

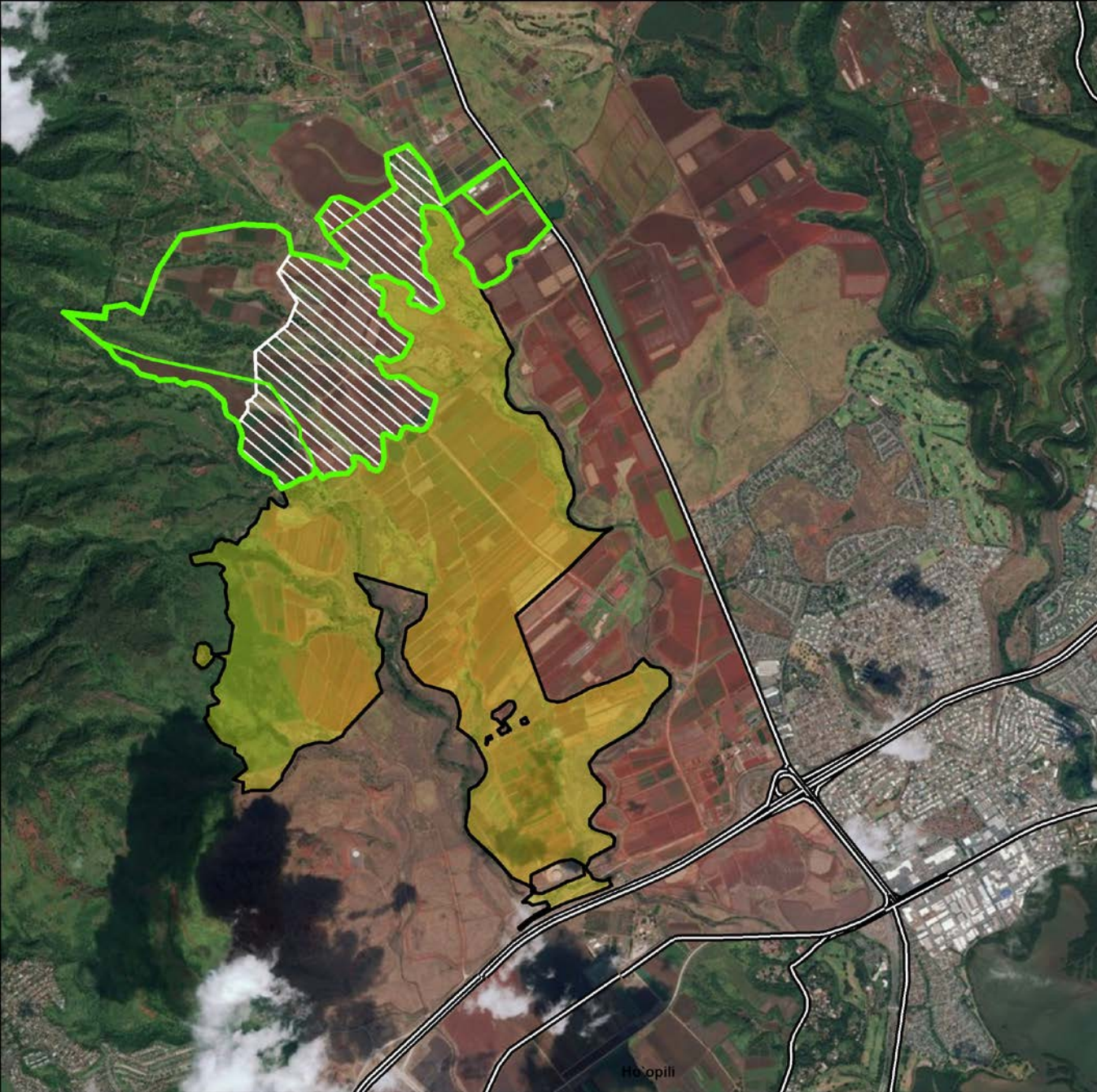
HARTUNG BROTHERS HAWAII, LLC

Petition to Designate 463 acres at
Kunia, O'ahu as Important Agricultural
Lands (IAL) DR18-61




State of Hawai'i Land Use Commission

May 24, 2018





Regional Location Map

-  Hartung's Land
-  Hartung IAL
-  Monsanto IAL

Hartung Brothers Hawaii

- A subsidiary of Hartung Brothers, Inc., a Wisconsin corporation
- Acquisition of the Hawaii business of Syngenta AG in June 2017
 - O'ahu: approximately 849 fee simple acres in Kunia
 - Kaua'i: approximately 2,000 acres leased from the State and private parties
- Primary crop is currently seed corn, but investigating other crops
- 14 full-time employees at Kunia
- 82 full-time employees state-wide
- ~ 100 seasonal workers

