DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

FILE COPY
MAR 08 2016

KIRK CALDWELL
MAYOR

GEORGE I. ATTA, FAICP
DIRECTOR

ARTHUR D. CHALLACOMBE
DEPUTY DIRECTOR

2015/ED-10 (AB)

February 22, 2016

RECEIVED
'16 FEB 25 A11:57
OFC. OF ENVIRONMENTAL
QUALITY CONTROL

Mr. Scott Glenn, Interim Director
State of Hawaii
Department of Health
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Mr. Glenn:

SUBJECT:	Chapter 25, Revised Ordinances of Honolulu Environmental Assessment Determination
Project:	Haleiwa Plantation Village
Applicant:	HTP LLC and Kilioe Place Property LLC (Scott Wallace)
Agent:	PlanPacific Inc
Location:	66-71 Achiu Lane - Haleiwa
Tax Map Keys:	6-6-9: 2 and 6-6-10: 3
Proposal:	to subdivide and improve the subject parcels for development as single-family residential lots, construct a stormwater basin, and construct a private wastewater treatment facility.
Determination:	Finding of No Significant Impact (FONSI)

With this letter, the Department of Planning and Permitting transmits the Final Environmental Assessment and Finding of No Significant Impact (FEA-FONSI) for the Haleiwa Plantation Village Project situated at Tax Map Keys 6-6-9: 2 and 6-6-10: 3, in the Waialua District on the island of Oahu for publication in the next edition of "*The Environmental Notice*" on **March 8, 2016.**

The Applicant has included copies of comments and responses that it received during the 30-day public comment period on the Draft Environmental Assessment and Anticipated Finding of No Significant Impact.

Enclosed is a hard copy of the FEA-FONSI, a copy of the Publication Form, and a compact disc including a copy of the FEA-FONSI. Should you have any questions, please contact Alex Beatty of our staff at 768-8032.

Very truly yours,

George I. Atta, FAICP
Director

Enclosures

cc: PlanPacific (Lisa Imata)
Scott Wallace

July 2015 Revision

FILE COPY
MAR 08 2016

APPLICANT ACTION CHAPTER 25, ROH PUBLICATION FORM

Project Name: **Haleiwa Plantation Village**
Island: **Oahu**
District: **Waialua**
TMK: **6-6-9: 2 and 6-6-10: 3**
Permits: State Land Use District Boundary Amendment, City and County of Honolulu Zoning Change, Special Management Area Permit, Conditional Use Permit for Joint Development, Grading Permit, Subdivision Permit, Building Permits, Utility Connection Permits and Private Wastewater Treatment Plant Permit

Approving Agency:
City and County of Honolulu, Department of Planning
650 South King Street, 7th Floor
Honolulu, Hawaii 96813
Attn: Alex Beatty
(808) 768-8032

RECEIVED
'16 FEB 25 A11:57
OFC. OF ENVIRONMENTAL QUALITY CONTROL

Applicant:
HTP LLC and Kilioe Place Property LLC
3375 Koapaka Street, Suite F238-6
Honolulu, Hawaii 96819
Contact: Scott Wallace
(808) 838-1202

Consultant:
PlanPacific, Inc.
P.O. Box 892735
Mililani, Hawaii 96789
Contact: Lisa Leonillo Imata
Phone: (808) 521-9418

Status (check one only):

__DEA-AFNSI
Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of DEA, a completed OEQC publication form, along with an electronic word processing summary and a PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov; a 30-day comment period ensues upon publication in the periodic bulletin.

_x_FEA-FONSI
Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and a PDF copy (send both summary and PDF to oeqchawaii@doh.hawaii.gov; no comment period ensues upon publication in the periodic bulletin.

__FEA-EISPN
Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov; a 30-day consultation period ensues upon publication in the periodic bulletin.

__Act 172-12 EISPN
Submit the approving agency notice of determination on agency letterhead, an OEQC publication form, and an electronic word processing summary (you may send the summary to oeqchawaii@doh.hawaii.gov. NO environmental assessment is required and a 30-day consultation period upon publication in the periodic bulletin.

__DEIS
The applicant simultaneously transmits to both the OEQC and the approving agency, a hard copy of the DEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the DEIS (you may send both the summary and PDF to oeqc@doh.hawaii.gov); a 45-day comment period ensues upon publication in the periodic bulletin.

__FEIS
The applicant simultaneously transmits to both the OEQC and the approving agency, a hard copy of the FEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the FEIS (you may send both the summary and PDF to oeqc@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.

__ Section 11-200-23 Determination

The approving agency simultaneous transmits its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS to both OEQC and the applicant. No comment period ensues upon publication in the periodic bulletin.

__Statutory hammer Acceptance

The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it failed to timely make a determination on the acceptance or nonacceptance of the applicant's FEIS under Section 343-5(c), HRS, and that the applicant's FEIS is deemed accepted as a matter of law.

__Section 11-200-27 Determination

The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is not required. No EA is required and no comment period ensues upon publication in the periodic bulletin.

__Withdrawal (explain)

Summary (Provide proposed action and purpose/need in less than 200 words. Please keep the summary brief and on this one page)**:**

Develop two adjacent parcels on Achiu Lane in Haleiwa, TMK Parcels 6-6-9: 2 and 6-6-10: 3, to create residential lots and an extension to the existing Kilioe Place subdivision. On Parcel 6-6-10: 3, subdivide and improve for 23 single-family residential lots to be accessed by a newly created road extension from Kilioe Place. On Parcel 6-6-9: 2, create 6 single-family residential lots, construct a stormwater detention basin and a private wastewater treatment facility to service the residential lots on both Parcels. Access will be provided by a new road and cul-de-sac connecting to the proposed Kilioe Place extension. The existing jurisdictional wetland on Parcel 002 will remain untouched. A land buffer around the wetland will serve as passive recreation area and help protect the wetland. Purchasers of the lots will have the option to design and time the construction of the dwelling units so as to fit their needs and budgets.

HALEʻIWA PLANTATION VILLAGE

Final Environmental Assessment and
Supporting Statements for an Application
for a Special Management Area Use Permit

TMKs 6-6-9:002 and 6-6-10:003
Haleʻiwa, Oʻahu

Applicant: Mr. Scott Wallace

January 2016

HALEʻIWA PLANTATION VILLAGE

Final Environmental Assessment and Supporting Statements for an Application for a Special Management Area Use Permit

TMKs 6-6-9:002 and 6-6-10:003
Haleʻiwa, Oʻahu

Applicant: Mr. Scott Wallace

Prepared by:

PLANPACIFIC

January 2016

This document is prepared pursuant to:
The Hawaii Environmental Policy Act, Chapter 343, Hawaiʻi Revised Statutes and Title 11, Chapter 200, Hawaiʻi Department of Health Administrative Rules.

Table of Contents

1. PROJECT SUMMARY 1

2. DESCRIPTION OF THE PROPOSED ACTION 3

   2.1. Overview of the Proposed Project 3

   2.2. Project Location and Site Description 4

   2.3. Project Description 6

   2.4. Project Location in Relation to the Special Management Area 12

   2.5. Project Schedule and Cost 14

   2.6. Permits and Approvals Required 15

3. DESCRIPTION OF THE AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATIVE MEASURES 17

   3.1. CLIMATE 17

   3.2. Topography and Soils 18

   3.3. Hydrology 21

   3.4. Air Quality 24

   3.5. Noise 25

   3.6. Flood Hazard 25

   3.7. Flora and Fauna 28

   3.8. Historical, Cultural, and Archaeological Resources 31

   3.9. Recreational Resources 32

   3.10. Visual Resources 33

   3.11. Roads and Traffic 35

3.12. Utilities **38**
3.12.1. Wastewater 38
3.12.2. Water 40
3.12.3. Electrical 41
3.12.4. Telecommunications, Cable TV, and Data 41
3.13. Public Services **42**
3.14. Socio-Economic Characteristics **42**
4. RELATIONSHIP TO LAND USE POLICIES AND CONTROLS **44**
4.1. State of Hawai'i **44**
4.1.1. Hawai'i State Plan 44
4.1.2. State Land Use Classification 46
4.1.3. Hawai'i Coastal Zone Management (CZM) Program 46
4.2. City and County of Honolulu **51**
4.2.1. General Plan 51
4.2.2. North Shore Sustainable Communities Plan 53
4.2.3. Land Use Ordinance 59
4.2.4. Special Management Area 60
5. ALTERNATIVES TO THE PROPOSED ACTION **62**
5.1. No Action **62**
5.2. Alternatives Considered **62**
5.3. Preferred Alternative **65**
6. FINDINGS AND ANTICIPATED DETERMINATION **66**
6.1. Anticipated Determination **66**
6.2. Reasons Supporting the Anticipated Determination **66**
7. CONSULTATION **72**

List of Figures

Figure 1 Location Map 11
Figure 2 Existing and Proposed Zoning Districts 12
Figure 3 State Land Use Districts 13
Figure 4 Tax Map, Parcel 6-6-9:002 14
Figure 5 Tax Map, Parcel 6-6-10:003 15
Figure 6 Special Management Area Boundary 17
Figure 7 Proposed Site Plan 18
Figure 8 Soil Types 24
Figure 9 Flood Hazard 30
Figure 10 Community Growth Boundary 57
Figure 11 Haleʻiwa Special District 63

Appendices

Appendix A: Flora and Fauna Resources Assessment
Appendix B: Wetland Delineation Report
Appendix C: U.S. Army Corps of Engineers Letter Stating No Permit Required
Appendix D: Traffic Assessment
Appendix E: Impacts on Agriculture Study
Appendix F: North Shore Neighborhood Board Minutes
Appendix G: Comments to the Draft EA and Responses

List of Acronyms

BMP	Best Management Practices
CBT	Cyclic Biological Treatment
DLNR	Department of Land & Natural Resources
DOE	Department of Education
DOH	Department of Health
DP	Development Plan
DPP	Department of Planning and Permitting, City and County of Honolulu
EA	Environmental Assessment
EIS	Environmental Impact Statement
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
GPD	Gallons per Day
HAR	Hawai‘i Administrative Rules
HECO	Hawaiian Electric Company
HFD	Honolulu Fire Department
HPD	Honolulu Police Department
HRS	Hawai‘i Revised Statutes
LUO	Land Use Ordinance
MGD	Million Gallons per Day
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NSSCP	North Shore Sustainable Communities Plan
ROH	Revised Ordinances of Honolulu
SCP	Sustainable Communities Plan
SHPD	State Historic Preservation Division
SMA	Special Management Area
TMK	Tax Map Key
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

1. PROJECT SUMMARY

Proposed Action:

Develop two adjacent parcels on Achiu Lane in Hale'iwa, TMKs 6-6-9:002 and 6-6-10:003. On parcel 6-6-10:003, subdivide and improve for single-family residential lots to be accessed by a newly created road extension from Kilioe Place. On parcel 6-6-9:002, create single-family residential lots, construct a stormwater detention basin and a private wastewater treatment facility to service the residential lots on both parcels 002 and 003. Access will be from a new road and cul-de-sac connecting to the proposed Kilioe Place extension. The existing jurisdictional wetland on parcel 002 will remain untouched. A land buffer around the wetland will serve as passive recreation area and help protect the wetland.

Property:

TMK	Area
6-6-9:002	3.273 acres
6-6-10:003	3.593 acres
	6.866 acres total

Owner/Applicant:

HTP LLC and Kilioe Place Property LLC
(Mr. Scott Wallace)
3375 Koapaka Street, Suite F238-6
Honolulu, HI 96819
(808) 838-1202

Authorized Agent:

PlanPacific, Inc.
P.O. Box 892735
Mililani, HI 96789
Contact: Lisa Leonillo Imata, (808) 521-9418

Approving Agency:

Department of Planning and Permitting
City and County of Honolulu

State Land Uses:

6-6-9:002 – Urban and Agricultural
6-6-10:003 – Urban

Zoning Districts:

6-6-9:002 – R-5 Residential and AG-2 Agriculture
6-6-10:003 – AG-2 Agriculture

North Shore SCP:	6-6-9:002 – Agriculture and Country Town 6-6-10:003 – Agriculture
Special Management Area:	The majority of parcel 6-6-9:002 is within the Special Management Area (SMA) and all of parcel 6-6-10:003 is within the SMA.
Shoreline Setback:	Not applicable.
Haleʻiwa Special Design District:	Not applicable/outside.
Consulted Agencies:	City & County of Honolulu Department of Planning and Permitting Board of Water Supply
Required Permits:	State Land Use District Boundary Amendment Change of City Zoning Special Management Area Permit Conditional Use Permit for Joint Development Grading Permit Subdivision Permit City & County of Honolulu Building Permits Utility Connection Permits Board of Water Supply Permit State Department of Health Permit for a Private Wastewater Treatment Plant
HRS, Chapter 343 Action:	Development within the Special Management Area as per Revised Ordinances of Honolulu, Chapter 25-3.3.
Anticipated Determination:	Finding of No Significant Impact (FONSI).

2. DESCRIPTION OF THE PROPOSED ACTION

2.1. OVERVIEW OF THE PROPOSED PROJECT

The intent of the proposed project is to provide new opportunities for housing in Haleʻiwa Town for local North Shore residents. The proposed project will create approximately 29 residential lots via subdivision and possibly CPR, and provide basic infrastructure connections to these lots. Each lot will be made available for individual purchase and each new owner will be able to build his/her own single-family dwelling, subject to community covenants, conditions, and restrictions. Some lots will have more than one dwelling for an approximate total of 35 dwellings.

In order to achieve the above objective, the applicant proposes to improve two adjacent parcels on Achiu Lane in Haleʻiwa, TMKs 6-6-9:002 and 6-6-10:003. Parcel 6-6-10:003 (hereinafter referred to as "Parcel 3") will be cleared, subdivided, and improved to create up to 23 single-family residential lots. Access to these lots will be from a proposed extension of Kilioe Place. Parcel 6-6-9:002 (hereinafter referred to as "Parcel 2") will be cleared and improved, except for the 0.70 acre jurisdictional wetland area which is an extension of Haleʻiwa Marsh, to create 6 single-family residential lots, a stormwater detention basin for drainage purposes, and a private wastewater treatment plant to service the lots proposed on both parcels. See Figures 1 and 7. It should be noted that a 0.68 acre isolated and non-jurisdictional (not regulated) wetland occurs on Parcel 3. The isolated wetland is likely a remnant of former kalo loʻi (taro ponds) (Refer to Section 3.3 for more information). Development of this isolated wetland is n concurrence with the U.S. Army Corps of Engineers.

The proposed configuration of single-family lots on Parcel 3 is intended to blend in with the existing configuration of the single-family lot subdivision on Kilioe Place. Parcel 3 is adjacent to the existing Kilioe Place subdivision. The proposed configuration of the lots on Parcel 2 also mimic the existing configuration of lots on

Kilioe Place, but are modified slightly because of the existing jurisdictional wetland location and drainage design. See Figure 2.

The subject parcels are mostly within the City and County of Honolulu's ("County") Special Management Area, with the exception of a very small sliver of Parcel 2 that is equivalent to approximately 350 square feet. See Figure 6. Parcel 3 is completely within the County's AG-2 general agriculture zoning district and Parcel 2 is split between AG-2 and R-5 residential, with the majority being in AG-2. See Figure 3.

This Environmental Assessment (EA) is being prepared for the project because of the project's location within the Special Management Area (SMA), requiring a Special Management Area Use Permit. This EA was prepared in compliance with Hawai'i Revised Statutes (HRS) Chapter 343, as amended, and Hawai'i Administrative Rules (HAR) Chapter 200, Title 11. Information relevant to the application process for a SMA Use Permit is included in this document.

2.2. PROJECT LOCATION AND SITE DESCRIPTION

Hale'iwa is a commercial and residential country town community located along in the North Shore of O'ahu. It is defined by the Hale'iwa Harbor and Anahulu Bridge to the north, the highway round-about known as Weed Circle or Weed Junction to the south, the coastline to the west, and the Joseph P. Leong Highway to the east. Kamehameha Highway and Hale'iwa Road are the main roadways that serve the town, with the former serving as the main street and connecting to the rest of the island. Hale'iwa Road runs along the coastline in the west and Kamehameha Highway runs parallel to the Joseph P. Leong Highway toward the east.

The area near the subject properties is mixed-zoned with AG-1 and AG-2 agriculture, Country, B-1 and B-2 business, R-5 residential, and I-1 industrial. See Figure 2. Hale'iwa contains a mix of land uses and has many well-established small businesses,

long-time residents in single-family dwellings, and some community services. Overall, the town is characterized by its low density, low-rise rural atmosphere. The decline in the agricultural industry over the past few decades has lessened the intensity of use of the agricultural lands. Hale'iwa remains the civic and economic hub of the North Shore and it continues to be a destination for many island residents as well as O'ahu visitors. Crowding still occurs during certain peak times, especially when surf is high.

The subject properties are two large, irregularly-shaped, contiguous parcels. They are located in the middle of Hale'iwa, near Kamehameha Highway, and are roughly equidistant between the Hale'iwa Harbor and Weed Junction. See Figure 1. Parcel 2 is currently owned by HTP, LLC and is located along the northwest corner of the existing Kilioe Place subdivision, west or makai of Kamehameha Highway. Parcel 3 is owned by Kilioe Place Property, LLC and located along the west or back edge of the Kilioe Place subdivision, makai of Kamehameha Highway and adjacent to Achiu Lane. See Figure 2. Both HTP, LLC and Kilioe Place Property, LLC belong to the applicant.

Parcel 2 contains an extension of Hale'iwa Marsh. The main body of Hale'iwa Marsh is located to the north of Parcel 2.

Parcel 2 is 3.273 acres in size and Parcel 3 is 3.593 acres in size, according to the City and County of Honolulu Real Property Assessment and Treasury Division.[1] Together, the parcels create a project site area of 6.866 acres.

Parcel Number	Ownership	Area in Acres	Area in Square Feet
6-6-9:002	HTP, LLC	3.273	142,571.88
6-6-10:003	Kilioe Place Property, LLC	3.593	156,511.08

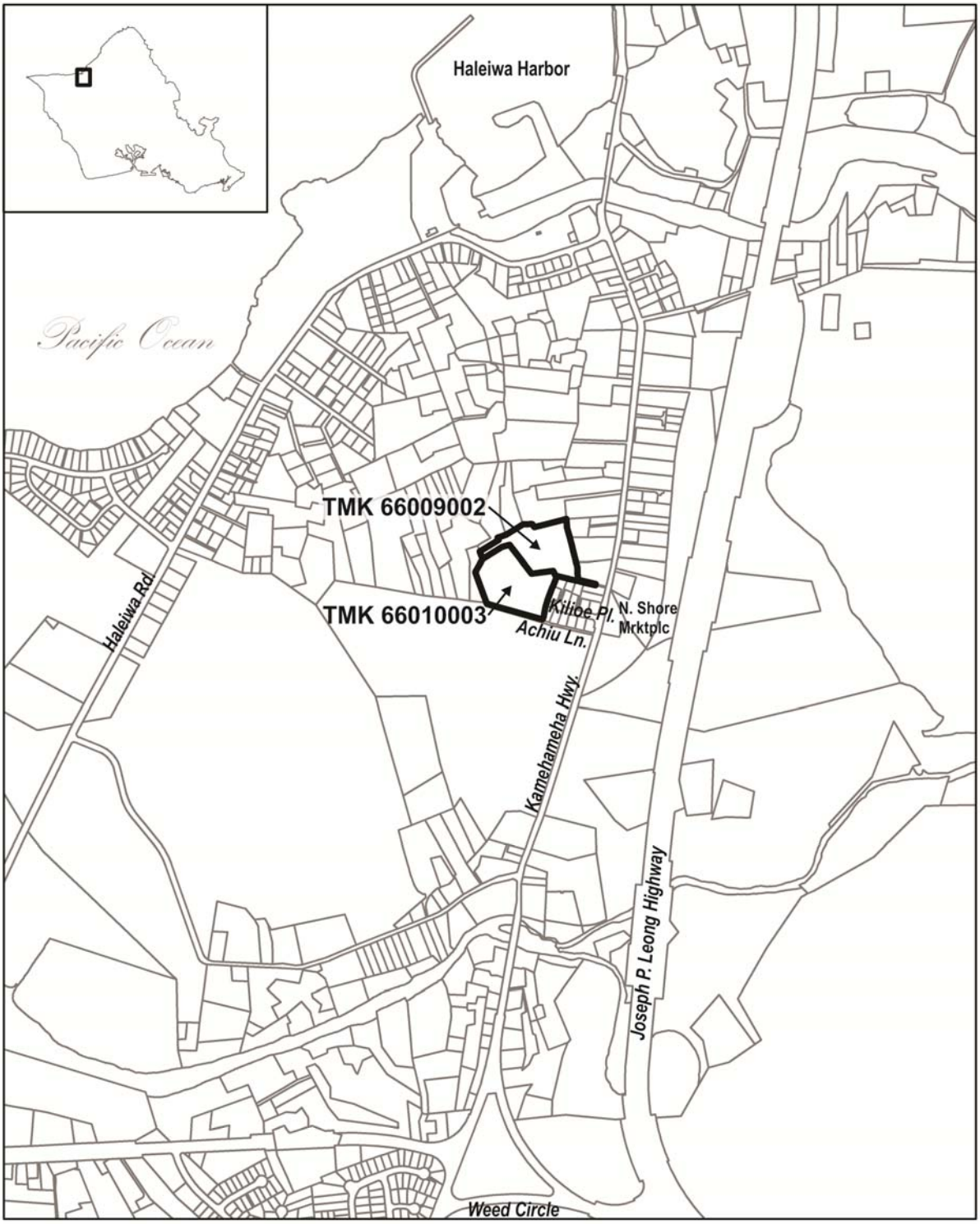
[1] A recent topographic survey shows slightly different sizes.

Both parcels are flat and have been used for agricultural cultivation in the past, but over the last 5 years the land has been used only for private garden farming. Currently, two accessory structures exist on Parcel 2. Parcel 2 has some non-native forest overgrowth and overgrowth in a jurisdictional wetland area.

The project site is adjacent to business (B-1 neighborhood business zoning district), residential (R-5 zoning district), country, and agricultural (AG-2 general agricultural and AG-1 restricted agricultural) lots. See Figure 2. The adjacent business lot is also owned by the applicant, but is not part of this project.

2.3. PROJECT DESCRIPTION

The applicant is proposing to subdivide Parcel 3 into several lots with a minimum size of 5,000 square feet for single-family homes and connect these lots to the existing Kilioe Place subdivision. It is also proposed that Parcel 2 be divided to create 6 residential lots with a minimum size of 5,000 square feet for single-family homes and one or more large lots for the wetland, storm water detention basin, and underground wastewater treatment plant. The proposed action would include grading, utility connections, extension of the existing Kilioe Place paved roadway, extension of existing sidewalks, curbs and gutters, creation of a new paved cul-de-sac with curbs and gutters on Parcel 2, and street lights. The stormwater detention basin and a private wastewater treatment system will be constructed on Parcel 2 to support the new homes. The stormwater detention basin will be oversized to accommodate the proposed new project in addition to helping alleviate the current periodic flooding problems reported by existing Kilioe residents. Also, with the proposed project, current property owners, who are now limited to cesspool service, may be offered the option to have their dwellings connected to the proposed wastewater treatment system. A walkway around the wetland area will also be created for wetland conservation, recreational, and scenic purposes. See Figure 7.

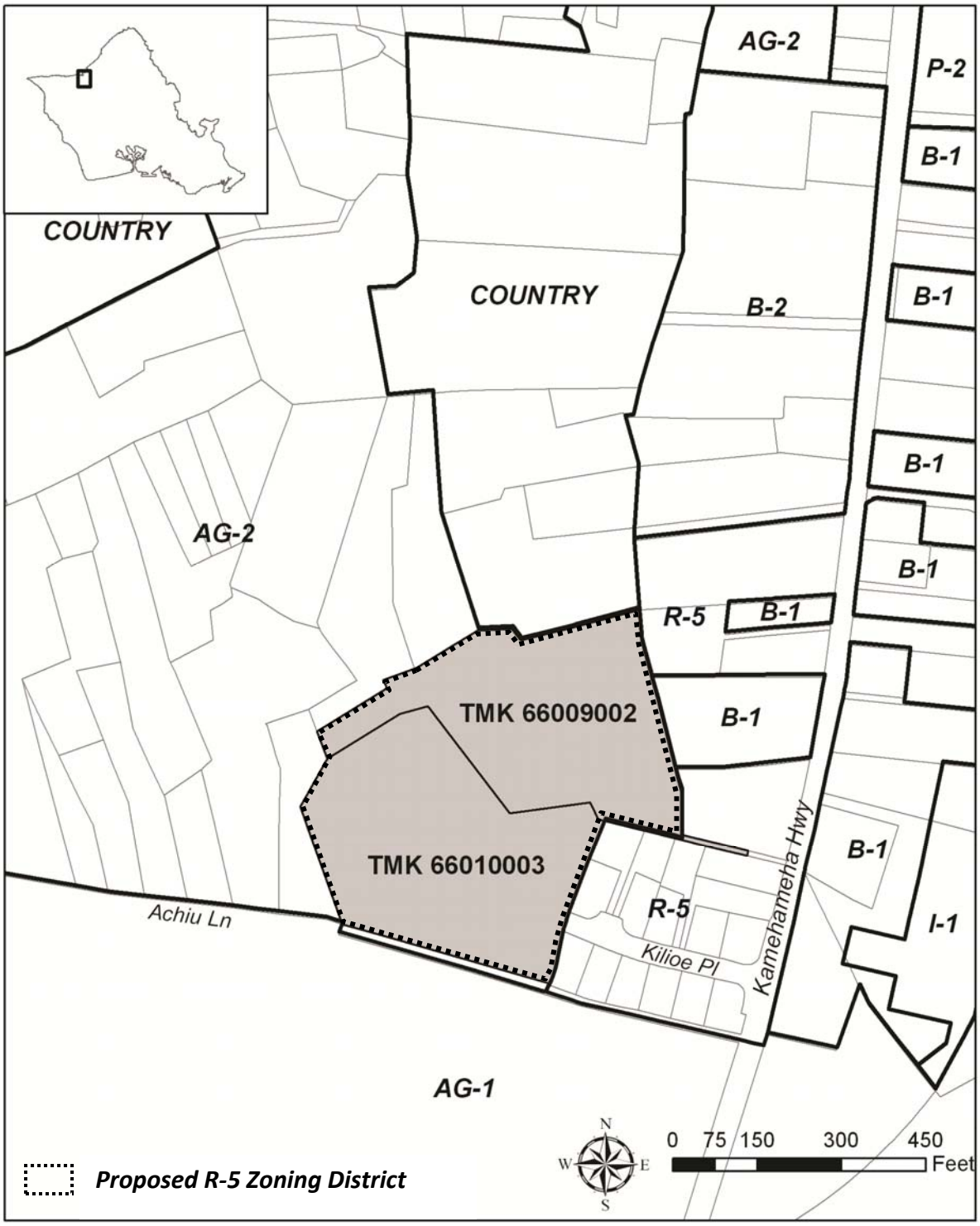


N
W E
S

0 500 1,000 1,500 Feet

PLANPACIFIC

Figure 1: Location Map



Legend

AG-1 Restricted Agriculture District
AG-2 General Agriculture District
B-1 Neighborhood Business District
B-2 Community Business District
Country Country District
I-1 Limited Industrial District
P-2 General Preservation District

Figure 2: Existing and Proposed Zoning Districts

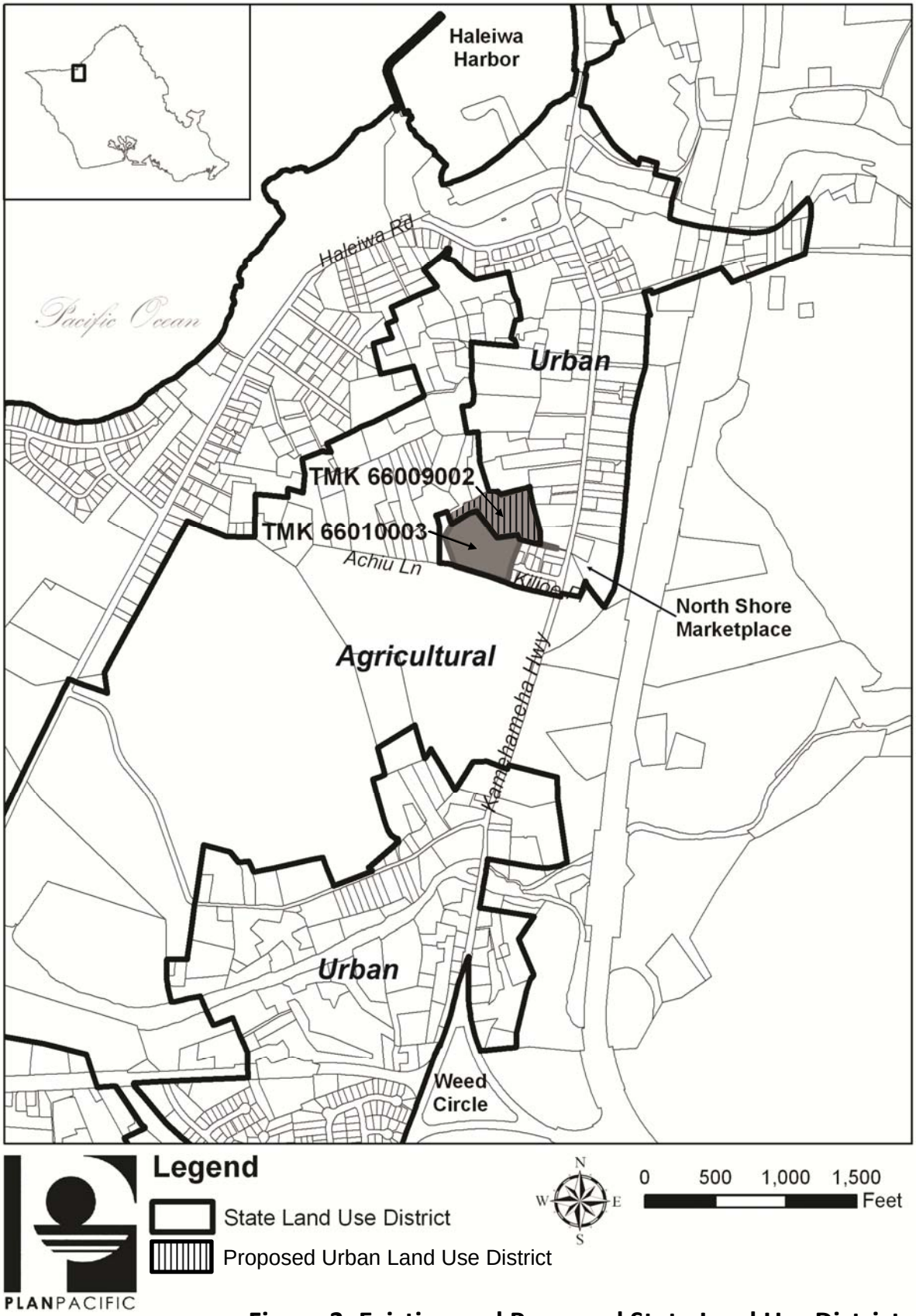


Figure 3: Existing and Proposed State Land Use Districts

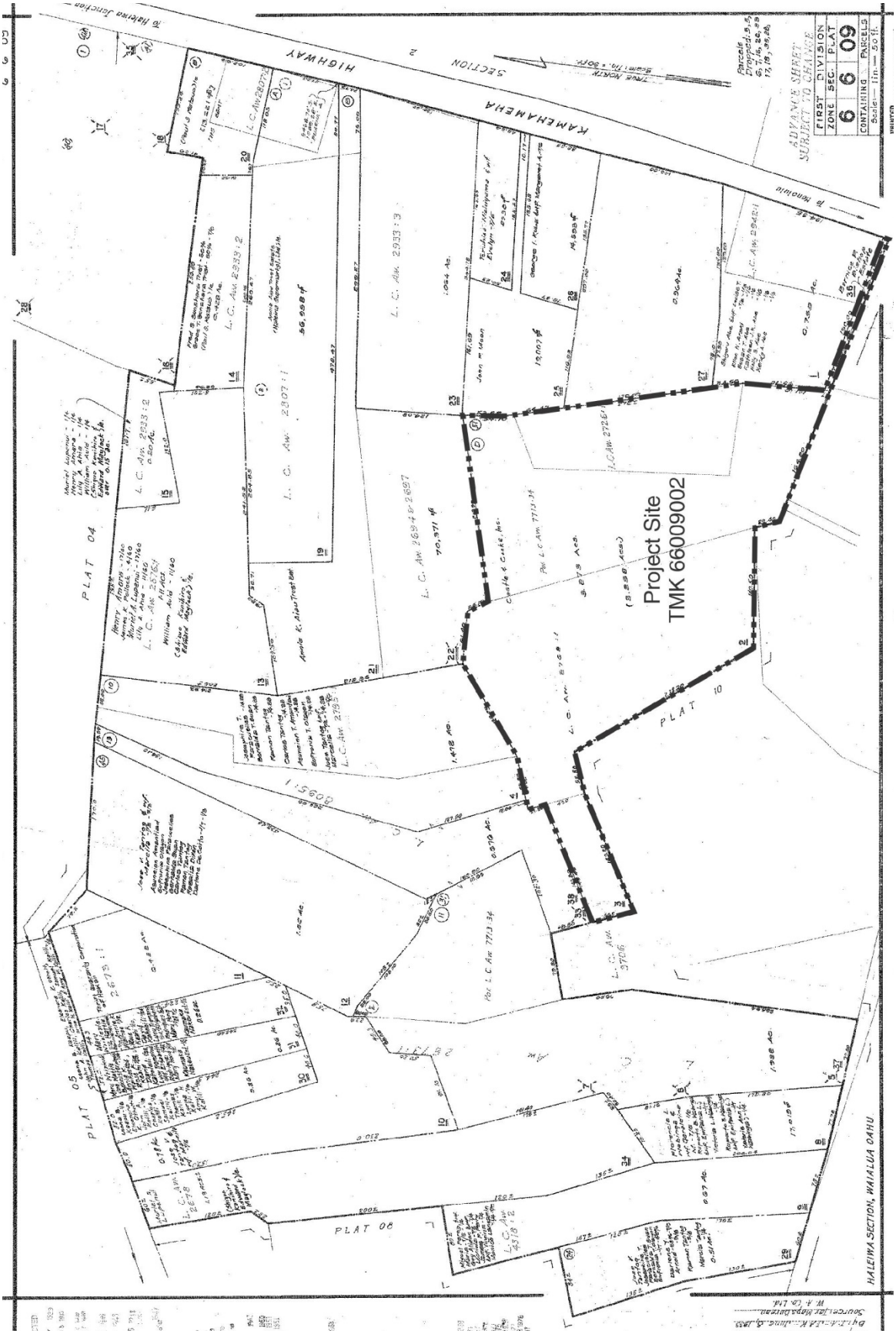


Figure 4: Tax Map, Parcel 6-6-9:002

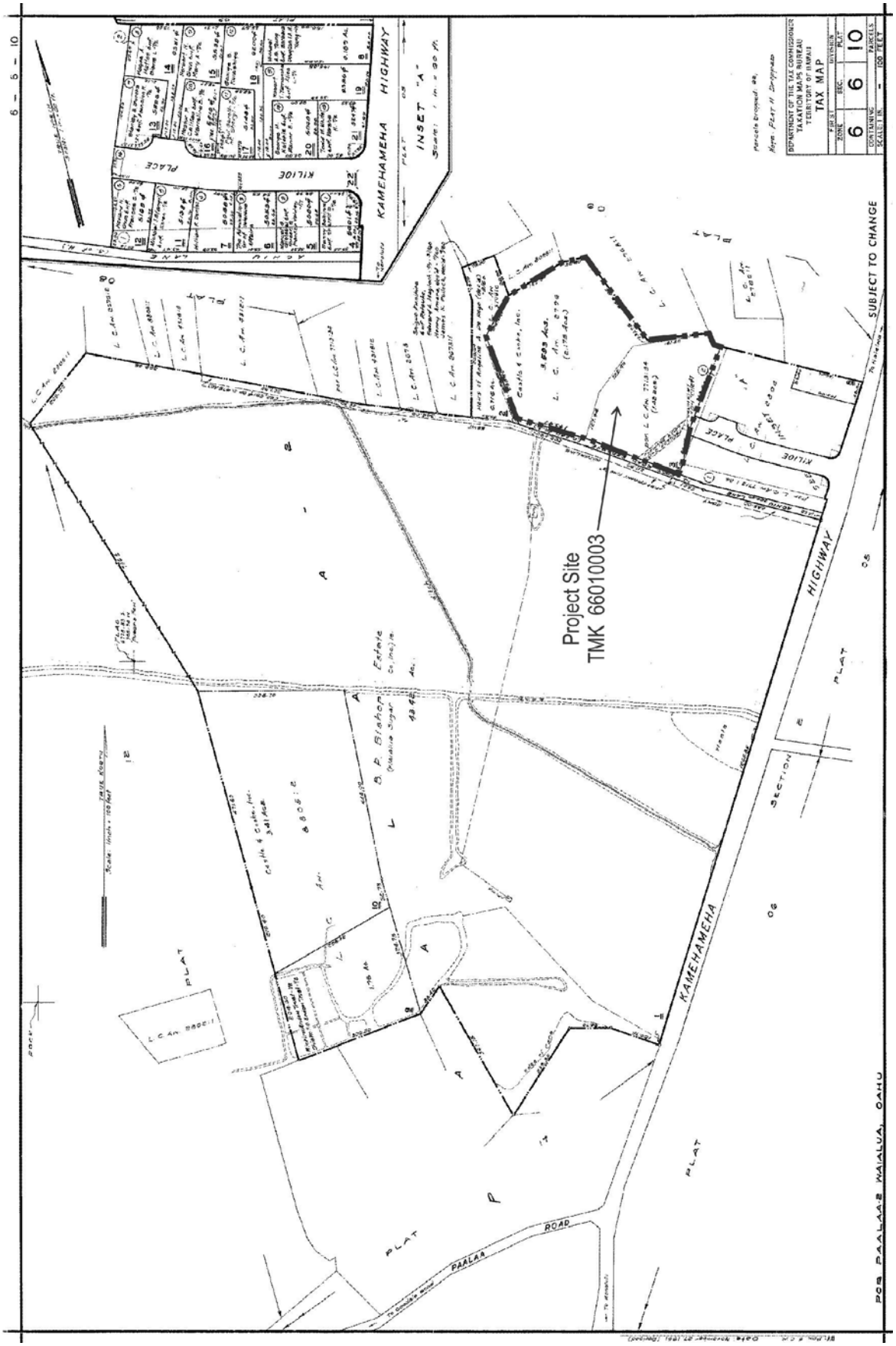


Figure 5: Tax Map, Parcel 6-6-10:003

The new subdivision layout on both parcels will mimic the existing subdivision on Kilioe Place in terms of lot sizes and arrangement along the street so that it can be a natural extension of the existing subdivision. The proposed subdivision will increase the size of the already existing Kilioe neighborhood from 15 residential lots to up to 44 lots. The dwellings on the new lots will be in conformance with R-5 residential development standards, as well as consistent with the rural architectural character of the area.

The most significant work by the applicant will involve the trenching for, and construction of, the supporting utilities -- the roadway, wastewater treatment system, and detention basin. The design and construction of the dwelling structures will be determined by the individual lot owners (although governed by design guidelines) and will likely occur on different timeframes.

The topography of the properties overall is generally flat with a gentle slope toward the southwest or makai. Some grading will occur with the proposed project to provide more efficient drainage across the property and to minimize flood hazards.

Minimal grubbing is also proposed for the project site. Most of the existing vegetation on Parcel 3 and that which surrounds the wetland and buffer area on Parcel 2 will be uprooted to clear the lots and prepare the lots for sale. Demolition and removal of the existing accessory structures also are being proposed as part of the project. The existing wetland will remain untouched.

2.4. PROJECT LOCATION IN RELATION TO THE SPECIAL MANAGEMENT AREA

Most of the project area is within the Special Management Area. Parcel 3 is completely within the Special Management Area and Parcel 2 is mostly within the Special Management Area. See Figure 6.

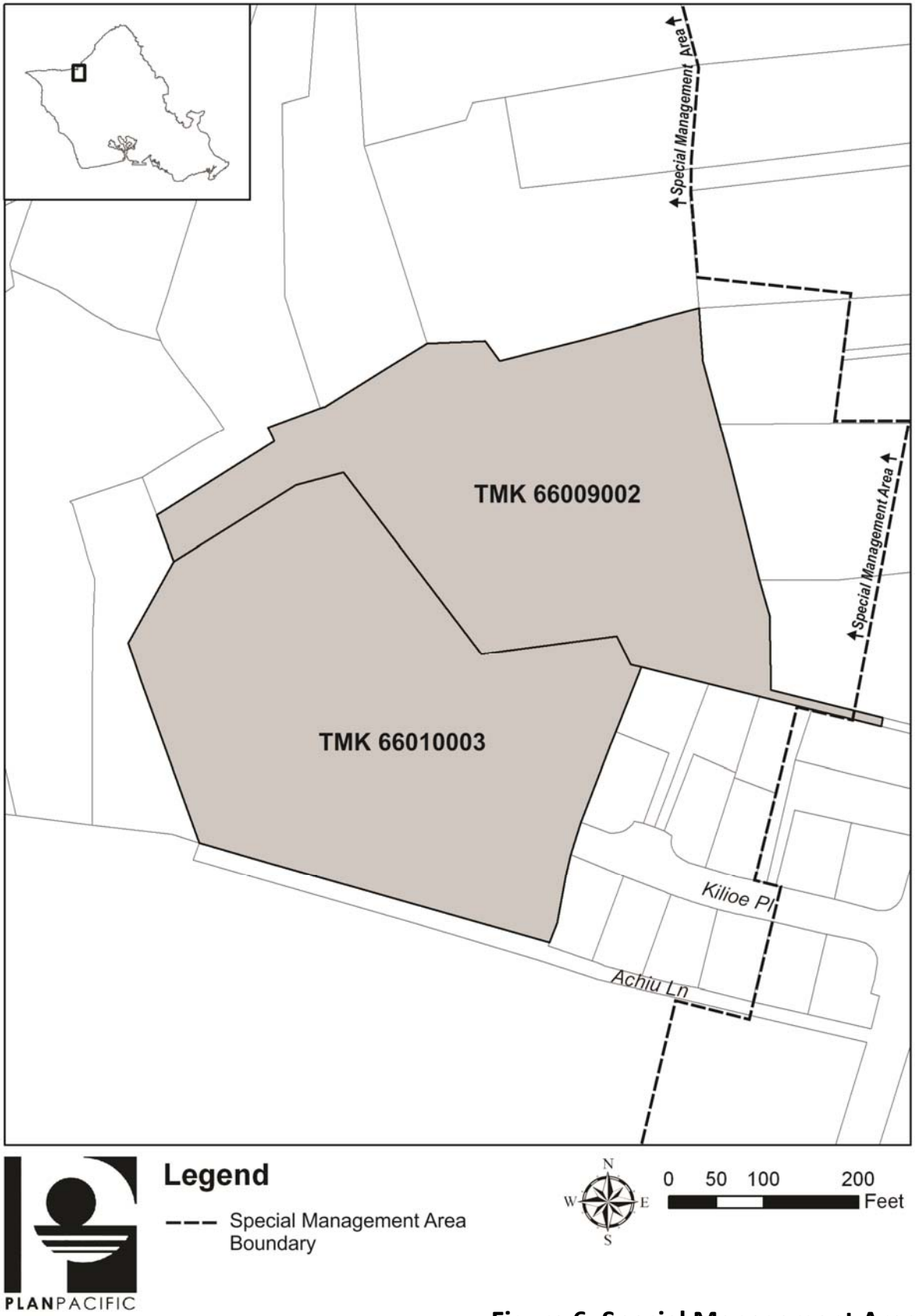


Figure 6: Special Management Area

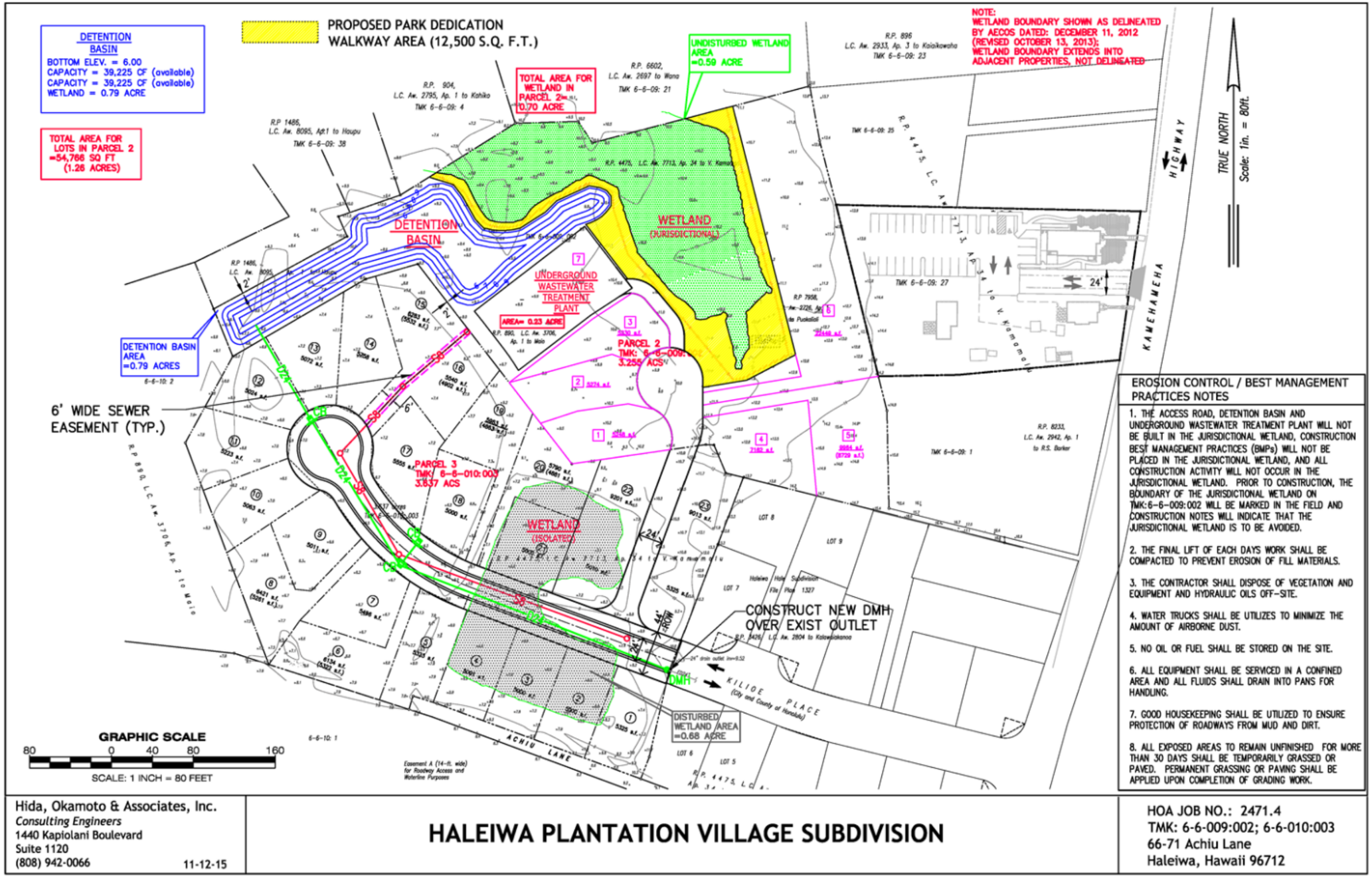


Figure 7: Proposed Site Plan

2.5. PROJECT SCHEDULE AND COST

Based on the preliminary design, total cost for the proposed project is estimated to be $3 million. Final design will not be completed until a later time. The project is privately funded by the applicant.

2.6. PERMITS AND APPROVALS REQUIRED

Several approvals and permits will be required from various agencies within the City and County of Honolulu and the State of Hawai'i to implement the proposed project. A summary listing is as follows:

<u>State of Hawai'i</u>

- Department of Health
  - Construction Permits (Private Wastewater System)

<u>City and County of Honolulu</u>

- Department of Planning and Permitting
  - State Land Use District Boundary Amendment
  - Zone Change
  - Special Management Area Permit
  - Conditional Use Permit for Joint Development
  - Subdivision Permit
  - Grading Permit
  - Approval for Fire Protection
  - Approval for Drainage
  - Approval for Traffic

- Board of Water Supply
  - Construction/Connection Permit

A State Land Use District boundary amendment is required for the project because the majority of Parcel 2 is designated as Agriculture (a small portion is classified Urban). In order to realize the proposed project, the applicant will request a boundary amendment to re-designate all of Parcel 2 to the Urban District. Parcel 3 is already in the Urban District. Refer to section 4.1.2 for further discussion.

Similarly, under County zoning district designations, Parcel 3 and most of Parcel 2 are within the AG-2 general agriculture district. A small portion of Parcel 2 is in the R-5 residential district. The applicant will seek a zone change for both parcels in their entireties to R-5.

3. DESCRIPTION OF THE AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATIVE MEASURES

3.1. CLIMATE

Existing Condition

O'ahu's subtropical location and topography are the primary influences on local climate. In general, prevailing northeasterly trade winds occur approximately 70 percent of the year with higher percentages in the summer months than winter, which give way to light, variable wind conditions. Warm ocean air flowing over the Ko'olau mountain range is the primary cause for local precipitation.

According to the *Rainfall Atlas of Hawai'i*, the mean annual rainfall in the area of the project site is roughly 32 inches, which is higher than most of urban Honolulu at 22 inches. During the winter months, the mean monthly rainfall ranges from 3.65 to 4.83 inches. During the summer months, the mean monthly rainfall ranges from 1.08 to 1.62 inches.

The project site is in an open area and is thus exposed to morning, midday, and afternoon sun. Average monthly temperatures in Hale'iwa range from a low of 59 degrees Fahrenheit in the winter, to a high of 87 degrees Fahrenheit in the summer.

Potential Impacts and Mitigative Measures

The proposed subdivision and eventual housing are to be constructed in the middle of Hale'iwa Town and adjacent to an existing subdivision. The project will be replacing overgrown vegetation areas with a paved roadway, sidewalks, and housing. The proposed project may slightly increase local albedo, but no significant impacts to local temperature, rainfall, or wind patterns are anticipated for either the short-term or long-term due to the proposed project. As such, no mitigation measures are required.

3.2. TOPOGRAPHY AND SOILS

Existing Condition

The subject properties range in elevation from approximately 6.5 feet above mean sea level on the southwest edge to approximately 15 feet above mean sea level on the eastern end. The topography is relatively flat across both parcels.

Soils information for the project site was obtained from the Natural Resources Conservation Service Web Soil Survey. According to the survey, the soil association for the majority of Parcel 2 is Haleʻiwa silty clay, 0 to 2 percent slopes (HeA). An insignificant amount of Parcel 2 is classified as Kawaihapai clay (KIB). For Parcel 3, the majority, about 74 percent, is HeA, with a smaller portion, about 26 percent of the parcel, along Achiu Lane being Waialua silty clay, 0 to 3 percent slopes (WkA). See Figure 8.

Haleʻiwa silty clay includes well-drained soils on fans and in drainage ways along the coastal plains. These soils are found on the islands of Oʻahu and Molokaʻi. They developed in alluvium derived from basic igneous material.

Permeability for Haleʻiwa silty clay is moderate. Runoff is very slow, and the erosion hazard is no more than slight. The available water capacity is about 1.9 inches per foot. In places, roots penetrate to a depth of 5 feet or more. The soil is subject to occasional non-damaging overflow in some places. This soil is described as having a moderate corrosivity for uncoated steel.

Haleʻiwa silty clay soils are used for sugarcane, truck crops, and pasture. The natural vegetation consists of koa haole, lantana, guava, Christmas berry, bermudagrass, and fingergrass.

Waialua silty clay consists of moderately well drained soils on alluvial fans on the island of O'ahu. These soils developed in alluvium weathered from basic igneous rock.

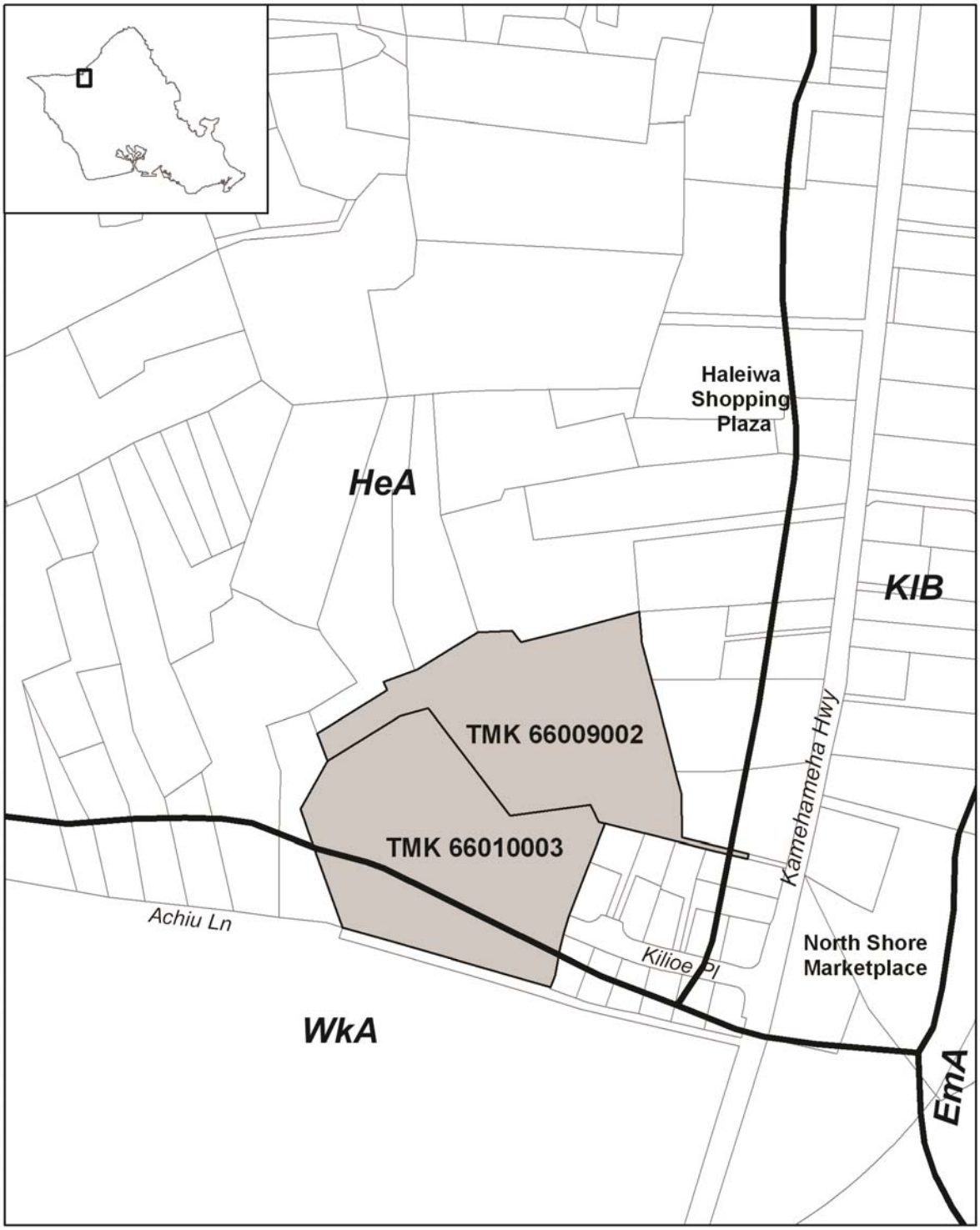
Permeability for Waialua silty clay is moderate. Runoff is slow, and the erosion hazard is no more than slight. The available water capacity is about 1.8 inches per foot in the surface layer and 1.6 inches per foot in the subsoil. In places, roots penetrate to a depth of 5 feet or more. This soil is described as having a moderate corrosivity for uncoated steel.

Waialua silty clay soils are used for sugarcane, truck crops, and pasture.

Potential Impacts and Mitigative Measures

The proposed project will involve grading and site preparation for the new roadway, sidewalk, lots, detention basin, and a private wastewater treatment system. The wetland area will be completely avoided. Heavy equipment would be used for grading and clearing, but no major changes in topography or soil composition will occur. The creation of the detention basin will require soil removal and possible creation of berms, but this will occur in a limited area.

Short-term construction-related impacts may include minor soil loss or erosion, but construction activities will employ Best Management Practices (BMPs) to minimize or prevent such occurrences. BMPs will include silt fences, periodic watering to minimize airborne dirt particles, and stabilized construction road access. BMPs recommended by the State Department of Land and Natural Resources, Division of Aquatic Resources include rapid replacement of vegetation and planting as quickly as possible on denuded lands to minimize erosion as well as prevent introduced plant species from blowing into the wetland and becoming established, and scheduling site work during periods of minimal rainfall.



PLANPACIFIC

Legend

Soil Type

WkA - Waialua silty clay
HeA - Haleiwa silty clay
KlB - Kawaihapai clay
EmA - Ewa silty clay

N W E S

0 75 150 300 450 Feet

Figure 8: Soil Types

Runoff will be controlled in compliance with the City and County of Honolulu's "Rules Relating to Soil Erosion Standards and Guidelines" and grading work shall be done in accordance to Revised Ordinances of Honolulu (ROH) Chapter 14, Articles 13-16 as related to Grading, Soil Erosion and Sediment Control.

