

Kealia Farms



Prepared by: WHALE Environmental Services LLC www.whalees.com



68-1031 Farrington Highway,
Waialua, Oahu, Hawaii

TMK: (1) 6-8-002-010

Submitted by WHALE Environmental Services LLC for Resolution 24-57
Committee on Zoning | April 3, 2024

MISC. COM. 138
ZON

Proposed Action and Location. Agricultural Operations Development on CPR units with related Agricultural Structures (i.e. – barns, greenhouses, & farm dwellings) - Construction on a parcel at 68-1031 Farrington Highway, Waialua, HI. The TMK for this parcel is 1-6-8-002:010 which is a CPR Master Lot containing 4 CPR land condo lots. Development on Parcel 1-6-8-002:010 in Mokuleia, Waialua, is on the following CPR units:

DeForest Property CPR Unit #3

Hansen Property
CPR Unit #2

Quinn Property
CPR Unit #1

A zone change from P-2 General Preservation District to AG-2 General Agricultural District for the subject site was approved under Ordinance 13-36 on October 24, 2013. As a result, the site is subject to a Unilateral Agreement. The Unilateral Agreement limits the number of farm dwellings on the land to four across the whole of 1-6-8-002:010. The zone change application detailed specific-agricultural uses for the entire site, including the noni farm on CPR Unit #4 – Titcomb Property, where no new action is planned.

Layer List Legend

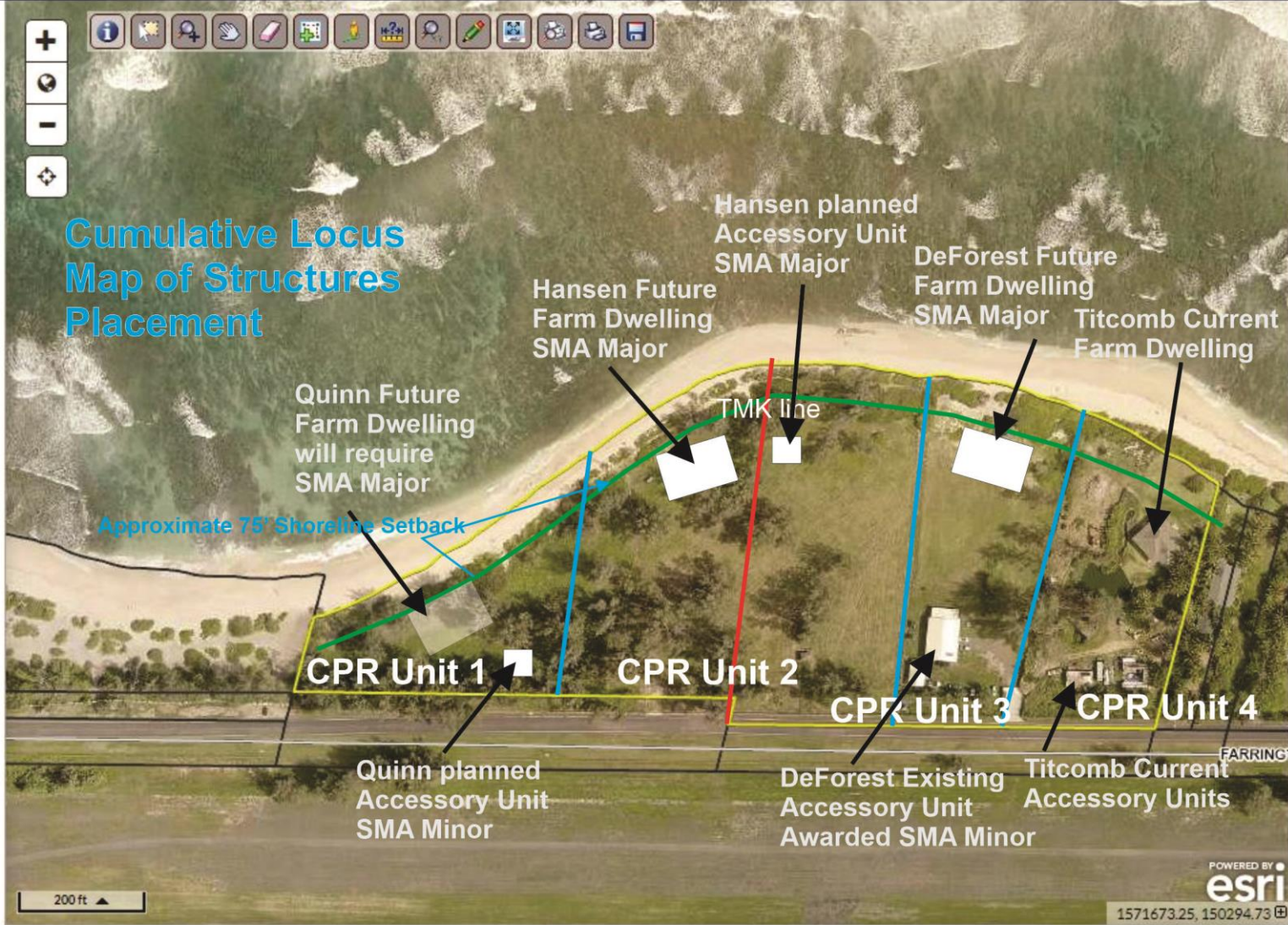
Quick Links:

- [Property Search](#)
- [View Map](#)

Layers:

- ☒ Roads
- ☒ Parcels i
- ☐ Parcel Numbers
- ☐ BaseMap
 - ☐ City Labels
 - ☐ USA Major Highways
 - ☐ County Outlines
 - ☐ Area LM
 - ☐ Area Water
 - ☐ Ocean
- ☒ 2021 Aerial Imagery

[Restore Layer Defaults](#)



Results:

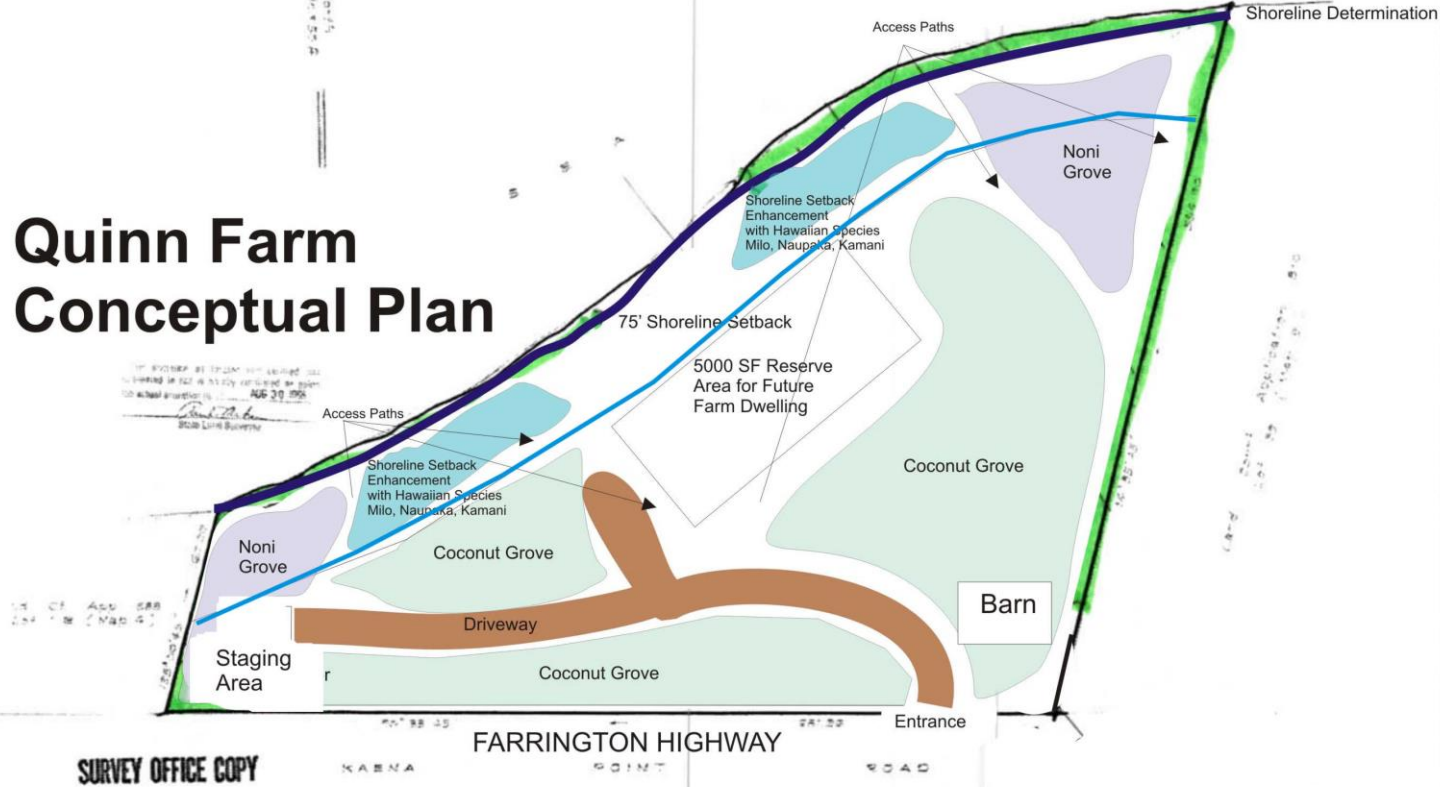
Parcel ID - 680020100000
Alt Id - 680020100000
Address - 68-1031 FARRINGTON HWY
Owner - KEALIA FARMS
Acres - 13.089
Feedback
View: Report Google Maps
Parcel ID - 680020100002
Alt Id - 680020100000
Address - 68-1031 FARRINGTON HWY
Owner - SAFE INVESTMENT PROPERTIES LLC
Acres - 5
Feedback
[multi-parcel feature]
View: Report Google Maps
Parcel ID - 680020100004
Alt Id - 680020100000
Address - 68-1031 FARRINGTON HWY
Owner - TITCOMB, ROBERT R TR
Acres - 2.5
Feedback
[multi-parcel feature]
View: Report Google Maps
Parcel ID - 680020100003
Alt Id - 680020100000
Address - 68-1031 FARRINGTON HWY
Owner - DEFOREST, CARL M DEFOREST, SUZANNE M
Acres - 2.499
Feedback
[multi-parcel feature]
View: Report Google Maps
Parcel ID - 680020100001
Alt Id - 680020100000
Address - 68-1031 FARRINGTON HWY
Owner - SSQ LLC
Acres - 3.09
Feedback
[multi-parcel feature]
View: Report Google Maps

