a mulching area, a water well or a water distribution system, and a quarry. • Establish a specialized funding program to assist homesteaders to cover upfront costs for fencing and other agricultural equipment and uses.

Priority Project	Issues & Opportunities	Desired Outcomes
Alternative Financing Program for Lava Zone 2 and Kūpuna Housing	<ul style="list-style-type: none"> • Homesteaders in Lava Zone 2 need funding opportunities as they currently have limited access to existing programs (e.g., NAHASDA funding and conventional loans). • Homesteaders are asked to provide three denial letters from lenders which harms their credit. • Kūpuna deserve support to age in place; the Maku'u community has no designated Kūpuna housing that provides a safe, comfortable and culturally grounded living environment and resources for kūpuna. 	<ul style="list-style-type: none"> • Make DHHL Trust funds available to provide financing for housing development in Lava Zone 2 for beneficiaries who are unable to access other funding sources. • Seek a policy change on the requirement of providing denial letters from lenders to demonstrate ineligibility for financing. • Proposed kūpuna housing site will feature a mix of indoor and outdoor spaces that encourage social interaction, with designated spaces to allow family members to gather, visit and remain connected.
Water System Governance, Infrastructure, & Community Benefits	<ul style="list-style-type: none"> • Maku'u homesteaders want to be more involved in decision-making for actions that directly impact their homestead, especially regarding water system governance. • The Maku'u homestead community should receive benefits for water connections with surrounding non-homestead communities. • Homesteaders are required to connect to the water system and cannot choose rainwater catchment. • Critical infrastructure such as fire hydrants in the community need to have access to water. 	<ul style="list-style-type: none"> • Ensure meaningful beneficiary consultation for any proposed changes or projects related to the Maku'u water system before plans are submitted. • Explore feasibility of empowering homesteaders to serve as the water source developer and operator. • Negotiate community benefit agreements for projects serving the public on homestead lands. • Support for rainwater catchment and small-scale water treatment systems. • Ensure critical infrastructure, such as the fire hydrants, have access to water.

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Introduction

Purpose of a Regional Plan

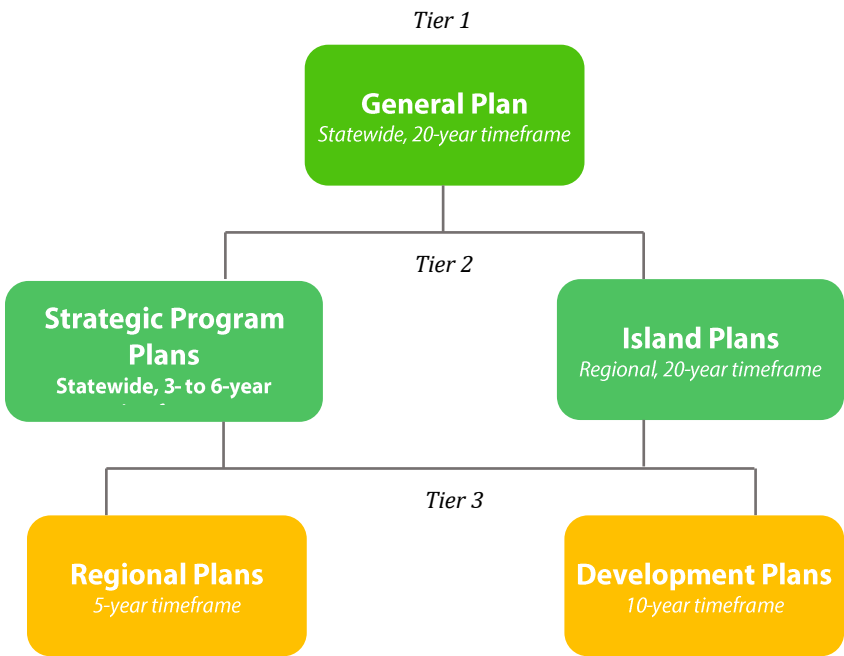
The mission of the Department of Hawaiian Home Lands (DHHL) is to build vibrant homestead communities. Regional Plans provide an opportunity for DHHL to work closely with existing lessees and native Hawaiian beneficiaries to clarify a vision for their community and to build partnerships with government agencies, private landowners, non-profit organizations, homestead associations, and other community groups to achieve that vision.

This Regional Plan is one of 23 Regional Plans that DHHL has helped Hawaiian homesteads to formulate statewide. These Regional Plans assess land use development factors, document issues and opportunities, and identify the region's top priority projects slated for implementation over a five-year planning horizon.

Planning System

Regional Plans are part of DHHL's three-tiered Planning System (see Figure 1). At Tier 1 is the General Plan which articulates long-range goals and objectives for the Department. At the second tier, there are Program Plans that are statewide in focus, covering specific topic areas such as the Native Hawaiian Housing Plan and a Native Hawaiian Development Program Plan. Also, at this second tier are the Island Plans that identify the Department's land use designations for each island and which have a function similar to the counties' land use designations. The Regional Plans are located at the third tier in the Department's Planning System which focuses on communities and regions. Development plans carry out second-tier planning recommendations and contain the information necessary to implement area-wide development, such as off-site infrastructure systems and improvements, utilities, estimated costs, and phased implementation.

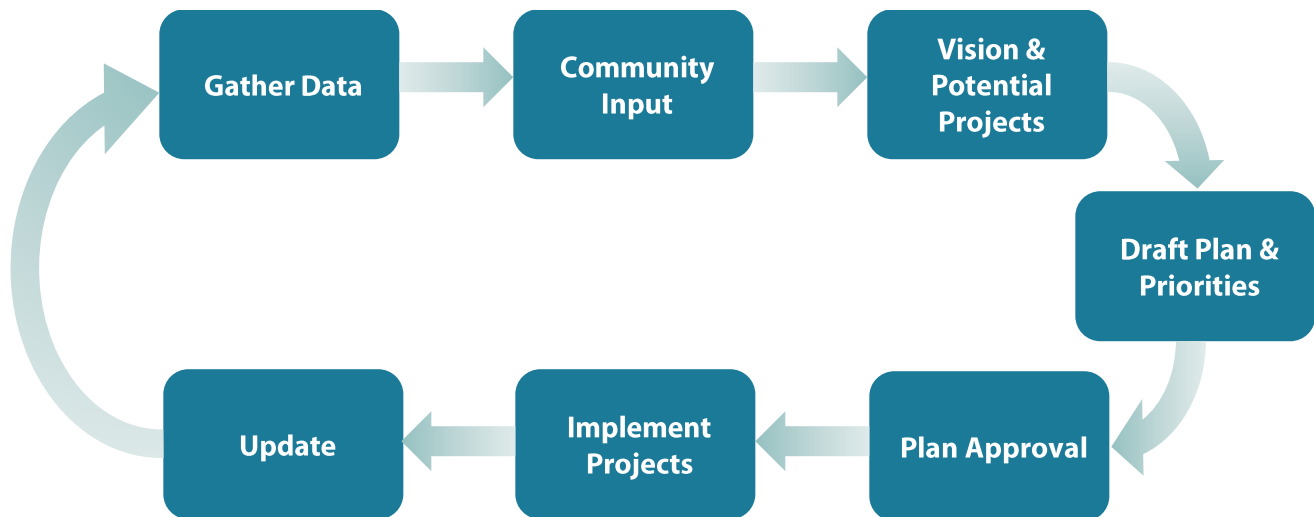
FIGURE 1: DHHL'S PLANNING SYSTEM



The roles of the Regional Plans within the Planning System are to:

- Apply the goals, policies, and land use designations of the General Plan, Program Plans, and applicable Island Plan to specific geographic regions;
- Directly involve the community in planning for their region;
- Compile comprehensive information about the region to provide a factual basis on which to identify needs and opportunities;
- Evaluate changes needed, if any, to the Island Plan as it applies to the region;
- Identify potential resources (e.g., partners, funding sources) to facilitate implementation; and
- Identify priority projects that are important to the community and implementation steps to move these projects forward.

FIGURE 2: THE REGIONAL PLAN DEVELOPMENT AND UPDATE PROCESS



Regional Planning Process

The development of Regional Plans involves seven steps (see Figure 2, The Regional Plan Development and Update Process):

1. **Gather Data.** Pertinent data describe existing conditions and trends, including history of the homestead, land use, infrastructure, natural features, historic/cultural features, surrounding uses, and development trends.
2. **Gather Community Input to Identify Issues and Opportunities.** Existing homesteaders, native Hawaiian beneficiaries, and other stakeholders are invited to a facilitated meeting to discuss issues and opportunities for the region.
3. **Create a Long-Term Vision and Identify Potential Projects.** The input from the community on issues and opportunities provides the basis to craft a draft vision statement

that is reviewed and modified, as necessary, to the satisfaction of the community. Potential projects consistent with this vision are identified and prioritized by community consensus.

4. **Review a Draft Plan and Priorities.** Project details, budget estimates, and other pertinent project planning information are written up as part of a draft plan for review by the community.
5. **Approve the Plan.** Draft Regional Plans are then subject to the approval of the Hawaiian Homes Commission, which means that the Commission and Department officially support the priorities identified in the regional plan.
6. **Implement Priority Projects.** Upon approval, the homestead community, the Department, and other development partners can seek necessary funding and pursue the implementation of Priority Projects.
7. **Update.** Finally, since DHHL knows that regional development is a dynamic process with constantly changing opportunities and emerging issues, regular Regional Plan updates are built into the planning process.

Stakeholders and Partners

DHHL is working in partnership with other government agencies, the private sector, and community organizations to develop its lands and improve community life. DHHL believes that partnerships are an effective way to leverage resources and capital investments, mitigate undesirable impacts of development, coordinate area growth, reduce risks associated with large scale community projects, and create broad community benefits.

These partnerships allow for better prioritization and coordination of infrastructure improvements and the development of regional and public residential facilities. This coordination helps individual organizations achieve their goals while bringing long-term benefits to the community and region.

DHHL Master Planning Process and Community Development Goals

Homestead associations are frequently interested in developing capital improvement projects within their communities in order to provide needed social services and enrichment opportunities. The need for these desired projects is often captured in DHHL Regional Plans. While the characteristics of projects proposed are as diverse and unique as the DHHL communities in each region across the state, the overall planning and development process for these projects is the same in most instances.

Successfully implementing any type of land development project requires several basic foundational elements prior to project initiation. A strong organization that has a membership that works well together and has high levels of participation in regular association business ensures that (1) projects are selected based upon agreed upon criteria rather than individual preferences, (2) project plans are created, and (3) large amounts of social capital are built within and outside of the community. Figure 3, Community Organization & Development, briefly describes these elements of organizational capacity and project planning in more detail. The top level represents the steps that the homestead association (project proponent) should complete.

Most organizations go through five main stages of an organization's developmental lifecycle:

1. **Stage One: Imagine and Inspire.** The organization is not yet formalized, but individuals are inspired and united by a common vision or idea.
2. **Stage Two: Found and Frame.** The organization becomes formalized. Governing documents have been drafted and adopted by its members. The organization receives its non-profit status.
3. **Stage Three: Ground and Grow.** Organizations in this stage focus on establishing systems of accountability to its members as well as growing its internal capacity to provide more services or a higher quality of service to its members.
4. **Stage Four: Produce and Sustain.** This is the stage in which the organization is at its peak and is primarily concerned with how it can sustain its level of service over time.
5. **Stage Five: Review and Renew.** The organization re-invents itself in order to adapt to evolving conditions. The primary question the organization is concerned with at this stage is: "How can we do it better?" The organization revisits its mission, vision, services, and management structure.

Social capital can be defined as the networks of relationships among people who live and work in a particular society, enabling that society to function effectively. From time to time, a homestead association should assess its social capital both internally among its members as well as among external stakeholders and potential partners in order to determine the level of potential support for and/or opposition to a proposed land development project. Figure 3 Community Organization and Development illustrates the various social circles that should be engaged to support a land development project. Often, a development idea starts with a core group of individuals on an association board. Gradually that idea is shared with, and incorporates the ideas of, others in larger social circles in order to grow social capital and build support for a development project.

Lastly, Figure 3 illustrates that the association's assessment of its life cycle and existing social capital should be incorporated into a program plan. A program plan clearly articulates a community vision or need, identifies criteria for selecting programs or projects to fulfill that vision or need, and selects appropriate projects and programs based on those criteria. Programs/projects should be selected based on strong community support for the initiatives and the association's organizational capacity.

Once an association has done outreach with its community to identify its vision and goals, established criteria for selecting projects that help them accomplish their vision and goals, and selected project(s) that have strong community support, then the association can begin with the actual physical master planning and development of the project(s). Figure 4, Master Planning and Land Development Process on Hawaiian Home Lands, illustrates the process of master planning and land development on Hawaiian Home Lands.

Project Proponent Tasks:

- The project proponent should focus their time and attention to ensure that the community's vision and needs are integrated into the project.
- The project proponent should conduct a site and infrastructure assessment of the location in which they would like to implement the project in order to ensure that the location is appropriate for what they would like to do.
- A master plan should integrate and synthesize the community's vision and needs with the site and infrastructure assessment. A master plan should also include a financial plan that forecasts initial development costs, long-term operational costs, and how those costs will be financed over time.
- An Environmental Assessment (EA) or Environmental Impact Statement (EIS) needs to be prepared for the Master Plan in accordance with Hawai'i Revised Statutes (HRS) Chapter 343. If federal funds are used for the project, then a federal EA or EIS may need to be completed in accordance with the rules and standards of the federal funding agency.
- Once Chapter 343 and federal environmental regulations are complied with, then the project proponent can proceed with obtaining the necessary permits and approvals and proceed with construction.

The next steps after the Project Proponent Tasks in Figure 4 include various DHHL staff reviews and HHC approvals that the Project Proponent will need to obtain.

Requests by Non-Profit Organizations for Long-Term Use of DHHL Lands

DHHL has begun implementing a process for Internal Revenue Code (IRC) § 501(c)(1) or IRC § (501)(c)(3) non-profit organizations that are interested in long-term utilization of DHHL land for the purposes of providing programs and services to DHHL beneficiaries to further their rehabilitation and well-being. This process implements the Hawaiian Homes Commission Act (HHCA), Sections 204(2) and 207(c), which authorize DHHL to lease or license lands for non-homesteading purposes on the same terms, conditions, restrictions, and uses applicable to the disposition of public lands as provided in HRS Chapter 171. HRS 171-43.1 authorizes DHHL to dispose of lands to eleemosynary organizations by direct negotiation without requiring a competitive solicitation process. The application process is designed to provide an opportunity for non-profit organizations to conduct due diligence on the project site and vet their conceptual plans in consultation with DHHL prior to requesting HHC approval of a long-term disposition. See "Implementation Action Steps" under "Priority Projects" for a more detailed list of steps and requirements for these types of land use requests.

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FIGURE 3: COMMUNITY ORGANIZATION & DEVELOPMENT

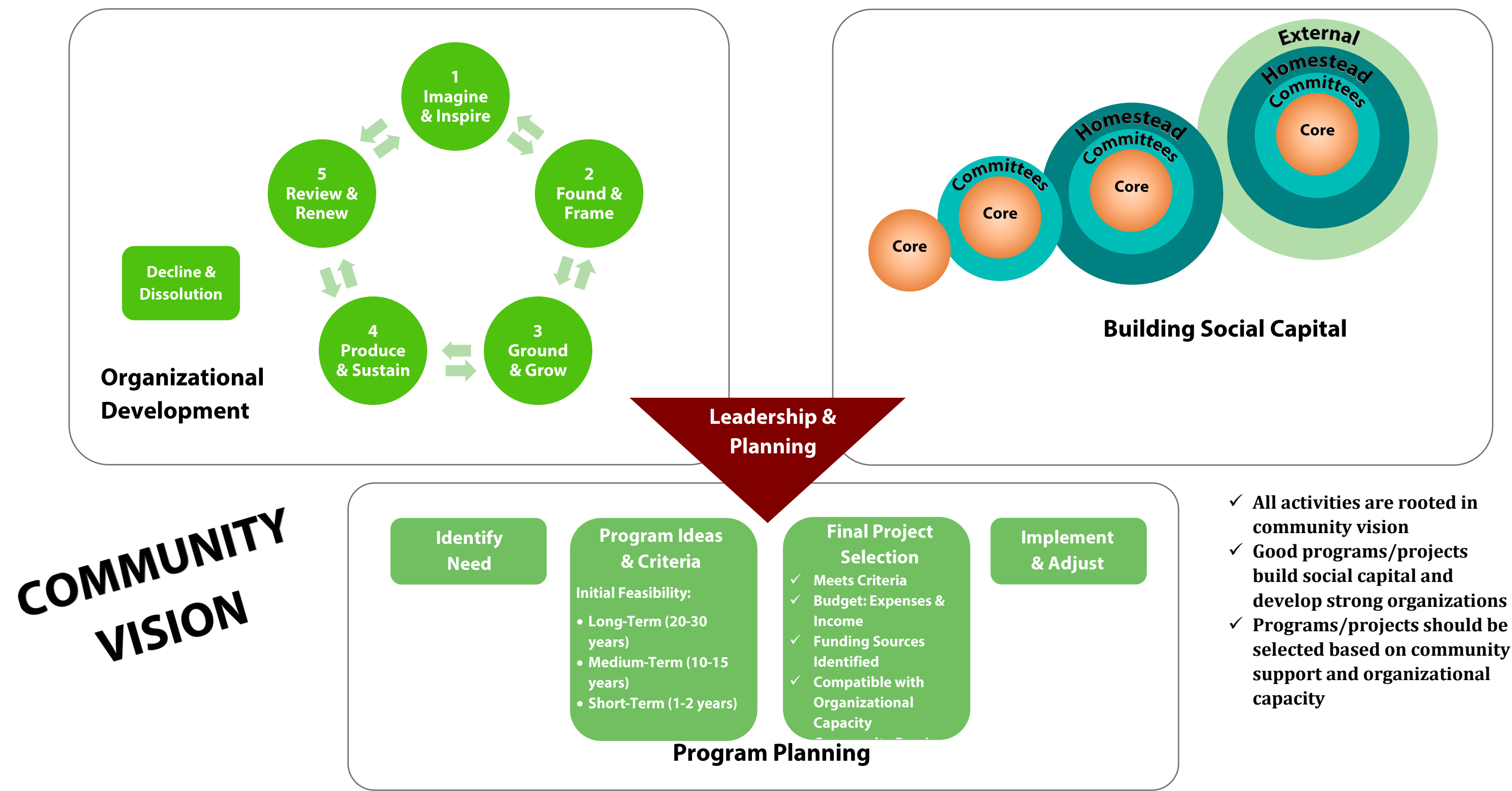
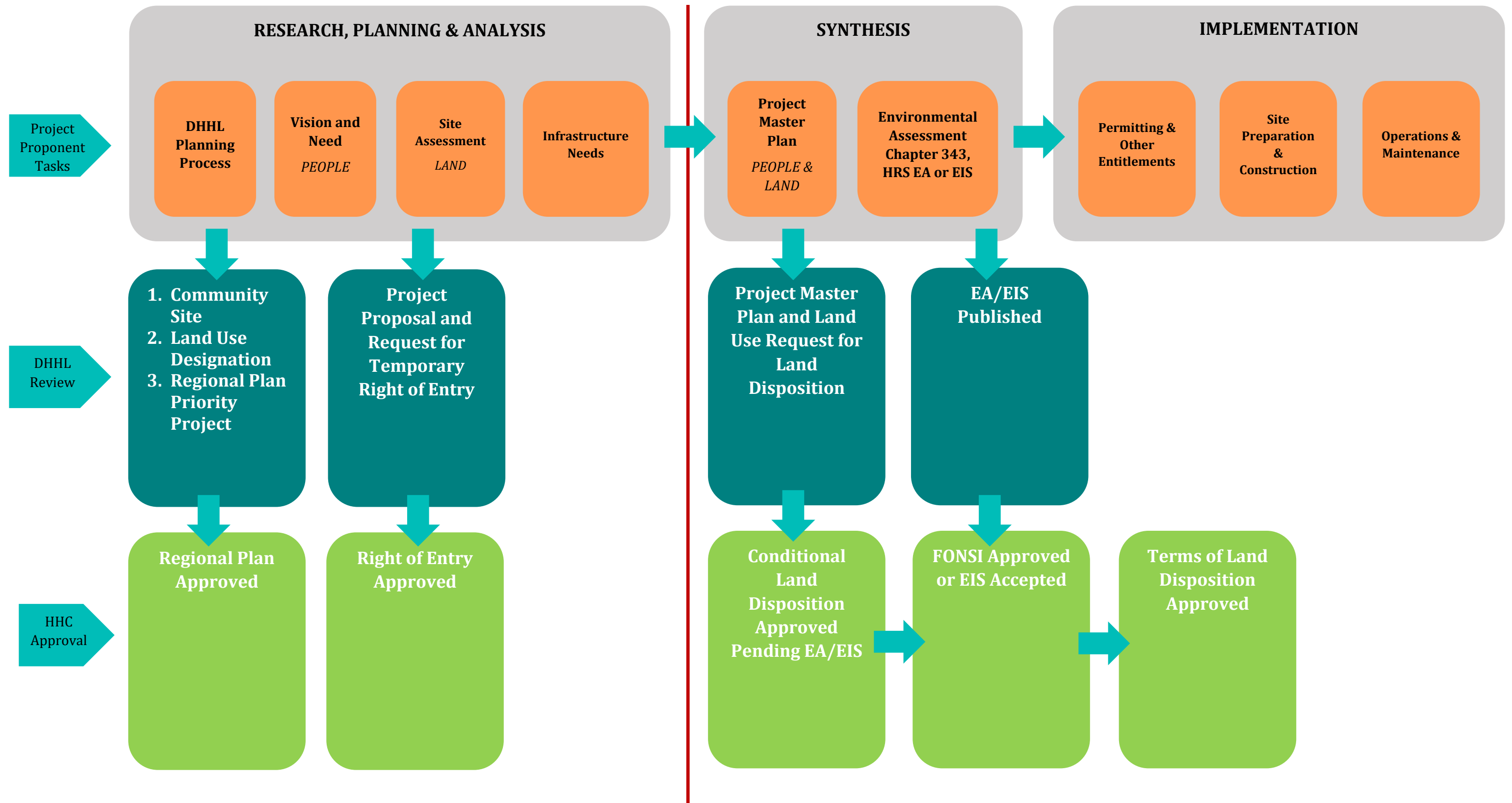


FIGURE 4: MASTER PLANNING AND LAND DEVELOPMENT PROCESS ON HAWAIIAN HOME LANDS



Methods and Approach

The Maku'u Regional Plan Update began with a meeting with Maku'u Farmers Hawaiian Homestead Association (MFHHA) leadership for insight and guidance on a planning process that would best fit the Maku'u beneficiary community. They provided input on the times and days for each beneficiary consultation and suggested use of the MFHHA site for all four beneficiary consultations.