3.3. HYDROLOGY

Existing Condition

There are no streams within the project site. The nearest stream is Paukauila Stream, located about 600 feet to the northwest. The nearest shoreline is at Waialua Bay, a little less than a half mile away to the west. A 0.70 acre portion of a jurisdictional wetland occurs on Parcel 2 and a 0.68 acre isolated wetland occurs on Parcel 3. According to AECOS, the isolated wetland is likely a remnant of former kalo lo'i (taro ponds) and is not federally regulated. The jurisdictional wetland is a portion of the much larger Hale'iwa Marsh located to the north of the project site. The wetland drains through an unnamed tributary to Paukauila Stream, which flows to the Pacific Ocean, thus making it "waters of the U.S." under the regulatory jurisdiction of the federal government. See Section 3.7 for additional discussion.

Currently, storm water runoff sheet flows from adjacent properties located along Kamehameha Highway, including the existing Kilioe Place subdivision homes, across the subject properties toward the southwest border at Achiu Lane.

Groundwater beneath the project site occurs in two distinct aquifers within the Waialua Aquifer System of the North Aquifer Sector. The shallow aquifer is classified as a basal, unconfined, sedimentary aquifer, occurring in non-volcanic lithology. The groundwater status is reported as currently being used, and is considered to be ecologically important. The salinity of the groundwater within this shallow aquifer is described as low (250-1,000 milligrams per liter Cl). The groundwater is further

described as irreplaceable, with a high vulnerability to contamination (Mink and Lau, 1990)[2].

The deeper aquifer is classified as a basal, confined, flank aquifer, occurring in horizontally extensive lavas. The groundwater status is reported as being currently in use for drinking water purposes. The salinity of the groundwater within this deeper aquifer is described as low (250-1,000 milligrams per liter Cl). The groundwater is further described as irreplaceable, with a low vulnerability to contamination (Mink and Lau, 1990)[3].

The hydro-geologic gradient in the vicinity of the project site is anticipated to be slight, with a general trend to the northwest. Groundwater levels may be influenced by leaking infrastructure and human activity.

According to the State Commission on Water Resource Management, the nearest groundwater well is located south of the project site and south of Achiu Lane.

Potential Impacts and Mitigative Measures

Site planning has avoided the placement of facilities directly adjacent to the jurisdictional wetland, maintaining a buffer zone between construction and the wetland within which there will be no facility construction and no grading that will affect the integrity of the wetland. Actual construction will employ construction buffer zones, fencing, and other means to avoid accidental deposit or extraction of material to or from the wetland. Construction and post-construction activities will also avoid damage or elimination of wetland-associated hydrophytic plants or wetland facultative plants within the wetland area defined by the U.S. Army Corps of Engineers.

---

[2] As cited by Enpro Environmental, October 2008, *Phase I Environmental Site Assessment: Hale'iwa Hawai'i, TMK's: (1) 6-6-009:002 & (1) 6-6-010:003.*

[3] Ibid.

The construction of the road extension, cul-de-sac, and new dwellings will increase the amount of impervious surfaces on the property which will increase storm water runoff from 32.86 cfs to approximately 41.94 cfs. The proposed mitigation for the increase in surface flow is to construct a detention basin and divert all surface flow to this basin. As such, the proposed project will connect the existing drainage outlets from the existing Kilioe Place and re-direct flows from going off-property to the proposed detention basin. For the proposed new lots, run-off from each lot will sheet flow on to the Kilioe Place extension then flow into the catch basins connected to the new drainage system which will gravity flow to the detention basin. Surface waters will also be directed to the detention basin via grading design and swales.

In addition, the detention basin will be designed larger than required so as to be able to accommodate up to 20 percent more runoff in excess of normal future conditions with the project. This improvement will accommodate the proposed project, but will also benefit many of the surrounding properties and residents as well, especially those situated makai of the proposed project.

The proposed improvements are relatively small in scale and the nature of the proposed activities will have negligible impact on surface or groundwater resources. No ground water wells are being proposed.

BMPs for site preparation and infrastructure construction activities will include silt fences, periodic watering to minimize airborne dirt particles, dust fences, drain inlet protection, and stabilized construction access. BMPs will be followed during construction to minimize soil erosion and runoff, which will also serve to protect water resources and the wetland environment. Specific BMPs for wetland protection recommended by the State Department of Land and Natural Resources, Division of Aquatic Resources include rapid replacement of vegetation and planting as quickly as possible on bare lands to minimize erosion as well as to prevent introduced plant species from blowing into the wetland and becoming established; scheduling site work

during periods of minimal rainfall; and preventing construction materials, petroleum products, debris, and landscaping products from falling, blowing, or leaching into the wetland environment. Creation of the buffer area around the wetland and diversion of run-off away from the wetland will also mitigate impacts to the wetland.

The contractor will comply with Hawaii Administrative Rules (HAR) regarding clean water and consult with the State Department of Health, Clean Water Branch to ensure acceptable construction methodology and materials. The contractor will also secure permits, as required, prior to construction activities.

3.4. AIR QUALITY

Existing Condition

National Ambient Air Quality Standards (NAAQS) have been established for seven major air pollutants: carbon monoxide (CO), nitrogen oxides (NOx), ozone (O3), particulate matter smaller than 10 microns (PM10), particulate matter smaller than 2.5 microns (PM2.5), sulfur oxides (SOx), and lead. Air pollutant levels are monitored by the State Department of Health (DOH) at a network of sampling stations statewide. Based on ambient air monitoring data, the U.S. Environmental Protection Agency has classified the island of Oʻahu and the entire State of Hawaiʻi as being in attainment of the federal standards.

Potential Impacts and Mitigative Measures

Air quality impacts attributed to the proposed project would include exhaust emissions and dust generated by short-term construction activities. Proposed mitigation measures include the installation of dust screen barriers, periodic watering to minimize airborne dirt particles, and proper maintenance of construction vehicles. Construction activities will be conducted in accordance with State air pollution control regulations as outlined in HAR, Chapter 11-60.1-33, Fugitive Dust.

3.5. NOISE

Existing Condition

Noise levels in the vicinity of the project site are relatively low, consistent with the character of the surrounding low density business and residential uses. The primary source of noise near the project site is associated with vehicular traffic, including TheBus (public transit) and visitor tour bus traffic, which occur along Kamehameha Highway.

Potential Impacts and Mitigative Measures

Impacts on noise levels will be mostly due to construction activities over the short-term. The operation of construction vehicles, machinery, tools, and the increased activity due to construction will increase noise levels above the existing level. Additional noise will be mitigated by limiting the hours and days of construction activities. Construction noise is regulated by the DOH and construction activities will be in compliance with HAR Chapter 11-46, Community Noise Control. Under current procedures, noisy construction activities require a permit and are restricted to hours between 7:00 AM and 6:00 PM, Monday through Friday, excluding certain holidays, and 9:00 AM and 6:00 PM on Saturdays. Construction is not permitted on Sundays.

Long-term impacts on noise will be due to private single-family residential noise. The impact on noise from the wastewater treatment unit will be minimized by its location away from adjacent residences and by the pumps being underground. Noise generated from the proposed project is not expected to be significant.

3.6. FLOOD HAZARD

Existing Condition

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), the project site is partially in Zone AE and mostly in Zone X. See Figure 9. Zone AE comprises areas inundated by 100-year flooding for which base

flood elevations have been established. The established base flood elevation for the AE Zone that spans both subject parcels is 6 feet. Zone X areas are outside the 100- and 500-year floodplains.

The City and County of Honolulu Department of Planning and Permitting classifies land within the AE Zone (no floodway) as within the Flood Fringe District. This is a subset of what the City defines as a Flood Hazard District. Since a portion of the project site is within Zone AE, it is within the City's Flood Fringe District and subject to flood hazard district development standards.

Based on evacuation maps prepared for the O'ahu Civil Defense Agency, both parcels are fully within the tsunami evacuation area. The nearest designated public emergency shelter for the area is the Waialua High School.

Potential Impacts and Mitigative Measures

The project site is partially within a floodway area and wholly within the tsunami evacuation area. However, elevations on the properties are higher than the base flood elevation. See previous Section 3.2. The proposed project which includes a large stormwater detention basin will not increase flood hazard and may alleviate existing flooding and ponding on adjacent properties. The existing jurisdictional wetland also serves to mitigate flooding.

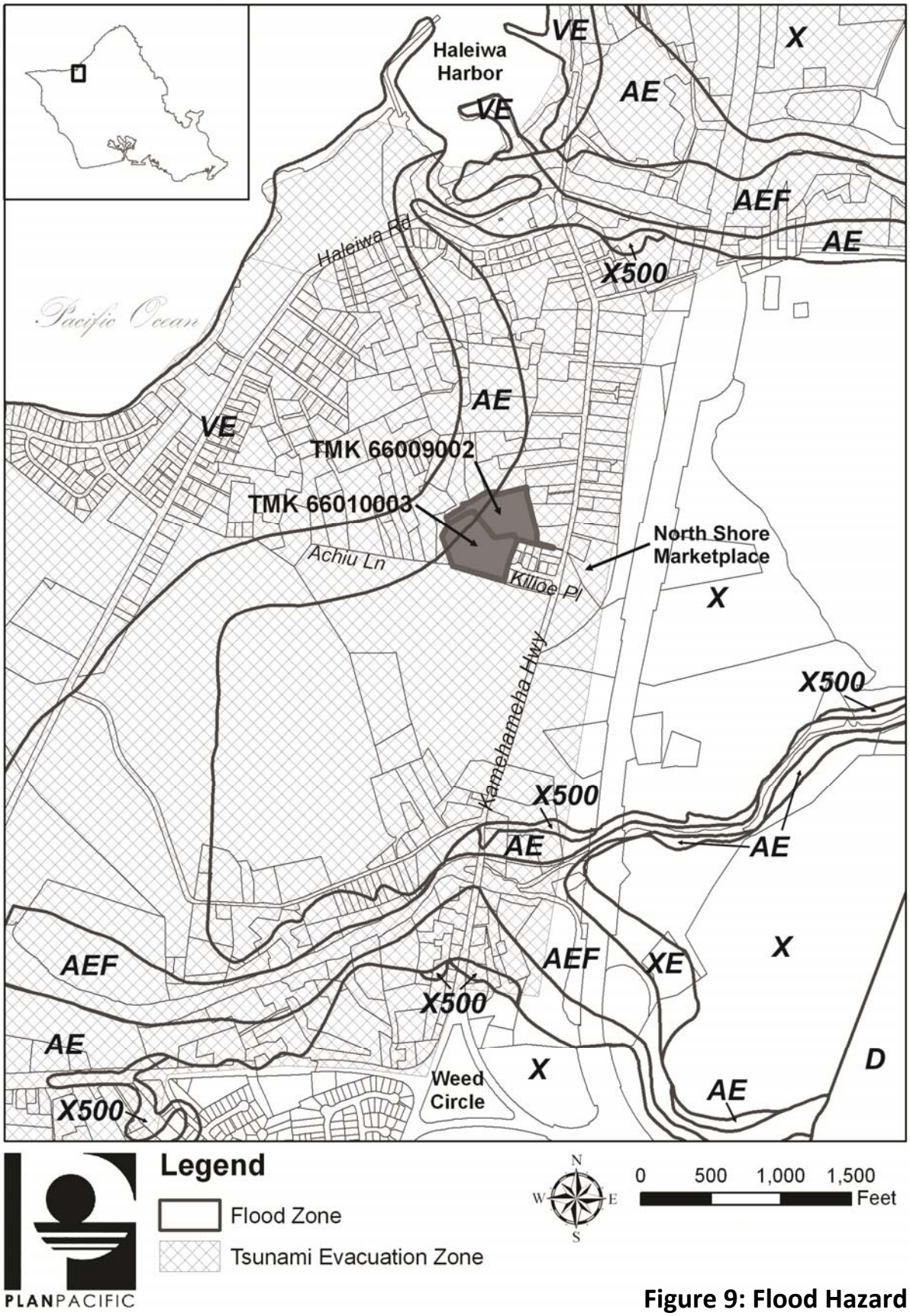


Figure 9: Flood Hazard

3.7. FLORA AND FAUNA

Existing Condition

A flora and fauna survey of the subject properties was conducted in September 2011 by LeGrande Biological Surveys, Inc. The purpose of the survey was to:

1. inventory the flora and fauna,
2. provide a general description of the vegetation on the project site,
3. search for threatened and endangered species as well as species of concern, and
4. provide recommendations regarding biological resources of the survey area.

The survey found that the subject properties have been impacted over time by human use and are dominated by introduced plant species. Sixty-three (63) different species were encountered and all are non-native. A complete list of all plant species found is included as Table 2 in Appendix A.

The vegetation of Parcel 2 is described as an overgrown forest of Java plum with monkeypod trees and date palms scattered throughout. Understory species include Guinea grass, honohono, New Zealand spinach, and turkeyberry.

Parcel 3 contains an access road and more cleared areas. There are some areas of grassy lawns with a few ornamental plantings along the margins of the lawns. Bamboo and other introduced species of trees line the access road. Invasive species on Parcel 3 include swollen finger grass, sleeping grass, desert horse purslane, bracted fanpetals, and spiny amaranth.

The U.S. Fish and Wildlife Service (USFWS) has reviewed the project and confirmed that there is no federally designated critical habitat in the immediate vicinity. They note that there may be the *possibility* of the following species being impacted by components of the project: the endangered Hawaiian hoary bat or opeape'a (Lasiurus

cinereus se,notus), the endangered Hawaiian stilt or ae'o (Hirnantopus mexicanus knudseni), the endangered Hawaiian common moorhen or alae ula (Gal/mu/a chioropus sandvicensis), the endangered Hawaiian coot or alae ke'oke'o (Fulica alai), the endangered Hawaiian duck or koloa maoli (Anas wyvilliana), and the endangered Hawaiian goose or nene (Branta sandvicensis). Also, species protected under the Migratory Bird Treaty Act such as, the wedge-tailed shearwater or 'ua'u kani (Puffinus pacijicus), the Pacific golden plover or kolea (Plut'ialisfulva), and ruddy turnstone or 'akekeke (Arenaria Interpres) may be in the area.

However, the avifaunae actually observed during the ground survey by LeGrande were 9 introduced species and one indigenous species. There were no endangered or threatened species present. See Table 1 of Appendix A for the complete list of species. The single indigenous species, the Pacific golden plover or kolea, also mentioned by the USFWS, is a migratory species that is protected by Federal law under the Migratory Bird Treaty Act, and by State law under HAR 13-124. The kolea is not an endangered or threatened species.

In the years following the conclusion of the September 2011 study, the U.S. Army Corps of Engineers' list of wetland indicator plant species had changed to include Guinea grass (*Panicum maximum* Jacq.) and further surveys to delineate potential wetlands on the project site were conducted by AECOS. AECOS identified four potential wetland sites, but in close consultation with the U.S. Army Corps of Engineers (USACE), only one of the wetland sites was established to be a jurisdictional wetland, under regulation by the USACE. This jurisdictional wetland is located on the northern portion of Parcel 2 and is part of the larger freshwater wetland, Hale'iwa Marsh. For more information, see Appendix B.

<u>Potential Impacts and Mitigative Measures</u>

The proposed project involves site preparation for the new roadway, sidewalk, lots, detention basin, and a private wastewater treatment system. Site preparation will

include the removal of trees, the clearing of shrubs and grass, as well as the installation of new plants. Most of the clearing will occur on Parcel 3. There will be no significant impact to endangered or threatened species or important habitats. Still, as a safeguard, disturbance to woody plants greater than 15 feet tall will be avoided if possible between June 1 and September 15, which is the Hawaiian hoary bat birthing and rearing season according to the USFWS. Also, outdoor lighting will be shielded to minimize impacts to seabirds.

The jurisdictional wetland will be left intact and a buffer area will be created to surround it. There are no threatened or endangered species present on the subject properties. Most of the vegetation to be removed are invasive weeds.

Short-term construction-related impacts may include minor soil loss or erosion, but construction activities will employ Best Management Practices (BMPs) to minimize or prevent such occurrences. BMPs will include silt fences, periodic watering to minimize airborne dirt particles, and stabilized construction road access. BMPs for wetland protection recommended by the State Department of Land and Natural Resources, Division of Aquatic Resources include rapid replacement of vegetation and planting as quickly as possible on denuded lands to minimize erosion as well as to prevent introduced plant species from blowing into the wetland and becoming established; scheduling site work during periods of minimal rainfall; and preventing construction materials, petroleum products, debris, and landscaping products from falling, blowing, or leaching into the wetland environment.

Runoff will be controlled in compliance with the City and County of Honolulu's "Rules Relating to Soil Erosion Standards and Guidelines" and grading work shall be done in accordance to Revised Ordinances of Honolulu (ROH) Chapter 14, Articles 13-16 as related to Grading, Soil Erosion and Sediment Control.

Once the project is completed, the wetland and the detention basin may attract Hawaiian waterbirds, Hawaiian geese, and shorebirds, according to the USFWS.

3.8. HISTORICAL, CULTURAL, AND ARCHAEOLOGICAL RESOURCES

Existing Condition

The subject properties are located within the ahupuaʻa of Paʻalaʻa Kai. Paʻalaʻa translates to "sacred firmness".[4] According to an archaeological assessment report prepared by Archaeological Consultants of the Pacific, Inc. in September 2011, the inland areas of the ahupuaʻa were used traditionally for agriculture. There were once terraced flats in the bottoms of the gulches that extended up to five miles. Dryland cultivation was also practiced. Along the shore, fishing and fishpond aquaculture were practiced extensively. Lokoea fishpond, located approximately one half-mile to the north of the subject properties, is one remaining feature of that period.

Within the subject properties and in the immediate area, land uses recorded at the time of the Great Mahele included house lots, sweet potato patches, gourd cultivation, and taro loʻi. Since the Great Mahele, the properties and immediate vicinity have continued similar land uses, but the parcels have been altered and urbanization has increased. The archaeological inspection of the properties yielded no surface remains that relate to the past activities described. Likewise, ʻauwai, or irrigation ditches, are no longer present. The subject properties have been leveled, modified, and mechanically tilled for over 25 years. An access road and accessory structures exist. In addition, there is the presence of a very high water table. The likelihood of subsurface remains is very low.

Potential Impacts and Mitigative Measures

According to the archaeological assessment report, the absence of surface indicators, the presence of a very high water table that is less than a meter below the surface, and

[4] Pukui and Elbert, 1974.

all the clearing, leveling, reconfiguring, and tilling that has taken place make the opportunities for gathering and examining *in situ* subsurface deposits a remote possibility. Thus, the report concludes that future development of the subject properties would have no effect on significant historic properties. However, if subsurface remains, artifacts, or other historical deposits are discovered during excavation activities for the construction of the proposed project, all work shall cease and the appropriate agencies and authorities, including the State Historic Preservation Division (SHPD), will be notified.

The proposed project will have no effect on the existing public use of any uplands, beach, or ocean waters, or traditional or customary gathering activities. No other mitigation is proposed.

3.9. RECREATIONAL RESOURCES

Existing Condition

The subject properties are located near the many North Shore beaches, but do not contain, nor is it located near any, park, trail, or public right-of-way.

Potential Impacts and Mitigative Measures

Construction of the proposed project will slightly increase the local demand on recreational resources, but this increase will be negligible. The project will also create a new recreational resource by fulfilling its park dedication requirements and providing passive park space around the boundary of the jurisdictional wetland in Parcel 2. Access to this passive recreation area will be via a short road/cul-de-sac connecting to the proposed Kilioe Place extension.

3.10. VISUAL RESOURCES

Existing Condition

The subject properties lie within the Hale'iwa section of the North Shore Viewshed, as defined by the City & County of Honolulu's Coastal View Study. The North Shore viewshed contains over 20 miles of shoreline and stretches from Kaena Point to Kawela Bay. The Hale'iwa sub-section ranges from Kaiaka Bay to Puaena Point. The Coastal View Study recognizes that the visual quality of Hale'iwa is composed of a mix of the natural, agricultural, and built landscapes. It also recognizes that there are controls in place, specifically the Special Management Area and Special Design District designations, to protect the existing visual character.

The Coastal View Study also lists the following significant views within the Hale'iwa sub-section:

1. Significant Roadway Views: Continuous makai views along Hale'iwa Road into Hale'iwa Ali'i Park, Hale'iwa Boat Harbor and Hale'iwa Beach Park. Continuous mauka views along Kamehameha Highway of Anahulu Stream and Lokoea Pond.

2. Significant Stationary Views: Stationary views are from Kaiaka State Recreational Park, Hale'iwa Alii Beach Park and Hale'iwa Beach Park.

The most recently adopted North Shore Sustainable Communities Plan describes the following as significant scenic views:

- Views of the Wai'anae and Ko'olau Mountains, the Pacific Ocean and shoreline, Waialua and Hale'iwa Towns from Kamehameha Highway and Kaukonahua Road as one enters into the North Shore.
- Mauka views of the Waianae Mountains from Farrington Highway, Kaukonahua Road, Kamehameha Highway, and Weed Junction.
- Stationary views from the shoreline between Ka'ena Point and Makaleha Beach.
- Views of the Wai'anae Mountain Range and agricultural fields from Crozier Drive.
- Makai views of Ki'iki'i Stream to Kaiaka Bay from Farrington Highway near Thompson Corner.

- Makai view of open space to Pu‘uiki Beach Park from Pu‘uiki Street and cane haul road crossing.
- Makai views along Hale’iwa Road into Hale’iwa Ali‘i Park, Hale’iwa Boat Harbor and Hale’iwa Beach Park.
- Stationary mauka and makai views from Kaiaka Bay Beach Park, Hale‘iwa Ali‘i Beach Park and Hale‘iwa Beach Park.
- Views of Kaiaka Bay from Hale‘iwa Road at Paukauila Stream.
- Mauka views along Kamehameha Highway of Anahulu Stream and Loko Ea Pond.
- Intermittent makai views from Kamehameha Highway between Kawailoa and Sunset Beach.
- Stationary views from beach parks and access areas from Kawailoa to Waiale‘e Beach Park.
- Mauka views of the Ko‘olau Mountains and pali along Kamehameha Highway from Hale’iwa to Waiale‘e.
- Views from the road pullover above Waimea Bay, from the shoreline at Waimea Bay and from the coral formation at Pūpūkea Beach Park.
- Mauka and makai views of Waimea Valley and Bay from the Kamehameha Highway bridge over the Waimea River.
- Lateral views from Pua‘ena Point.
- Lateral views from Pūpūkea Beach Park.
- Panoramic view from the area near the hairpin turn on Kawailoa Drive.
- Panoramic view of the coast from Pūpūkea Heights.
- View from Pu‘u o Mahuka Heiau State Monument.
- Mauka views from nearshore waters.

Potential Impacts and Mitigative Measures

The visual quality, which includes views of historic buildings or the coastline from Hale‘iwa Road or Kamehameha Highway, will not be significantly altered by the proposed project as there are many other built structures surrounding the site and the site is not located directly on Kamehameha Highway. The proposed project is relatively small in scale. No historic structures will be removed.

The proposed project will not affect any significant views as described by the Coastal View Study or by the North Shore SCP.

3.11. ROADS AND TRAFFIC

Existing Condition

The project area is located off Kamehameha Highway, between Kamehameha Highway and Hale'iwa Road. Access to the project site is currently from Achiu Lane that connects to Kamehameha Highway. Access will be moved from Achiu Lane to Kilioe Place under the proposal.

Public transportation (TheBus) service is available and accessible along Kamehameha Highway. Bus stops are located near the intersection of Kilioe Place and Kamehameha Highway. Routes 52, 55, 76, 83, and 88A service the area with express buses servicing the area in the early mornings and late afternoons. Buses arrive roughly 3 per hour. Buses on Route 76 arrive roughly every 40 minutes and are southbound only.

The current volume of traffic entering and exiting Kilioe Place, as estimated in the Traffic Assessment report of May 2015 prepared by Julian Ng, Inc. for this project, is shown in the table below. The report is attached as Appendix D.

Vehicle Trip Estimates	Average weekday		Weekday AM Peak Hour		Weekday PM Peak Hour	
	Enter	Exit	Enter	Exit	Enter	Exit
Existing	70	70	3	9	10	5

The morning peak hour occurred between 8:00 a.m. and 9:00 a.m., and the afternoon peak hour occurred between 3:15 p.m. and 4:15 p.m.

The intersection of Kilioe Place and Kamehameha Highway does not have a traffic signal and traffic movement through the intersection by people coming and going to Kilioe Place is characterized by stops and yields. The level of service (LOS) analysis,

which measures average delay times, for this intersection found current LOS during the weekend peak hour to be rated C for exiting Kilioe Place and A for left turns into Kilioe from Kamehameha Highway. For reference, LOS D or better is considered acceptable.

Potential Impacts and Mitigative Measures

The proposed project will change access from Achiu Lane to Kilioe Place and extend the length of Kilioe Place by approximately 440 feet. The roadway or street extension would match the width dimensions of the existing Kilioe Place, which is a 44-foot right-of-way, and would be a standard County street to be dedicated to the County. According to County standards, the existing 28-foot wide street can serve up to 200 dwelling units, which is well above the number of total dwelling units (50) that the street would serve with the inclusion of the proposed project. The short access road to Parcel 2 will be roughly 280 feet long. The right-of-way width of this road would be narrower, roughly 24 feet wide.

The estimated change in vehicle trips entering and exiting Kilioe Place due to the proposed project's increase in the number of residents is detailed in the table below:

Vehicle Trip Estimates	Average weekday		Weekday AM Peak Hour		Weekday PM Peak Hour		Weekend Peak Hour	
	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit
Existing	70	70	3	9	10	5	8	6
With Project	240	240	10	29	33	18	25	21
Difference	*170*	*170*	*7*	*20*	*23*	*13*	*17*	*15*

The largest increase during a peak hour due to the proposed project is 20 vehicles (weekday afternoon, exiting).

According to the traffic assessment, there will be no change in the LOS due to **natural increase** over time (i.e. based only on natural population growth). However, the difference between this future condition with no project constructed, and the future

condition with the project constructed would be no change in LOS except for a decreased level of service; from LOS C to LOS D, for exiting Kilioe. As previously stated, LOS D is considered an acceptable rating and therefore, the proposed project would not significantly impact delay times.

Kilioe Place is more than wide enough to accommodate the increase in vehicles and the increase in the number of vehicles at peak times is not significant enough to warrant an impact study. The project's impact on the level of service is also insignificant based on traffic engineering standards.

Over the long-term, the project's impact to public transportation (TheBus) may be longer delays near Kilioe due to traffic and increased ridership, but the change will be negligible compared to what the natural increase will be. No mitigation measures are proposed.

The short-term impacts to local traffic may be increases in commute times along and near Kilioe Place due to slower moving construction vehicles. This would also affect public transportation (TheBus) and paratransit vehicles that travel through the area. This impact would be mitigated by the timing of the construction vehicle movement, so that they avoid the busiest times of morning and afternoon rush hours. The City and County of Honolulu regulates this timing and other construction activities. These regulations will be followed by the contractor and the contractor shall notify the Honolulu Department of Transportation Services, Public Transit Division and Oahu Transit Services, Inc. at least 2 weeks prior to the start of construction. The North Shore Neighborhood Board, nearby residents, businesses, emergency personnel, and O'ahu Transit Services also will be apprised of the start of construction.

There are no street or sidewalk closures planned for the adjacent or nearby streets due to the proposed project.

Construction materials and equipment will be transferred to and from the project site during off-peak hours (8:30 a.m. to 3:30 p.m.) to minimize disruption to traffic. Should there be any damage to existing roadways or sidewalks caused by project contractor vehicles, the affected facilities will be restored to its original condition or better.

3.12. UTILITIES

3.12.1. Wastewater

Existing Condition

There are no existing wastewater facilities servicing the subject properties. The adjoining residential areas between the subject properties and Kamehameha Highway along the existing Kilioe Place are mainly served by cesspools. Wastewater disposal by the cesspools is a major issue within the North Shore Sustainable Communities Plan area. The collective desire is to move away from the use of cesspools. However, the County Department of Environmental Services has no plans to improve the wastewater service for the district which includes the proposed project area.

Potential Impacts and Mitigative Measures

Wastewater will be generated from the residential lots within the proposed subdivision at an estimated average rate of 35,000 gallons per day (GPD) or 0.035 million gallons per day (MGD) and will be typical of domestic wastewater in composition. Projected wastewater flows are based on 1,000 GPD per dwelling unit.

The proposed project will construct a private on-site wastewater collection and treatment system that will consist of the following: (1) the gravity wastewater collection system; (2) the wastewater treatment unit; and (3) the wastewater effluent disposal system. The proposed wastewater system is intended to serve the proposed new subdivision as well as existing Kilioe residents should they choose to connect. A Homeowners' Association will be created and will be responsible for the operation and maintenance of the wastewater system.

The proposed collection system component will be located along the proposed roadway extension for ease in construction and maintenance. The collection system will consist of gravity sewers and sewer easements, and will service all proposed lots. Preliminary wastewater pipe sizes range from 6″ to 8″ mains. Design and construction of the system will be in accordance with County standards.

The proposed wastewater treatment unit will be located on Parcel 2, away from Kamehameha Highway and residents of abutting properties. See Figure 7. The proposed treatment unit is a Cyclic Biological Treatment (CBT) Aerobic Unit. The State Department of Health indicated that the CBT aerobic treatment unit is consistent with Hawai'i Administrative Rules (HAR), Section 11-62-33.1(b)(2). The CBT unit is a single basin reactor with a continuous activated sludge system. The treatment unit processes all the steps of flow equalization, biological oxidation, nitrification, de-nitrification and solids-liquids separation in the same basin. Thus, extensive piping and multiple tasks for those processes are not required. A clock/microprocessor automatically coordinates all the equipment and phases of each process cycle. One 35,000 GPD CBT unit with a 2,000 gallon pre-loader will be installed to service the entire proposed project.

In addition to the CBT unit, filtration and chlorination units, storage buildings, pumps, piping, and appurtenances will be required as part of the proposed system.

The treated wastewater effluent will be chlorinated, disinfected and pumped to the wastewater disposal wells. Two wastewater disposal wells will be developed on Parcel 2 with a disposal rate of 35 gallons per minute (GPM).

The wastewater system will be compliant with the State Department of Health's Administrative Rules, Title 11, Chapter 23, regarding the protection of underground sources of drinking water from chemical, physical, radioactive, and biological

contamination. An Underground Injection Control (UIC) permit from the State DOH will be prepared and processed as required.

With the proper operation, objectionable odors will not be generated from the wastewater system. Maintenance of aerobic conditions will minimize odor generation.

To minimize visual impact of the wastewater treatment system, placement of the CBT unit below ground and landscaping are proposed as part of the project.

3.12.2. Water

Existing Condition

The Honolulu Board of Water Supply's (BWS) Hale'iwa system services the properties along Kamehameha Highway and Kilioe Place, and would serve the proposed project as well. The storage facility located closest to the project site is the Hale'iwa 225' Reservoir. This reservoir distributes water through an 8-inch distribution main along Kamehameha Highway and an 8-inch pipe along Kilioe Place.

Potential Impacts and Mitigative Measures

Based on the BWS's Water System Standards, the average daily demand for the proposed project is estimated to be 15,000 GPD. The maximum daily demand is estimated to be 22,500 GPD and a peak hour demand is estimated at 45,000 GPD.

The proposed potable water system will be connected to the existing 8-inch BWS water line at end of the existing Kilioe Place. A new 8-inch distribution main will be located within the proposed road that will extend Kilioe Place. Design and construction of the potable water system will be in accordance with the BWS standards and the system will be dedicated to the BWS.

The projected water demand for fire protection is 1,000 GPM over one hour duration and a fire hydrant will be located at 350 feet spacing. County approved water supply that is capable of supplying the required fire flow for fire protection to all proposed buildings within the project area will be provided. Two new fire hydrants will be provided. Civil and construction drawings will be submitted to the Honolulu Fire Department for review and approval during the subdivision process.

3.12.3. Electrical

Existing Condition

Electrical power for the area is currently provided by Hawaiian Electric Company (HECO). Power lines are located above ground along Kamehameha Highway, but underground along Kilioe Place.

Potential Impacts and Mitigative Measures

The proposed project will connect to and continue the underground electrical power lines. The new homes and wastewater system will require new electrical systems. An initial check with HECO indicates that the existing substation and service lines will be able to accommodate the power needs of the proposed project. A new substation is not necessary. No mitigation measures are proposed.

3.12.4. Telecommunications, Cable TV, and Data

Existing Condition

Land line telephone service to the area is provided by Hawaiian Telcom and cable television service is provided by Oceanic Time Warner Cable. Internet (data) services are provided by both Hawaiian Telcom and Oceanic Time Warner Cable.

Potential Impacts and Mitigative Measures

The impacts to the existing services will be negligible. No mitigation is proposed.

3.13. PUBLIC SERVICES

Existing Condition

The subject properties are located in the Honolulu Police Department's District No. 2, Sector 3, and served by the Wahiawā District Station. The nearest fire station is the Waialua Fire Station on Hale'iwa Road.

Potential Impacts and Mitigative Measures

The proposed project will not significantly increase the demand on public services, including law enforcement, fire protection, refuse collection, and educational, medical, and recreation facilities. The project will create a recreational walkway and passive park area that can also benefit existing Kilioe residents.

The proposed roadway extensions will serve as fire apparatus access roads for the proposed project. Civil and construction drawings of the proposed roadway and fire protection water supply lines will be submitted to the Honolulu Fire Department for review and approval during the building permit application period.

3.14. SOCIO-ECONOMIC CHARACTERISTICS

Existing Condition

The Hale'iwa Census Designated Place (CDP) has a population of 3,970 people based on the 2010 U.S. Census. The median age is 37.2 years old. The population is about 34 percent Asian, 29 percent White-mixed, and 25 percent White. Total number of households is 1,191 and the average household size is 3.29. The total number of housing units is 1,318 with 127 being vacant, and about half of the vacant units are used for seasonal, recreational, or occasional use.

Estimates from the U.S. Census Bureau for the period 2006-2010 show that roughly 60 percent of the Hale'iwa population were in the labor force at that time, with almost all in the civilian labor force. Unemployment was estimated to be about 14.9 percent.

The median household income was $74,384 and the median family income was $86,103 (in 2010 inflation adjusted dollars).

Overall, population and the number of housing units in Hale'iwa has declined in the last decade and average household size has decreased.

Potential Impacts and Mitigative Measures

The proposed project is intended to serve the existing population living in Hale'iwa or the North Shore, which means it would not significantly affect population numbers. Still, should non-residents of the North Shore occupy the lots, the population would increase by 35 households at most, which is not a significant amount. Since the target buyers of the proposed residential lots are the existing local residents who may be sharing a dwelling currently, no change in the socio-economic characteristics are anticipated. There will be no displacement of the current population. New housing stock would create options for existing residents.

The proposed project would create new short-term employment related to construction, but no long term employment, other than possible individual home occupations, is expected to be created by the proposed residential use.

4. RELATIONSHIP TO LAND USE POLICIES AND CONTROLS

4.1. STATE OF HAWAII

4.1.1. Hawai'i State Plan

The Hawai'i State Planning Act (Chapter 226, HRS) establishes a statewide planning system with goals, objectives, policies, and priorities to guide future long-range development of the state.

The proposed project is consistent with the State plan objectives and policies related to housing and facility systems quoted below:

> ***§226-19 Objectives and policies for socio-cultural advancement--housing.*** *(a) Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:*
>
> *(1) Greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more affordable housing is made available to very low-, low- and moderate-income segments of Hawaii's population.*
>
> *(2) The orderly development of residential areas sensitive to community needs and other land uses.*
>
> *(3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawaii's people.*
>
> *(b) To achieve the housing objectives, it shall be the policy of this State to:*
>
> *(1) Effectively accommodate the housing needs of Hawaii's people.*
>
> *(2) Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households.*
>
> *(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.*

(4) Promote appropriate improvement, rehabilitation, and maintenance of existing housing units and residential areas.

(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.

(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.

(7) Foster a variety of lifestyles traditional to Hawaii through the design and maintenance of neighborhoods that reflect the culture and values of the community.

(8) Promote research and development of methods to reduce the cost of housing construction in Hawaii.

§226-15 Objectives and policies for facility systems--solid and liquid wastes. *(a) Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:*

(1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.

(2) Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.

(b) To achieve solid and liquid waste objectives, it shall be the policy of this State to:

(1) Encourage the adequate development of sewerage facilities that complement planned growth.

(2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.

(3) Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes.

The proposed new residential lots will increase housing opportunities and choices for Haleʻiwa residents. The housing stock in Haleʻiwa has been relatively stable over the past few decades, with many of the existing homes being over 50 years old. The proposed project will allow individual lot owners the ability to choose their own house

design or build their own houses, and size the dwellings according to their individual needs and budgets.

Currently, all existing homes on Kilioe Place and throughout Haleʻiwa Town are served by individual cesspools and utilize private pumping companies for sewage disposal. Cesspools are no longer allowed, but there are no County construction projects on the horizon to provide the area with a centralized sewage collection and treatment system. The proposed project will ensure that the health and sanitation standards of the state will be upheld by providing its own private sewage treatment and disposal system.

4.1.2. State Land Use Classification

State Land Use Districts are established by the State Land Use Commission in accordance with Chapter 205, HRS. The purpose of the districts is to regulate the use of lands within the state to accommodate population growth and development as needed, and to protect important agricultural and natural resources areas. There are four classifications of land under this districting system: Urban, Rural, Agricultural, or Conservation. Parcel 3 is within the Urban District and Parcel 2 is mostly within the Agricultural District with a small portion in the Urban District.

The proposed project would involve a land use district boundary amendment for Parcel 2, such that the resulting parcel, in its entirety, will be in the Urban District. Boundary amendments for land areas less than 15 acres in size are processed by the county governments. Section 4.2 further below describes the county regulations.

4.1.3. Hawaiʻi Coastal Zone Management (CZM) Program

Chapter 205A of the Hawaiʻi Revised Statutes sets forth objectives and policies for coastal zone management in the State of Hawaiʻi and defines the Special Management Area (SMA). Chapter 205A also delegates regulatory authority of the SMAs to the

counties. The basic objectives of the CZM program as outlined in Part I of the statute are to:

- protect coastal recreation resources,
- protect historic resources,
- protect scenic and open space resources,
- protect coastal ecosystems,
- provide suitable locations for economic uses,
- reduce exposure to coastal hazards,
- improve review process and public participation in management of coastal resources and hazards,
- stimulate awareness and public participation in coastal management,
- protect beaches for public use and recreation, and
- protect marine resources

The proposed project is consistent with the CZM objectives and policies in that it will not have a significant impact to existing coastal recreational resources. The project site is located approximately 0.5 miles from the nearest shoreline and there are approximately 50 existing residential dwellings along Haleʻiwa Road nearer to the shoreline. The proposed project also will not impact historic resources. No cultural or historic resources are located on the subject properties, and structures of historic value along Kamehameha Highway will be unaffected. The subject properties are located behind the street lining storefront properties that are important to the rural historic character of Haleʻiwa and its main street district. The subject properties are not in the Haleʻiwa Special Design District.

The proposed project will not impact scenic or open space resources since the project is small in scale and future homes will be low-rise and will not impact important visual resources such as views toward the mountains, shoreline, and natural areas, as identified in Section 3.10. The properties are currently overgrown with vegetation, not

adjacent to open space resources, and not immediately visible from public roads; thus, will not impact open space resources.

The proposed design for drainage will contain surface flows and minimizes potential eventual runoff to the shore, thereby contributing to the protection of coastal ecosystems, beaches, and marine resources. The subject properties are not on the shoreline and are buffered from the shore by Hale'iwa Road and several cul-de-sacs, residential homes, and cultivated lands. This distance from the shoreline also removes impacts to public access to the shoreline and lessens coastal hazards.

The proposed design for drainage will also help protect the wetland, which is an extension of Hale'iwa Marsh, by controlling run-off and directing it toward a detention basin. The proposed buffer area around the wetland will also help protect this resource.

Special Management Area (SMA)

Part II of Chapter 205A, defines the SMA and contains the guidelines to review developments proposed within the SMA. The guidelines are verbatim as follows:

> *(1) All development in the special management area shall be subject to reasonable terms and conditions set by the authority in order to ensure:*
>
> > *(A) Adequate access, by dedication or other means, to publicly owned or used beaches, recreation areas, and natural reserves is provided to the extent consistent with sound conservation principles;*
> >
> > *(B) Adequate and properly located public recreation areas and wildlife preserves are reserved;*
> >
> > *(C) Provisions are made for solid and liquid waste treatment, disposition, and management which will minimize adverse effects upon special management area resources; and*
> >
> > *(D) Alterations to existing land forms and vegetation, except crops, and construction of structures shall cause minimum adverse effect to water resources and scenic and*

recreational amenities and minimum danger of floods, wind damage, storm surge, landslides, erosion, siltation, or failure in the event of earthquake.

The proposed project is consistent with the SMA guidelines in that it will not directly impact beaches, recreation areas, and natural reserves, or access to the aforementioned resources. The jurisdictional wetland on Parcel 2 will be preserved. The proposed project may increase users of local recreational resources, but this would be an insignificant amount and a secondary impact. In addition, the applicant will fulfill park dedication requirements on site by providing a passive recreation area with a walking/jogging path.

The subject properties are relatively small, do not contain important species of flora or fauna, and are adjacent to commercial and residential properties.

As stated previously, the proposed drainage improvements, private wastewater treatment system, and preserved wetland will help protect water resources and minimize flooding, prevent erosion, and will not cause adverse effects on the SMA.

(2) No development shall be approved unless the authority has first found:

(A) That the development will not have any substantial adverse environmental or ecological effect, except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health, safety, or compelling public interests. Such adverse effects shall include, but not be limited to, the potential cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect, and the elimination of planning options;

(B) That the development is consistent with the objectives, policies, and special management area guidelines of this chapter and any guidelines enacted by the legislature; and

(C) That the development is consistent with the county general plan and zoning. Such a finding of consistency does not preclude concurrent processing where a general plan or zoning amendment may also be required.

The proposed project is consistent with the above and will not have any substantial adverse environmental or ecological effect, individually or cumulatively. Housing already exists in the area and on adjacent lots. The activities of the visitor population in the area on a daily basis, whether they are travelling through by car or bus, walking along the main street, shopping, eating, or enjoying the many beach activities available, likely creates a greater impact on the environment than the resident population. The proposed project is consistent with the general plan and zoning, although it would require a change of zone. See Section 4.2.3 for further discussion.

(3) The authority shall seek to minimize, where reasonable:

(A) Dredging, filling or otherwise altering any bay, estuary, salt marsh, river mouth, slough or lagoon;

(B) Any development which would reduce the size of any beach or other area usable for public recreation;

(C) Any development which would reduce or impose restrictions upon public access to tidal and submerged lands, beaches, portions of rivers and streams within the special management areas and the mean high tide line where there is no beach;

(D) Any development which would substantially interfere with or detract from the line of sight toward the sea from the state highway nearest the coast; and

(E) Any development which would adversely affect water quality, existing areas of open water free of visible structures, existing and potential fisheries and fishing grounds, wildlife habitats, or potential or existing agricultural uses of land.

The proposed project is consistent with the above part 3 of the SMA guidelines in that it will not alter any bay, estuary, salt marsh, river mouth, slough, or lagoon; it would not alter any beach or public recreation area; and it would not affect access to tidal and submerged lands, beaches, portions of rivers and streams within SMAs and the mean high tide line where there is no beach, for reasons previously discussed.

In addition, the proposed project would not substantially interfere with or detract from the line of sight toward the sea from the highway nearest the coast (Kamehameha

Highway) because many structures and vegetation already exist between the highway and the shoreline, blocking this line of sight. The proposed project would not make a difference in visibility of the shoreline from the point nearest the property on Kamehameha Highway.

The proposed project will not adversely affect water quality, existing areas of open water free of visible structures, existing and potential fisheries and fishing grounds, or wildlife habitats. The proposed project will displace potential agricultural uses of land, but existing agricultural uses are limited to storage and garden farming. The subject properties have not been in any significant cultivation for the last eight years. The study of impacts on agriculture concluded that commercial cultivation is not feasible on the subject properties and that the land does not meet the conditions to be designated as important agricultural lands. See Appendix E.

4.2. CITY AND COUNTY OF HONOLULU

4.2.1. General Plan

The General Plan for the City and County of Honolulu is a collection of broad objectives and policies supported by the City and County of Honolulu government to guide the future of O'ahu toward a desirable and attainable future.

The proposed project to create 35 residential single-family lots in Hale'iwa is consistent with the objectives and policies of the General Plan, particularly the following:

IV. HOUSING

Objective A: To provide decent housing for all the people of Oahu at prices they can afford.

Policy 3: Encourage innovative residential development which will result in lower costs, added convenience and privacy, and the more efficient use of streets and utilities.

Objective C: To provide the people of Oahu with a choice of living environments which are reasonably close to employment, recreation, and commercial centers and which are adequately served by public utilities.

Policy 1: Encourage residential developments that offer a variety of homes to people of different income levels and to families of various sizes.

Policy 3: Encourage residential development near employment centers.

Policy 4: Encourage residential development in areas where existing roads, utilities, and other community facilities are not being used to capacity.

V. TRANSPORTATION & UTILITIES

Objective D: To maintain transportation and utility systems which will help Oahu continue to be a desirable place to live and visit.

Policy 5: Require the installation of underground utility lines wherever feasible.

VII. PHYSICAL DEVELOPMENT AND URBAN DESIGN

Objective E: To create and maintain attractive, meaningful, and stimulating environments throughout Oahu.

Policy 5: Require new developments in stable, established communities and rural areas to be compatible with the existing communities and areas.

The proposed project is consistent with the above objectives and policies of the City and County General Plan as it will create low-rise, low impact housing opportunities for existing local residents. Buyers of the proposed lots will be able to control the cost of the dwelling structure by selecting from kit homes, which are more affordable than typically constructed homes, or by designing and building their own structures. Buyers

can also control the timing of the purchase or loan since they can have the option to defer construction of their own dwellings.

The proposed project will extend the Kilioe Place roadway, which has enough capacity in width to serve 200 homes; far more than what is being proposed (35), plus what currently exists (15). The proposed project will be compatible to the existing surrounding uses as the residential lots will mirror the existing lot sizes and layout on Kilioe Place, and the extension of the road and cul-de-sac will appear seamless with the same roadway width, curbs, and underground utilities. The additional access road to Parcel 2 will be narrower, but will mimic the cul-de-sac form of the extension. The proposed lots will have their own centralized wastewater collection and treatment system, which will be out of view from the highway, screened, and far away from abutting neighbors.

Kilioe Place is in the middle of Haleʻiwa, which is one of the economic and employment hubs of the North Shore and a place where the North Shore SCP directs housing growth. The proposed project will add to the residential, commercial, industrial, and agriculture mix of land uses of Haleʻiwa Town, and will create more live-work opportunities in the community.

4.2.2. North Shore Sustainable Communities Plan

The City and County of Honolulu's Development Plans (DPs) and Sustainable Communities Plans (SCPs) further refine the General Plan for the eight regions of Oʻahu. The region in which the proposed project is located is the North Shore. The North Shore, as defined by the City and County of Honolulu Department of Planning and Permitting, spans from Kaʻena Point to Waialeʻe Gulch and north of Helemano, and contains 1.7 percent of the island's population. The North Shore SCP puts forth policies and guidelines to guide future activities in the North Shore area.

The proposed project implements the following North Shore SCP policies and guidelines:

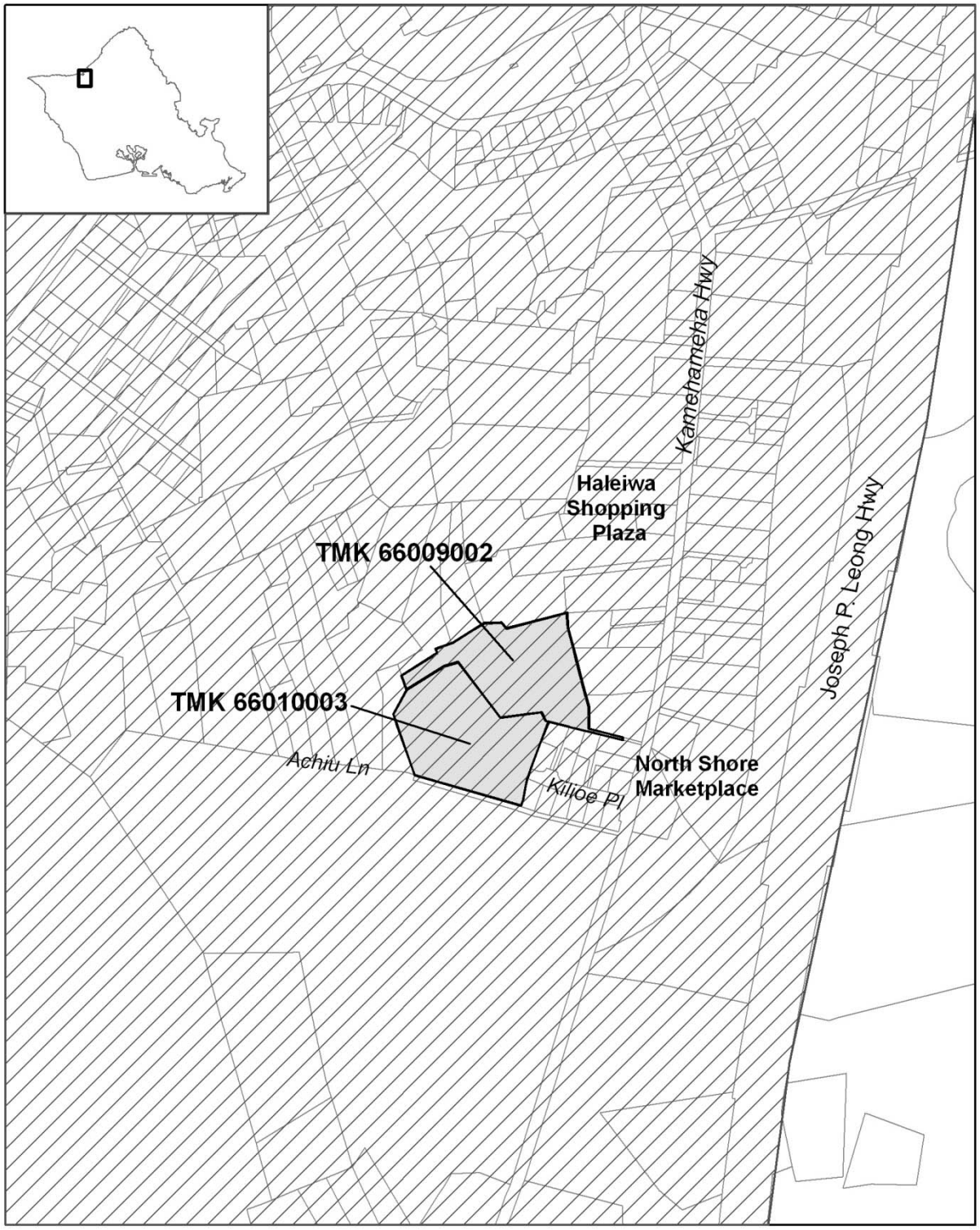
Section 3.1 Open Space and Natural Environment

Policies:

Maintain open space around existing communities by locating new developments within or next to existing developments within the Community Growth Boundary. Encourage compact development patterns and balance the development of desired or necessary land uses such as affordable housing and public facilities such as schools with the need to preserve open space.

The proposed project will be located within the Community Growth Boundary, as shown in Figure 10, and it will be located adjacent to the existing Kilioe Place subdivision. The project is consistent with other policies and guidelines related to open space and the natural environment in that it will not impact important habitats; coastal ecosystems; scenic and open space resources; beach, shoreline and marine resources; wetlands; natural gulches, streams, or drainageways; or access to these important places. In addition, per Section 3.1.2.7 of the NSSCP, significant scenic views will not be significantly impacted, particularly the following:

- *Views of the Wai'anae and Ko'olau Mountains, the Pacific Ocean and shoreline, Waialua and Hale'iwa Towns from Kamehameha Highway and Kaukonahua Road as one enters into the North Shore.*
- *Mauka views of the Wai'anae Mountains from Farrington Highway, Kaukonahua Road, Kamehameha Highway, and Weed Junction.*
- *Mauka views of the Ko'olau Mountains and pali along Kamehameha Highway from Hale'iwa to Waiale'e.*



Legend

within the SCP Community Growth Boundary

N W E S

0 150 300 600 900 Feet

PLANPACIFIC

Figure 10: Community Growth Boundary

Section 3.2 Agriculture

Policies:

Maintain the current agricultural land use and zoning designation of agricultural lands within the Community Growth Boundary that are in the State Agricultural District and zoned for agriculture, except for limited "infill" areas contiguous to Hale'iwa and Waialua Towns that are designated for future residential.

The proposed project will involve a request for rezoning of one lot (Parcel 2) that is mostly within the State Agricultural District, zoned for agriculture, and within the Community Growth Boundary. The other lot, Parcel 3, is in the State Urban District. The proposed project site is an infill area as it is located in the middle of Hale'iwa and is contiguous to existing residential land. It is consistent with the above policy on agriculture and consistent with the overall intent to preserve important agricultural lands of the North Shore in that the most productive lands which are located below the Wahiawā Reservoir Ditch, as identified in the North Shore SCP, will be unaffected by the proposed project.

Furthermore, a study prepared by Plasch Econ Pacific, LLC of the proposed project's impact on agriculture revealed that the subject properties have not been significantly farmed for at least the last 5 years despite being leased by a farm/farmer since 1987. Farming has proved to be not commercially viable on the subject properties due to the small acreage, flooding during heavy rains, soil characteristics, proximity to residences which limits certain farming activities such as spraying pesticides, a snail infestation when taro cultivation was last attempted, and land and water costs. The study concludes that commercial cultivation is not feasible on the subject. Refer to Appendix E.

Section 3.5 Residential Communities

Policies:

Maintain sufficient inventory of land within the Community Growth Boundary to accommodate existing and future housing needs.

Direct future residential development to Hale'iwa and Waialua within the Community Growth Boundary, including new apartment districts adjacent to Hale'iwa and Waialua Towns where increased densities that address affordability may be desired, subject to community and agency review.

Preserve and protect the rural character and natural features and setting of the North Shore by establishing appropriate development and subdivision standards for buildings, roadways and infrastructure systems, in contrast to existing urban standards. Incorporate rural standards that require development to be sensitive to and have minimal impact on the area's rural character.

Provide a mix of housing types and prices to meet the needs of existing residents, including accommodations which are affordable to low- and moderate-income, gap group, and elderly households, and other special needs populations.

Ensure safe and efficient circulation networks that provide bicycle and pedestrian travel between residential areas and neighborhood destinations such as schools, parks and neighborhood commercial facilities.

Support the development of sustainable communities through the use of low-impact development principles and technologies.

Guidelines:

Rural Residential

- *Densities range from five to eight units per acre, or up to 10 units per acre for alternative development options which enhance rural character and maximize consolidated, usable open space. Lot sizes range from 5,000 square feet to 10,000*

square feet, allowing the application of optional design standards. For smaller lot developments of less than 5,000 square feet, alternative clustering is encouraged.

- *Use rural development standards to determine appropriate scale and character, smaller building footprints, greater setbacks, and more landscaping (use of hedges to create walls and grassed front yards, and rural roadways with no sidewalks, curbs, and gutters).*

- *Avoid monotonous rows of garages and driveways along neighborhood street frontages by employing features such as varied building setbacks and shared driveways.*

- *Plan and design new or infill housing development, as well as modifications to existing homes, to be generally compatible with the predominant form and character of existing homes on adjacent properties and with the neighborhood as a whole.*

Use plantation architectural features such as pitched roofs in varied forms, exterior colors and finishes, building orientation, floor plans and architectural details to provide visual interest and individual identity and accentuate the rural setting. In general, buildings are to be less than two stories or 25 feet, although the height may vary in response to required flood elevation, slope, or other physical site constraints.

The policies regarding residential land use and the guidelines for rural residential areas are supported by the proposed project as the project area is within the Community Growth Boundary and will be an infill development using existing undeveloped land. The target population for the project to serve is existing local residents. The North Shore SCP recognizes that there is and will be a need for additional housing units to accommodate natural population growth. The North Shore SCP estimates that by 2035, an additional 1,504 units will be needed. The North Shore SCP also states the vision that:

Residential areas on the North Shore are concentrated around the former plantation towns of Haleʻiwa and Waialua, with smaller clusters of residential neighborhoods scattered between Mokulēʻia, Kawailoa, Sunset Beach and the uplands above Pūpukea. The Community Growth Boundary is intended to contain the spread of development away from significant agriculture and preservation areas. The need for additional housing on the North Shore will be met primarily by "infill" development of existing vacant lands within the Community Growth Boundary.

The proposed project implements the above vision and policies. The project is consistent with the existing low-rise, low density rural setting of Haleʻiwa. The project is sensitive to the existing Kilioe Place residents because its site design is a continuation of the existing layout. It is "generally compatible with the predominant form and character of existing homes on adjacent properties and with the neighborhood as a whole." The project proposes a street, curb, and sidewalk configuration of an urban standard, but this is because that is what already exists on Kilioe and because there are no DPP rural standards as of yet. Proposed lot sizes are 5,000 square feet minimum.

4.2.3. Land Use Ordinance

The purpose of the Land Use Ordinance (LUO) of the City and County of Honolulu is "to regulate land use in a manner that will encourage orderly development in accordance with adopted land use policies, including the [General Plan] and development plans…" Its intent is to provide "reasonable development and design standards for the location, height, bulk and size of structures, yard areas, off-street parking facilities, and open spaces, and the use of structures and land for agriculture, industry, business, residences or other purposes."

The LUO designates and defines categories or zoning districts of land use as well as allowable developments and design criteria within each category or zoning district.

The subject properties for the proposed project are located within the AG-2 general agriculture district, with a small portion of Parcel 2 being in the R-5 residential district. A change of zoning district from AG-2 to R-5 for both parcels in their entireties is proposed to allow for the residential and residential accessory land uses.