Field Photo



Field Photo



Field Photo



Reservoir

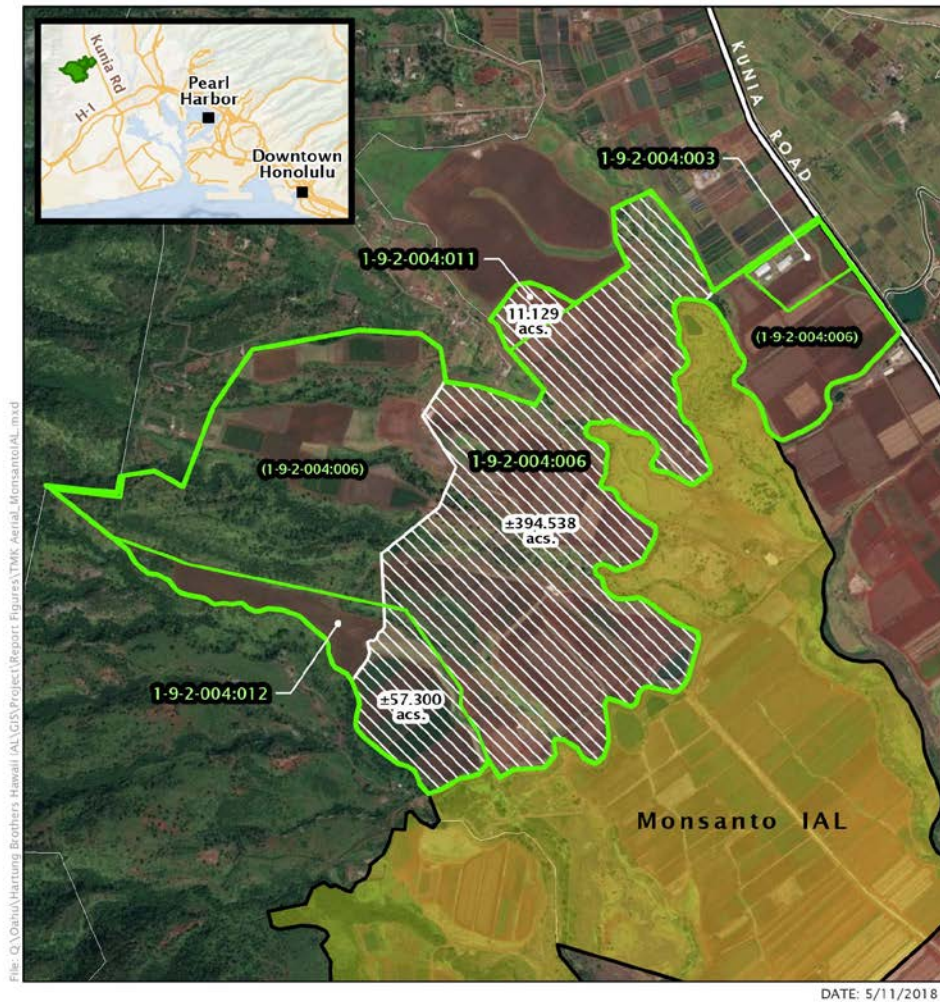


Water Pump & Filtration Station



Processing Facility





LEGEND

- Hartung Property ("Oahu Land")
- Proposed IAL ("Property")