Broad publicity of the beneficiary consultations was accomplished through mail-outs of meeting notices via postal mail and distribution of digital meeting invitations and reminders with assistance from MFHHA.

The approach for the beneficiary consultations consisted of large group discussions. Detailed notes were captured at all meetings and were posted online on the project website which is hosted by DHHL. A meeting recap for each beneficiary consultation will be included in the Final Plan in the appendices of this document.

The timeline for the Regional Plan update was as follows:

April 29, 2025: Leadership Meeting. The purpose of this meeting was to introduce the Regional Plan Update project to the board of MFHHA and to ask for their insight and guidance on the planning process. The meeting took place virtually via Zoom.

July 17, 2025: Beneficiary Consultation #1. The objective of this meeting was to explain the purpose and objective of regional plans in the DHHL planning system and the reason for the update to the Maku'u Regional Plan and to discuss the planning process and schedule with Maku'u beneficiaries. Additionally, this meeting was meant to gather input from beneficiaries regarding their long-term vision for their homestead, a list of important community values, and information about issues and opportunities in the region.

Postcards were mailed to all Maku'u beneficiaries. The postcards provided information on the location, date, and purpose of each Beneficiary Consultation. Additionally, a meeting notice and project fact sheet was sent to the MFHHA board to distribute to their networks within the community.

The beneficiary consultation was conducted in-person at the MFHHA site; there were a total of 12 attendees. After some introductory presentations, beneficiaries were asked two questions: (1) What are the values that guide/shape this community? and, (2) what does that look like in your community? The major ideas and themes that came out of this meeting were used to create a list of community values and a draft vision statement. See Appendix A for more information about this meeting.

July 31, 2025: Beneficiary Consultation #2. There were seven attendees at this meeting. The purpose of this meeting was to review the draft vision statement and values to the community for

feedback. Meeting participants helped refine the descriptions of each value and revise the vision statement. See Appendix B for a more detailed record of the meeting.

August 7, 2025: Beneficiary Consultation #3. Fourteen individuals signed-in at this meeting, which focused on creating and refining a list of project ideas to address key issues in Maku'u. Participants developed a final list of seven proposed projects, which was then opened for voting to determine the top five priority projects for inclusion in the updated regional plan. Additional details on this meeting are provided in Appendix C.

August 14 to August 28, 2025: Priority Project Polling. Selection of the priority projects was conducted through a polling process where homesteaders could participate via postage mail, an online form, e-mail, or over the phone. Notification of the voting process was e-mailed to MFHHA for distribution within their networks. Information about voting details were also sent to beneficiary consultation attendees and posted on the project page hosted on DHHL's website. Maku'u lessees were asked to select the top five priority projects for the region from the list of seven project ideas that were developed in Beneficiary Consultation #3. Participants had a total of five votes, and they were instructed that they could vote for an individual project more than once. This poll was open for participation from Thursday, August 14, 2025 to Thursday, August 28, 2025. Twelve responses were collected, and the top five priority projects were chosen from the responses in this polling process. The top five projects and the number of votes each one received are displayed below.

PROJECT	LESSEE VOTES
1. Homestead Safety and Security	25
2. Hālau Initiative	8
3. Support for Agricultural Use & Infrastructure	8
4. Alternative Financing Program for Lava Zone 2 and Kūpuna Housing	7
5. Water System Governance, Infrastructure, & Community Benefits	5

September 4, 2025: Beneficiary Consultation #4. A draft of the top five priority project profiles was presented to meeting participants for feedback. Beneficiaries were notified that a full draft of the plan would be posted on the project website for review and comment beginning on September 11, 2025. Comments will be accepted until September 24, 2025. An email containing a link to the draft plan and instructions on how to submit comments was sent to beneficiary consultation attendees, as well as to the MFHHA board for dissemination within their networks. Beneficiaries have the option to submit comments via postal mail, an online form, email, or phone.

Beneficiaries were also informed at this meeting that the Draft Plan would be brought before the HHC for information at the September Commission meeting, and that a Final Draft would be taken for HHC adoption in October 2025.

September 2025: HHC Meeting. An informational submittal on the Draft Regional Plan Update will be presented to the Hawaiian Homes Commission (HHC) for feedback at their regular meeting. Input from the Commission will be incorporated into the final Regional Plan Update.

October 2025: HHC Meeting. Commissioners will vote to adopt the Final Maku‘u Regional Plan Update.

Vision and Values

“As established by the Hawaiian Homes Commission Act of 1920, Maku‘u strives to ho‘opulapula and perpetuate Native Hawaiian values and traditions. We support our ‘ohana to become self-sustaining by being grounded in ‘ike kūpuna and growing through educational and employment opportunities for future generations.”

‘O Maku‘u Ke Kahua (Community Values)

Aloha kekahi i kekahi

We value relationships grounded in aloha, integrity, and mutual care. We uplift one another through laulima, pilina, and a strong sense of ‘ohana. Guided by our kūpuna, we honor our shared kuleana to support and care for one another. We treat this community as ‘ohana and we take pride in the values of aloha kekahi i kekahi, aloha ‘āina, and mālama ‘āina, especially in caring for the Maku‘u area.

Aloha Nā Akua

Our relationship with Nā Akua is vital to grounding our actions, intentions, and identity as a community. We honor different bodies of akua. We honor our ‘āina and elementals in our spiritual foundations through pule, ceremonies, and dedicated spaces. Our community is deeply rooted in traditions and practices that respect our culture, honor our ancestors, and foster spiritual growth.

Nurturing ‘Ohana (keiki to kūpuna) through Education, Culture, and Community

Through education, our ‘ohana grow to be kūpa‘a, grounded in their cultural identity, committed to their community, and steadfast in upholding the values and traditions of their kūpuna. We cherish our ‘ohana and instill the importance of a‘o aku a‘o mai, the giving and receiving of knowledge. As a community, we work together to protect and nurture our ‘ohana, embracing the value of hānai and recognizing that raising our lāhui is a shared kuleana.

Building Community Capacity and Economic Resilience

As a community, we strive to be self-sufficient and economically independent to support our programs and initiatives. We are committed to building community capacity through educational opportunities

and access to resources. The creation and success of the Maku‘u Farmers Market enables us to offer programs and support projects that benefit our community, such as the Māla Ho‘oulu ‘Ike and Māla Ho‘onauao programs, while also serving as inspiration for our ‘ohana and other homestead communities seeking to build self-sufficiency and resilience.

Sustaining Community through Cultural Practice and Knowledge

Our programs embody a return to ancestral food systems, including the sharing of mo‘olelo, ‘oli, mele, and the use of ‘Ōlelo Hawai‘i. We restore our connection to the ‘āina, strengthen food security, and encourage community participation and collaboration. We strive to maintain a balanced, symbiotic relationship between people and the land to provide for one another and to grow together through all stages of life. We honor the sacred importance of mo‘okū‘auhau, recognizing that our genealogy deeply connects us to our kūpuna, our ‘āina, and to each other.

Honoring, Caring for and Continuing the Legacy of Our Kūpuna

We value the ‘ike passed down by our kūpuna, those with us and those who came before us, and are committed to creating and maintaining physical spaces that honor our past and support our future. These spaces allow us to preserve our history, capture and share mana‘o, and ensure our kūpuna have a place to rest. We carry forward their legacy, affirm our kuleana to care for our kūpuna, and build a strong foundation to kīpaipai future generations.

Stewarding the Ahupua‘a

We serve as a model of a thriving, sustainable ahupua‘a, integrating traditional knowledge and responsible gathering of resources within the region. We honor and protect our wahi pana and maintain a deep spiritual connection to Pele and lineal descendants of Puna. In doing so, we lead by example for other homesteads across Hawai‘i.

Strengthening Community through Gathering Space

We support one another, valuing the strength and resilience of our kaiāulu. Our community spaces serve as kīpuka, an oasis, a place where homesteaders can gather, reconnect, and build pilina. These spaces play a vital role in providing shared resources, especially during times of natural hazard or emergency. They are a pu‘uhonua for our community, offering refuge, safety and collective care.

Honoring and Understanding Pele

We honor the mo‘olelo and ‘ike passed down by our kūpuna and is still upheld by the lineal descendants of Puna, which guide our relationship with the ‘āina and deepen our understanding of Pele, an active, powerful, and living presence in this landscape. Success on this ‘āina comes from recognizing the sacred relationship between Pele and the people, and learning how to live in respectful interaction with her. As we are reminded, “We don’t rip her up.” We carry the responsibility to honor her through careful stewardship, cultural awareness, and understanding the role of homesteading on the ‘āina.

Planning Area

Location

The Maku'u Region is in the easternmost section of Hawai'i Island, spreading across two ahupua'a, Maku'u (also Pōpōkī and Hālonā) and Keonepoko Iki, and is in the moku (district) of Puna. This region includes the following homestead communities: Maku'u Makai, Maku'u Farm Lots, Maku'u Mauka, and Keonepoko Nui (see Table 1 and Figure 1).

Table 1. Maku'u Parcels

Homestead	Acreage
Maku'u Makai	500 acres
Maku'u Farm Lots	868 acres
Maku'u Mauka	637 acres
Keonepoko Nui	100 acres
Total	2,105 acres

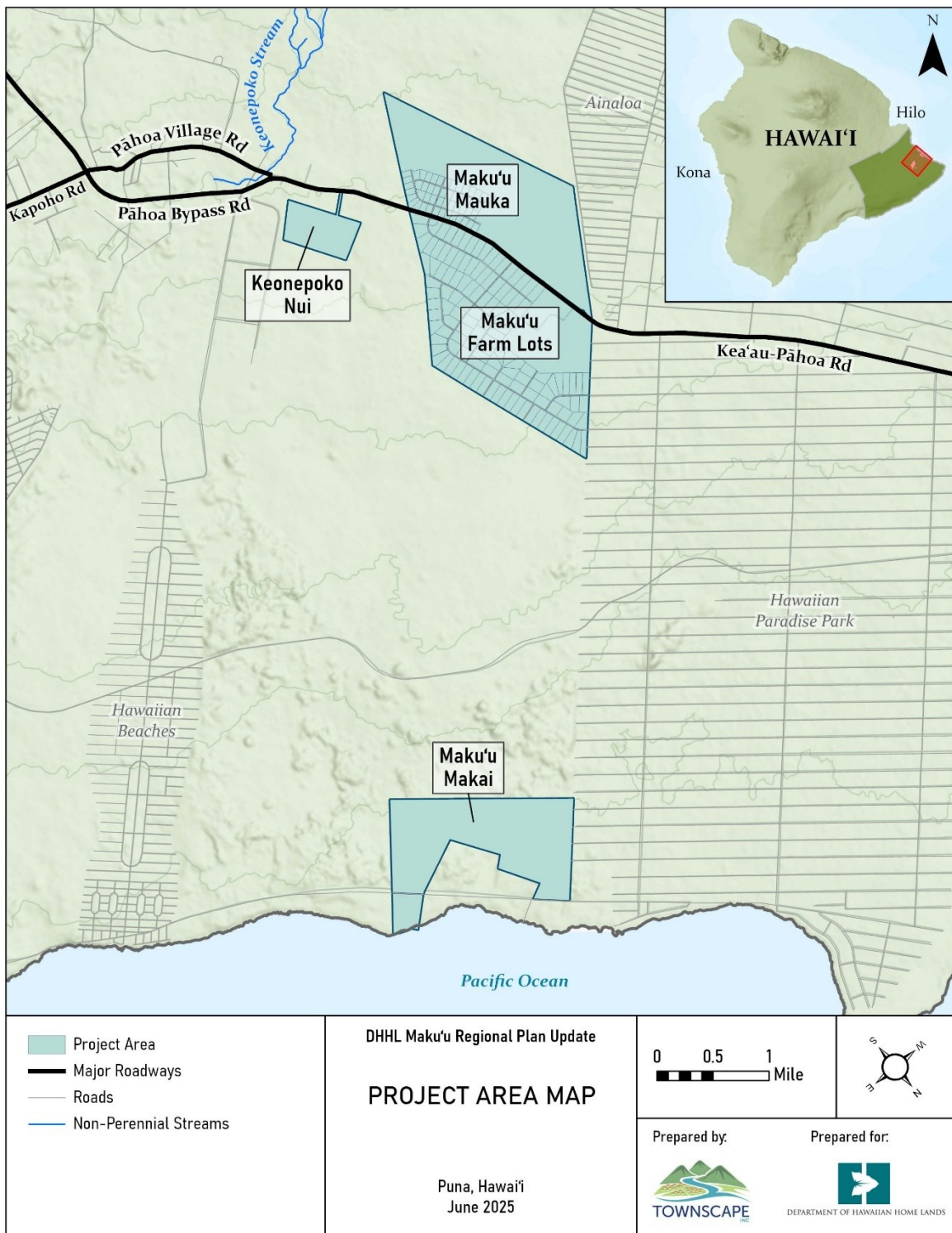
As of May 2025, there are a total of ninety-seven active agricultural homestead leases in the Maku'u region. Sixty-three leases were awarded between 1985 to 1987, thirty-four leases were awarded in 1997, and eleven were awarded in February 2025.

The Department of Hawaiian Home Lands (DHHL) Hawai'i Island Plan (2002) designated the following land uses within this Planning Area, which are described in the section titled "Existing Land Uses" of this report:

- Subsistence Agriculture
- Supplemental Agriculture
- Residential
- Community Use
- General Agriculture
- Commercial

In the 2022 update to the DHHL General Plan, the "General Agriculture" land use designation was proposed to be removed, while three additional designations (Stewardship, Community Agriculture, and Renewable Energy) were proposed. The "Stewardship" designation will open land up to beneficiaries or DHHL for uses that provide immediate benefits to the surrounding community and the Trust. The "Community Agriculture" designation will identify lands for shared community agriculture or gardens. Lastly, the "Renewable Energy" designation will identify lands best suited for renewable energy generation. With the removal of the General Agriculture category, the lands in Maku'u that are currently designated as General Agriculture will be redesignated through the DHHL Hawai'i Island Plan process. The previous Island Plan for Hawai'i Island, published in 2002, is being updated.

FIGURE 1: PROJECT AREA MAP



Regional History

Mokupuni

The main Hawaiian Islands are made up of eight distinct mokupuni (islands). From oldest to youngest, their names are Ni‘ihau, Kaua‘i, O‘ahu, Moloka‘i, Lāna‘i, Maui, Kaho‘olawe, and Hawai‘i. Known translations for some of these names include:

- Ni‘ihau, bound with hau bark
- Kaua‘i, the action of placing something
- Moloka‘i, twisting current
- Lāna‘i, day conquest
- Maui, the name of a well-known demigod throughout Polynesia
- Kaho‘olawe, the taking away (as by currents).

Hawai‘i, the island Maku‘u is on, has no known translation. However, it is often referred to as “Ka Moku o Keawe,” translating to the island of Keawe, in honor of an ancient chief who ruled over the island in the 17th century.

Moku

The island of Hawai‘i is divided into six moku, or districts. Moving clockwise from the north, these moku and their translations are Kohala (to pull or drag hala), Hāmākua (back of the island), Hilo (to twist, the first night of a new moon, a famous Polynesia navigator), Puna (spring of water), Ka‘ū (the breast), and Kona (leeward sides of the Hawaiian Islands) (Pukui and Elbert, 1986; Pukui et al., 1974).

The Maku‘u region is located within the Puna moku, which spans about 500 square miles. Puna is a wahi pana (storied place) known for its abundant resources and significance. Its pre-colonial landscape included fisheries, vast groves of niu (coconut) and hala (pandanus), and lush forests full of valuable resources such as bird feathers, canoe trees, cordage, and ‘awa (kava). The people of Puna transformed the lowland landscape to farm staple food crops such as kalo (taro), ‘uala (sweet potato), and ‘ulu (breadfruit), and established agroforestry systems in the upland forests.

Several significant heiau (temples) are found here including Waha‘ula, a revered heiau in the current Hawai‘i Volcanoes National Park. Waha‘ula translates to “red mouth,” indicative of the human sacrifices that took place at this temple, which is understood to be the first heiau luakini (human sacrifice temple) in Hawai‘i (James, 1995). Puna is also home to Kumukahi, translating to “beginning” or “origin,” and Ha‘eha‘e, known as the “eastern gate of the sun,” the easternmost points of the island where the sun rises (Parker, 1922; Emerson, 1977, p. 258). These places are highly revered in mele (compositions) and oli (chants) as places of great healing and power due to their reception of the first light of dawn. Puna is also considered the district of Pele, with Halema‘uma‘u crater within the active Kīlauea volcano considered her home. Numerous mo‘olelo describe lava flows altering the landscape because of various battles between Pele and other Hawaiian deities.

Historically, Puna had close political ties with the neighboring moku of Ka‘ū and Hilo. The ‘ōlelo no‘eau “Hilina‘i Puna, Kālele ia Ka‘ū,” which translates to “Puna leans and reclines on Ka‘ū,” recalls

this relationship (Pukui, 1983, p. 107). Prior to the unification of the Hawaiian Islands, Keōua, a rival cousin of King Kamehameha the Great, governed Puna.

Another prominent figure from Puna is Joseph Nāwahī (Joseph Kao'oluhi Nāwahīokalani'ōpu'u). Nāwahī was a politically active native Hawaiian lawyer, legislator, cabinet member to Queen Lili'uokalani, newspaper publisher, painter, and student of Christian missionaries. He publicly opposed the overthrow of the Hawaiian monarchy, and continued to service the Hawaiian people post-overthrow through his operation of *Ke Aloha 'Āina*, a Hawaiian nationalist newspaper. A Hawaiian language immersion school in Kea'au (Puna, Hawai'i), Ke Kula 'o Nāwahīokalani'ōpu'u, honors his legacy and name.

In more recent history, Puna has experienced adverse impacts from rapid development, particularly the creation of large subdivisions during the 1950s to 1970s. Many landowners purchased land parcels for investment purposes but have not yet developed them. This has led to a sparsely populated community, making the area vulnerable to public safety issues, as is common in rural communities. Today, the region has become more attractive to homebuyers due to lower housing costs, making it one of the fastest-growing districts in Hawai'i. Anecdotally, Maku'u homesteaders have shared the adverse impacts they witness on their moku and communities from rapid development and unregulated expansion in Puna. Many of those moving to this area have no connection to this place and lack the knowledge and experience to live in balance with the resources. Transplants come to Puna, clear-cut and scrape the earth flat and build with no thought to resources being destroyed by these actions.

Kīlauea is an active volcano that attracts millions of tourists each year. Large numbers of visitors crowd the park, overwhelm the roadways, and stay in short-term rentals surrounding the national park. Its volcanic activity has a history of activity in the Puna district with various flows over the past century consuming many residences and land. The volcano also emits a composition of chemical gases that is reported to affect the productivity of many agricultural crops. Puna's position on the slopes of Kīlauea attracted commercial geothermal energy drilling and development. These activities began in 1976, however not without opposition from residents and the Native Hawaiian community whose concerns included the desecration of the home of the goddess Pele, public health risks, and the outgassing of hydrogen sulfide.

Māhele 'āina in Puna

There was an estimated population of 4,000 in Puna during the Māhele, a pivotal era in Hawaiian history that marked the beginning of private land ownership in Hawai'i. Within this region, only eleven land claims were made across nine ahupua'a (land divisions) or 'ili (smaller land divisions). Of these claims, only three were awarded, all of which were in the Kea'au area and totaled 32.22 acres. Although personal property rights were established over much of the Maku'u lands, not all claims were ultimately awarded.

Within Puna, eleven maka'āinana (native tenants/caretakers) across nine ahupua'a or 'ili submitted thirteen claims for kuleana (personal land holdings). In addition to these, twenty-eight land tract were claimed by Ali'i/Konohiki (chiefs or land managers), five of which had already been assigned to the Aupuni (government) inventory. By the close of the Māhele in 1855, the Mō'i and Ali'i/Konohiki retained control over eighteen ahupua'a and two 'ili, covering approximately

200,000 acres. The Mō‘ī also allocated at least thirty-seven ahupua‘a and seven ‘ili to the Aupuni inventory, further balancing royal, chiefly, and government holdings.

Notably, no maka‘āinana claims were recorded for the Waikahekahe Nui and Waikahekahe Iki ahupua‘a, both of which were traditionally retained by women of chiefly lineage. The largest cluster of maka‘āinana claims in Puna, with three claimants under five separate helu (claim numbers), was in the Kea‘au ahupua‘a, where two competing claims by ali‘i were also filed. This land was ultimately awarded to High Chief William Charles Lunalilo before he ascended to the throne as the King of Hawai‘i. These details underscore the unique historical land tenure dynamics in Puna during the Māhele.

Ahupua‘a

Puna is comprised of 42 ahupua‘a. The Maku‘u Hawaiian Homestead Lands span across two of these ahupua‘a within the Puna moku, namely Maku‘u and Keonepoko Iki. Below is a list of the ahupua‘a in Puna, including English translations where available. Figure 2 provides delineations of each ahupua‘a in relation to the Maku‘u Hawaiian Homestead Lands. Note that some ahupua‘a have multiple names, which is due to historical variations in naming, with different names used at various times or by different communities. Where available, English translations are provided for the names from Pukui et al., (1976), and Pukui and Elbert (1986).