The purpose of the residential district is to provide areas for residential development and "to allow for a range of residential densities. The primary use shall be detached residences….Nondwelling uses which support and complement residential neighborhood activities [are also] permitted." The proposed project, lots for detached residences and facilities for drainage and wastewater treatment, supports this purpose. The proposed project will also meet the minimum development standards for the R-5 zoning district.

Hale'iwa Special District Guidelines

In addition to defining regulatory zones, the LUO also identifies areas of significant cultural, scenic, environmental, or historical value and designates these areas as special districts. In Hale'iwa, the area along Kamehameha Highway is one such designated Special District. The proposed project is located outside of the Hale'iwa Special District. Refer to Figure 11.

4.2.4. Special Management Area

Revised Ordinances of Honolulu, Chapter 25-3.2 defines the Special Management Area for the County of Honolulu. This echoes the CZM objectives and policies and SMA review guidelines of HRS, Chapter 205A. Refer to previous Section 4.1.3. for discussion.

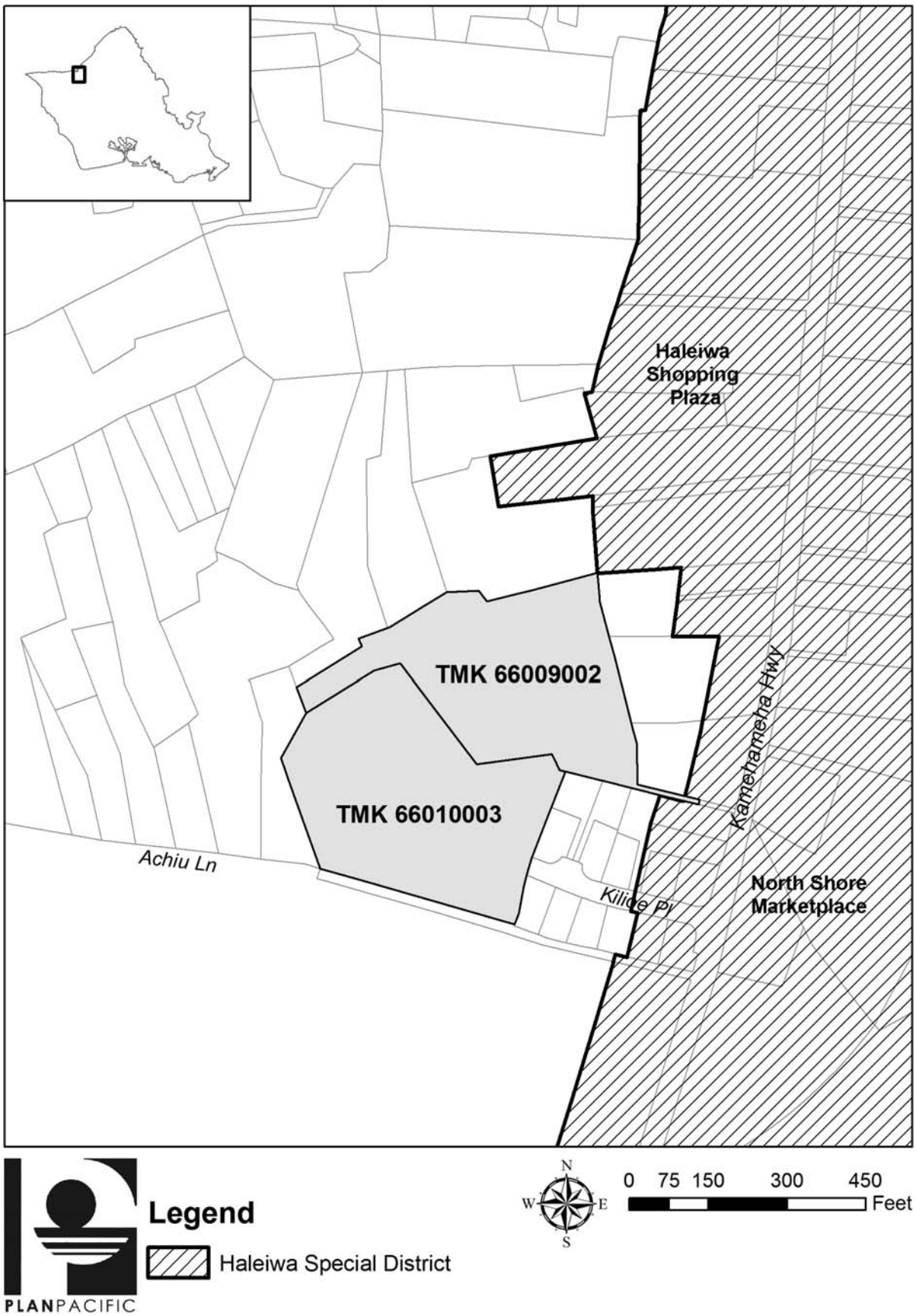


Figure 11: Hale‘iwa Special Design District

5. ALTERNATIVES TO THE PROPOSED ACTION

The following describes alternatives to the proposed project.

5.1. NO ACTION

Under the no action alternative, the proposed project and improvements would not be realized. There would be no change; however, there would still be the potential for a second dwelling as allowed under the existing zoning. The subject properties would remain in the AG-2 zoning district and Hawai'i State land use district designations would remain as they are. Still, commercial cultivation would not be feasible. Existing drainage problems on neighboring properties would remain. Demand for housing on the North Shore will remain unmet.

5.2. ALTERNATIVES CONSIDERED

Multi-Family Residences (Cluster Housing Development) On Both Parcels

One option that was proposed by a potential buyer of the properties, but not the applicant, was to construct higher density housing to span both lots. Although this alternative is not a consideration by the current owner/applicant, it is worth mentioning in this report. Under this alternative, a roadway extension would be constructed from the end of Kilioe Place and approximately 21 buildings for 82 multi-family dwelling units would be built, along with parking and other improvements. This alternative utilizes the cluster housing option to maximize density on both parcels. It also would require a change to residential zoning for both properties.

This alternative would be consistent with the recently updated North Shore SCP since it would provide for some affordable housing per County requirement. However, it would not be consistent with the Rural Residential guidelines that call for new housing to be "generally compatible with the predominant form and character of existing homes on adjacent properties and with the neighborhood as a whole." It would also

be more densely built than the "five to eight units per acre" described by the guidelines.

Some of the impacts associated with this alternative are a much greater visual impact from the number of structures and the tight arrangement of the two-story buildings; a significant increase in traffic on Kilioe Place and Kamehameha Highway which will increase delays and decrease the levels of service at the intersections, requiring some form of mitigation such as a traffic signal or turn lanes; a significant increase in the demand for utilities and public services; and most of all, a significant change in the rural community character. Although consistent with the North Shore SCP, this alternative would not likely be accepted by the existing Kilioe Place residents or other Hale'iwa community members.

Multi-Family Residences (Cluster Housing Development) On Parcel 3

This alternative is similar to the preceding alternative, but development would be limited to Parcel 3. Under this alternative, the applicant considered a cluster housing concept that would construct 11 structures for 44 dwelling units. A roadway extension of minimum width would serve the new dwellings and connect to Kilioe Place. Parcel 2 would be left unchanged. This avoids the need for a State Land Use District Boundary Amendment.

The impacts associated with this alternative are similar to the preceding alternative, but to a much lesser degree. It would provide for affordable housing in the same manner as the above alternative. It would not be consistent with the North Shore SCP's Rural Residential guidelines for the same reasons as the above alternative. Visual impact would not be as significant because the dwellings would be adjacent to and behind the existing Kilioe residential subdivision and limited to 3.5 acres instead of the full 6.8 acres. Traffic on Kilioe Place, especially at the intersection of Kilioe and Kamehameha Highway would worsen; however, since the amount of vehicles would be about half as much as the prior alternative, it would not require mitigation.

Single-Family Residences On Parcel 3

The single-family residences alternative is similar to the preceding alternative in that development would be mainly located on Parcel 3. It differs in that the development would be for single-family residences instead of multi-family residences and that Parcel 2 would be used for accessory uses to Parcel 3. The accessory uses would be a private wastewater collection and treatment system and a storm water detention basin. The accessory uses would occupy about 12 percent of the land area of Parcel 2. The remaining area of Parcel 2 would be unchanged from what currently exists today. This alternative would result in a total of 25 single-family dwellings.

This alternative would be consistent with the North Shore SCP and its Rural Residential guidelines as it would provide for some affordable housing, would be "generally compatible with the predominant form and character of existing homes on adjacent properties and with the neighborhood as a whole", and would provide "five to eight units per acre". The visual impact of this alternative would be minimal because of the lower density. The traffic impact would not be significant enough to change the level of service at the Kilioe/Kamehameha Highway intersection and the increase in demand for utility and public services would be slight. The impact to the community character would be minimal since it is consistent with the existing housing form of the adjacent Kilioe Place and the nearby Kamehameha Highway and Hale'iwa Road residences. Of the alternatives considered, this would most likely be favored by community members.

Single-Family Residences On Both Parcels

This alternative is similar to the previous alternative, but creates lots on both parcels such that 29 lots and up to 35 dwellings may be built. The accessory uses would still be located on Parcel 2, but 6 residential lots and an access roadway would be added, in addition to passive park area. The impacts associated with this alternative would be very similar to those of the preceding alternative.

5.3. PREFERRED ALTERNATIVE

The alternative for single-family on both parcels is the preferred alternative based on consistency with the North Shore SCP, level of impact, feasibility, and community preference. To further blend in with the existing Kilioe Place subdivision, the applicant proposes a street wider than necessary so that it can match the width of the existing Kilioe Place. Further refinement of the alternative was to provide only improved lots and let the individual lot owners select the design, type, style, location, and orientation of their single-family dwelling. This will allow greater choices in pricing, sizes, and timing. This will also help avoid "cookie cutter" homes. Still, general design guidelines will be prescribed to ensure that the new homes will blend with the existing Kilioe residences.

6. FINDINGS AND ANTICIPATED DETERMINATION

6.1. ANTICIPATED DETERMINATION

Based on the findings of this Environmental Assessment (EA), it is anticipated that the approving agency, the City and County of Honolulu Department of Planning and Permitting, will determine that the proposed project will not have a significant environmental impact, and an Environmental Impact Statement (EIS) will not be required. Therefore, a Finding of No Significant Impact (FONSI) is anticipated.

6.2. REASONS SUPPORTING THE ANTICIPATED DETERMINATION

The Department of Health Administrative Rules Section 11-200-12 provides thirteen "Significance Criteria" for determining if an action will have a significant impact on the environment. This includes all phases of a project, its expected consequences both primary and secondary, its cumulative impact with other projects, and its short and long-term effects. According to the Rules, an action shall be determined to have a significant impact on the environment if it meets any one of the criteria listed below.

1. Involves an irrevocable commitment to loss or destruction of any natural cultural resources.

The project will not result in an irrevocable commitment to loss or destruction of any natural or cultural resources. The wetland that exists on Parcel 2 will be left undisturbed. The portions of the properties on which the residential lots and accessory uses are proposed had been disturbed through clearing, habitation, and cultivation long ago. No known historical or Native Hawaiian gathering resources currently exist, therefore there will be no impact to natural or cultural resources. As with all projects that involves sub-surface work, there is a possibility of encountering sub-surface archaeological or historical items during the construction of the project, especially during trenching for utility lines. Mitigation measures in accordance with the State

Historic Preservation Division will be in place should construction activities uncover archaeological or historic resources.

2. Curtails the range of beneficial uses of the environment.

The proposed project will not curtail the range of beneficial uses of the environment. The construction of the project will not directly impact any nearby beaches, streams, wildlife conservation areas, or environmentally sensitive areas. The jurisdictional wetland will be preserved. Use of the properties for recreation, public enjoyment, or environmental management will be increased with the addition of passive park space and a walking/jogging path around the wetland.

3. Conflicts with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS; and any revisions thereof and amendments thereto, court decisions, or executive orders.

The proposed project is consistent with the environmental policies established in HRS, Chapter 344. Use of the subject properties for commercial farming is no longer viable due to small acreage, flooding during heavy rains, soil characteristics, proximity to residences which limits certain farming activities such as spraying pesticides, a snail infestation when taro cultivation was last attempted, and land and water costs (Refer to Appendix E).

The residential use would not alter the area's existing natural processes or resources and would not lower the quality of life for Hawai'i residents. The proposed residential use is adjacent to existing residential use and located in the middle of Hale'iwa Town, which, in addition to Waialua, is a major economic and residential center for the entire North Shore region. Concentrating growth in Hale'iwa helps preserve the open and undeveloped lands of the North Shore. The proposed drainage improvements will help prevent flooding of the subject properties and nearby properties.

4. Substantially affects the economic or social welfare of the community or state.

The proposed project would contribute to both the social and economic welfare of the community and state. The new residential lots will help create more opportunities for Hale'iwa and North Shore residents to control their housing forms and costs by being able to configure their homes, own their own homes, and time construction. New options to live near working places and cut transportation needs and reduce traffic will be provided in the community. The project would not significantly affect the economic or social welfare of the community or state.

5. Substantially affects public health.

The proposed project will not substantially affect public health. As mentioned above, construction will produce some short-term impacts to air quality and noise, but these impacts are minor and will be mitigated in accordance with Department of Health regulations.

6. Involves substantial secondary impacts, such as population changes or effects on public facilities.

The proposed additional 35 dwelling units will not generate substantial secondary impacts to the community or to services. It is anticipated that the lots will be sold to local owner occupants and that the project will meet existing demand within the North Shore, especially demand for housing near employment centers. It is anticipated that the population would remain unchanged except for natural growth, decline, or change in household size. The demand on public facilities will likely remain the same.

7. Involves a substantial degradation of environmental quality.

It is not anticipated that the proposed project would further degrade overall environmental quality. Minor impacts to air quality as the result of construction will be short-term. The proposed project will fit adjacent to an existing residential and

commercial area and will not substantially change or disturb the existing natural processes of the area, except to improve drainage and ponding conditions on neighboring properties. The wetland will remain unaltered.

8. Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for larger actions.

The proposed project is individually limited, would itself have an insignificant effect on the environment, and does not involve a commitment of larger actions. Should other planned housing projects come to fruition, especially larger developments such as that proposed by Kamehameha Schools, then together the projects would have notable cumulative impacts. Still, the applicant has no control over the design, timing, funding, phasing, or marketing of other projects and therefore, cannot estimate the combined impacts of the sum of projects. The applicant's proposed project is relatively small compared to other housing plans for Hale'iwa.

9. Substantially affect a rare, threatened or endangered species or its habitat.

There are no rare, threatened, or endangered plants or animal species on the subject properties.

10. Detrimentally affects air or water quality or ambient noise levels.

As previously discussed, construction will produce temporary impacts to air quality and noise levels. These impacts are short-term and will be mitigated by using Best Management Practice in compliance with City and County of Honolulu and State of Hawaii rules and regulations regarding construction and related activities. Long-term impacts to air and water quality, and ambient noise levels will be negligible.

11. Affects or is likely to suffer damage by being located in an environmentally sensitive area, such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, freshwater, or coastal water.

The proposed project is located on properties that are within the tsunami zone, but is located 0.5 miles away from the nearest shoreline and near the edge of the tsunami zone. The properties are not beach front properties and there are many other homes along Hale'iwa Road that are nearer to the shoreline. The location of the project area furthest from the high impact area implies a lesser likelihood of damage due to a tsunami event.

The properties are located within the Special Management Area, but the proposed project is consistent with SMA regulations in that it will not directly impact beaches, recreation areas, and natural reserves, or access to the aforementioned resources. See previous section 4.1.3.

A portion of each parcel is located in a floodway area (zone AE), but the ground elevation is higher than the base flood elevation. Therefore, there is a lower probability that the proposed project would suffer damage from flooding. In addition, the proposed project would include drainage improvements that would benefit the surrounding area.

The project would not affect or be affected by beaches, erosion-prone areas, geologically hazardous land, estuaries, fresh water, or coastal waters.

A jurisdictional wetland is present on Parcel 2, but it will remain unaltered.

12. Substantially affects scenic vistas and view planes identified in county or state plans or studies.

As discussed in sections 3.10 and 4.2.2, the proposed project will not substantially affect scenic vistas and view planes identified in county or state plans or studies.

13. Requires substantial energy consumption.

The proposed project will not require substantial energy consumption compared to other residential areas.

7. CONSULTATION

The following agencies and groups were contacted during this EA process. Some have provided written comments which can be found in Appendix G.

Federal

U.S. Army Corps of Engineers

U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office

State

Department of Health – Clean Water Branch

Department of Health – Environmental Planning Office

Department of Health – Wastewater Branch

Department of Land and Natural Resources – Aquatic Resources

Department of Land and Natural Resources – Engineering Division

Department of Land and Natural Resources – Historic Preservation Division

Department of Land and Natural Resources – Land Division

Department of Land and Natural Resources – Office of Conservation & Coastal Lands

Department of Transportation

Land Use Commission

Office of Hawaiian Affairs

Office of Planning

City & County of Honolulu

Department of Environmental Services

Department of Facility Maintenance

Department of Planning and Permitting – Land Use Permits Division

Department of Planning and Permitting – Planning Division

Department of Planning and Permitting – Site Development Division

Department of Transportation Services

Honolulu Board of Water Supply

Honolulu Fire Department

Neighbors

Kilioe Place residents

North Shore Neighborhood Board No. 27

Other

Hawaiian Electric Company

References

City and County of Honolulu, Department of Planning and Permitting. May 2011. *North Shore Sustainable Communities Plan.*

City and County of Honolulu, Department of Planning and Permitting. *Land Use Ordinance (as amended).*

City and County of Honolulu, Department of Planning and Permitting. *Honolulu Land Information System,* http://gis.hicentral.com/

City and County of Honolulu, Planning Department. 1992. *General Plan for City and County of Honolulu.*

Enpro Environmental. October 2008. *Phase I Environmental Site Assessment: Haleʻiwa Hawaiʻi, TMK's: (1) 6-6-009:002 & (1) 6-6-010:003.*

Giambelluca, T.W., Q. Chen, A.G. Frazier, J.P. Price, Y.-L. Chen, P.-S. Chu, J.K. Eischeid, and D.M. Delparte, 2013: *Online Rainfall Atlas of Hawaiʻi. Bull. Amer. Meteor. Soc.* 94, 313-316, doi: 10.1175/BAMS-D-11-00228.1.

Pukui, Mary Kawena and Samuel H. Elbert. 1974. Place Names of Hawaiʻi, Honolulu: University of Hawaiʻi Press.

U.S. Department of Agriculture, Natural Resources Conservation Service, *Web Soil Survey*, http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm

APPENDICES

APPENDIX A

Flora and Fauna Resources Assessment

FLORA & FAUNA RESOURCES ASSESSMENT FOR HALE`IWA LANDS
TMK 6-6-009-002 & 6-6-010-003
HALE`IWA, OAHU, HAWAII

Prepared by:

Maya LeGrande
LeGrande Biological Surveys Inc
68-310 Kikou Street
Waialua HI 96791
&
Lindsay Young
Pacific Rim Conservation

Prepared for:

WTMC
3375 Koapaka Street
Suite F238-6
Honolulu HI 96819

September 2011

TABLE OF CONTENTS

	PAGE
INTRODUCTION	3
GENERAL SITE DESCRIPTION	3
DESCRIPTION OF WILDLIFE	3
Methods	3
Birds	3
DESCRIPTION OF VEGETATION	4
Methods	4
Vegetation	4
DISCUSSION	5
LITERATURE CITED	6
LIST OF TABLES	
Table 1. Bird Species List	7
Table 2. Plant Species List	8
Appendix: Site photographs	12

INTRODUCTION

This report includes the findings of a plant and animal inventory conducted at TMKs 6-6-009-002 & 6-6-010-003, Oahu. LeGrande Biological Surveys Inc. carried out a botanical and faunal field survey of the above location on the 9th of September 2011 for WTCM. The primary objectives of the field studies were to:

1) inventory the flora and fauna;
2) provide a general description of the vegetation on the project site;
3) search for threatened and endangered species as well as species of concern; and
4) provide recommendations regarding biological resources of the survey area.

Federal and State of Hawaii listed species status follows U.S. Fish and Wildlife (USFWS) (2008) and Federal Register (2002).

GENERAL SITE DESCRIPTION

The survey area is located on the north shore of Oahu in Haleiwa Town. The two parcels combine to a total of approximately 6.5 acres. The two parcels adjoin and are accessed along Achiu Lane. Potions of the subject property have been utilized for various agricultural uses over time and the habitat has been modified from its native state and is dominated by introduced plant and animal species. Currently, the southern section of the property is being used for equipment storage and a few structures are located on the property.

The NRCS Soil Survey delineates the majority of the 6.5-acres parcel as HeA: Haleiwa Silty Clay, 0 to 2 percent slope and a strip along the southern section of the parcel parallel to Achiu Lane as WkA: Waialua Silty Clay 0 to 3 percent slope. (NRCS,2011).

DESCRIPTION OF WILDLIFE

METHODS

Faunal surveys were conducted by walking over the proposed project area and noting all individuals of each bird species observed, as well as signs of their presence, such as footprints, droppings, egg shells, or burrows. Special attention and more time was spent in areas most likely to harbor native species. Birds were identified by sight using the naked eye and 10x binoculars, and by calls. For native species, the actual number of individuals observed is reported, for alien species only a list of species is provided.

BIRDS

A total of 10 species of alien (introduced) birds were recorded on the one-day (9 September 2011) field survey (see Table 1). None of these species are listed as endangered or threatened. One migratory shorebird species, the Pacific Golden-Plover or Kolea (*Pluvialis fulva*) was also observed on the field survey. Kolea are the most abundant migrant shorebird in Hawaii. They arrive from their subarctic breeding grounds in southwestern Alaska in August – September and depart Hawaii in the spring around the 25th of April. While in Hawaii most individuals defend foraging territories on lawns and other open habitats. One Kolea was seen in the large cleared field in the project area. This species is not endangered or threatened. They are protected by

Federal law under the Migratory Bird Treaty Act and by State law under Hawaii Administrative Rules Title 13 Chapter 124.

DESCRIPTION OF THE VEGETATION

METHODS

Prior to undertaking the field studies, a search was made of the pertinent literature to familiarize the principal investigator with other botanical studies conducted in the general area. Topographic maps were examined to determine terrain characteristics, access, boundaries, and reference points. A walk through method was used to survey all plant species. Boundaries were walked as well as transects throughout the interior sections of both parcels. Notes were made on plant associations and distribution, disturbances, topography, substrate types, exposure, drainage, etc. Plant identifications were made in the field.

VEGETATION

The survey area is completely dominated by introduced alien plants. The subject properties are characterized by alien scrub vegetation with some active clearing and grubbing of vegetation along Achiu Lane and the middle of the properties where they adjoin. There were a total of 63 plant species observed within the survey sites. All 63 species are alien (introduced) species. An inventory of all the plants observed within the survey area is presented in the species list (Table 2) at the end of the report.

<u>TMK 6-6-009-002</u>
The northern property is an overgrown Java plum (*Syzygium cuminii*)/opiuma (*Pithecellobium dulce*) forest with monkeypod (*Samanea saman*) trees and date palms (*Phoenix dactylifera*) scattered throughout. Understory species in this area include Guinea grass (*Panicum maximum*), honohono (*Commelina diffusa*), New Zealand spinach (*Tetragonia tetragonioides*), and turkeyberry (*Solanum torvum*). Outside of the survey area, to the north of the subject property, the elevation appears to drop and the area appears to have vegetation characteristic of wet marshy lands. The subject property does not include any portion of this wetland area. The higher elevation of the subject property appears to prevent surface hydric inclusions in the survey area.

<u>TMK 6-6-010-003</u>
The southern property has an access road running through the center of it from Achiu Lane. Along the access road a large bunch of bamboo is planted and the outside boundaries of the property have several trees growing including monkey pod, java plum, and opiuma. The majority of the area has had the vegetation graded and cleared recently. It appears that the land is utilized for agricultural use including planting of ornamental and food crops. There are some areas of grassy lawns with a few ornamental plantings along the margins of the lawns. Weedy species observed in the area include, swollen finger grass (*Chloris barbata*), sleeping grass (*Mimosa pudica* var. *unijuga*), *Trianthema portulacastrum*, *Sida* ciliaris, and spiny amaranth (*Amaranthus spinosa*).

DISCUSSION

The survey area has been impacted over time by human use and the biological resources have been altered from their native state. All of the plant species and the majority of animal species observed at the subject properties are introduced. Sections of the subject property are actively managed and cleared for agricultural use. The remaining areas are used for storage of equipment and a few wooden structures are located on the eastern side of the property. The northern portion of the survey area is a Java plum forest with a Guinea grass understory.

None of the plants or animals observed during the survey is a threatened or endangered species or a species of concern (U.S. Fish and Wildlife Service, 2008). The survey area has been impacted over time by agricultural and vehicular use and its biological resources have been altered from its native state. No wetlands were encountered during this survey. The three essential criteria for defining a federally recognized wetland were not present in conjunction within the study site. Those being: hydrophytic vegetation, hydric soils, and wetland hydrology.

LITERATURE CITED

American Ornithologists's Union. 2005. List of the 2,037 Bird Species (with scientific and English names) known from the A.O.U. checklist area. 55pp.

Evehuis, N.L. and L.G. Eldredge, editors. 1999-2002. Records of the Hawaii Biological Survey. Bishop Museum Occasional Papers Nos. 58-70.

Federal Register. 2002. Department of the Interior, Fish and Wildlife Service, 50 CFR 17. Endangered and Threatened Wildlife and Plants. Review of Species That Are Candidate or Proposed for Listing as Endangered or Threatened; Annual Notice of Findings on Recycled Petition; Annual Description of Progress on Listing Actions. *Federal Register*, **67** No. 14 (Thursday, June 13, 2002): 40657-40679.

Hawaii Audubon Society. 2005. Hawaii's Birds, 6th Edition, Honolulu, HI. 141 pp.

Natural Resource Conservation Service. 2011. Accessed September 17, 2011. http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Staples G. W. and D. R. Herbst. 2005. A Tropical Garden Flora: Plants cultivated in the Hawaiian Islands and other tropical places. Bishop Museum Press.

U.S. Fish and Wildlife Service. 2008. Hawaiian Islands Plants: Updated April 14, 2008 Listed and Candidate Species, as Designated under the U.S. Endangered Species Act. 21pp.

Wagner, W.L. and D.R. Herbst. 1999. Supplement to the Manual of the flowering plants of Hawaii, pp. 1855-1918. In: Wagner, W.L., D.R. Herbst, and S.H. Sohmer. 1990. Manual of the flowering plants of Hawaii. Revised Edition. 2 vols. University of Hawaii Press and Bishop Museum Press, Honolulu.

TABLE 1. BIRD SPECIES LIST

The following checklist is an inventory of the bird species observed at the subject properties during a site visit on 9 September 2011. It is likely that additional introduced bird species are present in the area and might be seen with greater survey effort. The names are arranged in generally accepted phylogenetic order and named in accordance with the American Ornithologists Union Checklist (2005) and the Hawaii Audubon Society (2005).

Status codes:
A = Alien species introduced to the Hawaiian Islands by humans, intentionally or accidentally.
I = Indigenous species native to the Hawaiian Islands and also found elsewhere in the world.
E = Endemic species found only in the Hawaiian Islands.

SCIENTIFIC NAME	**COMMON NAME**	**STATUS**
FAMILY ARDEIDAE - HERONS		
Bubulcus ibis	Cattle Egret	A
FAMILY CHARADRIIDAE - PLOVERS		
Pluvialis fulva	Pacific Golden Plover or Kolea	I
FAMILY COLUMBIDAE – PIGEONS AND DOVES		
Streptopelia chinensis	Spotted Dove	A
Geopelia striata	Zebra Dove	A
PYCNONOTIDAE - BULBULS		
Pycnonotus cafer	Red-vented Bulbul	A
STURNIDAE – STARLINGS AND MYNAS		
Acridotheres tristis	Common Myna	A
EMBERIZIDAE – GROSBEAKS, SPARROWS, BUNTINGS		
Paroaria coronata	Red-crested Cardinal	A
FRINGILLIDAE – FINCHES		
Carpodacus mexicanus	House Finch	A
Serinus mozambicus	Saffron Finch	A
ESTRILDIDAE – WAXBILLS AND MANNIKINS		
Estrilda astrild	Common Waxbill	A

TABLE 2. PLANT SPECIES LIST

The following checklist is an inventory of all the plant species observed within the two Haleiwa subject properties during a site visit on 9 September 2011. The plant names are arranged alphabetically by family and then by species into each of three groups: Pteridophytes, Monocots and Dicots. The taxonomy and nomenclature of the Ferns and Fern Allies follow Palmer (2002), flowering plants (Monocots and Dicots) are in accordance with Wagner *et al*. (1990), Wagner and Herbst (1999) and Staples and Herbst (2005). Recent name changes are those recorded in the Hawaii Biological Survey series (Evehuis and Eldredge, eds., 1999-2002).

For each species, the following name is provided:

1. Scientific name with author citation.
2. Common English and/or Hawaiian name(s), when known.
3. Biogeographic status. The following symbols are used:

A = Alien species introduced to the Hawaiian Islands by humans, intentionally or accidentally.
I = Indigenous species native to the Hawaiian Islands and also found elsewhere in the world.
E = Endemic species found only in the Hawaiian Islands.

SCIENTIFIC NAME	COMMON NAME	STATUS
PTERIDOPHYTES		
NEPHROLEPIDACEAE		
Nephrolepis brownii (Desv.) Hovemkamp & Miyam.		A
MONOCOTS		
AGAVACEAE		
Cordyline fruticosa (L.) A.Chev.	Ti, ki	A
ARACEAE		
Alocasia macrorrhizos (L.) G.Don	`ape, elephant's ear	A
Epipremnum pinnatum (L.) Engl.	taro vine, pothos	A
ARECACEAE		
Cocos nucifera L.	niu, coconut	A
Phoenix dactylifera	date palm	A
COMMELINACEAE		
Commelina diffusa Burm. f.	honohono	A

SCIENTIFIC NAME	COMMON NAME	STATUS
DIOSCORACEAE		
Dioscorea pentaphylla L.	pi`a	A
POACEAE		
Axonopus fissifolius (Raddi) Kuhlm.	narrow-leaved carpetgrass	A
Bambusa sp.	bamboo	A
Chloris barbata Sw.	swollen finger grass	A
Coix lachryma-jobi L.	Job's tears	A
Cynodon dactylon (L.) Pers	manienie	A
Dactyloctenium aegyptium (L.) Willd.	beach wiregrass	A
Digitaria insularis (L.) Mez ex Ekman	sourgrass	A
Eragrostis amabilis (L.) Wight&Arn. Ex Nees	lovegrass	A
Melinis minutiflora P.Beauv.	molasses grass	A
Panicum maximum L.	Guinea grass	A
Sacciolepis indica (L.) Chase	Glenwood grass	A
DICOTS		
ACANTHACEAE		
Asystasia gangetica (L.) T. Anderson	Chinese violet	A
AIZOACEAE		
Tetragonia tetragonioides (Pall.) Kuntze	New Zealand spinach	A
Trianthema portulacastrum L.		A
AMARANTHACEAE		
Alternanthera pungens Kunth	khaki weed	A
Amaranthus spinosus L.	spiny amaranth	A
Amaranthus viridus L.	slender amaranth	A
ANACARDIACEAE		
Mangifera indica L.	mango	A
Schinus terebinthifolius Raddi	Christmas berry	A

SCIENTIFIC NAME	COMMON NAME	STATUS
ARALIACEAE		
Schefflera actinophylla (Endl.) Harms	octopus tree, umbrella tree	A
ASTERACEAE		
Bidens alba (L.) DC. var. *radiata* (Sch. Bip.) Ballard ex Melchert	beggar tick	A
Bidens pilosa L.	Spanish needle	A
Conyza bonariensis (L.) Cronq.	hairy horseweed	A
Eclipta prostrate (L.) L.	false daisy	A
Malvastrum coromandelianum subsp. *coromandelianum* (L.) Garke	false mallow	A
Pluchea carolinensis (Jacq.) G. Don	sourbush	A
Sphagneticola trilobata (L.) Pruski	wedelia	A
Synedrella nodiflora (L.) Gaertn.	nodeweed	A
Tridax procumbens L.	coat buttons	A
BORAGINACEAE		
Heliotropium procumbens var. *depressum* (Cham.) Fosberg		A
BIGNONIACEAE		
Spathodea campanulata P.Beauv.	African tulip tree	A
CONVOLVULACEAE		
Ipomoea obscura (L.) Ker Gawl.		A
CUCURBITACEAE		
Coccinea grandis (L.) Voigt	ivy gourd	A
Momordica charantia L.	balsam pear	A
EUPHORBIACEAE		
Chamaesyce hirta (L.) Millsp.	hairy spurge, garden spurge	A
Chamaesyce prostrata (Aiton) Small		A
Ricinus communis L.	castor bean	A

SCIENTIFIC NAME	COMMON NAME	STATUS
FABACEAE		
Canavalia cathartica Thouars	maunaloa	A
Desmanthus pernambucanus (L.) Thell.	slender desmanthus	A
Indigofera hendecaphylla Jacq.	creeping indigo	A
Leucaena leucocephala (Lam.) de Wit	koa haole	A
Mimosa pudica L. var. *unijuga* (Duchass. & Walp.) Griseb.	sleeping grass, sensitive plant	A
Pithecellobium dulce (Roxb.) Benth.	opiuma	A
Samanea saman (Jacq.) Merr.	monkeypod	A
MALVACEAE		
Abutilon grandifolium (Willd.) Sweet	hairy abutilon	A
Sida ciliaris L.		A
Sidastrum micranthum (A.St.-Hil.) Fryxell	Sidastrum	A
MORACEAE		
Ficus microcarpa L.f.	Chinese banyan	A
Ficus macrophylla Desf. Ex Pers.	Moreton Bay fig	A
MYRSINACEAE		
Ardisia elliptica Thunb.	shoebutton ardisia	A
MYRTACEAE		
Syzygium cuminii (L.) Skeels	Java plum	A
NYCTAGINACEAE		
Boerhavia coccinea Mill.		A
PHYTOLACCACEAE		
Rivina humilis L.	coral berry	A
RUBIACEAE		
Morinda citrifolia L.	noni	A
SOLANACEAE		
Solanum torvum sw.	turkeyberry	A

Appendix: Site Photographs

Fig. 1. Recently graded parcel along Achiu Lane in foreground, looking southwest to Mount Kaala.

Fig.2. Overgrown Java plum/opiuma forest in the northeast corner of property with equipment storage.

Fig.3. Understory of Java plum and opiuma forest along eastern end of property.

Fig.4. Northern end of property with Guinea grass and monkey pod. Property to the north appears to be a marshy wetland area.

APPENDIX B

Wetland Delineation Report

Wetlands delineation on TMK: (1) 6-6-009: 002 and 6-6-010: 003 in Haleʻiwa, Oʻahu

December 11, 2012 *AECOS* No. 1336
rev. October 13, 2013

Susan Burr and Eric B. Guinther
AECOS, Inc.
45-939 Kamehameha Hwy, Suite 104
Kāneʻohe, Hawaiʻi 96744
Phone: (808) 234-7770 Fax: (808) 234-7775 Email: aecos@aecos.com

Introduction

Kilioe Place Properties, LLC proposes to develop 2.8 ha (6.9 ac) near the center of Haleʻiwa into "Haleʻiwa Plantation Village" (herein referred to as "the Project"). The Project will include a small residential subdivision of up to 33 lots. The subdivision will include a package wastewater treatment facility (including a gravity wastewater collection system and an underground wastewater effluent disposal system) and a stormwater detention basin. The wastewater treatment facility may also serve the adjacent neighborhood.

On October 11 and 16, 2012, *AECOS* scientists investigated potential wetlands on two parcels (TMK [1] 6-6-009: 002 and 6-6-010: 003) in Haleʻiwa on the north shore of Oʻahu (Fig. 1)[1]. The parcels (3.273 and 3.583 ac, respectively) are located north of Achiu Lane and are referred to in this report as the "Property." The survey found two wetlands, one on each parcel. A report with wetland data sheets and recorded geospatial information using a handheld global positioning system (GPS) instrument (Trimble GeoXT) for the delineation process were presented in an earlier version this report dated December 11, 2012.

On January 11, 2013, the US Army Corps of Engineers (USACE) provided comments and questions to the December 2012 report and suggested that a site visit may resolve some of their identified issues (USACE, 2013a). On April 10,

[1] This report was prepared for Pacific Catalyst LLC for uses associated with permitting. This document will become part of the public record for that permitting process.

2013, *AECOS* revised the report and scheduled a site visit with the USACE. On May 21, 2013, *AECOS* scientists conducted a field visit with USACE representatives, which evidently created more questions and resulted in a June 14, 2013 letter requesting a re-delineation of the property (USACE, 2013b). We returned to the site on July 24 and September 12, 2013 to re-delineate the property and address concerns identified by the USACE.

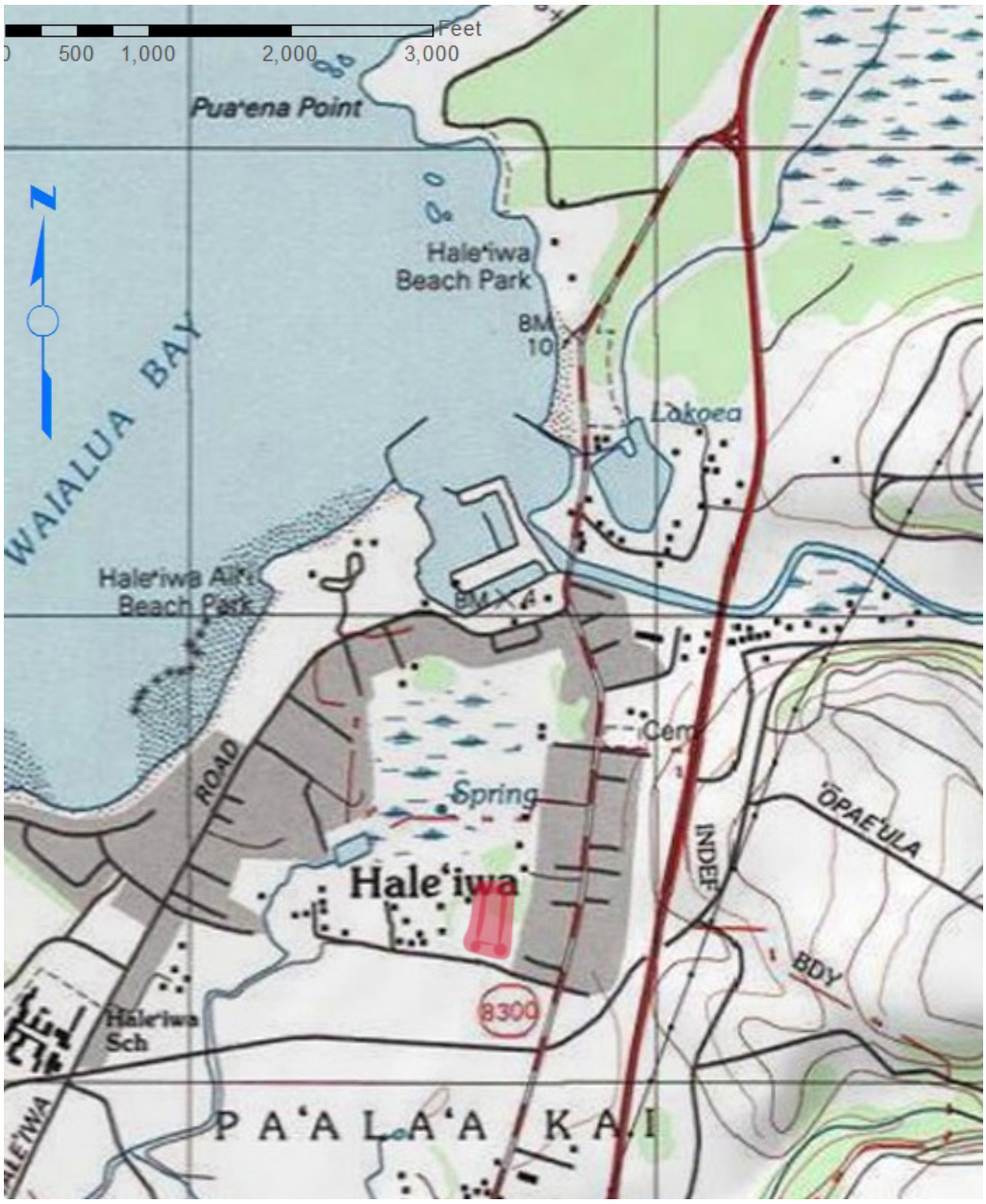


Figure 1. Location of Kilioe Place Property in Hale'iwa (area marked in red).

Site Description

An approximately 10 ha (25 ac) freshwater wetland (called "Haleʻiwa Wetland" in this report; see Fig. 1) occupies the low-lying coastal plain between residential and commercial developments along Kamehameha Highway and Haleiwa Road south of Haleʻiwa Small Boat Harbor. The wetland is fed by springs emerging from the limestone bedrock and was more extensive in the past, prior to efforts to control flooding by channelizing waterways, dredging, and filling areas in and around the wetland.

The National Wetland Inventory (NWI; USFWS, 1984) map of the area codes Haleʻiwa Wetland as mostly a palustrine wetland with emergent vegetation and broad-leaved evergreen scrub-shrub vegetation/seasonally flooded (PEM1/SS3C). The NWI map depicts the southern edge of the wetland to be north of the subject Property (see Fig. 2). Two other wetlands, not connected to the Haleʻiwa Wetland and probably representing old pond fields, are depicted to be on the 6-6-010:003 parcel and coded in the NWI as artificially flooded (diked/impounded) wetlands with emergent vegetation (PEM1Kh). Along the south side of Achiu Road is a ditch incorrectly coded in the NWI as a semipermanently flooded, perennial, excavated stream with an unconsolidated bottom (R2UBFx). It is an infrequently flooded, agriculture field drainage ditch.

NWI aquatic features are not necessarily jurisdictional or wetlands and many are misidentified. The NWI is, therefore, a helpful guide, but does not determine jurisdictional status (or even wetland presence).

Methods

After visiting the Project parcels on October 11, 2012, *AECOS* wetland scientists settled on four potential wetland areas, and these were designated "A", "B", "C", and "D" (Fig. 2) and are described in Results below. Our field investigation followed methods of wetland delineation described in *Corps of Engineers Wetland Delineation Manual* ("Manual"; USACE, 1987) and *Regional Supplement* (USACE, 2012a). The wetland status of plant species follows the 2012 National Wetland Plant List (USACE, 2012b).

Figure 2. Overlay on satellite image of subject parcels and the USFWS NWI features and codes. Letters A-D correspond to areas of potential wetlands explored in the field survey.

To comply with the methods prescribed in the Manual to delineate properties greater than 5 acres (USACE, 1987), during our return visits on July 24 and

September 12, 2013, we established a 180-m (600-ft) baseline along the northern edge of the property—perpendicular to the hydrologic gradient of Hale'iwa Wetland. We established three transects perpendicular to this baseline, located such that the transects encompassed all plant community types (grassland, mixed forest, and disturbed). We established additional sampling points to ensure that each plant community contained at least one sampling point (either from October 2012 or July/September 2013; Fig. 3).

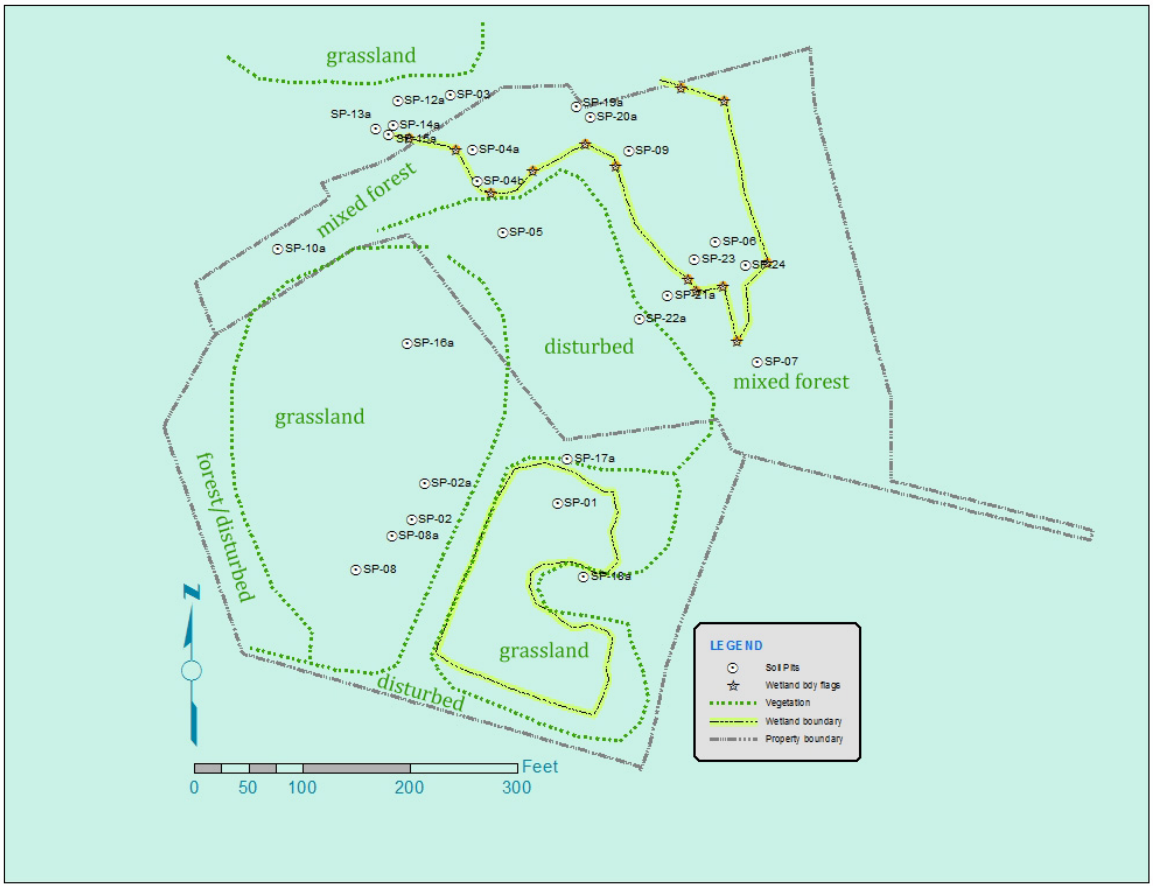


Figure 3. Plant community types in which transects were established on July 24, 2013 in accordance with delineation methods for areas greater than 5 acres (USACE, 1987).

The boundary of the wetland on TMK 6-6-009:002 (Area C wetland) was flagged in the field in October 2012. Under ordinary circumstances, establishment of a jurisdictional wetland requires three positive wetland indicators, one each for

hydrology, soils, and vegetation. The boundary between wetland and upland is established as a line outside of which at least one of the three indicators is not present. In practical terms, this boundary is a judgment call, and is based on establishing clear differences for both sides and then selecting a boundary that represents the sharpest line that can be drawn through what is typically a gradient in nature. *AECOS* scientists walked the boundary of the wetland in October 2012 and recorded it with the handheld GNSS unit (Trimble GeoXH). This boundary was confirmed (with the exception of the northern boundary) by data collected at additional sampling points established in July and September 2013, which included sampling points in accordance to procedures described in Section 20f of the Manual (USACE, 1987). The boundary of the wetland on TMK 6-6-010:003 (Area A wetland) was recorded with the handheld GPS unit (Trimble Geo-XT) while walking the boundary. GPS data were differentially corrected and mapped using GPS Pathfinder and ArcView 10 software.

Results

Area A - Area A is a former *loʻi kalo* (taro pondfield). When *kalo* was actively cultivated in this field, hydrology in the area was radically different and water likely was supplied by an *auwai* that no longer exists (Archaeological Consultants of the Pacific. 2011). In recent years, this field has been used to grow upland crops, but it has not been farmed for at least 5 years (Plasch Econ Pacific, 2012). The satellite image in Fig. 2 shows this old pondfield divided into what appear to be two upland agriculture fields. LeGrand and Young (2011, p. 4) reported this area to be used for growing "ornamental and food crops" and elsewhere (p. 5) as there being "no wetlands" present on either parcel. This conclusion seemed warranted at the time by the fact that the feature was recently graded and lacked vegetation (LeGrand and Young, 2011, Fig. 2). A similar description is provided by Archaeological Consultants of the Pacific, Inc. (2011). However, our investigation of the soils, hydrology, and vegetation indicate that most of the former pondfield is a wetland, largely due to a high water table. An area of fill extends inward from the east side as a road off Kilioe Place.

The vegetation in Area A is dominated by para grass (*Urochloa mutica*), though a grove of *ʻopiuma* (*Pithecellobium dulce*) is present on the fill area. The soil was saturated in Area A during our site visit in October (Fig. 4) and oxidized rhizospheres were prominent in the upper layer. Our soils investigation confirmed the mapped soil type (Foote, et al., 1972) of Haleiwa silty clay, which is on the local list of hydric soils. The Area A wetland is considered groundwater-driven/fresh/depression/mineral substrate palustrine wetland

using the Hawaiʻi wetland analysis protocol proposed in Erickson & Puttock (2006).

Figure 4. Close-up photograph of soil pit SP-01 in Area A, showing saturation within the upper 23 cm (9 in).

AREA B - Area B is also a former *loʻi kalo* that once had a similar water regime as described for Area A. As with Area A, in recent years, this field has been used to grow upland crops, but has not been farmed for at least 5 years (Plasch Econ Pacific, 2012). The field is no longer artificially flooded and hydric vegetation no longer dominates most of the area. Bermuda grass (*Cynodon dactylon*) dominates the mowed portions of the field (in 2012), Guinea grass (*Panicum maximum*) dominates the un-mowed northern part of the field, and para grass dominates an un-mowed southern part (as shown in Fig. 5). Our return visit in July 2013 found Guinea grass to be dominating the entire northern area.

Figure 5. Photo looking at southern part of Area B with unmowed para grass.

Because the field is no longer flooded and the water table here is deep (greater than 61 cm or 24 in as measured in October 2012), only remnant indicators of wetland hydrology and hydric soils (e.g., oxidized rhizospheres and gleyed matrix) are present, and are not distinct enough for the area to be considered wetland (Fig. 6). Despite the differences in vegetation, investigation of the soil in the part of the field dominated by para grass revealed conditions and hydrological features the same as in the part dominated by Bermuda grass and Guinea grass.

Figure 6. Close-up photograph of soil pit SP-02 in Area B, showing no saturation within the upper 41 cm (16 in).

AREA C - Area C has a dense overstory of Java plum (*Syzgium cuminii*) and date palms (*Phoenix dacylifera*) and a thin understory (due to shading) of saplings of the same trees and Guinea grass. From west to east, Area C transitions from the Hale'iwa Wetland—recognizable by a predominance of herbaceous wetland vegetation such as Job's tears (*Coix lacryma-jobi*) and para grass—into an area dominated by fill and supporting mostly Java plum. Shallow, standing water is present in a few places in the middle of this area.

Our soils investigation confirmed the mapped soil type of Haleiwa silty clay, which is on the local list of hydric soils. A mucky mineral soil lay on the surface and a depleted matrix was evident at depths below the shallow water table (Fig. 7).

Figure 7. Close-up photograph of Area C soil pit SP-09, showing a dark mucky mineral soil that is increasingly gleyed with depth.

The Area C wetland is considered a groundwater-driven/fresh/depression/ mineral substrate wetland according to the Hawaiʻi wetland analysis protocol proposed in Erickson & Puttock (2006). The southern boundary of the wetland in Area C is defined by the presence of fill, as hydric soils indicators are present, but at depths too deep to be still considered a wetland (Fig. 8).

Figure 8. Wetland soils present below a layer of fill 28 cm (11 in) or greater observed in a trench recently dug adjacent to a house south of Area C.

AREA D - Area D is an unlined, excavated ditch that drains agricultural fields to the south (Fig. 9). The ditch is not represented on USGS topo maps (USGS, 1983), but may eventually drain to Paukauila Stream. No connection to Area D from areas A or Area B could be found (being separated by levees and Achiu Lane; Fig. 9). An easement on Area A indicates storm water runoff discharged from a 24-in energy-dissipating drainage outlet at Kilioe Place crosses Area A and sheetflows across Achiu Lane into the drainage ditch (Pacific Catalyst, 2012). The landowner reports the drainage ditch fills with storm water runoff approximately one time per year.

Figure 9. Area D is an excavated field ditch that lies across Achiu Lane from the subject Property.

Wetland Delineation

Under ordinary circumstances, establishing that a jurisdictional wetland is present requires the presence of positive wetland indicators for hydrology, soils, and vegetation. Indicators for all three must be present. The boundary between wetland and upland is established as a line outside of which one or more of the three indicators does not pertain. In practical terms, this boundary is a judgment call based on establishing clear differences for both wetland and upland and then selecting a boundary that represents the sharpest line that can be drawn through what is typically a gradient in nature. Ten soil sampling stations (SP) and three observation points (OP) were established in the field in October 2012, and a "line" marked in the field with stake wire flags, to delineate a boundary between stations determined to be inside the wetland and stations determined to be outside the wetland (Fig. 10). This line (except the northern

Figure 10. Wetland delineation map for TMK: 6-6-009:002 and TMK: 6-6-010: 003.

boundary) was confirmed by 8 of the additional 15 sampling stations established in July 2013.

Attachment 1 presents wetland data sheets and Attachment 2 presents photos taken from the sampling points and investigated areas.

Hydrology

Shallow groundwater is responsible for wetland hydrology at the Project site. The wetland was investigated and surveyed at the end of the dry season, so Group A primary wetland hydrology indicators (USACE, 2012a), such as high water table and saturation in the upper 30 cm (12 in), were not always present at investigated locations, even where considered to be inside the wetland boundary. The most common evidence of wetland hydrology, and in most instances, the *only* evidence of wetland hydrology, was oxidized rhizospheres along living root channels (Group C), providing evidence of current or recent soil saturation. This wetland hydrology indicator was also present at investigated locations outside of the wetland boundary, where wetland vegetation was not present (e.g., SP-05) or oxidized rhizospheres were present, but not prominent or dense enough to be indicative of wetland conditions (e.g., SP-08).

Soil

The soil survey for Oʻahu (Foote, et. al., 1972; NRCS, 2012a; see Fig. 11) maps most of the Property as Haleiwa silty clay (HeA). The southern end of the property, adjacent to Achiu Lane, is Waialua silty clay. Haleiwa silty clays formed in alluvium and are found on alluvial fans and in drainageways across the coastal plains. The drainage class of Haleiwa silty clay is well drained. Haleiwa silty clay is listed on the Hawaiʻi hydric soil list (NRCS, 2012b). Waialua silty clays also formed in alluvium; these soils are found on fans and on slopes of 0 to 30 percent. The drainage class of Waialua silty clay is moderately well drained. Waialua silty clay is not listed on the Hawaiʻi hydric soil list.

We established 13 sampling points on October 11 and 16, 2012 and an additional 15 points on July 24 and September 12, 2013 on the Property (see Fig. 10). Soils within Area C wetland (TMK: 6-6-009: 002, see SP-09) demonstrate Indicator F6: Redox Dark Surface. The upper layer is a dark mucky mineral soil that is underlain by a dark mineral layer with distinct and prominent redox concentrations. Beneath this layer, the matrix becomes depleted or gleyed. The southern boundary of the wetland here is largely demarcated by the presence of a layer of non-hydric soil 30 cm (12 in) or more

thick (e.g., at SP-05 and OP-B). In some places, for example, adjacent to the existing house, wetland soils exhibiting characteristics described above for SP-09 are present, though below a thick layer of fill (see Fig. 8). The edge of fill to the southeast in Area C is around SP-07.

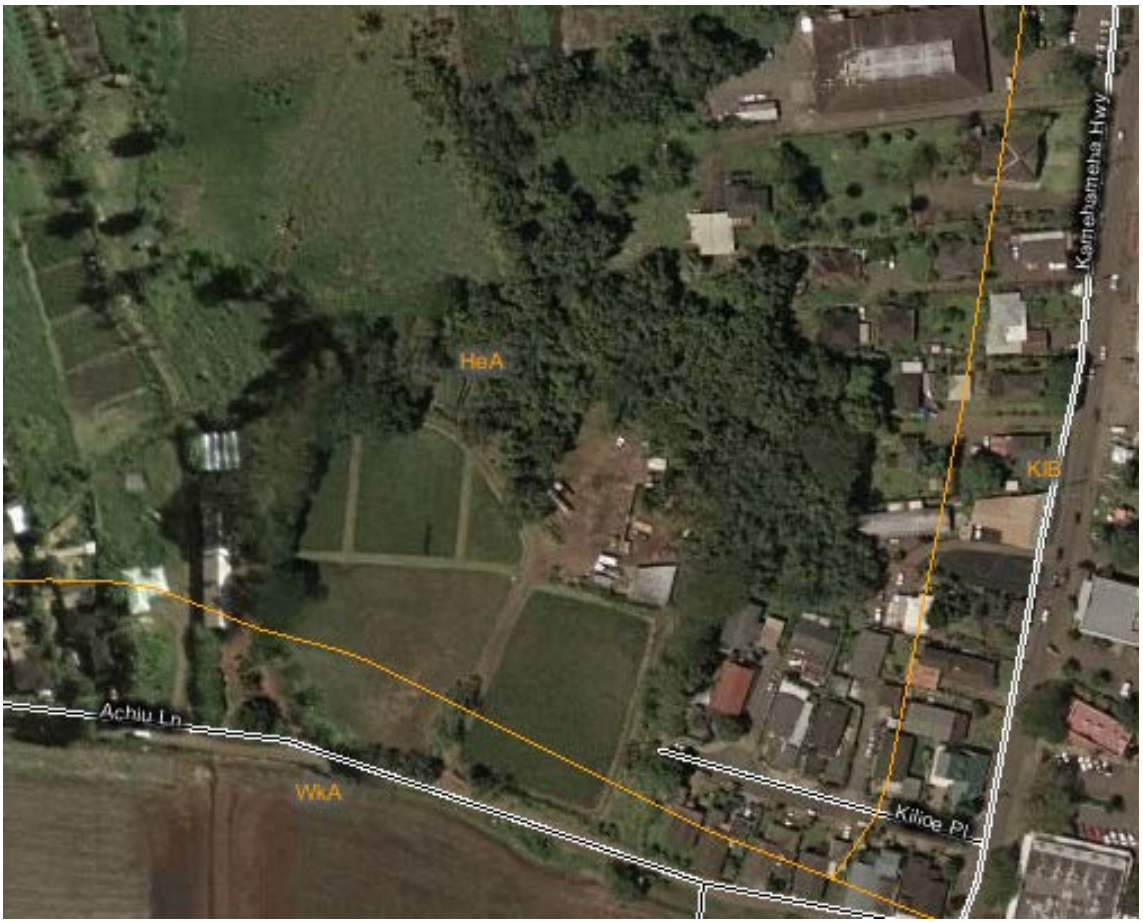


Figure 11. Soil map of Hale'iwa near Kilioe Place (from NRCS, 2012a). Majority of the property is mapped as Haleiwa silty clay (HeA). The southern portion of the property is mapped as Waialua silty clay (WkA).