Figure 1

TMK Parcels and Proposed IAL

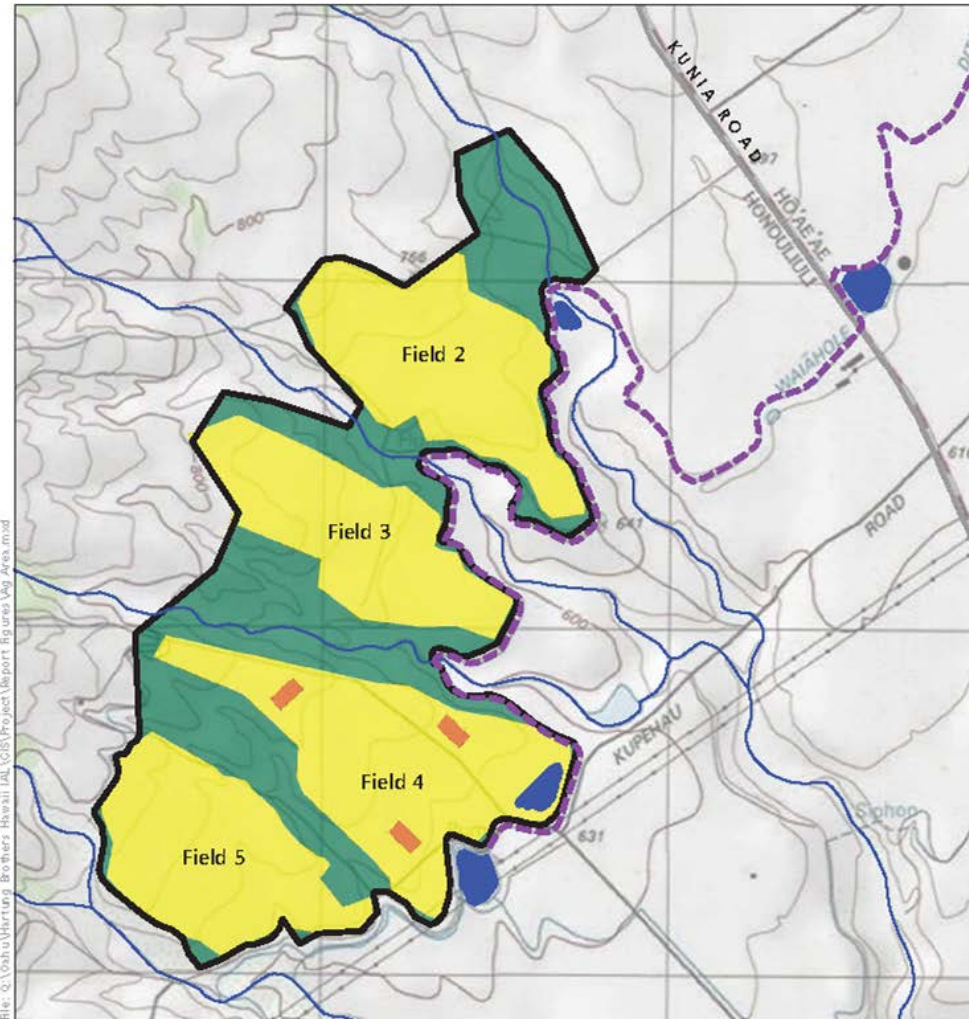
Hartung Brothers Hawaii Important Agricultural Land

Hartung Brothers Hawaii LLC
North
Linear Scale (Feet)
0 400 800 1,600

Important Agricultural Lands

- Hartung owns 849 acres in Kunia.
- Proposing 463 acres to be designated as IAL.
- 54.6% of total landholdings
- Proposed IAL contiguous to Monsanto IAL

Standards and criteria . . . land that contributes to maintaining a critical land mass important to agricultural operating productivity. (HRS §205-44(c)(7))



Land Use

Agricultural Use	Acres	Percent
Crop Production	302	65%
Other (agricultural infrastructure, soil conservation, gulch)	161	35%
Total	462.967	100%

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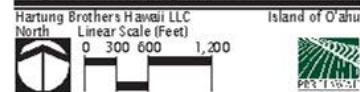
- Proposed IAL
- Current Agricultural Use
- Corn Seed Production
- Sorghum Production
- Other (agricultural infrastructure, soil conservation, gulch)
- Reservoirs
- Waiahole Ditch
- Streams / Gulches

Source: Hartung Brothers Hawaii LLC, State of Hawaii, City & County of Honolulu, ESRI Base map.
Disclaimer: This graphic has been prepared for general planning purposes only.