Maku‘u Hawaiian Homestead Lands

- Maku‘u- *n.* A unique lashing technique. A bundle, as of white tapa fastened to ridgepole during certain ceremonies; also Pōpōkī and Hālonā
 - Pōpōkī - Tī leaf bundle
 - Hālonā - *n.* Peering; place from which to peer at, lookout
- Keonepoko Iki (Small Keonepoko (Keonepoko - the short sand))

Other Puna Ahupua‘a

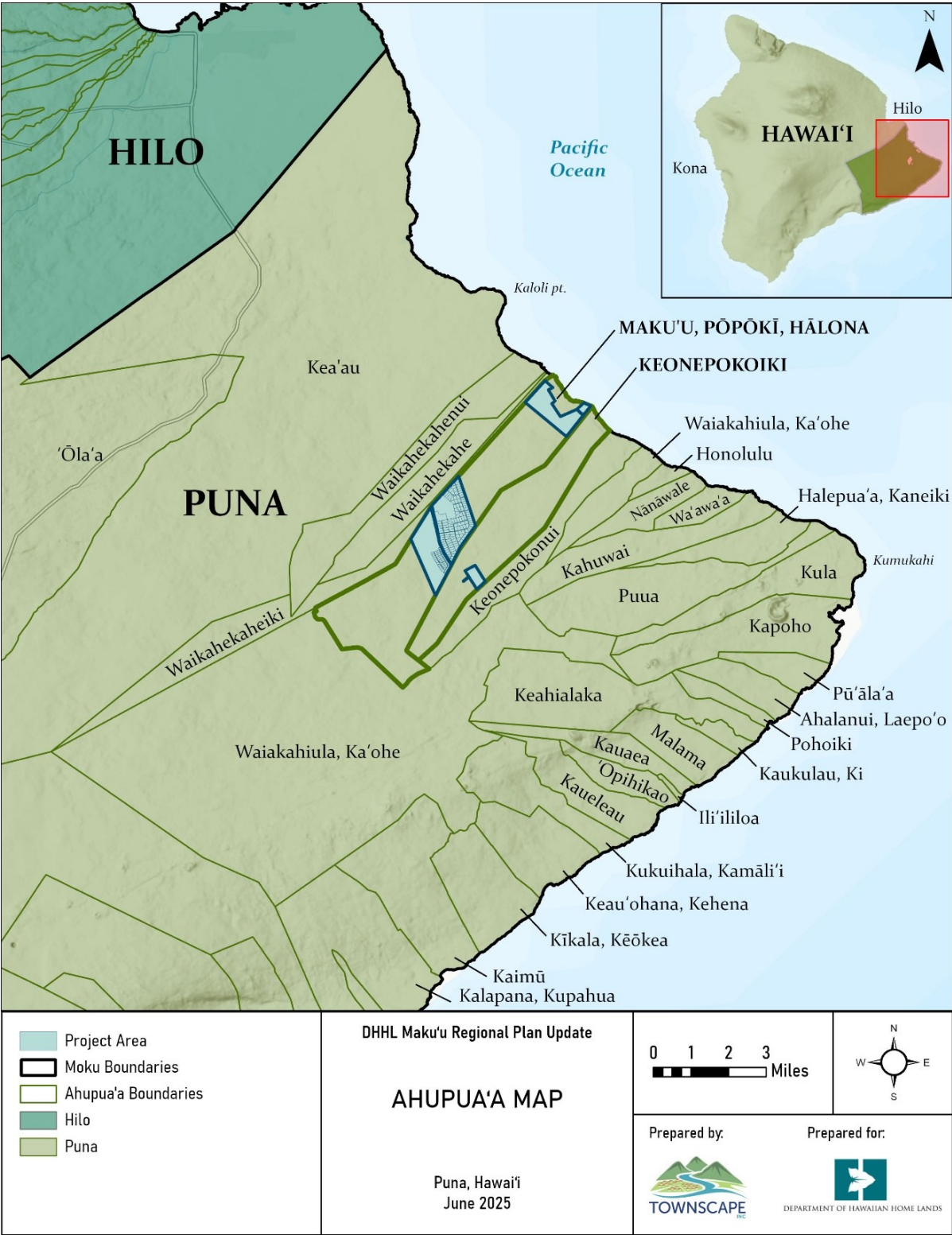
- | | |
|---|--|
| • ‘Ōla‘a (once known as La‘a; sacred) | • Kula (dry upland) |
| • Kea‘au (hindering current) | • Kapoho (the mortar) |
| • Waikahekahe (flowing water) | • Pū‘āla‘a (named for the ‘āla‘a (<i>Planchonella</i>) tree) |
| • Waikahekahenui (Large Waikahekahe) | • Ahalanui (great transgression; also Laepo‘o) |
| • Waikahekaheiki (Small Waikahekahe) | • Pohoiki (small depression; Pele is said to have dug a crater here) |
| • Keonepoko Nui (Large Keonepoko, the short sand) | • Keahialaka (the fire of Laka) |
| • Waiakahiula (Kahiula’s water; also Ka‘ohe) | • Kaukulau (also Ki) |
| • Honolulu (sheltered bay) | • Malama (month) |
| • Nānāwale (only look) | • Kauaea (placed until one arises) |
| • Wa‘awa‘a (gullied, furrowed) | • ‘Ili‘ililoa (large pebble as used in dances or kōnane (Hawaiian checkers)) |
| • Kahuwai (attendant, guardian, keeper, caretaker of water) | • ‘Opihikao (gathering limpets; probably formerly ‘Opihikāō, literally crowd |
| • Halepua‘a (pig house) | |
| • Puua (rain hill) | |

gathering limpets because people were afraid to gather 'Opihi alone due to robbers)

- Kaueleau (season of dark tide)
- Kukuihala (falling kukui nuts; also Kamā'ili)
- Keau'ohana (group of families, familial currents; also Kehena)
- Kīkala (hip; also Kēōkea, the white sands)
- Kaimū (gathering [at the] sea [to watch surfing])

- Kalapana (announce a noted place; also Kupahua)
- Hulunanai
- Kahauale'a (The hau (*Hibiscus tiliaceus*) tree or dew of Le'a)
- Kamoamoā (the sharp point at the stern of a canoe)
- Laeapuki (cape of Puki; also Pānauiki, small Pānau)
- Pānaunui (uneasy; large Pānau)
- Kealakomo (the entrance path)
- Kahue (the gourd)
- 'Āpua (fish basket)

FIGURE 2. AHUPUA'A MAP



Site History

Mo'olelo Kaa Hooniua Puuwai no Ka-Miki

The mo'olelo ka'ao, "Hooniua Puuwai no Ka-Miki" (The Heart-stirring Story of Ka-Miki) describes how the ahupua'a of Maku'u was named, as well as provides cultural context for the communities and customs of Puna (Mali and Mali, 2022, p. 32). This mo'olelo was translated from Hawaiian newspapers in an ethnohistorical overview, thus diacritical marks may be missing or altered.

Two brothers, Ka-Miki and Maka'iole, were traveling around the island of Hawai'i on the ala loa and ala hele, ancient trails and paths on Hawai'i Island. They encountered Kapu'euhi, who secretly conspired with the 'olohe chiefess Kaniahiku of Kapoho to ensnare the brothers and steal their possessions.

Kaniahiku was the guardian of the Kali'u and Mālama forests, which had strict kapu (taboo, prohibition) around gathering 'awa (*Piper methysticum*), lehua (*Metrosideros polymorpha*), and 'ōhelo (*Vaccinium reticulatum*) in the forests. Those who broke kapu were enveloped in the mist and rains and lost in the forests. Getting lost in these forests had no escape, and many people died in this way.

Kaniahiku instructed Kapu'euhi to accompany the brothers into the forest under the guise of assisting them in gathering 'awa, but secretly pick lehua, 'ōhelo, and kupali'i plants along the way, breaking the kapu and causing the brothers to be lost in the forest's mist. Ka-Miki anticipated this deception and chanted to Ka uluhe, his forest formed ancestresses, to assist them. The sun deity Ka-ōnohi-o-ka-lā then shed light, receding the mist and revealing the pathway.

Frustrated upon their survival, Kaniahiku escalated her attacks. She first tried to trip Ka Miki with a pīkoi (tripping club), but he dodged, causing it to tangle in the branches of the grove Mauānuikananuha (a famous 'awa grove, also the kinolau of Kaniahiku's god, Kū-lili-kaua-i-kanahēle-o-Kali'u). Then she threw a spear, which landed in the hills now called Nā pu'u o Kaniahiku. As a final effort, she wielded her powerful sling stone, Kaueleau, an eight-foot-long stone that weighed several hundred pounds, and was bound with dense coconut and olonā cordage in a technique known as maku'u. Kaniahiku swung Kaueleau overhead, but the cordage broke sending the stone flying toward the sea, where it landed and caused the ocean mist to rise, darkening the shore. The place where the stone landed became known as Kaueleau, named for the suspended mist and for the deity associated with the red glow of volcanic eruptions. When the cordage of the sling broke, it flew in the opposite direction and landed in the area now called Maku'u, a name that commemorates the unique lashing technique.

The term "maku'u" itself also refers to an intricate lashing method used not only for binding the stone but also for the end-knobs on canoes, tied with lashing at both ends (mua and hope) and guided by ropes down from the mountains. Maku'u is also the name of a deity that was carved from Haumea's tree, Ka-lau-o-ke-kāhuli. This tree grew the flowers Kanikawī and Kanikawā.

The Hawaiian Homes Commission Act

The Hawaiian Homes Commission Act, 1920, as amended (HHCA), is the legal basis for the establishment of the DHHL. Congress passed the Act, and it was signed in to law by President Warren Harding on July 9, 1921. Approximately 200,000 acres of land, including the Maku‘u tract, were set aside by the HHCA upon its inception in 1921. In the Ka‘ohe-Maku‘u area, around 2,000 acres were redesignated from crown lands to “available lands,” which eventually became Hawaiian homestead lands (Hawaiian Homes Commission Act, 1920).

Between 1985 and 1986, as a part of DHHL’s accelerated awards program, the first leases in Maku‘u were awarded. One hundred twenty-seven native Hawaiian farmers were awarded 99-year agricultural homestead leases on unimproved vacant lands in Maku‘u (lands that lack infrastructure) (DHHL, 2010). The current leases in Maku‘u are agricultural homestead leases. For the five-acre Farm Lots, these include an active cultivation requirement for two-thirds of the lot and require compliance with a farm or business plan as these lots are on lands designated as Supplemental Agricultural. For those with Subsistence Agricultural awards, the lots are no more than three acres in size and require cultivation, but they do not specify a metric for cultivation or require a farm or business plan. All lots allow for development of a dwelling, but require compliance with DHHL and county standards and procedures.

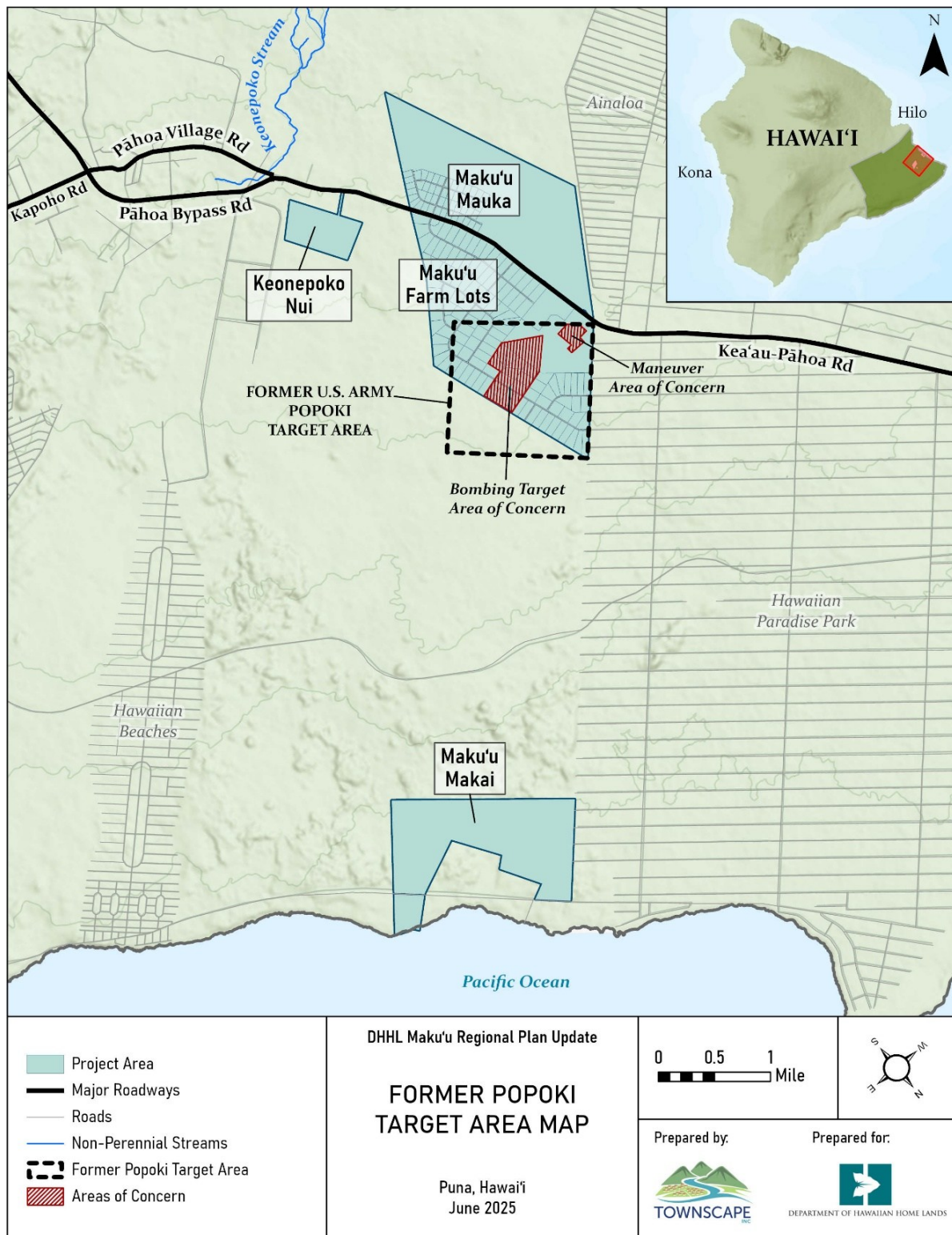
Pōpōki Target Area

In response to World War II, the U.S. Department of Defense (DoD) established the Pōpōki Target Area for military target practice. It is a 640-acre site that intersects with the current Maku‘u Farm Lots (see Figure 3). The U.S. Navy acquired the land through a sublease from U.H. Shipman Ltd. or H. Blackshear, executor of the Shipman Estate, at an unknown date. The sublease was terminated on November 1, 1945.

Investigations confirmed the site’s former military use and identified potential risks from munitions and explosives of concern (MEC) and munitions constituents (MC), qualifying it for environmental restoration under the Defense Environmental Restoration Program for Formerly Used Defense Sites (FUDS). Remediation in 2011 removed 94 unexploded ordnances (UXO) and 9,400 lbs. of debris (USACE, 2024).

The DoD identified two non-contiguous Areas of Concern (AOCs) within the site: a Maneuver AOC, used for troop training, and a Bombing Target AOC (see Figure 3). A risk assessment classified the site as low risk, though potential for encountering MEC remains. The DoD recommends subsurface removal of MECs and debris across 108 acres within these AOCs. The site is currently in long-term management, which includes monitoring, public outreach and education, and five-year reviews on its condition. The DoD holds annual public safety awareness meetings, announced via public notices and letters to landowners and beneficiaries. The awareness meetings focus on the “3 R’s,” teaching community members how to “recognize” munitions, “retreat” to safety, and “report” the situation to authorities (USACE, 2024). Aside from the annual public safety meetings, there are no anticipated future projects or actions in the area, according to a response letter from the USACE Honolulu District Public Affairs, dated July 15, 2025.

FIGURE 3. FORMER PŌPŌKĪ TARGET AREA



Surrounding Land Ownership and Uses

There is a mix of large public and private landowners surrounding the Maku‘u Hawaiian Homestead Lands.

State of Hawai‘i

The State of Hawai‘i holds a large tract of land immediately adjacent to the DHHL parcels. The State’s landholdings in this area are largely zoned for agricultural use, however some of the land is zoned as conservation, and a small section of land in the Pāhoa area is zoned as urban.

Kamehameha Schools

Kamehameha Schools is the largest private landowner in Hawai‘i. The Kamehameha Schools’ landholdings total around 7,540 acres in lower Puna to the southwest of the DHHL parcels. Their landholdings in Puna are mainly designated as agricultural usage, with exception to a relatively small portion of the southernmost tract of coastal land, which is designated as conservation. There are also two Kamehameha preschool campuses in Puna—the Kea‘au Preschool located to the north between Maku‘u Mauka and Maku‘u Makai, and the Pāhoa Preschool located to the south of the project area (Kamehameha Schools, n.d.). Much of their land in lower Puna, Kahuwai, and Pū‘āla‘a are leased to papaya growers. Puna Geothermal Venture (PGV) and Ormat Technologies, Inc. lease 3,000 acres, seven hundred of which are in the geothermal subzone. Kamehameha Schools also owns and oversees the stewardship of Kahuwai Village, a cultural and educational site that extends over 200 acres in coastal Puna. The ancient trail system, planting areas, canoe sheds, and other cultural features located in Kahuwai Village are used to provide educational opportunities to students of Kamehameha Schools (Kamehameha Schools, 2004).

W.H. Shipman Ltd.

W.H. Shipman Ltd. is a family-owned company that was established in 1882. W.H. Shipman Ltd. acquired approximately 70,000 acres from the estate of King Lunalilo in the 19th century. Over time much of the land was sold off. Most notably in the Puna district is about 52,000 acres of “wastelands” that were sold to subdivision developers in 1950s. Many of the main, large subdivisions in the district that were once W.H. Shipman lands include Hawaiian Paradise Park, Mauna Loa Estates, and others. Numerous social service facilities between Kea‘au and Hawaiian Paradise Park and Orchidland Estates are on currently and/or formerly owned Shipman lands. At present, W.H. Shipman, Ltd. owns almost 18,000 acres in Puna, a large parcel of which is located to the northeast of the DHHL parcels, and a relatively smaller lot of land directly adjacent to Maku‘u Makai (see Figure 4).

Office of Hawaiian Affairs

The Office of Hawaiian Affairs (OHA) owns and manages 25,856 acres of land southwest of the DHHL lands in Maku‘u, located within the ahupua‘a of Waiakahiula (OHA, 2025). Acquired by OHA in 2006, this area is known as the Wao Kele o Puna, which translates to “the upland forest of Puna.” OHA’s mission for this land is to preserve its natural and cultural resources while safeguarding the traditional and customary rights of Native Hawaiians. The Wao Kele o Puna is designated as a protected forest reserve and is one of Hawai‘i’s only remaining lowland forests. It plays a critical role in groundwater recharge, supports native plant seed banking, provides habitat for threatened & endangered (T&E) species, and offers forest resources essential for gathering and cultural

practices. The land of Wao Kele o Puna is also considered a sacred place for Native Hawaiians because it sits on the slopes of Kīlauea, the home of the Goddess Pele, and various cultural artifacts as well as iwi kūpuna (ancestral remains) have been found within its boundaries (Nālehualawaku‘ulei and OHA, 2017). Figure 5 shows where the Wao Kele o Puna is situated within the Puna district.

Kapoho Land & Development Company Ltd.

The Kapoho Land & Development Company Ltd. (KLDC) owns approximately 3,700 acres of land in the lower East Rift Zone of Kīlauea, to the southeast of the Maku‘u Tract, as well as numerous roadways and agricultural subdivisions in the area. KLDC was formed in 1948, and county tax records indicate they acquired land in Puna between 1990 and 2010. Notable use on KLDC land is the Puna Geothermal Venture, the largest geothermal energy power plant in Hawai‘i. Many of the remaining KLDC parcels are also considered candidates for geothermal development due to their location on the lower East Rift Zone.

Other Privately Owned

The remaining lands surrounding the parcels are predominantly large privately-owned residential subdivisions, including ‘Āinaloa and Hawaiian Paradise Park to the northwest and Hawaiian Beaches to the southeast. Other residential subdivisions in the area include Orchidland Estates, Tiki Gardens, Nānāwale Estates, and Leilani Estates.

FIGURE 4: LARGE LANDOWNERS MAP

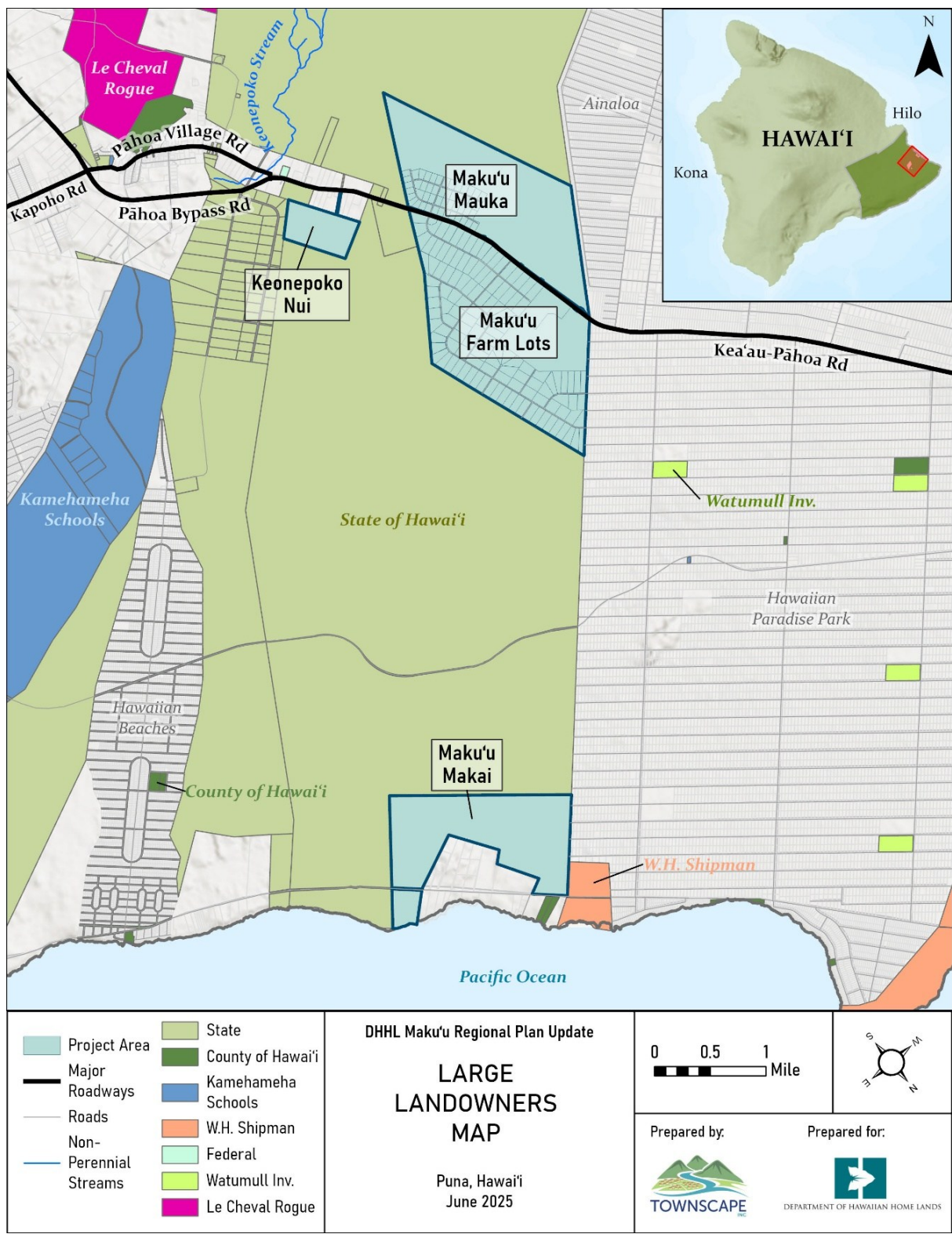


FIGURE 5. PUNA DISTRICT (YELLOW) AND WAO KELE O PUNA BOUNDARIES (WHITE)



Source: Nālehualawaku‘ulei and OHA (2017), p. 25.

Natural Hazards

Wildfire

Hawai'i's ecosystems developed without the presence of frequent fires, making them highly susceptible to significant damage from wildfires.

In Puna, land use changes from open forest and traditional agroforestry systems transitioned to sugarcane plantations and ranching, transforming the landscape. At the collapse of the sugar industry, the abandoned land became the prime environment for colonization by invasive alien plant species. Many of these species fuel wildfires in the area due to their evolved fire tolerance.

