



AGRICULTURAL IMPACT
ASSESSMENT

APPENDIX

B



CBRE VALUATION & ADVISORY SERVICES

PROPOSED HOKUAO RESIDENTIAL PROJECT

Agricultural Impact Assessment

LOCATED SOUTHWESTERLY OF THE EXISTING VILLAGE CORE
LANAI CITY, MAUI COUNTY, HAWAII 96763
CBRE GROUP, INC. FILE NO. 18-251LA-3288-A-1

KURT MATSUMOTO
CHIEF OPERATING OFFICER
PULAMA LANAI
733 BISHOP ST. SUITE 2000
HONOLULU, HI 96813

CBRE

VALUATION & ADVISORY SERVICES

CBRE

Thomas Holliday CRE, FRICS
1003 Bishop St. #1800
Honolulu, HI 96813
T: 808-521-1200
www.cbre.com

May 3, 2019

Kurt Matsumoto
Chief Operating Officer
Pulama Lanai
733 Bishop St. Suite 2000, Honolulu 96813

RE: **Agricultural Impact Assessment of the
Proposed Hokuao Residential Project
Located Southwesterly of the Existing Village Core
Lanai City, Maui County, Hawaii
CBRE, Inc. File No. 18-251LA-3288-A-1**

Dear Mr. Matsumoto:

At your request and authorization, we have completed an Agriculture Impact Assessment regarding the proposed Hokuao 201-H Housing project, a 200-lot single family subdivision to be set on some 50-acres of currently vacant land southwesterly adjacent to and downhill from the existing village core of Lanai City, Lanai Island, Maui County, Hawaii.

The purpose of this assignment is to assess the affect the project will have, if any, on the agriculture land base and industry on the Island of Lanai; complying with State of Hawaii guidelines associated with moving land within the State Land Use Agricultural District into another district.

Our conclusions are summarized in the following report.

In completing our assignment we have reviewed pertinent data, maps, reports and other materials prepared by the United States Department of Agriculture, State of Hawaii Department of Agriculture, Hawaii State Land Use Commission and Maui County agencies, in addition to reports prepared by others, web-based and other information sources, and as provided by Pulama Lanai.

The analyses, opinions and conclusions were developed based on, and this report has been prepared in conformance with, the guidelines and recommendations set forth in the Uniform Standards of Professional Appraisal Practice (USPAP), and the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute.

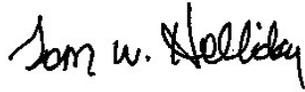
Kurt Matsumoto
May 3, 2019
Page 2

The intended user of this report is Pulama Lanai. The intended use is for inclusion within reports/document submittals associated with the going-forward entitlement process for the Proposed Hokuao Residential Project.

It has been a pleasure to assist you in this assignment. If you have any questions concerning the analysis, or if CBRE can be of further service, please contact us.

Respectfully submitted,

CBRE - VALUATION & ADVISORY SERVICES



Tom Holliday, CRE, FRICS
Director

Phone: 808.541.5120
Email: Tom.Holliday@cbre.com



Benjamin J. Holliday
Senior Valuation Associate

Phone: 808.497.1006
Email: Benjamin.Holliday@cbre.com

Table of Contents

Table of Contents.....	1
Executive Summary	1
Introduction	1
Overview of The Proposed Hokuao Residential Project.....	2
Location	2
Project Description	3
Existing and Proposed Land Classifications	4
The Lanai Agricultural Industry	6
Historical Summary of Lanai Agriculture	6
Existing Agricultural Use	7
Impact on Existing Agricultural Operations On the Hokuao Site	8
Impact on the future Of Lanai Agriculture	8
Agricultural Conditions of the Hokuao Site.....	10
Soil Types	10
Agricultural Lands of Importance to Hawaii (ALISH) Classification	12
Land Study Bureau Classification	13
Slopes 13	13
Climatic Conditions	14
Irrigation Water	14
Conclusions	14
Consistency with State and County Policies	16
Analysis of Economic and Market Impacts	17

Executive Summary

The proposed Hokuao Residential Project will be developed on some 50 acres southwesterly adjacent to the existing village core of Lanai City, providing needed affordable and market-priced housing for Lanai households.

Entitlement sanctioning the development will require re-classification of the site from agricultural to urban and residential uses for State and Maui County land use/planning designations. Our assignment was to assess the impact such re-classification would have on the Lanai agricultural land base and industry; particularly identification and analysis of detrimental outcomes.

Based on our analysis, as summarized herein, we conclude the conversion of the 50-acre proposed Hokuao Project site from historical agricultural use to going-forward residential use will not have a measurable negative impact upon the current or future agricultural land base of Lanai or its agricultural industry.