Figure 2

Agricultural Areas

Hartung Brothers Hawaii Important Agricultural Land

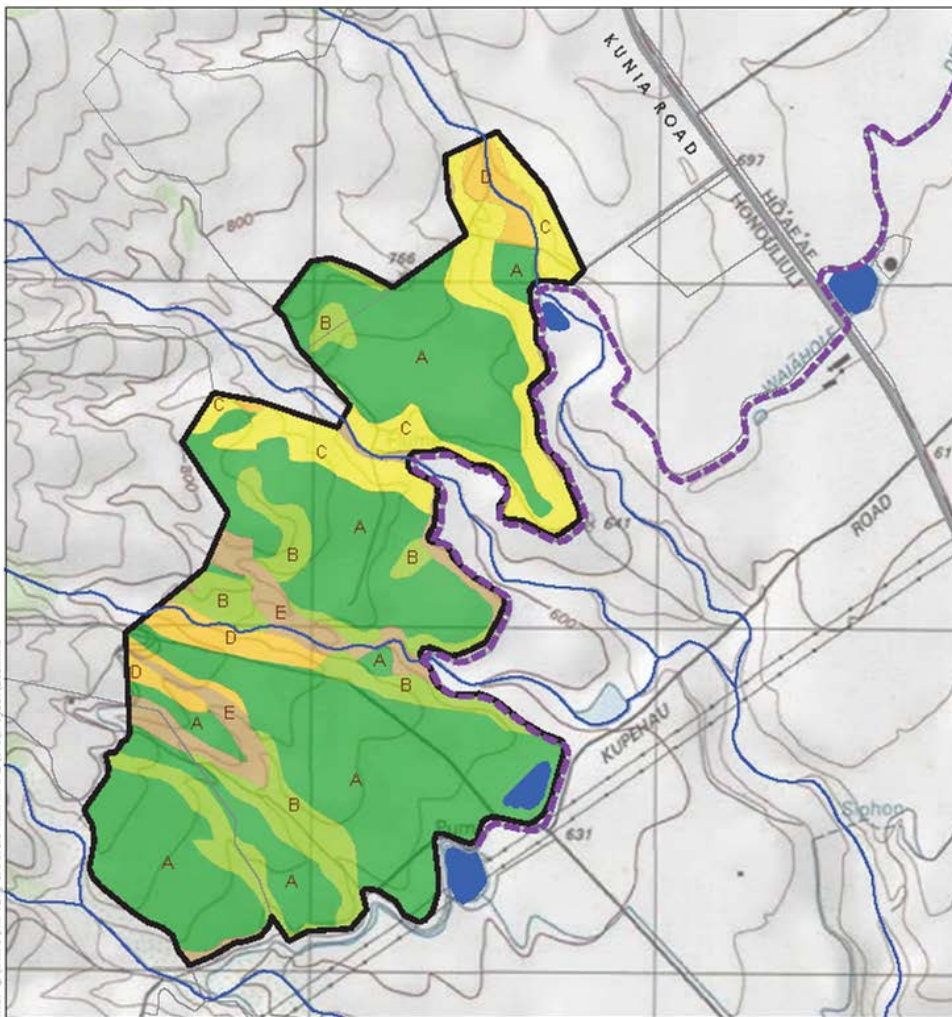


Standards and criteria . . . land currently used for agricultural production. (HRS §205-44(c)(1))

Land Study Bureau (LSB) Detailed Land Classification System

Productivity Rating	Total IAL	
	Acres	% of IAL
A	284.672	61.5%
B	61.906	13.4%
C	56.490	12.2%
D	24.295	5.2%
E	35.604	7.7%
Unclassified	0.000	0.0%
Total	462.967	100%

Standards and criteria . . . land with soil qualities and growing conditions that support agricultural production of food, fiber, or fuel- and energy-producing crops. (HRS §205-44(c)(2))



DATE: 1/23/2018

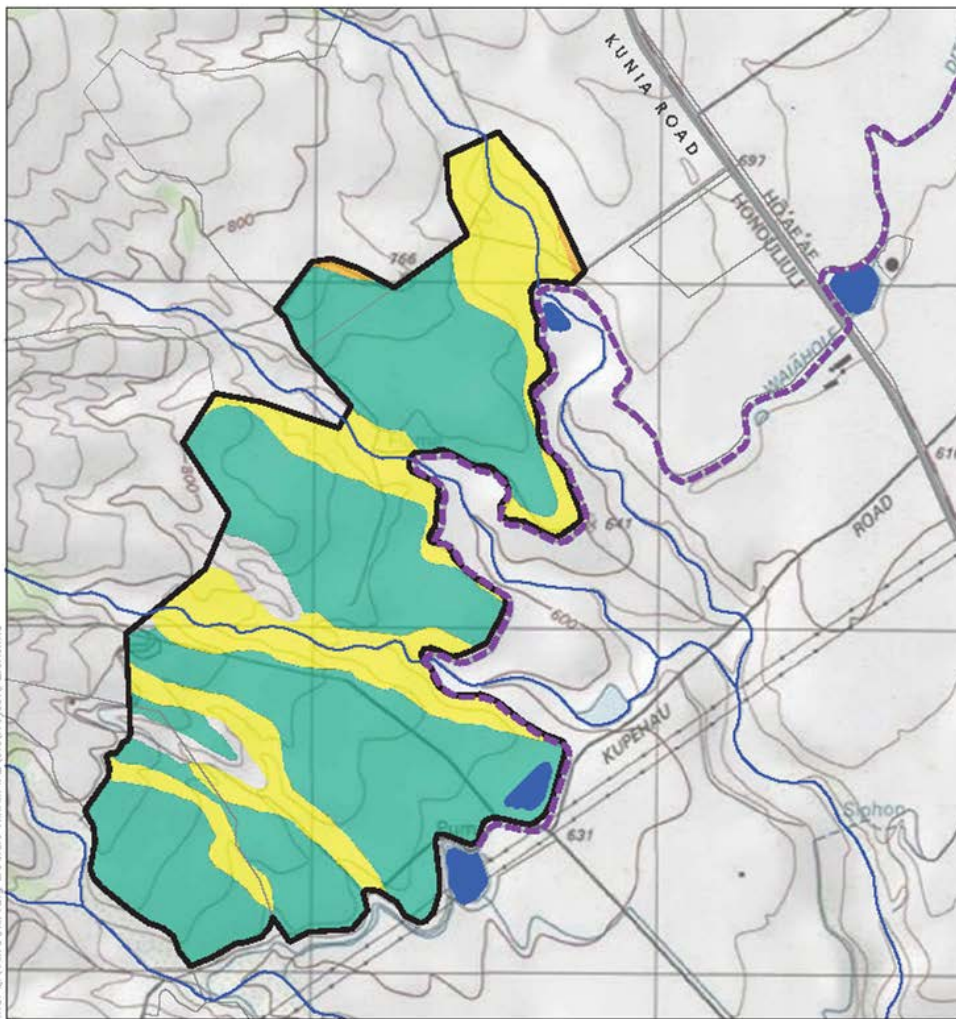
Figure 4
Detailed Land Classification System (LSB)



Source: University of Hawaii Land Study Bureau (1972), City & County of Honolulu, State of Hawaii, ESRI Base map. Esri disclaimer: This product has been prepared for general planning purposes only.