The soil in Area A wetland is still clearly hydric, as prominent redox concentrations are abundant. The soil in Area B appears to have been hydric in the past, though the water table is too deep and perhaps the field no longer floods, so the iron in the soil is no longer reduced and oxidized and translocating along roots. Relicts of iron reduction, translocation, and accumulation are present (i.e., SP-02 and SP-08), but not to the extent required for the soil to be considered hydric.

Vegetation

A list of plant species observed in the area is presented in Table 1. The October 2012 survey was not intended as a botanical survey of the Property (see LeGrand and Young, 2011) so the list only includes those species of plants noted at sampling points and other places incidental to the wetland delineation. Wetland indicator status for each species (USACE, 2012b) is given in the far right column. Species not listed on the National Wetland Plant List (USACE, 2012b) are considered upland plants (UPL).

Table 1. Listing of plants (flora) observed on October 11 and 16, 2012 as part of the wetland delineation process.

Species listed by family	Common name	Status	Abundance	WL STATUS
FLOWERING PLANTS				
DICOTYLEDONES				
FABACEAE				
Albizia saman F. Muell	monkeypod	Nat	O	UPL
Pithecellobium dulce (Roxb.) Benth.	*'opiuma*	Nat	C	**FAC**
MYRTACEAE				
Syzygium cumini (L.) Skeels	Java plum	Nat	AA	**FAC**
MONOCOTYLEDONES				
ARECACEAE				
Phoenix dactylifera L.	date palm	Nat	C	UPL
COMMELINACEAE				
Commelina diffusa N. L. Burm.	*honohono*	Pol	U	**FACW**
POACEAE				
Coix lachryma-jobi L.	Job's tears	Nat	U	**FACW**
Cynodon dactylon (L.) Pers.	Bermuda grass	Nat	O	FACU
Panicum maximum Jacq.	Guinea grass	Nat	A	UPL
Urochloa mutica (Forssk.) Nguyen	para grass	Nat	AA	**FACW**

Legend to Table 1

STATUS = distributional status for the Hawaiian Islands:
- **Ind** = indigenous; native to Hawaii, but not unique to the Hawaiian Islands.
- Nat = naturalized, exotic, plant introduced to the Hawaiian Islands since the arrival of Cook Expedition in 1778, and well-established outside of cultivation.
- Pol = Present before 1778; probably an early Polynesian introduction.

ABUNDANCE = occurrence ratings for plants by area:
- R – Rare seen in only one or perhaps two locations.
- U - Uncommon seen at most in several locations

Table 1 (continued).

O - Occasional seen with some regularity
C - Common observed numerous times during the survey
A - Abundant found in large numbers; may be locally dominant (AA).
WETLAND STATUS: after USACE (2012b).
OBL – An obligate wetland species occurring >99% of the time in wetlands.
FACW – A facultative wetland species occurring 67-99% of the time in a wetland.
FAC – A facultative species occurring 34-66% of the time in a wetland.
FACU – A facultative upland species occurring 1 to 33% of the time in wetlands.
UPL – An upland species occurring generally less than 1% of the time in wetlands.

Area A and the southern part of Area B are moderately dense stands of para grass (*Urochloa mutica*). *'Opiuma* (*Pithecellobium dulce*) is invading across fill placed for a road in Area A and Guinea grass (*Panicum maximum*; syn: *Megathyrsus maximums*) dominates the northern part of Area B.

The Hale'iwa Wetland vegetation along the northern edge of the Property, consists of emergent herbs such as para grass and Job's tears (*Coix lacryma-jobi*). The vegetation in Area C wetland is not clearly wetland or upland vegetation. Java plum (*Syzgium cumini*) is dominant in the wetland, but in upland areas, Phoenix palm (*Phoenix dactylifera*) becomes common. In areas where Java plum trees are less common and sunlight is able to reach the forest floor, Guinea grass tends to dominate. Outside the wetland boundary occur monkeypod trees.

Conclusions

As determined from investigations made at the sampling locations, the delineated boundaries of the wetlands are as shown in Fig. 10: Area A and Area C contain wetlands, and Area B is not a wetland. Boundary marker flags were placed in the field for the wetland in Area C (Fig. 10). The boundary for the wetland in Area A was walked with the GPS unit.

The Area A wetland (0.541 acre) and Area C wetland (0.69 acre, but part of the larger Hale'iwa Wetland off property to the north) are considered groundwater-driven/fresh/depression/mineral substrate wetlands according to the Hawai'i wetland analysis protocol proposed in Erickson & Puttock (2006). Using the Cowardin classification system (Cowardin et al., 1979), Area A wetland is an emergent vegetation, persistent palustrine (PEM1) wetland and Area C wetland is a broad-leaved evergreen forested, seasonally flooded palustrine (PFO3C) wetland. Area B used to be an artificially flooded (diked/impounded) emergent vegetation (PEM1Kh) wetland.

The soils of the two wetland areas are primarily Haleiwa silty clay, a hydric soil on the local list. The presence of oxidized rhizospheres along living roots is the most prevalent indicator of wetland hydrology. Area A is vegetated almost exclusively with para grass (*Urochloa mutica*), a facultative wetland plant found in wetlands 66 to 99 percent of the time. Java plum (*Syzgium cumini*) dominates Area C and shades the forest floor to such a degree that other wetland indicator plants are rare. Area C wetland is connected to the larger Hale'iwa Wetland to the north.

Area A wetland is isolated; not connected to waters of the U.S. and therefore not jurisdictional. Area B is also isolated, but not a wetland. The wetland status of Area D was not investigated (it is off the Property), except to determine whether a connection exists with areas A and/or B. A joint memorandum (EPA/ACOE, 2007) addresses jurisdictional issue in light of recent Supreme Court decisions (e.g., *Rapanos vs. United States*). While the relevant federal agencies under the Clean Water Act (EPA and ACOE) will assert jurisdiction over wetlands that directly abut more or less permanently flowing tributaries, and may assert jurisdiction over waters and "wetlands adjacent to non-navigable tributaries that are not relatively permanent", the agencies "generally will not assert jurisdiction over… [d]itches … excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water" (EPA/ACOE, 2007, p. 1). Area D fits the characterization of a ditch excavated in and draining agricultural fields which is nearly always dry as attested to by the vegetation.

Area C wetland is part of the larger Hale'iwa wetland, which, prior to development, was likely hydrologically connected to either or both Paukauila Stream and 'Anahulu River (and Kaiaka Bay and Waialua Bay respectively), but may be an isolated wetland today.

Section 404(b)(1) of the Clean Water Act provides guidelines to limit adverse impact to aquatic resources and a Mitigation Memorandum of Agreement (MOA) between the ACOE and the U.S. Environmental Protection Agency provides guidance for implementing the 404(b)(1) guidelines (USACE and USEPA, 1990). The Mitigation MOA requires the following sequence to be used in evaluating proposed projects:

1. determination that potential impacts have been **avoided** to the maximum extent practicable;
2. remaining unavoidable impacts then will be mitigated to the extent appropriate and practicable by requiring steps to **minimize** impacts
3. and, finally, **compensate** for aquatic resource values.

Appropriate and practicable steps to minimize the adverse impacts will be required through project modifications and permit conditions. Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts that remain after all appropriate and practicable minimization has been required.

According to the U.S. Army Corps of Engineers Honolulu District Compensatory Mitigation and Monitoring Guidelines (USACE, 2005), until a functional loss and value methodology is developed for wetlands in Hawaiʻi, compensatory mitigation in the Honolulu District will be based on a acreage calculation with a typical requirement of, at a minimum, one replacement acre for every one acre of waters of the U.S. lost. Mitigation proposals may include on-site mitigation, off-site mitigation, or some combination of both. The mitigation site should be adjacent to or contiguous with the impact site when practicable in order to preserve locally important functions such as local flood control or a specific, unique wildlife habitat. Off-site mitigation should occur when on-site mitigation is not practicable, or when an off-site mitigation project would provide a greater environmental benefit within the watershed than on-site. Types of acceptable mitigation projects include preservation, enhancement, restoration, creation, or a combination of any of these. Monitoring, research, and education may be a component of mitigation, but are not, by themselves, sufficient as mitigation.

References

Archaeological Consultants of the Pacific, Inc. 2011. An archaeological assessment report for two parcels located at TMK: (1) 6-6-009: 002 and (1) 6-6-010: 003, in Paʻalaʻa/Kawailoa ahupuaʻa, Waialua District, Island of Oʻahu. Prep. for S. Wallace, c/o Wallace Theaters Management Corp. 72 pp.

Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service. 131 pp.

Erickson, T. A., and C. F. Puttock. 2006. *Hawai'i wetland field guide*. Bess Press Books, Honolulu. 294 pp.

Foote, D. E., E. L. Hill, S. Nakamura, and F. Stephens. 1972. *Soil Survey of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii.* Soil Conservation Service, U.S. Department of Agriculture, and University of Hawaii Agriculture Experimental Station. 230 pp.

LeGrand, M. and L. Young. 2011. Flora & fauna resources assessment for Haleʻiwa lands, TMK 6-6-009-002 & 6-6-010-003, Haleʻiwa, Oahu, Hawaii. Prep. for WTMC, Honolulu. 15 pp.

Natural Resources Conservation Service (NRCS), United States Department of Agriculture. 2012a. National Hydric Soils List by State. Available online at URL: http://soils.usda.gov/use/hydricl; last accessed on November 14, 2012.

Natural Resources Conservation Service (NRCS), United States Department of Agriculture. 2012b. Web Soil Survey 2.3. Available online at URL: http://websoilsurvey.nrcs.usda.gov/; last accessed on November 14, 2012.

Pacific Catalyst, LLC. 2012. Application for zone change and state land use redistricting: supporting information report, TMK: 6-6-009:002 & 6-6-010:003, Haleʻiwa Town, Hawaiʻi. 97 pp.

Plasch Econ Pacific LLC. 2012. Kilioe Place/Achiu Lane subdivision: impacts on agriculture. Prep. for: Kilioe Place Properties, LLC. 20 pp.

U.S. Army Corps of Engineers (USACE). 1987. *Corps of Engineers Wetlands Delineation Manual*. Tech. Rept. Y-87-1. Environmental Laboratory, Dept. of the Army, Waterways Experiment Station, Vicksberg.

U.S. Army Corps of Engineers (USACE). 2012a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Hawaiʻi and Pacific Islands Region Version 2.0,* ed. J. F. Berkowitz, J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-12-5. U.S. Army Engineer Research and Development Center. Vicksberg, MS. 130 pp incl. appendices.

_____. 2012b. Part II. Department of Defense. Department of the Army, Corps of Engineers. 77 CFR 90. Publication of the Final National Wetland Plant List. *Federal Register*, 77 (90; May 9, 2012): 27210-27214.

_____. 2103a. Letter to *AECOS*, Inc. dated January 11, 2013. File No. POH-2013-00016.

_____. 2103b. Letter to *AECOS*, Inc. dated June 11, 2013. File No. POH-2013-00016.

U.S. Environmental Protection Agency and U.S. Army Corps of Engineers (EPA/ACOE). 2007. Appendix A. Memorandum Re: Clean Water Act Jurisdiction following the U.S. Supreme Court's Decision in *Rapanos v.*

United States & Carabell v. United States. B. J. Grumblers, U.S. EPA and J. P. Woodley, Jr., Dept. of the Army. July 5, 2007. 12 p.

U.S. Fish and Wildlife Service (USFWS). 1984. National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Available online at URL: http://www.fws.gov/wetlands/Data/Mapper.html; last accessed on November 19, 2012.

Attachment 1

Wetland data sheets

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: October 11, 2012 Time: 0940

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP-01, Area A, Transect 2 (grassland)**

Investigator(s): Eric Guinther and Susan Burr TMK/Parcel: 6-6-010:00 3

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): slightly concave

Lat: 21˚35.185' N Long: 158˚ 06.294'W Datum: NAD 83 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: PEM1KH

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No ___ (If no, explain in Remarks)

Are Vegetation No†, Soil Yes‡, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes ___ No X

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___	
Hydric Soil Present?	Yes X	No ___	**Is the Sampled Area**
Wetland Hydrology Present?	Yes X	No ___	**within a Wetland? Yes X No ___**

Remarks: PEM1KH=palustrine, emergent, persistent, semipermanently flooded, artificially flooded, diked/impounded. †Area has been cleared in the past for agriculture, but vegetation appears not to have been cleared for at least one year. ‡ Soil was tilled for agriculture over 5 years ago.

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m²)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m²)			
1. *Pithecellobium dulce*	<5	No	FAC
2.			
3.			
4.			
5.			
	<5 =Total Cover		
Herb Stratum (Plot size: 5 m²)			
1. *Urochloa mutica*	85	Yes	FACW
2. *Crotalaria incana*	5	No	UPL
3. *Macroptilium atropurpureum*	1	No	FAC
4. *Indigofera hendecaphylla*	1	No	FAC
5.			
6.			
7.			
8.			
	92 =Total Cover		
Woody Vine Stratum (Plot size: 5 m²)			
1. None			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ___ (A)

Total Number of Dominant Species Across All Strata: ___ **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: ___ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ___	x1= ___
FACW species ___	x2= ___
FAC species ___	x3= ___
FACU species ___	x4= ___
UPL species ___	x5= ___
Column Totals: ___ (A)	___ (B)

Prevalence Index = B/A= ___

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks
Pithecellobium dulce is invading field to the south; a stand of large trees is located to the south at a higher elevation and saplings are scattered throughout the field.

SOIL

Sampling Point: SP-01, Area A, Transect 2 (grassland)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 23	10YR 3/2	90	2.5YR 3/6	5	C	PL & M	silty clay loam	Prominent concentrations
			10YR 2/1	5	RM	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X **No** ___

Remarks:
‡ The NRCS soil survey maps the soil in the area as Haleiwa silty clay, a hydric soil. This soil profile confirms mapped soil type.

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- X Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes X No_____ Depth (inches): 21

Saturation Present? (includes capillary fringe) Yes X No_____ Depth (inches): 9

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site reported to have been used for wet farming in pre-European and historical periods (including recent taro farming), potentially through a system of *‘auwai* and dikes. No evidence of surface water-driven wetland hydrology remains other than occasional flooding . Site reported to flood once a year during heavy rains.

SP-01 located near lowest point in field.

The Hale‘iwa wetland to the north is a ground water-driven wetland.

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: October 11, 2012 Time: 1045

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP-02, Area B, Transect 1 (grassland)**

Investigator(s): Eric Guinther and Susan Burr TMK/Parcel: 6-6-010:003

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): none

Lat: 21˚35.183' N Long: 158˚ 06.320'W Datum: NAD 83 Slope (%): 0

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: PEM1KH

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No ___ (If no, explain in Remarks)

Are Vegetation Yes†, Soil Yes‡, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes ___ No X

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___	
Hydric Soil Present?	Yes X	No ___	**Is the Sampled Area**
Wetland Hydrology Present?	Yes ___	No X	**within a Wetland? Yes ___ No X**

Remarks: PEM1KH=palustrine, emergent, persistent, semipermanently flooded, artificially flooded, diked/impounded

† Area has been cleared in the past for agriculture. Vegetation was recently mowed. ‡ Soil was tilled for agriculture over 5 years ago.

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m^2)			
1. *Leucaena leucocephala*	<5	No	UPL
2.			
3.			
4.			
5.			
	<5 =Total Cover		
Herb Stratum (Plot size: 5 m^2)			
1. *Cynodon dactylon*	78	Yes	FACU
2. *Megathyrsus maximus*	8	No	FAC
3. *Indigofera hendecaphylla*	7	No	FAC
4. *Crotalaria incana*	<1	No	UPL
5. *Macroptilium atropurpureum*	<1	No	FAC
6. *Verbena litoralis*	<1	No	FACU
7. *Euphorbia hypericifolia*	<1	No	UPL
8. *Canavalia cathartica*	<1	No	FACU
	<98 =Total Cover		
Woody Vine Stratum (Plot size: 5 m^2)			
1.			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x1=
FACW species		x2=
FAC species	15.5	x3= 46.5
FACU species	79	x4= 316
UPL species	1	x5= 5
Column Totals:	95.5 (A)	367.5 (B)

Prevalence Index = B/A= 3.8

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

X Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X† No ___

Remarks: Vegetation was identified by examining new growth and undisturbed flowers.
†Field was recently mowed. Unmowed patch to the south contains nearly 100% cover of *Urochloa mutica* (See SP-08). Field to the north contains nearly 100% cover of *Megathyrsus maximus*. Either of those scenarios results in hydrophytic vegetation being present.

SOIL

Sampling Point: SP-02, Area B, Transect 1 (grassland)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 16	10YR 3/4	98	10YR 3/6	<1	C	PL & M	clay loam	Distinct concentrations
			10YR 2/1	<1	RM	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** **X‡** **No**_____

Remarks:

Not enough distinct redox concentrations to be considered hydric.

‡The NRCS soil survey maps the soil as Haleiwa silty clay, a hydric soil. According to Section 5(2) of the Regional Supplement, we assume that, if undisturbed, this soil would by hydric.

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No___X___ Depth (inches):_____

Water Table Present? Yes_____ No___X___ Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No___X___ Depth (inches):_____

Wetland Hydrology Present? **Yes**_____ **No**___**X**___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site reported to have been used for wet farming in pre-European and historical periods, including recent taro farming, potentially through a system of *‘auwai* and dikes. Site reported to flood once a year during heavy rains. No evidence of surface water-driven wetland hydrology remains other than occasional flooding .

The Hale‘iwa wetland to the north is a ground water-driven wetland. On July 24, SP-02a was dug to 24 in and wetland hydrology was still not apparent (See Form SP-02a).

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: July 24, 2013 Time: 1730

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP-02a, Area B, Transect 1 (grassland)**

Investigator(s): Susan Burr and Chad Linebaugh TMK/Parcel: 6-6-010:003

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): none

Lat: 21˚ 35' 11.14195" N Long: 158˚ 06' 19.06004" W Datum: WGS 1984 Slope (%): 0

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: PEM1KH

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No (If no, explain in Remarks)

Are Vegetation No†, Soil Yes‡, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No X

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No
Hydric Soil Present?	Yes X	No
Wetland Hydrology Present?	Yes	No X

Is the Sampled Area within a Wetland? Yes____ No X

Remarks: PEM1KH=palustrine, emergent, persistent, semipermanently flooded, artificially flooded, diked/impounded. †Area has been cleared in the past for agriculture, but vegetation appears not to have been cleared since before October 2012. ‡ Soil was tilled for agriculture over 5 years ago.

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m²)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m²)			
1. *Leucaena leucocephala*	<5	No	UPL
2.			
3.			
4.			
5.			
	<5 =Total Cover		
Herb Stratum (Plot size: 5 m²)			
1. *Megathyrsus maximus*	90	Yes	FAC
2. *Indigofera hendecaphylla*	7	No	FAC
3. *Macroptilium atropurpureum*	5	No	FAC
4. *Crotalaria incana*	2	No	UPL
5. *Canavalia cathartica*	<1	No	FACU
6.			
7.			
	<105 =Total Cover		
Woody Vine Stratum (Plot size: 5 m²)			
1. None			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x1=
FACW species	x2=
FAC species	x3=
FACU species	x4=
UPL species	x5=
Column Totals: (A)	(B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks

SOIL

Sampling Point: SP-02a, Area B, Transect 1 (grassland)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 – 24	10YR 3/4	98	10YR 3/6	<1	C	PL & M	clay loam	Distinct concentrations
			10YR 2/1	<1	RM	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X‡ **No**_____

Remarks:

Not enough distinct redox concentrations to be considered hydric.
‡The NRCS soil survey maps the soil as Haleiwa silty clay, a hydric soil. According to Section 5(2) of the Regional Supplement, we assume that, if undisturbed, this soil would by hydric.

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes_____ No X Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No X Depth (inches):_____

Wetland Hydrology Present? **Yes**_____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site reported to have been used for wet farming in pre-European and historical periods, including recent taro farming, potentially through a system of *‘auwai* and dikes. Site reported to flood once a year during heavy rains. No evidence of surface water-driven wetland hydrology remains other than occasional flooding .

The Hale‘iwa wetland to the north is a ground water-driven wetland.

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: October 11, 2012 Time: 1110

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP-03, Area C, Transect 2 (mixed forest)**

Investigator(s): Eric Guinther and Susan Burr TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): concave

Lat: 21˚35.245' N Long: 158˚ 06.314'W Datum: NAD 83 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland, but PEM1/SS3C located immediately north

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No _____ (If no, explain in Remarks)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	
Hydric Soil Present?	Yes X	No _____	**Is the Sampled Area**
Wetland Hydrology Present?	Yes X	No _____	**within a Wetland? Yes X No _____**

Remarks: PEM1/SS3C=palustrine, emergent, persistent,/palustrine, scrub-shrub, broad-leaved evergreen, seasonally flooded
*Sampling point is located to the northeast of property boundary.

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Syzygium cumini*	1	No	FAC
2.			
3.			
4.			
5.			
	1 =Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m^2)			
1. None			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 m^2)			
1. *Coix lacryma-jobi*	48	Yes	FACW
2. *Commelina diffusa*	48	Yes	FACW
3. *Megathyrsus maximus*	1	No	FAC
4.			
5.			
6.			
7.			
8.			
	97 =Total Cover		
Woody Vine Stratum (Plot size: 5 m^2)			
1. None			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____(A)

Total Number of Dominant Species Across All Strata: _____**(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: _____(A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x1= _____
FACW species _____	x2= _____
FAC species _____	x3= _____
FACU species _____	x4= _____
UPL species _____	x5= _____
Column Totals: _____(A)	_____(B)

Prevalence Index = B/A= _____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is $\leq 3.0^1$

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks
Coix lacryma-jobi dominates vegetation to the northeast. *Syzygium cumini* dominates vegetation to the south. *Megathyrsus maximus* dominates vegetation to the east.

SOIL

Sampling Point: **SP-03, Area C, Transect 2 (mixed forest)**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 21	10YR 3/1	33	10YR 3/6	33	C	M	silty clay loam	mucky mineral soil
			10YR 2/1 (black)	33	D	M		
21-23	10YR 4/1	100						muck

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X **No**_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burros (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- X Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes X No_____ Depth (inches): 22

Saturation Present? (includes capillary fringe) Yes X No_____ Depth (inches): 21

Wetland Hydrology Present? **Yes** X **No**_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site reported to flood once a year during heavy rains.
Near boundary between *Coix lacryma-jobi* and *Commelina diffusa*.

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: October 11, 2012 Time: 1140

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 04a, Area C, Transect 2 (mixed forest)**

Investigator(s): Eric Guinther and Susan Burr TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): concave

Lat: 21˚35.242' N Long: 158˚ 06.313'W Datum: NAD 83 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland, but PEM1/SS3C located to the north

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No (If no, explain in Remarks)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation No, Soil No, or Hydrology No problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	
Hydric Soil Present?	Yes X No	**Is the Sampled Area**
Wetland Hydrology Present?	Yes X No	**within a Wetland? Yes X No**

Remarks: PEM1/SS3C wetland located to the northwest. PEM1/SS3C=Palustrine, emergent, persistent,/palustrine, scrub-shrub, broad-leaved evergreen, seasonally flooded

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Syzygium cumini*	75	Yes	FAC
2. *Phoenix dactylifera*	20	No	UPL
3.			
4.			
5.			
	95 =Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m^2)			
1. *Phoenix dactylifera*	<5	No	UPL
2. *Ficus microcarpa*	<1	No	FACU
3. *Schefflera actinophylla*	<1	No	UPL
4.			
5.			
	<7 =Total Cover		
Herb Stratum (Plot size: 5 m^2)			
1. *Megathyrsus maximus*	<1	No	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	<1 =Total Cover		
Woody Vine Stratum (Plot size: 5 m^2)			
1. None			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x1=
FACW species	x2=
FAC species	x3=
FACU species	x4=
UPL species	x5=
Column Totals: (A)	(B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks

SOIL

Sampling Point: SP- 04a, Area C, Transect 2 (mixed forest)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 19	10YR 3/3	10	10YR 4/1	60	RM	M	silty clay loam	mucky mineral soil
			2.5YR 3/6	30	C	M & PL		prominent mottles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X **No** ___

Remarks: Soil is mottled throughout profile.

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes_____ No X Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No X Depth (inches):_____

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site reported to flood once a year during heavy rains.

Hummucky.

WETLAND DETERMINATION DATA FORM—Hawai‘i and Pacific Islands

Project/Site: Kilioe Place, Hale‘iwa (Area C, Java plum/Phoenix palm) City: Hale‘iwa Sampling Date: October 11, 2012 Time: 1340

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O‘ahu Sampling Point: **SP- 04b, Area C, Transect 2 (mixed forest)**

Investigator(s): Eric Guinther and Susan Burr TMK/Parcel: 6-6-009:002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): concave

Lat: 21˚35.242’ N Long: 158˚ 06.313’W Datum: NAD 83 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland, but PEM1/SS3C located to the north

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No (If no, explain in Remarks)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are “Normal Circumstances” present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**
Wetland Hydrology Present?	Yes X	No ____	**within a Wetland? Yes X No ____**

Remarks: PEM1/SS3C wetland located to the northwest. PEM1/SS3C=Palustrine, emergent, persistent,/palustrine, scrub-shrub, broad-leaved evergreen, seasonally flooded

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Syzygium cumini*	<5	No	FAC
2. *Phoenix dactylifera*	<5	No	UPL
3.			
4.			
5.			
	<10 =Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m^2)			
1.			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Herb Stratum (Plot size: 5 m^2)			
1. *Megathyrsus maximus*	90	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	90 =Total Cover		
Woody Vine Stratum (Plot size: 5 m^2)			
1. None			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x1= ____
FACW species ____	x2= ____
FAC species ____	x3= ____
FACU species ____	x4= ____
UPL species ____	x5= ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A= ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is $\leq 3.0^1$

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks
Megathyrsus maximus dominates in areas that are not shaded by *Syzygium cumini*.

SOIL

Sampling Point: SP- 04b, Area C, Transect 2 (mixed forest)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 19	10YR 3/3	10	10YR 4/1	60	D	M	silty clay loam	mucky mineral soil
			2.5YR 3/6	30	C	M		prominent mottles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X **No**_____

Remarks: Soil is mottled throughout profile.

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes_____ No X Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No X Depth (inches):_____

Wetland Hydrology Present? **Yes** X **No**_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Not hummocky like it is in areas with *Syzygium cumini* (see SP-04a).

WETLAND DETERMINATION DATA FORM—Hawai‘i and Pacific Islands

Project/Site: Kilioe Place, Hale‘iwa City: Hale‘iwa Sampling Date: October 11, 2012 Time: 1330

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O‘ahu Sampling Point: **SP- 05, Area C, Transect 2 (disturbed)**

Investigator(s): Eric Guinther and Susan Burr TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): concave

Lat: 21˚35.242’ N Long: 158˚ 06.313’W Datum: NAD 83 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No (If no, explain in Remarks)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are “Normal Circumstances” present? Yes X No

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	
Hydric Soil Present?	Yes	No X	**Is the Sampled Area**
Wetland Hydrology Present?	Yes	No X	**within a Wetland? Yes No X**

Remarks: PEM1/SS3C wetland located to the northwest. PEM1/SS3C=Palustrine, emergent, persistent,/palustrine, scrub-shrub, broad-leaved evergreen, seasonally flooded

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Syzgium cumini*	50	Yes	FAC
2. *Ficus microcarpa*	15	No	FACU
3. *Pithecellobium dulce*	15	No	FAC
4. *Ricinus communis*†	<1	No	FACU
5.			
	<81 =Total Cover		

Sapling/Shrub Stratum (Plot size: 5 m^2)			
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		

Herb Stratum (Plot size: 5 m^2)			
1. *Megathyrsus maximus*	100	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100 =Total Cover		

Woody Vine Stratum (Plot size: 5 m^2)			
1. None			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x1=
FACW species	x2=
FAC species	x3=
FACU species	x4=
UPL species	x5=
Column Totals: (A)	(B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is $\leq 3.0^1$

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks
†Because sapling/shrub stratum is <5%, *Ricinus communis* is included in the tree stratum.

SOIL

Sampling Point: SP- 05, Area C, Transect 2 (disturbed)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 11	10YR 3/3	95	none				sandy loam	with 5% limestone gravelly fill
†								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes**_____ **No** X

Remarks:

†Soil was too hard to dig pit deeper.

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes_____ No X Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No X Depth (inches):_____

Wetland Hydrology Present? **Yes**_____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: October 11, 2012 Time: 1330

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 06, Area C, Transect 3 (mixed forest)**

Investigator(s): Eric Guinther and Susan Burr TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): concave

Lat: 21˚35.225' N Long: 158˚ 06.270'W Datum: NAD 83 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No (If no, explain in Remarks)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	
Hydric Soil Present?	Yes X No	**Is the Sampled Area**
Wetland Hydrology Present?	Yes X No	**within a Wetland? Yes X No**

Remarks: PEM1/SS3C wetland located to the northwest. PEM1/SS3C=Palustrine, emergent, persistent,/palustrine, scrub-shrub, broad-leaved evergreen, seasonally flooded

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Syzygium cumini*	60	Yes	FAC
2. *Spathodea campanulata*	20	Yes	FACU
3.			
4.			
5.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: 5 m^2)			
1. *Solanum torvum*	<5	No	FAC
2. *Pluchea carolinensis*	<5	No	FAC
3.			
4.			
5.			
	<10	=Total Cover	
Herb Stratum (Plot size: 5 m^2)			
1. *Megathyrsus maximus*	100	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100	=Total Cover	
Woody Vine Stratum (Plot size:)			
1. None			
2.			
	0	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x1=
FACW species	x2=
FAC species	x3=
FACU species	x4=
UPL species	x5=
Column Totals: (A)	(B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks

SOIL

Sampling Point: SP- 06, Area C, Transect 3 (mixed forest)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 12	10YR4/1	80	10YR 4/6	20	C	PL & M	silty clay	mucky mineral
			black	20				prominent mottles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X **No** ___

Remarks: Soil is mottled throughout profile.

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes_____ No X Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No X Depth (inches):_____

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: October 11, 2012 Time: 1400

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 07, Area C, Transect 3 (mixed forest)**

Investigator(s): Eric Guinther and Susan Burr TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): concave

Lat: 21° 35'12.42" N Long: 158° 6'15.73" W Datum: WGS 1984 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No ___ (If no, explain in Remarks)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___	
Hydric Soil Present?	Yes ___	No X	**Is the Sampled Area**
Wetland Hydrology Present?	Yes ___	No X	**within a Wetland? Yes ___ No X**

Remarks: PEM1/SS3C wetland located to the northwest. PEM1/SS3C=Palustrine, emergent, persistent,/palustrine, scrub-shrub, broad-leaved evergreen, seasonally flooded

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Syzgium cumini*	20	Yes	FAC
2. *Pithecellobium dulce*	20	Yes	FAC
3. *Samanea saman*	20	Yes	FAC
4.			
5.			
	60	=Total Cover	

Sapling/Shrub Stratum (Plot size: 5 m^2)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	

Herb Stratum (Plot size: 5 m^2)			
1. *Megathyrsus maximus*	100	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100	=Total Cover	

Woody Vine Stratum (Plot size: 5 m^2)			
1. None			
2.			
	0	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ___	x1= ___
FACW species ___	x2= ___
FAC species ___	x3= ___
FACU species ___	x4= ___
UPL species ___	x5= ___
Column Totals: ___ (A)	___ (B)

Prevalence Index = B/A= ___

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is $\leq 3.0^1$

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks

SOIL

Sampling Point: SP- 07, Area C, Transect 3 (mixed forest)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 12	10YR 3/3	95	none				sandy loam	with 5% limestone gravelly fill
†								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes**_____ **No** **X**

Remarks:
† Soil was too hard to dig pit deeper.

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No___X___ Depth (inches):_____

Water Table Present? Yes_____ No___X___ Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No___X___ Depth (inches):_____

Wetland Hydrology Present? **Yes**_____ **No** **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Evidence of deeper fill to east and south.

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: October 16, 2012 Time: 1000

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 08, Area B, Transect 1 (grassland)**

Investigator(s): Eric Guinther and Susan Burr TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): none

Lat: 21° 35'10.47" N Long: 158° 06'19.81" W Datum: WGS 1984 Slope (%): 0

Soil Map Unit Name: Waialua silty clay, 0 to 3 percent slopes NWI classification: PEM1KH

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No ___ (If no, explain in Remarks)

Are Vegetation No†, Soil Yes‡, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes ___ No X

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	
Hydric Soil Present?	Yes X No ___	**Is the Sampled Area**
Wetland Hydrology Present?	Yes ___ No X	**within a Wetland? Yes ___ No X**

Remarks: PEM1KH=Palustrine, emergent, persistent, semipermanently flooded, artificially flooded, diked/impounded. SP 8 is located south of SP 2. SP 8 is predominantly *Urochloa mutica*, SP 2 is primarily mowed *Cynodon dactylon*. †Area has been cleared in the past for agriculture, but vegetation appears not to have been cleared for at least one year.‡ Soil was tilled for agriculture over 5 years ago.

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		

Sapling/Shrub Stratum (Plot size: 5 m^2)			
1. *Leucaena leucocephala*	<1	No	UPL
2. *Pithecellobium dulce*	<1	No	FAC
3.			
4.			
5.			
	<2 =Total Cover		

Herb Stratum (Plot size: 5 m^2)			
1. *Urochloa mutica*	50	Yes	FACW
2. *Macroptilium atropurpureum*	45	Yes	FAC
3. *Canavalia cathartica*	3	No	FACU
4. *Megathyrsus maximus*	2	No	FAC
5.			
6.			
7.			
8.			
	100 =Total Cover		

Woody Vine Stratum (Plot size: 5 m^2)			
1.			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ___	x1= ___
FACW species ___	x2= ___
FAC species ___	x3= ___
FACU species ___	x4= ___
UPL species ___	x5= ___
Column Totals: ___ (A)	___ (B)

Prevalence Index = B/A= ___

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is $\leq 3.0^1$

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks
Mowed field to the north contains *Cynodon dactylon* and *Megathyrsus maximus*.

SOIL

Sampling Point: SP- 08, Area B, Transect 1 (grassland)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 14	10YR 3/3	98	5YR 4/6	2	C	PL	clay loam	Prominent concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X‡ **No**_____

Remarks:

Not enough prominent redox concentrations for soil to be considered hydric or to serve as an indicator of wetland hydrology.

‡The NRCS soil survey maps the soil as Haleiwa silty clay, a hydric soil. According to Section 5(2) of the Regional Supplement, we assume that, if undisturbed, this soil would by hydric.

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes_____ No X Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No X Depth (inches):_____

Wetland Hydrology Present? **Yes**_____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site reported to have been used for wet farming in pre-European and historical periods, including recent taro farming, potentially through a system of *‘auwai* and dikes. Site reported to flood once a year during heavy rains. No evidence of surface water-driven wetland hydrology remains other than occasional flooding .

The Hale‘iwa wetland to the north is a ground water-driven wetland. On July 24, SP-08a was dug to 24 in and wetland hydrology was still not apparent (See Form SP-08a).

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: July 24, 2013 Time: 1720

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 08a, Area B, Transect 1 (grassland)**

Investigator(s): Susan Burr and Chad Linebaugh TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): none

Lat: 21° 35'10.69875" N Long: 158° 06'19.43780" W Datum: WGS 1984 Slope (%): 0

Soil Map Unit Name: Waialua silty clay, 0 to 3 percent slopes NWI classification: PEM1KH

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No (If no, explain in Remarks)

Are Vegetation No, Soil Yes‡, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No X

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	
Hydric Soil Present?	Yes X No	**Is the Sampled Area**
Wetland Hydrology Present?	Yes No X	**within a Wetland? Yes No X**

Remarks: PEM1KH=Palustrine, emergent, persistent, semipermanently flooded, artificially flooded, diked/impounded. SP 8 is located south of SP 2. SP 8 is predominantly *Urochloa mutica*, SP 2 is primarily *Megathyrsus maximus*. †Area has been cleared in the past for agriculture, but vegetation appears not to have been cleared for at least one year ‡ Soil was tilled for agriculture over 5 years ago.

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m^2)			
1. *Leucaena leucocephala*	<1	No	UPL
2. *Pithecellobium dulce*	<1	No	FAC
3.			
4.			
5.			
	<2 =Total Cover		
Herb Stratum (Plot size: 5 m^2)			
1. *Urochloa mutica*	47	Yes	FACW
2. *Macroptilium atropurpureum*	45	Yes	FAC
3. *Canavalia cathartica*	3	No	FACU
4. *Megathyrsus maximus*	5	No	FAC
5.			
6.			
7.			
8.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 5 m^2)			
1. None			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x1=
FACW species	x2=
FAC species	x3=
FACU species	x4=
UPL species	x5=
Column Totals: (A)	(B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks

SOIL

Sampling Point: **SP- 08a, Area B, Transect 1 (grassland)**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 24	10YR 3/3	98	5YR 4/6	<1	C	PL	clay loam	Prominent concentrations
			10YR 2/1	<1	D	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** **X**‡_____ **No**_____

Remarks:

Not enough prominent redox concentrations for soil to be considered hydric or to serve as an indicator of wetland hydrology.

‡The NRCS soil survey maps the soil as Haleiwa silty clay, a hydric soil. According to Section 5(2) of the Regional Supplement, we assume that, if undisturbed, this soil would by hydric.

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No___X___ Depth (inches):_____

Water Table Present? Yes_____ No___X___ Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No___X___ Depth (inches):_____

Wetland Hydrology Present? **Yes**_____ **No**___X___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site reported to have been used for wet farming in pre-European and historical periods, including recent taro farming, potentially through a system of *‘auwai* and dikes. Site reported to flood once a year during heavy rains. No evidence of surface water-driven wetland hydrology remains other than occasional flooding .

The Hale‘iwa wetland to the north is a ground water-driven wetland.

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: October 16, 2012 Time: 1140

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 09, Area C, Transect 3 (mixed forest)**

Investigator(s): Eric Guinther and Susan Burr TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): concave

Lat: 21° 35'14.2" N Long: 158° 6'16.3" W Datum: NAD 83 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland, but PEM1/SS3C located to the northwest

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No ___ (If no, explain in Remarks)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___
Hydric Soil Present?	Yes X	No ___
Wetland Hydrology Present?	Yes X	No ___

Is the Sampled Area within a Wetland? Yes X No ___

Remarks: PEM1/SS3C=Palustrine, emergent, persistent,/palustrine, scrub-shrub, broad-leaved evergreen, seasonally flooded

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Syzygium cumini*	80	Yes	FAC
2.			
3.			
4.			
5.			
	80 =Total Cover		

Sapling/Shrub Stratum (Plot size: 5 m^2)			
1. *Phoenix dactylifera*	<5	No	UPL
2. *Syzygium cumini*	5	No	FAC
3. *Pithecellobium dulce*	1	No	FAC
4. *Spathodea campanulata*	<1	No	FACU
5.			
	<12 =Total Cover		

Herb Stratum (Plot size: 5 m^2)			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 =Total Cover		

Woody Vine Stratum (Plot size: 5 m^2)			
1. None			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ___	x1= ___
FACW species ___	x2= ___
FAC species ___	x3= ___
FACU species ___	x4= ___
UPL species ___	x5= ___
Column Totals: ___ (A)	___ (B)

Prevalence Index = B/A= ___

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is $\leq 3.0^1$

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks
SP-09 is located near the wetland boundary. Farther into the wetland, *Phoenix dactylifera* becomes less dominant.

SOIL

Sampling Point: SP- 09, Area C, Transect 3 (mixed forest)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 3	10YR 2/1	100	black				silty clay	mucky mineral soil
3-18	10YR 4/1	90	5YR 4/6	10	C	M & PL	silty clay/muck	prominent mottles
>18	Gley 1 4/N	70	Gley 1 4/10Y	30				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X **No**_____

Remarks: Soil is mottled throughout profile. May also meet Indicator A8.

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- X Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes X No_____ Depth (inches): 11

Saturation Present? (includes capillary fringe) Yes X No_____ Depth (inches): 1

Wetland Hydrology Present? **Yes** X **No**_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site reported to flood once a year during heavy rains.
Hummucky.

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: July 24, 2013 Time: 1630

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 10a, Area B, Transect 1 (mixed forest)**

Investigator(s): Susan Burr and Chad Linebaugh TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): concave

Lat: 21° 35'13.29465" N Long: 158° 06'20.49059"W Datum: WGS 1984 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No (If no, explain in Remarks)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	
Hydric Soil Present?	Yes	No X	**Is the Sampled Area**
Wetland Hydrology Present?	Yes	No X	**within a Wetland? Yes No X**

Remarks: One PEM1KFh wetland located to the northwest and one to the southeast. PEM1KH=Palustrine, emergent, persistent, semipermanently flooded, artificially flooded, diked/impounded.

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 15 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Samanea saman*	5	Yes	FAC
2. *Ficus microcarpa*	4	Yes	FACU
3. *Thespesia populnea*	2	No	FAC
4. *Pithecellobium dulce*	2	No	FAC
5. *Araucaria heterophylla*	1	No	UPL
	14	=Total Cover	

Sapling/Shrub Stratum (Plot size: 15 m^2)			
1. *Phoenix dactylifera*	1	No	UPL
2. *Pithecellobium dulce*	3	Yes	FAC
3. *Schinus terebinthifolius*	1	No	FACU
4. *Leucaena leucocephala*	1	No	UPL
5.	1		
	6	=Total Cover	

Herb Stratum (Plot size: 15 m^2)			
1. *Megathyrsus maximus*	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15	=Total Cover	

Woody Vine Stratum (Plot size: 15 m^2)			
1. None			
2.			
	0	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x1=
FACW species	x2=
FAC species	x3=
FACU species	x4=
UPL species	x5=
Column Totals: (A)	(B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is $\leq$3.0[1]

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks
Remaining ground is bare – covered with leaves – heavily shaded by trees.

SOIL

Sampling Point: SP- 10a, Area B, Transect 1 (mixed forest)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type [1]	Loc[2]	Texture	Remarks
0 - 2								concrete gravel/fill
2 - 24	10YR 3/3	100	none				loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes**_____ **No** **X**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No___X___ Depth (inches):_____

Water Table Present? Yes_____ No___X___ Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No___X___ Depth (inches):_____

Wetland Hydrology Present? **Yes**_____ **No** **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site reported to flood once a year during heavy rains.

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: July 24, 2013 Time: 1500

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 12a, Area C, Transect 2 (mixed forest)**

Investigator(s): Susan Burr and Chad Linebaugh TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): concave

Lat: 21° 35' 14.66454" N Long: 158° 06' 19.28918" W Datum: WGS 1984 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No (If no, explain in Remarks)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	
Hydric Soil Present?	Yes X No	**Is the Sampled Area**
Wetland Hydrology Present?	Yes X No	**within a Wetland? Yes X No**

Remarks: PEM1/SS3C wetland located to the northwest. PEM1/SS3C=Palustrine, emergent, persistent,/palustrine, scrub-shrub, broad-leaved evergreen, seasonally flooded

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Herb Stratum (Plot size:)			
1. *Coix lacryma-jobi*	50	Yes	FACW
2. *Commelina diffusa*	50	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	100 =Total Cover		
Woody Vine Stratum (Plot size:)			
1. None			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x1=
FACW species	x2=
FAC species	x3=
FACU species	x4=
UPL species	x5=
Column Totals: (A)	(B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is $\leq 3.0^1$

Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks

Coix lacryma-jobi dominates vegetation to the northeast. *Megathyrsus maximus* dominates vegetation to the southeast.

SOIL

Sampling Point: **SP- 12a, Area C, Transect 2 (mixed forest)**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 18	10YR 2/1	90	7.5YR 5/1	10	D	M	silty clay	mucky mineral, prominent redox
18 - 24	Gley 1 4/N	80	7.5YR 5/6	10	C	PL & M	muck	
			2.5YR 3/6	10	C	PL & M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X **No**_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burros (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- X Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes_____ No X Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No X Depth (inches):_____

Wetland Hydrology Present? **Yes** X **No**_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site reported to flood once a year during heavy rains.

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: July 24, 2013 Time: 1555

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 13a, Area C, Transect 2 (mixed forest)**

Investigator(s): Susan Burr and Chad Linebaugh TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): concave

Lat: 21° 35' 14.41129" N Long: 158° 06' 19.51831" W Datum: WGS 1984 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No (If no, explain in Remarks)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	
Hydric Soil Present?	Yes	No X	**Is the Sampled Area**
Wetland Hydrology Present?	Yes	No X	**within a Wetland? Yes No X**

Remarks: PEM1/SS3C wetland located to the northwest. PEM1/SS3C=Palustrine, emergent, persistent,/palustrine, scrub-shrub, broad-leaved evergreen, seasonally flooded

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m^2)			
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Herb Stratum (Plot size: 5 m^2)			
1. *Megathyrsus maximus*	100	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 5 m^2)			
1. None			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x1=
FACW species	x2=
FAC species	x3=
FACU species	x4=
UPL species	x5=
Column Totals: (A)	(B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is $\leq$3.0[1]

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks
Coix lacryma-jobi dominates vegetation to the northeast. *Megathyrsus maximus* dominates vegetation to the southeast.

SOIL

Sampling Point: **SP- 13a, Area C, Transect 2 (mixed forest)**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 – 24	10YR 3/4	100	none				silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes**_____ **No**___X___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burros (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No___X___ Depth (inches):_____

Water Table Present? Yes_____ No___X___ Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No___X___ Depth (inches):_____

Wetland Hydrology Present? **Yes**_____ **No**___X___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site reported to flood once a year during heavy rains.

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: July 24, 2013 Time: 1610

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: H I Island: O'ahu Sampling Point: **SP- 14a, Area C, Transect 2 (mixed forest)**

Investigator(s): Susan Burr and Chad Linebaugh TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): concave

Lat: 21° 35' 14.44582" N Long: 158° 06' 19.33872" W Datum: WGS 1984 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No (If no, explain in Remarks)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	
Hydric Soil Present?	Yes X No	**Is the Sampled Area**
Wetland Hydrology Present?	Yes X No	**within a Wetland? Yes X No**

Remarks: PEM1/SS3C wetland located to the northwest. PEM1/SS3C=Palustrine, emergent, persistent,/palustrine, scrub-shrub, broad-leaved evergreen, seasonally flooded

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m^2)			
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Herb Stratum (Plot size: 5 m^2)			
1. *Megathyrsus maximus*	70	Yes	FAC
2 *Coix lacryma-jobi*	30	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 5 m^2)			
1. None			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x1=
FACW species	x2=
FAC species	x3=
FACU species	x4=
UPL species	x5=
Column Totals: (A)	(B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is $\leq 3.0^1$
- ___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks
Coix lacryma-jobi dominates vegetation to the northeast. *Megathyrsus maximus* dominates vegetation to the southeast.

SOIL

Sampling Point: SP- 14a, Area C, Transect 2 (mixed forest)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 – 24	10YR 2/1	93	7.5YR 5/8	7	C	PL & M	silty clay	prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burros (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes_____ No X Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No X Depth (inches):_____

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site reported to flood once a year during heavy rains.

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: July 24, 2013 Time: 1600

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 15a, Area C, Transect 2 (mixed forest)**

Investigator(s): Susan Burr and Chad Linebaugh TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): concave

Lat: 21° 35' 14.35373" N Long: 158° 06' 19.38826" W Datum: WGS 1984 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No (If no, explain in Remarks)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	
Hydric Soil Present?	Yes X No	**Is the Sampled Area**
Wetland Hydrology Present?	Yes No X	**within a Wetland? Yes X No (on the wetland boundary)**

Remarks: PEM1/SS3C wetland located to the northwest. PEM1/SS3C=Palustrine, emergent, persistent,/palustrine, scrub-shrub, broad-leaved evergreen, seasonally flooded

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m^2)			
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Herb Stratum (Plot size: 5 m^2)			
1. *Megathyrsus maximus*	100	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 5 m^2)			
1. None			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x1=
FACW species	x2=
FAC species	x3=
FACU species	x4=
UPL species	x5=
Column Totals: (A)	(B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is $\leq$3.0[1]

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks
Coix lacryma-jobi dominates vegetation to the northeast. *Megathyrsus maximus* dominates vegetation to the southeast.

SOIL

Sampling Point: **SP- 15a, Area C, Transect 2 (mixed forest)**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 – 10	10YR 2/1	93	7.5YR 5/8	7	C	M	silty clay	prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burros (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes_____ No X Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No X Depth (inches):_____

Wetland Hydrology Present? **Yes**_____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site reported to flood once a year during heavy rains.

SP-15a is on the wetland boundary.

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: July 24, 2013 Time: 1640

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 16a, Area A, Transect 2 (grassland)**

Investigator(s): Susan Burr and Chad Linebaugh TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): none

Lat: 21° 35' 12.41976" N Long: 158° 06' 19.21486" W Datum: WGS 1984 Slope (%): 0

Soil Map Unit Name: Waialua silty clay, 0 to 3 percent slopes NWI classification: PEM1KH

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No ___ (If no, explain in Remarks)

Are Vegetation No, Soil Yes‡, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes ___ No X

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___	No X
Hydric Soil Present?	Yes X	No ___
Wetland Hydrology Present?	Yes ___	No X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks: PEM1KH=Palustrine, emergent, persistent, semipermanently flooded, artificially flooded, diked/impounded. ‡ Soil was tilled for agriculture over 5 years ago.

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m²)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m²)			
1. *Leucaena leucocephala*	5	Yes	UPL
2. *Pithecellobium dulce*	1	No	FAC
3.			
4.			
5.			
	6 =Total Cover		
Herb Stratum (Plot size: 5 m²)			
1. *Megathyrsus maximus*	80	Yes	FAC
2. *Cynodon dactylon*(?)	10	No	FACU
3. *Abutilon auritum*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 5 m²)			
1.			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x1= 0
FACW species	0	x2= 0
FAC species	80	x3= 240
FACU species	20	x4= 80
UPL species	5	x5= 25
Column Totals:	105 (A)	345 (B)

Prevalence Index = B/A= 3.3

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks
* No flowers, so a positive identification could not be made.

SOIL

Sampling Point: **SP- 16a, Area A, Transect 2 (grassland)**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 10	10YR 3/3	90	none				clay loam	
	limestone gravel	10						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** **X**‡_____ **No**_____

Remarks:

Not enough prominent redox concentrations for soil to be considered hydric or to serve as an indicator of wetland hydrology.
‡The NRCS soil survey maps the soil as Haleiwa silty clay, a hydric soil. According to Section 5(2) of the Regional Supplement, we assume that, if undisturbed, this soil would by hydric.

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No___X___ Depth (inches):_____

Water Table Present? Yes_____ No___X___ Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No___X___ Depth (inches):_____

Wetland Hydrology Present? **Yes**_____ **No**___**X**___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site reported to have been used for wet farming in pre-European and historical periods, including recent taro farming.
Site reported to flood once a year during heavy rains.

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: July 24, 2013 Time: 1650

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 17a, Area A, Transect 2 (disturbed)**

Investigator(s): Susan Burr and Chad Linebaugh TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): none

Lat: 21° 35' 11.36643" N Long: 158° 06' 17.64188" W Datum: WGS 1984 Slope (%): 0

Soil Map Unit Name: Waialua silty clay, 0 to 3 percent slopes NWI classification: upland

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No (If no, explain in Remarks)

Are Vegetation No, Soil Yes‡, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No X

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	
Hydric Soil Present?	Yes X No ___	**Is the Sampled Area**
Wetland Hydrology Present?	Yes ___ No X	**within a Wetland? Yes ___ No X**

Remarks: ‡ Soil was tilled for agriculture over 5 years ago.

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 15 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Cocus nucifera*	5	Yes	FACU
2.			
3.			
4.			
5.			
	5 =Total Cover		
Sapling/Shrub Stratum (Plot size: 15 m^2)			
1. none			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Herb Stratum (Plot size: 5 m^2)			
1. *Megathyrsus maximus*	70	Yes	FAC
2. *Urochloa mutica*	10	No	FACW
3. *Macroptilium atropurpureum*	5	No	FAC
4. *Desmanthus* pernambucanus	2	No	FACU
5.			
6.			
7.			
8.			
	87 =Total Cover		
Woody Vine Stratum (Plot size: 5 m^2)			
1.			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x1= 0
FACW species	10	x2= 20
FAC species	75	x3= 225
FACU species	7	x4= 280
UPL species	0	x5= 0
Column Totals:	92 (A)	505 (B)

Prevalence Index = B/A= 5.5

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is $\leq 3.0^1$

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks

SOIL

Sampling Point: SP- 17a, Area A, Transect 2 (disturbed)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type [1]	Loc[2]	Texture	Remarks
0 - 14	10YR 3/3	100	none				silty clay	
14 - 16	10YR 3/3	95	black concretions	3	C	M		
			2.5YR 4/8	2	C	PL		Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** ___X‡___ **No**_____

Remarks:

Prominent redox concentrations appear too deep to be considered F6.

‡The NRCS soil survey maps the soil as Haleiwa silty clay, a hydric soil. According to Section 5(2) of the Regional Supplement, we assume that, if undisturbed, this soil would by hydric.

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No___X___ Depth (inches):_____

Water Table Present? Yes_____ No___X___ Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No___X___ Depth (inches):_____

Wetland Hydrology Present? **Yes**_____ **No**___X___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Oxidized rhizospheres are present too deep to be considered an indicator of wetland hydrology.
Site reported to have been used for wet farming in pre-European and historical periods, including recent taro farming.
Site reported to flood once a year during heavy rains.

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa City: Hale'iwa Sampling Date: July 24, 2013 Time: 1650

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 18a, Area C, Transect 3 (mixed forest)**

Investigator(s): Susan Burr and Chad Linebaugh TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): none

Lat: 21° 35' 10.35916" N Long: 158° 06' 17.47467" W Datum: WGS 1984 Slope (%): 0

Soil Map Unit Name: Waialua silty clay, 0 to 3 percent slopes NWI classification: PEM1KH

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No (If no, explain in Remarks)

Are Vegetation No, Soil Yes‡, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes No X

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	
Hydric Soil Present?	Yes X No	**Is the Sampled Area**
Wetland Hydrology Present?	Yes No X	**within a Wetland? Yes No X**

Remarks: PEM1KH=Palustrine, emergent, persistent, semipermanently flooded, artificially flooded, diked/impounded. ‡ Soil was tilled for agriculture over 5 years ago.

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 15 m²)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pithecellobium dulce*	20	Yes	FAC
2.			
3.			
4.			
5.			
	20 =Total Cover		
Sapling/Shrub Stratum (Plot size: 15 m²)			
1. none			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Herb Stratum (Plot size: 5 m²)			
1. *Megathyrsus maximus*	50	Yes	FAC
2. *Urochloa mutica*	30	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	80 =Total Cover		
Woody Vine Stratum (Plot size: 5 m²)			
1.			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x1=
FACW species	x2=
FAC species	x3=
FACU species	x4=
UPL species	x5=
Column Totals: (A)	(B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks
remaining ground is bare/covered with leaf litter due to shading by trees

SOIL

Sampling Point: SP- 18a, Area C, Transect 3 (mixed forest)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type [1]	Loc[2]	Texture	Remarks
0 - 6	10YR 3/2	100	none				silt loam	
6 - 16	10YR 3/2	95	2.5YR 4/4	5	C	M	silt loam	Prominent redox concentrations
16 - 24	10YR 3/3	80	2.5YR 4/8	20	C	PL & M	silt loam	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X **No** ___

Remarks:

NRCS soil survey also maps the soil as Haleiwa silty clay, a hydric soil.

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes_____ No X Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No X Depth (inches):_____

Wetland Hydrology Present? **Yes**_____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Oxidized rhizospheres on living roots are too deep to be considered an indicator of wetland hydrology.
Site reported to have been used for wet farming in pre-European and historical periods, including recent taro farming.
Site reported to flood once a year during heavy rains.