Parcel ID 680020100000	Situs/Physical Address 68-1031 FARRINGTON HWY	Assessed Land Value	Last 2 Sales			
Acreage 13.089		Assessed Building Value	Date	Price	Reason	Qual
Class AGRICULTURAL		Total Property Assessed Value	n/a	0	n/a	n/a
		Total Property Exemptions	n/a	0	n/a	n/a
		Total Net Taxable Value				
Brief Tax Description	LOT B POR RPGR 338 5.591 AC DES LOT 39 LCAPP 1810 MAP 2 7.498 AC (Not to be used on legal documents)					



1571673.25, 150294.73

Quinn Farm Conceptual Plan



Bob Quinn owns CPR Unit #1 – Bob is a plastic surgeon with locations in Oregon, Arizona and Honolulu. He is initially planning a coconut and noni farm for its simplicity and low maintenance needs until he retires here full-time. For now, all is planned is the farm operational center (barn), crop plantings and drive/staging area, and a 5000 SF area reserved for a potential farm dwelling.

The barn is as far away from the shoreline as possible, and the potential future dwelling is beyond the 75' shoreline setback.



LEGEND

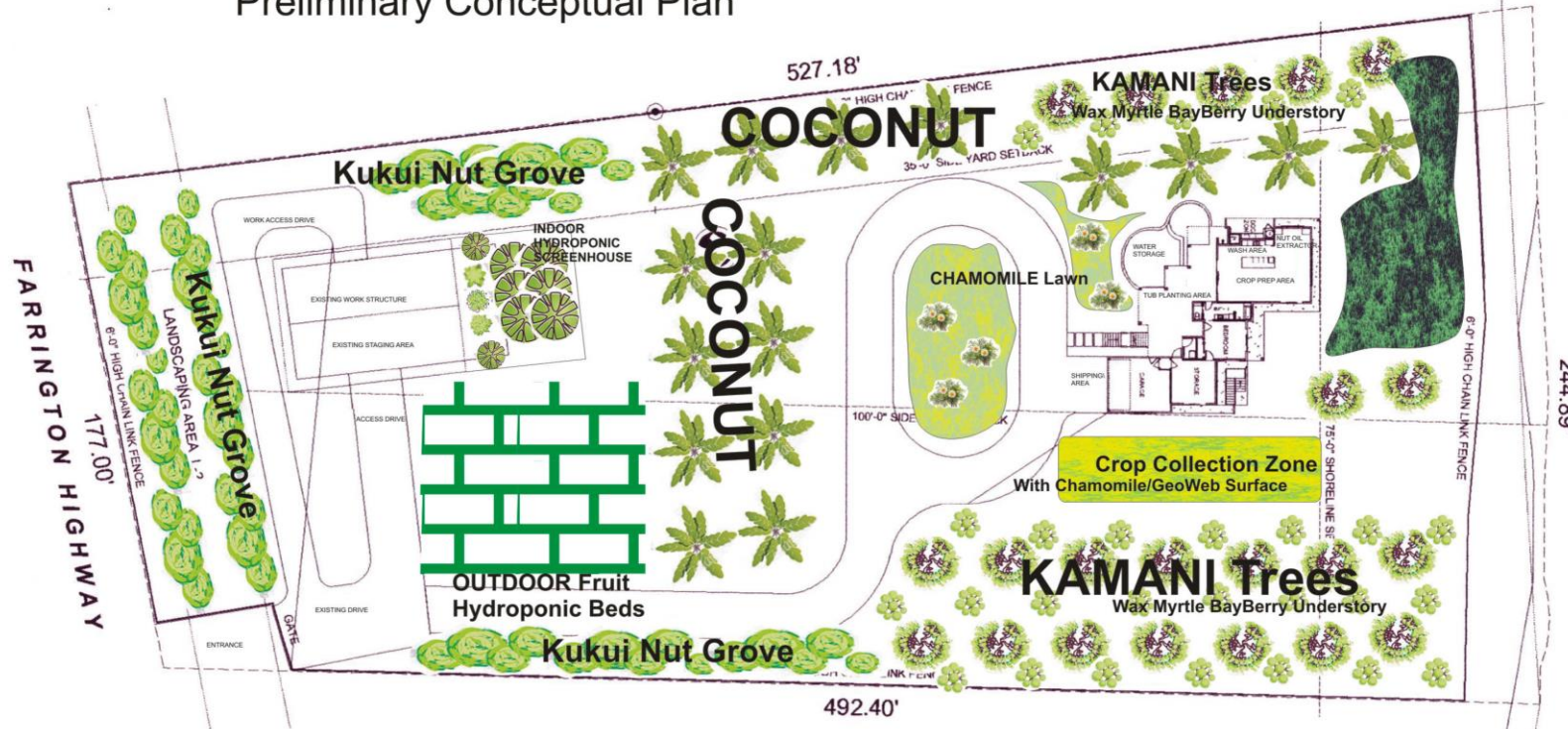
-  COCONUT
-  WAX MYRTLE
-  LYCHEE
-  MAC NUT
-  SUNFLOWER
-  POPCORN
-  MANGO
-  PISTACHIO
-  MANGO
-  MELON GROWTH BEDS
-  PINEAPPLE GROVE
-  CHAMOMILE HERBAL

Bill Hansen owns Inventech Marine LTD who builds the boats that DAR (Division of Aquatic Resources) uses for Hawaii ocean patrols. He also operates the snorkeling tours to Molokini island on Maui. There, tour guests are provided with snack boxes during the excursion – imported from Central Valley, California – limp celery and carrot sticks, processed cheese, etc...