Agricultural Lands of Importance to the State of Hawai'i (ALISH)

ALISH Classifications	Total IAL	
	Acres	% of IAL
Prime	309.308	66.8%
Unique	2.449	0.5%
Other	134.210	29.0%
Not ALISH	17.000	3.7%
Total	462.967	100%



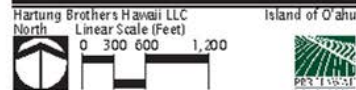
LEGEND

- Proposed IAL
- Prime ALISH
- Unique ALISH
- Other ALISH
- Unclassified
- Reservoirs
- Waiahole Ditch
- Streams / Gulches

Figure 5

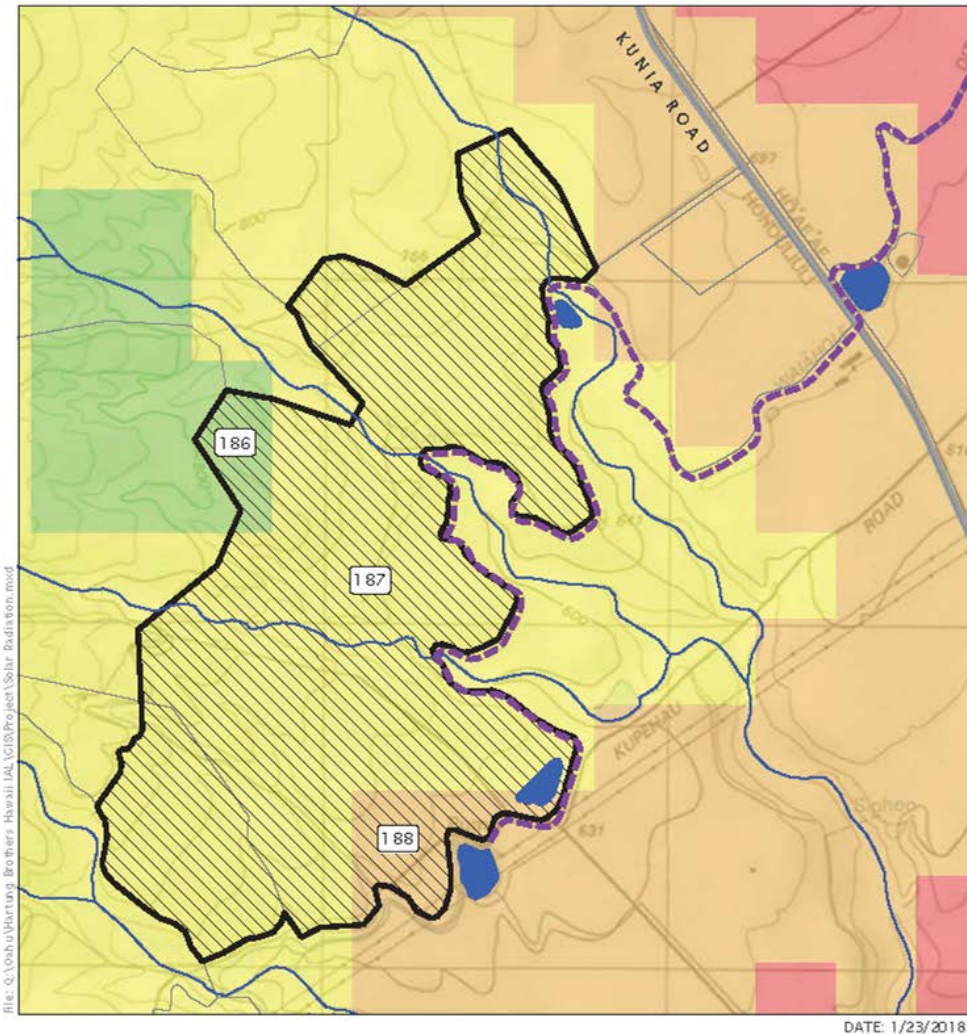
Agricultural Lands of Importance to the State of Hawai'i (ALISH)

**Hartung Brothers Hawaii
Important Agricultural Land**

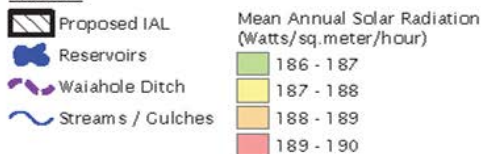


Standards and criteria . . . land identified under agricultural productivity rating systems, such as the agricultural lands of importance to the State of Hawaii (ALISH) system . . . (HRS §205-44(c)(3))

Source: State Department of Agriculture (1977), City & County of Honolulu, State of Hawaii, ESRI Base map. Disclaimer: This product has been prepared for general planning purposes only.