WETLAND DETERMINATION DATA FORM—Hawai‘i and Pacific Islands

Project/Site: Kilioe Place, Hale‘iwa (Area C) City: Hale‘iwa Sampling Date: July 24, 2013 Time: 1525

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O‘ahu Sampling Point: **SP- 19a, Area C, Transect 3 (mixed forest)**

Investigator(s): Susan Burr and Chad Linebaugh TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): concave

Lat: 21° 35’ 14.59547” N Long: 158° 06’ 17.53660” W Datum: WGS 1984 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No (If no, explain in Remarks)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are “Normal Circumstances” present? Yes X No

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	
Hydric Soil Present?	Yes X No	**Is the Sampled Area**
Wetland Hydrology Present?	Yes X No	**within a Wetland? Yes X No**

Remarks: PEM1/SS3C wetland located to the northwest. PEM1/SS3C=Palustrine, emergent, persistent,/palustrine, scrub-shrub, broad-leaved evergreen, seasonally flooded

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Syzygium cumini*	2	Yes	FAC
2. *Pithecellobium dulce*	2	Yes	FAC
3. *Leucaena leucocephala*	2	Yes	UPL
4.			
5.			
	6 =Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m^2)			
1. none			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Herb Stratum (Plot size: 5 m^2)			
1. *Megathyrsus maximus*	100	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 5 m^2)			
1. None			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x1=
FACW species	x2=
FAC species	x3=
FACU species	x4=
UPL species	x5=
Column Totals: (A)	(B)

Prevalence Index = B/A=

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is $\leq 3.0^1$
- ___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks
Wetland boundary is to the north of the property.

SOIL

Sampling Point: SP- 19a, Area C, Transect 3 (mixed forest)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 9	5YR 2.5/1	95	2.5YR 4/8	5	C	PL	silt loam	prominent redox concentrations
9 - 18	Gley 1 4/N	80	7.5YR 5/8	20	C	M	muck	prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisols (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Muck Presence (A8)
X Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Glayed Matrix (S4)
___ Sandy Redox (S5)
___ Dark-Surface (S7)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ Stratified Layers (A5)
___ Sandy Mucky Mineral (S1)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X **No**_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
X Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Innundation Visible on Aerial Imagery (B7)
___ Water Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ Tilapia Nests (B17)
___ Hydrogen Sulfide Odor (C1)
X Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tiled Soils (C6)
___ Thin Muck Surface (C7)
___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Sparsely Vegetated Concave Surface (B8)
___ Drainage Patterns (B10)
X Dry-Season Water Table (C2)
___ Salt Deposits (C5)
___ Stunted or Stressed Plants (D1)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes X No_____ Depth (inches): 13

Saturation Present? (includes capillary fringe) Yes X No_____ Depth (inches): 7

Wetland Hydrology Present? **Yes** X **No**_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site reported to flood once a year during heavy rains.
Hummucky.

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa (Area C) City: Hale'iwa Sampling Date: July 24, 2013 Time: 1545

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 20a, Area C, Transect 3 (mixed forest)**

Investigator(s): Susan Burr and Chad Linebaugh TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): concave

Lat: 21° 35' 14.50913" N Long: 158° 06' 17.40655" W Datum: WGS 1984 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No _____ (If no, explain in Remarks)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____
Hydric Soil Present?	Yes X	No _____
Wetland Hydrology Present?	Yes X	No _____

Is the Sampled Area within a Wetland? Yes X No _____

Remarks: PEM1/SS3C wetland located to the northwest. PEM1/SS3C=Palustrine, emergent, persistent,/palustrine, scrub-shrub, broad-leaved evergreen, seasonally flooded

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m²)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Syzygium cumini*	50	Yes	FAC
2. *Phoenix dactylifera*	50	Yes	UPL
3.			
4.			
5.			
	100	=Total Cover	

Sapling/Shrub Stratum (Plot size: 5 m²)			
1. *Syzygium cumini*	2	Yes	FAC
2.			
3.			
4.			
5.			
	2	=Total Cover	

Herb Stratum (Plot size: 5 m²)			
1. None			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	=Total Cover	

Woody Vine Stratum (Plot size: 5 m²)			
1. None			
2.			
	0	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x1= _____
FACW species _____	x2= _____
FAC species _____	x3= _____
FACU species _____	x4= _____
UPL species _____	x5= _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A= _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks

SOIL

Sampling Point: SP- 20a, Area C, Transect 3 (mixed forest)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 19	Gley 1 4/N	95	5YR 4/6	5	C	PL	sity clay	prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- X Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X **No**_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- X Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes X No_____ Depth (inches): 17

Saturation Present? (includes capillary fringe) Yes X No_____ Depth (inches): 9

Wetland Hydrology Present? **Yes** X **No**_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Site reported to flood once a year during heavy rains.
Hummucky.

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa (Area C) City: Hale'iwa Sampling Date: July 24, 2013 Time: 1510

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 21a, Area C, Transect 3 (mixed forest)**

Investigator(s): Susan Burr and Chad Linebaugh TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): none

Lat: 21° 35' 12.81" N Long: 158° 06' 16.88" W Datum: WGS 1984 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No ____ (If no, explain in Remarks)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	
Hydric Soil Present?	Yes X	No ____	**Is the Sampled Area**
Wetland Hydrology Present?	Yes ____	No X	**within a Wetland? Yes ____ No X (near wetland boundary)**

Remarks:

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pithecellobium dulce*	5	Yes	FAC
2.			
3.			
4.			
5.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1. None			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Herb Stratum (Plot size: ____)			
1. *Megathyrsus maximus*	100	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1. None			
2.			
	0	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x1= ____
FACW species ____	x2= ____
FAC species ____	x3= ____
FACU species ____	x4= ____
UPL species ____	x5= ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A= ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is $\leq 3.0^1$

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks

SOIL

Sampling Point: SP- 21a, Area C, Transect 3 (mixed forest)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 8	5YR3/4	100	none				loamy sand	
8 - 18	5YR 2.5/1	80	5YR 3/4	20	C	M	silty clay	distinct redox concretions
18 - 24	Gley 1 4/N	100					silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes_____ No X Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No X Depth (inches):_____

Wetland Hydrology Present? **Yes**_____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa (Area C) City: Hale'iwa Sampling Date: July 24, 2013 Time: 1445

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 22a, Area C, Transect 3 (disturbed)**

Investigator(s): Susan Burr and Chad Linebaugh TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): concave

Lat: 21° 35' 12.60970" N Long: 158° 06' 16.93590" W Datum: WGS 1984 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No (If no, explain in Remarks)

Are Vegetation Yes†, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	
Hydric Soil Present?	Yes X	No	**Is the Sampled Area**
Wetland Hydrology Present?	Yes	No X	**within a Wetland? Yes No X**

Remarks: † recently mowed.

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 5 m²)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Cocos nucifera*	2	Yes	FAC
2. *Plumeria rubra*	2	Yes	UPL
3.			
4.			
5.			
	4 =Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m²)			
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Herb Stratum (Plot size: 5 m²)			
1. *Cynodon dactylon*	70	Yes	FACU
2. *Ipomoea ochracea*	15	No	FACU
3. *Megathyrsus maximus*	15	No	FAC
4. *Eleusine indica*	<5	No	FACU
5. *Paspalum* sp.	<5	No	---
6. *Boerhavia coccinea*	<5	No	UPL
7. *Solanum torvum*	5	No	FAC
8.			
	<115 =Total Cover		
Woody Vine Stratum (Plot size:)			
1. None			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x1=
FACW species	0	x2=
FAC species	22	x3= 66
FACU species	87.5	x4= 350
UPL species	4.5	x5= 22.5
Column Totals:	114 (A)	438.5 (B)

Prevalence Index = B/A= 3.84

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is $\leq 3.0^1$

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks

SOIL **Sampling Point: SP- 22a, Area C, Transect 3 (disturbed)**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 7	5YR3/4	80	none				loamy sand	
	limestone fill	20						at 5 – 9 in layer
7 - 24	5YR 2.5/1	80	5YR 3/4	20	C	M	silty clay	distinct redox concretions
	limestone fill	20						at 5 – 9 in layer

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X **No**_____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes_____ No X Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No X Depth (inches):_____

Wetland Hydrology Present? **Yes**_____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa (Area C) City: Hale'iwa Sampling Date: September 12, 2013 Time: 1015

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 23b, Area C, Transect 3 (mixed forest)**

Investigator(s): Susan Burr and Eric Guinther TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): none

Lat: 21° 35' 13" N Long: 158° 06' 16" W Datum: WGS 1984 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No ___ (If no, explain in Remarks)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	
Hydric Soil Present?	Yes X No ___	**Is the Sampled Area**
Wetland Hydrology Present?	Yes X No ___	**within a Wetland? Yes X No ___**

Remarks: † recently mowed.

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 15 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Syzygium cumini*	100	Yes	FAC
2.			
3.			
4.			
5.			
	100 =Total Cover		
Sapling/Shrub Stratum (Plot size: 15 m^2)			
1. None			
2.			
3.			
4.			
5.			
	0 =Total Cover		
Herb Stratum (Plot size: 15 m^2)			
1. *Megathyrsus maximus*	100	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 15 m^2)			
1. None			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ___	x1= ___
FACW species ___	x2= ___
FAC species ___	x3= ___
FACU species ___	x4= ___
UPL species ___	x5= ___
Column Totals: ___ (A)	___ (B)

Prevalence Index = B/A= ___

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is $\leq 3.0^1$

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks

SOIL

Sampling Point: SP- 23b, Area C, Transect 3 (mixed forest)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 7	5YR 2.5/1	100	none				loam	
6 - 15	Gley 1 4/N	95	5YR 4/6	5	C	PL	clay loam	prominent redox concretions

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes_____ No X Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No X Depth (inches):_____

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM—Hawai'i and Pacific Islands

Project/Site: Kilioe Place, Hale'iwa (Area C) City: Hale'iwa Sampling Date: September 12, 2013 Time: 1045

Applicant/Owner: Kilioe Place Properties, LLC State/Terr.: HI Island: O'ahu Sampling Point: **SP- 24b, Area C, Transect 3 (mixed forest)**

Investigator(s): Susan Burr and Eric Guinther TMK/Parcel: 6-6-009: 002

Landform (hillslope, coastal plain, etc.): coastal plain Local relief (concave, convex, none): none

Lat: 21° 35' 13" N Long: 158° 06' 16" W Datum: WGS 1984 Slope (%): nearly flat

Soil Map Unit Name: Haleiwa silty clay, 0 to 2 percent slopes NWI classification: upland

Are climactic/hydrologic conditions on the site typical for this time of year: Yes X No ___ (If no, explain in Remarks)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS—Attach a site map showing sampling point locations transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	
Hydric Soil Present?	Yes X No ___	**Is the Sampled Area**
Wetland Hydrology Present?	Yes X No ___	**within a Wetland? Yes X No ___**

Remarks:

VEGETATION—Use scientific names of plants.

Tree Stratum (Plot size: 15 m^2)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Syzygium cumini*	30	Yes	FAC
2. *Pithecellobium dulce*	30	Yes	FAC
3.			
4.			
5.			
	60 =Total Cover		
Sapling/Shrub Stratum (Plot size: 15 m^2)			
1. *Samanea saman*	10	Yes	FAC
2. *Solanum torvum*	10	Yes	FAC
3.			
4.			
5.			
	20 =Total Cover		
Herb Stratum (Plot size: 5 m^2)			
1. *Megathyrsus maximus*	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	15 =Total Cover		
Woody Vine Stratum (Plot size: ___)			
1. None			
2.			
	0 =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 **(B)**

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ___	x1= ___
FACW species ___	x2= ___
FAC species ___	x3= ___
FACU species ___	x4= ___
UPL species ___	x5= ___
Column Totals: ___ (A)	___ (B)

Prevalence Index = B/A= ___

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is $\leq 3.0^1$

___ Problematic Hydrophytic Vegetation [1] (Explain in Remarks or in the delineation report)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks

SOIL

Sampling Point: SP- 24b, Area C, Transect 3 (mixed forest)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc[2]	Texture	Remarks
0 - 6	5YR 2.5/1	100	none				loam	
6 - 15	Gley 1 4/N	95	5YR 4/6	5	C	PL	clay loam	prominent redox concretions

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisols (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Muck Presence (A8)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Glayed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Dark-Surface (S7)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Stratified Layers (A5)
- ___ Sandy Mucky Mineral (S1)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present: **Yes** X **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators: (Explain observations in Remarks, if needed.)

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Innundation Visible on Aerial Imagery (B7)
- ___ Water Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Tilapia Nests (B17)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tiled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)
- X Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No X Depth (inches):_____

Water Table Present? Yes_____ No X Depth (inches):_____

Saturation Present? (includes capillary fringe) Yes_____ No X Depth (inches):_____

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

hummocky

Attachment 2

Photo log

Photo log of October 11 and 16, 2012 and July 24, 2013 site visits

SP-10a (Transect 1, Area B, mixed forest)

SP-16a (Transect 1, Area B, grassland)

Area B (north)

SP-02a (Transect 1, Area B, grassland)

Area B (between SP-02 and SP-08)

SP-02 (Transect 1, Area B, grassland)

SP-08

Area B (south)

SP-08a

SP-03 (Transect 2, Area C, mixed forest)

SP-14a (Transect 2, Area C, mixed forest)

SP-15a (Transect 2, Area C, mixed forest)

SP-04a (Transect 2, Area C, mixed forest)

SP-04b (Transect 2, Area (mixed forest)

SP-05 (Transect 2, Area C, disturbed)

SP-17a (Transect 2, Area C, disturbed)

SP-01 (Transect 2, Area C, grassland)

SP-18a (Transect 2, Area C, mixed forest)

SP-09 (Transect 3, Area C, mixed forest)

SP-22a (Transect 3, Area C, disturbed)

Near southern boundary of wetland in Area C

Near southern boundary of wetland in Area C

South of boundary of wetland in Area C

SP-07 (Transect 3, Area C, mixed forest)

Area D

Area D

APPENDIX C

U.S. Army Corps of Engineers
Letter Stating No Permit Required

DEPARTMENT OF THE ARMY
HONOLULU DISTRICT, U.S. ARMY CORPS OF ENGINEERS
FORT SHAFTER, HAWAII 96858-5440

March 3, 2015

SUBJECT: No Permit Required for the Haleiwa Plantation Village Project Located on Achiu Lane, Haleiwa, Oahu TMK: (1) 6-6-009:002 and (1) 6-6-010:003; DA File No. POH-2013-00016

Scott Wallace
WTMC
3375 Koapaka Street
Honolulu, HI 96819

Dear Mr. Wallace:

This letter supersedes the letter from our office dated February 24, 2015. We have received your letter dated February 6, 2015 requesting a determination of permitting requirements for the proposed development of a residential subdivision on 6.9 acres of land at TMK: (1) 6-6-009:002 and (1) 6-6-010:003, in the Village of Haleiwa, Honolulu County, Oahu. We have assigned your project Department of the Army (DA) file number POH-2013-00016. Please reference this number in all future correspondence concerning this project.

We have reviewed your submittal pursuant to Section 10 of the Rivers and Harbors Act of 1899 (Section 10) and Section 404 of the Clean Water Act (Section 404). Section 10 requires that a DA permit be obtained for certain structures or work in or affecting navigable waters of the United States, prior to conducting the work (33 U.S.C. 403). Section 404 requires that a DA permit be obtained for the discharge of dredged and/or fill material into waters of the U.S., including wetlands and navigable waters of the U.S, prior to conducting the work (33 U.S.C. 1344).

Two wetlands occur on the subject property as described in the Wetland Delineation Report prepared by Aecos, Inc. dated December 11, 2012 (Revised October 13, 2013). Wetland A is an isolated wetland occurring in the southeastern portion of the property and is not federally regulated. Wetland C is located along the northern property boundary and drains through an unnamed tributary to Paukauila Stream, which flows to the Pacific Ocean. Therefore, Wetland C is considered a water of the U.S. under the regulatory jurisdiction of the Corps.

Based on our review of the information you furnished, and assuming your project is conducted only as set forth in the information provided, this office has determined the proposed activity would not result in the discharge of dredged or fill material into waters of the U.S. as defined by Section 404. Therefore, a DA permit will not be required.

This letter contains an approved JD that identifies the basis for asserting jurisdiction (Enclosure 1). The approved JD is valid for a period of five (5) years unless new information warrants revision of the determination before the expiration date. If you object to this determination, you may request an Administrative Appeal under 33 CFR 331. We have enclosed a Notification of Appeal Process and Request for Appeal (NAP/RFA) form (Enclosure 2). If you request to appeal this determination you must submit a completed RFA form, according to instructions in the RFA, to the Corps' Pacific Ocean Division office at the following address:

Cindy Barger, Appeals Review Officer
U.S. Army Corps of Engineers
Pacific Ocean Division, ATTN: CEPOD-PDC
Building 525
Fort Shafter, Hawaii 96858-5440

Although a permit is not required from this office, we recommend use of Best Management Practices to avoid and minimize adverse impacts to the aquatic resource. It is your responsibility to ensure that your project complies with all other Federal, State, or local statutes, ordinances and regulations.

Thank you for your cooperation with the Honolulu District Regulatory Program. Should you have any questions related to this determination, please me at 808-835-4306 or via e-mail at Kate.M.Bliss@usace.army.mil. You are encouraged to provide comments on your experience with the Honolulu District Regulatory Office by accessing our web-based customer survey form at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.

Sincerely,

Kate Bliss

Kate Bliss
Senior Project Manager
Regulatory Office

Enclosure(s)

cc:
State of Hawaii DBEDT Office of Planning (John Nakagawa)
State of Hawaii DOH-CWB (Darryl Lum)
Aecos, Inc. (Susan Burr)

From: Bliss, Kate M POH <Kate.M.Bliss@usace.army.mil>
To: scottchaw <scottchaw@aol.com>
Cc: Susan Burr <SBurr@aecos.com>; John Nakagawa <JNakagaw@dbedt.hawaii.gov>; darryl.lum <darryl.lum@doh.hawaii.gov>; Bliss, Kate M POH <Kate.M.Bliss@usace.army.mil>
Subject: RE: POH-2013-16, Haleiwa Plantation - No Permit Required (UNCLASSIFIED)
Date: Tue, Mar 3, 2015 1:21 pm
Attachments: Enclosure 1 AJD Form Wetland A.pdf (111K), Enclosure 1 AJD Form Wetland C.pdf (107K), Enclosure 2 NOA.pdf (45K), signedScott_Wallace_NPR.rtf_03_02_2015.pdf (55K)

Classification: UNCLASSIFIED
Caveats: NONE

Aloha Mr. Wallace,

Attached
please find an updated No Permit Required Letter with the correct date for the Wetland Delineation Report. I apologize for the error in the previous letter from our office and appreciate you identifying it so that it could be corrected.

Sincerely,

Kate M. Bliss
Senior Project Manager
U.S. Army Corps of
Engineers
Honolulu District Regulatory Office
Building 230
Fort Shafter, HI
96858-5440
Phone: 808-835-4306

-----Original Message-----
From: Bliss,
Kate M POH
Sent: Tuesday, February 24, 2015 4:26 PM
To:
'scottchaw@aol.com'
Cc: 'Susan Burr'; John Nakagawa;
'darryl.lum@doh.hawaii.gov'
Subject: POH-2013-16, Haleiwa Plantation - No
Permit Required (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats:
NONE

Aloha Mr. Wallace:

The Honolulu District Regulatory Office is
digitally transmitting the attached documents for your convenience. Please print a copy of the documents and retain for your records. If you are unable to print the document and require a hard copy mailed to you, please notify me at your earliest convenience.

The Regulatory Office is committed to providing
the highest level of customer service. You are encouraged to provide comments

on your experience with the Honolulu District Regulatory Office by accessing our web-based customer survey form at
http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0

Sincerely,

Kate M.
Bliss
Senior Project Manager
U.S. Army Corps of Engineers
Honolulu District
Regulatory Office
Building 230
Fort Shafter, HI 96858-5440
Phone:
808-835-4306

Classification: UNCLASSIFIED
Caveats:
NONE

Classification: UNCLASSIFIED
Caveats: NONE

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Scott Wallace	File Number: POH-2013-00016	Date: **February 24, 2015**

Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of Permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of Permission)	B
	PERMIT DENIAL	C
X	**APPROVED JURISDICTIONAL DETERMINATION**	**D**
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/CECW/Pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A. INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit or a Letter of Permission (LOP), you may sign the permit document and return it to the district commander for final authorization. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district commander. Your objections must be received by the district commander within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district commander will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district commander will send you a proffered permit for your reconsideration, as indicated in Section B below.

B. PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit or a Letter of Permission (LOP), you may sign the permit document and return it to the district commander for final authorization. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division commander. This form must be received by the division commander within 60 days of the date of this notice.

C. PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division commander. This form must be received by the division commander within 60 days of the date of this notice.

D. APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.**
- **APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division commander. This form must be received by the division commander within 60 days of the date of this notice.**

E. PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact: Honolulu District, U.S. Army Corps of Engineers Regulatory Office, CEPOH-RO Building 230 Fort Shafter, Hawaii 96858-5440 Phone: (808) 835-4303	If you only have questions regarding the appeal process you may also contact: Pacific Ocean Division, U.S. Army Corps of Engineers Cindy Barger, Appeals Review Officer, CEPOD-PDC Building 525 Fort Shafter, Hawaii 96858-5440 Phone: (808) 835-4626

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Commanders personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 12/5/14

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: CEPOH-RO, Haleiwa Wetland Determination, POH-2013-00016,

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State:Hawaii County/parish/borough: Honolulu City: Haleiwa
Center coordinates of site (lat/long in degree decimal format): Lat. 21.586185° N, Long. 158.104897° W.
Universal Transverse Mercator: Zone 4
Name of nearest waterbody: Pacific Ocean
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: None
Name of watershed or Hydrologic Unit Code (HUC): COWRM
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: 29 OCT 2014
☒ Field Determination. Date(s): 15 AUG 2014

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Are no *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There Are no *"waters of the U.S."* within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
   ☐ TNWs, including territorial seas
   ☐ Wetlands adjacent to TNWs
   ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
   ☐ Non-RPWs that flow directly or indirectly into TNWs
   ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
   ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
   ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
   ☐ Impoundments of jurisdictional waters
   ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
   Non-wetland waters: linear feet: width (ft) and/or acres.
   Wetlands: 0.0 acres.

   c. **Limits (boundaries) of jurisdiction** based on: Pick List
   Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **One wetland, Area A, is approximately 0.541 acre in size and was found to be in a geographically-isolated depressional area on the property. Area A is a former lo'i kalo or taro pondfield. In recent years the field has been**

---

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

used to grow upland crops, but has not been farmed in at least 5 years. LeGrand and Young (2011) reported this area to be used for growing "ornamental and food crops." Area A is dominated by low quality, non-native vegetation including para grass (Urochloa mutica), with a grove of 'opiuma (Pithecellobium dulce) present on the fill area. The herbaceous vegetation was mowed prior to the August 15, 2014 site meeting. Area A is a persistent palustrine wetland with emergent vegetation according to the NWI maps. Area A is bounded on all sides by higher topography, including roadways to the south, west and north and a berm to the east. The wetland is approximately 200' to the south of a jurisdictional wetland, the Haleiwa Marsh, approximately 1,000' from the nearest RPW, a perennial stream that drains Haleiwa Marsh, and 2,300' from the Pacific Ocean. The roadside ditch located approximately 65' to the south of the wetland, along the south side of Achiu Lane, has been excavated in upland and is considered non-jurisdictional. The roadside ditch is dominated by Urochloa maxima, a FAC species, and does not meet the soil or hydrology criteria to qualify as wetland. There were no culverts observed during the August 15, 2014 inspection of the perimeter of the wetland, which would convey surface water from this wetland to the Haleiwa Marsh, the roadside ditch, or another waters of the U.S. The area between Wetland A and the Haleiwa Marsh is upland consisting of a driveway and associated outbuildings. Area A does not exhibit a surface water connection to a navigable waterway and is considered a groundwater-driven/fresh/depression/mineral substrate wetland according to the Hawaii wetland analysis protocol proposed in Erickson & Puttock (2006). The 1952 USGS Haleiwa Quad map and the 1949 and 1973 aerial photography do not appear to show wetlands located in this area. Area A is not within the regulated floodplain area and does not exhibit a surface water connection to waters of the U.S. during 100-year floods. Considering the lack of a surface hydrologic connection to a navigable waterway, the relatively small size of the wetland, the dominance by low quality, non-native vegetation, and the active mowing of the wetland, we do not feel that this wetland has more than an insubstantial or speculative effect on the chemical, physical, and/or biological integrity of traditional navigable waters. For these reasons this office believes the subject wetland to be considered isolated.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
   Identify TNW: .

   Summarize rationale supporting determination: .

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) **General Area Conditions:**
   Watershed size: Pick List
   Drainage area: Pick List
   Average annual rainfall: inches
   Average annual snowfall: inches

   (ii) **Physical Characteristics:**
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☐ Tributary flows through Pick List tributaries before entering TNW.

   Project waters are Pick List river miles from TNW.
   Project waters are Pick List river miles from RPW.
   Project waters are Pick List aerial (straight) miles from TNW.
   Project waters are Pick List aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: .

   Identify flow route to TNW[5]: .
   Tributary stream order, if known: .

---

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: inflow is diversion structure.
☐ Manipulated (man-altered). Explain: impoundment created from UPLANDS.

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: Pick List.

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: Pick List
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: Pick List
Estimate average number of flow events in review area/year: 2-5
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: Pick List. Characteristics: .

Subsurface flow: Pick List. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain:flow from reservoir to receiving tributarydependent on storage capacity of reservoir.

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☒ High Tide Line indicated by: ☒ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

---

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: Pick List. Explain: .

Surface flow is: Pick List

Characteristics: .

Subsurface flow: Pick List. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: reservoir is artificial wetland.

(d) Proximity (Relationship) to TNW

Project wetlands are Pick List river miles from TNW.

Project waters are Pick List aerial (straight) miles from TNW.

Flow is from: Pick List.

Estimate approximate location of wetland as within the Pick List floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: 2

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
Y	20		

Summarize overall biological, chemical and physical functions being performed: water and sediment retention.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: artificial impoundment has potential to release excess waters to RPW tributaries.

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

---

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☒ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: **The subject wetland is relatively small and dominated by low quality, non-native vegetation. It does not exhibit any chemical, physical or biological connection to a waters of the U.S. and has no connection to foreign or interstate commerce.**
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: 0.541 acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☒ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: Haleiwa, 1952.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☒ National wetlands inventory map(s). Cite name: Haleiwa.
☐ State/Local wetland inventory map(s): .
☒ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date):Google Earth: 2002, 2003, 2004, 2006, 2008, 2013, 2014.
or ☒ Other (Name & Date):GIS aerial 1949, 1973.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 12/5/14

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: CEPOH-RO, Haleiwa Wetland Determination, POH-2013-00016

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State:Hawaii County/parish/borough: Honolulu City: Haleiwa
Center coordinates of site (lat/long in degree decimal format): Lat. 21.586988° N, Long. 158.104655° W.
Universal Transverse Mercator: Zone 4
Name of nearest waterbody: Pacific Ocean
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Pacific Ocean
Name of watershed or Hydrologic Unit Code (HUC): 20060000
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: 29 OCT 2014
☒ Field Determination. Date(s): 15 AUG 2014

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Are no "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There Are "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
   - ☐ TNWs, including territorial seas
   - ☐ Wetlands adjacent to TNWs
   - ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
   - ☐ Non-RPWs that flow directly or indirectly into TNWs
   - ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
   - ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
   - ☒ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
   - ☐ Impoundments of jurisdictional waters
   - ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
   Non-wetland waters: linear feet: width (ft) and/or acres.
   Wetlands: 22.69 acres.

   c. **Limits (boundaries) of jurisdiction** based on: 1987 Delineation Manual
   Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: .

---

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
   Identify TNW: .

   Summarize rationale supporting determination: .

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) **General Area Conditions:**
   Watershed size: Pick List
   Drainage area: Pick List
   Average annual rainfall: inches
   Average annual snowfall: inches

   (ii) **Physical Characteristics:**
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☐ Tributary flows through Pick List tributaries before entering TNW.

   Project waters are Pick List river miles from TNW.
   Project waters are Pick List river miles from RPW.
   Project waters are Pick List aerial (straight) miles from TNW.
   Project waters are Pick List aerial (straight) miles from RPW.
   Project waters cross or serve as state boundaries. Explain: .

   Identify flow route to TNW[5]: .
   Tributary stream order, if known: .

---

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is:
- ☐ Natural
- ☐ Artificial (man-made). Explain: inflow is diversion structure.
- ☐ Manipulated (man-altered). Explain: impoundment created from UPLANDS.

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: Pick List.

Primary tributary substrate composition (check all that apply):
- ☐ Silts
- ☐ Sands
- ☐ Concrete
- ☐ Cobbles
- ☐ Gravel
- ☐ Muck
- ☐ Bedrock
- ☐ Vegetation. Type/% cover:
- ☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: Pick List
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: Pick List
Estimate average number of flow events in review area/year: Pick List
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: Pick List. Characteristics: .

Subsurface flow: Pick List. Explain findings: .
- ☐ Dye (or other) test performed: .

Tributary has (check all that apply):
- ☐ Bed and banks
- ☐ OHWM[6] (check all indicators that apply):
  - ☐ clear, natural line impressed on the bank
  - ☐ changes in the character of soil
  - ☐ shelving
  - ☐ vegetation matted down, bent, or absent
  - ☐ leaf litter disturbed or washed away
  - ☐ sediment deposition
  - ☐ water staining
  - ☐ other (list):
  - ☐ the presence of litter and debris
  - ☐ destruction of terrestrial vegetation
  - ☐ the presence of wrack line
  - ☐ sediment sorting
  - ☐ scour
  - ☐ multiple observed or predicted flow events
  - ☐ abrupt change in plant community
- ☐ Discontinuous OHWM.[7] Explain:flow from reservoir to receiving tributarydependent on storage capacity of reservoir.

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
- ☒ High Tide Line indicated by:
  - ☐ oil or scum line along shore objects
  - ☐ fine shell or debris deposits (foreshore)
  - ☐ physical markings/characteristics
  - ☐ tidal gauges
  - ☐ other (list):
- ☒ Mean High Water Mark indicated by:
  - ☐ survey to available datum;
  - ☐ physical markings;
  - ☐ vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

---

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: Pick List. Explain: .

Surface flow is: Pick List

Characteristics: .

Subsurface flow: Pick List. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: reservoir is artificial wetland.

(d) Proximity (Relationship) to TNW

Project wetlands are Pick List river miles from TNW.

Project waters are Pick List aerial (straight) miles from TNW.

Flow is from: Pick List.

Estimate approximate location of wetland as within the Pick List floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: Pick List

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)
Y	20		

Summarize overall biological, chemical and physical functions being performed: water and sediment retention.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   ☐ TNWs: linear feet width (ft), Or, acres.
   ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   ☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: The wetland on the subject property abuts a tributary that is labeled as a perennial stream on the USGS Topographic Quandrangle map. The tributary exhibits a bed, bank and ordinary high water mark. Water is visible within the stream in aerial photographs from 11/29/2002, 10/20/2003, 8/30/2004, 7/30/2006, 12/30/2008, 1/16/2013, 1/29/2013, and 2/7/2013 .
   ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: artificial impoundment has potential to release excess waters to RPW tributaries.

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☒ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Wetland C is a large, freshwater emergent wetland that extends onto the site along the northern property boundary. The entire wetland complex is a 22.69 acre marsh that drains to the south through an unnamed perennial stream as indicated by the USGS Topographic Quadrangle map. The stream flows west from the wetland for approximately 0.75 miles before emptying into Paukauila Stream. Paukauila Stream flows approximately 0.33 miles north where it converges with the Pacific Ocean. The wetland is directly abutting a relatively permanent waterway that flows directly into a navigable waterway, and is therefore a federally-jurisdictional waters of the U.S.**

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

---

[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

☒ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☒ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☒ which are or could be used for industrial purposes by industries in interstate commerce.
☒ Interstate isolated waters. Explain: .
☒ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☒ Tributary waters: linear feet width (ft).
☒ Other non-wetland waters: acres.
Identify type(s) of waters: .
☒ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☒ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☒ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☒ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☒ Lakes/ponds: acres.
☒ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☒ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☒ Lakes/ponds: acres.
☒ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☒ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☒ Data sheets prepared by the Corps: .
☒ Corps navigable waters' study: .
☒ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: Haleiwa, 1952.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation:USDA-NCSS Streaming-KMZ interface.
☒ National wetlands inventory map(s). Cite name: NWI .
☒ State/Local wetland inventory map(s): .
☒ FEMA/FIRM maps: .
☒ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date):Google Earth: 2002, 2003, 2004, 2006, 2008, 2013, 2014.

---

[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

or ☒ Other (Name & Date):GIS aerial 1949, 1973.

☐ Previous determination(s). File no. and date of response letter: .

☐ Applicable/supporting case law: .

☐ Applicable/supporting scientific literature: .

☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

APPENDIX D

Traffic Assessment

Traffic Assessment
Haleiwa Plantation Village Subdivision
Haleiwa, Oahu, Hawaii

(TMK 6-6-009:002 and TMK 6-6-010: 003)

May 2015

Prepared for:

Scott C. Wallace

Prepared by:

Julian Ng Inc.
P. O. Box 816
Kaneohe, Hawaii 96744

JULIAN NG
LICENSED PROFESSIONAL ENGINEER
No. 3903-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature

Expiration Date: April 30, 2016

Table of Contents

	Page
Executive Summary	1
Introduction	2
Figure 1 – Project Location	2
Traffic Generation Estimates	3
Table 1 – Traffic Generation Estimates	3
Bus Service	3
Intersection Analyses	4
Traffic Conditions in the Area	4
Figure 2 – Traffic Assignments, Existing (2013) Conditions	5
Figure 3 – Traffic Assignments, Future Baseline (no development)	5
Figure 4 – Traffic Assignments, Future with Project	5
Table 2 – Levels of Service, Weekday Peak Hours	6
Evaluation of Separate Left Turn Lane on the Highway	7
Conclusions	7
Appendix A – Traffic Count Data	
Appendix B – Intersection analysis worksheets	

Traffic Assessment
Haleiwa Plantation Village Subdivision

Kilioe Place, Haleiwa, Oahu, Hawaii
(TMK 6-6-009: 002 and 6-6-010: 003)

May 2015

Executive Summary

A traffic assessment was conducted to identify the potential traffic impact of the proposed subdivision to create a residential subdivision that would support the construction of up to 35 single family dwelling units. Vehicular access will be from the end of the existing Kilioe Place in Haleiwa, Hawaii.

The assessment found that, while a proportionately large increase in traffic volumes would occur, Kilioe Place can provide adequate access and traffic conditions will not be adversely impacted.

a. Kilioe Place includes concrete sidewalks, curbs, and gutters with a width of 28 feet between curbs. Based on the subdivision standards of the City and County of Honolulu, a street this width is acceptable.

b. Analyses of existing and future conditions at the intersection of Kilioe Place and Kamehameha Highway show slight increases in delays to controlled movements at the intersection. Conditions would remain at "Level of Service D" or better, as defined in the *Highway Capacity Manual,* which is considered acceptable.

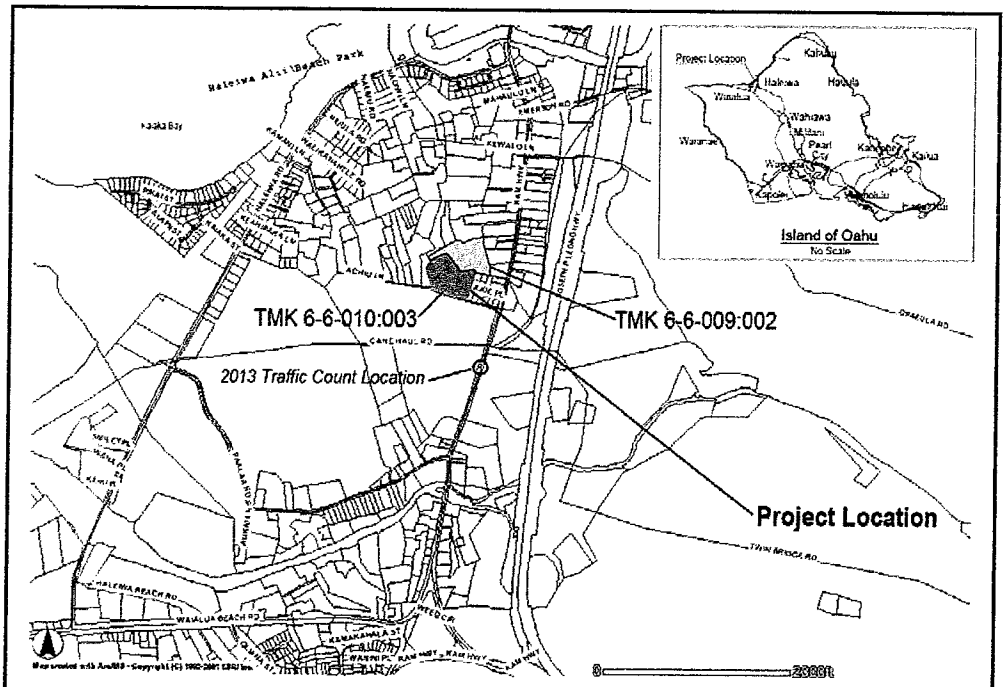
c. The analyses also show that volumes will be well under capacity. While a proposed guideline indicates a separate left turn lane on Kamehameha Highway is warranted, a review of existing conditions on the roadway indicates that a separate turn lane would not be an appropriate improvement.

d. The highest traffic impact will be in the PM Peak Hour, with added volumes being less than a threshold suggested by the Institute of Transportation Engineers for the preparation of a traffic impact or access study.

Further traffic study, therefore, should not be necessary.

Introduction

Scott C. Wallace has proposed a subdivision of two adjacent lots to create a residential community known as the Haleiwa Plantation Village. The lots are a 3.712-acre property in Haleiwa (TMK 6-6-009: 002), herein called "Lot 2" and the adjoining 3.563-acre parcel (TMK 6-6-010:003), herein called "Lot 3". Figure 1 shows the project location and surrounding area.



Source of main map: City and County of Honolulu (2010) {http://66.192.218.34/website/parcelzoning/viewer.htm}

Figure 1 – Project Location

The properties are presently used for vehicular storage and agricultural purposes, with minimal traffic generation. Current vehicular access to Lot 2 is through adjoining lots between it and the highway, and access to Lot 3 is currently through Achiu Lane, which is privately owned by others, and Kilioe Place, a public street. The proposed project will have vehicular access from the west end of Kilioe Place, an existing City street that serves 15 existing single-family detached dwellings.

This traffic assessment was prepared to identify the potential impact of the project upon completion and full occupancy of up to 35 detached dwelling units. A standard City street would be constructed to extend Kilioe Place into Lot 3 and the street will be dedicated to the City.

Traffic Generation Estimates

Trip rates for detached dwelling units from the 9th Edition of the widely-used *Trip Generation Manual* reference (published 2012) from the Institute of Transportation Engineers were used to estimate existing and future traffic volumes on Kilioe Place. Traffic generation rates and the estimates for existing and proposed conditions are shown in Table 1.

Table 1 – Traffic Generation Estimates

Trip rates, per Single Family Detached Dwelling Unit	Average Weekday		Weekday AM Peak Hour		Weekday PM Peak Hour		Weekend Peak Hour	
	Rate	% In	Rate	% In	Rate	% In	Rate	% In
	9.52	50%	0.77	26%	1.02	64%	0.93	54%
Vehicle trip estimates	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit
Existing (15 units)	70	70	3	9	10	5	8	6
Proposed (50 units)	240	240	10	29	33	18	25	21
Net Increase	**170**	**170**	**7**	**20**	**23**	**13**	**17**	**15**
Total impact (2-way)	**340**		**27**		**46**		**32**	
* *Trip Generation, 9th Edition*								

The highest traffic impacts of 340 vehicles per day (estimates of daily volumes were rounded to nearest 10) and 46 vehicles per hour will be less than the thresholds commonly used [1] to determine when a traffic access/impact study should be conducted.

Kilioe Place includes concrete sidewalks and curbs and gutters, and has a cross-section that provides a width of 28 feet between curbs. Under the subdivision standards [2] of the City and County of Honolulu, a street with 28 feet between curbs can serve up to 200 dwelling units. With the proposed project that would add up to 35 dwelling units, the total unit count served by the street becomes 50, so Kilioe Place would be considered adequate.

Bus Service

Public bus service provided by the City's *TheBus* system is available on Kamehameha Highway. Bus stops are located near the intersection with Kilioe Place. The nearest (southbound) bus stop is served by *TheBus* Routes 52, 55, 83, and 88A with day time service averaging 3 buses per hour supplemented by 3 express buses in the early morning and late afternoon. A local circulator bus on Route 76 also comes by every 40 minutes.

---

1 Institute of Transportation Engineers, *Transportation Impact Analyses for Site Development* (2005) and State of Hawaii Department of Transportation, Highways Division, Planning Branch. *Best Practices for Traffic Impact Analysis Reports* (proposed in 2011, never adopted)

City and County of Honolulu, Department of Planning and Permitting, "Subdivision Street Standards" December 2000

Intersection Analyses

Although the traffic impact has been previously shown to not be significant, level-of-service analyses have been conducted to further illustrate the possible impacts of the proposed development alternatives.

The analyses of unsignalized intersections using the methodology described in the *Highway Capacity Manual 2000 (HCM)* were done. The *HCM* analyses provide estimates of average delays based on traffic volumes, traffic characteristics, and intersection layout. At unsignalized intersections, conditions are identified for stopped or yielding movements. Levels of Service (LOS) are related to average delays as follows (Level of Service D or better is considered acceptable):

LOS	General Description of Delay	Average Delay (seconds per vehicle) at unsignalized intersection
A	Little or no delay	≤ 10
B	Short traffic delays	> 10 and ≤ 15
C	Average traffic delays	> 15 and ≤ 25
D	Long traffic delays	> 25 and ≤ 35
E	Very long traffic delays	> 35 and ≤ 50
F	Very long traffic delays	>50

Since the proposed project will have a minimal impact, no detailed traffic study was done. Available traffic count data from a 48-hour weekday count taken in June 2013 on Kamehameha Highway near Kilioe Place were used for existing conditions.

Traffic Conditions in the Area

The traffic assignments for existing conditions are shown in Figure 2. From the highway traffic count data, the AM Peak Hour occurred between 8:00 AM and 9:00 AM, and the PM Peak Hour occurred between 3:15 PM and 4:15 PM. The highway count data also shows a midday peak volume that totals about the same as the PM Peak Hour; however, the traffic in and out of a residential street would not be expected to be as large as during the weekday commuting (AM or PM) peak hours. Comparison with traffic count data from counts taken in February 2008 shows no trend (increase or decrease) in traffic volumes.

Traffic volumes for a weekend peak hour were developed by factoring the highway counts by 115%; these volumes were considered representative of peak day, peak hour conditions. Traffic volumes for a future baseline (without the proposed project) condition were developed by increasing volumes of through movements by 10%. Traffic assignments for existing and future conditions are shown in Figures 2 through 4

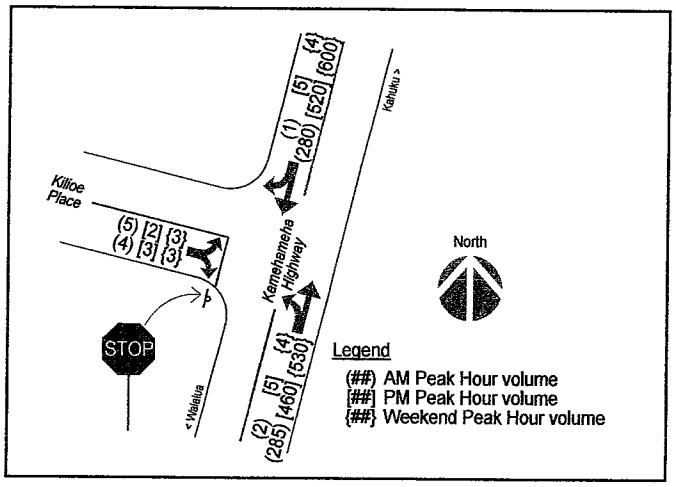


Figure 2 – Traffic Assignments, Existing (2013) Conditions

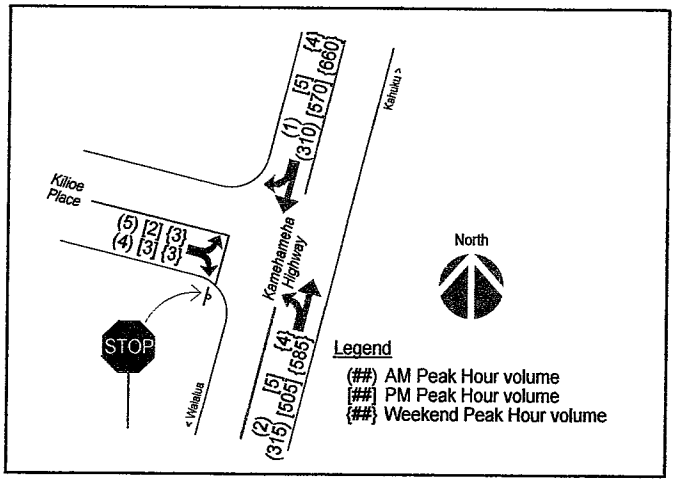


Figure 3 – Traffic Assignments, Future Baseline (no development)

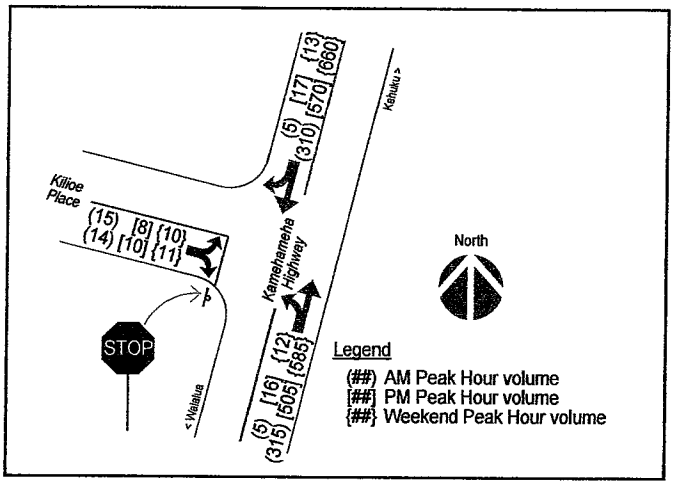


Figure 4 – Traffic Assignments, Future with Project

Results of the level of service analyses are shown in Table 2. A slight increase in delays would occur in the future, since highway traffic volumes were assumed to increase. Larger increases in delay would occur under any of the alternatives, as traffic volumes in and out of Kilioe Place will increase. Volumes on the controlled movements will be well under capacity in every case. Copies of summaries of the calculations are attached as Appendix B.

Table 2 – Levels of Service at Two-Way Stop Intersection
Kilioe Place at Kamehameha Highway (Weekday Peak Hours)

	Kilioe Place Shared Lane at Stop			Left Turn from Kamehameha Highway			
	V/C	AD	LOS	V/C	Q_{free}	AD	LOS
AM Peak Hour							
Existing (2013 counts)	0.02	12.9	B	0.00	1.00	8.1	A
Future Baseline	0.02	13.5	B	0.00	1.00	8.2	A
Future with Project	0.07	13.9	B	0.01	0.99	8.3	A
PM Peak Hour							
Existing (2013 counts)	0.02	17.3	C	0.01	0.99	9.0	A
Future Baseline	0.02	18.8	C	0.01	0.99	9.2	A
Future with Project	0.08	20.6	C	0.02	0.97	9.3	A
Weekend Peak Hour							
Existing	0.03	21.1	C	0.00	0.99	9.3	A
Future Baseline	0.03	23.8	C	0.01	0.99	9.5	A
Future with Project	0.12	26.0	D	0.02	0.97	9.6	A

V/C = volume/capacity ratio
Q_{free} = probability of queue-free state with shared lane on highway
AD = average delay per vehicle (seconds)
LOS = Level of Service

For the typical weekday peak hours, there will be minimal changes in conditions at the intersection of Kilioe Place and Kamehameha Highway. The only change in level of service would occur in the PM Peak Hour, as delays for left turns from northbound Kamehameha Highway into Kilioe Place increase slightly; the change to Level of Service B conditions, however, would keep conditions within the acceptable range.

Traffic stopped on Kilioe Place waiting to turn onto the highway will have longer delays. For future conditions without added traffic from any new residential units, delays are

expected to increase slightly, but Levels of Service would not change. The additional traffic due to new residential units served by Kilioe Place will increase delays; changing the Level of Service from the stop sign from "C" to "D" in the weekend peak hour.

Evaluation of Separate Left Turn Lane on the Highway

A research paper published by the National Cooperative Highway Research Program (Report 745, *Left-Turn Accommodations at Unsignalized Intersections*) in 2013 includes recommendations for left turn warrants: for a three-legged intersection, a separate left turn lane would be warranted when left turn volume exceeds 5 vehicles per hour during a peak hour when the arterial (main street) volume is 450 vehicles per hour per lane or greater. As indicated in Figures 2-4 above, that warrant is marginally met without the proposed project, but will be met with the additional traffic generated by the proposed project.

Meeting a traffic engineering warrant, however, does not automatically mean that the improvement should be implemented, but only that volumes are sufficient to consider the additional lane. Other factors to consider are site-specific. Installation of a separate left turn lane at Kilioe Place would require that Kamehameha Highway be widened, with appropriate transitions and tapers extending for hundreds of feet in each direction along the highway. This would reduce the shoulder widths and affect turning movements in to and out of other nearby driveways. Adding a turn lane would also increase the width of roadway that pedestrians would need to traverse in getting from one side of the highway to the other side. The intersection level of service analyses (results reported in Table 2) indicate that delays due to left turns from the highway are minimal and that the probabilities of an approaching vehicle being delayed by one waiting to turn left from the highway are less than 5%. These factors are reasons why a separate turn lane is not recommended.

Conclusions

Adequate access to new residential units can be provided by Kilioe Place. The proposed project will result in a proportionately large increase in traffic volumes, but the existing street will be able to handle that traffic. During peak hours, the stop-controlled intersection of Kilioe Place and Kamehameha Highway will continue to operate at acceptable levels of service, despite increases in delays for vehicles that must stop or must yield to oncoming traffic.

While a separate left turn lane on Kamehameha Highway would meet a volume warrant, the addition of a separate left turn lane is not recommended, due to the other effects resulting from placement of an additional lane.