Most wildfires on Hawai'i Island result from human error or arson, particularly near developments, power lines, and roadsides (Hawai'i Wildfire Management Organization, 2024). These fires pose significant dangers, especially in residential areas, threatening property, lives, critical infrastructure, and both natural and cultural resources.

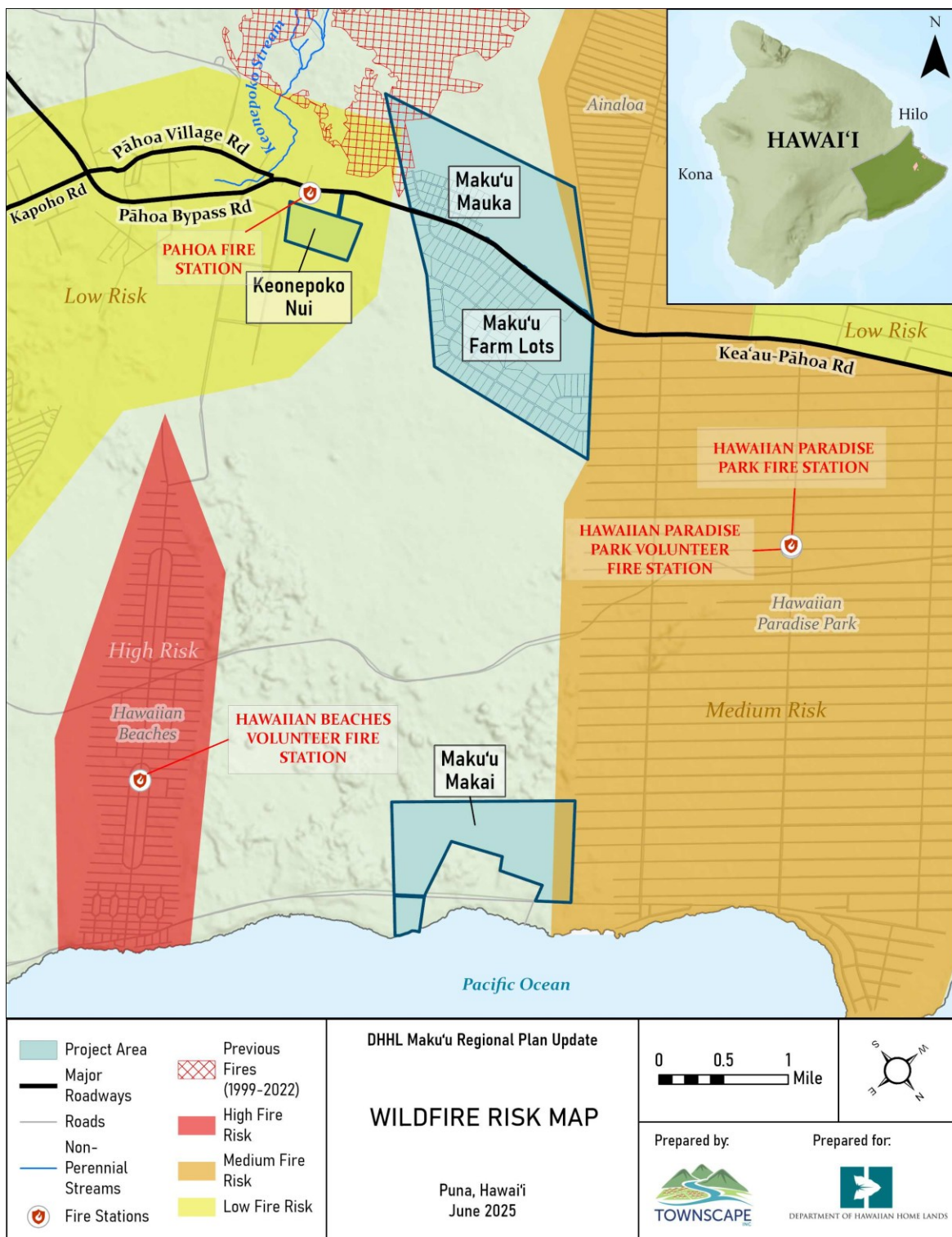
Between 1999 and 2022, two wildfires were recorded near the Maku'u Hawaiian Homestead lands, one in 2014 and one in 2015. The 2015 fire was ignited by a lava flow and burned a relatively small portion of the Maku'u Mauka parcel (see Figure 6).

The Department of Land and Natural Resources, Department of Forestry and Wildlife (DLNR DOFAW) Fire Management Program has identified the eastern portions of Maku'u Mauka and Maku'u Makai as medium fire risks, while Keonepoko Nui is in a low-risk area. The remaining portions of the parcels have no fire risk rating (see Figure 6). However, in an early consultation letter dated July 28, 2025, the County of Hawai'i Civil Defense states that periods of drought pose an elevated wildfire risk for the region.

There are four fire stations in the vicinity of the Maku'u homestead lands—two county fire stations and two volunteer fire stations—Hawaiian Paradise Park Fire Station, Pāhoa Fire Station, Hawaiian Paradise Park Volunteer Fire Station, and Hawaiian Beaches Volunteer Fire Station. The closest fire station to most of the parcels is the Pāhoa Fire Station, which is approximately 0.3 miles from Keonepoko Nui, and 0.8 miles from Maku'u Mauka and Maku'u Farm Lots. The closest fire station to Maku'u Makai is the Hawaiian Paradise Park Fire Station, approximately two miles away.

The Hawai'i Wildfire Management Organization (HWMO) scheduled a Community Wildfire Protection Plan (CWPP) meeting for Puna for 2025/2026. CWPPs are collaborative documents created by local communities, county and state agencies, and other stakeholders to assess wildfire hazards, set priorities for hazard reduction, and guide wildfire mitigation efforts and funding in wildland-urban interface (WUI) areas.

FIGURE 6. WILDFIRE RISK MAP



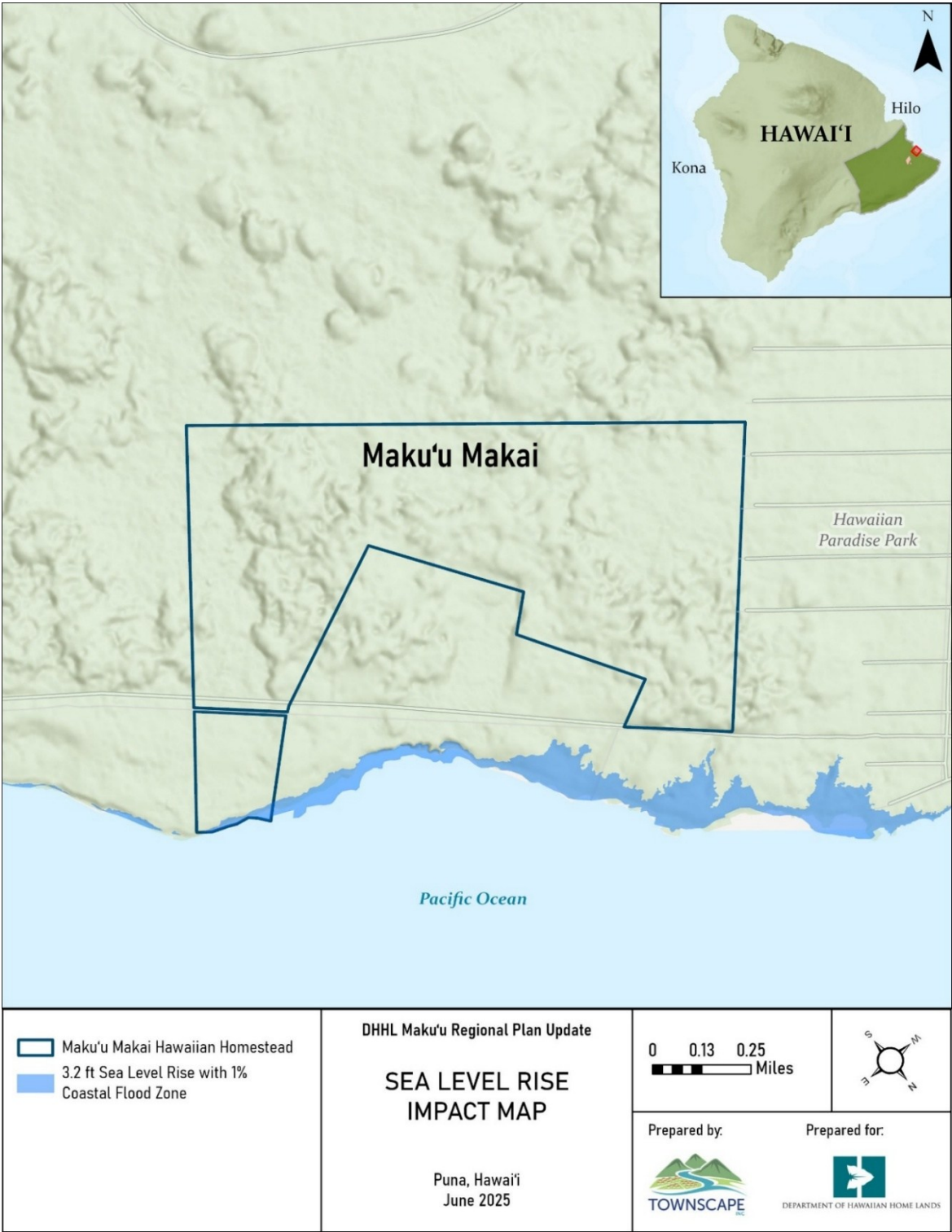
Sea Level Rise

The State of Hawai'i conservatively estimates a sea level rise of 3.2 feet by 2100, though a rise of six feet is possible by the end of the century (Hawai'i Climate Change Mitigation and Adaptation Commission, 2017). The County of Hawai'i has not produced its own formal guidance for sea level rise (SLR) planning scenarios, but in 2022, the State of Hawai'i recommended a statewide benchmark of planning for 3.2 feet of SLR by the middle of the century, and at least 4 feet of SLR for all projects by the year 2100 (DLNR Office of Conservation and Coastal Lands, 2022). The City and County of Honolulu has been the leader in SLR planning and recommends adopting a more cautionary benchmark of planning for 6 feet of SLR by 2100 (City and County of Honolulu, 2022). The State has reviewed the City and County of Honolulu's recommendations based on the latest science and will thus apply a 6-foot benchmark for public infrastructure projects as well as other types of projects with a low tolerance for risk (DLNR Office of Conservation and Coastal Lands, 2022).

In this profile, the current mid-range standard of 3.2 feet SLR with coastal flooding is included (see Figure 7). However, given the significant uncertainty surrounding SLR processes, more extreme SLR scenarios beyond the 3.2 feet standard cannot be ruled out. Furthermore, it is critical to recognize that SLR is an ongoing process; sea levels will continue to rise over time, necessitating the consideration of diverse scenarios in planning efforts.

Since most of the homestead areas are landlocked, sea level rise will have minimal impact on DHHL's landholdings in Maku'u. The primary area of concern in this profile is Maku'u Makai, where a sea level rise of 3.2 feet with 1% coastal flooding can affect the seaward most parcel of Maku'u Makai. However, the primary access road, Government Beach Road, is not anticipated to be impacted with 3.2 feet of sea level rise. The site is currently undeveloped, thus leaving no risk to human health or important infrastructure on the parcel itself by a 3.2-foot sea level rise scenario.

FIGURE 7: SEA LEVEL RISE MAP 3.2 FT. SCENARIO WITH COASTAL FLOODING



Volcanic Activity

The moku of Puna sits on the slopes of the active volcano, Kīlauea, leading to high volcanic activity in this area. Potential risks to the Maku'u Hawaiian Homestead lands associated with volcanic activity are earthquakes, loss of nearby infrastructure, and inhibited access to the parcels due to road closures and damages.

In 2018, a large volcanic event led to fissure eruptions in the Lower East Rift Zone of Kīlauea, just south of the Maku'u region. The eruptions lasted from May to August 2018. This volcanic event destroyed 700 homes in the Puna district, displaced over 2,000 people, covered 30 miles of road, and added 875 acres of new land to Hawai'i Island (National Park Service, 2021). Sections of Pohoiki Road in southeast Puna remain closed. The road restoration work is scheduled to start by the end of 2025 and is anticipated to be completed by the end of 2026 (Hawai'i County, 2025).

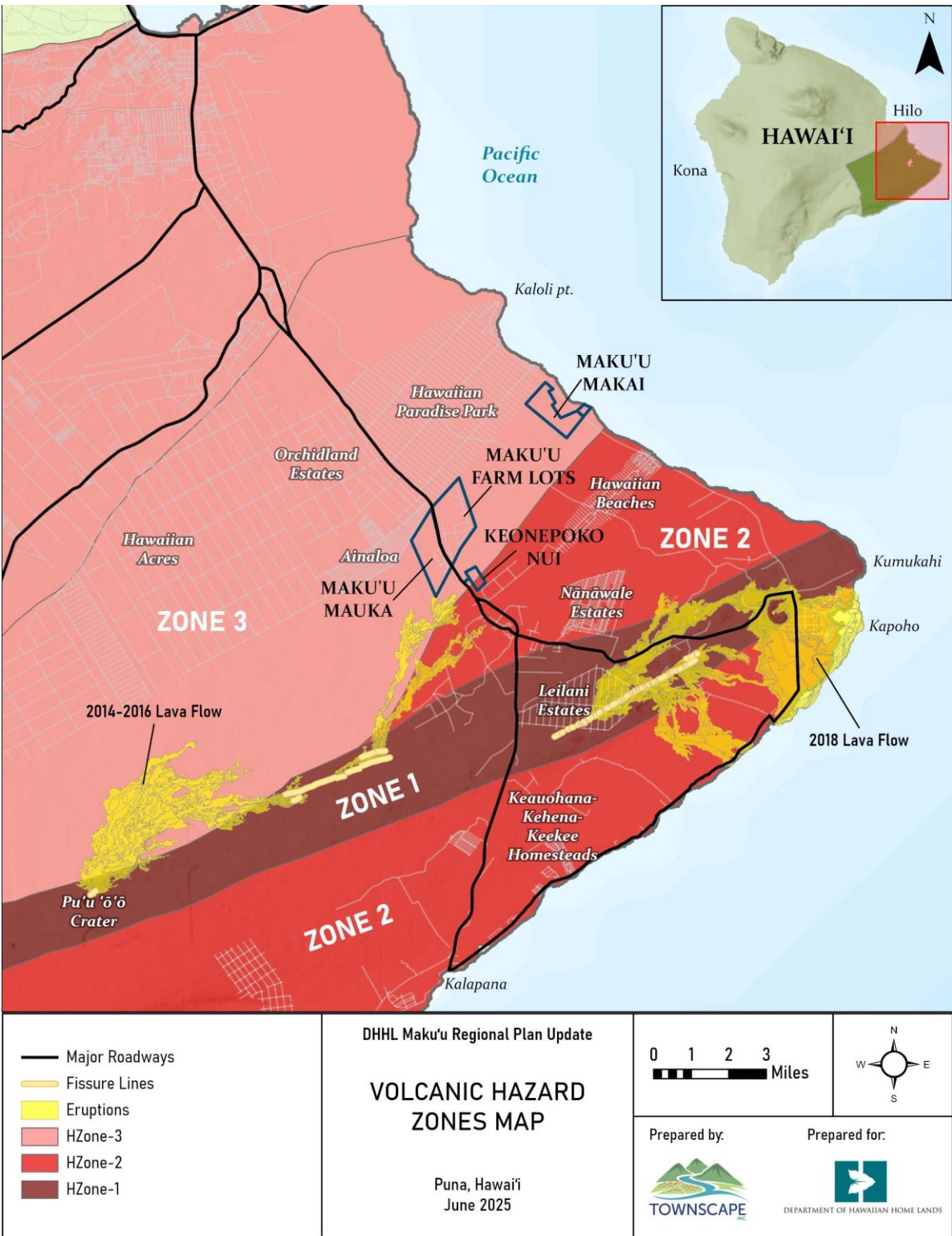
A previous lava flow from 2015-2016 came within 0.25 to 0.5 miles of the Keonepoko Nui parcel and residential lots in Maku'u Mauka.

The U.S. Department of Interior Geological Survey developed lava-flow hazard zones for the Island of Hawai'i. The lava flow hazard zones are based on three factors: the location of past eruptions, past lava coverage, and topography (USGS, 1997; USGS Hawaiian Volcano Observatory, 2023). The Hazard zones are ranked from 1 being the highest hazard, to 9 being the lowest hazard (USGS, 1997). The first three zones are defined below, with zones 2 and 3 affecting the Maku'u region (see Table 2 and Figure 8). Zone designations and risk assessment are based on the assumption that future eruptions would be similar to those in the past (USGS Hawaiian Volcano Observatory, 2023). However, it is important to note that hazard zone boundaries are approximate, and the change in degree of hazard from one zone to the next is generally gradual rather than abrupt. Additionally, zone boundaries may continue to be updated as new eruptions occur.

Table 2. Volcanic Hazard Zones

Zone	Description	Affected Parcels
1	<ul style="list-style-type: none"> Summits and rift zones of Kīlauea and Mauna Loa. Vents have been repeatedly active over historical time. Boundaries are defined by eruptive fissures, cinder cones, pit craters, graben and caldera faults. Lava flows that originate in Zone 1. 	
2	<ul style="list-style-type: none"> Areas adjacent to and downslope from Zone 1. 15-20% of Zone 2 has been covered by lava since 1800. 25-75% has been covered in the last 750 years. Relative hazard within Zone 2 decreases gradually moving away from Zone 1. 	Keonepoko Nui and portions of the Maku'u Farm Lots
3	<ul style="list-style-type: none"> Areas gradually less hazardous than Zone 2 because of greater distance from recently active vents and/or because the topography makes it less likely that flows will cover these areas. 1-5% of Zone 3 has been covered since 1800. 15-75% has been covered within the last 750 years. 	Maku'u Mauka, Maku'u Farm Lots, Maku'u Makai, Keonepoko Nui

FIGURE 8. VOLCANIC HAZARD ZONES MAP



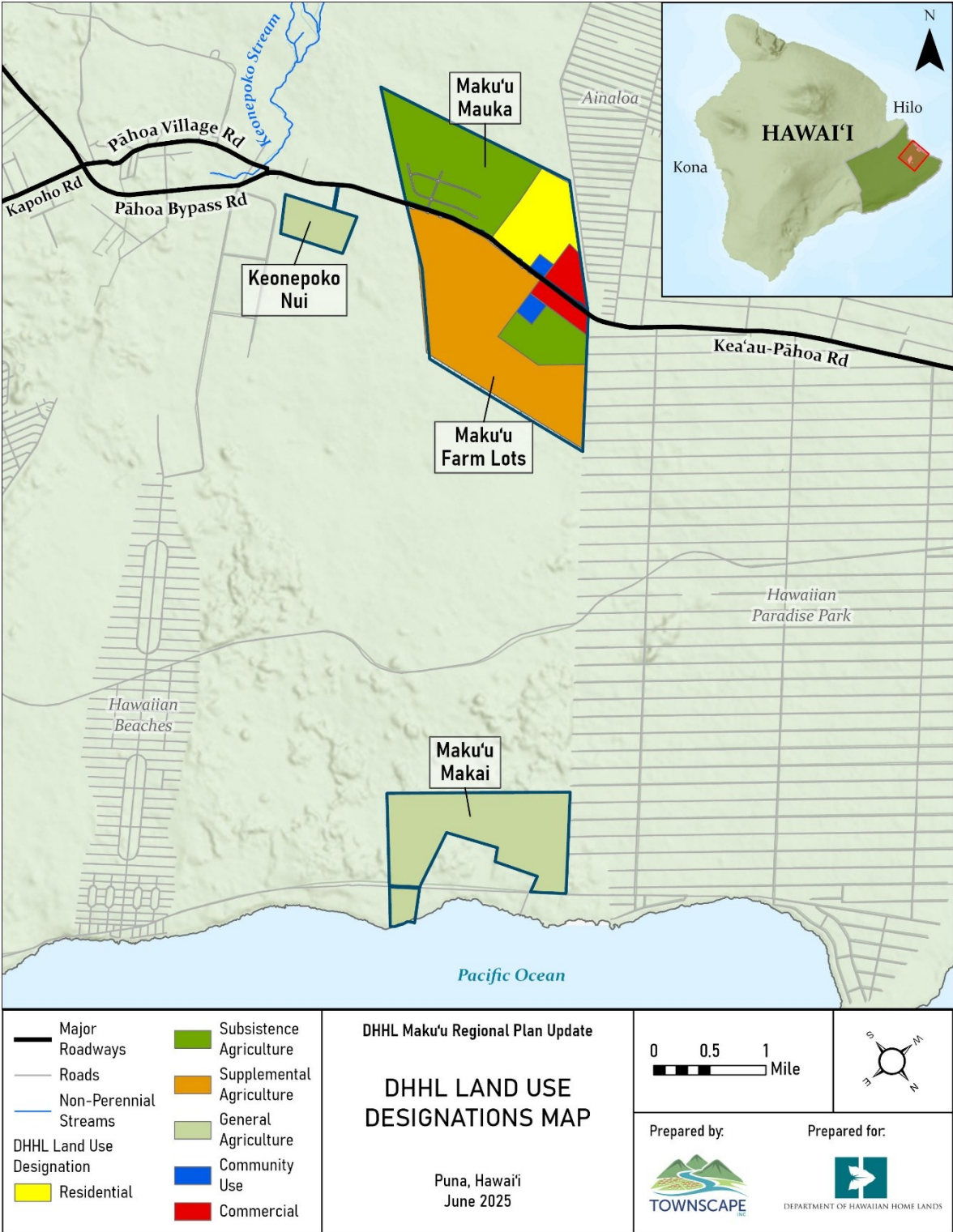
Existing Land Uses

DHHL establishes land use designations for all their lands in the respective Island Plans. The following descriptions outline the land use designations within the Maku'u region, which total 2,051.5 acres, as identified in the DHHL Hawai'i Island Plan (2002) and shown in Figure 9:

- **Subsistence Agriculture (560.1 acres):**
 - Small agriculture/aquaculture lots. Marginal to good lands. Lifestyle areas intended to allow for home consumption of agricultural products.
 - Occupancy required. Lots awarded to applicants on the agricultural waiting list.
- **Supplemental Agriculture (685.3 acres):**
 - Large lot agriculture/aquaculture. Marginal to good lands. Location not dependent upon existing infrastructure. Commercial level agriculture activity allowed. Intended to provide opportunities for agricultural production for supplemental income and home use.
 - Occupancy optional. Lots awarded to applicants on the agricultural waiting list.
 - Farm plan required.
- **Residential (187.3 acres):**
 - Residential subdivisions built to County standards in areas close to existing infrastructure.
 - Lots awarded to applicants on the residential waiting list.
- **Community Use (28.0 acres):**
 - Common areas for community use. Includes space for parks and recreation, cultural activities, community based economic development, and other public amenities.
 - No lot size restrictions at present. Infrastructure must meet County standards.
- **General Agriculture (500.0 acres):**
 - Prime agricultural area. Commercial level agriculture.
- **Commercial (90.8 acres):**
 - Lands suitable for retail, business, and commercial activities.
 - No lot size restrictions at present. Infrastructure must meet County standards.