Among our primary findings:

- A portion of the Hokuao site was cultivated with pineapple as part of the larger Dole Lanai Plantation for decades before production ceased in 1992.
- The site has lain fallow for 27 years with no plans forwarded for replanting with any crop.
- The site soils are primarily Lahaina and Waihuna Clay types which are suitable for pineapple, sugar cane, small scale truck farming or pasture uses, and wildlife habitats.
- Some of the classifications are specifically noted as being suitable for “homesites”.
- The site is classified on *Agricultural Lands of Importance to State of Hawaii* (ALISH) maps as “unique” which is defined as “land other than Prime Agricultural Land and is used for the production of specific high-value food crops”, a secondary classification to “prime”.
- The Hokuao site represents an infinitesimal portion of the available agricultural lands on Lanai, or about 0.38 percent of the 13,000+ acres of the previously cultivated pineapple plantation.
- The Hokuao site is not a critical or unique agricultural site; its inclusion would not be critical to agricultural development elsewhere on the island or its exclusion would not diminish agricultural use elsewhere.
- There is no demonstrated market demand for agricultural use of the Hokuao site and there is sufficient available supply to meet near to mid-term demand in existing, serviced agricultural subdivisions with some 105 cultivatable acres available for lease.
- The proposed subdivision will create more jobs and greater economic activity on the site than occurred under current agricultural use (0 jobs, \$0 economic activity) or historic pineapple use (maximum 5 jobs, \$350,000 economic activity). Development of the Hokuao Residential Project

will result in \$171.9 million in capital investment, nearly 1,000 worker-years of employment with \$70 million in wages, and stabilized annual economic activity of \$18.5 million and 21 full-time equivalent jobs.

- Agricultural use on the Hokuao site could be in conflict with and/or deleterious to existing abutting residential use.
- There is an evident demand for the site being residentially-developed to house Lanai households.

Introduction

Pulama Lanai proposes to develop the Hokuao Residential Project on a 50-acre site which is a natural expansion area for Lanai City (the Project Area). It is located southwest of Lanai City, Lanai, Hawaii. The proposed subdivision will add 200 housing units; comprising of 102 “workforce/affordable” and 98 “market priced” single family homes.

This report assess the impacts of the Hokuao Project on the Lanai agriculture land base and its agricultural industry.

The body of the presentation is divided into five sections:

1. Overview of the Proposed Hokuao Residential Project
2. The Lanai Agricultural Industry
3. Agricultural Conditions of the Hokuao Site
4. Consistency with State and County Policies
5. Analysis of Agricultural and Economic Impacts

Reports and primary source materials are cited in the applicable sections of the report.

Overview of The Proposed Hokuao Residential Project

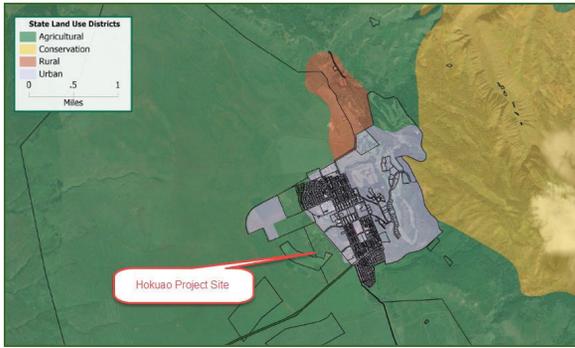
LOCATION

The Hokuao Project Area is situated southwesterly adjacent to and downhill from the existing Lanai City village core, near the center of Lanai Island and approximately 3.2 miles northeast of Lanai Airport. Vacant agricultural lands previously cultivated with pineapple lie westerly of the site and Lanai City easterly.

The property is identified on State of Hawaii Tax Maps as Second Division, Tax Map Key 4-9-4-Various Parcels and is currently primarily classified for agricultural use by the State and County. Historically the majority of the site was used for pineapple cultivation; however, since closing of plantation operations in 1992 the property has been uncultivated and unused.

The aerial below shows the general location of the Hokuao Residential Project on the island followed by a more specific siting using the State Land Use District Map as a base.





PROJECT DESCRIPTION

The envisaged forwarded master plan contains 102 workforce/“affordable-priced” single-family homes ranging in size from 1,220 square feet to 1,600 square feet, and 98 “market-priced” single-family homes averaging 2,200 square feet. Lots of will have a minimum size of 6,000 square feet, with a community pavilion, restrooms, 100-stall surface parking lot, and open/buffer space as shown on the next page.