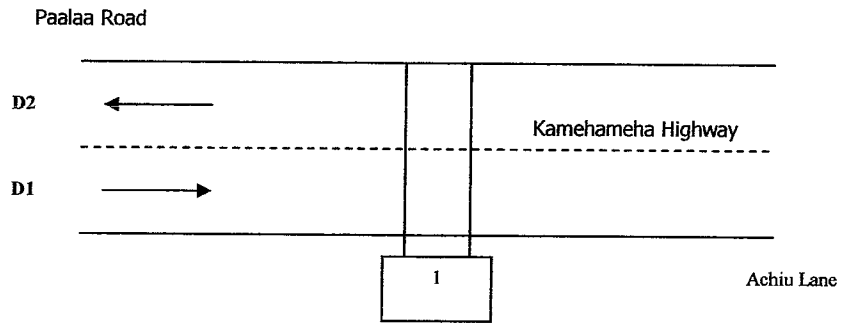
Traffic Data Service

Traffic Station Sketch

N

Island: Oahu
Area: Haleiwa

Section ID/Station #: B72830000033



Meter #	File Name	GPS
1. cc41	D0618009_B72830000033	21.58371, -158.1041
2.	D0618010_B72830000033	

Station Description: Kamehameha Highway: Paalaa Road to Achiu Lane			
Survey Beginning Date/Time: 6/18/2013 @ 0000		Survey Ending Date/Time: 6/19/2013 @ 2400	
Survey Method:	Road Tube	Data Type:	Class
Survey Crew:	LM		C1B
Sketch Updated:	8.27.13 - 704	By:	SR
Remarks:			

FACILITY NAME	JURI	FUNC CLASS	AREA TYPE	ROUTE NO.	ROUTE MILE
Kamehameha		16		8300	

D1= Direction to End D2= Direction to Begin	D1: Achiu Lane / Joseph P. Leong Highway D2: Paalaa Road / Kaukonahua Road

Run Date: 2014/05/29

Hawaii Department of Transportation
Highways Division — Highways Planning Survey Section
2013 Program Count - Summary

Site ID: B72830000033
Functional Class: URBAN:MINOR ARTERIAL
Location: Kamehameha Hwy - Paalaa Rd to Achiu Ln

Town: Oahu
Count Type: CLASS

DIR 1: +MP **DIR 2:**-MP
Counter Type: Tube

Final AADT: 11700
Route No: 8300

TIME-AM	DIR 1	DIR 2	TOTAL	TIME-AM	DIR 1	DIR 2	TOTAL	TIME-PM	DIR 1	DIR 2	TOTAL	TIME-PM	DIR 1	DIR 2	TOTAL
DATE : 06/18/2013															
12:00-12:15	6	5	11	06:00-06:15	15	20	35	12:00-12:15	125	105	230	06:00-06:15	92	118	210
12:15-12:30	3	6	9	06:15-06:30	21	24	45	12:15-12:30	129	110	239	06:15-06:30	87	111	198
12:30-12:45	3	6	9	06:30-06:45	41	24	65	12:30-12:45	133	107	240	06:30-06:45	77	104	181
12:45-01:00	6	1	7	06:45-07:00	40	20	60	12:45-01:00	137	105	242	06:45-07:00	62	83	145
01:00-01:15	2	0	2	07:00-07:15	52	29	81	01:00-01:15	88	117	205	07:00-07:15	78	62	140
01:15-01:30	1	2	3	07:15-07:30	45	29	74	01:15-01:30	130	118	248	07:15-07:30	71	88	159
01:30-01:45	3	2	5	07:30-07:45	43	48	91	01:30-01:45	130	123	253	07:30-07:45	48	93	141
01:45-02:00	3	1	4	07:45-08:00	79	44	123	01:45-02:00	98	120	218	07:45-08:00	43	71	114
02:00-02:15	4	2	6	08:00-08:15	65	49	114	02:00-02:15	114	125	239	08:00-08:15	55	71	126
02:15-02:30	1	1	2	08:15-08:30	68	66	134	02:15-02:30	114	121	235	08:15-08:30	44	59	103
02:30-02:45	3	0	3	08:30-08:45	76	76	152	02:30-02:45	123	122	245	08:30-08:45	55	59	114
02:45-03:00	5	2	7	08:45-09:00	82	92	174	02:45-03:00	119	137	256	08:45-09:00	34	51	85
03:00-03:15	0	0	0	09:00-09:15	99	76	175	03:00-03:15	116	135	251	09:00-09:15	39	43	82
03:15-03:30	2	3	5	09:15-09:30	75	82	157	03:15-03:30	114	136	250	09:15-09:30	27	42	69
03:30-03:45	5	2	7	09:30-09:45	97	80	177	03:30-03:45	111	135	246	09:30-09:45	12	23	35
03:45-04:00	0	1	1	09:45-10:00	87	75	162	03:45-04:00	109	145	254	09:45-10:00	24	22	46
04:00-04:15	7	2	9	10:00-10:15	104	80	184	04:00-04:15	88	139	227	10:00-10:15	12	22	34
04:15-04:30	3	6	9	10:15-10:30	114	80	194	04:15-04:30	95	114	209	10:15-10:30	9	12	21
04:30-04:45	9	7	16	10:30-10:45	106	93	199	04:30-04:45	97	111	208	10:30-10:45	12	9	21
04:45-05:00	7	9	16	10:45-11:00	127	94	221	04:45-05:00	86	114	200	10:45-11:00	15	20	35
05:00-05:15	8	12	20	11:00-11:15	112	102	214	05:00-05:15	109	119	228	11:00-11:15	8	7	15
05:15-05:30	12	8	20	11:15-11:30	123	113	236	05:15-05:30	93	107	200	11:15-11:30	12	14	26
05:30-05:45	21	9	30	11:30-11:45	111	91	202	05:30-05:45	82	127	209	11:30-11:45	10	5	15
05:45-06:00	22	20	42	11:45-12:00	117	91	208	05:45-06:00	84	99	183	11:45-12:00	11	3	14

AM COMMUTER PERIOD (05:00-09:00)	DIR 1	DIR 2	
TWO DIRECTIONAL PEAK			
AM - PEAK HR TIME	08:00 AM to 09:00 AM		
AM - PEAK HR VOLUME	291	283	574
AM - K FACTOR (%)			5.05
AM - D (%)	50.70	49.30	100.00
DIRECTIONAL PEAK			
AM - PEAK HR TIME	08:00 AM to 09:00 AM	08:00 AM to 09:00 AM	
AM - PEAK HR VOLUME	291	283	

PM COMMUTER PERIOD (15:00-19:00)	DIR 1	DIR 2	
TWO DIRECTIONAL PEAK			
PM - PEAK HR TIME	03:00 PM to 04:00 PM		
PM - PEAK HR VOLUME	450	551	1001
PM - K FACTOR (%)			8.81
PM - D (%)	44.96	55.04	100.00
DIRECTIONAL PEAK			
PM - PEAK HR TIME	03:00 PM to 04:00 PM	03:15 PM to 04:15 PM	
PM - PEAK HR VOLUME	450	555	

AM PERIOD (00:00-12:00)			
TWO DIRECTIONAL PEAK			
AM - PEAK HR TIME	10:45 AM to 11:45 AM		
AM - PEAK HR VOLUME	473	400	873
AM - K FACTOR (%)			7.68
AM - D (%)	54.18	45.82	100.00

PM PERIOD (12:00-24:00)			
TWO DIRECTIONAL PEAK			
PM - PEAK HR TIME	02:45 PM to 03:45 PM		
PM - PEAK HR VOLUME	460	543	1003
PM - K FACTOR (%)			8.83
PM - D (%)	45.86	54.14	100.00

NON-COMMUTER PERIOD (09:00-15:00)			
TWO DIRECTIONAL PEAK			
PEAK HR TIME	02:00 PM to 03:00 PM		
PEAK HR VOLUME	470	505	975
DIRECTIONAL PEAK			
PEAK HR TIME	12:00 PM to 01:00 PM	02:00 PM to 03:00 PM	
PEAK HR VOLUME	524	505	

6-HR, 12-HR, 24-HR PERIODS	DIR 1	DIR 2	Total
AM 6-HR PERIOD (06:00-12:00)	1,899	1,578	3,477
AM 12-HR PERIOD (00:00-12:00)	2,035	1,685	3,720
PM 6-HR PERIOD (12:00-18:00)	2,624	2,891	5,515
PM 12-HR PERIOD (12:00-24:00)	3,561	4,083	7,644
24 HOUR PERIOD	5,596	5,768	11,364
D (%)	49.24	50.76	100.00

Run Date: 2014/05/29

Hawaii Department of Transportation
Highways Division — Highways Planning Survey Section
2013 Program Count - Summary

Site ID: B72830000033
Functional Class: URBAN:MINOR ARTERIAL
Location: Kamehameha Hwy - Paalaa Rd to Achiu Ln

Town: Oahu
Count Type: CLASS

DIR 1: +MP **DIR 2:** -MP **Final AADT:** 11700
Counter Type: Tube **Route No:** 8300

DATE : 06/19/2013

TIME-AM	DIR 1	DIR 2	TOTAL	TIME-AM	DIR 1	DIR 2	TOTAL	TIME-PM	DIR 1	DIR 2	TOTAL	TIME-PM	DIR 1	DIR 2	TOTAL
12:00-12:15	2	3	5	06:00-06:15	13	18	31	12:00-12:15	122	101	223	06:00-06:15	83	102	185
12:15-12:30	2	5	7	06:15-06:30	34	22	56	12:15-12:30	124	82	206	06:15-06:30	76	98	174
12:30-12:45	4	5	9	06:30-06:45	30	15	45	12:30-12:45	144	108	252	06:30-06:45	83	89	172
12:45-01:00	2	2	4	06:45-07:00	38	15	53	12:45-01:00	127	120	247	06:45-07:00	86	112	198
01:00-01:15	2	0	2	07:00-07:15	46	23	69	01:00-01:15	116	116	232	07:00-07:15	111	109	220
01:15-01:30	0	4	4	07:15-07:30	46	33	79	01:15-01:30	124	103	227	07:15-07:30	75	95	170
01:30-01:45	2	0	2	07:30-07:45	52	51	103	01:30-01:45	116	99	215	07:30-07:45	53	114	167
01:45-02:00	2	2	4	07:45-08:00	67	53	120	01:45-02:00	117	80	197	07:45-08:00	64	94	158
02:00-02:15	3	2	5	08:00-08:15	77	57	134	02:00-02:15	107	124	231	08:00-08:15	52	87	139
02:15-02:30	2	1	3	08:15-08:30	69	63	132	02:15-02:30	81	103	184	08:15-08:30	46	61	107
02:30-02:45	3	3	6	08:30-08:45	72	86	158	02:30-02:45	126	126	252	08:30-08:45	37	76	113
02:45-03:00	1	2	3	08:45-09:00	62	70	132	02:45-03:00	98	142	240	08:45-09:00	43	59	102
03:00-03:15	2	0	2	09:00-09:15	86	82	168	03:00-03:15	76	99	175	09:00-09:15	31	42	73
03:15-03:30	1	1	2	09:15-09:30	79	68	147	03:15-03:30	99	126	225	09:15-09:30	29	33	62
03:30-03:45	2	2	4	09:30-09:45	75	75	150	03:30-03:45	114	114	228	09:30-09:45	22	36	58
03:45-04:00	1	1	2	09:45-10:00	119	101	220	03:45-04:00	148	125	273	09:45-10:00	16	33	49
04:00-04:15	7	0	7	10:00-10:15	103	70	173	04:00-04:15	104	124	228	10:00-10:15	23	24	47
04:15-04:30	8	1	9	10:15-10:30	111	83	194	04:15-04:30	91	118	209	10:15-10:30	18	21	39
04:30-04:45	11	2	13	10:30-10:45	110	78	188	04:30-04:45	107	114	221	10:30-10:45	14	14	28
04:45-05:00	6	4	10	10:45-11:00	111	91	202	04:45-05:00	116	125	241	10:45-11:00	12	11	23
05:00-05:15	10	5	15	11:00-11:15	124	83	207	05:00-05:15	94	146	240	11:00-11:15	9	17	26
05:15-05:30	8	5	13	11:15-11:30	114	92	206	05:15-05:30	102	109	211	11:15-11:30	12	17	29
05:30-05:45	10	6	16	11:30-11:45	126	106	232	05:30-05:45	91	103	194	11:30-11:45	12	13	25
05:45-06:00	30	17	47	11:45-12:00	124	90	214	05:45-06:00	66	121	187	11:45-12:00	7	9	16

AM COMMUTER PERIOD (05:00-09:00)	DIR 1	DIR 2	
TWO DIRECTIONAL PEAK			
AM - PEAK HR TIME	08:00 AM to 09:00 AM		
AM - PEAK HR VOLUME	280	276	556
AM - K FACTOR (%)			4.91
AM - D (%)	50.36	49.64	100.00
DIRECTIONAL PEAK			
AM - PEAK HR TIME	07:45 AM to 08:45 AM	08:00 AM to 09:00 AM	
AM - PEAK HR VOLUME	285	276	

PM COMMUTER PERIOD (15:00-19:00)	DIR 1	DIR 2	
TWO DIRECTIONAL PEAK			
PM - PEAK HR TIME	03:15 PM to 04:15 PM		
PM - PEAK HR VOLUME	465	489	954
PM - K FACTOR (%)			8.42
PM - D (%)	48.74	51.26	100.00
DIRECTIONAL PEAK			
PM - PEAK HR TIME	03:15 PM to 04:15 PM	04:15 PM to 05:15 PM	
PM - PEAK HR VOLUME	465	503	

AM PERIOD (00:00-12:00)			
TWO DIRECTIONAL PEAK			
AM - PEAK HR TIME	11:00 AM to 12:00 PM		
AM - PEAK HR VOLUME	488	371	859
AM - K FACTOR (%)			7.58
AM - D (%)	56.81	43.19	100.00

PM PERIOD (12:00-24:00)			
TWO DIRECTIONAL PEAK			
PM - PEAK HR TIME	12:30 PM to 01:30 PM		
PM - PEAK HR VOLUME	511	447	958
PM - K FACTOR (%)			8.46
PM - D (%)	53.34	46.66	100.00

NON-COMMUTER PERIOD (09:00-15:00)			
TWO DIRECTIONAL PEAK			
PEAK HR TIME	12:30 PM to 01:30 PM		
PEAK HR VOLUME	511	447	958
DIRECTIONAL PEAK			
PEAK HR TIME	12:00 PM to 01:00 PM	02:00 PM to 03:00 PM	
PEAK HR VOLUME	517	495	

6-HR, 12-HR, 24-HR PERIODS	DIR 1	DIR 2	Total
AM 6-HR PERIOD (06:00-12:00)	1,888	1,525	3,413
AM 12-HR PERIOD (00:00-12:00)	2,009	1,598	3,607
PM 6-HR PERIOD (12:00-18:00)	2,610	2,728	5,338
PM 12-HR PERIOD (12:00-24:00)	3,624	4,094	7,718
24 HOUR PERIOD	5,633	5,692	11,325
D (%)	49.74	50.26	100.00

Run Date: 2014/05/28

Hawaii Department of Transportation
Highways Division
Highways Planning Survey Section

Vehicle Classification Data Summary
2013

Site ID:	B72830000033	**Route No:**	8300	**Date From:**	2013/06/18 0:00
Town:	Oahu	**Direction:**	+MP	**Date To:**	2013/06/19 23:45
Location:	Kamehameha Hwy - Paalaa Rd to Achiu Ln				

Functional Classification: 16 URBAN:MINOR ARTERIAL

REPORT TOTALS - 48 HOURS RECORDED

	VOLUME	%	NUMBER OF AXLES
Cycles	268	1.18%	535
PC	17242	75.99%	34484
2A-4T	4750	20.94%	9500
LIGHT VEHICLE TOTALS	22260	98.11%	44519
	HEAVY VEHICLES		
Bus	209	0.92%	523
SINGLE UNIT TRUCK			
2A-6T	149	0.66%	298
3A-SU	24	0.11%	72
4A-SU	1	0.00%	4
SINGLE-TRAILER TRUCKS			
4A-ST	24	0.11%	96
5A-ST	15	0.07%	75
6A-ST	4	0.02%	24
MULTI-TRAILER TRUCKS			
5A-MT	1	0.00%	5
6A-MT	1	0.00%	6
7A-MT	2	0.01%	14
HEAVY VEHICLE TOTALS	430	1.90%	1117
CLASSIFIED VEHICLES TOTALS	22690 (A)	100.00%	45636 (B)
UNCLASSIFIED VEHICLES TOTALS	-1	-0.00%	

AXLE CORRECTION FACTOR (A/C) = 0.994

ROADTUBE EQUIVALENT(B/2) = 22818 (C)

PEAK HOUR VOLUME : 1001 2013/06/18 15:00	PEAK HOUR TRUCK VOLUME	% TOTAL PEAK HOUR VOLUME	24 HOUR TRUCK VOLUME	AADT	% OF AADT	HPMS K-FACTOR (PEAK/AADT) (ITEM 66)
SINGLE UNIT TRUCKS (TYPE 4-7)	6	(65A-1) 0.60%	191	11700	(65A-2) 1.63%	8.56%
COMBINATION (TYPE 8-13)	4	(65B-1) 0.40%	23		(65B-2) 0.20%	8.56%

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*C&C Honolulu*
Date Performed	*5/30/2015*	Analysis Year	*2013*
Analysis Time Period	*AM Peak Hour*		

Project Description	*Haleiwa Plantation Village*
East/West Street: *Kilioe Place*	North/South Street: *Kamehameha Highway*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	2	285	0	0	280	1
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	2	316	0	0	311	1
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	5	0	4
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	0	5	0	4
Percent Heavy Vehicles	0	0	0	2	0	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (vph)	2						9	
C (m) (vph)	1147						464	
v/c	0.00						0.02	
95% queue length	0.01						0.06	
Control Delay	8.1						12.9	
LOS	A						B	
Approach Delay	--	--				12.9		
Approach LOS	--	--				B		

Copyright © 2003 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*C&C Honolulu*
Date Performed	*5/30/2015*	Analysis Year	*future baseline*
Analysis Time Period	*AM Peak Hour*		
Project Description	*Haleiwa Plantation Village*		
East/West Street:	*Kilioe Place*	North/South Street:	*Kamehameha Highway*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	2	315	0	0	310	1
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	2	350	0	0	344	1
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	5	0	4
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	0	5	0	4
Percent Heavy Vehicles	0	0	0	2	0	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (vph)	2						9	
C (m) (vph)	1116						432	
v/c	0.00						0.02	
95% queue length	0.01						0.06	
Control Delay	8.2						13.5	
LOS	A						B	
Approach Delay	--	--				13.5		
Approach LOS	--	--				B		

Copyright © 2003 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*C&C Honolulu*
Date Performed	*5/30/2015*	Analysis Year	*future with project*
Analysis Time Period	*AM Peak Hour*		
Project Description	*Haleiwa Plantation Village*		
East/West Street:	*Kilioe Place*	North/South Street:	*Kamehameha Highway*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	5	315	0	0	310	5
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	5	350	0	0	344	5
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	15	0	14
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	0	16	0	15
Percent Heavy Vehicles	0	0	0	2	0	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (vph)	5						31	
C (m) (vph)	1112						435	
v/c	0.00						0.07	
95% queue length	0.01						0.23	
Control Delay	8.3						13.9	
LOS	A						B	
Approach Delay	--	--				13.9		
Approach LOS	--	--				B		

Copyright © 2003 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*C&C Honolulu*
Date Performed	*5/30/2015*	Analysis Year	*2013*
Analysis Time Period	*PM Peak Hour*		

Project Description	*Haleiwa Plantation Village*
East/West Street: *Kilioe Place*	North/South Street: *Kamehameha Highway*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	5	460	0	0	520	5
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	5	511	0	0	577	5
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	2	0	3
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	0	2	0	3
Percent Heavy Vehicles	0	0	0	2	0	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (vph)	5						5	
C (m) (vph)	911						297	
v/c	0.01						0.02	
95% queue length	0.02						0.05	
Control Delay	9.0						17.3	
LOS	A						C	
Approach Delay	--	--				17.3		
Approach LOS	--	--				C		

Copyright © 2003 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*C&C Honolulu*
Date Performed	*5/30/2015*	Analysis Year	*future baseline*
Analysis Time Period	*PM Peak Hour*		
Project Description	*Haleiwa Plantation Village*		
East/West Street:	*Kilioe Place*	North/South Street:	*Kamehameha Highway*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	5	505	0	0	570	5
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	5	561	0	0	633	5
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	2	0	3
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	0	2	0	3
Percent Heavy Vehicles	0	0	0	2	0	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (vph)	5						5	
C (m) (vph)	868						265	
v/c	0.01						0.02	
95% queue length	0.02						0.06	
Control Delay	9.2						18.8	
LOS	A						C	
Approach Delay	--	--				18.8		
Approach LOS	--	--				C		

Copyright © 2003 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JN	Intersection	
Agency/Co.	Julian Ng Incorporated	Jurisdiction	C&C Honolulu
Date Performed	5/30/2015	Analysis Year	future with project
Analysis Time Period	PM Peak Hour		

Project Description: Haleiwa Plantation Village

East/West Street: Kilioe Place | North/South Street: Kamehameha Highway

Intersection Orientation: North-South | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	16	505	0	0	570	17
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	17	561	0	0	633	18
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	8	0	10
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	0	8	0	11
Percent Heavy Vehicles	0	0	0	2	0	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (vph)	17						19	
C (m) (vph)	859						250	
v/c	0.02						0.08	
95% queue length	0.06						0.24	
Control Delay	9.3						20.6	
LOS	A						C	
Approach Delay	--	--				20.6		
Approach LOS	--	--				C		

Copyright © 2003 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JN	Intersection	
Agency/Co.	Julian Ng Incorporated	Jurisdiction	C&C Honolulu
Date Performed	5/30/2015	Analysis Year	2013
Analysis Time Period	WE Peak Hour		

Project Description	Haleiwa Plantation Village
East/West Street: Kilioe Place	North/South Street: Kamehameha Highway
Intersection Orientation: North-South	Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	4	530	0	0	600	4
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	4	588	0	0	666	4
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	3	0	3
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	0	3	0	3
Percent Heavy Vehicles	0	0	0	2	0	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (vph)	4						6	
C (m) (vph)	845						229	
v/c	0.00						0.03	
95% queue length	0.01						0.08	
Control Delay	9.3						21.1	
LOS	A						C	
Approach Delay	--	--				21.1		
Approach LOS	--	--				C		

Copyright © 2003 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*C&C Honolulu*
Date Performed	*5/30/2015*	Analysis Year	*future baseline*
Analysis Time Period	*WE Peak Hour*		
Project Description	*Haleiwa Plantation Village*		
East/West Street:	*Kilioe Place*	North/South Street:	*Kamehameha Highway*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*4*	*585*	*0*	*0*	*660*	*4*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*4*	*650*	*0*	*0*	*733*	*4*
Percent Heavy Vehicles	*2*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*3*	*0*	*3*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*3*	*0*	*3*
Percent Heavy Vehicles	*0*	*0*	*0*	*2*	*0*	*2*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (vph)	*4*						*6*	
C (m) (vph)	*797*						*197*	
v/c	*0.01*						*0.03*	
95% queue length	*0.02*						*0.09*	
Control Delay	*9.5*						*23.8*	
LOS	*A*						*C*	
Approach Delay	--	--				*23.8*		
Approach LOS	--	--				*C*		

Copyright © 2003 University of Florida, All Rights Reserved

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst		Intersection	
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*C&C Honolulu*
Date Performed	*5/30/2015*	Analysis Year	*future with project*
Analysis Time Period	*WE Peak Hour*		

Project Description	*Haleiwa Plantation Village*
East/West Street: *Kilioe Place*	North/South Street: *Kamehameha Highway*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	12	585	0	0	660	13
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	13	650	0	0	733	14
Percent Heavy Vehicles	2	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	10	0	11
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	0	11	0	12
Percent Heavy Vehicles	0	0	0	2	0	2
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (vph)	13						23	
C (m) (vph)	791						194	
v/c	0.02						0.12	
95% queue length	0.05						0.40	
Control Delay	9.6						26.0	
LOS	A						D	
Approach Delay	--	--				26.0		
Approach LOS	--	--				D		

Copyright © 2003 University of Florida, All Rights Reserved

APPENDIX E

Impacts on Agriculture Study

KILIOE PLACE/ACHIU LANE SUBDIVISION: IMPACTS ON AGRICULTURE

KILIOE PLACE/ACHIU LANE SUBDIVISION: IMPACTS ON AGRICULTURE

PREPARED FOR:
Kilioe Place Properties, LLC

PREPARED BY:
Plasch Econ Pacific LLC

January 2012

CONTENTS

EXECUTIVE SUMMARY **ES-1**

1. INTRODUCTION **1**

2. PROJECT LOCATION AND DESCRIPTION **1**

- **a.** Project Site 1
- **b.** Project Description 1

3. AGRONOMIC AND OTHER CONDITIONS **4**

- **a.** Size for Farming 4
- **b.** Cleared Acreage 4
- **c.** Soil Type 4
- **d.** Soil Characteristics 4
- **e.** Soil Ratings 5
- **f.** Elevation and Slope 6
- **g.** Climatic Conditions 6
- **h.** Irrigation Water 6
- **i.** Flooding 6
- **j.** Pests 6
- **k.** Land Value 7
- **l.** Improvements 7
- **m.** Road Access 7
- **n.** Distance to Major Markets 7
- **o.** Surrounding Land Uses 7
- **p.** Summary 8

4. HISTORIC AGRICULTURAL USE OF THE PROJECT SITE **8**

5. LOVAN TARO FARM **9**

- **a.** Past and Current Farm Operations 9
- **b.** Impacts on Farm Operations 9

6. IMPACT ON THE GROWTH OF DIVERSIFIED CROP FARMING **10**

7. OFFSETTING BENEFITS **10**

8. CONSISTENCY WITH STATE AND COUNTY LAND USE PLANS **11**

a. State Districting 11

b. County Plans 11

9. **REFERENCES** **11**

FIGURES

1. Project Location 2

2. Existing Farm 3

EXECUTIVE SUMMARY

1. PROPOSED DEVELOPMENT

Kilioe Place Properties, LLC proposes to develop the Kilioe Place/Achiu Lane Subdivision ("the Project"), a small residential subdivision of up to 49 lots. The Project site covers about 6.9 acres on two abutting properties near the center of Hale'iwa, O'ahu. Their Tax Map Keys, acreage, and land-use classifications are as follows:

- Northern Property: TMK 6-6-009-002, about 3.3 acres, State Agricultural District, County Ag-2 zoning. However, a narrow strip (about 0.02 acre) of the Property is in the Urban District and is zoned R-5.
- Southern Property: TMK 6-6-010-003, about 3.6 acres, State Urban District, County Ag-2 zoning.

2. AGRICULTURAL CONDITIONS

The Project site receives considerable sunshine, averaging over 450 calories per square centimeter per day. Also, each of the two properties is suitable for a combination farmhouse/ small semi-commercial farm where the land could be farmed largely for the lifestyle and supplemental income.

The Project site is poorly suited for typical commercial field farming as indicated by the following:

- Small acreage (about 6.9 acres).
- Very large trees cover about 40% the Project site.
- Difficult to work land because the soil is sticky when wet, and hard and compact when dry.
- Expensive water for irrigating crops (about $1.31 per 1,000 gallons for large volumes compared to about $0.50 for water from most irrigation systems on O'ahu).
- Flooding during heavy rainstorms.
- A snail infestation, which presents a problem when growing wetland taro (one of the few commercial crops suitable for the property due to the flooding).

— Abutting residential areas to the east and west, and one planned on the abutting property to the south.

— High land values assessed at over $200,000 per acre, compared to about $20,000 per acre for large fields of good farmland for which farming is the highest and best use.

The above agronomic shortcomings—combined with the fact that the land has not been farmed for at least 5 years because the tenant does not regard farming the land as being commercially viable—indicate that the land does not meet the conditions to be designated as Important Agricultural Lands.

3. LOVAN TARO FARM

a. Past and Current Farm Operations

Since 1987, the land has been leased to a farmer who currently operates as Lovan Taro Farm (the "Farm"). In the past, he used about 2.8 acres of the Project site for diversified crop farming. However, farming the land as a stand-alone operation proved to not be commercially viable due to the small acreage, flooding during heavy rains, and the close proximity of the Farm to nearby homes, which limited certain farming activities (e.g., spraying chemicals). For a number of years, the farmer used the Project site to test potential new crops and crop varieties. If a crop proved to be successful on small plots in Hale‘iwa, then he considers growing them on larger plots at his main 100-acre farm in Waialua. The farmer also attempted a wetland taro operation, but abandoned it due to an unmanageable snail infestation. The land has not been farmed or used for testing new crops for at least 5 years.

The farmer continues to lease the Project site in Hale‘iwa because of his 25-year history with the land. Even though the Project site is no longer farmed or used for testing new crops, the farmer stores farm equipment and supplies in the warehouse that is located on the Property.

For over a decade, the main portion of the Farm has been located on about 100 acres in Waialua, of which about 60 acres are farmed. This is a single-person operation with no employees, although friends and relatives help on weekends.

b. Impacts on Farm Operations

The proposed Project will require that the Farm move its warehouse from the Project site to to its main 100-acre farm in Waialua. Sufficient land is available at the Waialua farm to accommodate the relocation, and the design of the warehouse allows it to be disassembled, moved and rebuilt.

After the warehouse is moved, the Project will have a small beneficial impact on Lovan Taro Farm operations. The Project is expected to have no impact on the amount of land farmed, the types of crops grown, production, revenues or employment. However, operating costs will be reduced and profits increased since the farmer will no longer pay rent for the Project site.

4. IMPACT ON THE GROWTH OF DIVERSIFIED-CROP FARMING

The Project will result in a small loss of agricultural land that is poorly suited for growing commercial field crops. Compared to the available supply of good farmland on O‘ahu and statewide, this loss is too small to affect the growth of diversified-crop farming.

5. OFFSETTING BENEFITS

The loss to agriculture of 6.9 acres that are poorly suited for growing commercial field crops will be offset by the benefit of an urban-infill project that will provide up to 49 new homes for North Shore residents. Additional benefits will include:

— Construction jobs associated with Project development.

— Indirect jobs generated by purchases of goods and services by construction companies and families of construction workers.

— Off-site jobs generated by purchases of goods and services by Project residents.

6. CONSISTENCY WITH STATE AND COUNTY LAND USE PLANS

a. State Districting

The Southern Property (TMK 6-6-010-003, about 3.6 acres) is within the State’s Urban District, which allows residential development subject to County approvals. The narrow access to the Northern Property is also within the Urban District.

Except for the narrow access, the Northern Property (TMK 6-6-009-002, about 3.3 acres) is within the State’s Agricultural District. Development of this Property will require a boundary amendment to place the Property in the Urban District.

b. County Plans

In the County’s “North Shore Sustainable Communities Plan” (May 3, 2011), the Project is located within the Community Growth Boundary in an area designated for

Agriculture. However, the Plan allows for "limited [urban] 'infill' … in Hale'iwa … [in areas] … that are contiguous to lands designated for residential and commercial use …".

Residential development of the Project site will require a change in zoning from Ag-2 to R-5, except for the narrow access strip on the Northern property which is already zoned R-5.

KILIOE PLACE/ACHIU LANE SUBDIVISION: IMPACTS ON AGRICULTURE

1. INTRODUCTION

Kilioe Place Properties, LLC proposes to develop the Kilioe Place/Achiu Lane Subdivision ("the Project"), a small residential subdivision to be located in Hale'iwa, O'ahu.

This report addresses the impacts on agriculture of developing the Project. The material below gives the following information: the Project site and description; agronomic and other relevant conditions at the Project site; the historic agricultural use of the site; impacts of the Project on the current agricultural use of the site; the impact of the Project on the growth of diversified-crop farming; benefits of the Project that would offset adverse agricultural impacts; and consistency of the Project with State and County land-use plans.

2. PROJECT SITE AND DESCRIPTION

a. Project Site

The Project site covers about 6.9 acres on two abutting properties near the center of Hale'iwa, O'ahu (see Figures 1 and 2). Their Tax Map Keys, acreage, and land-use classifications are as follows:

— Northern Property: TMK 6-6-009-002, about 3.3 acres, State Agricultural District, County Ag-2 zoning. However, a narrow strip (about 0.02 acre) of the Property is in the Urban District and is zoned R-5.

— Southern Property: TMK 6-6-010-003, about 3.6 acres, State Urban District, County Ag-2 zoning.

b. Project Description

The Project is a residential subdivision that will provide up to 49 house lots of about 5,000 square feet each.

Figure 1. Project Location

Figure 2. Existing Farm

3. AGRONOMIC AND OTHER CONDITIONS

a. Size for Farming

The Project site is too small for a typical commercial farm. Each of the two properties is, however, large enough for a small semi-commercial farm and farmhouse. Semi-commercial farms offer a farming lifestyle and supplemental income.

b. Cleared Acreage

About 4.3 acres (60%) of the Project site (the southern property) are cleared and currently suitable for small-scale farming and support operations. Most of the northern property is covered by very large trees.

c. Soil Type

The 1972 soil survey by the Natural Resources Conservation Service (NRCS), formerly known as the Soil Conservation Service, indicates that the predominant soil type at the Project site is Hale‘iwa silty clay, 0 to 2% slopes (HeA). This soil type has been used for sugarcane, truck crops, and pasture.

d. Soil Characteristics

The 1972 soil survey by the NRCS and the 1972 soil survey by the University of Hawai‘i (UH) Land Study Bureau (LSB) indicate that the soils at the Project site have the following characteristics:

— fine texture

— non-stony

— sticky when wet, and hard and compact when dry

— moderate depth

— moderate permeability

— very slow runoff, poorly drained

— waterlogged subsoil

— slight erosion hazard

— medium acidic to neutral

The soils have developed from recent alluvium under conditions of either a high water table or poor aeration, and have been drained artificially. The land is difficult to work because the soils are sticky when wet, and hard and compact when dry.

e. Soil Ratings

Three classification systems are commonly used to rate soils in Hawai'i: (1) Land Capability Grouping, (2) Agricultural Lands of Importance to the State of Hawai'i, and (3) Overall Productivity Rating.

Land Capability Grouping (NRCS Rating)

The 1972 Land Capability Grouping by the NRCS rates soils according to eight levels, ranging from the highest classification level "I" to the lowest "VIII."

Soil type HeA has a rating of IIe. Class II soils have moderate limitations that reduce the choice of plants or require moderate conservation practices. The subclassification "e" indicates that the soils are subject to moderate erosion if they are cultivated and not protected. Class II soils are regarded as high-quality soils.

Overall Productivity Rating (LSB Rating)

In 1972, the LSB developed the Overall Productivity Rating, which classifies soils according to five levels, with "A" representing the class of highest productivity and "E" the lowest.

Soils at the Project site are rated C. This low rating reflects the fact that the land is difficult to work because the soils are sticky when wet, and hard and compact when dry. Also, the area is subject to flooding during heavy rains (see Subsection 3.i). Soils rated C are are regarded as low-quality soils but still suitable for farming.

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

ALISH ratings were developed in 1977 by the NRCS, the UH College of Tropical Agriculture and Human Resources, and the State Department of Agriculture. This system classifies land into three broad categories: (a) Prime agricultural land which is land that is best-suited for the production of crops because of its ability to sustain high yields with relatively little input and with the least damage to the environment; (b) Unique agricultural land which is non-Prime agricultural land used for the production of specific high-value crops; and (c) Other agricultural land which is non-Prime and non-Unique agricultural land that is important to the production of crops.

Most of the Northern Property have soils that are rated Prime. The Southern Property is in the State's Urban District, so the soils are not rated in the State's mapping system. Soils rated Prime are regarded as high-quality soils.

f. Elevation and Slope

The Project site ranges in elevation from about 9 feet to about 16 feet, with an average slope of about 1%.

g. Climatic Conditions

Hawai‘i has a mild *semi*tropical climate that is due primarily to three factors: (1) Hawai'i'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 that are close to those of the surrounding waters.

Solar Radiation

The Project site receives considerable sunshine, with average daily insulation of over 450 calories per square centimeter.

Rainfall

Annual rainfall in Hale‘iwa averages about 30 inches. Most of this rainfall occurs during the winter rainy season (October through April), while the summer months (May through September) are dryer.

Temperatures

Temperatures in Hale‘iwa range from an average minium of about 59°F in February to an average high of about 87°F in August.

h. Irrigation Water

Water is available from the Honolulu Board of Water Supply. However, the agricultural water rate is expensive: about $1.31 per 1,000 gallons for large volumes compared to about $0.50 for water from most irrigation systems on O‘ahu.

i. Flooding

The Project site is subject to flooding during heavy rains.

j. Pests

Snails in the area present a problem for growing wetland taro, which is one of the few commercial crops suitable for the property due to the flooding.

k. Land Value

Under the County's current zoning (Ag-2), the land comprising the Project site is assessed by the County at an average of over $200,000 per acre, in comparison to about $20,000 per acre for large fields of good farmland for which farming is the highest and best use. The high land value of the Project site reflects the fact that the County allows a dwelling to be built on each of the two properties. Without the allowed residential use on each property, the Project site is too expensive for a typical commercial farm.

l. Improvements

Onsite improvements include a small office of less than 500 square feet, and a makeshift warehouse of less than 1,800 square feet built from unfinished sheets of plywood (see Figure 2).

m. Road Access

Access to the Project Site is from Achiu Lane and Kilioe Place, both of which connect to Kamehameha Highway (see Figures 1 and 2). Achiu Lane is a narrow 10-foot-wide privately-owned paved road that is not built to County standards. Kilioe Place is a 25-foot-wide paved residential road with parking on both sides of the street.

While these two roads are suitable for small farm trucks, they are not suitable for large ones.

n. Distance to Major Markets

The Project site is about 25 miles to major food distribution centers serving Honolulu (based on the distance from Hale‘iwa to Māpunapuna). Travel time is less than 40 minutes, based on an average speed of about 40 miles per hour. The travel distance and time are feasible for supplying Honolulu markets and distribution centers.

o. Surrounding Land Uses

As shown in Figures 1 and 2, surrounding land uses incude:

— homes to the east and west

— open space, a swamp, and limited farming to the north

— farming to the south (seed corn in late 2011)

As part of its "North Shore Plan," Kamehameha Schools has proposed the Hale‘iwa Residential Village and related commercial development on abutting land south of the Project. This development is planned as urban infill in Hale‘iwa.

p. Summary

The Project site receives considerable sunshine, averaging over 450 calories per square centimeter per day. Also, each of the two properties is suitable for a combination farmhouse/ small semi-commercial farm where the land could be farmed largely for the lifestyle and supplemental income.

The Project site is poorly suited for typical commercial field farming as indicated by the following:

— Small acreage (about 6.9 acres).

— Very large trees cover about 40% the Project site.

— Difficult to work land because the soil is sticky when wet, and hard and compact when dry.

— Expensive water for irrigating crops (about $1.31 per 1,000 gallons for large volumes compared to about $0.50 for water from most irrigation systems on O‘ahu).

— Flooding during heavy rainstorms.

— A snail infestation, which presents a problem when growing wetland taro (one of the few commercial crops suitable for the property due to the flooding).

— Abutting residential areas to the east and west, and one planned on the abutting property to the south.

— High land values assessed at over $200,000 per acre, compared to about $20,000 per acre for large fields of good farmland for which farming is the highest and best use.

The above agronomic shortcomings—combined with the fact that the land has not been farmed for at least 5 years because the tenant does not regard farming the land as being commercially viable (see Section 5)—indicate that the land does <u>not</u> meet the conditions to be designated as Important Agricultural Lands in accordance with Hawai‘i Revised Statues §205-42(a) and §205-44(c).

4. HISTORIC AGRICULTURAL USE OF THE PROJECT SITE

For at least 60 years and ending by 2010, the Project site was owned by companies affiliated with Castle & Cooke, including what became known as Waialua Sugar Co. Soil rating maps from the early 1970s indicate that the land was farmed, but it was not used to grow sugarcane.

In recent decades, the land has been leased to a vegetable farmer (see below).

5. LOVAN TARO FARM

a. Past and Current Farm Operations

Since 1987, the land has been leased to a farmer who currently operates as Lovan Taro Farm (the "Farm"). In the past, he used about 2.8 acres of the Project site to grow string beans, cucumbers, banana, papaya and eggplant. However, farming the land as a stand-alone operation proved to not be commercially viable due to the small acreage, flooding during heavy rains, and the close proximity of the Farm to nearby homes, which limited certain farming activities (e.g., spraying chemicals). For a number of years, the farmer used the Project site to test potential new crops and crop varieties. If a crop proved to be successful on small plots in Hale'iwa, then he considers growing them on larger plots at his main 100-acre farm in Waialua (see below). The farmer also attempted a wetland taro operation, but abandoned it due to an unmanageable snail infestation. The land has not been farmed or used for testing new crops for at least 5 years.

The farmer continues to lease the Project site in Hale'iwa because of his 25-year history with the land. This is where he first leased farmland, learned to farm, and planted seedlings in the late 1980s which have grown into mature coconut and banyan trees. The land rents at market value: about $200/acre/year, or about $325/acre/year for the cleared acreage he uses for his farming activities.

Even though the Project site is no longer farmed or used for testing new crops, the farmer stores farm equipment and supplies in the warehouse that is located on the Property (see Figure 2, and Subsection 3.l for its size and description). A neighbor uses the on-site office, occasionally stores construction equipment on the land and, in exchange, watches over the land.

For over a decade, the main portion of the Farm has been located on about 100 acres in Waialua, of which about 60 acres are farmed. Crops include dry-land taro, banana, papaya, and sugarcane. This is a single-person operation with no employees, although friends and relatives help on weekends.

b. Impacts on Farm Operations

The proposed Project will require that the Farm move its warehouse from the Project site to to its main 100-acre farm in Waialua. Sufficient land is available at the Waialua farm to accommodate the relocation, and the design of the warehouse allows it to be disassembled, moved and rebuilt.

After the warehouse is moved, the Project will have a small beneficial impact on the Lovan Taro Farm operations. The Project is expected to have no impact on the amount of land farmed, the types of crops grown, production, revenues or employment. However,

operating costs will be reduced and profits increased since the farmer will no longer pay rent for the Project site.

6. IMPACT ON THE GROWTH OF DIVERSIFIED CROP FARMING

The Project will commit about 6.9 acres of agricultural land to a non-agricultural use. However, as summarized in Subsection 3.p, this land is poorly suited for growing commercial field crops due to the small acreage; the difficulty in working the land due to sticky soils when wet, and hard and compact soils when dry; expensive water for irrigating crops; flooding during heavy rainstorms; nearby homes; and high property values.

This 6.9-acre Project site is small when compared to the total amount of farmland available on O‘ahu. Currently, O‘ahu has about 42,600 acres of high-quality farmland outside the City’s Community Growth Boundaries. This accounting excludes land that is under military control and is not available for farming, and land near Kahuku that is scheduled to become a wildlife refuge. In 2010, an estimated 12,000 acres were farmed on O‘ahu, some of which was on land within the Growth Boundary. Assuming that the farms within the Growth Boundaries eventually will relocate to land outside the Growth Boundaries, over 30,000 acres of good farmland on O‘ahu will remain available for growing additional crops (42,600 acres – 12,000 acres). Most of this land was farmed before the collapse of plantation agriculture. Also, most of it has access to water; however, in order to farm much of the former plantation land, water distribution systems will need to be repaired or rebuilt. Statewide, an estimated 177,000 acres ± 5,000 acres of good farmland remain available.

In summary, the Project will result in a small loss of agricultural land that is poorly suited for growing commercial field crops. Compared to the available supply of good farmland on O‘ahu and statewide, this loss is too small to affect the growth of diversified-crop farming.

7. OFFSETTING BENEFITS

The loss to agriculture of 6.9 acres that are poorly suited for growing commercial field crops will be offset by the benefit of an urban-infill project that will provide up to 49 new homes for North Shore residents. Additional benefits will include:

— Construction jobs associated with Project development.

— Indirect jobs generated by purchases of goods and services by construction companies and families of construction workers.

— Off-site jobs generated by purchases of goods and services by Project residents.

8. CONSISTENCY WITH STATE AND COUNTY LAND USE PLANS

a. State Districting

The Southern Property (TMK 6-6-010-003, about 3.6 acres) is within the State's Urban District, which allows residential development subject to County approvals. The narrow access to the Northern Property is also within the Urban District.

Except for the narrow access, the Northern Property (TMK 6-6-009-002, about 3.3 acres) is within the State's Agricultural District. Development of this Property will require a boundary amendment to place the Property in the Urban District.

b. County Plans

In the County's "North Shore Sustainable Communities Plan" (May 3, 2011), the Project is located within the Community Growth Boundary in an area designated for Agriculture. However, the Plan allows for "limited [urban] 'infill' … in Hale'iwa … [in areas] … that are contiguous to lands designated for residential and commercial use …" (p. 2-4). The following policies support such urban infill:

> "Direct future residential development to Hale'iwa … within the Community Growth Boundary …, subject to community and agency review." (p. 3-42)
>
> "Maintain open space around existing communities by locating new developments within or next to existing developments within the Community Growth Boundary." (p. 3-7).

Residential development of the Project site will require a change in zoning from Ag-2 to R-5, except for the narrow access strip on the Northern property which is already zoned R-5.

9. REFERENCES

Bing Maps. Undated.

City & County of Honolulu, Planning and Permitting Department. "North Shore Sustainable Communities Plan." Ordinance 11-3, Bill 61 (2010), CD2. Approved May 3, 2011.

City & County of Honolulu, Real Property Assessment Division. December 2011.

Enpro. "Phase I Environmental Site Assessment, Hale'iwa, Hawai'i, TMKs (1)6-6-009 & (1)6-6-010-003." October 16, 2008.

Google Earth Pro. January 1, 2008.

Harold L. Baker. *Agricultural Lands of Importance in the State of Hawai'i.* University of Hawai'i College of Tropical Agriculture and Human Resources, Honolulu, Hawaii. 1977.

Hawai‘i Agricultural Statistics Service. *Statistics of Hawaiian Agriculture*. Honolulu, Hawai'i. Annual.

Hawai‘i Revised Statues §205-42(a) and §205-44(c).

Juvik, Sonia P. and James O., *Atlas of Hawai'i, Third Edition.* University of Hawai'i Press. Honolulu, Hawai'i. 1998.

Kamehameha Schools. “North Shore Plan.” 2008.

Kilioe Place Properties, LLC. 2011.

Land Study Bureau. *Detailed Land Classification – Islands of Kaua’i, O’ahu, Maui, Moloka’i and Lana’i.* Honolulu, Hawai’i. December 1972.

Lovan Taro Farm. December 2011.

Meta Engineering. “Soils Investigation, Achiu Subdivsion, Achiu Lane, Hale‘iwa, O‘ahu.” October 2008.

Plasch Econ Pacific LLC. “O‘ahu Agriculture: Situation, Outlook and Issues.” February 2011.

State of Hawai'i, Department of Business and Economic Development. O‘ahu Solar Radiation Map. Undated.

U.S. Department of Agriculture, Soil Conservation Service in cooperation with The University of Hawai'i Agricultural Experiment Station. *Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawai'i.* Washington, D.C. August 1972.

APPENDIX F

North Shore Neighborhood Board Minutes

NORTH SHORE NEIGHBORHOOD BOARD NO. 27

C/o NEIGHBORHOOD COMMISSION • 530 SOUTH KING STREET ROOM 406 • HONOLULU, HAWAII 96813
PHONE (808) 768-3710 • FAX (808) 768-3711 • INTERNET http:///www.honolulu.gov

DRAFT – REGULAR MEETING MINUTES
TUESDAY, MAY 22, 2012
HALEIWA ELEMENTARY CAFETERIA

CALL TO ORDER: Chair Michael Lyons called the meeting to order at 7:00 p.m. **with a quorum of 13-members present.** Note – This 15-member Board requires eight (8) members to establish quorum and to take official Board action. Chair Lyons reviewed the rules of speaking and encouraging speakers to keep to the time limits.

Members Present – Jeff Alameida, Leif Anderson, Tammy Ann Escorzon, John Hirota, Roberts "Bob" Leinau, Michael Lyons, Blake D. McElheny, Antya Miller (arrived 7:35 p.m.), Jacob "Jake" Ng, Carol Phillips, William "Bill" Quinlan, Warren Scoville, Thomas Shirai, and Patrick Vega.

Members Absent – Kathleen Pahinui.

Vacancies – None at this time.

Guests – Will Wild (WTMC), Van Anana, Jeannie Martinson (Sunset Beach Community Association), SFC John Wheeler (SMPBDE), Doug Cole, Lt. Gregory Osbun (Honolulu Police Department), Ken Hirata (HI Agricultural Products, LLC.), Jack and Tonya Reid, Nash Witten, Jenny Yagodich (MPW), Gary Ota, Marsha Taylor (WHIS), Senator Donovan Dela Cruz, Dot Fujinaga (Office Manager) and Ken Nakamoto (Senate staff); Thomas Young (Board of Water Supply), Apolenario Suan, Lisa Imata (Plan Pacific), Arlene Kawahakui, Jacque Leinau, Kalani Fronda (Kamehameha Schools), Sheryl Bieler, Scott Wallace, Barry Usegawa (BWS, North Shore Water Shed Management Plan); Barbara Natale, Candy Foster, and Jeff Overton (Group 70 International), Lowell Chun, Harvey Higa, Kalani Fronda (Kamehameha Schools), Capt. John Bredin (Honolulu Fire Department), and Marie Richardson (Neighborhood Commission Office staff).

Action to Declare Board Member Blake McElheny's Seat Vacant Due to Three Absences in accordance with §2-14-105 of the Neighborhood Plan (NP) – Chair Lyons explained the agenda item is in accordance with the NP. Phillips read a letter from the Neighborhood Commission Office (NCO) noting McElheny's option to remain on the Board or not; and a request to hear from McElheny about his absences, and to get input from the NCO on the ruling.

NA Richardson read §2-14-105, Attendance of Members, and §2-14-106, Absences and Removal Process, and Resignations. Essentially, members are expected to attend all meetings; notify the chair, designee, or presiding officer if unable to attend a meeting; that absences are not considered excused; that the board keep an attendance record; after having accumulated three (3) absences, the member will receive notice; the member will have the opportunity following the third absence to explain their circumstance at a subsequent meeting and request to remain on the board; and the board may take action to declare the seat vacant.

Referencing §2-14-106 (d), McElheny expressed that he wished to continue serving as a Board member. He took full responsibility for his absences. He meant no disrespect, problem, or inconvenience to the Board and would fulfill the Board's expectations.

Leinau submitted a letter from the Sunset Beach Community Association (SBCA) in support of McElheny's continued service and asked the Board to support McElheny. Also in attendance and supporting McElheny were members from the Sunset Beach community. **Leinau moved that the North Shore Neighborhood Board No. 27 support Blake McElheny's request to remain on the Board; Ng seconded the motion.** No further discussion followed. **The motion was ADOPTED, 12-1-0 (AYE:** Alameida, Anderson, Escorzon, Hirota, Leinau, McElheny, Ng, Phillips, Quinlan, Scoville, Shirai, and Vega. **NAY:** Lyons**).**

CITY MONTHLY REPORTS:

Honolulu Fire Department (HFD) – Capt. John Bredin reported the following:

- April 2012 Statistics – Included 1 structure, 3 wildland, and 8 rubbish fires, 18 medical emergencies and 2 search/rescues.
- Fire Safety Tip – In 2012, there were total 1,331,500 fires reported in the United States. Fire hydrants are the main source of water supply for fire apparatuses responding to fires. Obstructions shall not be placed near fire hydrants that would prevent them from being immediately visible and accessible. The Traffic Code of the Revised Ordinances of Honolulu states that stopping, standing or parking is prohibited within 10-feet of a fire hydrant.

There were no questions from the Board or community for HFD.

Honolulu Police Department (HPD) – Lt. Gregory Osbun reported the following:

- Crime Statistics April 2012 – Included 7 burglaries, 29 thefts, 16 unauthorized entries into a motor vehicle (UEMV), 2 auto thefts, 1 UCPV (unauthorized control of a propelled vehicle).
- Other Statistics – Included 265 arguments, 390 dropped calls, 232 alarm calls, 439 miscellaneous service calls, and 225 traffic stops.

Questions, comments and concerns followed:

1. No Parking Signs – Attention was raised that in Paalakai on Wanini Street, cars are parking in areas where 'No Parking' signs are posted; HPD was asked to look into the matter.
2. Step-Up Patrols – Thank you for the follow-up on the quad situation on Haleiwa Beach Road, and a request to step-up patrols in the area. HPD encouraged calling 911 for an officer to be dispatched to the scene.
3. Noise Nuisance – There are a lot of elderly residents who live in the Crosier Drive/Loop area of Mokuleia. Vehicles with loud boom boxes are a concern not specific only to this area; however, the request for continued patrols would be much appreciated and would certainly help deter this type of activity.
4. Education – Thanks for the increased efforts with the motorcycle patrols and speed trailers; however, speeding remains to be a problem and running Stops signs has become a bad situation. A suggestion was a program with emphasis on educating motorists. HPD is trying to step up patrols and using speed trailers.
5. Parking Concern – Fronting Waialua High School on both sides of Farrington Highway, a question was whether it is legal or illegal to park. Lt. Osbun will have to look at the area and report back next month.
6. Increased Officers – Other than regular traffic stops, the question was why there are more police officers in the area. It was noted that the crime statistics have been stable and HPD is trying to step up visibility to help reduce and address the problems with property crimes.

Mayor Peter Carlisle Representative – There were no Mayor's representative present, and no report was available at this time. NA Richardson would submit any questions from tonight to follow-up for next month.

Question for followup: The General Plan – A report was requested regarding the City administration's commitment and progress with implementing the population policies and objectives. Population is the first issue addressed in the General Plan, specifically: Objective A, Policy 1, Policy 2, Policy 5, and Policy 6. Resident Larry McElheny would like to know how the Mayor's administration plans to address the matter.

Board of Water Supply (BWS) – Thomas Young reported the following:

- Main Breaks – There were no water main breaks reported in the month of April 2012.
- Impersonation of BWS Employees – BWS would like to alert the public about reports of individuals claiming to be BWS employees in order to gain access to private property. Please be informed that all personnel involved in official BWS activities will be properly credentialed, wearing official BWS attire with the BWS logo, driving BWS labeled vehicles, and carrying an official City & County of Honolulu badge with the agency identified as the BWS. Residents are encouraged to call 911 of any suspicious activity, and may call the BWS Communications Office at 748-5041 to file an additional report.
- Summer Water Conservation – Home water consumption typically rises during the summer, so BWS would like to remind all residents to be vigilant and avoid wasting water. A few simple things customers can do to save water include: checking for property leaks; avoid watering lawns between 9:00 a.m. and 5:00 p.m.; and turn off the tap while brushing teeth or shaving. Conserving water allows us to save water for future generations. Please visit the BWS website at www.boardofwatersupply.com for more tips.

There were no questions from the Board or community for BWS.

Councilmember Ernie Martin – There was no representative present; however, the monthly report was circulated.

Treasurer's Report – There was no report available tonight; however, April/May reports would be forth coming.

U.S. ARMY REPRESENTATIVE: SFC John Wheeler with the 8th Military Police Brigade shared the following:

- Temporary Lane Closures – Motorists are advised of evening temporary lane closures on Kunia Road on May 21-June 21, 2012, from 7:00 p.m. – 5:00 a.m., just south of Schofield's Lyman Gate, due to an ongoing wastewater treatment project upgrade. For more information, call U.S. Garrison-Hawaii Public Affairs at 656-3158 or 656-3159.
- 27th Annual Military Appreciation Month – There will be a polo match between the Army and Navy, in honor of the military appreciate month on Sunday, May 27, 2012 at Mokuleia Polo Field. The gates will open at 11:00 a.m. with the match beginning at 2:00 p.m. Admission with a military ID is $8.
- Memorial Day Remembrance Ceremony – Held at Schofield Barracks Post Cemetery on Monday, May 28, 2012 at 10:00 a.m. The public is invited to join the Garrison as it honors the Veterans of all service of our country. Visitors should enter via Lyman Gate off Kunia Road. Please have a current ID, registration, insurance and safety inspection. For more information, please call 656-3159.
- The United States Army – Will be celebrating its 237th birthday on June 14, 2012. The public is invited to attend Polo Paina, a FREE polo match, June 16 at 3:30 p.m., on Fort Shafter's famous Palm Circle. The day will include fun and games, rides, static displays, music and dancing.
- Change of Command – The 8th Theater Sustainment Command (TSC) will conduct its change of command on June 13, 2012, at 10:00 a.m., at Hamilton Field on Schofield Barracks. The 8th TSC will bid aloha to Major General Michael J. Terry and will welcome the incoming Commanding General, Brig. Gen. Stephen R. Lyons. Visitors wishing to attend should enter via Lyman Gate off Kunia Road. Please have current ID, registration, insurance and safety inspection. For more information, please call the 8th TSC Public Affairs Office at 438-0944.

Question for follow-up: Dillingham Training – SFC Wheeler was not at the last meeting but will forward the inquiry regarding the training at Dillingham Airfield to Kayla Overton, U.S. Army Public Affairs, for follow-up next month.

APPROVAL OF REGULAR MEETING MINUTES – MARCH 27, 2012: **The Regular Meeting Minutes of March 27, 2012 were approved as amended without any objections (Aye:** Alameida, Anderson, Escorzon, Hirota, Leinau, Lyons, McElheny, Ng, Phillips, Quinlan, Scoville, Shirai, and Vega**).**

- Page 5, item 11, Paalakai Store, strikeout "…~~cleaning the trash~~" and insert, **"…getting the bus stop"**;
- Page 3, Questions, comments and concerns, item 1, Dillingham Training, insert **"…military public affairs representative from other branches of service work with residents whenever training occurs…"**

AGENDA REQUESTS:

Clipper Wind Power Project Development – Shirai requested a presentation by Clipper Wind Power on a proposal to construct windmills on the ridge overlooking Kaena Point. Tonight's action is to approve a presentation by Clipper Wind Power on June's agenda. The Mokuleia Community Association will have this presentation as well. Chair Lyons added that Clipper Wind Power is also looking to expand on the Kahuku side of Sunset Beach in the Ko'olauloa district. **Shirai moved that the Clipper Wind Power Project Development be placed on next month's agenda; Vega seconded the motion. The motion was ADOPTED UNANIMOUSLY, 13-0-0 (AYE:** Alameida, Anderson, Escorzon, Hirota, Leinau, Lyons, McElheny, Ng, Phillips, Quinlan, Scoville, Shirai, and Vega**).**

Update Relating to the Bus Schedule Change – Leinau requested an update on the new bus schedule change and would like to know how it will be addressed. Chair Lyons received information that the bus change is evolving and when a proposal is made he will have them come before the Board.

BOARD BUSINESS:

Subdivision Plans of Kilioe Street – Scott Wallace introduced Lowell Chun of the City Department of Planning and Permitting (DPP), Civil Engineer Harvey Higa, and Consultant Lisa Imata of Pan Pacific. The proposed Haleiwa Plantation Village project is located on Kilioe Street, opposite of North Shore Market Place, and involving two (2) different Tax Map Keys (TMK) 669:0024 and 6610:003. Kilioe Street currently houses 15 homes at approximately 5,000 square-feet per home. The project aims to extend homes on Kilioe Street, onto what is known as Parcel 3. The homes will be patterned to match the already existing homes.

To address concerns relating to flooding issues, the project will include a floodwater detention basin, approximately one-acre in size. It was also noted that the two (2) TMK parcels are above the flood marker lines within the community.

Photos of a similar detention basin were provided via PowerPoint presentation. In addressing several concerns regarding failing cesspools, the existing homes will be able to connect to the project's proposed waste water system. Photos of a modern day wastewater plant were provided; noting that majority of the facility is unseen, except for the control room.

In discussions with residents on Kilioe Street, concerns were raised regarding traffic at Kamehameha Highway and Kilioe Street. A traffic study was completed and resulted in the fact that the proposed 25 lot homes will not damage the level of service the roadways provide. In summary, the project is a Local Workforce Project, aimed at 25 lots on Kilioe Street. Homes will be designed to the Plantation Style architecture ranging from $175,000 to $225,000. Home financing will be available for the first three (3) years of purchasing with rates ranging from 5% to 7%. It was also noted that DPP has confirmed that the project is compatible with the North Shore Sustainable Communities Plan.

Antya Miller arrived (7:35 p.m.) during the above portion of the meeting; 14 members present.

Questions, comments and concerns followed:

1. Monthly Fees – It was questioned the amount of additional fees the existing property owners on Kilioe Street will have to pay. The existing properties will not be obligated; however, if the decision is to connect to the wastewater system, a minimal $75 - $100 monthly fee may be assessed for maintenance.
2. Cost of Homes Differ – It was questioned and clarified that homes will be priced between $175,000 and $225,000 based on lot size. It was noted lots will vary in size ranging from 5,000 to 6,500 square-feet. Some properties will also provide private driveway accesses.
3. Meeting Community Needs – A Board member provided supportive comments, noting that the project does provide a community need in workforce housing. It was also noted the project is in the beginning phases and this presentation is only one of many that will be held in the future.
4. Wastewater Treatment Plant Access – The water use is approximated at 200-gallons per room, totaling 1,000 gallons per day for a five-bedroom home. Concerns were raised with access on Kilioe Street. The project is going through the permitting process, and access will be made to City & County standards. It was also noted the project will be designed under rural standards, except for where City standards are mandatory.
5. Privately Owned and Open Space – The wastewater treatment facility will not be turned over to the City & County of Honolulu. Once completed, homeowners that utilize the facility will form a community association and the facility is then regulated by the State Department of Health. It was also clarified that the open space previously indicated as the detention basin, may be used as a park, when not flooded with water.
6. Home Purchasing Process – Given the $175,000 to $225,000 price range, the project will most likely go through lottery selections. The existing 15-property owners on Kilioe Street will be given priority, with the remaining going through the lottery process.
7. Existing Use of Property – The property is currently being used for taro farming. The farmer had attempted to cultivate taro; however, due to several conditions, was unsuccessful. The property was mainly used for storage of trucks and equipment once the taro farming was unsuccessful.
8. Collection of Wastewater – Once the wastewater is collected, the facility will go through a three-part processing cycle including; collection, treatment and disposal. The treated wastewater will be injected 200-feet below the surface to be collected into 'brackish' water.
9. Resident Not Informed – A community member noted she has not seen the presenter prior to tonight's meeting. Wallace noted that he invited residents of Kilioe Street to the first community meeting. Concerns were raised regarding the effect of floodwaters and the already existing properties on Kilioe Street. The explanation was that the detention basin is designed at 150% capacity, noting that the basin is designed to hold more than expected floodwaters.
10. Natural Springs in the Area – There was concern about injecting wastewater into the ground, and whether it would affect the natural springs in the area that are used to water farmlands. The technology is new and approved by the federal government designed to pump the already treated water deep below anything else.
11. Proximity to Existing Homes – Several concerns regarded the close proximity of the proposed wastewater treatment facility to already existing homes 30-feet away. Wallace explained the technology has changed and the proposed facility is mostly underground.

12. Traffic Concerns – There is concern of increased traffic due to the number of new homes, and whether stoplights and stop signs are needed at key intersections. A traffic study was completed and the project's engineers have been in dialogue with the City & County since completing the traffic study.
13. Opposed to the Project – A resident opposed the project, based on the rezoning of agricultural lands to residential. The proposed property has been flooded several times in the past and may have issues with drainage. Residents have witnessed flooding in the area of more than four-feet. Concerns were that the project mirrors events of 2008, when properties were flooded and roadways were destroyed due to development. Wallace understands the issue of flooding, and noted that the proposed detention basin is designed to address the flooding issues. The plan is also in conjunction with the North Shore Sustainable Communities Plan.
14. Projects Already Set – A resident raised concern that the proposed plan already seems like it's good to go. However, concerns regarded the lack of infrastructure and increased traffic. It was strongly suggested that Wallace dialogue with the community before moving forward.
15. Sustainable Communities Plan – A Board member worked on the North Shore SCP for two (2) years, and explained that the ability to change zoning parcels based on adjacent property zoning was not discussed by the community. Concerns were raised that the ability to change zoning so easily may have been included in the plan by the Land Use Commission. Wallace noted that the plan did go through the appropriate process and passed the City Council.
16. Endemic Species – Another concern regarded the adjacent property being one of the last marshlands in the entire State of Hawaii. Six (6) endemic species live in that marshland including four (4) species of birds and two (2) fishes. The development of a wastewater treatment plant will have adverse affects on the wildlife. Wallace explained that a wetland study was conducted and copies of the study can be provided if needed; also an archaeological study was completed with no archaeological sites or artifacts found on site.
17. Suggested Community Garden – It was suggested the developer think of creating a community garden. Wallace explained that the large detention basin may be utilized as a park or a possible community garden. There is an issue of development versus agriculture and the importance is to try and balance both.
18. Correction of Flooding Concern – Wallace concluded by agreeing with resident's concerns in regards to flooding. The project aims at correcting the flooding issue while providing ample workforce housing in the community. Chair Lyons thanked Wallace for attending the Board meeting and encouraged residents to stay in contact with Wallace as other community meeting may be held in the future.

