

NEIL ABERCROMBIE  
Governor



State of Hawaii  
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Chairperson, Board of Agriculture

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Deputy to the Chairperson

February 21, 2013

Mr. Daniel Orodener  
Executive Officer  
Land Use Commission  
235 South Beretania Street, Suite 406  
Honolulu, Hawaii 96813

Dear Mr. Orodener:

Subject: Docket No. DR12-49  
Petition for Declaratory Order to Designate Important Agricultural Lands  
Kunia Loa Ridge Farmlands  
Off Kunia Road – Waipahu  
Tax Map Key: 9-2-04: 5  
Area: 854.23 acres  
Lots proposed: 99  
Lot acreage: 5.037 to 35.641 acres

2013 FEB 26 A 7:25  
LAND USE COMMISSION  
STATE OF HAWAII

Thank you for the opportunity to comment on this important petition. The Department of Agriculture expresses its appreciation to the petitioner for their interest in and effort to identify potential Important Agricultural Lands (IAL). The amount of information contained within the petition allowed the Department, as a reviewing agency, to thoroughly assess the petitioner's request. In the attached appendix, we provide detailed responses to the petitioner's statements as to how the petitioned area meets the eight criteria for identifying potential IAL (Section 205-44, HRS).

We note that the petitioner is not seeking a reclassification of land pursuant to Section 205-45(b), in conjunction with this petition to designate IAL. The petitioner is also voluntarily waiving all rights to claim any credits due pursuant to Section 205-45(h) (Petition, page 7). This is the second IAL petition involving agricultural lands on the island of Oahu and the seventh IAL petition statewide.

The Department of Agriculture believes the petition area in its entirety does not merit designation as IAL because the quantity of irrigation water available to the petition site is, in our opinion, insufficient to carry out the petitioner's estimated agricultural use of 478 acres of the 854-acre property. By our estimate, using the estimated irrigation water demand projected for diversified agricultural crops in the Department's Kunia Agricultural Park located two miles distant, the 500,000 gallons per day supply to the petition area is enough to sustain about 135 cultivated acres. Without sufficient quantity of irrigation water, agricultural uses will be marginalized on the majority of the petition area. According to the petitioner, they are not



considering seeking alternative sources of irrigation water (on-site groundwater well or pumping from Waiahole Ditch) at this time.

The Commission needs to be made aware that for designated IAL, the landowner may seek to petition the Commission "...to remove the "important agricultural lands" designation from lands if a sufficient supply of water is no longer available to allow profitable farming of the land due to governmental actions, acts of God, or other causes beyond the farmer's or landowner's reasonable control." (emphasis added) (Section 205-50(g), HRS).

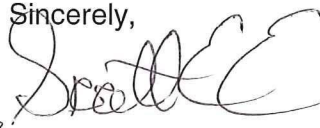
The petition states that 376 acres will be put into ranching and grazing. It is the intention of the petitioner to limit these uses to the gullies, ravines and other areas unsuited to agricultural cultivation. This may result in non-contiguous grazing areas that may make difficult the movement of cattle and the management of pastures.

Furthermore, this is the first petition for IAL that involves property with multiple owners. While ownership is not an IAL identification criterion, in this particular case it may have an impact on the establishment and maintenance of the petition area as an agricultural production area worthy of IAL designation.

The Department is fully cognizant of the importance of the Kunia area as the largest, most intensively used and protected agricultural production area on Oahu. We are also aware that the petition lands provide smaller lots for farmers – only the Hawaii Agricultural Foundation's 182-acre Kunia Ag Park (just north of Kunia Village) and our planned Kunia Agricultural Park located just north of Royal Kunia offer or will offer small lots in this area. Nevertheless, the restriction on available irrigation water will severely limit the acreage that can be put into productive agricultural use on the petition lands.

Finally, the Department strongly recommends the Commission do a thorough site visit of the entire petition area to confirm the existing agricultural activity as well as the infrastructure improvements (storage and distribution to each lot) for irrigation water and interior roadways as described in the petition (Page 7, item h).

Sincerely,



for Russell S. Kokubun

Chairperson, Board of Agriculture

Attachments

c: Office of Planning  
City Department of Planning and Permitting

# Kunia Loa Ridge Farmlands

## APPENDIX

### Land Currently Used for Agricultural Production

#### *Current agricultural production*

According to the petition, approximately 378 acres (44 percent) of the 854.23-acre property are currently used for agricultural production and the “great majority” of the remainder of the property is being prepared for eventual agricultural production (page 4). The Department received from the petitioner updated information that 526 acres on 60 of the 99 lots are now in “planted agriculture” with a variety of vegetables, fruit trees, livestock, ranching, aquaponics, and solar farming (email from Mr. Raymond Iwamoto, dated February 19, 2013). The “Agricultural Feasibility Study” (Study) (Petition, Exhibit B, dated May 2010, page 6) states that “The Property is mostly fallow although the previous landowner had a couple of lessees who in turn had sub-lessees who engaged in horse and cattle grazing on portions of the leased lands.”