Based on the 2023 Annual Report, there are 120 agricultural leases in Maku'u. Since then, an additional 32 Subsistence Agriculture Lots and 20 Farm Lots have been awarded to lessees in November 2024.

FIGURE 9: DHHL LAND USE DESIGNATION MAP



Maku'u Makai

Maku'u Makai is the seaward-most parcels of the Maku'u region and spans approximately 519 acres (DHHL, 2025). It is largely covered by lowland shrubs and sparse trees. This parcel lacks water and sewer services and was previously listed by DHHL as a non-priority site for development due to high infrastructure development costs (PBR Hawai'i, 2002). It is thus recommended for General Agriculture Use in the DHHL Hawai'i Island Plan (2002). The soil has a carrying capacity index of 10 acres per animal unit yield and is classified as bedrock that has not been weathered. The area experiences temperatures between 59°F and 80°F and receives 100 to 150 inches of annual rainfall. It features mild slopes ranging from 0 to 5 percent and elevation ranging from sea level to 118 feet. The land is bordered by Hawaiian Paradise Park to the northwest, and State-managed lands to the east and southeast. It is accessible via Ala Hele o Puna Road, which intersects the parcel, and Ka'aahi Road along the mauka boundary.

In the update for the 2002 Hawai'i Island Plan, important land use designation changes to ensure safety and align with conservation goals are being proposed. The 36-acre parcel located makai of Government Beach Road is now designated as Conservation land. This area, situated in a tsunami evacuation zone, flood-prone region, and sea-level rise risk area, now aligns with the State's Conservation Land Use designation. Additionally, the mauka portion of Maku'u Makai, covering 483 acres, is proposed to be redesignated as DHHL Kuleana Lands. This parcel, previously zoned for General Agriculture, is overgrown and lacks infrastructure, making it unsuitable for turn-key residential or traditional homestead development (PBR Hawai'i, 2002). Kuleana Lands are a part of the DHHL Kuleana Homestead Program, an alternative program to traditional Hawaiian homesteads, where beneficiaries can lease un-improved, off-grid homestead lots, thus reducing the timeline for beneficiaries to settle on the land.

Maku'u Mauka

Maku'u Mauka, approximately 682 acres, is located mauka of Kea'au-Pāhoa Road (Highway 130). The DHHL Hawai'i Island Plan (2002) designation includes Subsistence Agriculture, Residential, Commercial, and Community Use. It is listed as a non-priority site for development due to a lack of infrastructure. DHHL developed smaller arterial streets within the parcels to provide access to developed agriculture lots. Homestead lots primarily use water catchment systems and lack sewer service systems. Immense infrastructure improvements are needed to support beneficiaries' residency and agricultural practices. Three projects proposed the creation of two subdivisions within Maku'u Mauka and were estimated to cost \$15.8 million to be completely funded by DHHL.

In the ongoing update for the 2002 Hawai'i Island Plan, the following land use designations are proposed for Maku'u Mauka: approximately 261 acres for residential, 331 acres for subsistence agriculture, and 90 acres as Special District to serve as a buffer from the 2014-2015 lava flows (DHHL, 2025).

Maku'u Farm Lots

The Maku'u Farm Lots consist of a total of 868 acres, with the majority of lots zoned for Supplemental Agriculture and Subsistence Agriculture (DHHL, 2010). A smaller portion of the parcel is zoned for Commercial and Community Use (93 acres and 28 acres, respectively). A 38-acre

parcel of this land is leased to the Maku'u Farmers Hawaiian Homesteaders' Association (MFHHA), where they conduct weekly farmers markets and aim to build a community center.

In the 2012 Hawai'i Island Plan Update, proposed land use designation changes for the Maku'u Farm Lots parcel to include designating 146 acres as Industrial to serve as a Restricted Area due to the presence of the Federal Aviation Administration (FAA) traffic control towers, ensuring safety and compliance with regulatory standards. The plan preserves 705 acres for Subsistence Agriculture Lots, supporting agricultural activities and sustainable land use. Additionally, the proposal includes designating 8 acres for residential use, 5 acres for commercial purposes, and 24 acres for community use, with two acres of the previous community use area reallocated to the restricted area. These adjustments aim to optimize land use, balance community needs, and enhance land management within the region.

Keonepoko Nui

Keonepoko Nui is a 100-acre rural parcel just north of Pāhoa Town. It is recommended for General Agriculture Use and listed as a non-priority site for development due to its lack of infrastructure, limited access via a dedicated flag off Kea'au-Pāhoa Road, and parcel size. The parcel is bordered by state-managed lands and Keonepoko Homestead. It is undeveloped and largely covered with Ōhi'a Lehua trees and scrub grass. The parcel is relatively flat with a maximum slope of around 5 percent and an elevation between 540 to 600 feet. Temperatures on this parcel range from 56°F to 80°F. The annual rainfall is 150 to 200 inches (PBR Hawai'i, 2002). The soil is of marginal quality and primarily volcanic material with a carrying capacity of 8 acres per animal unit. Beneficiaries support agricultural use, consistent with surrounding land use.

The ongoing update to the Hawai'i Island Plan proposes to change the current designation of General Agriculture to Renewable Energy, reflecting the parcel's potential for alternative energy production due to its high solar exposure (DHHL, 2025). The parcel is located within Volcanic Hazard Zone 2 and lies just 0.25 to 0.5 miles from the most recent lava flow, making it unsuitable for residential or homestead use due to safety concerns. However, the parcel's solar potential opens opportunities for renewable energy development, such as a solar farm.

Homestead Uses

Subsistence Agriculture

Subsistence Agriculture Land Use Designations are agricultural lots that are one to three acres in size. Currently, approximately 560 acres across Maku'u Mauka and the Maku'u Farm Lots are designated for Subsistence Agriculture under the DHHL land use designation. In November 2024, thirty-two two-acre Subsistence Agriculture Lots were awarded.

Supplemental Agriculture

Supplemental Agriculture Land Use Designations are agricultural lots that are over three acres and up to 40 acres in size. In the current DHHL Land Use designation, approximately 685 acres of the Maku'u Farm Lots are zoned for Supplemental Agriculture. In November 2024 as part of the Maku'u-Honomū offering, twenty Supplemental Agriculture Lots were awarded.

This land is proposed to remain as Supplemental Agriculture in the Hawai'i Island Plan land redesignation process. However, the total area of Supplemental Agriculture land is proposed to grow to 705 total acres due to adjacent lands that will be redesignated.

Residential

Residential homestead is designated within the Maku'u Mauka parcel; however, the area is not yet ready for residential development due to the lack of sewage infrastructure (DHHL, 2002).

Non-Homestead Uses

Community Uses

There are two parcels designated for Community Use that total 28 acres in the Maku'u Mauka and Maku'u Farm Lots parcels. The Maku'u Farmer's Association leases 38 acres of land under a license agreement with DHHL to expand their farmer's market. The Maku'u Farmers Market is a popular weekend market that hosts around 170 vendors every Sunday. The market provides a steady stream of income for the MFHHA and helps to support homestead farmers in the region.

'O Maku'u ke Kahua, the non-profit organization established by the MFHHA, also oversees a community gardening program called the Māla Ho'oulu 'Ike, which aims to provide sustainable food production opportunities for homestead beneficiaries and the broader community to engage in through educational workshops and providing access to community farming facilities ('O Maku'u ke Kahua, n.d.). Additionally, the MFHHA is currently fundraising to build a community center. The community center would be the first of its kind in Puna, and the vision for the center is to create a space centered on Hawaiian values and perpetuating culture via cultural workshops, educational and after-school programs, community outreach events, culinary events, and wellness activities, while also creating employment opportunities ('O Maku'u ke Kahua, n.d.).

General Agriculture

Lands that are currently designated as General Agriculture are not necessarily best suited for farming but were only previously designated as such because of their lack of infrastructure and unsuitability for homesteading (DHHL, 2023). Thus, in the updating process of the Hawai'i Island Plan, all General Agriculture lands across the state are to be redesignated appropriately. However, the existing General Agriculture Lots in Maku'u are described below.

More than half of the agricultural lots in the Maku'u region awarded to beneficiaries are vacant due to a lack of infrastructure, economic constraints, and/or a lack of agricultural education and training (DHHL, 2010). The community and beneficiaries have expressed concerns about safety due to the vacant lots. Thus, it has been a past priority to provide agricultural education to beneficiaries, assist homestead farmers in developing farm plans to adhere to, and revoke leases from unused lots and re-award them to beneficiaries that are willing to engage in agricultural activities on the land.

The 100-acre Keonepoko Nui parcel is currently zoned for General Agriculture use. The lot possesses marginal soil quality. It is currently undeveloped and unused. The lack of access, infrastructure and the small size of the parcel constrain its development and use (DHHL, 2010).

The 500-acre Maku'u Makai parcel is also currently designated as General Agriculture (PBR Hawai'i, 2002). These lands were originally designated as General Agriculture due to their unsuitability for other uses, primarily because of the lack of infrastructure and high cost of development in the area. Thus, these lands are currently vacant and overgrown. However, thirty-six acres of the Maku'u Makai parcel on the makai side of the Government Beach Road are proposed to be redesignated as Conservation land because it is in a tsunami evacuation zone and a shoreline area.

The remaining Maku'u Makai General Agriculture lands on the mauka side of the Government Beach Road are proposed to be redesignated as DHHL Kuleana Lands. This would allow for additional homesteading on these lands, but for those who are interested in more off-grid lifestyles.

Commercial

A 30-year Mercantile Commercial license was awarded to Jerry Schweitzer dba., which operates Maku'u Gas. It operates on 1.93 acres of DHHL land in the Maku'u Mauka parcel (TMK (3) 1-5-010:004 (p)). The lease is valid from 5/22/2001-12/31/2030 and the annual lease rent is \$240.00. In 1998, a 17-year General Lease was awarded to the U.S. Department of Transportation Federal Aviation Administration, Western Pacific Region on 170.884 acres of land in Maku'u (TMK (3) 1-5-010:017 (p)). After the initial lease term expired in 2015, the FAA entered into another long-term agreement for the land, with an annual rent of \$28,800.

Regional Revenue Generation

The Department receives revenue from various land uses through annual lease rent payments. The table below details the land use types and corresponding annual lease rents reported in the 2023 DHHL *Annual Report*. This data excludes revenue and acreage from homestead residential uses, as well as non-revenue-generating lands designated for community use, easements, and public services. Only lands that generated revenue for the Department, as noted in the 2023 DHHL *Annual Report*, are included in this section.

In fiscal year 2022, the DHHL land inventory in the Maku‘u region generated a total of \$29,040 (see Table 3). The total land inventory for General Leases, Rights-of-Entry, and Licenses on Hawai‘i Island covers 40,571.5 acres, with Maku‘u’s 172.8 acres comprising less than one percent of the revenue-generating lands on the island. Statewide, the total revenue from all DHHL General Leases, Rights-of-Entry, and Licenses is approximately \$19.82 million. (DHHL, 2023)

Table 3. Maku‘u Regional Revenue in Fiscal Year 2022

Land Use	Annual Lease Rent
Commercial	\$ 240
Government	\$ 28,800
TOTAL	\$ 29,040

DHHL uses four types of land dispositions: leases, licenses, revocable permits, and rights of entry. Each carry specific terms.

1. Leases: provide the lessee the right to exclusive use and possession of the land for a definite period of time
2. Licenses: provide a personal, revocable, non-assignable right, not considered an interest in the land, which is usually non-exclusive
3. Right-of-Entry: provides the right to enter upon land in possession of another for a special purpose without being guilty of a trespass
4. Revocable Permits: provide temporary occupancy by direct negotiation without public auction

As of 2023, there are seven land use dispositions in Maku'u, of which one is a general lease, five are licenses, and one is a right of entry, totaling \$24,040 in revenue per year. Table 4 lists the current land dispositions in Maku'u. The land uses as of June 30, 2022, from the DHHL 2023 Annual Report are as follows:

Table 4. Land Dispositions in Maku'u

Type	No.	TMK “(p)” denotes portion of parcel	Use	Lessee, Licensee, or Permittee	Term	Acreage	Annual Lease Rent
General Lease	247	(3)1-5-010:017 (p)	Government	U.S. Department of Transportation, Federal Aviation Administration, Western Pacific Region	17 years	170.844	\$28,800.00
License	288	(3)1-5-008:003 (p) 1-5-010:004 (p), 017 (p)	Easement	Hawaii Electric Light Company, Inc. & Hawaiian Telecom, Inc.	Perpetual	9.903	\$0
	348	(3)1-5-008:003 (p) 1-5-010:004 (p), 017 (p)	Easement	State of Hawaii Department of Transportation	Perpetual	10.025	\$0
	456	(3) 1-5-010:004 (p)	Commercial	*Jerry Schweitzer dba, Maku'u Gas	30 years	1.928	\$240.00
	509	(3)1-5-119:047(p)	Easement	Hawaii Electric Light Company Inc.	21 years		\$0
	649	(3)1-5-010:041 (p)	Community	*Maku'u Farmers Association	55 years	38.0	\$0
Right-of-Entry	701	(3)1-5-119:051; (3)1-5-118:048; (3)1-5-120:036; (3)1-5-121:046	Telecomm	Hawaiian Telcom, Inc.	12 months, extended 12 months	46.011	\$0

*Denotes Native Hawaiian individual or corporation/organization

State and County Land Use Designations

In general, the DHHL Island Plan Land Use Designations are consistent with State Land Use Districts and County Zoning. Where they may be inconsistent, DHHL may exempt itself from the State Land Use Law and County land use regulations pursuant to the HHCA, Section 204.

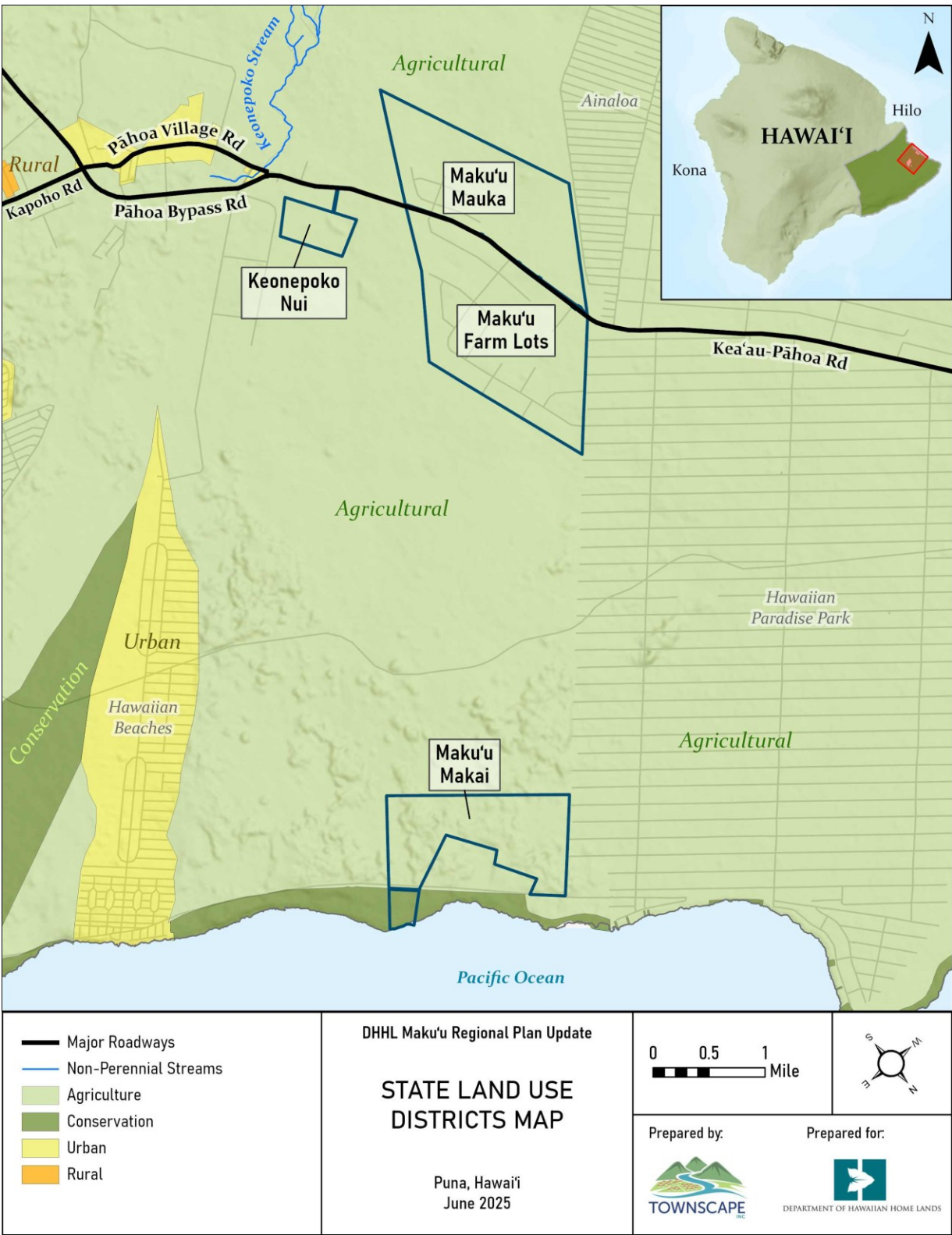
State Land Use Districts

The State Land Use Commission classifies all lands in Hawai'i into one of four districts—agricultural, conservation, urban, or rural—in accordance with Hawai'i Revised Statutes (HRS) §205-2. The Commission's role is to evaluate whether lands should be preserved or developed to best serve public interests and welfare.

The Maku'u region is predominantly classified under the Agricultural district, which includes lands designated for crop cultivation, aquaculture, livestock raising, wind energy facilities, timber cultivation, and agriculture-related activities such as mills and employee housing. Additionally, this district encompasses land with significant agricultural potential.

A small portion of the Maku'u Makai parcel is zoned under the Conservation district. This classification primarily covers lands within existing forest and water reserve zones and includes areas vital for watershed and water source protection, scenic and historic preservation, parks, wilderness, open spaces, recreational areas, habitats for endemic species, and all submerged lands seaward of the shoreline. The Conservation district also includes lands prone to flooding and soil erosion. For more details, see Figure 10.

FIGURE 10. STATE LAND USE DISTRICTS



Land Use Pattern Allocation Guide

The Hawai‘i County Land Use Pattern Allocation Guide (LUPAG) provides a visual representation of the land uses outlined in the County of Hawai‘i General Plan (2005). While LUPAG is not a zoning map and does not govern land use, it illustrates potential future land use patterns (County of Hawai‘i, 2024). Most of the Maku‘u region is designated for Extensive Agriculture (EA), defined by the County of Hawai‘i as “Lands not classified as Important Agricultural Land. Lands that are not capable of producing sustained, high agricultural yields without the intensive application of modern farming methods and technologies due to certain physical constraints such as soil composition, slope, tillable by machine, and climate. These lands are better suited for other less intensive agricultural uses such as grazing and pasture and can support additional residential densities when situated near Urban Growth Areas (UGAs). Dwelling density up to 1 unit per acre, although additional units may be allowed with permitted additional farm dwellings” (County of Hawai‘i, 2005, sec. 14-9). A small portion of Maku‘u Makai is considered an Open Area, which are lands that should be protected and preserved for their natural resources (County of Hawai‘i, 2005).

Figure 11 illustrates the County LUPAG designations for the Maku‘u region.

County Zoning

The Hawai‘i County Code Chapter 25 outlines the permitted land uses and establishes regulations and standards for land development. The table below lists the zoning designations for the Maku‘u Hawaiian Homestead Lands and the corresponding homesteads within those zones. Additional information can be found in the County Zoning Map (see Figure 12).