North Shore Watershed Management Plan (NSWMP) – Barbara Natale, Candy Foster (Group 70 International) gave a power point presentation, along with Barry Usegawa (Board of Water Supply) to present to field and answer questions. Group 70 International was contracted to work on the NSWMP, along with the Board of Water Supply. The NSWMP is one (1) of eight (8) Watershed Management Plans on Oahu. The requirements of preparing a County Water Use and Development Plan are required by the State of Hawaii Water Code and City & County ordinance. The North Shore District is from Waile`e to Ka`ena Point, covering 77,000 acres.

The overall goal is to formulate an environmentally holistic, community based and economically viable watershed management plan that will provide a balance between preservation, management, sustainable ground water and surface water use, and development of agricultural and urban uses. The Plan includes five (5) objectives of promoting sustainable watersheds; protecting and enhancing water quality and quantity; protecting Native Hawaiian rights and traditional customary practices; facilitating public participation, education, and project implementation; and meeting future water demands at reasonable costs.

The BWS will develop WMP for each of Oahu's eight (8) planning districts through a planning process. It will emphasize community participation and consultation; holistic management of watershed resources; alignment with State and City policies/programs; action orientation implementation of watershed management programs; ahupua`a management principles; and sustainability of water resources.

The work done so far covers a number of preliminary issues and is in the process of forming a Working Group (WG). The WMP approach solicits issues and concerns pertinent to the North Shore; presents the water use and development findings; and presents watershed projects to address issues and concerns. The WG members would review and provide input on the development of the WNP and review the Draft WMP. The WG will also seek the Boards support and request that the Board form a Permitted Interaction Group (PIG).

Although there were no questions that followed, a comment focused on the formation of a Permitted Interaction Group (PIG) on next month's agenda. There was clarification the number of members designated to be on the PIG.

Conditional Use Permit (CUP) for Kāpaeloa Cultural Learning Project Kamehameha Highway/Iliohu Place – Kalani Fronda, Land Asset Manager of Kamehameha Schools, along with Jeff Overton with Group 70 International was present to give the third presentation to this Board. A brief overview noted that the KS project has gone through an Environmental Assessment process (last year), a public hearing (January 2012 in Haleiwa) and was successful receiving comments and input, and is now going through the Conditional Use Permit (minor) process.

This is a pre-application presentation of the CUP minor for primary use as a school facility for children Grades K-12; and notices were provided to adjoining property owners of this presentation. The CUP (minor) is for school use on R-5 residential use zoned land.

The Kāpaeloa Cultural Learning Project includes an outdoor activity lawn, an educational pavilion, dormitory structures, two (2) caretaker's residences, an educational native plant garden, off-street parking, and support infrastructure. This is a unique learning school facility project used to participate in Kamehameha Schools' program for cultural and environmental education.

There will be two (2) caretaker's residences on either end of the property for security purposes with a single access point, dormitory structures for overnight stay (total 64 bed spaces/32 bunk beds), and a 2,000 square foot educational pavilion. The Kāpaeloa Cultural Learning program will be used by Kamehameha Schools and affiliated programs as an educational, environmental, and cultural resource.

Questions, comments and concerns followed:

1. Total Project Acreage – The total coverage of the project is roughly 3.5 acres. An acre and a half parcel was given to the City for condemnation effort; there are no park improvement planned for this area.
2. Educational Pavilion – The size of the proposed educational pavilion's assembly area is approximately 2,000 square feet; and the caretaker's homes total about 2,500 square feet.
3. Pre-Application Presentation – An inquiry was whether a letter of support was being sought. Overton noted that tonight's presentation is a pre-application presentation to the neighborhood board. It is not necessary to have a position vote tonight but a statement acknowledging the Board's continued support for the project is appreciated. Leinau requested that a motion be entertained to acknowledge this presentation took place.

Leinau moved that the North Shore Neighborhood Board No. 27 send a letter acknowledging that this presentation took place; Quinlan seconded the motion. Discussion followed: Philips offered an **amendment to say that the NSNB No. 27 supports the project. The maker of the motion (Leinau) and second (Quinlan) accepted the motion; Ng seconded the amendment.** Discussion followed: Andersen favored the idea but because the location is near the ocean, his concerns regarded emergency/evacuation. In response to the plans the Heiau, Fronda noted that the heiau is primary for a stewardship and cultural program which would include field visits to various cultural sites in the region. There are also plans to restore the Kupopolo Heiau that is located across from the proposed project. This is a KS program and an extension working with both public and charter schools, and Explorations. Ng favored the program because of its educational support. **The motion to support the project was ADOPTED 13-0-1 (Aye:** Alameida, Escorzon, Hirota, Leinau, Lyons, McElheny, Ng, Phillips, Quinlan, Scoville, Shirai, and Vega. **Abstain:** Anderson**).**

Committees: There were no reports for the Flood/Emergency/Waterway, Homeless and Agriculture committees.

RESIDENTS'/COMMUNITY CONCERNS:

Residents' Concern – Larry McElheny noticed that Residential Concerns are near the end of the agenda, and has observed that at other neighborhood boards have 'Residents' Concerns' earlier on the agenda. The Chair moved it toward the end so elected officials could hear the concerns of the residents as well. It was suggested the item be earlier on the agenda. A board member agreed that be a consideration depending on how important it is as a priority on the agenda.

Campaign Season – Carol Phillips suggested that now campaign season is here, that candidates not load the community with signs until 45 days prior to the primary election.

Bus Schedules – Antya Miller reported that the Wahiawa Transit Center is open. Everyone on Bus Route 52 will have to go to the transit center (no restrooms), wait, and change buses multiple times. Bus Route 55 is proposed for once an hour instead of twice an hour. It was suggested there be a later bus out to Haleiwa from the transit

center to accommodate those who have to wait at the center. Letters were shared and given to the Chair from two (2) residents, who live in Haleiwa, work in downtown, and are very concerned and deeply affected by the changes.

Major Cleanup – Patrick Vega noted that the Mormon Church held a major cleanup island wide. In the North Shore area, the Church picked up debris from Sunset to Mokuleia. The communities were very appreciative.

North Shore Greenprint Project – Doug Cole, with the North Shore Land Trust, announced the completion of a year-long process of the North Shore Greenprint Project. The NSCLT is a voluntary conservation land organization who works with landowner's who are willing to explore conservation options.

Area Concerns – Sheryl Bieler raised concerns that the blinking lights at Waialua Elementary School is still not done; the $750,000 funding for the homeless housing, and how many people are benefiting from that funding; what can be done about the abandoned road where the Farmer's Market is located; and the monies allocated by the Councilmember to fix the driveway down to Velzyland Park should be used to fix Kamehameha Highway from Foodland to Rocky Point which is very bad.

Alii Beach Park – Leif Andersen requested if there could be a "no parking zone" from the entrance to Alii Beach Park on the Anahulu side to the telephone pole. There is no clear view of the on-coming traffic when trying to exit the park. Chair Lyons said it was broken up by sections and the Board voted it down.

Fish Emulsion and Fertilizer – Andersen noted that Haleiwa is beginning to smell like a fish market and attracting a lot of flies. The Chair referenced the fish emulsion/fertilizer facility on the hill. Fronda passed that concern to the manager and the owner and will follow-up again for a response at the next meeting.

Traditional Japanese Alcoholic Beverage – Ken Hirata, born and raised in Japan, is here to start a new venture to produce traditional Japanese distilled alcohol beverage called Sochi using Hawaiian sweet potatoes. Hirata was allowed to study the art of Sochi making under the guidance of a respected brewmeister in Tokushima Japan. With the help of local government agencies, he was finally able to develop his distillery here in Hawaii on the North Shore.

ELECTED OFFICIALS:

State Senator Donavan Dela Cruz – Senator Dela Cruz circulated his monthly report, introduced Office Manager Dot Fujinaga, and highlighted the following:

- Agriculture Hub in Wahiawa – There are plans for land acquisition, design and construction for a State packing and processing facility. The facility will cost approximately $3.6 million.
- Galbraith Lands Irrigation System – Governor Abercrombie released $13 million for plans and design for an irrigation system to assist future farmers on 1200-acres of the former Galbraith lands.
- Capital Improvement Projects – Waialua, Haleiwa, and Sunset Elementary Schools received monies for various repairs.
- Wahiawa General Hospital – A grant of $1.25 million was received for modernization and expansion of the emergency department and the resurfacing of the hospital parking lot.
- Grant-in Aid for Wahiawa Organizations – Surf the Nation (STN) received a grant for $150,000 for their mission of improving the community.
- Opportunities and Resources Inc. (ORI) – A grant of $288,060 was received for providing day activity programs, as well as residence and recreation activities to those with special needs.
- Wahiawa General Hospital – A grant of $1.750 million was received for fiscal year 2012–2013 to conduct improvements to the hospital facility.
- Waimea Bay Hillside Mitigation – The State Department of Transportation (DOT), Highways Division is working on getting 100% funding for the project which is to be done in three (3) phases.

Questions, comments and concerns followed:

1. Rockfall Improvements at Waimea Bay – In 2002, Waimea Bay was considered the second highest risk area on Oahu following the rockfall improvement study. Ten years later, there has been nothing done on the Haleiwa side of Waimea Bay. The Senator will ask DOT to expand.
2. Appreciation – Senator Dela Cruz was thanked for his continued participation and support to the Board and community, and on the issues of reapportionment and Waimea Falls. The Senator added that in March, the courts announced the new district lines include Wahiawa, Mililani Mauka, and Waipio Acres.

State Representative Gil Riviere – Representative Riviere reported the following:

- End of Legislative Session – Most of the bills which allowed for environmental exemptions had failed by the end of the session. The inter-island cable bill passed, and Riviere expressed concern that the islands which would be hosting the windmills are largely opposed.
- Department of Agriculture Hires – Monies have been released to hire State Department of Agriculture and Department of Health inspectors, invasive species and dogs for a canine unit.
- Department of Health Hires – Monies have been released to hire more inspectors for the Department of Health.
- Session Wrap Up – Area constituents will be mailed a complete update on the closing of the session.
- Waialua High School (WHS) Baseball Team – The WHS Baseball Team was recognized for making it to the State tournament.

There were no other representatives or reports available for Congresswoman Mazie Hirono and Governor Neil Abercrombie.

ANNOUNCEMENTS:

- Next Meeting – **Tuesday, June 26, 2012 at Haleiwa Elementary School Cafeteria, 66-505 Hale'iwa Road at 7:00 p.m.**
- Olelo Broadcasting Schedule – On the 2nd Tuesday on FOCUS 49 at 9:00 p.m., and the 1st and 3rd Friday on VIEWS 54 at 12:00 p.m.
- Chairs Correspondence – Available for perusal.
- Board Member Announcements:
    - 65th Memorial Day Service – On Sunday, May 27, 2012, 10:00 a.m. at Haleiwa Beach Park, the public is welcome and enjoy the entertainment and participation by the Army, National Guard Civil Air Patrol, and memorial recognition of Albert Coelho, Haleiwa resident, Keynote Speaker Thomas Kaulukukui, and appearances of Congressional, State and City representatives.
    - Turtle Bay Oceanfest – On Saturday, June 9, 2012.

ADJOURNMENT: The meeting adjourned at 9:25 p.m.

Submitted by,

Marie Richardson and Kazu McArthur
Neighborhood Assistants

Reviewed by
And Mike Lyons, Chair

*Note: The minutes were not available as of 1/15/16

NORTH SHORE NEIGHBORHOOD BOARD NO. 27

c/o NEIGHBORHOOD COMMISSION • 530 SOUTH KING STREET ROOM 406 • HONOLULU, HAWAII 96813
PHONE (808) 768-3710 • FAX (808) 768-3711 • INTERNET: http://www.honolulu.gov

REGULAR MEETING AGENDA
TUESDAY, NOVEMBER 24, 2015
WAIALUA ELEMENTARY CAFETERIA
67-020 WAIALUA BEACH ROAD
7:00 P.M.

Rules of Speaking: Anyone wishing to speak is asked to raise their hand, and when recognized by the Chair, to address comments to the Chair. Speakers are encouraged to keep their comments under two (2) minutes, and those giving reports are urged to keep their reports less than three (3) minutes. Please silence all electronic devices.

Note: The Board may take action on any agenda item. As required by the State Sunshine Law (HRS 92), specific issues not noted on this agenda cannot be voted on, unless added to the agenda. A two-thirds (2/3) vote ten (10) of this 15-member Board is needed to add an item to the agenda. Items may not be added if they are of major importance and will affect a significant number of people.

I. CALL TO ORDER: Chair Kathleen M. Pahinui

II. DECLARATION OF ANY CONFLICTS BY BOARD MEMBERS: Board members to state if they hold any conflicts regarding any issue under board business, per Section 2-14-116 and Section 2-13-105 of the Neighborhood Plan that would require disclosure or recusal.

III. CITY MONTHLY REPORTS (Limited to three (3) minutes each)
   A. Honolulu Fire Department
   B. Honolulu Police Department

IV. U.S. ARMY 8TH MILITARY POLICE BRIGADE and 25TH COMBAT AVIATION BRIGADE

V. BOARD BUSINESS (Limited to maximum 10 minute presentation)
   A. Parks Committee
      i. Recommendation to add Ken Capes to the committee.
   B. Transportation Committee
      i. Recommendation to support the Laniakea Wriggle Road plan
   C. Agriculture Committee
      i. Recommendation to support the following motion: Letter to State Legislators, Council Chair, Department of Agriculture Chair, Department of Environmental Services Director stating that the North Shore Neighborhood Board No. 27 supports funding and completion of the Wahiawa wastewater Treatment Plant upgrade (building retention pond) to allow classification of Lake Wilson as R1 for agricultural use in local food production on the North Shore
   D. Three (3) Corners Intersection (Haleiwa Road and Kamehameha Highway) Letter to Department of Planning and Permitting, Department of Transportation Services, Department of Design and Construction, Council Chair, and the Mayor requesting Intersection be returned to its former configuration
   E. Haleiwa Plantation Village Presentation – Scott Wallace

VI. CITY MONTHLY REPORTS (Continued - Limited to three (3) minutes each)
   A. Mayor Kirk Caldwell Representative
   B. Board of Water Supply
   C. Council Chair Ernie Martin

VII. RESIDENTS'/COMMUNITY CONCERNS: (Limited to two (2) minutes each)

VIII. STATE ELECTED OFFICIALS: (Limited to three (3) minutes each)

A. State Senator Gil Riviere
B. State Representatives: Feki Pouha and Lauren Matsumoto

IX. APPROVAL OF MINUTES AND TREASURER'S REPORT:
A. September 22, 2015 Regular Meeting Minutes
B. October 27, 2015 Regular Meeting Minutes
C. Treasurer's Report

X. BOARD MEMBER ATTENDANCE AT COMMUNITY MEETINGS
A. Center For Food Safety Meeting held by Ashley Lukens attended by board members: McElheny, Bryan Phillips
B. North Shore Water Shed Management Plan held by Group 70 and the Honolulu Board of Water Supply attended by board members: Reid, Bryan Phillips (came about 6:30 p.m.), Pahinui, Justice, Leinau (left about 6:20 p.m.), Carol Philips, Ng

XI. COMMITTEE REPORTS
A. Parks Committee – Chair Blake McElheny
B. Transportation Committee – Chair Carol Philips
C. Agriculture Committee – Chair Leif Andersen
D. Kaiaka Bay Watershed Committee – Chair Jacob Ng

XII. ANNOUNCEMENTS
A. Chair's Correspondence
B. Next Regularly Scheduled Meeting: Tuesday, January 26, 2016
C. Board Member Announcements

XIII. ADJOURNMENT

All written testimony must be received in the Neighborhood Commission Office 48 hours prior to the meeting. If within 48 hours, written and/or oral testimony may be submitted directly to the board at the meeting. If submitting written testimony, please note the board and agenda item(s) your testimony concerns. Send to: Neighborhood Commission Office, 530 South King Street, Room 406, Honolulu, HI 96813. Fax: (808) 768-3711. Email: nbtestimony@honolulu.gov

A mailing list is maintained for interested persons and agencies to receive this Board's agenda and minutes. Additions, corrections, and deletions to the mailing list may be directed to the Neighborhood Commission Office (NCO), Honolulu Hale, 530 South King Street, Room 406, Honolulu, Hawaii 96813; Telephone (808) 768-3710 or Fax (808) 768-3711. Agendas and minutes are also available on the Internet at www.honolulu.gov/nco.

Any individual wishing to attend a Neighborhood Board meeting who has questions about accommodations for a physical disability or a special physical need should call the NCO at 768-3710 between 8:00 a.m. and 4:00 p.m., at least 24-hours before the scheduled meeting.

APPENDIX G

Comment Letters and Responses

INDEX OF COMMENTS RECEIVED DURING THE PUBLIC REVIEW OF THE DRAFT EA

	Agency	Division/Branch	Doc Sent	Replied	Ltr Date	Reference No.
	City					
1	Dept. of Planning and Permitting	Land Use Permitting, Planning	Approving	Yes	10/21/2015	2015/ED-10(AB)
1	Dept. of Planning and Permitting	Site Development (Traffic, Engineering, Subdiv.)	Yes	See above		
2	Dept. of Transportation Services		Yes	Yes	10/14/2015	TP9/15-626166R
3	Honolulu Fire Department		Yes	Yes	9/28/2015	
N/A	Dept. of Environmental Services		Yes	No		
4	Dept. of Facility Maintenance		Yes	Yes	10/6/2015	
5	Board of Water Supply		Yes	Yes	10/2/2015	
	State					
N/A	Dept. of Land & Natural Resources	Historic Preservation Division	Yes	No		
6	Dept. of Land & Natural Resources	Land Division	Yes	Yes	10/22/2015	
6	Dept. of Land & Natural Resources	Engineering Division	Yes	Yes	10/22/2015	
7	Dept. of Land & Natural Resources	Aquatic Resources	Yes	Yes	10/23/2015	
N/A	Dept. of Land & Natural Resources	Ofc. of Conservation & Coastal Lands	Yes	No		
8	Department of Health	Clean Water Branch	Yes	Yes	10/7/2015	10018PJF.15
N/A	Department of Health	Environmental Planning Office	Yes	No		
N/A	Department of Health	Wastewater Branch	Yes	No		
9	Department of Transportation		Yes	Yes	10/7/2015	
N/A	Land Use Commission		Yes	No		
N/A	Office of Planning		Offered	Declined to comment		
N/A	Office of Hawaiian Affairs		Yes	No		
	Federal					
N/A	Army Corps of Engineers		Yes	No, but reviewed project for wetland delineation and other compliance		
10	Pacific Islands Fish & Wildlife Office, USFWS		Yes	Yes	10/23/2015	
	Other					
N/A	Neighborhood Board #27		Yes	No		
	Individuals					
11	Kathleen Pahinui		No	Yes	10/22/2015	
12	Jack Reid		No	Yes	10/22/2015	

RECEIVED
OCT 26 2015
PLANPACIFIC, INC.

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

KIRK CALDWELL
MAYOR

GEORGE I. ATTA, FAICP
DIRECTOR

ARTHUR D. CHALLACOMBE
DEPUTY DIRECTOR

2015/ED-10 (AB)

October 21, 2015

Ms. Lisa Leonilla Imata
PlanPacific, Inc.
1001 Bishop Street, Suite 2755
Honolulu, Hawaii 96813

Dear Ms. Imata:

SUBJECT: Draft Environmental Assessment
Chapter 25, Revised Ordinances of Honolulu
Haleiwa Plantation Village
66-71 Achiu Lane – Haleiwa
Tax Map Key 6-6-9: 2 and 6-6-10: 3

The following comprises the Department of Planning and Permitting (DPP) comments on the Draft Environmental Assessment (EA) for the Haleiwa Plantation Village.

A. Land Use Permits Division (LUPD):

1. In Section 2.3 (Project Description), please include figures (maps) showing *proposed* State Land Use Districts and *proposed* City and County of Honolulu Zoning Districts.

2. Section 3.12 (Utilities) adequately describes how the project will account for anticipated liquid waste created by the homes; however, please describe how solid waste will be managed.

3. The Special Management Area (SMA) Use Permit application should include the Final EA along with a separate narrative with information specifically focused on the project's impacts within the SMA.

Please contact Alex Beatty of our Land Use Approvals Branch at 768-8032 if you have any questions concerning Land Use Permits for comments.

B. Subdivision Branch: Please revise Section 3.6 Flood Hazards Potential, Impacts and Mitigative Measures to reflect that the project is partially within a flood fringe area.

Please contact Mario Siu-Li at 768-8098, if you have any questions concerning this comment.

C. Civil Engineering Branch (CEB):

1. Section 3.3: According to the as-built drawings for Haleiwa Hale Subdivision, there is an existing drainage system within Kilioe Place that eventually drains into Parcel 3 via drainage and flowage easements in favor of the City (Reference: Construction File Plan No. 19-7-2-38). Describe how the proposed project intends to address the discharge from the existing drainage system.

2. Since the storm water quality requirements are subject to change, the project shall comply with the prevailing standards at the time the construction/grading plans are submitted for review and approval.

3. Figure 7:

   a. A flowage easement would be required for the flows leaving the detention basin and entering the neighboring property.

   b. Based on the location of the drain outlet at the detention basin, describe how the flows reach Achiu Lane.

4. The Draft EA should include a more detailed description of the proposed drainage improvements.

5. Area A of the AECOS study is identified as a wetland area where at least six lots of the proposed 5000 sq ft lots are to be located. Proposed drainage infrastructure should address the current flow from Kilioe Place in Area A of the AECOS study. The location of the lots suggests substantial land preparation may be necessary depending on the type of construction to avoid land subsidence that may be associated with existing wetland area even if a land swap to relocate the wetlands is amenable.

6. Although the project site is not discharging into or impacting the City's MS4 facility, the pending revision to the storm water quality requirements will likely apply to sites impacting non-city MS4 facilities. As such, low impact development post construction best management practices may be required.

Please call 768-8102 if you have any questions concerning the CEB comments.

D. Traffic Engineering Branch (TRB):

1. The Applicant should meet with the residents on Achiu Lane to apprise them of the proposed development. The concerns from the residents should be documented and a record should be provided to the TRB.

2. The proposed extension of Achiu Lane should continue with the same 44-foot roadway width as the existing street, but follow the currently approved cross-section for a city subdivision. The side street should also follow the currently approved 40-foot roadway cross-section.

3. A construction management plan should be prepared as part of this development to minimize the impacts to residents during construction of the roadways.

Please contact Mel Hirayama at mhirayama@honolulu.gov if you have any questions concerning TRB comments.

E. Planning Division:

1. Section 2.2 (Project Location and Site Description) needs to mention that the Haleiwa Marsh is right next to the project site, although the amount of actual wetlands has slowly declined, according to Appendix B. Exhibit 3.1 of the North Shore Sustainable Community Plan (SCP) shows that the Haleiwa Marsh runs right along the western edge of Parcel 2, and also extends well west and north of there.

2. Section 3.3 (Hydrology) should explain what mitigation measures will be used to protect the marsh from negative impacts. A key mitigation measure is already stated: all on-site storm water will be diverted to the proposed storm water detention basin. Also, as shown earlier in Figure 7, the detention basin's location will create a buffer between the marsh and the housing area, as well as partially buffering the site's jurisdictional wetlands.

3. Section 2.1 (Project Overview) should state that the small, isolated wetland on Parcel 3 (noted in Section 3.3) is being developed with the concurrence of the U.S. Army Corps of Engineers.

4. The eighth paragraph of Section 4.1.3 (Hawaii Coastal Zone Management Program) should state that approximately 50 homes already surround Haleiwa Marsh, instead of just stating that there are already homes in this area. It should also discuss the mitigation measured needed to protect the marsh from the project's new homes.

5. Section 3.14 (Socio-Economic Characteristics) needs to discuss long-term census trends. Average household sizes are continuing to drop in both the North Shore SCP area and the Haleiwa Census Tract, due to

an aging population, and this translates into fewer residents unless new housing developments are built. Both the North Shore and Haleiwa lost population from 2000 to 2010, and Haleiwa also lost a number of housing units.

6. In Section 6.2, four significant criteria need to be revised. First, Criterion No. 3 related to Chapter 343, Hawaii Revised Statues needs to address farmland protection guideline 5.b by repeating that the project site is not usable commercial farmland. Second, Criterion No. 4 and No. 6 should not mention natural increase in population, since the actual trend is natural population decline. Third, Criterion No.8 needs to mention that cumulative impacts are possible only from one large and long-delayed housing project that is still being planned in this area.

Please contact Mike Watkins at 768-8044 if you have any questions regarding the Planning Division's comments.

Thank you for the opportunity to review and comment on the subject Draft EA. We have also enclosed your receipts for the EA filing fee.

Very truly yours,

for George I. Atta, FAICP
Director

Enclosure: Receipt Nos. 104162 and 104163

PLANPACIFIC

January 13, 2016

Mr. George Atta, FAICP
Director
Department of Planning and Permitting
City and County of Honolulu
650 S. King Street, 7th Floor
Honolulu, HI 96813

Dear Mr. Atta:

Subject: Draft Environmental Assessment, Hale'iwa Plantation Village, Tax Map Keys: 6-6-009: 002 and 6-6-10:003

Thank you for your letter dated October 21, 2015, referenced as 2015/ED-10 (AB) regarding the above-mentioned environmental document. Since receipt of your letter, there have been revisions to the site plan based on all comments received and the applicant presented an update to the North Shore Neighborhood Board during their regular meeting in November 2015. The revised site plan and North Shore Neighborhood Board agenda will be included in the Final EA document. The Neighborhood Board minutes are not yet available as of this writing. Your comments and our responses are as follows, in order of your letter:

A. Land Use Permits Division (LUPD):

1. *In Section 2.3 (Project Description), please include figures (maps) showing proposed State Land Use Districts and proposed City and County of Honolulu Zoning Districts.*

   Response: The figures in Section 2.3 will be revised to show the proposed State Land Use Districts and the proposed City and County of Honolulu Zoning Districts.

2. *Section 3.12 (Utilities) adequately describes how the project will account for anticipated liquid waste created by the homes; however, please describe how solid waste will be managed.*

   Response: It is proposed that the new homes be serviced by the municipal solid waste disposal program that currently serves the existing Kilioe Place residents. This information will be added to Section 3.12.

3. *The Special Management Area (SMA) Use Permit application should include the Final EA along with a separate narrative with information* specifically focused on the project's impacts within the SMA.

   Response: The Final Environmental Assessment will be included as an attachment to the application for a Special Management Area Permit, per your recommendation.

P.O. Box 892735
Mililani, HI 96789

Tel: 521-9418

B. Subdivision Branch:

1. *Please revise Section 3.6 Flood Hazards Potential, Impacts and Mitigative Measures to reflect that the project is partially within a flood fringe area.*

   Response: Section 3.6 will be revised to reflect that the project is partially within a flood fringe area, per your recommendation.

C. Civil Engineering Branch (CEB):

1. *Section 3.3: According to the as-built drawings for Haleiwa Hale Subdivision, there is an existing drainage system within Kilioe Place that eventually drains into Parcel 3 via drainage and flowage easements in favor of the City (Reference: Construction File Plan No. 19-7-2-38). Describe how the proposed project intends to address the discharge from the existing drainage system.*

   Response: The project proposes to connect the existing drainage system at the end of Kilioe Place to the new drainage system which will then route all flow to the proposed detention basin on Parcel 2. The proposed detention basin has been re-designed to handle additional run-off from the proposed project as well as the existing Kilioe Place, plus an additional 20 percent. The site plan has been updated.

2. *Since the storm water quality requirements are subject to change, the project shall comply with the prevailing standards at the time the construction/grading plans are submitted for review and approval.*

   Response: The project will comply with the prevailing storm water quality requirements at the time the construction/grading plans are submitted. The project must still obtain approvals for a State land use district boundary amendment, zone change, and a special management area permit.

3. *Figure 7:*

   a. *A flowage easement would be required for the flows leaving the detention basin and entering the neighboring property.*

   b. *Based on the location of the drain outlet at the detention basin, describe how the flows reach Achiu Lane.*

   Response: It is proposed that all additional run-off flows will be contained on the project site. The proposed detention basin has been designed to be oversized to handle anomalous storm events. Flows will not be directed toward Achiu Lane.

4. *The Draft EA should include a more detailed description of the proposed drainage improvements.*

   Response: The proposed project will connect the existing drainage outlets from the existing Kilioe Place and route flows to the proposed detention basin. For the proposed new lots, run-off from each lot will sheet flow on to the Kilioe Place extension then flow into the catch basins connected to the new drainage system which will gravity flow to the detention basin. Surface waters will also be directed to the detention basin via grading design and swales. This information will be added to the EA document.

5. *Area A of the AECOS study is identified as a wetland area where at least six lots of the proposed 5000 sq ft lots are to be located. Proposed drainage infrastructure should address the current flow from Kilioe Place in Area A of the AECOS study. The location of the lots suggests substantial land preparation may be necessary depending on the type of construction to avoid land subsidence that may be associated with existing wetland area even if a land swap to relocate the wetlands is amenable.*

   Response: A geotechnical investigation will be conducted by a soils engineer and recommendations for land preparation will be followed.

6. *Although the project site is not discharging into or impacting the City's MS4 facility, the pending revision to the storm water quality requirements will likely apply to sites impacting non-city MS4 facilities. As such, low impact development post construction best management practices may be required.*

   Response: The proposed project will comply with the prevailing storm water quality requirements at the time of construction plan submittal. Best management practices will be implemented.

D. Traffic Engineering Branch (TRB):

1. *The Applicant should meet with the residents on Achiu Lane to apprise them of the proposed development. The concerns from the residents should be documented and a record should be provided to the TRB.*

   Response: Parcel 3 is currently accessed via Achiu Lane; however, this project proposes that the access be moved to Kilioe Place. Achiu Lane would not be used at all for access to the project site. As such, the residents of Kilioe Place would be affected more than the residents of Achiu Lane. The residents of Kilioe Place have been apprised of the proposal, including the proposed extension to their street, as the applicant went door-to-door to introduce himself and invite all Kilioe residents to a talk-story/barbeque in April 2012.

   In addition, residents of Kilioe Place and Achiu Lane have been apprised of the project via a presentation to the North Shore Neighborhood Board at their regular meeting in May 2012. Residents of Kilioe Place and Achiu Lane were given prior notification that a presentation will be made. Residents' comments can be found in the neighborhood board meeting minutes. The meeting minutes will be included in the appendices of the Final EA.

Another presentation to the North Shore Neighborhood Board was given most recently on November 24, 2015. Since the minutes for that meeting are not available at the time of this writing, the agenda will be included in the appendices of the Final EA.

2. *The proposed extension of Achiu Lane should continue with the same 44-foot roadway width as the existing street, but follow the currently approved cross-section for a city subdivision. The side street should also follow the currently approved 40-foot roadway cross-section.*

   Response: There is no proposal to extend Achiu Lane. As stated in Section 3.11, the proposed extension to Kilioe Place will follow the same 44-foot right-of-way width as the existing roadway. According to the revised site plan, the proposed access road to Parcel 2 will have a 24-foot right-of-way width. The former roadway will be dedicated to the City, while the latter will be privately owned.

3. *A construction management plan should be prepared as part of this development to minimize the impacts to residents during construction of the roadways.*

   Response: A Construction Management Plan (CMP) will be prepared by the contractor and submitted to the TRB for review and approval prior to grading. Impacts to residences during construction of new roadways shall be minimized. The requirement for a CMP will be added to the Final EA.

E. Planning Division:

1. *Section 2.2 (Project Location and Site Description) needs to mention that the Haleiwa Marsh is right next to the project site, although the amount of actual wetlands has slowly declined, according to Appendix B. Exhibit 3.1 of the North Shore Sustainable Community Plan (SCP) shows that the Haleiwa Marsh runs right along the western edge of Parcel 2, and also extends well west and north of there.*

   Response: The jurisdictional wetland on Parcel 2 is an extension of Hale'iwa Marsh. This is explained in Section 3.3, Hydrology. Section 2.2 will be revised to mention the marsh.

2. *Section 3.3 (Hydrology) should explain what mitigation measures will be used to protect the marsh from negative impacts. A key mitigation measure is already stated: all on-site storm water will be diverted to the proposed storm water detention basin. Also, as shown earlier in Figure 7, the detention basin's location will create a buffer between the marsh and the housing area, as well as partially buffering the site's jurisdictional wetlands.*

   Response: Section 3.3 will be revised to more clearly identify mitigation measures to protect the nearby Hale'iwa Marsh. Essentially, the marsh will not be altered and an undeveloped buffer area around the marsh's edge is planned.

3. *Section 2.1 (Project Overview) should state that the small, isolated wetland on Parcel 3 (noted in Section 3.3) is being developed with the concurrence of the U.S. Army Corps of Engineers.*

Response: Section 2.1 will be revised to state that the non-jurisdictional isolated wetland on Parcel 3 will be developed with the concurrence of the U.S. Army Corps of Engineers.

4. *The eighth paragraph of Section 4.1.3 (Hawaii Coastal Zone Management Program) should state that approximately 50 homes already surround Haleiwa Marsh, instead of just stating that there are already homes in this area. It should also discuss the mitigation measured needed to protect the marsh from the project's new homes.*

   Response: Section 4.1.3 will be revised to state that 50 homes already surround Hale'iwa Marsh and discuss mitigation measures, such as a designed buffer area, to protect the marsh.

5. *Section 3.14 (Socio-Economic Characteristics) needs to discuss long-term census trends. Average household sizes are continuing to drop in both the North Shore SCP area and the Haleiwa Census Tract, due to an aging population, and this translates into fewer residents unless new housing developments are built. Both the North Shore and Haleiwa lost population from 2000 to 2010, and Haleiwa also lost a number of housing units.*

   Response: Section 3.14 will be revised to discuss long-term census trends: the decline in average household size, number of dwelling units, and population. Thank you for the updated census information.

6. *In Section 6.2, four significant criteria need to be revised. First, Criterion No. 3 related to Chapter 343, Hawaii Revised Statues needs to address farmland protection guideline 5.b by repeating that the project site is not usable commercial farmland. Second, Criterion No. 4 and No. 6 should not mention natural increase in population, since the actual trend is natural population decline. Third, Criterion No.8 needs to mention that cumulative impacts are possible only from one large and long-delayed housing project that is still being planned in this area.*

   Response: Section 6.2 will be revised to address farmland protection, population decline, and cumulative impacts. Thank you for your input.

Thank you for your review and comments. Your comment letter will be included in the Final EA.

Sincerely,

Lisa L. Imata
President

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, THIRD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHAEL D. FORMBY
DIRECTOR

MARK N. GARRITY, AICP
DEPUTY DIRECTOR

TP9/15-626166R

October 14, 2015

Ms. Lisa Leonillo Imata
PlanPacific, Inc.
1001 Bishop Street, Suite 2755
Honolulu, Hawaii 96813

Dear Ms. Imata:

SUBJECT: Draft Environmental Assessment (DEA) for Haleiwa Plantation Village, Haleiwa, Oahu, Hawaii

This is in response to a letter we received from Mr. George I. Atta, FAICP, Director, Department of Planning and Permitting, dated September 10, 2015, regarding the above DEA. We have the following comments:

1. The DEA should discuss any traffic impacts to the surrounding neighborhood due to the construction of the recreational area, such as demand for on-street parking, need for wayfinding signage and measures to mitigate these impacts.

2. The DEA should also discuss the need for a wider access roadway to parcel no. 2 to accommodate on-street parking needs and roadway circulation and turnaround for larger vehicles, such as garbage disposal, emergency, TheHandi-Van, and wastewater maintenance vehicles.

3. Any damage to the existing roadway and sidewalk area caused by any contractor's vehicles entering the project site should be repaired and the affected facilities should be restored to its original condition or better.

4. The area Neighborhood Board, as well as the area residents, businesses, emergency personnel (fire, ambulance and police), Oahu Transit Services, Inc. (TheBus), etc., should be kept apprised of the details of the proposed project and the impacts, particularly during construction, the project may have on the adjoining local street area network.

5. Any construction materials and equipment should be transferred to and from the project site during off-peak traffic hours (8:30 a.m. to 3:30 p.m.) to minimize any possible disruption to traffic on the local streets.

Thank you for the opportunity to review this matter. Should you have any questions, please contact Renee Yamasaki of my staff at 768-8383.

Very truly yours,

for Michael D. Formby
Director

PLANPACIFIC

January 13, 2016

Mr. Michael D. Formby
Director
Department of Transportation Services
City and County of Honolulu
650 S. King Street, 3rd Floor
Honolulu, HI 96813

Dear Mr. Formby:

Subject: Draft Environmental Assessment, Hale'iwa Plantation Village, Tax Map Keys: 6-6-009: 002 and 6-6-10:003

Thank you for your letter dated October 14, 2015 and referenced as TP9/15-626166R regarding the above-mentioned environmental document. Since the receipt of your letter, there have been revisions to the site plan based on all comments received and the applicant presented an update to the North Shore Neighborhood Board during their regular meeting in November 2015. The revised site plan and North Shore Neighborhood Board agenda will be included in the Final EA document. The Neighborhood Board minutes are not yet available as of this writing.

Your comments and our responses are as follows, in order of your letter:

1. *The DEA should discuss any traffic impacts to the surrounding neighborhood due to the construction of the recreational area, such as demand for on-street parking, need for wayfinding signage and measures to mitigate these impacts.*

   Response: The park space that is proposed as part of the new project is intended to serve primarily the new residents. Its function is also to serve as a buffer area around the jurisdictional wetland. Nearby surrounding residents, such as those from the existing Kilioe Place or Achiu Lane, would likely walk to the park area. Should visitors come by car, the proposed extension to Kilioe Place will be wide enough (44-foot right-of-way) to provide some on-street parking.

2. *The DEA should also discuss the need for a wider access roadway to parcel no. 2 to accommodate on-street parking needs and roadway circulation and turnaround for larger vehicles, such as garbage disposal, emergency, The Handi-Van, and wastewater maintenance vehicles.*

P.O. Box 892735
Mililani, HI
96789

Tel: (808) 521-9418

Response: According to the project engineer, the site plan has been revised and the proposed access roadway to Parcel 2 will be wider with a 24-foot right-of-way. This roadway will be able to accommodate two-way traffic by restricting on-street parking. The proposed roadway width can accommodate larger vehicles including fire trucks.

3. *Any damage to the existing roadway and sidewalk area caused by any contractor's vehicles entering the project site should be repaired and the affected facilities should be restored to its original condition or better.*

   Response: Section 3.11 will be revised to state that should there be any damage to existing roadways or sidewalks caused by project contractor vehicles, the affected facilities will be restored to its original condition or better.

4. *The area Neighborhood Board, as well as the area residents, businesses, emergency personnel (fire, ambulance and police), Oahu Transit Services, Inc. (TheBus), etc., should be kept apprised of the details of the proposed project and the impacts, particularly during construction, the project may have on the adjoining local street area network.*

   Response: The North Shore Neighborhood Board, nearby residents, businesses, emergency personnel, and O'ahu Transit Services will be apprised of the start of construction. Section 3.11 will be revised to include this information.

5. *Any construction materials and equipment should be transferred to and from the project site during off-peak traffic hours (8:30 a.m. to 3:30 p.m.) to minimize any possible disruption to traffic on the local streets.*

   Response: Construction materials and equipment will be transferred to and from the project site during off-peak hours (8:30 a.m. to 3:30 p.m.) to minimize disruption to traffic. Section 3.11 will be revised to include this information.

Thank you for your review and comments. Your comment letter will be included in the Final EA.

Sincerely,

Lisa L. Imata
President

RECEIVED
OCT - 2 2015
PLANPACIFIC, INC.

HONOLULU FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

KIRK CALDWELL
MAYOR

MANUEL P. NEVES
FIRE CHIEF

LIONEL CAMARA JR.
DEPUTY FIRE CHIEF

September 28, 2015

Ms. Lisa Imata
PlanPacific, Inc.
1001 Bishop Street, Suite 2755
Honolulu, Hawaii 96813

Dear Ms. Imata:

Subject: Draft Environmental Assessment
Haleiwa Plantation Village
66-71 Achiu Lane - Haleiwa
Tax Map Keys: 6-6-009: 002 and 6-6-010: 003

In response to a letter from Mr. George Atta, Director of the City and County of Honolulu's Department of Planning and Permitting (DPP) dated September 10, 2015, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) requires that the following be complied with:

1. Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet (46 m) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1, Uniform Fire Code [UFC]™, 2006 Edition, Section 18.2.3.2.2.)

   A fire department access road shall extend to within 50 feet (15 m) of at least one exterior door that can be opened from the outside and provides access to the interior of the building. (NFPA 1, UFC™, 2006 Edition, Section 18.2.3.2.1.)

2. A water supply approved by the county, capable of supplying the required fire flow for fire protection, shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter

constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1, UFC™, 2006 Edition, Section 18.3.1, as amended.)

3. Submit civil drawings to the HFD for review and approval.

Should you have questions, please contact Battalion Chief Terry Seelig of our Fire Prevention Bureau at 723-7151 or tseelig@honolulu.gov.

Sincerely,

Socrates D. Bratakos

SOCRATES D. BRATAKOS
Assistant Chief

SDB/SY:bh

cc: Mr. George Atta, DPP

PLANPACIFIC

January 13, 2016

Mr. Socrates D. Bratakos
Assistant Chief
Honolulu Fire Department
636 South Street
Honolulu, HI 96813

Dear Mr. Bratakos:

Subject: Draft Environmental Assessment, Hale'iwa Plantation Village, Tax Map Keys: 6-6-009: 002 and 6-6-10:003

Thank you for your letter dated September 28, 2015 regarding the above-mentioned environmental document. Since the receipt of your letter, there have been revisions to the site plan based on all comments received and the applicant presented an update to the North Shore Neighborhood Board during their regular meeting in November 2015. The revised site plan and North Shore Neighborhood Board agenda will be included in the Final EA document. The Neighborhood Board minutes are not yet available as of this writing. Your comments and our responses are as follows, in order of your letter:

1. *Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet (46 m) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1, Uniform Fire Code [UFC]TM, 2006 Edition, Section 18.2.3.2.2.)*

   A fire department access road shall extend to within 50 feet (15 m) of at least one exterior door that can be opened from the outside and provides access to the interior of the building. (NFPA 1, UFCTM, 2006 Edition, Section 18.2.3.2.1.)

   Response: The proposed lot layout is such that each new residence along the Kilioe Place extension will not have a portion of an exterior wall located more than 150 feet from a fire department access road. A fire department access road shall be within 50 feet of at least one exterior door that leads to the interior of the structure. Plans will be submitted to HFD for more detailed review and approval.

2. *A water supply approved by the county, capable of supplying the required fire flow for fire protection, shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet (45 720 mm) from a water supply on a fire apparatus*

P.O. Box 892735
Mililani, HI
96789

Tel: (808) 521-9418

access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1, UFCTM, 2006 Edition, Section 18.3.1, as amended.).

Response: According to the project engineer, the County water supply has adequate fire flow for fire protection. This project also proposes new fire hydrants along the Kilioe Place extension in accordance with the Board of Water Supply standard.

3. *Submit civil drawings to the HFD for review and approval.*

Response: Civil engineering drawings will be submitted to the HFD for review and approval during the design phase.

Thank you for your review and comments. Your comment letter will be included in the Final EA.

Sincerely,

Lisa L. Imata
President

DEPARTMENT OF FACILITY MAINTENANCE

CITY AND COUNTY OF HONOLULU

1000 Ulu`ohia Street, Suite 215, Kapolei, Hawaii 96707
Phone: (808) 768-3343 • Fax: (808) 768-3381
Website: www.honolulu.gov

RECEIVED
OCT 15 2015
PLANPACIFIC, INC.

KIRK CALDWELL
MAYOR

ROSS S. SASAMURA, P.E.
DIRECTOR AND CHIEF ENGINEER

EDUARDO P. MANGLALLAN
DEPUTY DIRECTOR

IN REPLY REFER TO:
DRM 15-717

October 6, 2015

Ms. Lisa Leonillo Imata, Agent
PlanPacific, Inc.
1001 Bishop Street, Suite 2755
Honolulu, Hawaii 96813

Dear Ms. Imata:

SUBJECT: Chapter 25, Revised Ordinances of Honolulu (ROH)
Draft Environmental Assessment (EA)
Haleiwa Plantation Village; TMK: 6-6-9: 2 and 6-6-10: 3

Thank you for the opportunity to review and provide our input regarding the above-subject matter.

Our comments are as follows:

- There are existing drainage structures at the end of Kilioe Place. There is also an existing drainage easement at the end of Kilioe Place, and an existing flowage easement that leads to Achiu Lane. Refer to attachment.

- Once construction phase commences, install approved Best Management Practices fronting all drainage facilities on Kilioe Place and Achiu Lane.

- Will the extension of Kilioe Place be a City road or private road? If Kilioe Place plans to become a City road, it shall be constructed to current City standards.

- During construction and upon completion of the project, any damages/deficiencies to Kilioe Place right-of-way shall be corrected to City standards and accepted by the City.

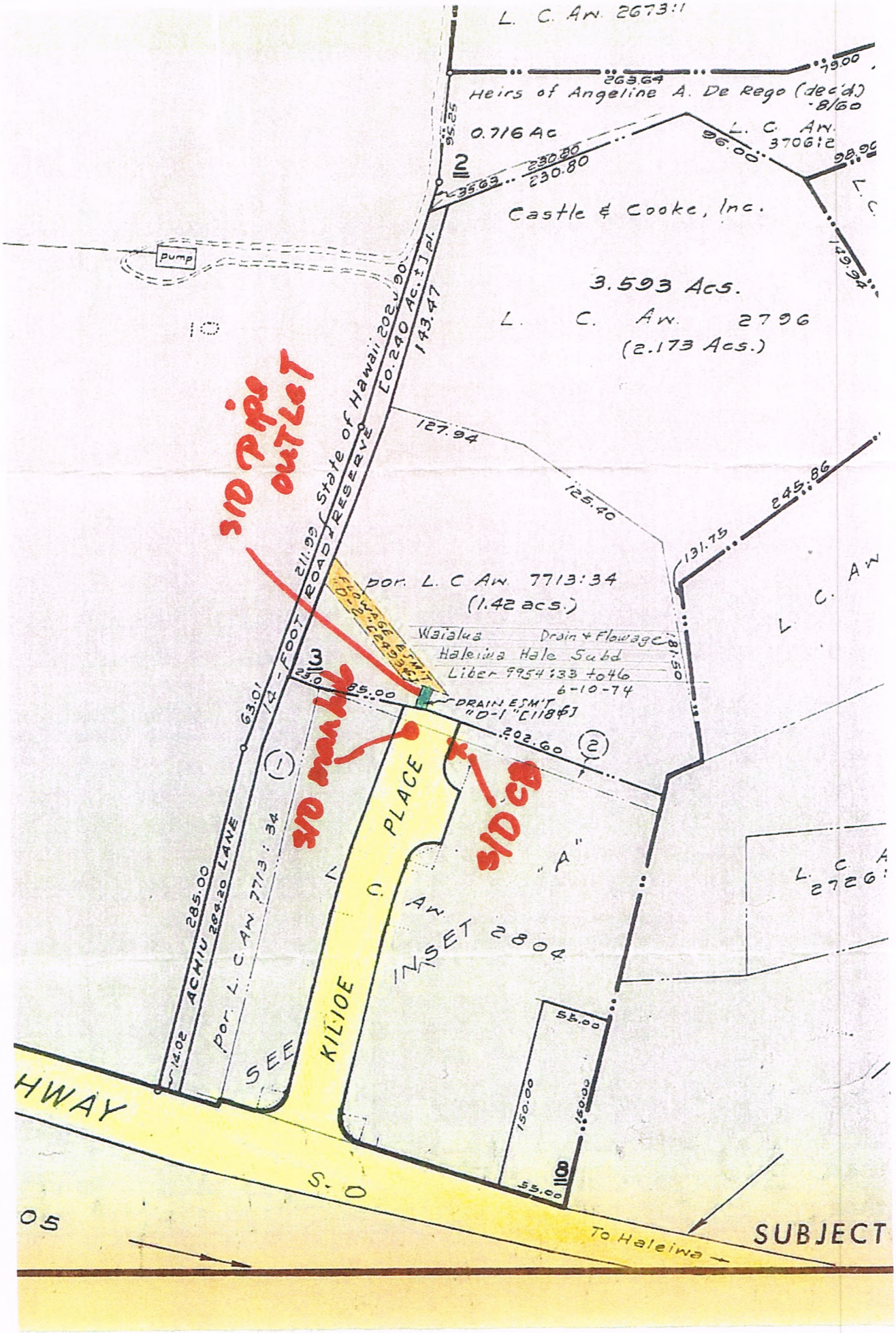
If you have any questions, please call Mr. Kyle Oyasato of the Division of Road Maintenance at 768-3697.

Sincerely,

Ross S. Sasamura, P.E.
Director and Chief Engineer

Attachment

cc: Department of Planning and Permitting


L. C. Aw. 2673:1
263.64
79.00
Heirs of Angeline A. De Rego (dec'd)
8/60
0.716 Ac
L. C. Aw.
370612
96.00
95.25
2
230.80
230.80
35.63
Castle & Cooke, Inc.
Pump
3.593 Acs.
L. C. Aw. 2796
(2.173 Acs.)
143.47
State of Hawaii 202.90
Lo. 240 Ac. ± 1 pl.
SID Pipe OUTLET
127.94
125.40
245.86
131.75
por. L. C Aw. 7713:34
(1.42 acs.)
Waialua Drain + Flowage
Haleiwa Hale Subd
Liber 9954:33 to 46
6-10-74
DRAIN ESM'T "D-1" [1184]
3
25.0
85.00
202.60
2
1
14-FOOT ROAD RESERVE
211.99
63.01
285.00
ACHU 2842.20 LANE
por. L. C. Aw. 7713:34
SID manhole
SID CB
PLACE
KILIOE
SEE
"A"
L. C. Aw.
SET 2804
L. C. Aw. 2726:
56.00
150.00
150.00
55.00
8
HWAY
S. O
05
To Haleiwa
SUBJECT

PLANPACIFIC

January 13, 2016

Mr. Ross S. Sasamura, P.E.
Director and Chief Engineer
Department of Facility Maintenance
1000 Uluohia Street, Suite 215
Kapolei, HI 96707

Dear Mr. Sasamura:

Subject: Draft Environmental Assessment, Hale'iwa Plantation Village, Tax Map Keys: 6-6-009: 002 and 6-6-10:003

Thank you for your letter dated October 6, 2015 regarding the above-mentioned environmental document. Since the receipt of your letter, there have been revisions to the site plan based on all comments received and the applicant presented an update to the North Shore Neighborhood Board during their regular meeting in November 2015. The revised site plan and North Shore Neighborhood Board agenda will be included in the Final EA document. The Neighborhood Board minutes are not yet available as of this writing. Your comments and our responses are as follows, in order of your letter:

1. *There are existing drainage structures at the end of Kilioe Place. There is also an existing drainage easement at the end of Kilioe Place, and an existing flowage easement that leads to Achiu Lane. Refer to attachment.*

   Response: Thank you for the information and map. The project proposes to connect the existing drainage system at the end of Kilioe Place to the new drainage system which will then route all flow to the proposed detention basin on Parcel 2. The proposed detention basin has been designed to handle additional run-off from the proposed project as well as the existing Kilioe Place, plus an additional 20 percent. It is proposed that all additional run-off flows will be contained on the project site. The site plan has been updated to illustrate the changes.

2. *Once construction phase commences, install approved Best Management Practices fronting all drainage facilities on Kilioe Place and Achiu Lane.*

   Response: Best Management Practices will be installed to protect drainage facilities and water quality.

P.O. Box 892735
Mililani, HI
96789

Tel: (808) 521-9418

3. *Will the extension of Kilioe Place be a City road or private road? If Kilioe Place plans to become a City road, it shall be constructed to current City standards.*

   Response: The proposed extension to Kilioe Place will be dedicated to the City and will meet City standards. The proposed access road to Parcel 2, however, will be a privately-owned roadway.

4. *During construction and upon completion of the project, any damages/deficiencies to Kilioe Place right-of-way shall be corrected to City standards and accepted by the City.*

   Response: Section 3.11 will be revised to state that should there be any damage to existing roadways or sidewalks caused by project contractor vehicles, the affected facilities will be restored to its original condition or better.

Thank you for your review and comments. Your comment letter will be included in the Final EA.

Sincerely,

Lisa L. Imata
President

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

KIRK CALDWELL, MAYOR

DUANE R. MIYASHIRO, Chair
ADAM C. WONG, Vice Chair
DAVID C. HULIHEE
KAPUA SPROAT
BRYAN P. ANDAYA

ROSS S. SASAMURA, Ex-Officio
FORD N. FUCHIGAMI, Ex-Officio

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer

RECEIVED
OCT - 9 2015
PLANPACIFIC, INC.

October 2, 2015

Ms. Lisa Leonillo
PlanPacific, Inc.
1001 Bishop Street, Suite 2755
Honolulu, Hawaii 96813

Dear Ms. Leonillo:

Subject: Your Letter Dated September 10, 2015 Requesting Comments on the Draft Environmental Assessment for Haleiwa Plantation Village – Tax Map Key: 6-6-009: 002 and 6-6-010: 003

The existing water system is adequate to accommodate the proposed development. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval of the building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

The developer is required to install the necessary water system improvements to provide adequate fire protection and peak hour pressures in accordance with our Water System Standards. The construction drawings should be submitted for our review. The construction schedule should be coordinated to minimize impact to the water system.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

If you have any questions, please contact Robert Chun, Project Review Branch of our Water Resources Division at 748-5443.

Very truly yours,

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

PLANPACIFIC

January 13, 2016

Mr. Ernest Y. W. Lau, P.E.
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 S. Beretania Street
Honolulu, HI 96843

Dear Mr. Lau:

Subject: Draft Environmental Assessment, Hale'iwa Plantation Village, Tax Map Keys: 6-6-009: 002 and 6-6-10:003

Thank you for your letter dated October 2, 2015 regarding the above-mentioned environmental document. Since the receipt of your letter, there have been revisions to the site plan based on all comments received and the applicant presented an update to the North Shore Neighborhood Board during their regular meeting in November 2015. The revised site plan and North Shore Neighborhood Board agenda will be included in the Final EA document. The Neighborhood Board minutes are not yet available as of this writing. Your comments and our responses are as follows, in order of your letter:

1. *The existing water system is adequate to accommodate the proposed development. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval of the building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.*

   When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

   Response: We understand that final approval will depend upon the details of the building permit application at the time of submittal and that the applicant will be required to pay the Water System Facilities Charges.

2. *The developer is required to install the necessary water system improvements to provide adequate fire protection and peak hour pressures in accordance with our Water System Standards. The construction drawings should be submitted for our review. The construction schedule should be coordinated to minimize impact to the water system.*

P.O. Box 892735
Mililani, HI 96789

Tel: 521-9418

Response: The developer will install necessary water system improvements according to your Water System Standards. Construction drawings and schedule will be submitted for review in order to coordinate and minimize impact to the municipal water system

3. *The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.*

   Response: Plans will be submitted to the HFD for their detailed review and approval.

Thank you for your review and comments. Your comment letter will be included in the Final EA.

Sincerely,

Lisa L. Imata
President

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 22, 2015

PlanPacific, Inc.
Attention: Ms. Lisa Leonillo Imata, President
1001 Bishop Street, Suite 2755
Honolulu, Hawaii 96813

via email: limata@planpacific.com

Dear Ms. Imata,

SUBJECT: Chapter 25, Revised Ordinances of Honolulu (ROH), Draft Environmental Assessment (EA), Haleiwa Plantation Village

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from (1) Land Division; and (2) Engineering Division. No other comments were received as of our suspense date. Should you have any questions, please feel free to call Supervising Land Agent Steve Molmen at 587-0439. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 14, 2015

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Chapter 25, Revised Ordinances of Honolulu (ROH), Draft Environmental Assessment (EA), Haleiwa Plantation Village
LOCATION: 66-71 Achiu Lane – Haleiwa; 6-6-9: 2 and 6-6-10: 3
APPLICANT: HTP, LLC and Kilioe Place Property LLC by agent PlanPacific, Inc.

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document which can be found here:

1. Go to: https://sp01.ld.dlnr.hawaii.gov/LD
2. Login: Username: LD\Visitor Password: 0pa$$word0 (first and last characters are zeros)
3. Click on: Requests for Comments
4. Click on the subject file "Chapter 25, Revised Ordinances of Honolulu (ROH), Draft Environmental Assessment (EA), Haleiwa Plantation Village" then click on "Files" and "Download a copy". (Any issues accessing the document should be directed to Linda Kawakami at (808) 587-0371 or Linda.Kawakami@hawaii.gov)

Please submit any comments by October 21, 2015. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
(✓) We have no comments.
( ) Comments are attached.

Signed: Tchee
Print Name: Tiffany Cha
Date: 9/16/15

DAVID Y. IGE
GOVERNOR OF HAWAII

'15 SEP-14 AM 10:47 ENGINEERING

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED
LAND DIVISION
2015 OCT 20 AM 6:51
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

September 14, 2015

MEMORANDUM

TO: FR:

DLNR Agencies:
X Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

FROM: D: Russell Y. Tsuji, Land Administrator
SUBJECT: Chapter 25, Revised Ordinances of Honolulu (ROH), Draft Environmental Assessment (EA), Haleiwa Plantation Village
LOCATION: 66-71 Achiu Lane – Haleiwa; 6-6-9: 2 and 6-6-10: 3
APPLICANT: HTP, LLC and Kilioe Place Property LLC by agent PlanPacific, Inc.