The inventory will be offered as finished homes to qualifying affordable and market buyers by Pulama Lanai, with the affordable homes priced according to County/HUD pricing criteria. No Transient Vacation Rentals will be permitted, nor Accessory Dwelling (Ohana) units in the near-term.

It is our understanding the new neighborhood would be entitled as a Maui County “201H” project designation requiring that a minimum of 50 percent of the inventory meet affordability guidelines.

The current master plan for the development is shown following.



EXISTING AND PROPOSED LAND CLASSIFICATIONS

Current land classifications of the Project Area and proposed changes are as follows:

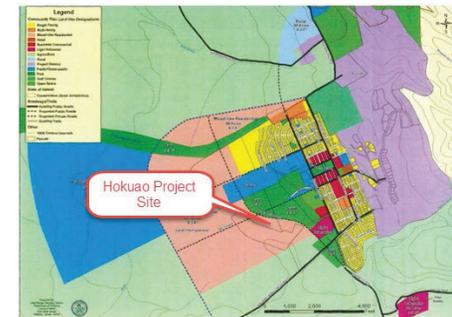
State Land Use Districts

(Map shown foregoing)

- Current: Agricultural
- Proposed: Urban

County Designation

- Lanai Community Plan
- (Map shown below)



- Current: Mixed uses including park, public, and mixed-use residential. Area is identified as being with “Lanai City Expansion Area”
- Proposed: Same. No change required.
- Maui County Zoning
(No Map Available)
 - Current: Agriculture
 - Proposed: To appropriate residential designation

The Lanai Agricultural Industry

HISTORICAL SUMMARY OF LANAI AGRICULTURE

Once commonly referred to as the “Pineapple Island” the Dole Lanai Plantation had sustained a cultivated area of some 13,000 acres, reportedly periodically reaching as high as 15,000 to 20,000 from its inception in the early 1920’s until active operations shut down in 1992. It is reputed to have supplied up to 75 percent of the world’s pineapple crop at peak production.

Portions of the Hokuao Project site were incorporated into the fields.

The cultivation of pineapple began in Lanai in 1910 by Charles and Louisa Gay with the first successfully crop. By 1917, the Gay family had a going-concern pineapple business focusing on lands near present-day Lanai City. The crop was harvested and taken to Manele Landing via truck for loading on boats to Maui for canning. The lack of infrastructure made the trip difficult resulting in the loss of much fruit due to bruising.

In 1922 James Dole purchased much of Lanai (which eventually became the Pulama Lanai lands). In 1923 the Dole Hawaiian Pineapple Company began operations of what would be the world’s largest pineapple plantation. In 1961, Castle & Cooke acquired Dole Food’s interests, and began the evolution of company focus from pineapple cultivation to planning for new resort and residential development on Lanai.

The development plans were not manifest and David H. Murdock purchased the company in 1985 which included the Lanai plantation ownership. Murdock’s pursued resort development on the island at Manele Bay and Koele and gradually began phasing out the pineapple business. The plantation was eventually closed down with the final harvest being in 1992.

The following photograph from December 1953 shows the on-going cultivation of the majority of the proposed Hokuao Residential Project site.



There has been no agricultural activity on the Hokuao site since 1992, nor has there been an expressed demand by any party to undertake such.

EXISTING AGRICULTURAL USE

There are several small independent sustainability-oriented farming efforts on private lands on the island comprising just a handful of in-production acres. There is a temporary plant quarantine facility near Lihue Airport to insure plant material imported for the resorts does not introduce invasive pests. (*Statewide Agricultural Land Use Baseline 2015*, Hawaii Department of Agriculture).

Lanai currently has two active major agricultural subdivisions, both developed by Pulama Lanai in circa 2013 and offering land leases to third-party agricultural/farming operations. Although relatively well-received by the market, there remains significant unabsorbed inventory. The subdivisions are summarized in the following chart.

EXISTING MAJOR AGRICULTURAL SUBDIVISIONS ON LANAI						
Agricultural Subdivision	Year Opened for Lease	Total Leasable Acres	Acreage Leased to Date	Remaining Available Acreage	Percent of Acreage Absorbed	Average Annual Absorption (in Acres)
Airport Industrial Subdivision	2013	50	20	30	40.0%	3.3
Palawai	2013	100	25	75	25.0%	4.2
Totals		150	45	105	30.0%	7.5

Based on historic absorption/demand there is some 14 years of inventory/supply remaining

Source: Pulama Lanai and CBRE

Sensei Farms Lanai, a Larry Ellison project, is an in-development hydroponic farm envisaged to supply fresh produce to Lanai patrons with a goal of achieving sufficient production to service off-island markets.