Table 5. County Zoning Classifications by Homestead

Homestead	County Zoning
Maku‘u Mauka	A-20a, A-1a, RS-15
Maku‘u Farm Lots	A-5a, CV-38, FA-1a
Keonepoko Nui	A-5a
Maku‘u Makai	A-5a, A-1a

Zoning Classifications

A-20a	Agricultural district; minimum building site of 20 acres
A-5a	Agricultural district; minimum building site of 5 acres
A-1a	Agricultural district; minimum building site of 1 acre
FA-1a	Family agricultural district; minimum building site of 1 acre
RS-15	Single-family residential district; minimum building site area of 15,000 square feet
CV-38	Village commercial district; minimum land area of 38,000 square feet required for each building site

FIGURE 11: LAND USE PATTERN ALLOCATION GUIDE MAP

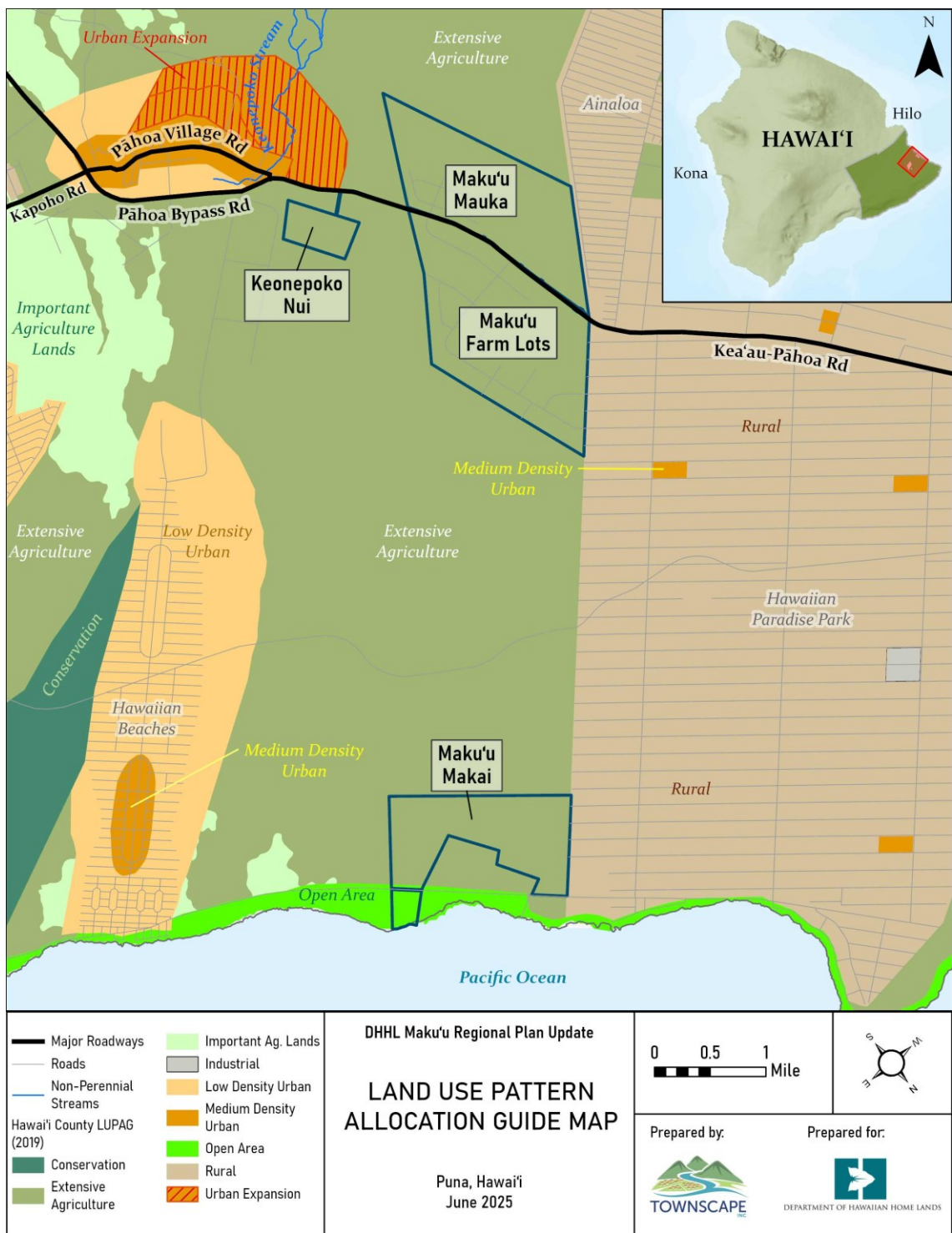
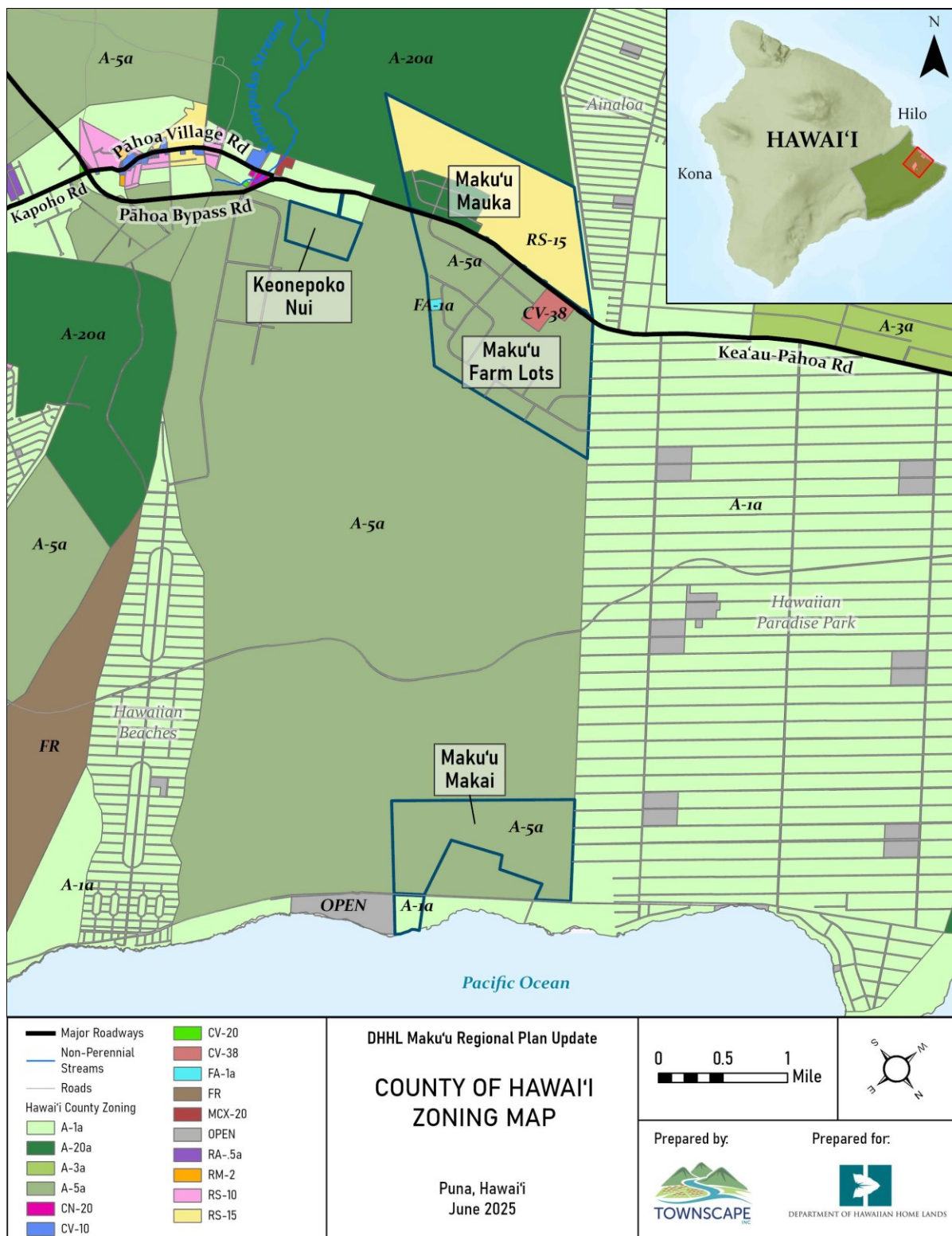


FIGURE 12: COUNTY ZONING MAP



Infrastructure

Water Sources and Systems

Groundwater Resources

Pumped groundwater is the sole source used by public and private water supply purveyors in the area. Groundwater use by category in the Puna District is composed of 33.7% Agriculture, 14.8% Municipal (non-DWS), 10.6% Municipal (DWS), and 40.9% Domestic. These categories use 2.22 mgd (million gallons per day), 0.98 mgd, 0.70 mgd, and 2.69 mgd of water, respectively (Fukunaga & Associates, Inc., 2010).

The majority of the Puna district, including the Maku'u area, is situated within the Kīlauea Aquifer Sector Area (ASA), also known as the Kīlauea Hydrologic Unit. There are four Aquifer System Areas (ASYA) within the Kīlauea ASA: Pāhoa, Kalapana, Hilina, and Keaiwa (see Figure 13). The sustainable yield (SY) of the entire Kīlauea ASA is 618 mgd (Fukunaga & Associates, Inc., 2010). It is made up of three water service systems: the 'Ōla'a-Mountain View Water System, the Pāhoa Water System, and the Kalapana Water System. The Maku'u region is situated within the boundary of the Pāhoa Water System, which sources water from four wells—two wells at the Pāhoa well field and two wells at Keonepoko Nui.

The Department of Water Supply (DWS) is the largest purveyor of potable water on the island of Hawai'i. Subdivisions and residential areas that receive county water services currently surrounding the Planning Area include portions of the following: Pāhoa Town, Nānāwale Estates, Hawaiian Paradise Park, Kalapana, and Kapoho (see Figure 14). Presently, not all of the Maku'u homestead lots are serviced by a piped water supply. The DWS currently only services 99 lots that are below 523 feet elevation (Engineers Surveyors Hawai'i, Inc., 1994). Lots above 523 feet elevation are not currently serviced by a piped water supply due to inadequate water pressure, which includes much of Maku'u Mauka, Maku'u Farm Lots, and Keonepoko Nui (DHHL, 2010). In the 2002 DHHL Hawai'i Island Plan, Maku'u was identified as a non-priority area for the provision of piped water services due to costs, even though in 1994 DHHL had developed a master plan to provide water service to the entire Maku'u region. However, this project regained momentum and became a priority during the time of the 2010 Maku'u Regional Plan Update, when an exploratory well was drilled at 826.74 feet elevation (Water Resources Hawai'i, 2005; DHHL, 2010). Before extending water services in Maku'u, pressure testing and chlorination must be conducted on existing pipes. Once testing is completed, the exploratory well must be converted into a production well, and a reservoir and supporting facilities must also be built. Once completed, twenty-two (22) additional lots would be serviced with water (DHHL, 2023).

FIGURE 13: HAWAI'I ISLAND HYDROLOGIC UNIT MAP

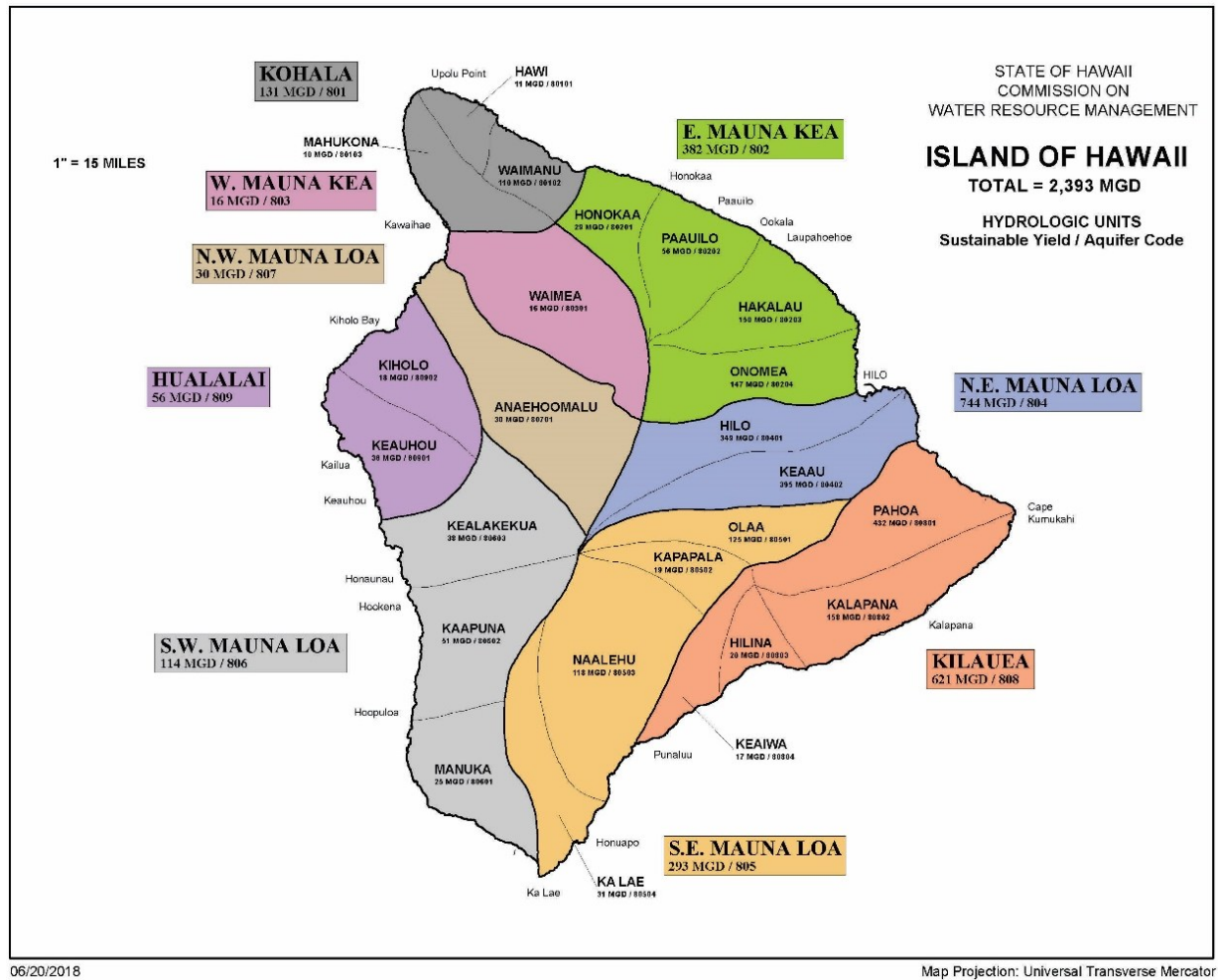
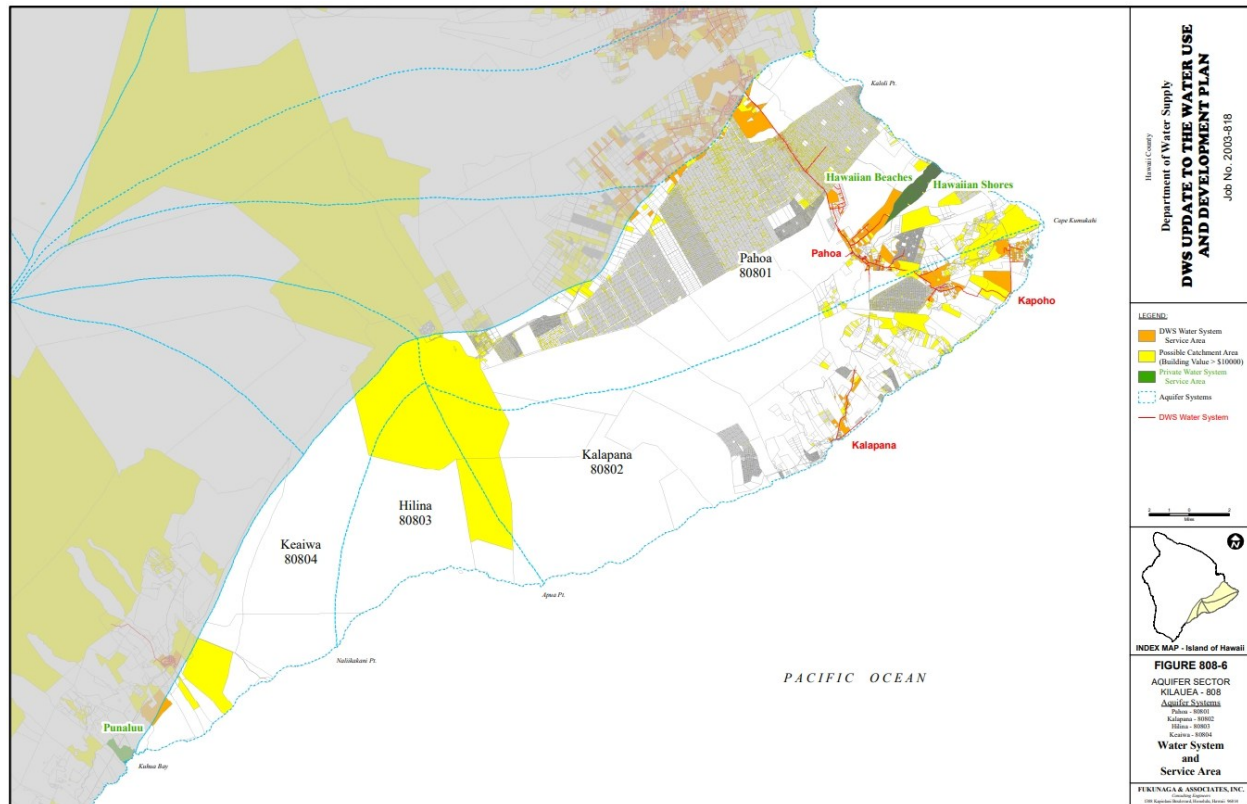


FIGURE 14. DWS WATER SYSTEM AND SERVICE AREA



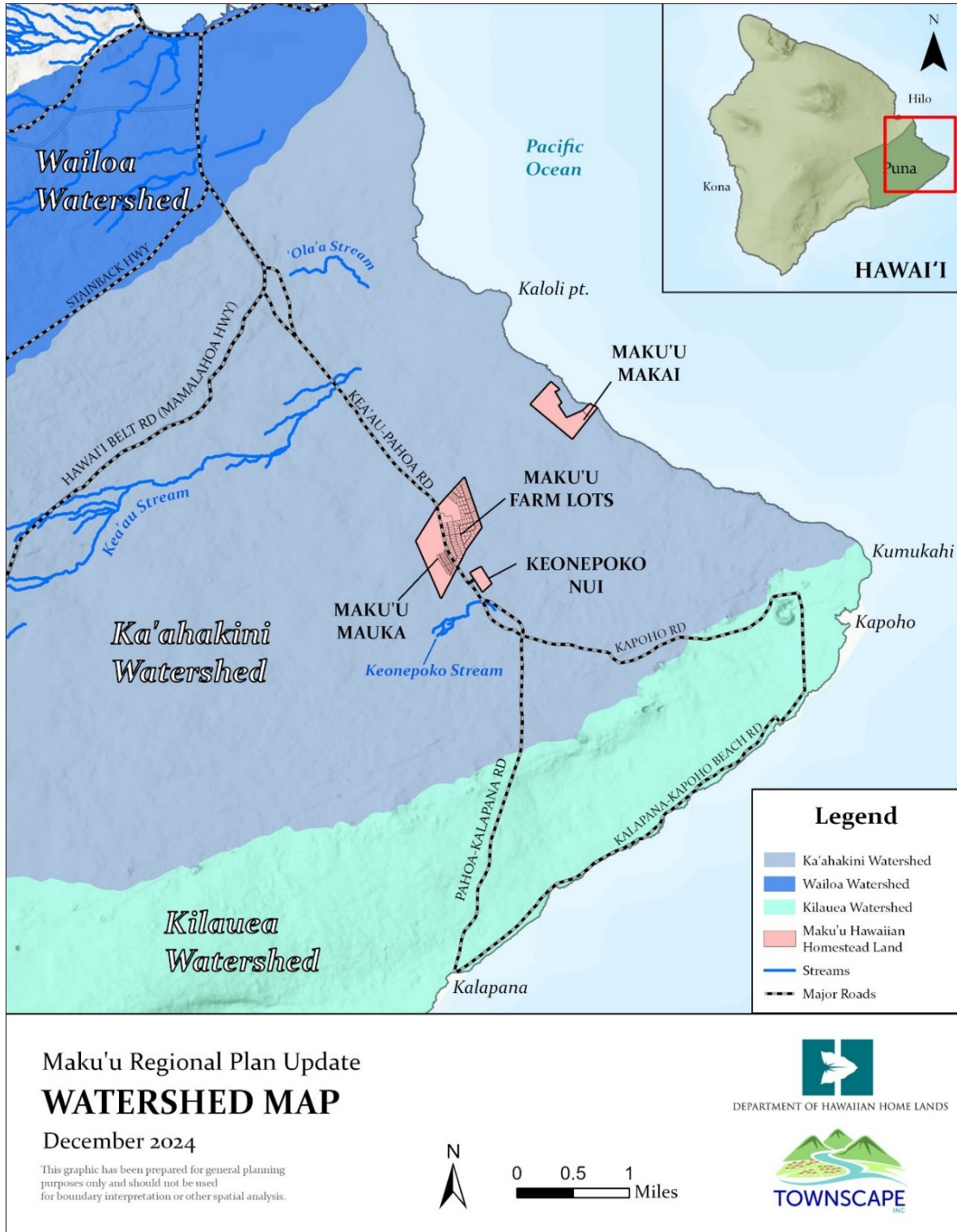
Surface Water Resources

The Maku'u region is located within the Ka'ahakini watershed, which is bordered by the Wailoa watershed to the north and Kilauea watershed to the south (see Figure 17).

Maku'u Mauka receives between 150 to 200 inches of annual rainfall, making water catchment systems possible in the area. Agriculture parcels in Maku'u Mauka are currently utilizing catchment systems. Maku'u Makai typically receives between 100 to 150 inches of annual rainfall (Fukunaga & Associates Inc., 2012). However, just receiving over a hundred inches of rain per year does not automatically make catchment viable for all water users, as monthly rainfall patterns (e.g., receiving only a few months of heavy rain and little to no rain for remaining months), catchment tank size, storage tank size, and the individual needs of the water users are all factors that affect the reliability of catchment systems (Macomber, 2020). During the development of the 2010 Maku'u Regional Plan Update, Maku'u residents expressed that all awarded lots should be provided with a reliable water service (DHHL, 2010). However, in this current update, beneficiaries have expressed a preference for rain water catchment.

Aside from rain-fed individual catchment systems, there are limited surface water resources in the Puna district. There is only one registered stream diversion, and no perennial streams. Keonepoko Stream, which runs to the south of the Keonepoko Nui parcel, is a non-perennial stream. Surface water from streams is not considered to be a viable water resource for the Puna district.

FIGURE 17. WATERSHED MAP



Non-Potable Water

There are no existing non-potable irrigation/water systems in the Kīlauea ASA (i.e. ditches and perennial streams), with the exception to one registered stream diversion. Most agricultural and irrigation needs are satisfied by rainfall.

In order to develop the lands in Maku'u Mauka to support its recommended uses by DHHL, adequate water service infrastructure would have to be provided for the homesteads. A total average demand of 4.043 mgd is projected for both existing and proposed lots in Maku'u Mauka, Maku'u Farm Lots, and Keonepoko Nui through the year 2023 (Fukunaga & Associates Inc., 2020). Proposed lots are recommended for residential, subsistence agriculture, community, and cultural uses. Of the total projected water demand, 0.66 mgd will be needed for potable uses for the proposed residential and community developments, and 3.383 mgd will be needed for nonpotable uses (Fukunaga & Associates, Inc., 2020).

No potable or nonpotable water demands were proposed by DHHL for Maku'u Makai.

Water for the proposed lots in Maku'u Mauka and Maku'u Farm Lots was initially planned to be provided by the DWS Pāhoa Water System, which in 2005 pumped 0.55 mgd from its four wells, operating at a total capacity of 1.91 mgd (Fukunaga & Associates, Inc., 2012). However, the 2020 update to the State Water Projects Plan (SWPP) states that additional sources would be needed to meet the projected demand for potable water.

Wastewater Systems

Maku'u is not currently serviced by the County's sewer system, much like many homes in the Puna district which rely on on-site sewage disposal systems (OSDS) for their wastewater needs. There are 21 OSDS within Maku'u, with cesspools as the primary type. There are 20 cesspools across Maku'u Farm Lots and Maku'u Mauka, and there is a single Class I OSDS located in Maku'u Farm Lots (see Table 6). Cesspools discharge untreated human waste and household gray water into the ground, posing risks to drinking water, nearshore recreation activities, and aquatic ecosystems. Cesspools are particularly problematic in the Maku'u region because of the high groundwater table, making contamination more likely when untreated waste is very proximate to the water resource (DHHL, 2010). Statewide, there are approximately 88,000 cesspools across the State of Hawai'i, with 50,000 of them located on the island of Hawai'i.