LEGEND



Source: University of Hawaii Department of Hawaii (2014). State of Hawaii, City & County of Honolulu. Disclaimer: This product has been prepared for general planning purposes only.

Figure 6
Solar Radiation



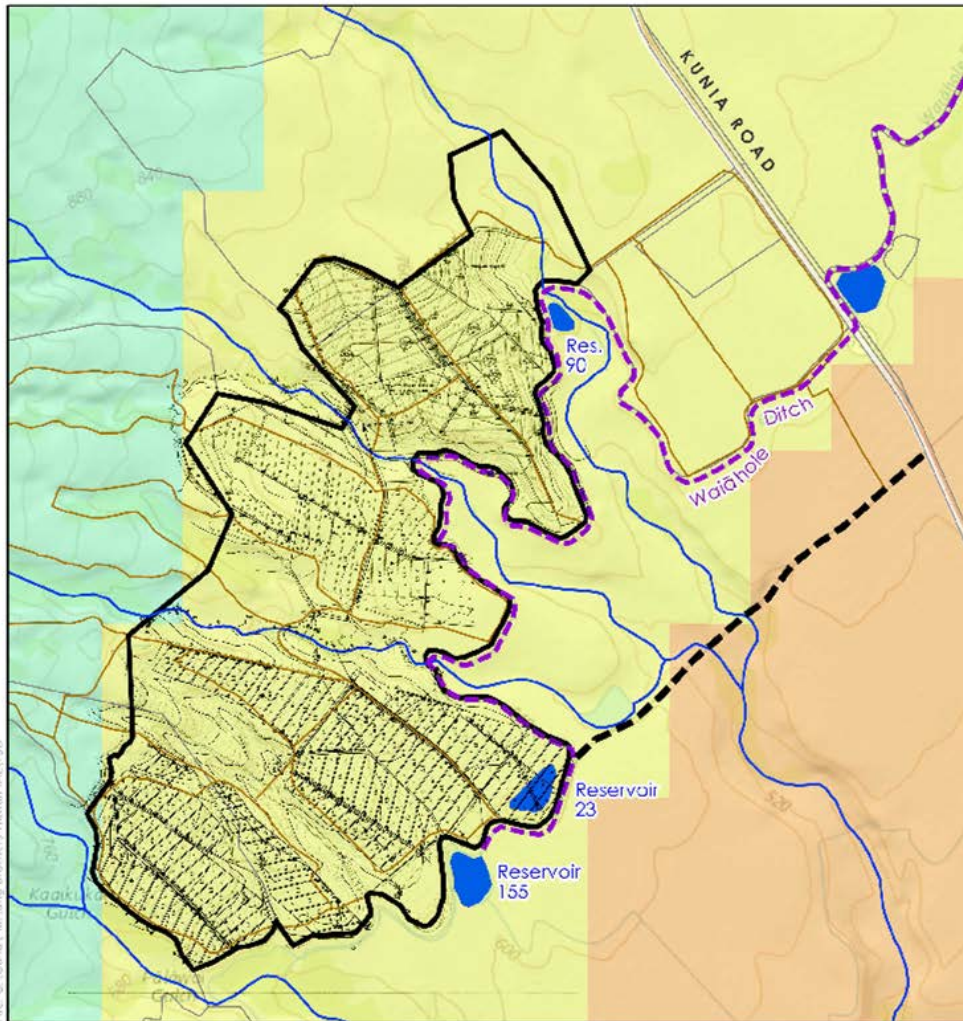
Solar Radiation

Mean annual solar radiation: 186 to 188 watts per square meter per hour.