Ten (10) greenhouses totaling 19,840 square feet are planned, each covering nearly half an acre (160 feet X 124 feet X 13 feet high). Hydroponic farming requires relatively little water compared to field farming and power needs will be met via an off-grid photovoltaic system.

Offices, including a demonstration kitchen, vegetable processing and cold storage facilities are also proposed.

This is a highly-specialized, unique to Lanai use, that does not required the use of cultivatable land.

IMPACT ON EXISTING AGRICULTURAL OPERATIONS ON THE HOKUAO SITE

There are no existing, in-place agricultural operations utilizing the proposed Hokuao Project site, and we are aware of any plans for such being forwarded at this time

We conclude there will be no adverse impacts to any existing or proposed agricultural use of the property

IMPACT ON THE FUTURE OF LANAI AGRICULTURE

Hokuao will result in a loss of some 50 acres of fallow agricultural land.

This is an infinitesimal amount (0.38 percent) relative to the historic Dole Plantation sustained cultivation of 13,000, and an even lesser fraction (0.25 percent) of the up to 20,000 potentially cultivatable acres on the island.

The amount of useable agricultural acreage on Lanai far exceeds any forwarded plan to date, and the area is now a component of the some 200,000 acres of fallow agricultural lands statewide vacated by the now-defunct sugar and pineapple industries.

We conclude The loss of 50 acres of agriculture land on Lanai is too small to affect the growth of diversified agriculture on Lanai or Statewide.

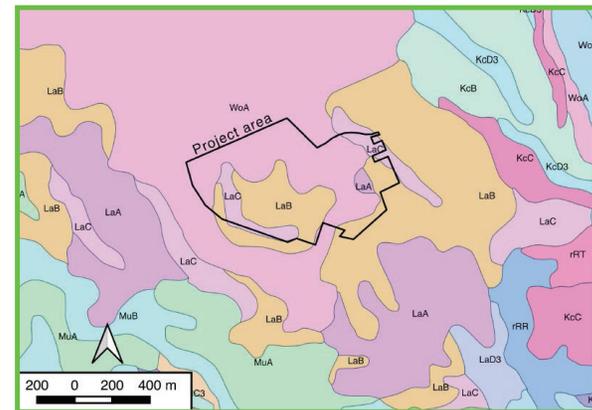
Agricultural Conditions of the Hokuao Site

SOIL TYPES

The Project Area contains four (4) soil types. Three of the soil types are part of the Lahaina series while the other is part of the Waihuna series. The United States Department of Agriculture (USDA); Natural Resources Conservation Service describes the soil series as:

- *“The Lahaina series consists of very deep, well drained soils that formed in residuum weathered from basic igneous rock. Lahaina soils are on low elevation, mountain hillslopes and have slopes of 0 to 40 percent. Mean annual rainfall is about 762 millimeters (30 inches) and mean annual temperature is about 23 degrees C. (73 degrees F.)”*
- *“The Waihuna series consists of deep, well drained soils that formed in fine textured alluvium from basic rock. Waihuna soils are in basins and on fans and have slopes of 0 to 25 percent. Mean annual rainfall is about 30 inches and mean annual air temperature is about 69 degrees F.”*

The following map displays the Hokuao project area and underlying soil types.



The summary descriptions for each of the four (4) soil types are presented following as excerpted from the “Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii” which was conducted by the USDA Soil Conservation Service in cooperation with the University of Hawaii Agricultural Experiment Station.

The soil types are all judged to be suitable for pineapple production, with the Lahaina silty clay types also suitable for sugarcane, and in some cases truck crops, pasture and wildlife habitat. One is specifically cited as appropriate for homesites.

LaA: Lahaina silty clay, 0 to 3 percent slopes

On this soil runoff is slow and the erosion hazard is no more than slight. This soil is used for sugarcane and pineapple.

LaB: Lahaina silty clay, 3 to 7 percent slopes

This soil is on smooth uplands. Including in mapping were small areas that are underlain by consolidated sand at a depth below 30 inches. Cobblestones are common on the surface in a few places. In some places, near the coastal plains, the profile contains fragments of coral, stones, gravel, or sand.

In a representative profile the surface layer is a dark reddish-brown, silty clay about 15 inches thick. The sub-soil, about 45 inches thick, is dusky-red and dark reddish-brown subangular blocky silty clay and silty clay loam. The substratum is soft, weathered basic igneous rock. These soils are medium acid in the surface layer and slight acid to medium acid in the subsoil.