Table 6. OSDS classes and definitions

Class	Definition	Affected Parcels	Quantity
Class I	Systems where the effluent is subjected to soil treatment	Maku'u Farm Lots	1
Class II	Septic systems discharging to a seepage pit	N/A	0
Class III	Aerobic systems discharging to a seepage pit	N/A	0
Class IV	Cesspools	Maku'u Farm Lots Maku'u Mauka	16 4

Because of the environmental risks associated with cesspools, Act 125 was passed during the 2017 legislative session, requiring all cesspools across the state to be upgraded, converted, or closed by January 1, 2050 (Hawai'i Department of Health Wastewater Branch, 2025a). Thus, cesspools within the Maku'u region will need to be updated within the timeframe to comply with Act 125. The MFHHA had previously expressed opposition to the installation of a municipal wastewater treatment plant within DHHL lands in the region during the time of the 2010 Regional Plan Update (DHHL, 2010). However, DHHL lands are not exempt from Act 125. Assessments of cesspools on DHHL lands throughout the state were conducted between 2021 to 2022, and the Hawai'i Cesspool Pilot Grant Program (CPGP) opened applications in 2023 to offer reimbursements to DHHL property owners statewide who convert their cesspools or connect to a sewage service line (HDOH Wastewater Branch, 2025b). All applications were filled out statewide. While some TMKs within Maku'u were on the DOH's eligibility list for Hawai'i Island (HDOH Wastewater Branch, 2022), connecting to a sewage service line will not be possible unless such capital improvements are made to extend wastewater and sewage services to the Maku'u area. Further, upgrading cesspools to individual septic systems is not feasible on all properties due to size constraints.

Despite these challenges, there are ongoing county-level efforts to address the issue of cesspools on Hawai'i Island and the Puna district. Fortunately, DHHL Maku'u lands are included within the scope of these efforts. The County of Hawai'i is currently producing an Integrated Wastewater Management Plan (IWWMP) guidance document, which will recommend ways to replace all cesspools on the island by expanding existing sewer systems, creating new sewer districts (i.e., building infrastructure in places that currently do not have any), and supporting private cesspool upgrades to approved Individual Wastewater Systems in rural or decentralized communities (Hawai'i County Department of Environmental Management, n.d.). The IWWMP guidance document is expected to be completed by 2026 (Hawai'i County Department of Environmental Management, n.d.). Additionally, a Programmatic Final Environmental Impact Statement (PEIS) has been conducted in the Puna district with the intention to add wastewater infrastructure to communities that currently lack service (County of Hawai'i, 2023). Several communities with high build-out rates in larger subdivisions as well as small, remote communities, known as Community Village Centers—including 'Āinaloa, Kurtistown, Maku'u Homesteads, Mountain View, Volcano, and various locations within Hawaiian Paradise Park—are identified as areas where wastewater infrastructure should be built (County of Hawai'i, 2023). However, the PEIS does not identify an order in which communities should be prioritized. The County of Hawai'i Wastewater Division provided comments during the update of the Maku'u Regional Plan, expressing interest in partnering with DHHL to provide sewer service for DHHL developments. However, the County noted that no specific project plans are currently in place. The County also recommends that nearby Pāhoa Town and the 'Āinaloa subdivision be connected to a sewer system and a decentralized treatment plant capable of producing R-1 recycled water for the community's non-potable water needs.

Electrical Infrastructure

The Hawai'i Electric Light Company, Inc. (HELCO) supplies electricity for the County of Hawai'i. HELCO purchases 112 megawatts of power from three privately-owned companies: Hilo Coast Power Company (22 megawatts), Hāmākua Energy Partners (60 megawatts), and Puna Geothermal

Venture (38 megawatts). HELCO also owns four hydroelectric units and a windfarm that provides additional energy to the system (Hawaiian Electric, 2025).

HELCO uses 34.5kV as a sub-transmission voltage and three lines are used to service the Puna, Ka'ū and North Kohala areas. The existing distribution system consists of several different voltage levels: 2.4kV, 4.16kV, 7.2kV, 12.47kV and 13.8kV. The Maku'u Farm and Agriculture Lots are supported by a 12.47 kV distribution substation located in the Hawaiian Paradise Park Subdivision. The electrical lines within the Maku'u Farm and Agriculture Lots are single-phase, 7.2 kV voltage levels.

Telecommunications

Hawaiian Telcom services Maku'u Mauka and Maku'u Farm Lots, providing phone service and internet connection to the community. Many lessees in the Maku'u region had previously inquired about acquiring digital subscriber line (DSL) access during the time of the 2010 Regional Plan Update (DHHL, 2010). Since then, fiber optic technology has been created and is considered the highest standard for the provision of internet services. Fiber optic infrastructure for the area was installed in 2024 (see Figure 18).

FIGURE 18. FIBER OPTIC INFRASTRUCTURE MAP FOR MAKU'U MAUKA AND MAKU'U FARM LOTS



Source: Oceanit Broadband Technology (2025).

Road System

Existing

Maku'u Mauka, Maku'u Farm Lots, and Keonepoko Nui are accessible via the Kea'au-Pāhoa Road (Highway 130), a state roadway under the jurisdiction of the Hawai'i Department of Transportation (HDOT) (State of Hawai'i Department of Transportation, 2025; PBR Hawai'i, 2002). Kea'au-Pāhoa Road extends to the north of the homestead lands reaching Kea'au town. It intersects with Māmalahoa Highway (also known as Hawai'i Belt Road), Stainback Highway, and Kea'au By-Pass Road. Eventually the road connects to Kanoelehua Avenue, leading into Hilo town. This road is a two-lane highway and is the only route between Hilo and Puna. Since many residents that live in Puna work in Hilo, the road becomes highly congested with traffic on weekdays (DHHL, 2010; DeMasters, 2025). Due to the congestion and lack of alternate routes, there are also concerns about evacuation from Puna in the event of a natural disaster. In Pāhoa town, Kea'au-Pāhoa Road splits to form Pāhoa Village Road and Pāhoa By-Pass Road. Pāhoa Village Road intersects Pāhoa town, and Pāhoa By-Pass Road runs to the east of it. Pāhoa town has amenities such as pharmacies, banks, schools, gas stations, auto services, a post office, grocery store, a library, and a community medical center. Within Maku'u Mauka and the Maku'u Farm Lots, small arterial streets developed by DHHL provide vehicular access to the lots (DHHL, 2002).

Maku'u Makai can be accessed via the County's Government Beach Road which intersects the makai portion of the parcel (DHHL, 2010). However, Maku'u Makai is presently overgrown and there are no roads that offshoot from Government Beach Road to improve navigation within the parcel (DHHL, 2002).

An old railroad right-of-way located between Maku'u Mauka and Maku'u Makai could serve as a potential emergency access route in evacuation situations. However, it cannot handle vehicular traffic or high traffic volumes due to both its size and multiple landownerships surrounding it, thus it is best suited for non-motorized public use, while maintaining access for area farmers and lessees (DHHL, 2010).

Planned

Puna Alternate Route Study

In 2024, the County of Hawai'i introduced the Puna Alternate Route Study, which seeks to identify new potential locations for an alternative route into Puna. Currently, the only access route between Puna and Hilo is Highway 130, a two-lane highway that sees over 20,000 vehicles per day in each direction. Funding for this study was secured as part of the budget proposal under H.B. 300 during the 2025 legislative session (Relating to the State Budget, H.B. 300, Thirty-third Legislature, 2025; Hawai'i House Democrats, n.d.). However, H.B. 300 stipulates that the County of Hawai'i must match state funds on a dollar-for-dollar basis. The study would result in the selection of the site for the alternate transportation route. The study would cover a broad scope across Puna, including locations mauka of Highway 130 (Brestovansky, 2024; Office of Representative Greggor Ilagan, 2025). The newly proposed study aims to alleviate traffic congestion to and from Puna as well as improving emergency response access (Hawai'i House Democrats, n.d.). However, the downside of the newly proposed study is that it excludes routes that would have serviced DHHL parcel areas (DeMasters, 2025). Thus, the Maku'u communities are still in need of improved access to roads. The

proposed route historically has been Railroad Avenue, and this proposed route has consistently been challenged by both DHHL beneficiaries and the Department itself. This route would put undue hardship on the homestead communities. The Department has consistently support beneficiary requests to oppose any siting of an alternate route through existing homestead communities, and will continue to do so.

Puna Community Medical Center

The DLNR Land Division discussed the planned projects for the Puna Community Medical Center (PCMC) in a letter dated August 4, 2025. The PCMC has obtained a lease for five acres of State land located makai of Highway 130 and between the Maku‘u Mauka and Keonepoko Nui parcels. The PCMC plans to build a regional medical center that will serve the communities of lower Puna as well as provide worker housing to its employees.

The PCMC has recently requested from the State to lease an additional 12 acres to construct an on-site sewage treatment plant and solar farm that will service the medical and housing facility. Additionally, the PCMC plans to implement small-scale agriculture on the remaining requested acres.

Project List

Projects identified by the community are meant to address the issues and concerns that were expressed by the participants in Beneficiary Consultation #1, #2, and #3. Priority projects identified in the 2010 Maku‘u Regional Plan were discussed during the beneficiary consultations to determine the relevance of those priority projects to the community today. In addition to the previously identified priority projects, attendees suggested additional projects. All project ideas considered by the community are described in the following two sections.

Previous Priority Projects

The first Regional Plan for Maku‘u was completed in 2010. The five priority projects identified in that plan and their status updates are described in the table below.

Table 7. 2010 Priority Projects

Maku‘u Regional Plan Priority Project	Project Champion	Status
Maku‘u Farmers Hawaiian Homesteaders’ Association Community Center – site preparation	MFHHA	In progress. Completed HRS 343 EA in 2011. The MFHHA is working on funding for construction. In FY 2022, the MFHHA received a \$100,000 grant from DHHL to assist in the cost for updating plans, obtaining permits, and starting construction (DHHL, 2023).

Project List

Maku'u Regional Plan Priority Project	Project Champion	Status
Maku'u Offsite Water System	DHHL	In progress. DHHL resumed discussion with Hawai'i County DWS on a well development agreement. An exploration well was constructed, but the project was put on hold due to the 2015 lava flow. The well needs to be converted to a production well, and a reservoir and supporting facilities still need to be built after the completion of chlorination and pressure testing of existing pipes. DHHL was exploring a partnership agreement with the County and funding opportunities to support water development, but no agreements or plans are in place.
Sustainability and Renewable Energy Initiatives	MFHHA	In progress. In 2009, the MFHHA launched their Renewable Energy Pilot Program, using wind power to produce energy for the Māla. During the 2010 Update, beneficiaries expressed a desire to also explore solar, recycling, and anaerobic wastewater treatment. No Renewable Energy Land Use designations were proposed thus far for the Maku'u area in the ongoing DHHL Hawai'i Island Plan update process.
Farm Plans, Capacity Building, and Promotion of Agriculture	'O Maku'u ke Kahua	In progress. The 2010 Maku'u RPU described a vision to create a cooperative for sharing large farm equipment, as well as training/support for agricultural practices and developing farm plans. 'O Maku'u ke Kahua has taken the lead on agricultural education through their Māla Ho'oulu 'Ike initiative. CTAHR technical assistance is also available to Maku'u lessees via a CTAHR Extension Agent.

Maku'u Regional Plan Priority Project	Project Champion	Status
Lease Enforcement Provisions	DHHL	In Progress. DHHL staff discovered over 300 abandoned vehicles on three (3) adjacent homestead lots in Maku'u in 2020. DHHL & the County partnered to remove these abandoned vehicles & debris that same year. DHHL continues to respond to complaints with evidence that are brought to their attention at: https://dhhl.hawaii.gov/lessee-information/ . However, the isolated location of the lots and the vacancies/non-use of the parcel makes the area susceptible to issues of squatters and dumping. The enforcement unit believes that increased presence and usage of the parcels by lessees will help to deter these crimes.

Final Project Ideas List

The following project ideas list came from the discussions in Beneficiary Consultations #1, #2, and #3. These project ideas are meant to address the needs and concerns of the community. A draft project list was refined by participants into seven (7) projects at Beneficiary Consultation #3. This project list was shared in an online survey on the project website, and beneficiaries were asked to select their top five priority projects for the Maku'u Regional Plan. The initial list of seven projects is provided below.

1. Hālau Initiative

Develop a three-acre site envisioned to support the well-being of Maku'u homesteaders by relocating current activities out of tents into permanent, functional spaces. This initiative will support the existing Māla Ho'oulu 'Ike programs and provide learning spaces and a certified kitchen focused on building community capacity for beneficiaries to farm on their own land and to encourage economic self-sufficiency and improve the success of homesteaders. Other features will include a large multipurpose gathering space for hula, community events, conferences, and farm related activities, as well as office space, a health center, meeting rooms equipped with high-speed technology. The initiative will also designate an appropriate area for a cemetery.

2. Water System Governance, Infrastructure, & Community Benefits

Ensure meaningful beneficiary consultation for any proposed changes or projects related to the water system before plans are submitted, providing opportunities for feedback and input prior to decision making. This project also explores the feasibility of empowering homesteaders or DHHL to serve as the water developer and operator; ensures critical infrastructure such as the fire hydrants have access to water; and supports small scale water treatment systems. Additionally, negotiate community benefit agreements that allocate a portion of water revenues toward the protection of natural resources and ensure beneficiaries receive direct economic benefits from projects serving the public on homestead lands.

3. Support for Agricultural Use & Infrastructure

Provide critical infrastructure, along with training, technical assistance, and resource support, for Maku'u beneficiaries to enhance food security and economic self-sufficiency. The project includes the development of a butcher processing station, a product co-op store, shared use of large equipment for residents, a mulching area, a water well or a water distribution system, and a quarry. Additionally, it establishes a specialized funding program to assist homesteaders who need financial support to cover upfront costs for fencing or other agricultural uses. This program would provide microloans for initial fencing expenses, with a clear pathway for partial or full reimbursement upon project completion.

4. Alternative Financing Program for Homesteads in Lava Zone 2 and Partnership for a Kūpuna Housing Initiative

Make DHHL Trust funds available to provide financing for housing development in Lava Zone 2 for beneficiaries who are unable to access other funding sources. This initiative would address the unique lending challenges in Lava Zone 2 by creating an alternative funding pathway for qualified applicants. As part of the program, a policy change would be sought on the requirement of

providing denial letters from lenders to demonstrate ineligibility for financing. This project also seeks to develop a 5-acre parcel, modeled after the King Lunalilo Trust’s proposed project featuring 100+ units with a range of housing options, designed to provide a safe, comfortable and culturally grounded living environment and resources for kūpuna. The site will feature a mix of indoor and outdoor spaces that encourage social interaction. Designated ‘ohana spaces will allow family members to gather, visit and remain connected. The area will be landscaped with native plants.

5. Homestead Safety and Security

Improve communication and reporting systems to support homestead safety and security. Implement proactive measures to prevent illegal dumping, hunting, animal dumping, arson and wildfires, squatters, drug activity, destructive invasive species, and other unlawful activities. Increase enforcement and compliance efforts to enhance overall community safety. Additionally, provide financial assistance or a loan program to help community members install fencing and improve the security of their properties.

6. Renewable Energy for Maku‘u Homestead

Identify and designate approximately 30 acres of land near Kaheakeola Place as a potential site for a solar farm. The primary goal is to generate renewable energy that would directly benefit the Maku‘u homestead lands by lowering utility costs and supporting energy self-sufficiency. The project will include conducting site assessments to evaluate solar potential, environmental impacts, and infrastructure needs, as well as engaging with beneficiaries and partners to explore feasible ownership, operational and benefit sharing models.

7. UXO Clearance and Monitoring Program

Provide financial resources and comprehensive remediation efforts to address pollutants and hazards on the ‘āina. All parties responsible for the Unexploded Ordnance (UXO) should be held liable and fund additional remediation for the proper identification, removal and disposal of the UXO. Costs should not fall on the lessee. To prioritize safety, a mix of subsurface scanning and geophysical surveys should be completed on properties prior to any grubbing, grading, or ground disturbance, with financial support from DHHL and all other responsible parties.

Priority Projects

Following Beneficiary Consultation #3, Maku‘u homesteaders were invited to participate in a poll to select the top five priority projects for the region from the list of seven project ideas identified in the section below. The voting criteria, established with participants at the Beneficiary Consultation #3, were as follows:

- Voting was open to Maku‘u lessees only.
- Each lessee could cast up to five votes.
- A lessee could allocate multiple votes to a single project.
- Only one submission per lessee was permitted.

This poll was open for two weeks, from Thursday, August 14, 2025 to Thursday, August 28, 2025. Maku‘u homesteaders were able to submit votes by postal mail, online form, e-mail, or phone. Notification of the voting process was e-mailed to the Maku‘u Farmers Hawaiian Homesteaders’ Association for distribution within their networks. Information about voting details was also provided to beneficiary consultation attendees and posted on the project page hosted on DHHL’s website. Additionally, postcards were mailed to all Maku‘u beneficiaries directing them to the project webpage to participate in the poll.

All participants were required to share their full name, contact information, and their lot/lease number for verification. A total of 13 responses were received, but only 12 participants provided sufficient information to confirm their status as lessees. The final voting results of eligible participants are presented in the table below.

Table 10. Priority Project Voting Results

Project	Lessee Votes	Percentage of Votes
Homestead Safety and Security	25	42%
Hālau Initiative	8	13%
Support for Agricultural Use & Infrastructure	8	13%
Alternative Financing Program for Homesteads in Lava Zone 2 and Partnership for a Kūpuna Housing Initiative	7	12%
Water System Governance, Infrastructure, & Community Benefits	5	8%
Renewable Energy for Maku‘u Homestead	4	6%
UXO Clearance and Monitoring Program	3	5%

Homestead Safety and Security

PROJECT DESCRIPTION

This project aims to improve safety and security in the homestead through multiple strategies: enhancing communication and reporting procedures, providing funding opportunities to homesteaders, implementing traffic calming measures, and addressing Unexploded Ordnances (UXOs). It also seeks to increase law enforcement presence in the homestead and response capacity to address illegal or unsavory activities more effectively. This project calls for the implementation of proactive measures to prevent the major issues impacting homesteaders such as: unauthorized access, illegal dumping, illegal hunting, animal carcass dumping, arson and wildfires, squatters on unoccupied lots, drug activity, the prevalence of destructive invasive species, traffic-related issues, and other unlawful activities. Improving the situation in the Maku'u requires both increased enforcement capacity and faster response time to enhance overall community safety. In addition to improved communication, reporting procedures, and law enforcement presence, this project explores other strategies to increase safety and security in the homestead by deterring unlawful activities and illegal access. This project aims to provide financial assistance in the form of a grants program, or similar funding assistance, to help homesteaders install fencing, gates, signage, and cameras to secure their lots. The upfront cost of purchasing fencing materials is a significant barrier for many homesteaders. Although other financial assistance programs exist, they are typically structured as reimbursement-type grants and require homesteaders to pay upfront costs, which is often not feasible.

A small grants program that covers upfront costs of materials and equipment would be a good way to support homesteaders to improve their own safety and security on their lots. These funds could be used for initial purchases for select homesteaders who are ready to provide the labor for installation, and upon reimbursement, these funds could be reused for the next 'ohana that is ready for installation. These funds would create a revolving pool of resources. This structure would maximize the impact of these funds and allow for a small amount of funds to significantly improve safety and improve the quality of life of homesteaders.

Programs that can support the removal of invasive species in the homestead, such as feral pigs and invasive plants, would also improve the ability of homesteaders to cultivate their lots. Compliance with cultivation requirements is a challenge in Maku'u due to multiple barriers, from safety and security issues that threaten the safety of homesteaders and their crops by unwanted persons, to the added difficulty of planting on lots overgrown with aggressive invasive plant species, to the risk of damage to crops, fencing, and equipment from feral pigs, and even the natural barriers that the rugged terrain presents to homesteaders. Providing support and resources to overcome these challenges is critical to the success of Maku'u homesteaders. Departmental support in addressing these issues is needed.

Specific interventions for traffic control include the installation of speed tables, security gates, and street cameras to reduce speeding and prevent trespassing. These measures, combined with improved collaboration with law enforcement, are intended to address safety concerns.

Maku'u homesteaders also deserve to reside in an area that is clear of munitions explosion and not be burdened with UXO identification and reporting. While the military has removed 94 UXOs from

Maku'u in 2011, it is still likely that there are remaining UXOs. The DoD has characterized the site as "low risk," however, any amount of risk of a munitions explosion is considered unacceptable to DHHL. Thus, this project aims to provide financial resources and comprehensive remediation efforts in Maku'u. All parties responsible for the UXO should be held liable and fund additional remediation for the proper identification, removal and disposal of the UXO. It is imperative that costs should not fall on the lessee. More robust discussions amongst responsible entities about the UXO risks are needed. To prioritize safety, a mix of subsurface scanning and geophysical surveys should be completed on properties prior to any grubbing, grading, or ground disturbance, with financial support from DHHL and all other responsible parties.

Overall, this project calls for a multi-pronged approach including better enforcement coordination, improved reporting procedures, and programs available to homesteaders to support a safe and secure homestead environment. For homesteaders to feel safe cultivating and occupying their lots, security improvements are necessary. Creating an environment in which homesteaders can feel safe and secure throughout the homestead can create a positive reinforcement loop: if homesteaders feel safe, they are more inclined to occupy and cultivate their lots. In turn, the increased presence of lessees and cultivation on the lots can further deter squatters and illegal activity.

PAST ACTIONS

- 2011 – 94 UXOs and 9,400 lbs. of debris were removed by the US Army Corps of Engineers (USACE).
- 2020 – DHHL and the County of Hawai'i partnered to clean up debris and more than 300 abandoned vehicles that were found throughout the homestead that year.
- ~2020 – Began discussions with HPD and the County about traffic safety measures, including installing speed bumps.
- Ongoing – The Department of Defense conducts annual public safety awareness meetings.

COMMUNITY INPUT

Throughout beneficiary consultations, safety and security were major concerns. During the 2010 Regional Plan Update, Maku'u lessees shared that they felt unsafe because of the high vacancy rate among the leased lots. Although many lots mauka and makai of the highway have been awarded, most remain vacant with little to no improvements. With limited presence and enforcement capacity from the Department to ensure lease compliance, the homesteads have been susceptible to illegal activities and unwanted persons. These concerns for homestead safety and mass vacancy persist today. Many homesteaders spoke about issues of arson fires, drugs, illegal hunting, squatters, dumping of trash, animal carcass dumping, and the proliferation of invasive species like feral pigs and invasive plants that are overtaking the homestead. Additionally, beneficiaries brought up the need for fencing to improve security of their homesteads. However, the major upfront costs of fencing installation are a huge barrier to homesteaders' ability to secure their lots with fencing. Additional security measures such as cameras, signage, and feasibility of creating a gated community should be explored as well. Residents have reported speeding and street racing within the homesteads.

OBJECTIVE

This project supports the values of *Aloha Kekahi i Kekahi* and *Stewarding the Ahupua'a* through ensuring the wellbeing and safety of 'āina and community members. With fencing and clearly marked homestead boundaries, homesteaders can feel safer in their homes and farms and feel confident in their ability to protect their families and secure their property. With improved and clear procedures for reporting and more collaboration for law enforcement oversight, homesteaders can feel more comfortable in reaching out for and receiving necessary assistance. This project will focus on proactive approaches to deter activities that are harmful to the homestead community and the environment. With improved safety, lessees will feel more inclined to invest in and spend time on their agricultural lots so they their lots and their 'ohana can flourish.