Standards and criteria . . . land with . . . growing conditions that support agricultural production of food, fiber, or fuel- and energy-producing crops. (HRS §205-44(c)(2))

Water Resources & Agricultural Infrastructure

- Main source of Water: Waiāhole Ditch.
 - (Water Use Permit No. 1052)
- Back up: Kunia Water Association
 - (3.82% allocation; backup source)
- Mean annual rainfall: 30" to 40"



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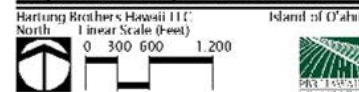
- Proposed IAL
 - Reservoirs
 - Waiāhole Ditch
 - Streams / Gulches
 - Access & Utility Road
 - Agricultural Roads
 - Irrigation System
- Mean Annual Rainfall (Inch)
- 25 - 30
 - 30 - 35
 - 35 - 40

Source: Hartung Brothers Hawaii LLC, University of Hawaii Rainfall Atlas of Hawaii (2011), State of Hawaii City & County of Honolulu FSKI Reservoirs

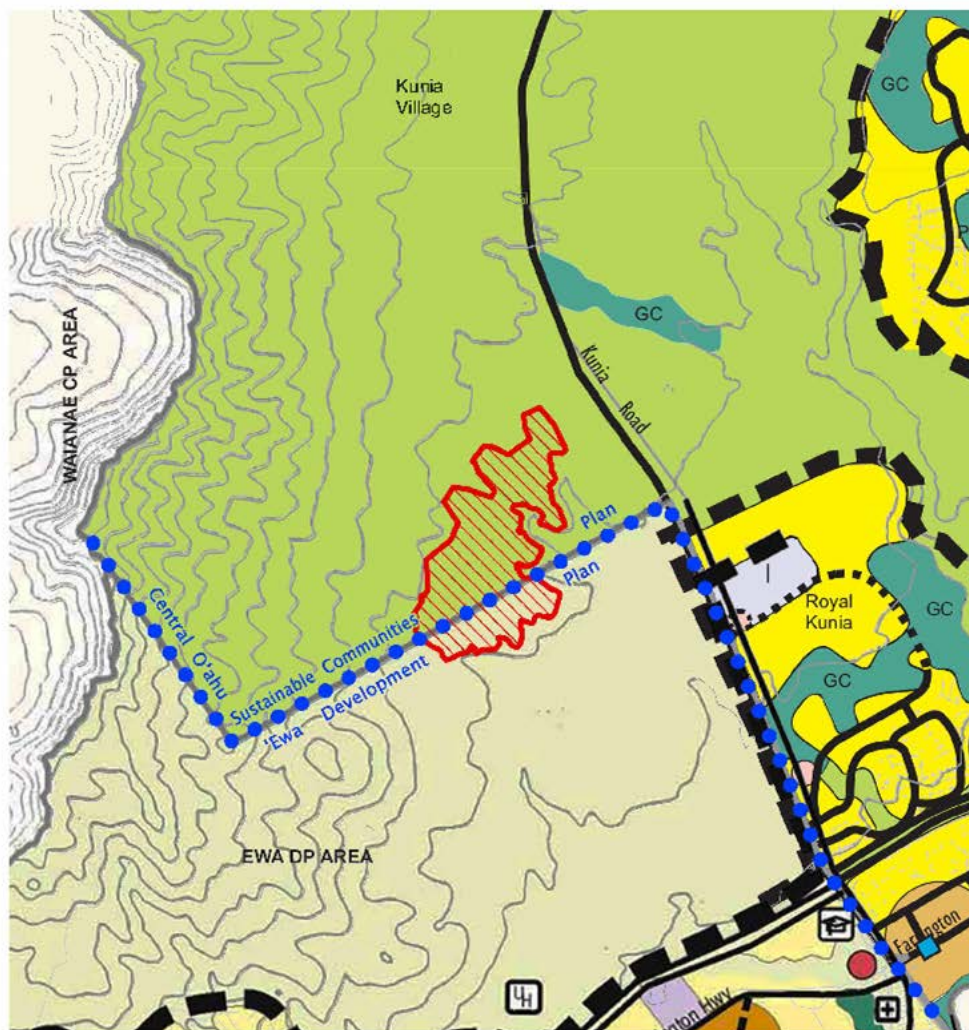
Figure 7

Water Resources and Agricultural Infrastructure

Hartung Brothers Hawaii Important Agricultural Land



Standards and criteria . . . land with sufficient quantities of water to support viable agricultural production. (HRS §205-44(c)(5))



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Proposed IAL

Central O'ahu SCP (2002)

Agricultural and Preservation Area

Urban Community Boundary

'Ewa Development Plan (2013)

Agricultural and Preservation Area

Community Growth Boundary

U.H. West Oahu

Source: City & County of Honolulu (2002, 2013, 2016)
 Data: City & County of Honolulu (2002, 2013, 2016)

Figure 9

Central O'ahu Sustainable Communities Plan (2002) and 'Ewa Development Plan (2013)

Hartung Brothers Hawaii
Important Agricultural Land



Central O'ahu Sustainable Communities Plan (2002) & 'Ewa Development Plan (2013)

- Agriculture and Preservation Area.
- Draft 2016 Central Oahu SCP map—same designations.
- Outside of Urban Community Boundary.