#### *Past agricultural production*

From the aerial photos found in the Detailed Land Classification – Island of Oahu (Land Study Bureau, Bulletin No. 11, December 1972; Maps 147 and 162) it appears that most of the “C” and “D” rated soils in the northern half of the property were in unirrigated pineapple. The southern half appears to be a mix of irrigated sugarcane up on the ridges between the gulches on the “B” and “C” rated soils. Gulches with no agricultural activity dissect the cultivated areas in a west-east direction. According to the petition, portions of the property were recently used for horse and cattle grazing (Exhibit B, page 6).

#### *Future agricultural production*

Agricultural activities contemplated on the property include vegetable crops, ornamental nurseries and fruit orchards (Exhibit B, pages 2 and 13). The total



area to be cultivated in these uses is expected to be about 478 acres and the remaining 376 acres will be used for ranching and grazing (Petition, page 6, item g). Nineteen of the 99 lots that comprise the petition area will be restricted entirely or partially to ranching (Petition, First Amendment of Declaration of Covenants, Conditions, Restrictions and Reservation of Easements for the Kunia Loa Ridge Farms Agricultural Subdivision, page 3 sections 9.4 and 9.5).

**Land with soil qualities and growing conditions that support agricultural production of food, fiber, or fuel- and energy-producing crops**

About 60 acres (7 percent) of the property has Land Study Bureau (LSB) Overall Productivity Ratings of "A" and "B", 179 acres (21 percent) has a "C" rating, 261 acres (31 percent) has a "D" rating, and 355 acres (41 percent) has an "E" rating (Exhibit B, page 7 and Figure 8). The total acreage in "A", "B", "C" and "D" ratings is 500 acres. Additional research by Department staff indicates that four of the ten "C" and "D" rated soils would have improved to "B", and in two cases, "A" if irrigation was available at the time the study was done. None of the 355 acres of "E" rated soils improve with irrigation - soil rockiness and/or unfavorable slope severely limits agricultural use of these lands.

Generally, the areas of the property formerly under sugarcane and pineapple cultivation have soil and topographic qualities that would support agricultural production, provided a sufficient quantity of irrigation water is available.

**Lands identified under agricultural productivity ratings 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**

The Agricultural Lands of Importance to the State of Hawaii (ALISH) system classified 8 acres as "Prime", 124 acres as "Unique", and 371 acres as "Other Important" agricultural lands (Exhibit B, page 7 and Figure 9). The 124 acres classified as "Unique" appear to be the footprint of the unirrigated pineapple fields of Del Monte. The total acreage classified as "Prime", "Other Important",

and “Unique” according to ALISH is 503 acres, nearly identical to the 500 acres of LSB rated soils “A” through “D”. There are 351 acres not classified according to ALISH. The aforementioned LSB “E” rated area of approximately 355 acres closely matches the footprint of the area not classified by ALISH – this suggests that these areas, primarily along the western central boundary of the property and in the gulches and ravines running west to east have very limited, if any, agricultural production potential.

The Natural Resources Conservation Service Soil Survey (Exhibit B, Figure 7) shows the slope for each soil type. The HLMG, McE2, and rTP soils are not suited for machine tilling because of slopes in excess of 20 percent. Similarly, portions of the KuD and McD2 that approach or exceed 20 percent slopes would make it very difficult to operate machinery.

**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**

The petitioned area does not have wetlands suited to wetland taro cultivation nor is there a history of coffee, vineyards, aquaculture, and energy production. The portions of the property suited to cultivation, with the addition of sufficient quantities of irrigation water, should be able to sustain coffee, vineyards, energy production, “traditional native Hawaiian agricultural uses” and nearly any crop for that matter, other than wetland crops.

**Lands with sufficient quantities of water to support viable agricultural production**

Along with good quality soil, a reliable and sufficient supply of irrigation water is critical for maximal agricultural production. Irrigation water should be available in a quantity that meets the maximum daily demand over a sustained period of time which usually occurs during the summer months. The Department is very concerned that the amount of water allocated to the petition area (maximum of

500,000 gallons per day) will severely limit the amount of intensive agriculture possible on the areas with soil quality and topography suited for crop cultivation. Agricultural production on agricultural lands that do not receive a sufficient amount of irrigation water will be significantly marginalized.