Permeability is moderate. Runoff is slow, and the erosion hazard is slight. The available water capacity is about 1.3 inches per foot in the surface layer and about 1.4 inches per foot in the subsoil. In places roots penetrate to a depth of 5 feet or more.

This soil is used for sugarcane and pineapple. Small acreages are used for truck crops, pasture, and homesites.

LaC: Lahaina silty clay, 7 to 15 percent slopes

On this soil, runoff is medium and the erosion hazard is moderate. Included in mapping were small, steep areas and areas where a few cobblestones and stones are on the surface.

This soil is used for sugarcane and pineapple. Small acreages are used for truck crops, pasture, and wildlife habitat.

WoA: Waihuna clay, 0 to 3 percent slopes

This is the most extensive soil in the Waihuna series. It occurs on Lanai, mainly as two large areas. Included in mapping were small areas that are subject to ponding. These areas are in the central part of the Palawai basin and in other depressions. In some years water remains in these depressions long enough to damage crops or interfere with farming operations.

In a representative profile the surface layer, about 18 inches thick, is dark brown, very sticky and very plastic clay. The next layer, 40 to more than 50 inches thick, is dark-brown, very sticky and very plastic clay and silty clay that has subangular

blocky structure. This is underlain by relatively soft, weathered pebbles and stones. The soil is strongly acid in the surface layer as a result of pineapple culture, but it is neutral to medium acid in the rest of the profile. Cracks, ½ inch to 1 inch wide, form when the soil dries. Permeability is moderately slow. Runoff is slow, and the erosion hazard is no more than slight. The available water capacity is about 1.3 inches per foot of soil. In places roots penetrate to a depth of 5 feet or more. This soil is difficult to work because it is very sticky and very plastic when wet.

In some areas weathered gravel and cobblestone are scattered throughout the profile. A strong granular surface mulch, ½ inch to 2 inches thick, develops upon drying. Cracks ½ inch to 1-inch form to a depth of more than 20 inches when the soil dries. The A horizon range from 10YR to 7.5YR in hue and from 2 to 3 in chroma. In most places the soil color is yellowest near the source of alluvium and is somewhat redder as distance from the source increases. Texture of the lower part of the C horizon ranges from silty clay to clay. In places few to common mottles occur in the lower part of the profile.

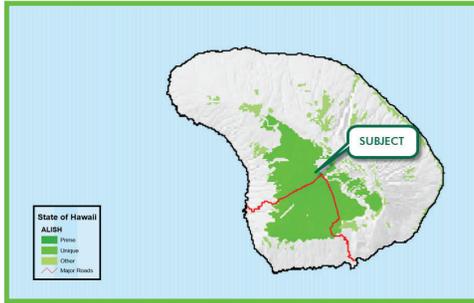
This soil is used for pineapple.

AGRICULTURAL LANDS OF IMPORTANCE TO HAWAII (ALISH) CLASSIFICATION

Developed in 1977 as joint effort of the Natural Resources Conservation Service (NRCS), University of Hawaii and Hawaii Department of Agriculture, this system classifies agricultural lands in the islands lands into one of three broad categories:

1. Prime – Land which is best suited for the production of crops with an ability to sustain high yields with relatively little input or damage to the environment.
2. Unique – Non-Prime land also used in the of specific high-value crops.
3. Other – Non-Prime, non-Unique land that is important to the production of crops.

As shown on the following map the Hokuao site, along with virtually all of the Important Agricultural Lands on Lanai, are classified as “Unique”



LAND STUDY BUREAU CLASSIFICATION

The University of Hawaii Land Study Bureau (LSB) "Overall Productivity Rating" classifies soils according to five levels "A" through "E", with the former representing the class of highest productivity and the latter the lowest.

As shown on the following map the proposed Hokuao Project site is primarily classified as "C" or having relatively average productivity for agricultural lands, with a portion classified as "D" or having less than average productivity potential.



SLOPES

The proposed Hokuao Residential Project site has slopes ranging from 0 percent to above 10 percent, with most of the area in the mid to lower part of the overall range.

CLIMATIC CONDITIONS

Like other areas in Hawaii, the island of Lanai has a mild semitropical climate that is due primarily to three factors:

- (1) Hawaii's mid-Pacific location near the Tropic of Cancer,
- (2) the surrounding warm ocean waters that vary little in temperature between the winter and summer seasons, and
- (3) the prevailing northeasterly Tradewinds that bring air having temperatures which are close to those of the surrounding waters.

The Hokuao project site is located in central Lanai and receives a moderate amount of rainfall each year. Average annual rainfall is approximately 34 inches with January being the wettest month with an average monthly rainfall of approximately 5 inches, and the driest month being August with an average total of 1.5 inches. The annual average temperature is approximately 69 degrees Fahrenheit.