Standards and criteria . . . land whose designation as IAL is consistent with general, development, and community plans of the county. (HRS §205-44(c)(6))

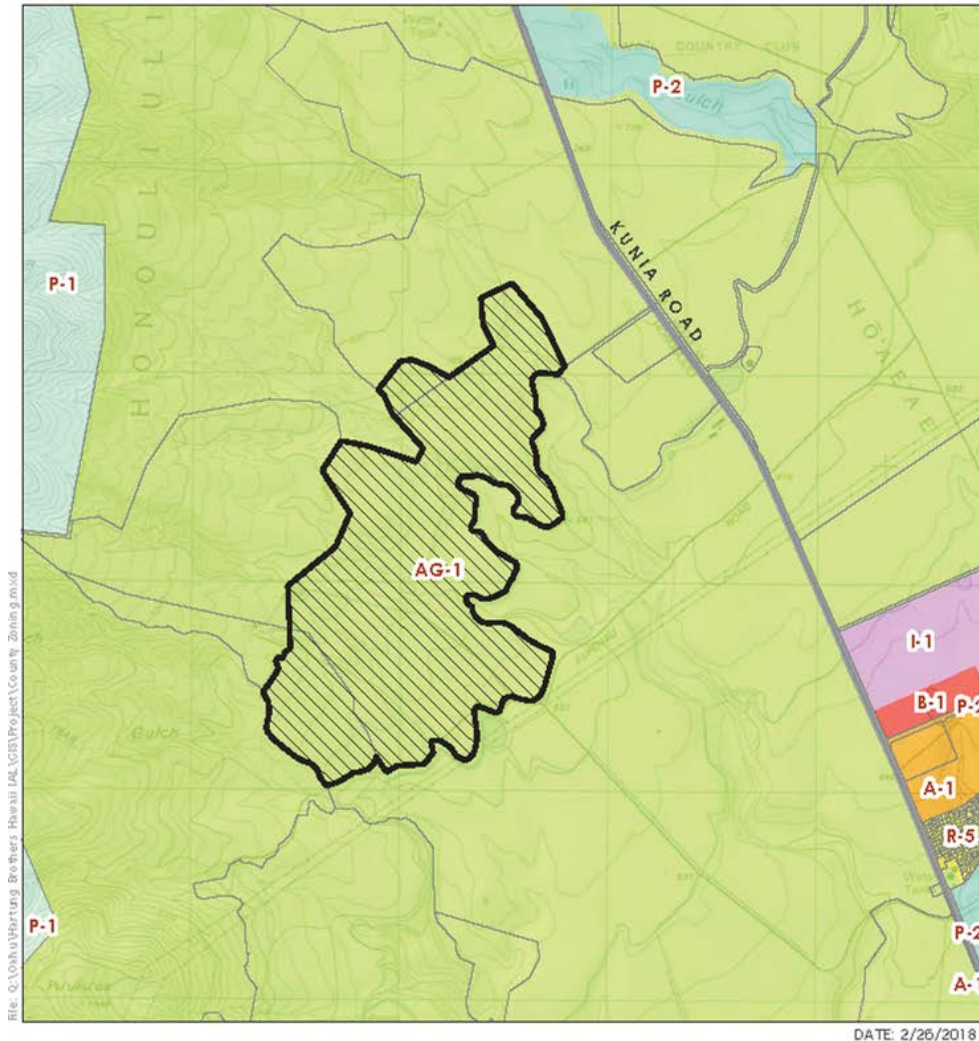


Figure 11
City and County of Honolulu Zoning
**Hartung Brothers Hawaii
Important Agricultural Land**
Hartung Brothers Hawaii LLC
Linear Scale (Feet)
North
0 500 1,000 2,000
Island of O'ahu
P-1 1/26/21

City & County Zoning

- Agricultural – Restricted (AG-1)

Standards and criteria . . . land whose designation as IAL is consistent with general, development, and community plans of the county. (HRS §205-44(c)(6))

Standards and criteria . . . land with or near support infrastructure conducive to agricultural productivity, such as transportation to markets, water, or power. (HRS §205-44(c)(8))

Standards and Criteria for IAL

HRS §205-44(c)

1. Land currently used for *agricultural production*;
2. Land with *soil qualities and growing conditions* that support agricultural production of food, fiber, or fuel-and energy-producing crops;
3. Land identified under *agricultural productivity rating systems*, such as the agricultural lands of importance to the State of Hawaii (ALISH) system adopted by the board of agriculture on January 28, 1977;
4. Land types associated with *traditional native Hawaiian agricultural uses*, such as taro cultivation, *or unique agricultural crops* and uses, such as coffee, vineyards, aquaculture, and energy production;
5. Land with *sufficient quantities of water* to support viable agricultural production;
6. Land whose designation as important agricultural lands is *consistent with general, development and community plans of the county*;
7. Land that contributes to maintaining a *critical land mass* important to agricultural operation productivity;
8. Land with or near *support infrastructure* conducive to agricultural productivity, such as transportation to markets, water or power.

Mahalo!