IMPLEMENTATION ACTION STEPS

1. Collaborate with law enforcement and community members, including Maku'u lessees, Hawai'i County Police Department, the State DLNR Division of Conservation and Resources (DOCARE), State Sheriffs, and DHHL Enforcement Unit, to discuss challenges and potential solutions.
2. Research and evaluate options for securing the entire homestead, including the feasibility of establishing a gated community, and to implement traffic calming measures.
3. Explore expansion of DHHL Enforcement Unit in the Department's organizational chart.
4. Explore funding opportunities or the creation of a funding program for homesteaders to access support for the upfront costs associated with fencing and other security measures.
5. Convene USACE, DHHL and lessees to further discuss UXO risks and remediation.

Hālau Initiative

PROJECT DESCRIPTION

A space to gather, connect, and uplift one another is critical for creating a thriving, resilient community. This project expands upon the original vision by the Maku'u Farmers Hawaiian Homesteaders' Association (MFHHA) to build a community center, which was identified as a priority project in the 2010 Maku'u Regional Plan. Planning, design, and environmental compliance have been initiated, and fundraising is on-going; however, the facility has not yet been built. Thus, the creation of a community gathering space remains a top priority for the community today. Now referred to as the Hālau Initiative, this updated project would be the first of its kind in Puna. It incorporates key elements from the original community center concept, including a community gathering space centered on Hawaiian values and the perpetuation of culture through cultural workshops, educational and after-school programs, community outreach events, culinary events and entrepreneurship, and wellness activities, while also creating employment opportunities. The project also addresses newly identified community needs .

The Hālau Initiative would entail the development of a three-acre site envisioned to support the total wellbeing of Maku'u homesteaders by relocating current activities out of tents into permanent, functional spaces. This initiative will support the existing Māla Ho'oulu 'Ike programs and provide learning spaces and a certified kitchen focused on building community capacity for beneficiaries to farm on their own land and to encourage economic self-sufficiency and improve the success of homesteaders. Other features will include a large gathering space for hula, community events, conferences, farm-related activities, and emergency relief, as well as office space, a health center, and meeting rooms equipped with high-speed technology.

The initiative also identifies the need for a cemetery to serve the Maku'u homesteads. A desire for homesteaders to age in place, in their beloved homes and to have a final resting place within the homestead is prevalent on the minds of homesteaders. Identifying appropriate spaces for these types of needs is also important for community areas.

PAST ACTIONS

- 2000 – The MFHHA in partnership with an architect created a conceptual plan for the Community Center.
- 2001 – The MFHHA began site clearing, grading and erecting canopy tents.
- 2005 - The Maku'u Farmer's Association (whose name was later changed to Maku'u Farmers Hawaiian Homestead Association) obtained a 55-year license for 38 acres for community use.
- ~2008 – A land survey was completed, a land use plan was created, and County permitting approvals were obtained.
- 2011 – HHC issued a Finding of No Significant Impact for the Final Environmental Assessment for the development of a Community Center.
- 2022 – The MFHHA received a \$100,000 grant from DHHL to assist in the cost for updating plans, obtaining permits, and starting construction of a community center.

COMMUNITY INPUT

At each beneficiary consultation meeting, community members emphasized the need for a multipurpose gathering space to serve as a pu'uhonua, kīpuka, and anchor for the community. At the third beneficiary consultation meeting for the 2025 Regional Plan Update, participants referenced concepts from the Community Center priority project in the 2010 Regional Plan Update.

The need for a cemetery so that homesteaders can remain in Maku'u even after passing was also a recurring theme throughout the 2025 beneficiary consultation process. Community members shared that honoring kūpuna in both life and death is an important value, so their history can be preserved and their legacy passed down to future generations.

OBJECTIVE

The objective of this project is to create a thriving Hālau that strengthens pilina, perpetuates cultural knowledge and practices, and ensures long-term resilience for Maku'u homesteaders. By providing a community gathering space, the Hālau Initiative highlights most of the values held by the Maku'u community members. This includes that values of *Nurturing 'Ohana (keiki to kūpuna) through Education, Culture, and Community* as well as *Sustaining Community through Cultural Practice and Knowledge*. Providing a gathering space expands the community's ability to offer educational, cultural, and wellness initiatives, including those already provided by the Māla Ho'oulu 'Ike program. Programming such as those, plus the addition of a certified kitchen would also uphold the value of *Building Community Capacity and Economic Resilience*, as it would provide homesteaders with the opportunities and tools needed for becoming more self-sufficient. Providing access to technological equipment and classes will also bolster this value. The value of *Strengthening Community through Gathering Space* would also be evident at the Hālau by offering people a place to connect, build pilina, and seek support during times of natural disaster or emergency. Fulfilling the value of *Honoring, Caring for, and Continuing the Legacy of Our Kūpuna* would be made possible with a gathering space to preserve and share history, mo'olelo, and mana'o as well as having a resting place for kūpuna. Lastly, the value of *Aloha nā Akua* would be embodied in the Hālau Initiative by offering a space to engage in ceremonies, hula, and spiritual grounding. The Hālau Initiative would nurture the wellbeing of the entire Maku'u community.

IMPLEMENTATION ACTION STEPS

1. Secure funding for the next phases of development.
2. Planning and design. If the Hawai'i Island Plan Update is approved with proposed kuleana homesteads, include cemetery land use in the settlement plan.
3. Permitting and construction.
4. Operations and maintenance.

Support for Agricultural Use and Agricultural Infrastructure

PROJECT DESCRIPTION

Beneficiaries awarded agricultural leases are required to “cultivate” their lots. This cultivation requirement varies depending on the type of agricultural lot the lessee is awarded. Supplemental Agricultural lots, referred to as “Farm Lots” in Maku‘u, are larger than three acres and requires the lessee to 1) prepare a Farm Plan or Business Plan for their agricultural activities and 2) cultivate at least two-thirds of the lot’s acreage. Subsistence Agricultural lots, often called “Subsistence Lots” in Maku‘u, are no more than three acres in size and require that the lessee “cultivate” their lot, but do not specify a minimum area to be cultivated nor require a Farm or Business Plan.

Compliance with these lease components has been a challenge for most lessees. These measures are not often practical since many lessees in Maku‘u lack commercial farming experience and the financial resources to purchase large farm equipment or cover startup costs needed to prepare and cultivate their lots. This project echoes some of the needs expressed and the vision shared of the “Farm Plans, Capacity Building, and Promotion of Agriculture” priority project from the 2010 Regional Plan Update to provide lessees with the resources and assistance to comply with the cultivation and Farm/Business Plan requirements for lessees. Improving these types of resources and support would enable lessees to comply with their lease terms as well as better provide food for their families.

‘O Maku‘u ke Kahua, the sister beneficiary organization to the MFHHA, has previously taken the initiative to provide agricultural education to the community by offering educational workshops centered on sustainable gardening practices, as well as providing community resources such as a fruit tree “pantry,” a shade house, and a hydroponic hale.

The newly proposed “Support for Agricultural Use and Agricultural Infrastructure” project aims to continue this positive momentum built by the homesteaders and extend support more broadly across the community, especially to those homesteaders who have struggled to occupy their lots. This newly proposed project would provide critical agricultural infrastructure such as processing facilities and farm equipment, along with training, technical assistance, and resource support for Maku‘u beneficiaries, to enhance food security and economic self-sufficiency. The project also includes the development of a butcher processing station, a product co-op store, cooperative use for large equipment for homesteaders, a mulching area, a water source or a water distribution system for irrigation uses, and a quarry. Additionally, this project is aligned with the project to improve homestead safety and security as it seeks to establish a specialized funding program to assist homesteaders who need financial support to cover upfront costs for fencing. This project would also look at potential resources for funding support for other agricultural equipment and needs to support agricultural operations. This program seeks to provide microloans or grants for initial fencing expenses, with a pathway for accessing other programs that provide partial or full reimbursement upon project completion.

PAST ACTIONS

- Ongoing – ‘O Maku‘u ke Kahua has taken the lead on agricultural education through their Māla Ho‘oulu ‘Ike initiative (Peer to Peer training).

COMMUNITY INPUT

A desire to create a cooperative for the sharing of large farm equipment was brought up by beneficiaries during both the 2010 Maku'u Regional Plan Update beneficiary consultation process as well as during the current 2025 update. During the third beneficiary consultation for the current Regional Plan Update, participants expanded on additional shared resources that would be needed. Specific needs include a quarry, a butcher processing station, a product co-op store, mulching area, and a means for water distribution, such as a well. Beneficiaries shared challenges in obtaining County permits with community and agricultural structures, and they expressed their preference for a DHHL-managed permitting system.

In addition to physical improvements, financial support would also be needed to improve agricultural use on the homesteads. Participants suggested that the homestead could pool together as a single entity to complete a project, receive partial reimbursement, and have any remaining funds roll over to the next project or 'ohana.

Beneficiaries also suggested the provision of financial support for UXO scanning technologies, as farm preparation activities such as grading, grubbing, or ground disturbance pose a huge risk of munition explosions. Farmers would need to be able to know where they can safely conduct agricultural activities, and the risk for UXO on the farm lots discourages homesteaders from further cultivation.

OBJECTIVE

This project embodies the values of *Building Community Capacity and Economic Resilience* and *Aloha Kekahi i Kekahi*. Removing financial barriers and providing shared equipment would empower Maku'u homesteaders to move forward with farm development. By being able to spend more time on the 'āina, homesteaders can deepen their connection to place and to Pele, exemplifying the value of *Honoring and Understanding Pele*. Beneficiaries recognize Pele as an active, powerful, and living presence in the Maku'u and greater Puna landscape and note that success on the 'āina is achieved through this recognition and careful stewardship. Further, by making the homesteads more conducive to farming, the increased physical presence of lessees and occupancy on the lots could potentially improve safety and deter squatters and illegal activity.

IMPLEMENTATION ACTION STEPS

1. Secure funding.
2. Planning and design for infrastructure, facilities and programs.
3. Permitting and construction for infrastructure and facilities.
4. Implementation of programs, including creation of a specialized funding program.
5. Operations and maintenance of infrastructure, facilities and programs.

Alternative Financing Program for Homesteads in Lava Zone 2 and Partnership for a Kūpuna Housing Initiative

PROJECT DESCRIPTION

Access to affordable housing and the ability to build permitted houses and structures on their lots remain an obstacle for beneficiaries. The need for transitional or affordable housing was identified in the 2010 Regional Plan Update, as many working families struggled to pay rent but were ineligible for other financial assistance programs for various reasons. Today, this project aims to focus on improving housing options in Maku'u by addressing the financial barriers faced by homesteaders and by seeking partnerships to provide a kūpuna housing option within the homestead.

The first component of this project would address the needs for more financial support to eligible 'ohana who wish to build housing on their lots who either: 1) are ineligible for NAHASDA and other financing option due to their homesteads being located in Lava Zone 2, or 2) have resided in the homestead for at least five years. As funding from NAHASDA and most conventional lenders do not allow for financing in Lava Zone 2, supplemental funding would need to be made available through the DHHL Trust funds, which do not carry the same types of restrictions. Direct loans using trust funds would be able to address this barrier for homesteaders who find themselves without options. This initiative would address the unique lending challenges in Lava Zone 2 by creating an alternative funding pathway for qualified applicants. As part of the program, a policy change would also be sought regarding the current requirement that homesteaders must provide three denial letters from lenders to demonstrate ineligibility for financing, a requirement currently enforced by the Department. This practice can negatively impact beneficiaries' credit and appears to be an unnecessary burden. The second component of this project looks at creating housing options for kūpuna to live in the homestead, especially for Puna kūpuna aging on the waitlist and for homestead kūpuna who seek alternative housing once they are no longer able to meet the labor demands of maintaining an agricultural lot. This project would be modeled after a project idea that was shared with the Maku'u community by the King Lunalilo Trust's 2027 expansion plan through their affiliate organization, Nā Pua a Lunalilo. The King Lunalilo Trust aims to meet the needs of kūpuna and their 'ohana through a wider reach—by adding new programming for affordable housing that offers individual kūpuna or multi-generational unit options with an array of on-site support services and cultural resources, keeping families connected with each other and culturally grounded; by creating a new kūpuna day care center; and by offering more at-home services so that kūpuna can continue to live with their families. Further, the King Lunalilo Trust model offers financial support to residents in need through subsidies.

This project shares a similar vision of creating safe, affordable, culturally grounded housing options for kūpuna and their families. It would involve developing a five-acre parcel with indoor and outdoor spaces that encourage social interaction, 'ohana spaces, and native plant landscaping. The project would offer a variety of unit types, including options for live-in caretakers and different room sizes, as well as a kūpuna day care and assisted living services. Originally proposed by Nā Pua a Lunalilo and shared with the community in recent years, the project received strong support from Maku'u homesteaders. Many homesteaders were disappointed when the project was relocated to Waipouli on Kaua'i and the proposed Maku'u Kūpuna project was abandoned.

PAST ACTIONS

- 2023 – Nā Pua a Lunalilo provided a presentation to the Maku‘u homesteaders on their proposed Kūpuna housing project.

COMMUNITY INPUT

The Maku‘u community expressed a need for housing tailored to meet the needs of kūpuna. This need was also identified during the 2010 Maku‘u Regional Plan Update and remains a priority today. Participants discussed utilizing the Lunalilo Trust as a potential partner for the kūpuna housing in Maku‘u. Within the proposed housing, beneficiaries would like to see native plants used for landscaping, a combination of indoor and outdoor spaces for kūpuna to enjoy, and ‘ohana spaces. The previously identified project identified a five-acre parcel in the homestead and approximately 22 dwelling units for the site. Participants also expressed a desire for kūpuna day care as well as assisted living services to be brought to the homestead. Existing Maku‘u lessees noted that current funding is available only for new lessees, leaving long-standing lessees without comparable support. Funding should be made accessible to those residing in the homestead for at least five years to assist with repairs, maintenance, and new construction. A self-help housing program, common for residential homesteads, was also suggested as a possible model. Lessees also prefer DHHL to issue their own building permits for homesteads.

OBJECTIVE

This project aligns with the values of *Building Community Capacity and Economic Resilience* as well as *Honoring, Caring for, and Continuing the Legacy of Our Kūpuna*. By providing financial support and housing, lineal descendants of Puna can live, thrive, and age in place, as well as remain surrounded by ‘ohana. The diverse and supportive housing options would allow family members to gather, visit, and remain connected.

IMPLEMENTATION ACTION STEPS

For denial letter requirement:

1. Initiate policy change for denial letter requirement.

For funding program for homesteads in Lava Zone 2 and existing lessees:

1. Research and develop a funding program using DHHL Trust funds to support housing options, including repair, maintenance, and construction, for homesteaders with lots in Lava Zone 2 and lessees who have resided in the homestead for at least five years.

For Kūpuna housing initiatives:

1. Identify a partner and site within the homestead for kūpuna housing.
2. Secure funding.
3. Initial planning, design and technical studies.
4. Secure a land disposition.
 - a. Land Use Request Application

- b. Right Of Entry for due diligence (compliance with HRS Chapter 343, Chapter 6E, Ka Pa‘akai Framework [Article XII, Section 7 of the State Constitution], and other required compliance).
 - c. Complete due diligence.
 - d. HHC approval for compliance.
 - e. HHC approval for the issuance of the long-term land disposition.
- 5. Permitting and construction.
- 6. Operation and maintenance.

Water System Governance, Infrastructure, & Community Benefits

PROJECT DESCRIPTION

Access to water is vital to support all activities and agriculture on the homestead lots, and it is critical that Maku'u homesteaders are appropriately included in decision-making regarding water on the homelands. Beneficiaries expressed during the 2010 Regional Plan Update that all awarded lots should have access to water. However, in recent discussions, much of the community noted that water access does not always mean development of groundwater wells. Beneficiaries highlighted rainwater catchment, with many expressed that it remains their preferred water source today. Future water source development should not look only at groundwater sources, but should take into account the bounty of water available through rainfall. Homesteaders identified a need for greater opportunity for involvement in water-related decisions that impact their homestead and expressed a strong desire for community-led water governance and stewardship over all water resources for the Maku'u homesteads.

Sustainable, informed, and autonomous water governance is important to the Maku'u community today. This project seeks to support these preferences and help the homesteaders achieve their goals through ensuring meaningful beneficiary consultation for any proposed changes or projects related to the water system before plans are submitted, and by providing opportunities for feedback and input prior to decision-making. This is in alignment with DHHL's Water Project Plan priority policy #4 which states the Department is obligated to:

"Affirmatively communicate our decisions, our reasoning, and our performance in managing, stewarding, and using water before and after making major water decisions."

This project also explores the feasibility of empowering homesteaders to serve as the water source developer and operator; ensures critical infrastructure such as the fire hydrants have adequate access to water; and supports the implementation of small scale water treatment and recycling systems in the homestead. The Maku'u homestead is interested in progressive, technologically advanced, environmentally sustainable alternatives for water sources, systems and stewardship of water resources.

Additionally, the project aims to address concerns about the abundance of utility infrastructure that crosses or is developed on Hawaiian Home Lands that may be extractive or simply does not directly benefit homesteaders, but instead is developed to serve developments outside of the homestead. This project proposes that future land dispositions include negotiated community benefit agreements to ensure that homesteaders gain tangible advantages, which may be used to support the protection of natural resources and receive direct economic benefits from projects serving the public on homestead lands. There are far too many examples of homelands serving the broader public without providing meaningful benefit to homesteaders or the Trust, and these types of agreements must stop.

PAST ACTIONS

- 1994 – DHHL produced a Master Plan intended to develop and provide groundwater to the entire Maku'u Homestead.

- 2009 – A Water Agreement between DHHL and County of Hawai'i DWS for the development of two groundwater wells, a one-million gallon storage tank and transmission lines was signed. This agreement states that DHHL will develop the water infrastructure, dedicate to the County for operation and maintenance and in exchange will receive 1,360 water credits or equivalent units for potable water for DHHL's lands in Maku'u. One well was developed and some of the water system was completed.
- Present – The remaining well and infrastructure has not yet been completed and this project is currently unfunded. Additionally, Maku'u homesteaders had previously expressed concerns about dedication of the water system to the County, specifically regarding interconnection with the County's existing water system in neighboring Hawaiian Paradise Park development.

COMMUNITY INPUT

Participants emphasized the desire to have more say in the governance of their water in the Maku'u area. With sustainability and autonomy in mind, the homesteaders generally prefer to continue to use rainwater catchment rather than groundwater well sources wherever possible. Additionally, homesteaders would like to have the choice of whether to use catchment or connect to DWS service, as existing homesteaders shared that they are not allowed to choose rainwater catchment as a water source option. While the existing catchment systems were indicated to be the first-choice method for many for supplying water to the homesteads, beneficiaries also expressed that in the event a new water source or expanded system may need to be developed, Maku'u beneficiaries would like the option for the homestead or for DHHL to be the water developer and purveyor to oversee the water source and system. Participants ranked their order of preference for water system operators: 1) a community entity, 2) DHHL, and 3) the County, if needed. The homesteader shared a history of mistrust and frustration with the County DWS and a preference for more opportunities to be involved in the planning and decision-making process.

Participants also expressed a desire for community autonomy over wastewater as well. They expressed an opposition to utilizing recycled water from a large, centralized County Wastewater Treatment Plant, and would prefer the option to have a small, localized treatment system that allows their gray water to circulate through vegetated spaces and other natural filtering networks. Water in that is used in the homestead seeps into the underground water networks and there is great concern for adverse impacts from pollutants on the natural water systems. Some homesteaders also expressed that they would like to utilize on-site recycled water systems for use within the community spaces as well.

Beneficiaries voiced the importance of being informed about all potential water projects or changes to infrastructure that may occur through the homesteads. Beneficiaries feel that all potential water projects that may pass through the homesteads should require Beneficiary Consultation meetings, as stated in the DHHL Water Policy Plan. Additionally, beneficiaries are concerned over the potential for water being extracted from Maku'u and used to serve other communities, without any sort of benefit for the Maku'u community. Thus, participants expressed that revenue generated from water or water infrastructure on Maku'u lands should be partially allocated back into their community so there is visible benefit. One specific idea that was brought up is that a percentage of

revenue could be allocated towards protecting natural resources. In the instance of water developments or infrastructure on Maku'u lands, the community would like the chance to negotiate a Community Benefits Agreement.

OBJECTIVE

By ensuring equitable and sustainable access to water as well as autonomy over water governance, this project directly supports the community values of *Building Community Capacity and Economic Resilience* and *Stewarding the Ahupua'a*. Water is essential, not only for drinking and daily living, but also for growing food, and supporting various community initiatives and developments across the Maku'u homesteads. The community's "water footprint" is sustainable and kept relatively small through its general preference for rainwater catchment and onsite treatment. A revenue-sharing model providing direct benefits to beneficiaries would further foster economic resilience and the ability to support community initiatives across the homestead.

Reliable water access is essential for supporting nearly all projects and activities envisioned by the community. It allows homesteaders to care for their land, support subsistence and agricultural practices, and protect their homes from fire. It is also foundational to developing the kūpuna housing and shared community spaces envisioned in other priority projects. Bathrooms, kitchens, landscaping, and drinking water are all necessary for these spaces to function. And these spaces, in turn, will allow the community to come together, hold gatherings, and pass down 'ike kūpuna to the next generation.

IMPLEMENTATION ACTION STEPS

For water decisions in the region:

1. Conduct beneficiary consultation in alignment with DHHL's Water Policy Plan, before and after major water decisions.
2. Identify potential community benefits.

For future water source development:

1. Research the feasibility of homesteaders to take on the role of water source development and operation.
2. Create an option for homesteaders to use rainwater catchment instead of connecting to the water system, if they prefer.
3. Research the feasibility of small-scale water treatment systems for recycled water and wastewater.
4. Ensure that fire hydrants have sufficient water supply.

Following Beneficiary Consultation (BC) #3, Maku'u homesteaders were invited to participate in a poll to select the top five priority projects for the region from the list of seven project ideas identified in the section below. Attendees at BC#3 helped in creating the parameters for participating in the priority project selection as well. Based on that discussion, the following requirements were put in place:

- Maku'u homesteaders were able to vote via postal mail, an online form, e-mail, or phone.

- All participants were required to share their full name, contact information, and their lot/lease number for their votes to be counted.
- Only existing lessees in Maku'u were eligible to vote.
- Each participant was allocated a total of five votes and could vote for an individual project more than once.
- The poll was open from Thursday, August 14, 2025 to Thursday, August 28, 2025.

Notification of the voting process was e-mailed to the Maku'u Farmers Hawaiian Homesteaders' Association for distribution within their networks. Information about voting details were also sent to beneficiary consultation attendees and posted on the project page hosted on DHHL's website. Additionally, postcards were mailed to all Maku'u beneficiaries directing them to the project webpage to participate in the poll.

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