IRRIGATION WATER

Lanai has five (5) water systems, including two (2) drinking water systems, one (1) brackish water system used for irrigation, and two (2) reclaimed water systems, also used for irrigation. Historically, fields on the island of Lanai were irrigated with a combination of surface water from Maunalei Valley and groundwater from wells once used for pineapple cultivation. Lanai City waterlines in the vicinity of the Hokuao site convey chlorinated water or have been abandoned. Due to a limited amount of potable water on Lanai, brackish groundwater and treated wastewater are used to irrigate the golf courses and resort landscaping. Water is not available to support extensive diversified crop farming on the Lanai agricultural lands.

CONCLUSIONS

The proposed Hokuao Residential Project site was well-suited for pineapple cultivation as a nominal, inconsequential component within the context of a massive island-wide plantation. However, we conclude it is not a significant free-standing agricultural holding which is critical to the Lanai agricultural land base or agricultural industry due to:

- It's soil types are not generally suitable for crops other than pineapple or sugar, and those areas which could sustain other crops would require irrigation for truck farming or diversified agricultural uses.
- The quality/productivity of the soil is at best average according to State surveys.
- There is limited irrigation water available to support any field crop use of the property.

- There is no evident critical element within the agricultural conditions of the Hokuao site which makes its inclusion in the agricultural land base and industry of Lanai vital to going-forward success or its exclusion a detriment to such.
- The site is well-located for supplying the Island of Lanai market due to its proximity to Lanai City. However, high production costs make it difficult to create a sustainable agricultural operation.

Consistency with State and County Policies

Numerous important State and County documents and plans call for preserving the economic viability of the Hawaii agricultural industry and promote its long-term growth and diversification; which requires an adequate, and sustainable foundation of land and water resources. Among the defining documents are: The Hawaii State Constitution, the Hawaii State Plan, the State Agriculture Functional Plan, the County of Maui 2030 General Plan, and the County's Lanai Community Plan.

The goal to preserve plantation agriculture is currently obsolete with the near-total demise of the sugar and pineapple industries in the islands. The Hokuao site has not been part of a pineapple plantation since the final harvest in 1992.

As the Hokuao property has not been cultivated in the 27 years since the demise of the pineapple plantation there will be no net loss of any existing agricultural operation with the development of the residential subdivision.

Hokuao will only reduce the availability of agricultural land by about 50 acres, a nominal amount relative to the Lanai agricultural land base and will not limit the growth of diversified agriculture on the island or statewide.

State and County policies also call for conserving and protecting prime agricultural lands, including protecting farmland from urban development.

However, the State Agriculture Functional Plan recognizes that re-designation of lands from Agricultural to Urban and/or Rural should be allowed "... upon a demonstrated change in economic or social conditions, and where the requested re-designation will provide greater benefits to the general public than its retention in ...agriculture;" that is, when an "overriding public interest exists."

As indicated in the subsequent section of the report, the proposed Hokuao Residential Project will provide community benefits (capital investment, jobs, wages tax revenues, etc.) that far exceed the benefits of any reasonable agricultural use of the site. And, it will have no significant impact on agricultural activity since ample land is alternatively available elsewhere on Lanai and statewide to accommodate agricultural growth.

Analysis of Economic and Market Impacts

Extrapolation of statistics taken from the Hawaii Department of Business, Economic Development and Tourism annual *State Data Book* editions for late 1980's indicate that on a statewide basis pineapple production created full-time employment of about one worker for every ten acres in cultivation and total gross direct economic activity of some \$7,350 per acre (1990 dollars).

These outcomes are generally consistent with the available Lanai employment and Dole plantation figures from the era for the 13,000 acre plantation, with plantation employment at 1,200 to 1,300 workers (0.100 to 0.108 per acre) and total revenues of \$90 million to \$100 million (\$6,923 to \$7,518 per acre).

Thus the Hokuao site were it fully cultivated with pineapple (which it was not) would have generated on an allocated basis full-time employment for some ten persons and economic activity of some \$250,000 to \$375,000, rounded.

Even if cultivation had continued to the present, the job count would have remained static and the economic activity would only be approaching \$1 million annually for the entire site.

In our *Market Study, Economic Impact Analysis and Public Cost Benefit Assessment of the Proposed Hokuao 201-H Housing Project* (April 2019) we estimated the capital investment, construction and permanent jobs and associated wages, household income and spending, tax revenues and other factors/benefits flowing to Lanai, Maui and the State from the project. The primary outcomes from our model are summarized on the following table.