Average annual rainfall is 28 inches in the petition area (Exhibit B, page 9). According to the Median Rainfall Circular C-88 document (Department of Land and Natural Resources, June 1982), the Gauge 5-Libby rain gauge shows rainfall of less than 1.5 inches from May to October and 2.2 to 3.9 inches from November to March.

The current irrigation water system consists of plastic water tanks placed alongside the roadways fronting lots (see attached photo). Upon placing an order by phone, water is delivered to these tanks by water truck.

According to the petition (Exhibit B, page 10) the irrigation water allocation to the entire petition area is 500,000 gallons per day (gpd) and is supplied by the Kunia Water Association (KWA) from three wells north of the petition area. This is the only source of supplemental irrigation water to the petition area. The KWA provides water to other customers from the same source, and the allocation of water to KWA is determined by the Commission on Water Resource Management.

Improvements to provide irrigation water storage, distribution to lots, and pumpage from the KWA water source to the storage facilities are said to be about 97 percent completed (Petition, page 4, item e) We have not been able to confirm this claim.

The petition states that approximately 478 acres (56 percent) of the petitioned 854.23 acres will be used for diversified agriculture and the remaining 376 acres will be put to ranching and grazing (Petition, page 6, item g). Potential crops



include "...traditional native Hawaiian agricultural uses....seed corn, fruits such as bananas, flowers, nursery products, including ti leaf, ginger, ferns, `Olena, Pepeiao, bird of paradise, other native trees such as A`ali`I, Alahe`e, Haup`u, Lo`ulu, Noni, and others..." (Petition, page 6, item d)

Distribution of the 500,000 gpd among the 478 acres to be put into diversified agricultural production equates to 1,046 gallons per acre per day. We do not believe this is sufficient to meet the irrigation water demand for the potential crops, especially during the low rainfall months from May through October.

We believe the amount of irrigation water needed for vegetable and fruit production on the petition lands is more accurately described in the Department's request for water allocation from the Commission on Water Resource Management for our Kunia Agricultural Park, located a few miles south of the petition area. More specifically, the Kunia Agricultural Park is to have 26, 5-acre lots and is meant for nursery, vegetables, and herb cultivation. We estimate that 3,700 gallons per acre per day (gpad) is needed to sustain these crops (Letter from Department of Agriculture to Commission on Water Resource Management regarding "Application for Ground Water Use Permit Agricultural Park Department of Agriculture, State of Hawaii (TMK: (1) 9-4-002:080)", dated September 30, 2010, Exhibit D). Using the application rate of 3,700 gpad, the 500,000 gallon daily water allocation to the petition area will allow 135 planted acres or about 16 percent of the 854-acre petition area.

The petition mentions corn as a potential crop - the irrigation requirement is approximately 9,700 gallons per acre per day over the 100 day plant-to-harvest cycle ("Corn Production in the Tropics – the Hawaii Experience" James Brewbaker, College of Tropical Agriculture and Human Resources, 2003, pages 44-45). The supply of 500,000 gpd will allow about 51 acres of corn to be planted or about 6 percent of the 854-acre petition area.

Finally, the irrigation water that can be supplied will be costly, about \$1.85 per thousand gallons delivered to the point of connection to the property and then up to the reservoir(s) (Exhibit B, pages 10-11). In comparison, the Waiahole Ditch irrigation price is \$0.55 per thousand gallons.

**Land whose designation as Important Agricultural Lands is consistent with general, development, and community plans of the County**

The petition area is fully within the State Agricultural District, is designated as Agriculture in the Central Oahu Sustainable Communities Plan, and is zoned AG-1 (Restricted Agriculture) by the City.

**Land that contributes to maintaining a critical land mass important to agricultural operating productivity**

The petition area is in the midst of other large-acreage properties that are mostly in intensive agricultural production.

**Land with or near support infrastructure conducive to agricultural productivity, such as transportation to markets, water, or power**

The petition area is near Honolulu, the major market for agricultural products. Kunia Road and the H-1 Freeway are a short distance from the property. The Kunia/Hawaii Agriculture Research Center that is becoming a crop processing and marketing hub is a short distance north on Kunia Road. The insufficient quantity of irrigation water available to the petition area is a significant shortcoming. Electrical service is not available on the property and the interior roadways are bulldozed and unsurfaced.