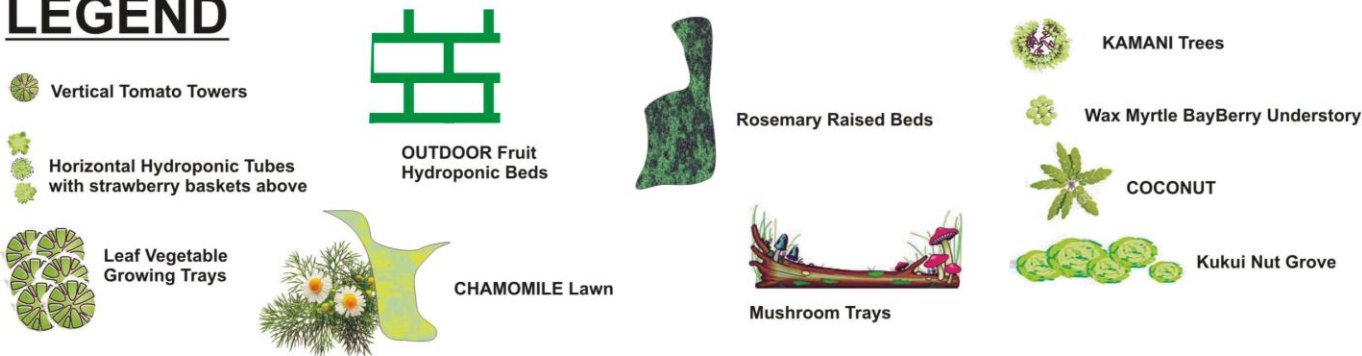
His plan is to grow Hawaiian themed snack boxes – here! pineapple, pickled ginger root, melons, pistachio, lychee fruit, mango and more, even popcorn!

NaHanaWai Farms

Preliminary Conceptual Plan



LEGEND



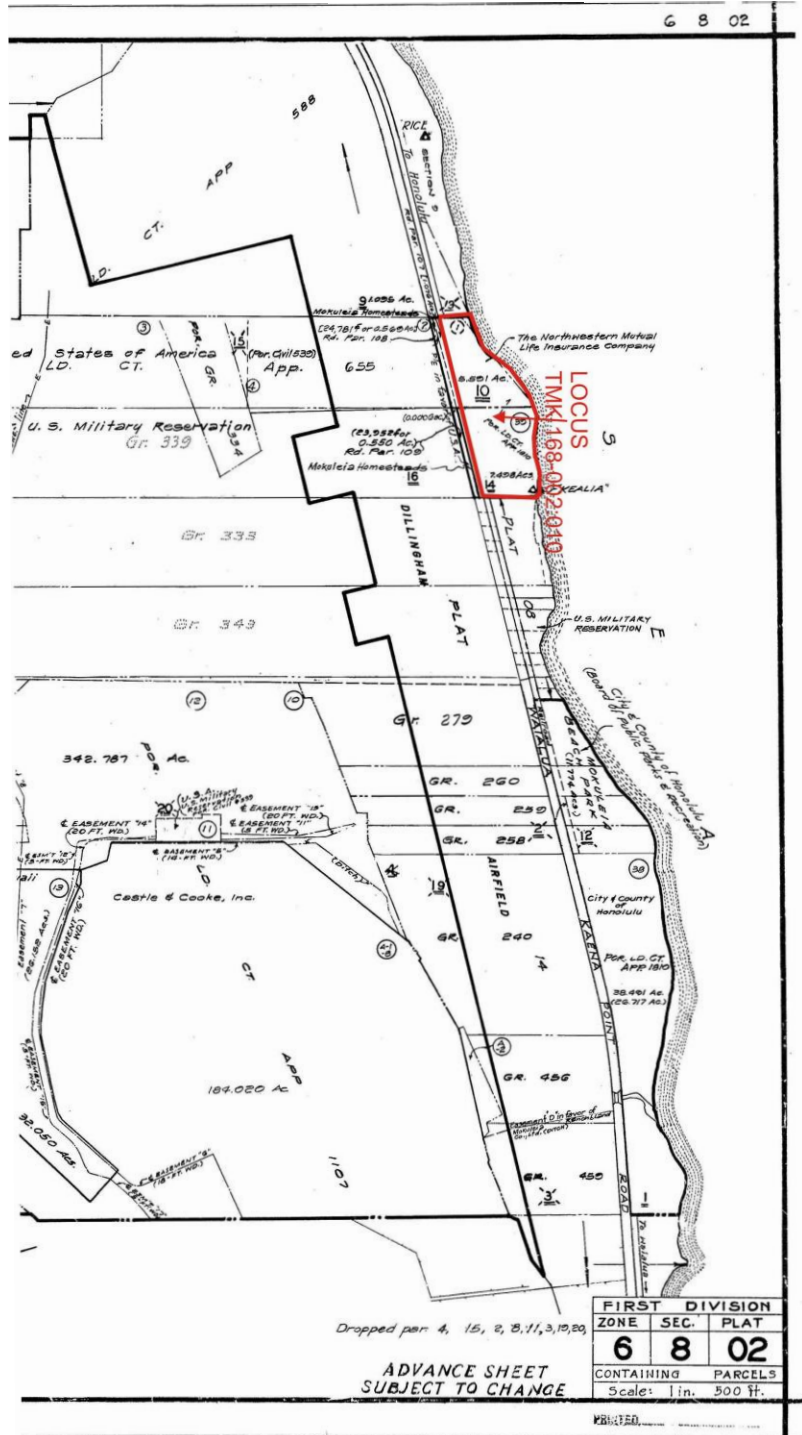
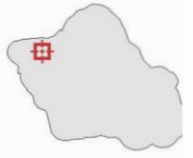
Suzanne and Carl DeForest own Tropical Island Water Co. – the water dispensers one sees in many of our supermarkets for refills of clarified water. They wish to take advantage of their market outlets to expand product diversity. Thus, a mix of crops using hydroponics and/or growing beds brings herbs, melons, fruit, and vegetable to their market outlets. Lawns will be chamomile plants mowed for herbal tea production. The current structure on the site will continue to be used as a work building, and for security and crop needs, the farm dwelling is needed and located outside the 75' setback.