SUMMARY OF MAJOR ECONOMIC IMPACTS AND PUBLIC FISCAL BENEFITS		
All Amounts Expressed in Constant, Uninflated 2019 Dollars		
Analysis Item	Cumulative During Build-Out Period	Stabilized Annually Thereafter
Direct Capital Investment	\$171,947,833	
Local Supplier's Profits	\$6,877,913	
Worker Years of Jobs	1,028	21
Employee Wages	\$70,526,468	\$1,082,143
De Facto Population		488
Full-Time Resident Household Income	\$195,910,393	\$39,015,346
De Facto Population Expenditures	\$138,803,602	\$18,475,882
Total Lanai Island "Base" Economic Impact	\$330,024,970	\$20,758,025
Accounting for All Direct Impacts		
County of Maui Gross Tax Receipts	\$7,320,715	\$1,230,212
State of Hawaii Gross Tax Receipts	\$39,974,229	\$1,634,077

Source: CBRE

The investment, economic and fiscal impacts generated by the proposed Hokuao Project exceeds by many-fold plantation, diversified or other agricultural use of the site

Further, while there is no evident demand for agricultural use of the Hokuao site and ample supply of serviced, available agricultural sites in existing subdivisions elsewhere on the island, our above-referenced Market Study concluded there would be sufficient demand to absorb and built-out the 200 homes in the project ten-years from the commencement of vertical construction; as summarized in the following table.

PROJECTED DEVELOPMENT AND ABSORPTION OF HOKUAO INVENTORY								
Year		Development Activity	Workforce Housing Homes Sold/Closings		Market-Priced Homes Sold/Closing		Total Units Absorbed	
Estimated Calendar	Project		Annually	Cumulatively	Annually	Cumulatively	Annually	Cumulatively
2019	1	Entitlement and Site Preparation						
2020	2	Infrastructure Employment	Initial Lottery (1)		Pre-Sale Begins (1)			
2021	3	Initial Homes Constructed and Closed	11	11	9	9	20	20
2022	4	Home Construction and Closings Continue	11	22	9	18	20	40
2023	5	Home Construction and Closings Continue	11	33	9	27	20	60
2024	6	Home Construction and Closings Continue	11	44	9	36	20	80
2025	7	Home Construction and Closings Continue	10	54	10	46	20	100
2026	8	Home Construction and Closings Continue	10	64	10	56	20	120
2027	9	Home Construction and Closings Continue	10	74	10	66	20	140
2028	10	Home Construction and Closings Continue	10	84	10	76	20	160
2029	11	Full Sell-Out/Absorption Reached, Home Construction Continues	10	94	10	86	20	180
2030	12	Final Homes Constructed and Closed	8	102	12	98	20	200

(1) Lottery and Pre-Sales are reservations/sales agreements pending completion of the homes and closing.
Source: CBRE

A secondary concern is new agricultural use on the Hokuao site could be deleterious to abutting residential use.

Incompatibility of agricultural and residential uses is an increasing concern in maintaining community/neighborhood harmony and achieving sustainable planning due to concerns over fertilizer/pesticide intrusion, species migration, dust, noise and irregular activity.

Typically, the agricultural use is there "first" and trumps complaints from later residential development. In the case of the Hokuao site, re-introducing cultivation to the property could be met with strenuous objections from the existing proximate neighborhoods of Lanai City.

Given the vast amount of available vacant agricultural acreage on the island, the potential clashes with existing neighbors, and the need for buffers diminishing the usability of the Hokuao site, it is a less desirable location for agriculture.