Project Summary. The Proposed Action would be the construction of agricultural operations and associated farm dwellings outside the shoreline setback. As construction costs are over \$500,000, it is agreed that a SMA Major was required and was submitted and DPP issued an approval of the SMA Major Land Use application. As requested by DPP, with prior submission of the working copy for the pre-consult review DEA to DPP, we also developed the Farm Designs required for AG lots' use and had a Neighborhood Board SMA hearing. Also, 24 federal, State and City and County agencies were notified with some comments received. Abutters were notified with no responses.

As these lots across from the entrance of Dillingham Airfield along Farrington Highway were part in the 1960s as beach sand mining operations, little of the original Jaucas sands remain, substituted with cobbles and other gravels – mostly slag from the airfield quarry excavation. Also, that sand mining operation was noted to be in excess of 10' in depth, meaning any archaeological artifacts would have been long destroyed and an archaeological dig on the property detected no artifacts and noted the presence of the slag (quarry waste).

The Proposed Action triggers the requirements of Chapter 343, HRS, by being within the Special Management Area. The EDD was prepared in accordance with Chapter 343, HRS and other related regulations and rules and accepted by DPP.

Overview



FIRST DIVISION		
ZONE	SEC.	PLAT
6	8	02
CONTAINING		PARCELS
Scale: 1 in.		500 ft.

Dropped per: 4, 15, 2, 8, 11, 3, 10, 20,

ADVANCE SHEET
SUBJECT TO CHANGE

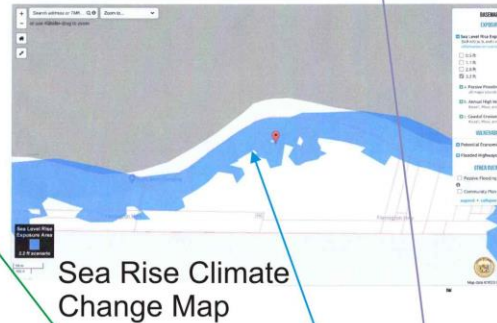
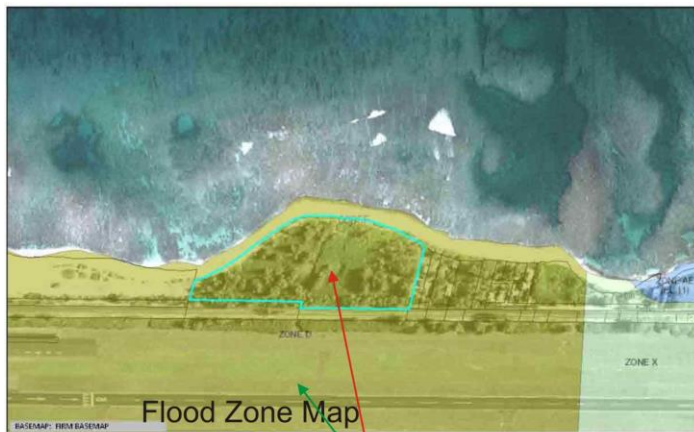
PRINTED

Locus of Property



This is a typical photo of the site (on Hansen's unit – though typical for all units). This property has been severely abused over the decades – the 1960s quarry waste placement in lieu of sand mining – then covered with abandoned cars, trash, waste dumping and more. The Titcombs, DeForests, Hansens, and Quinns have cleaned the property of the trash and debris and abandoned autos. There are mostly on these sites grassed areas with ironwood borders planted as windbreaks many years ago likely for the airfield.

Siting Parameters



We take avail of DPP and State of Hawaii GIS Mapping Services to obtain the flood maps, zoning maps land use suitability map, and potential sea rise map. As all agricultural operations that are successful require 24/7 security and a processing center, the positioning of structures rely on three factors:

1. agricultural placement in the least flood prone area
2. reserve most desired land use suitability area for planting
3. comply with zoning and sea rise regulations with flood mitigation for structures

As such, for the Kealia Farms Property, all majority of agricultural crops will be placed outside SLR areas. The position of the farm dwellings and the operational centers have no considerations for flood zones as a "D" unstudied zone and they will be positioned potential flooding zones that van have mitigation of elevation and pass-throughs. And then planting zones are positioned in the areas where land use suitability offers the greatest potential for plant growth.

DPP position on climate change placement is as follows as cited by several DPP planners; and that they are projections not physical markers and can be used for recommendations, but not standards. To quote one such recommendation:

"As always, for both public health and safety purposes as well as for the preservation of public beach areas for public use, we also recommend that all development be placed as far mauka on a property as possible, outside of the 3.2-foot sea level rise exposure area (SLR-XA, where applicable), and especially outside of the 3.2-foot SLR coastal erosion line (where applicable)."

As can be seen, there is reference to a 3.2' sea level rise exposure area exposure area (SLR-XA) and also a 3.2' SLR Coastal Erosion Line. We would like to note all development on the Kealia Farms Property is outside the regulated 75' shoreline setback, and also outside the 3.2' SLR Coastal Erosion Line.

Pursuant to HAR Section 11-200.1-24, is a description of the relationship of the Proposed Project to *“land use and natural or cultural resource plans, policies, and controls for the affected area.”* Discussed is how the Proposed Project *“may conform or conflict with objectives and specific terms of approved or proposed land use and resource plans, policies, and controls, if any, for the affected area.”*

The planning hierarchy for projects include the implementing ordinances and regulations (i.e., the Land Use Ordinance and Zoning Maps, the Subdivision Rules and Regulations, and the City's Capital Improvement Program), public facilities and infrastructure functional plans, and special area plans that give specific guidance for specific portions of a DP or SCP area.

Research for adhering to these objectives and priority adheres to the State of Hawai‘i law, HRS Chapter 343, which was developed **“to establish a system of environmental review which will ensure that environmental concerns are given appropriate consideration in decision making along with economic and technical considerations”** (HRS 343-1).

First and foremost are zoning considerations. Land Use revolves on conformity with its zoning classification. For example, primarily use of the land in a Residential Zone is housing, primary use of the land in a Conservation Zone is natural resources, and primary use of the land in an Agricultural Zone is agriculture. In the case of Kealia Farms, agricultural land use is the driving force of ensuring those objectives are met. The property is zoned AG2.

The farm designs for the property have given careful consideration to land suitability for crop production. As such, crops are planned for and situated on the best lands that offer best crop performance. Factors such as salinity, soil type, crop adaptation are evaluations to place crops in locales which suit them best. A land suitability graphic was developed showing placement of crops in their best locales (as seen on slide 10), and support structures such as agricultural operations centers (barns), crops, and farm dwellings in lands less suited for crop production. That graphic on page 10 explains the land suitability factors – placing support structures on the saline lands outside the shoreline setback and crops more mauka to avoid saline winds and soils.

The development of a farm plan for Kealia Farms involves several factors. They may be listed as such. Unlike other proposed farm operations in the state where out-of-state land-owners want to take avail of agricultural zoning to develop a homestead with scant, non-viable crops; this farm design involves already on-island (partial and full-time) involved Hawaiian business owners who wish to successfully farm their lands. They are developing niche crops with known markets outlets here in Hawaii very much needed, and cut down imported crops from the mainland.

The concept for these agricultural operations are as a diverse farms – coconuts and noni on one - fruit, vegetable, herbs, juice, and hydroponics on another – Hawaiian snack box items on another. These crops fit market niche needs. As such, the farmers already have insights in market venues, distribution, and delivery. These are not out-of-state folks taking avail of Ag zoning – these are our locals with connections already to Hawaii an insight to what the North Shore growing regimes can offer beyond the valuable service the region already provides in aquatic tourism resources like surfing and SUP, dining, aviation services and more. This is a niche market which will have a small effect on competition.

THE GOAL WAS TO FIND A SUITABLE SCENARIO FOR FARMING THIS SITE. THERE ARE CHALLENGES TO TRADITIONAL FARMING – SALINE SOILS, SALT-LADEN WINDS, LEACHING FACTORS, RAPID PERMEABILITY, LACK OF ORGANIC MATTER, LOW NUTRIENT LEVELS. WITH DISCUSSIONS WITH THE VARIOUS OWNERS, WE HAVE DESIGNED CROPS AND THEIR PLACEMENT ON THE SITE THAT IS BEST SUITED TO THE VARIOUS MICROCLIMATES AND MARKETING ABILITY. MORE SALINE LOVING SPECIES ARE PLACED CLOSER TO THE OCEANS, OTHERS MORE TO THE MAUKA SIDE. THE SITE DICTATES THAT SOME TRADITIONAL CROPS WILL NOT BE ABLE TO WITHSTAND THE HIGH SALINITY, THE POOR NUTRIENT LEVELS, OR THE LACK OF ORGANIC MATTERS IN THE SOILS AND IN SOME CASES, HYDROPONICS AND AQUACULTURE IS EMPLOYED INDOORS. AS SUCH, PER OUR RECOMMENDATION, THE OUTDOOR CROPS THAT HAVE BEEN UTILIZED AND ARE LIMITED TO SPECIES THAT ARE SEMI OR SALT-TOLERANT AND WILL GROW IN OUTDOOR GROWTH AREAS FED WITH ORGANIC ENHANCEMENTS OR SETBACK NEEDS.