QUALIFICATIONS



PROFESSIONAL QUALIFICATIONS OF THOMAS W. HOLLIDAY, CRE, FRICS

Business Affiliation	<p>Director The Hallstrom Team CBRE, Inc. Valuation & Advisory Services Honolulu, Hawaii (2015 - Present)</p> <p>Senior Analyst/ Supervisor The Hallstrom Group, Inc. Honolulu, Hawaii (1980 - 2014)</p> <p>Former Staff Appraiser Davis-Baker Appraisal Co. Avalon, Santa Catalina Island, California (1977 -1979)</p>
International Designation and Membership	<ul style="list-style-type: none"> • CRE Designation (2015) - The Counselors of Real Estate • FRICS Designation (2016)-Fellow of the Royal Institution of Chartered Surveyors
Education/Qualifications	<ul style="list-style-type: none"> • California State University, Fullerton (Communications/Journalism) • More than 600 Hawaii Hotel/Hospitality Valuation and Consulting Assignments • More than 150 Market Studies, Economic Impact Analyses and Public Fiscal Assessments for Proposed Projects and Entitlement Purposes • Qualified expert witness testimony before State of Hawaii Land Use Commission, County Planning Commissions, County Councils and various state and county boards and agencies since 1983. • Only certified real estate economist by County of Kauai for workforce housing assessments. • Numerous SREA, Appraisal Institute and RICS Courses • Numerous professional seminars and clinics. • Contributing author to Hawaii Real Estate Investor, Honolulu Star Bulletin, Pacific Business News, Other Publications <p>On January 1, 1991, the American Institute of Real Estate Appraisers (AIREA) and the Society of Real Estate Appraisers (SREA) consolidated, forming the Appraisal Institute (AI).</p>
Recent Assignments	<ul style="list-style-type: none"> • Market Study, Economic Impact Analyses and Public Costs/Benefits (Fiscal Impact) Assessments <p><u>Oahu</u></p> <ul style="list-style-type: none"> -- OHA Kakaako Makai (Mixed-Use Project) -- Howard Hughes/Ward Kewalo Basin (Retail Project) -- Marriott Waikiki Parking Lot (Hotel/Timeshare Project) -- Residence Inn Kapolei (Hotel) -- Turtle Bay Resort (Destination Resort Community) -- Waikapu Country Town (Mixed-Use Community) -- Oahu Community Correctional Center Relocation -- Oahu Tourism Spending/Tax Impact Analysis -- Waikapu Country Town (Mixed-Use Community)

Professional Qualifications of Thomas W. Holliday (continued)

Maui County

- Waikapu Country Town (Mixed-Use Community)
- Lanai City Expansion (Mixed-Use/201H Community)
- Polanui Garden (201H Residential Community)
- Molokai Ranch Holdings (Mixed-Use)
- Makila Rural Subdivision (201H Residential Community)
- Makila Kai (201H Residential Community)
- Maui Research & Tech Park (Mixed-Use Community)
- Maui Lani (Mixed-Use Community)
- Honuaula (Mixed-Use Community)
- Makena Beach Resort
- Maui Business Park, Phase II (Industrial/Commercial)
- Kapalua Mauka (Master Planned Community)
- Hailiimaile (Mixed-Use Master Planned Community)
- Pulelehua (Master Planned Community)
- Westin Kaanapali Ocean Villas Expansion (Resort/Timeshare)

Big Island

- Parker Ranch Waimea Town Center (Mixed-Use)
- West Hawaii/Gold Coast Tourism & Hotel Analysis
- Puako Farms/Kamakoa (Residential Subdivision)
- Kau Tea Farm (Agricultural/Mixed-Use Project)
- Kamakana Villages (Mixed-Use Residential Development)
- W.H. Shipman Ltd, Master Plan (Various Urban Uses)
- Nani Kahuku Aina (Mixed-Use Resort Community)
- Kona Kai Ola (Mixed-Use Resort Community)
- Waikoloa Highlands (Residential)
- Waikoloa Heights (Mixed-Use Residential Development)

Kauai

- Princeville Lodge (Hotel)
- Princeville Phase II (Destination Resort Community)
- Hanalei Plantation Workforce Housing (Resort)
- Lima Ola (Residential Community)
- Coco Palms (Hotel)
- Sheraton Kauai Workforce Housing (Resort)
- Coconut Coast Tourism and Hotel Analysis
- Hanalei Plantation Resort (Resort/Residential)
- Kukuuiula (Resort/Residential)
- Waipono/Puhi (Mixed-Use Planned Development)
- Eleele Commercial Expansion (Commercial)
- Village at Poipu (Resort/Residential)
- Ocean Bay Plantation (Resort/Residential)

Professional Qualifications of Thomas W. Holliday (continued)

• Major Neighbor Island Valuation Assignments

- Mauna Lani Bay Hotel
- Courtyard Kahului Airport Hotel
- Maui Oceanfront Days Inn
- Holiday Inn Express – Kona Hotel (proposed)
- Keauhou Beach Hotel
- Courtyard King Kamehameha Kona Beach Hotel
- Aloha Beach Resort
- Coco Palms Resort
- Grand Hyatt Kauai
- Islander on the Beach
- Waimea Plantation Cottages
- Coconut Beach Resort
- Sheraton Maui Hotel
- Outrigger Wailea Resort Hotel
- Maui Lu Hotel
- Coconut Grove Condominiums
- Palauea Bay Holdings
- Wailea Ranch
- Maui Coast Hotel
- Westin Maui Hotel
- Maui Marriott Hotel
- Waihee Beach
- Kapalua Bay Hotel and The Shops at Kapalua

Email Address

Tom.Holliday@cbre.com