OBJECTIVES – OBJECTIVES ARE AS FOLLOWS:

1. PLACE TREES LIKE NONI, KAMANI TREES AND NAUPAKA SHRUBS ON THE OCEAN SHORELINE SIDE WHICH MEANS REMOVING THE PLANT-DAMAGING, FIRE-PRONE, AND INVASIVE IRONWOOD EUCALYPTUS.
2. FOR PROPERTY SIDELINES, COCONUT, HALA AND KAMANI TREES ON THE PERIMETERS OF THE PROPERTY TO PROVIDE SCREENAGE, WIND BREAKS, AND NEEDED LANDSCAPE PLANT STOCK CAPACITY.
3. PLACE GROWING BEDS OF CHAMOMILE THAT IS SALT TOLERANT HERBS AROUND LAWN AND AREAS ON THE SITE SUCH AS TRAFFIC CIRCLES OR CART LANES THAT CANNOT HAVE A HIGH GROWING CROP IMPEDING FIRE SAFETY EQUIPMENT. BEYOND THE SCENT AND AESTHETIC VALUES, THESE GROUND COVERS PRODUCE VALUABLE HERBAL CROPS THAT CAN BE SOLD AS A PLANT TO HEALTH OUTLETS AND THEN RE-SOWN.
4. COUNTERING THE SITE'S SOIL CONDITIONS, THE SITE WILL USE NUTRIENT-ENHANCED GROWING BEDS AND SPECIALLY DESIGNED ROOT BALL CONTAINMENTS FOR THE TREES, AND PLANTING POTS AND/OR GROWING BEDS FOR SHRUBS AND HERBACEOUS CROPS. MITIGATION MEASURES TO COUNTER THE SOILS' HIGH LEACHING FACTORS WILL BE USED. CONTROL OF WATER SUPPLY, SALINE CONDITIONS, NUTRIENT LEVELS, ETC... CAN THEN BE SAFELY CONDITIONED AND MONITORED.

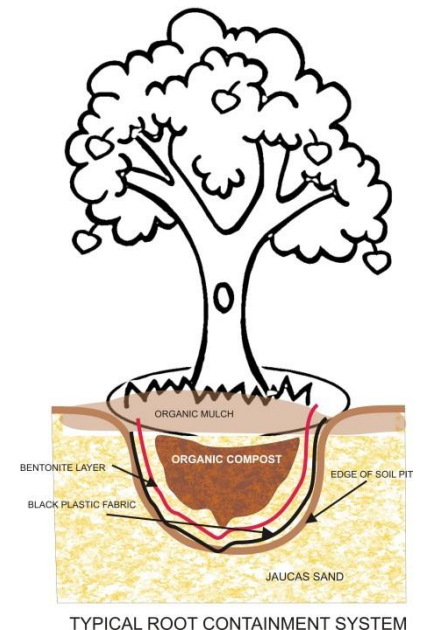
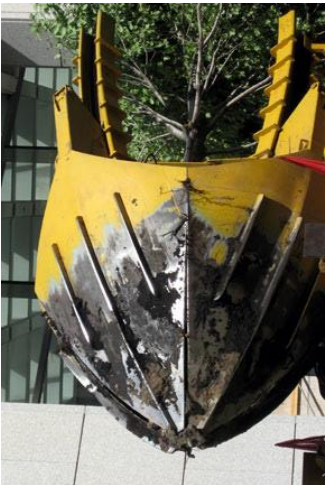
ENSURE THAT THE SITE HAS THE COMPONENTS FOR SUCCESSFUL CROP PRODUCTION AND MARKET-READY PRODUCTS. STABILIZED GARDEN CART PATHS WILL BE DEVELOPED WEAVING IN AND AROUND CROP GROWING AREAS TO HOST IRRIGATION LINES, AND ALLOW PLANT EXTRACTION EQUIPMENT TO ACCESS LANDSCAPING CROPS, OR TO DO MAINTENANCE NEEDS. STORAGE OF THAT EQUIPMENT AND SPACE TO PREPARE HARVESTED CROPS FOR SHIPMENT TO THEIR LOCAL DESTINATION. GROWTH UNITS FOR THE LANDSCAPE PLANTS WILL BE CLEARLY OUTLINED IN FOLLOWING SECTIONS. MARKETING AND DELIVERY WILL PLUG INTO EACH FIRM'S EXISTING NETWORK AND CONTACTS.

Tree and/or Shrub Root Ball Containment

For example, there has been through consideration in the design for viable farm operations – an example would be the coconut palms sales:

In a plant production farm, crops will be developed from seed, cutting or purchased saplings and then grown to semi-mature species likely in a younger phase that will be sold to client venues. As the site has a high leaching factor, most trees and shrubs will try to extend deep tap roots past the 5-6' mixed gravel/Jaucas sand layer to reach the groundwater table. Trees and shrubs with deep tap roots are difficult to extract when harvested for landscape plants.

To prevent that, a root containment system will be used. The dug soil pit is sized according to the expected root ball size at time of harvest (*shrubs will be smaller than trees for example*). So excavation is expected at 2-3' for plantings. Each pit will be lined with landscape black fabric to slow the salt intrusion from groundwater, then lined with bentonite clay sheeting to reduce the permeability caused by leaching and prevent tap root development. The pit will be filled above these layers with compost mixes suitable for the species planted. Upon harvest as a landscape plant, a standard root ball extractor will remove the plant at the bentonite layer extracting it for future root ball protection for shipping in burlap or other standard balling materials. The excavated hole will then have its fabric and bentonite layers replaced and a new replacement put in place in new compost and or sand mixes as needed.



The farm viability involves mainly factors such a root ball extraction detailed earlier. Consideration is given to Species initially planned in Direct Contact Zone or propagated in Greenhouses to start in the delicate seedling stage, stabilized cart paths for access and fire protection, farm dwellings to provide crop security and theft protection, and much more....



Proper soil mixtures



Chamomile

Once the plants mature from seeding, there is likely a bi-weekly mowing of the flower and the upper stalks. Chamomile will be dried on the drying racks after sorting, dried for two weeks, re-sorted, crushed, and then packaged and marketed as an herbal tea. Watering is likely daily at dawn or dusk through existing or planned on-site irrigation.

Chamomile - a sample provided of possible use of a Kealia Farms species

Unlike most farm designs, this one needs to stay flexible. We want to ensure that plants selected for growth on the farms meet the parameters of soil habitat but market viability as well. And we don't know how some plants adapt to potting rather than free range. But the end result is choosing a group of Hawaiian crops known for filling market needs and more local crops is desirable. As they say in Hawaii – the 'aina dictates the land use, not the person.



Bentonite



Capillary Matting

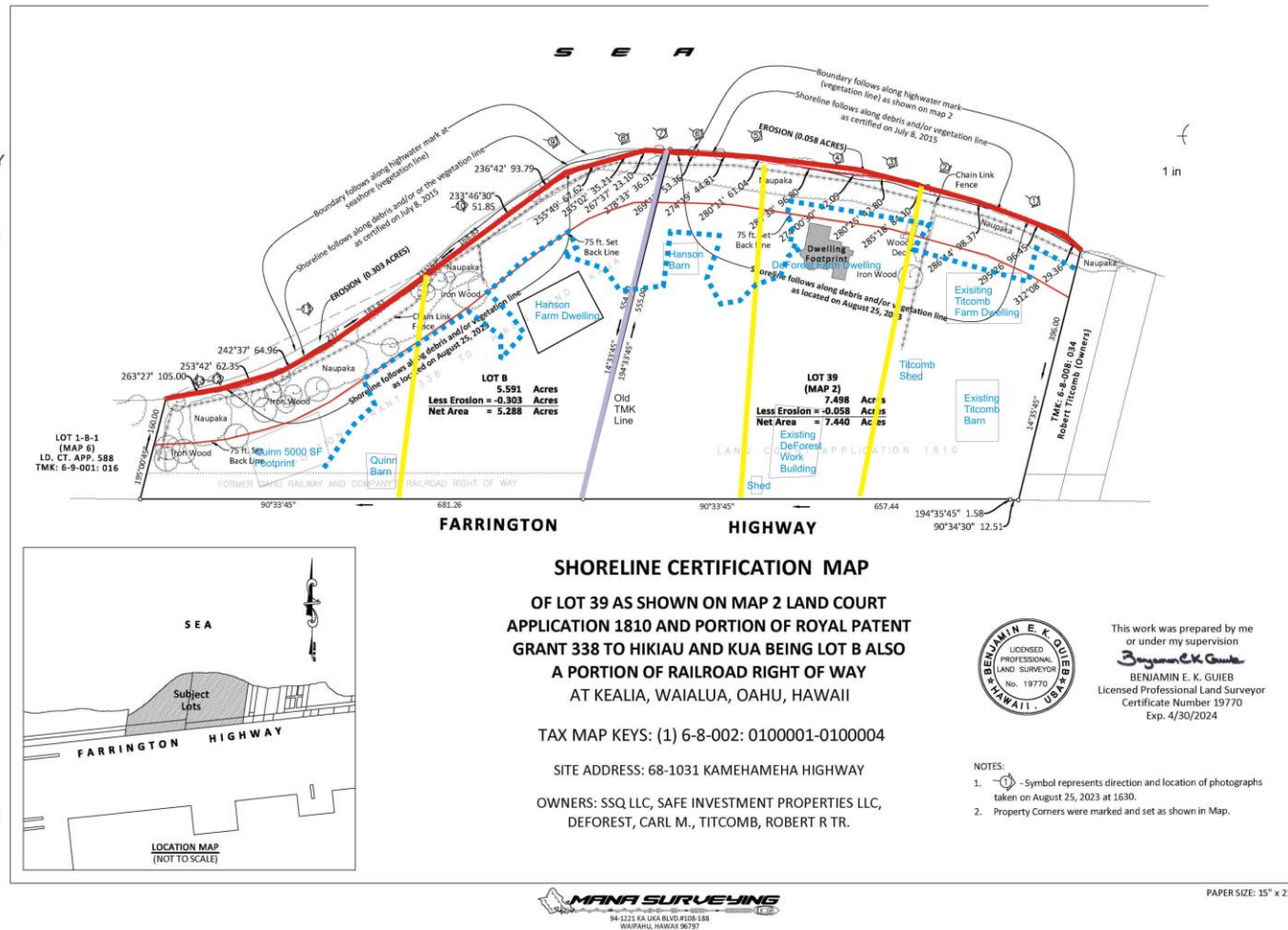
SHORELINE SURVEY

75' SETBACK LINE

CPR Units Division

0.5
1.1
2.2
3.2

3.2' Coastal
Erosion Line
approximately
near 60' shoreline
setback



So, in conclusion, careful consideration has been given to the factors that made for a successful SMA Permit Application to DPP, including but not limiting to meeting the land use requirements of AG2 zoning, but also ensuring that support structures such as the farm dwellings location are set in undesirable farm lands, and setback sufficiently from the shoreline survey, in this case 75' and avoiding SLR considerations where possible.

The background of the slide is a photograph of a body of water, possibly a lake or a wide river. In the foreground, several tall, green reeds or grasses are visible, some in sharp focus and others blurred. A bright, hazy light source, likely the sun, is positioned in the upper center of the image, creating a soft glow and reflecting off the water's surface. The overall color palette is dominated by greens and blues, with a warm, golden light from the sun.

**We will gladly
entertain any
questions or
discussions...**

Mahalo nui loa...