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document which can be found here:

1. Go to: https://sp01.ld.dlnr.hawaii.gov/LD
2. Login: Username: LD\Visitor Password: 0pa$$word0 (first and last characters are zeros)
3. Click on: Requests for Comments
4. Click on the subject file "Chapter 25, Revised Ordinances of Honolulu (ROH), Draft Environmental Assessment (EA), Haleiwa Plantation Village" then click on "Files" and "Download a copy". (Any issues accessing the document should be directed to Linda Kawakami at (808) 587-0371 or Linda.Kawakami@hawaii.gov)

Please submit any comments by October 21, 2015. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed: _____
Print Name: Carty S. Chang, Chief Engineer
Date: 10/19/15

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/ Russell Y. Tsuji
REF: Chapter 25, ROH DEA for Hale'iwa Plantation Village
Oahu.073

COMMENTS

(X) **We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zones AE and X. The National Flood Insurance Program regulates developments within Zone AE as indicated in bold letters below, but not in Zone X.**

( ) Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is also located in Zone ____.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

(X) **Please note that the project site must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.**

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

(X) **Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.**

( ) Mr. Carter Romero (Acting) at (808) 961-8943 of the County of Hawaii, Department of Public Works.

( ) Mr. Carolyn Cortez at (808) 270-7253 of the County of Maui, Department of Planning.

( ) Mr. Stanford Iwamoto at (808) 241-4896 of the County of Kauai, Department of Public Works.

( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.

( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

( ) Additional Comments: _____

( ) Other: _____

Should you have any questions, please call Mr. Dennis Imada of the Planning Branch at 587-0257.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 10/19/15

Flood Hazard Assessment Report

www.hawaiinfip.org

Property Information

COUNTY:	HONOLULU
TMK NO:	(1) 6-6-009:002
WATERSHED:	PAUKAUILA
PARCEL ADDRESS:	UNKNOWN ADDRESS HALEIWA, HI 96712

Notes:

Flood Hazard Information

FIRM INDEX DATE:	JANUARY 19, 2011
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL:	15003C0105H
PANEL EFFECTIVE DATE:	JANUARY 19, 2011

THIS PROPERTY IS WITHIN A TSUNAMI EVACUTION ZONE: YES
FOR MORE INFO, VISIT: http://www.scd.hawaii.gov/

THIS PROPERTY IS WITHIN A DAM EVACUATION ZONE: YES (OA-0017)
FOR MORE INFO, VISIT: http://dlnreng.hawaii.gov/dam/

0 400 800 ft

Disclaimer: The Hawaii Department of Land and Natural Resources (DLNR) assumes no responsibility arising from the use, accuracy, completeness, and timeliness of any information contained in this report. Viewers/Users are responsible for verifying the accuracy of the information and agree to indemnify the DLNR, its officers, and employees from any liability which may arise from its use of its data or information.

If this map has been identified as 'PRELIMINARY', please note that it is being provided for informational purposes and is not to be used for flood insurance rating. Contact your county floodplain manager for flood zone determinations to be used for compliance with local floodplain management regulations.

FLOOD HAZARD ASSESSMENT TOOL LAYER LEGEND
(Note: legend does not correspond with NFHL)

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD - The 1% annual chance flood (100-year), also know as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. SFHAs include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:

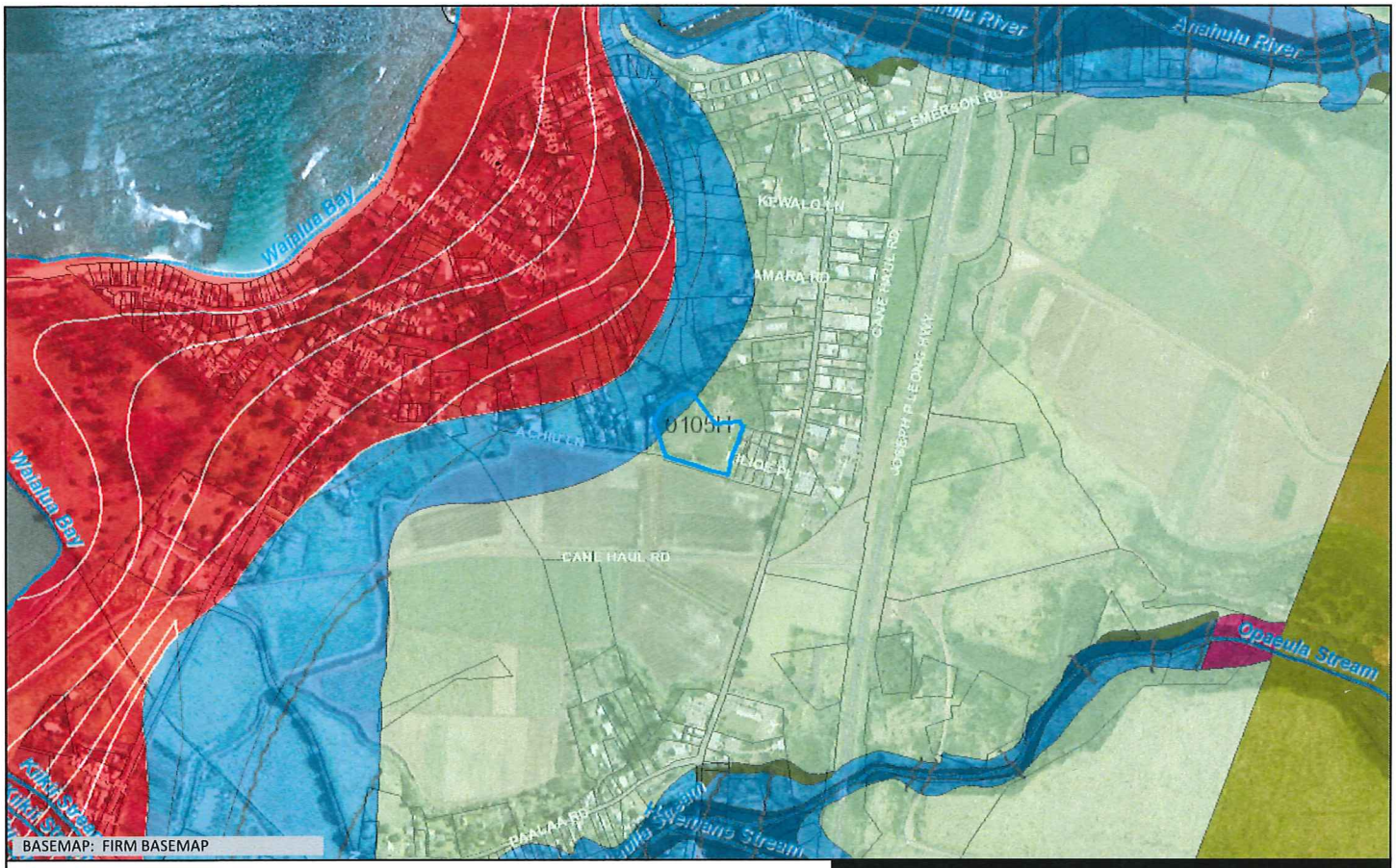
	Zone A: No BFE determined.
	Zone AE: BFE determined.
	Zone AH: Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
	Zone AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
	Zone V: Coastal flood zone with velocity hazard (wave action); no BFE determined.
	Zone VE: Coastal flood zone with velocity hazard (wave action); BFE determined.
	Zone AEF: Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

NON-SPECIAL FLOOD HAZARD AREA - An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

	Zone XS (X shaded): Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
	Zone X: Areas determined to be outside the 0.2% annual chance floodplain.

OTHER FLOOD AREAS

	Zone D: Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase apply, but coverage is available in participating communities.



Flood Hazard Assessment Report

www.hawaiinfip.org

Property Information

COUNTY:	HONOLULU
TMK NO:	(1) 6-6-010:003
WATERSHED:	PAUKAUILA
PARCEL ADDRESS:	66-71 ACHIU LN HALEIWA, HI 96712

Notes:

Flood Hazard Information

FIRM INDEX DATE:	JANUARY 19, 2011
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL:	15003C0105H
PANEL EFFECTIVE DATE:	JANUARY 19, 2011

THIS PROPERTY IS WITHIN A TSUNAMI EVACUTION ZONE: YES
FOR MORE INFO, VISIT: http://www.scd.hawaii.gov/

THIS PROPERTY IS WITHIN A DAM EVACUATION ZONE: YES (OA-0017)
FOR MORE INFO, VISIT: http://dlnreng.hawaii.gov/dam/

0 600 1,200 ft

Disclaimer: The Hawaii Department of Land and Natural Resources (DLNR) assumes no responsibility arising from the use, accuracy, completeness, and timeliness of any information contained in this report. Viewers/Users are responsible for verifying the accuracy of the information and agree to indemnify the DLNR, its officers, and employees from any liability which may arise from its use of its data or information.

If this map has been identified as 'PRELIMINARY', please note that it is being provided for informational purposes and is not to be used for flood insurance rating. Contact your county floodplain manager for flood zone determinations to be used for compliance with local floodplain management regulations.

FLOOD HAZARD ASSESSMENT TOOL LAYER LEGEND
(Note: legend does not correspond with NFHL)

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD - The 1% annual chance flood (100-year), also know as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. SFHAs include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:

	Zone A: No BFE determined.
	Zone AE: BFE determined.
	Zone AH: Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
	Zone AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
	Zone V: Coastal flood zone with velocity hazard (wave action); no BFE determined.
	Zone VE: Coastal flood zone with velocity hazard (wave action); BFE determined.
	Zone AEF: Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

NON-SPECIAL FLOOD HAZARD AREA - An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

	Zone XS (X shaded): Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
	Zone X: Areas determined to be outside the 0.2% annual chance floodplain.

OTHER FLOOD AREAS

	Zone D: Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase apply, but coverage is available in participating communities.

PLANPACIFIC

January 13, 2016

Mr. Russell Y. Tsuji
Land Administrator
Department of Land and Natural Resources
State of Hawai'i
P.O. Box 621
Honolulu, HI 96809

Dear Mr. Tsuji:

Subject: Draft Environmental Assessment, Hale'iwa Plantation Village, Tax Map Keys: 6-6-009: 002 and 6-6-10:003

Thank you for your letter dated October 22, 2015 regarding the above-mentioned environmental document. Since the receipt of your letter, there have been revisions to the site plan based on all comments received and the applicant presented an update to the North Shore Neighborhood Board during their regular meeting in November 2015. The revised site plan and North Shore Neighborhood Board agenda will be included in the Final EA document. The Neighborhood Board minutes are not yet available as of this writing. Your department's comments and our responses are as follows:

A. Engineering Division

1. *We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zones AE and X. The National Flood Insurance Program regulates developments within Zone AE as indicated in bold letters below, but not in Zone X.*

   Response: Thank you for verifying the applicable FIRM zones.

2. *Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.*

   Response: The applicant will comply with the rules and regulations of NFIP as presented in 44CFR for development in FIRM Zone AE.

P.O. Box 892735
Mililani, HI 96789

Tel: 521-9418

3. *Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below: Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.*

   Response: Thank you for the information.

Thank you for your review and comments. Your comment letter will be included in the Final EA.

Sincerely,

Lisa L. Imata
President

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

October 23, 2015

PlanPacific, Inc.
Attention: Ms. Lisa Leonillo Imata, President
1001 Bishop Street, Suite 2755
Honolulu, Hawaii 96813

via email: limata@planpacific.com

Dear Ms. Imata,

SUBJECT: Chapter 25, Revised Ordinances of Honolulu (ROH), Draft Environmental Assessment (EA), Haleiwa Plantation Village

Thank you for the opportunity to review and comment on the subject matter. In addition to the comments sent to you dated October 22, 2015, enclosed are additional comments from the Division of Aquatic Resources. Should you have any questions, please feel free to call Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Sincerely,

for Russell Y. Tsuji
Land Administrator

Enclosure(s)

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

RECEIVED
SEP 16 2015
AQUATIC RESOURCES

DAR #5177

September 14, 2015

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

JK ✓
GH ✓

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Chapter 25, Revised Ordinances of Honolulu (ROH), Draft Environmental Assessment (EA), Haleiwa Plantation Village
LOCATION: 66-71 Achiu Lane – Haleiwa; 6-6-9: 2 and 6-6-10: 3
APPLICANT: HTP, LLC and Kilioe Place Property LLC by agent PlanPacific, Inc.

Transmitted for your review and comment on the above-referenced document. We would appreciate your comments on this document which can be found here:

1. Go to: https://sp01.ld.dlnr.hawaii.gov/LD
2. Login: Username: LD\Visitor Password: 0pa$$word0 (first and last characters are zeros)
3. Click on: Requests for Comments
4. Click on the subject file "Chapter 25, Revised Ordinances of Honolulu (ROH), Draft Environmental Assessment (EA), Haleiwa Plantation Village" then click on "Files" and "Download a copy". (Any issues accessing the document should be directed to Linda Kawakami at (808) 587-0371 or Linda.Kawakami@hawaii.gov)

Please submit any comments by October 21, 2015. If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(x) Comments are attached. Blu

Signed: Bruce Anderson
Print Name: Bruce Anderson
Date:

DAVID Y. IGE
GOVERNOR OF HAWAII

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

Date: 10/20/15
DAR # 5177

MEMORANDUM

TO: Bruce Anderson, Administrator BAR 10/20/15
DATE:
FROM: Glenn Higashi, Aquatic Biologist GRH
SUBJECT: Request for Comments: Chapter 25, Revised Ordinances of Honolulu (ROH), Draft Environmental Assessment (EA), Haleiwa Plantation Village

Comment	Date Request	Receipt	Referral	Due Date
	9/14/15	9/16/15	9/16/15	10/21/15

Requested by: Russell Y. Tsuji, Land Administrator
Land Division

Summary of Proposed Project

Title: Request for Comments: Chapter 25, Revised Ordinances of Honolulu (ROH), Draft Environmental Assessment (EA), Haleiwa Plantation Village

Project by: HTP, LLC and Kilioe Place Property LLC by agent PlanPacific, Inc.

Location: 66-71 Achiu Lane – Haleiwa; TMK: 6-6-9: 2 and 6-610: 3

Brief Description:
The applicant, HTP, LLC and Kilioe Place Property LLC by agent PlanPacific, Inc. is proposing this project to provide new opportunities for housing in Hale'iwa Town for local North Shore residents. The proposed project will create approximately 29 residential lots via subdivision and possibly CPR, and provide basic infrastructure connections to these lots. Each lot will be made available for individual purchase and each new owner will be able to build his/her own single-family dwelling, subject to community covenants, conditions, and restrictions. Some lots will have more than one dwelling for an approximate total of 35 dwellings.

In order to achieve the above objective, the applicant proposes to improve two adjacent parcels on Achiu Lane in Hale'iwa, TMKs 6-6-9:002 and 6-6-10:003. Parcel 6-6-10:003 will be cleared, subdivided, and improved to create up to 23 single-family residential lots with a minimum size of 5,000 square feet. Access to these lots will be from a proposed extension of Kilioe Place. Parcel 6-6-9:002 will be cleared and improved, except for the jurisdictional wetland area, to create 6 single-family residential lots, a stormwater detention basin for drainage purposes, and a private wastewater treatment plant to service the lots proposed on both parcels. The stormwater

detention basin will be oversized to accommodate the proposed new project in addition to helping alleviate the current periodic flooding problems reported by existing Kilioe residents. Also, with the proposed project, current property owners, who are now limited to cesspool service, may be offered the option to have their dwellings connected to the proposed wastewater treatment system. A walkway around the wetland area will also be created for wetland conservation, recreational, and scenic purposes.

Comments:
There are no potential impacts to aquatic resource values in the area as there are no streams within the proposed project site. The nearest stream is Paukauila Stream, located about 600 feet to the northwest.

The proposed project will involve grading and site preparation for the new roadway, sidewalk, lots, detention basin, and a private wastewater treatment system. The wetland area will be completely avoided. Heavy equipment would be used for grading and clearing, but no major changes in topography or soil composition will occur. The creation of the detention basin will require soil removal and possible creation of berms, but this will occur in a limited area.

As stated in the EA short-term construction activity impacts may include minor soil loss or erosion, but Best Management Practices (BMPs) will be employed to minimize or prevent such occurrences. The following additional mitigative measures should be implemented during the grading and site preparation for the new roadway, sidewalk, lots, detention basin and private wastewater treatment system to minimize the potential for erosion, siltation and pollution of the adjacent wetland environment:

1) lands denuded of vegetation should be planted as quickly as possible or covered to prevent erosion and the use of native vegetation should be proposed to prevent introduced plant species from blowing into the wetland environment and becoming established;
2) scheduling site work during periods of minimal rainfall;
3) prevent construction materials, petroleum products, debris and landscaping products from falling, blowing or leaching into the wetland environment.

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plans, DAR requests the opportunity to review and comment on those changes.

PLANPACIFIC

January 13, 2016

Mr. Russell Y. Tsuji
Land Administrator
Department of Land and Natural Resources
State of Hawai'i
P.O. Box 621
Honolulu, HI 96809

Dear Mr. Tsuji:

Subject: Draft Environmental Assessment, Hale'iwa Plantation Village, Tax Map Keys: 6-6-009: 002 and 6-6-10:003

Thank you for your letter dated October 23, 2015 regarding the above-mentioned environmental document. Since the receipt of your letter, there have been revisions to the site plan based on all comments received and the applicant presented an update to the North Shore Neighborhood Board during their regular meeting in November 2015. The revised site plan and North Shore Neighborhood Board agenda will be included in the Final EA document. The Neighborhood Board minutes are not yet available as of this writing. Your department's comments and our responses are as follows:

A. Aquatic Resources Division

1. *There are no potential impacts to aquatic resource values in the area as there are no streams within the proposed project site. The nearest stream is Paukauila Stream, located about 600 feet to the northwest.*

   Response: Thank you for the verification of no impacts to aquatic resource values.

2. *As stated in the EA short-term construction activity impacts may include minor soil loss or erosion, but Best Management Practices (BMPs) will be employed to minimize or prevent such occurrences. The following additional mitigative measures should be implemented during the grading and site preparation for the new roadway, sidewalk, lots, detention basin and private wastewater treatment system to minimize the potential for erosion, siltation and pollution of the adjacent wetland environment:*

   1) lands denuded of vegetation should be planted as quickly as possible or covered to prevent erosion and the use of native vegetation should be proposed to prevent introduced plant species from blowing into the wetland environment and becoming established;

   2) scheduling site work during periods of minimal rainfall;

P.O. Box 892735
Mililani, HI 96789

Tel: 521-9418

3) prevent construction materials, petroleum products, debris and landscaping products from falling, blowing or leaching into the wetland environment.

Response: Thank you for the above recommended mitigative measures. These will be added to the EA document. Vegetation will be planted as soon as possible in the common areas; however, the timing of planting in each lot will depend upon the timing of the sale of each lot and the individual owners' actions.

The silt fences during construction will help prevent materials and dust from entering the wetland area. The buffer area surrounding the wetland will also help protect the wetland environment during the short-term construction and over the long-term.

Thank you for your review and comments. Your comment letter will be included in the Final EA.

Sincerely,

Lisa L. Imata
President

DAVID Y. IGE
GOVERNOR OF HAWAII

VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

RECEIVED
OCT 15 2015
PLANPACIFIC, INC.

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
EMD/CWB

10018PJF.15

October 7, 2015

Ms. Lisa Leonillo Imata
Agent
PlanPacific Inc.
1001 Bishop Street, Suite 2755
Honolulu, Hawaii 96813

Dear Ms. Imata:

SUBJECT: Draft Environmental Assessment (DEA) for Haleiwa Plantation Village Project, 66-71 Achiu Lane TMK: 6-6-9:2 and 6-6-10:3 Haleiwa, Island of Oahu, Hawaii

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of your letter, dated September 10, 2015, requesting comments on your project. The DOH-CWB has reviewed the subject document and offers these comments. Please note that our review is based solely on the information provided in the subject document and its compliance with the Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at: http://health.hawaii.gov/epo/files/2013/05/Clean-Water-Branch-Std-Comments.pdf.

1. Any project and its potential impacts to State waters must meet the following criteria:

   a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

   b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

   c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. You may be required to obtain National Pollutant Discharge Elimination System (NPDES) permit coverage for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55).

For NPDES general permit coverage, a Notice of Intent (NOI) form must be submitted at least 30 calendar days before the commencement of the discharge. An application for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. To request NPDES permit coverage, you must submit the applicable form ("CWB Individual NPDES Form" or "CWB NOI Form") through the e-Permitting Portal and the hard copy certification statement with the respective filing fee ($1,000 for an individual NPDES permit or $500 for a Notice of General Permit Coverage). Please open the e-Permitting Portal website located at: https://eha-cloud.doh.hawaii.gov/epermit/. You will be asked to do a one-time registration to obtain your login and password. After you register, click on the Application Finder tool and locate the appropriate form. Follow the instructions to complete and submit the form.

3. If your project involves work in, over, or under waters of the United States, it is highly recommended that you contact the Army Corp of Engineers, Regulatory Branch (Tel: 835-4303) regarding their permitting requirements.

   Pursuant to Federal Water Pollution Control Act [commonly known as the "Clean Water Act" (CWA)], Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters..." (emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40 of the Code of Federal Regulations, Section 122.2; and HAR, Chapter 11-54.

4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.

5. It is the State's position that all projects must reduce, reuse, and recycle to protect, restore, and sustain water quality and beneficial uses of State waters. Project planning should:

   a. Treat storm water as a resource to be protected by integrating it into project planning and permitting. Storm water has long been recognized as a source of irrigation that will not deplete potable water resources. What is often overlooked is that storm water recharges ground water supplies and feeds streams and estuaries; to ensure that these water cycles are not disrupted, storm water cannot be relegated as a waste product of impervious surfaces. Any project planning must recognize storm water as an asset that sustains and protects

natural ecosystems and traditional beneficial uses of State waters, like community beautification, beach going, swimming, and fishing. The approaches necessary to do so, including low impact development methods or ecological bio-engineering of drainage ways must be identified in the planning stages to allow designers opportunity to include those approaches up front, prior to seeking zoning, construction, or building permits.

b. Clearly articulate the State's position on water quality and the beneficial uses of State waters. The plan should include statements regarding the implementation of methods to conserve natural resources (e.g., minimizing potable water for irrigation, gray water re-use options, energy conservation through smart design) and improve water quality.

c. Consider storm water Best Management Practice (BMP) approaches that minimize the use of potable water for irrigation through storm water storage and reuse, percolate storm water to recharge groundwater to revitalize natural hydrology, and treat storm water which is to be discharged.

d. Consider the use of green building practices, such as pervious pavement and landscaping with native vegetation, to improve water quality by reducing excessive runoff and the need for excessive fertilization, respectively.

e. Identify opportunities for retrofitting or bio-engineering existing storm water infrastructure to restore ecological function while maintaining, or even enhancing, hydraulic capacity. Particular consideration should be given to areas prone to flooding, or where the infrastructure is aged and will need to be rehabilitated.

If you have any questions, please visit our website at: http://health.hawaii.gov/cwb/, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

for

ALEC WONG, P.E., CHIEF
Clean Water Branch

JF:ay

c: Mr. George I. Atta, City and County of Honolulu

PLANPACIFIC

January 13, 2016

Mr. Alec Wong, P.E.
Chief
Clean Water Branch
Department of Health
State of Hawai'i
P.O. Box 3378
Honolulu, HI 96801-3378

Dear Mr. Wong:

Subject: Draft Environmental Assessment, Hale'iwa Plantation Village, Tax Map Keys: 6-6-009: 002 and 6-6-10:003

Thank you for your letter dated October 7, 2015, referenced as 10018PJF.15, regarding the above-mentioned environmental document. Since the receipt of your letter, there have been revisions to the site plan based on all comments received and the applicant presented an update to the North Shore Neighborhood Board during their regular meeting in November 2015. The revised site plan and North Shore Neighborhood Board agenda will be included in the Final EA document. The Neighborhood Board minutes are not yet available as of this writing. Your comments and our responses are as follows:

1. *Any project and its potential impacts to State waters must meet the following criteria:*

   a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

   b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

   c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

   Response: The project will comply with the above criteria from HAR, Sections 11-54-1.1, 11-54-3, and 11-54-4 through 11-54-8, as well as the Clean Water Act.

2. *You may be required to obtain National Pollutant Discharge Elimination System (NPDES) permit coverage for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55).*

P.O. Box 892735
Mililani, HI 96789

Tel: 521-9418

For NPDES general permit coverage, a Notice of Intent (NO[) form must be submitted at least 30 calendar days before the commencement of the discharge. An application for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge.

Response: The developer will obtain NPDES permits, as necessary, for construction activities.

3. *If your project involves work in, over, or under waters of the United States, it is highly recommended that you contact the Army Corp of Engineers, Regulatory Branch (Tel: 835-4303) regarding their permitting requirements.*

   Pursuant to Federal Water Pollution Control Act [commonly known as the "Clean Water Act" (CWA)], Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[amy applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters..." (emphasis added).

   The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40 of the Code of Federal Regulations, Section 122.2; and HAR, Chapter 11-54.

   Response: The applicant has consulted with the U.S. Army Corps of Engineers (USACE), particularly for wetland delineation and determination of jurisdiction. Appendices B and C of the EA contain the wetland delineation report and a letter from the USACE stating that no permit will be required from them. The USACE has determined that "navigable waters" will not be affected.

4. *Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.*

   Response: The project will comply with the State's Water Quality Standards.

5. *It is the State's position that all projects must reduce, reuse, and recycle to protect, restore, and sustain water quality and beneficial uses of State waters. Project planning should:*

   a. Treat storm water as a resource to be protected by integrating it into project planning and permitting. Storm water has long been recognized as a source of irrigation that will not deplete potable water resources. What is often overlooked is that storm water recharges ground water supplies and feeds streams and estuaries; to ensure that these water cycles are not disrupted, storm water cannot be relegated as a waste product of impervious surfaces. Any project planning must recognize storm water as an asset that sustains and protects natural ecosystems and traditional beneficial uses of State waters, like community beautification, beach going, swimming, and fishing. The approaches necessary to do so, including low impact development methods or ecological bio-engineering of drainage ways

must be identified in the planning stages to allow designers opportunity to include those approaches up front, prior to seeking zoning, construction, or building permits.

b. Clearly articulate the State's position on water quality and the beneficial uses of State waters. The plan should include statements regarding the implementation of methods to conserve natural resources (e.g., minimizing potable water for irrigation, gray water re-use options, energy conservation through smart design) and improve water quality.

c. Consider storm water Best Management Practice (BMP) approaches that minimize the use of potable water for irrigation through storm water storage and reuse, percolate storm water to recharge groundwater to revitalize natural hydrology, and treat storm water which is to be discharged.

d. Consider the use of green building practices, such as pervious pavement and landscaping with native vegetation, to improve water quality by reducing excessive runoff and the need for excessive fertilization, respectively.

e. Identify opportunities for retrofitting or bio-engineering existing storm water infrastructure to restore ecological function while maintaining, or even enhancing, hydraulic capacity. Particular consideration should be given to areas prone to flooding, or where the infrastructure is aged and will need to be rehabilitated.

Response: The project proposes an oversized detention basin for storm water storage to alleviate existing flooding conditions as well as prevent exacerbation of conditions with the project. The detention basin will help retain water and allow it to percolate to recharge both the ground water and the Hale'iwa Marsh, which extends on to the project area.

Thank you for your review and comments. Your comment letter will be included in the Final EA.

Sincerely,

Lisa L. Imata
President

DAVID Y. IGE
GOVERNOR

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
STP 8.1874

October 7, 2015

RECEIVED
'15 OCT 14 P3:20
DEPT OF PLANNING
AND PERMITTING
CITY & COUNTY OF HONOLULU

Mr. George Atta, FAICP
Director
City and County of Honolulu
Department of Planning and Permitting
650 South King Street, 7th Floor
Honolulu, Hawaii 96813

Dear Mr. Atta:

Subject: Haleiwa Plantation Village
Draft Environmental Assessment
Haleiwa, Oahu, Hawaii
TMK: (1) 6-6-009:002 and 6-6-010:003

The subject project is not expected to significantly impact the State highway facility. However, a permit from DOT Highways Division, is required for the transport of oversized and/or overweight materials and equipment on State highway facilities.

If there are any questions, please contact Mr. Norren Kato of the DOT Statewide Transportation Planning Office at telephone number (808) 831-7976.

Sincerely,

FORD N. FUCHIGAMI
Director of Transportation

PLANPACIFIC

January 13, 2016

Mr. Ford N. Fuchigami
Director of Transportation
Department of Transportation
State of Hawai'i
869 Punchbowl Street
Honolulu, HI 96813

Dear Mr. Fuchigami:

Draft Environmental Assessment, Hale'iwa Plantation Village, Tax Map Keys: 6-6-009: 002 and 6-6-10:003

Thank you for your letter dated October 7, 2015, referenced as STP 8.1874, regarding the above-mentioned environmental document. We acknowledge your confirmation that State highway facilities will not be significantly impacted. A DOT permit for transport of overweight and/or oversized materials and equipment on State highway facilities will be obtained, as necessary, for construction.

Thank you for your review and comments. Your comment letter will be included in the Final EA.

Sincerely,

Lisa L. Imata
President

P.O. Box 892735
Mililani, HI 96789

Tel: 521-9418

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

OCT 23 2015

RECEIVED
'15 OCT 27 P1:51
DEPT OF PLANNING AND PERMITTING
CITY & COUNTY OF HONOLULU

In Reply Refer To:
2015-TA-0448

Mr. George I. Atta
Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, HI 96813

Subject: Technical Assistance for the Draft Environmental Assessment Haleiwa Plantation Village Project, Haleiwa, O'ahu

Dear Mr. Atta:

The U.S. Fish and Wildlife Service (Service) received your letter on September 18, 2015, requesting our comments on the Draft Environmental Assessment (EA) for the proposed Haleiwa Plantation Village Project, Haleiwa, O'ahu [TMKs: 6-6-9:002 and 6-6-10:003]. We understand PlanPacific, Inc. on behalf of HTP, LLC and Kilioe Place Property, LLC has prepared the Draft EA in accordance with Chapter 343, Hawai'i Revised Statutes. The proposed project involves the following: creating single-family residential lots for approximately 35 dwellings; constructing a stormwater detention basin and private wastewater treatment facility; creating a new road and extending an existing road; installing street lights; creating and extending sidewalks, curbs and gutters; and constructing a walkway around a 0.70 acre wetland. The following comments have been prepared pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*), as amended (ESA); Migratory Bird Treaty Act (16 U.S.C. 703-712] (MBTA); and the National Environmental Policy Act of 1969 [42 U.S.C. 4321 *et seq.*; 83 Stat. 401] as amended (NEPA). Based on these authorities, we offer the following comments for your consideration.

We have reviewed the information you provided and pertinent information in our files, including data compiled by the Hawai'i Biodiversity and Mapping Program as it pertains to listed species and designated critical habitat. There is no federally designated critical habitat within the immediate vicinity of the proposed project. Our data indicate that the following federally listed species could be impacted by components of the project: the endangered Hawaiian hoary bat or ope'ape'a (*Lasiurus cinereus semotus*), the endangered Hawaiian stilt or ae'o (*Himantopus mexicanus knudseni*), the endangered Hawaiian common moorhen or 'alae 'ula (*Gallinula chloropus sandvicensis*), the endangered Hawaiian coot or 'alae ke'oke'o (*Fulica alai*), the endangered Hawaiian duck or koloa maoli (*Anas wyvilliana*), and the endangered Hawaiian goose or nene (*Branta sandvicensis*). Also, species protected under the MBTA such as, the wedge-tailed shearwater or 'ua'u kani (*Puffinus pacificus*), the Pacific golden plover or kolea (*Pluvialis fulva*), and ruddy turnstone or 'akekeke (*Arenaria interpres*) may occur within the project vicinity.

Hawaiian hoary bat

Hawaiian hoary bats have been documented at various sites along the north shore of O'ahu (*e.g.*, a sighting occurred at Uko'a Wetland, approximately 1 mile from the project area. The Hawaiian hoary bat roosts in both exotic and native woody vegetation and, while foraging, will leave young unattended in "nursery" trees and shrubs when they forage. If trees or shrubs suitable for bat roosting are cleared during the breeding season, there is a risk that young bats could inadvertently be harmed or killed since they are too young to fly or may not move away when a tree is cut or disturbed. To minimize impacts to the endangered Hawaiian hoary bat, woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15). Site clearing should be timed to avoid disturbance to Hawaiian hoary bats in the project area.

Hawaiian waterbirds, Hawaiian geese, and shorebirds

Hawaiian waterbirds and shorebirds (*e.g.*, Pacific golden plover and ruddy turnstone) are known to occur at various sites within the vicinity of the project area (*e.g.*, Uko'a Wetland, Haleiwa Harbor). Hawaiian geese have been documented at various sites on O'ahu and have been seen regularly traversing between Mililani at the Agriculture Park and at a local golf course and to the North shore of O'ahu at James Campbell National Wildlife Refuge and Turtle Bay Resort.

Based on the project details provided, it is highly likely the detention basin will result in standing water or creation of open water, which has a high likelihood of attracting Hawaiian waterbirds, Hawaiian geese, and shorebirds to the site. In particular, the Hawaiian stilt is known to nest in sub-optimal locations (*e.g.*, any ponding water) if water is present. Hawaiian waterbirds and Hawaiian geese attracted to sub-optimal habitat may suffer adverse impacts, such as predation, reduced reproductive success due to disturbance within the vicinity of a nest, injury or death from being hit by a bike or vehicle or exposure to contaminated materials, and thus the project may create an attractive nuisance. Therefore, we recommend the stormwater detention basin be designed in a manner that minimizes water retention or prevents its use by these species (*e.g.*, netting, bird balls). In addition, the wastewater treatment facility should not contain open water portions or create situations of standing water for extended periods.

Seabirds

Wedge-tailed shearwaters nest along the coastline in burrows, among littoral vegetation. Nesting adults, eggs, and chicks are particularly susceptible to impacts from human disturbance and predators. Surveys should be conducted throughout the project area during the species' peak breeding season (August through October) to determine the presence and location of nesting areas. If it is found that wedge-tailed shearwaters nest within the proposed project area, project construction should be timed outside of the breeding season.

Outdoor lighting, such as street lights, can adversely impact migratory seabird species (*e.g.*, wedge-tailed shearwater) found in the vicinity of the proposed project. Seabirds fly at night and are attracted to artificially lighted areas which can result in disorientation and subsequent fallout due to exhaustion or collision with objects such as utility lines, guy wires, and towers that protrude above the vegetation layer. Once grounded, they are vulnerable to predators or often struck by vehicles along roadways. Wedge-tailed shearwater nesting colonies are located on offshore islets and several locations on Oahu and every year many young shearwaters are downed and struck along Oahu roadways. Any increase in the use of night-time lighting, particularly during each year's peak fallout period (September 15 through December 15), could result in additional seabird injury or mortality.

If outdoor lighting is proposed for the project, the Service recommends a comprehensive lighting plan be developed and incorporated into the Final EA to minimize and avoid artificial lighting impacts to seabirds. If lights cannot be eliminated due to safety or security concerns then they should be positioned low to the ground, be motion-triggered and be shielded and/or full cut-off. Effective light shields should be completely opaque, sufficiently large, and positioned so that the bulb is only visible from below. We recommend avoiding night-time construction activities from September 15 through December 15 and providing all project staff with information about seabird fallout. Where appropriate, we recommend adding signage or a kiosk to educate residents regarding the seabird fallout issue and to let people know that downed birds can be taken to Sea Life Park for rehabilitation. We appreciate your efforts to minimize and avoid artificial lighting impacts to seabirds.

If, after further development of your project plans, it is determined that the proposed project may affect federally listed species, we recommend you contact our office early in the planning process so that we may further assist you with ESA compliance.

General Comments

Hawai'i's native ecosystems are heavily impacted by exotic invasive plants. Whenever possible we recommend using native plants for landscaping purposes. If native plants do not meet the landscaping objectives, we recommend choosing species that are thought to have a low risk of becoming invasive. The following websites are good resources to use when choosing landscaping plants: Pacific Island Ecosystems at Risk (http://www.hear.org/Pier/), Weed Risk Assessment for Hawai'i and Pacific Islands (http://www.botany.hawaii.edu/faculty/daehler/wra/) and Global Compendium of Weeds (http://www.hear.org/gcw/).

Because the proposed project will involve earthwork, we are attaching the Service's recommended Best Management Practices regarding sedimentation and erosion control. We encourage you to incorporate the relevant practices into your project design.

We appreciate your efforts to conserve endangered species. If you have questions regarding these comments, please contact Leila Gibson, Fish and Wildlife Biologist (phone: 808-792-9400, email: leila_gibson@fws.gov).

Sincerely,

Aaron Nadig
Island Team Manager
O'ahu, Kaua'i, North Western Hawaiian Islands,
and American Samoa

cc: Ms. Lisa Leonillo Imata

Enclosure: Service BMPs for erosion and sediment control

U.S. Fish and Wildlife Service
Recommended Standard Best Management Practices

The U.S. Fish and Wildlife Service (USFWS) recommend the following measures to be incorporated into project planning to avoid or minimize impacts to fish and wildlife resources. Best Management Practices (BMPs) include the incorporation of procedures or materials that may be used to reduce either direct or indirect negative impacts to aquatic habitats that result from project construction-related activities. These BMPs are recommended in addition to, and do not over-ride any terms, conditions, or other recommendations prepared by the USFWS, other federal, state or local agencies. If you have questions concerning these BMPs, please contact the USFWS Aquatic Ecosystems Conservation Program at 808-792-9400.

1. Authorized dredging and filling-related activities that may result in the temporary or permanent loss of aquatic habitats should be designed to avoid indirect, negative impacts to aquatic habitats beyond the planned project area.

2. Dredging/filling in the marine environment should be scheduled to avoid coral spawning and recruitment periods, and sea turtle nesting and hatching periods. Because these periods are variable throughout the Pacific islands, we recommend contacting the relevant local, state, or federal fish and wildlife resource agency for site specific guidance.

3. Turbidity and siltation from project-related work should be minimized and contained within the project area by silt containment devices and curtailing work during flooding or adverse tidal and weather conditions. BMPs should be maintained for the life of the construction period until turbidity and siltation within the project area is stabilized. All project construction-related debris and sediment containment devices should be removed and disposed of at an approved site.

4. All project construction-related materials and equipment (dredges, vessels, backhoes, silt curtains, etc.) to be placed in an aquatic environment should be inspected for pollutants including, but not limited to; marine fouling organisms, grease, oil, etc., and cleaned to remove pollutants prior to use. Project related activities should not result in any debris disposal, non-native species introductions, or attraction of non-native pests to the affected or adjacent aquatic or terrestrial habitats. Implementing both a litter-control plan and a Hazard Analysis and Critical Control Point plan (HACCP – see *http://www.haccp-nrm.org/Wizard/default.asp*) can help to prevent attraction and introduction of non-native species.

5. Project construction-related materials (fill, revetment rock, pipe, etc.) should not be stockpiled in, or in close proximity to aquatic habitats and should be protected from erosion (*e.g.*, with filter fabric, etc.), to prevent materials from being carried into waters by wind, rain, or high surf.

6. Fueling of project-related vehicles and equipment should take place away from the aquatic environment and a contingency plan to control petroleum products accidentally spilled during the project should be developed. The plan should be retained on site with the person responsible for compliance with the plan. Absorbent pads and containment booms should be stored on-site to facilitate the clean-up of accidental petroleum releases.

7. All deliberately exposed soil or under-layer materials used in the project near water should be protected from erosion and stabilized as soon as possible with geotextile, filter fabric or native or non-invasive vegetation matting, hydro-seeding, etc.

PLANPACIFIC

January 13, 2016

Mr. Aaron Nadig
Island Team Manager
O'ahu, Kaua'i, North Western Hawaiian Islands, and American Samoa
United States Department of the Interior
Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawai'i 96850

Dear Mr. Nadig:

Subject: Draft Environmental Assessment, Hale'iwa Plantation Village, Tax Map Keys: 6-6-009: 002 and 6-6-10:003

Thank you for your letter dated October 23, 2015, referenced as 205-TA-0448, regarding the above-mentioned environmental document. Since the receipt of your letter, there have been revisions to the site plan based on all comments received and the applicant presented an update to the North Shore Neighborhood Board during their regular meeting in November 2015. The revised site plan and North Shore Neighborhood Board agenda will be included in the Final EA document. The Neighborhood Board minutes are not yet available as of this writing. Your comments and our responses are as follows, in order of your letter:

1. *We have reviewed the information you provided and pertinent information in our files, including data compiled by the Hawai'i Biodiversity and Mapping Program as it pertains to listed species and designated critical habitat. There is no federally designated critical habitat within the immediate vicinity of the proposed project. Our data indicate that the following federally listed species could be impacted by components of the project: the endangered Hawaiian hoary bat or opeape'a (Lasiurus cinereus se,notus), the endangered Hawaiian stilt or ae'o (Hirnantopus mexicanus knudseni), the endangered Hawaiian common moorhen or alae ula (Gal/mu/a chioropus sandvicensis), the endangered Hawaiian coot or alae ke'oke'o (Fulica alai), the endangered Hawaiian duck or koloa maoli (Anas wyvilliana), and the endangered Hawaiian goose or nene (Branta sandvicensis). Also, species protected under the MBTA such as, the wedge-tailed shearwater or 'ua'u kani (Puffinus pacijicus), the Pacific golden plover or kolea (Plut'ialisfulva), and ruddy turnstone or 'akekeke (Arenaria Interpres) may occur within the project vicinity.*

   Response: Thank you for confirming that there is no federally designated critical habitat within the immediate vicinity of the proposed project. Thank you also for the information on possible federally-listed species that may occur in the general area.

P.O. Box 892735
Mililani, HI 96789

Tel: 521-9418

The applicant did hire LeGrande Biological Surveys, Inc. at the very start of the project planning phase to survey the project site and take inventory of the site's flora and avifauna. The report by LeGrande Biological Surveys, Inc. was included as Appendix A of the Draft EA. The results of the survey show 10 different species of avifauna and confirm the Pacific Golden Plover or Kolea. The Draft EA describes the results in Section 3.7. The Draft EA also notes that the Pacific Golden Plover is a migratory species that is protected by Federal law under the Migratory Bird Treaty Act (MBTA), and by State law under the Hawai'i Administrative Rules 13-124, but it is not an endangered or threatened species. None of the endangered species you list were observed on site during the survey. However, we will revise Section 3.7 to note that the endangered species you list may occur in the area.

2. *Hawaiian hoary bat*
Hawaiian hoary bats have been documented at various sites along the north shore of O'ahu (e.g., a sighting occurred at Uko'a Wetland, approximately 1 mile from the project area. The Hawaiian hoary bat roosts in both exotic and native woody vegetation and, while foraging, will leave young unattended in "nursery" trees and shrubs when they forage. If trees or shrubs suitable for bat roosting are cleared during the breeding season, there is a risk that young bats could inadvertently be harmed or killed since they are too young to fly or may not move away when a tree is cut or disturbed. To minimize impacts to the endangered Hawaiian hoary bat, woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15). Site clearing should be timed to avoid disturbance to Hawaiian hoary bats in the project area.

Response: As mentioned in the response to item 1, a site survey was conducted and the Hawaiian hoary bat was not observed. However, Section 3.7 will be revised to note that disturbance to woody plants greater than 15 feet tall should be avoided if possible between June 1 and September 15 because it is the bat birthing and rearing season; in case the Hawaiian hoary bat takes roost on the project site.

3. *Hawaiian waterbirds, Hawaiian geese, and shorebirds*
Hawaiian waterbirds and shorebirds (e.g., Pacific golden plover and ruddy turnstone) are known to occur at various sites within the vicinity of the project area (e.g., Uko'a Wetland, Hale'iwa Harbor). Hawaiian geese have been documented at various sites on O'ahu and have been seen regularly traversing between Mililani at the Agriculture Park and at a local golf course and to the North shore of O'ahu at James Campbell National Wildlife Refuge and Turtle Bay Resort.

Based on the project details provided, it is highly likely the detention basin will result in standing water or creation of open water, which has a high likelihood of attracting Hawaiian waterbirds, Hawaiian geese, and shorebirds to the site. In particular, the Hawaiian stilt is known to nest in sub-optimal locations (e.g., any ponding water) if water is present. Hawaiian waterbirds and Hawaiian geese attracted to sub-optimal habitat may suffer adverse impacts, such as predation, reduced reproductive success due to disturbance within the vicinity of a nest, injury or death from being hit by a bike or vehicle or exposure to contaminated materials, and thus the project may create an attractive nuisance. Therefore, we recommend the stormwater detention basin be designed in a manner that minimizes

water retention or prevents its use by these species (e.g., netting, bird balls). In addition, the wastewater treatment facility should not contain open water portions or create situations of standing water for extended periods.

Response: Thank you for the information on waterbirds. Section 3.7 will be revised to reflect the information above.

4. *Seabirds*
Wedge-tailed shearwaters nest along the coastline in burrows, among littoral vegetation. Nesting adults, eggs, and chicks are particularly susceptible to impacts from human disturbance and predators. Surveys should be conducted throughout the project area during the species' peak breeding season (August through October) to determine the presence and location of nesting areas. If it is found that wedge-tailed shearwaters nest within the proposed project area, project construction should be timed outside of the breeding season. Outdoor lighting, such as street lights, can adversely impact migratory seabird species (e.g., wedge-tailed shearwater) found in the vicinity of the proposed project. Seabirds fly at night and are attracted to artificially lighted areas which can result in disorientation and subsequent fallout due to exhaustion or collision with objects such as utility lines, guy wires, and towers that protrude above the vegetation layer. Once grounded, they are vulnerable to predators or often struck by vehicles along roadways. Wedge-tailed shearwater nesting colonies are located on offshore islets and several locations on Oahu and every year many young shearwaters are downed and struck along Oahu roadways. Any increase in the use of night-time lighting, particularly during each year's peak fallout period (September 15 through December 15), could result in additional seabird injury or mortality.

If outdoor lighting is proposed for the project, the Service recommends a comprehensive lighting plan be developed and incorporated into the Final EA to minimize and avoid artificial lighting impacts to seabirds. If lights cannot be eliminated due to safety or security concerns then they should be positioned low to the ground, be motion-triggered and be shielded and/or full cut-off. Effective light shields should be completely opaque, sufficiently large, and positioned so that the bulb is only visible from below. We recommend avoiding night-time construction activities from September 15 through December 15 and providing all project staff with information about seabird fallout. Where appropriate, we recommend adding signage or a kiosk to educate residents regarding the seabird fallout issue and to let people know that downed birds can be taken to Sea Life Park for rehabilitation. We appreciate your efforts to minimize and avoid artificial lighting impacts to seabirds.

If, after further development of your project plans, it is determined that the proposed project may affect federally listed species, we recommend you contact our office early in the planning process so that we may further assist you with ESA compliance.

Response: The flora and fauna survey for this project was conducted during the month of September, during the peak breeding season of the Wedge-tailed shearwaters. None were observed.

Section 3.7 will be revised to add information about the impacts of outdoor lighting on seabirds. A lighting plan will be developed at a later date as the process for this project still

requires a State land use district boundary amendment, a zone change, and a Special Management Area permit.

5. *General Comments*
Hawai'i's native ecosystems are heavily impacted by exotic invasive plants. Whenever possible we recommend using native plants for landscaping purposes. If native plants do not meet the landscaping objectives, we recommend choosing species that are thought to have a low risk of becoming invasive. The following websites are good resources to use when choosing landscaping plants: Pacific Island Ecosystems at Risk (http://www.hear.org/Pier/), Weed Risk Assessment for Hawai'i and Pacific Islands (http://www.botany.hawaii.edu/faculty/daehler/wra/) and Global Compendium of Weeds (http://www.hear.org/gcw/).

Because the proposed project will involve earthwork, we are attaching the Service's recommended Best Management Practices regarding sedimentation and erosion control. We encourage you to incorporate the relevant practices into your project design.

Response: Native or non-invasive species will be used for landscaping where possible. Thank you for the USFWS recommended best management practices list. The proposed project will employ these practices as appropriate.

Thank you for your review and comments. Your comment letter will be included in the Final EA.

Sincerely,

Lisa L. Imata
President

Subject: Comments on Haleiwa Plantation Village
From: Kathleen Pahinui
Date: 10/22/2015 8:57 PM
To: <Limata@planpacific.com>, <abeatty@honolulu.gov>

Aloha -

Concerns

- Project would significantly increase traffic and density in the area. Currently the area is pleasant with nice, well-kept homes – this will make it more suburban with Mililani style curbs, lighting and gutters.
- EA states that the land will provide housing opportunities for North Shore residents. How can you restrict sales to North Shore residents? Or will the land to be sold to the highest bidder creating a community of potential non-residents and second homeowners. This would dramatically alter the fabric of the area.
- The EA states that adding 35 homes to the area is of no significant amount. I would venture that the neighbors would not agree with this assessment and minimizes community concerns.
- What rules will be in place to ensure that the houses built will fit in with the rest of the neighborhood and town. I believe this area is not within the Haleiwa Special Design District so anything goes in terms of design.
- Because these homes are within the tsumani inundation area – will the houses have to be build on stilts? A whole neighborhood of homes on stilts will definitely alter the look of the town and not for the better.
- What will prevent these homes from being turned into illegal vacation rental units? Cheap land, build a cheap home and rent it out for a lot of money. This will significantly and negatively impact the quality of life of the surrounding residents.
- Access to the subdivision is a concern – adding a minimum of at least 64 more cars (32 houses x 2) will significantly impact traffic in the area and add another point of congestion. This subdivision is across from the very popular North Shore Market Place right near one of the entrances.
- In addition, another proposed project with 156 rental units and approximately 30,000 sq ft of commercial space will have an access nearby thus creating more congestion. You cannot separate out these projects and they must be considered in total due to their cumulative impact.
- Will left hand turn lanes be required? The community has spoken against left hand turn lanes on Kamehameha Hwy.
- Who will manage the Homeowners Association and ensure that the waste management system is kept up to code and running correctly.
- The water table is very high in this area and injecting even treated waste water is not wise as it will seep into the potable water and adjacent wetlands.
- EA states that no construction or grading will be done next to the wetlands – who will ensure that? The current owner? The Homeowners Association?
- A previous zoning change in Haleiwa from R-5 to B-1 by this developer has turned into an ugly disaster for the community – what was presented was not followed through on and the area is now littered with lunch wagons. I have no confidence that what is presented is what will happen or be properly managed.

This project has the potential to forever alter our town and the quality of life of the residents and the requests for development and zoning changes should not be taken lightly or at face value. Too often we have been presented with one set of plans and the community ends up with projects we do not want or support. The concerns and voice of our community should carry weight in any and all types of projects small or large that have the potential to impact our lives.

Mahalo for your time and consideration of mine and others' comments.

Kathleen M. Pahinui
Resident, Waialua

PLANPACIFIC

January 13, 2016

Ms. Kathleen Pahinui
via email

Dear Ms. Pahinui:

Subject: Draft Environmental Assessment, Hale'iwa Plantation Village, Tax Map Keys: 6-6-009: 002 and 6-6-10:003

Thank you for your email dated October 22, 2015 regarding the above-mentioned environmental document. Since the receipt of your letter, there have been revisions to the site plan based on all comments received and the applicant presented an update to the North Shore Neighborhood Board during their (your) regular meeting in November 2015. The revised site plan and North Shore Neighborhood Board agenda will be included in the Final EA document. The Neighborhood Board minutes are not yet available as of this writing. Your comments and our responses are as follows, in order of your email letter:

1. *Project would significantly increase traffic and density in the area. Currently the area is pleasant with nice, well-kept homes – this will make it more suburban with Mililani style curbs, lighting and gutters.*

   Response: The existing Kilioe Place already has curbs, street lighting, and gutters. The proposed project was designed as such to match what is existing to the extent possible. The proposed project will increase traffic and density in the area, but to a modest extent. The lot sizes, lot layout, and density are consistent with the existing Kilioe Place. While multi-family homes were considered at one point because they would be more affordable to buyers, the applicant decided to keep the proposed lots for single-family homes to blend in with the existing surrounding single-family homes, keep impacts to traffic to a minimum, and not dramatically alter the character of the neighborhood.

   According to the traffic engineer, who completed the traffic assessment in May 2015, included in the EA as Appendix D, the impacts to traffic load and wait times due to the project will not be "significant" as measured by traffic engineering standards. The largest increase in vehicles during a peak hour due to the proposed project is calculated to be 20 vehicles and this would occur during a weekday afternoon for people exiting Kilioe Place. The delay time, or level of service, for this movement (exiting Kilioe Place) will also be impacted, but not to an extent where mitigation, such as a traffic light or turn lane, will be required.

   In addition, the City Department of Transportation Services and the State Department of Transportation have reviewed the Draft EA and traffic

P.O. Box 892735
Mililani, HI 96789

Tel: 521-9418

assessment report and have no major reservations to the proposed project where impacts to traffic volume and delay times are concerned. The comment letters from the City Department of Transportation Services and the State Department of Transportation will be included in the Final EA document as parts of Appendix G.

The project's location within Hale'iwa Town creates live-work opportunities which could reduce the amount of vehicular traffic estimated to be generated by the project. New residents could walk to nearby businesses for work or for shopping, or catch the City bus with bus stops nearby and avoid using cars altogether.

2. *EA states that the land will provide housing opportunities for North Shore residents. How can you restrict sales to North Shore residents? Or will the land to be sold to the highest bidder creating a community of potential non-residents and second homeowners. This would dramatically alter the fabric of the area.*

   Response: The intent of the project is to provide work force housing in Hale'iwa Town, where it is most likely that residents can walk to work as well as to places to purchase necessities, conduct personal business, and dine. In order to keep costs down and to put more control of costs into the hands of the buyer, the applicant will only go as far as to prepare the lots for sale and will not develop the actual dwelling unit structure. This is a very unique opportunity for housing in the area.

   The lot sizes restrict the amount of buildable floor area and match the current sizes of the existing lots on Kilioe Place. City standards are in place to control the nature of the project so as not to dramatically alter the fabric of the area. In addition, restrictive covenants will be created to further control the character of the development.

   To the extent possible, the applicant will control the built form and the target market. These can be achieved mainly by site design, keeping costs down, and restrictive covenants. Unfortunately, there is no legal mechanism that the applicant is aware of that can restrict sales to current North Shore residents, or any other group identified by any characteristic other than income.

3. *The EA states that adding 35 homes to the area is of no significant amount. I would venture that the neighbors would not agree with this assessment and minimizes community concerns.*

   Response: The process for this project started years ago and the applicant did hold a Kilioe Place residents' meeting in 2012. The applicant went door-to-door to introduce himself and to personally invite all residents to this meeting. Not all residents chose to attend and not all of those in attendance expressed concern.

   The applicant has appeared at North Shore Neighborhood Board meetings and did hear from Kilioe Place land owners as well as surrounding Achiu Lane land owners in 2012. Kilioe Place land owners were invited again in November 2015 when the applicant voluntarily presented an update of his plans to the Board. Community members have had opportunities to express concerns and will have many more opportunities in the future. The applicant will

be returning to the North Shore Neighborhood Board for updates, as well as for upcoming City permit applications. This project will require a State Land Use boundary amendment, a zone change, and a Special Management Area permit. The applicant has been listening to all input and has been revising the site plan to address community concerns.

The project will involve several public hearings in front of the City Planning Commission, City Council, and the City Council Planning and Zoning Committee. These hearings will be publicized and will allow for many more opportunities for community members to express concerns.

4. *What rules will be in place to ensure that the houses built will fit in with the rest of the neighborhood and town. I believe this area is not within the Haleiwa Special Design District so anything goes in terms of design.*

   Response: The project site is outside of the Hale'iwa Special Design District; however, restrictive covenants will be in place to guide designs and color palettes to be respectful of the existing neighborhood. Each lot owner will be able to choose his/her house design and placement within the lot, but it will be within given parameters of City standards and restrictive covenants. The homes will not be visible from Kamehameha Highway, where the design controls of the Hale'iwa Special Design District apply and are visually evident.

5. *Because these homes are within the tsumani inundation area – will the houses have to be build on stilts? A whole neighborhood of homes on stilts will definitely alter the look of the town and not for the better.*

   Response: Although the project area is in the tsunami evacuation area, it is outside of the coastal high hazard area (Zone VE as defined by the Federal Emergency Management Agency or FEMA). A portion is, however, in the flood fringe area (Zone AE). Homes in the flood fringe area, as well as those on lots where the ground elevation is less than 9 feet above mean sea level (MSL), will need to be raised so that the finished floor elevation is at least 9 feet above MSL and higher than the flood elevation. This is to protect the homeowners from losing their homes to periodic flooding and is necessary for insurance purposes. It is not necessary for all homes to be raised. For those homes that do need to be raised, the increase in height needed is roughly 3 to 4 feet.

   Raised structures are not rare in Hale'iwa Town. There exists several raised structures, both residential and commercial, in Hale'iwa. Some of them are historic remnants of the plantation era or done in a similar style.

6. *What will prevent these homes from being turned into illegal vacation rental units? Cheap land, build a cheap home and rent it out for a lot of money. This will significantly and negatively impact the quality of life of the surrounding residents.*

   Response: This is an island-wide issue that is currently being addressed by the City Council. Better monitoring and enforcement is needed island-wide. The proposed homes have no greater potential to become illegal vacation rental units than any of the existing homes in the North Shore area.

7. *Access to the subdivision is a concern – adding a minimum of at least 64 more cars (32 houses x 2) will significantly impact traffic in the area and add another point of congestion. This subdivision is across from the very popular North Shore Market Place right near one of the entrances.*

   Response: Please see response to comment #1.

8. *In addition, another proposed project with 156 rental units and approximately 30,000 sq ft of commercial space will have an access nearby thus creating more congestion. You cannot separate out these projects and they must be considered in total due to their cumulative impact.*

   Response: The applicant has no control over the design, timing, funding, phasing, or marketing of the other project and therefore, cannot estimate the combined impacts of both projects. The applicant's proposed project is much smaller with less than one-fourth the amount of units and no commercial space.

9. *Will left hand turn lanes be required? The community has spoken against left hand turn lanes on Kamehameha Hwy.*

   Response: Left-hand turns will not be required per the traffic assessment report.

10. *Who will manage the Homeowners Association and ensure that the waste management system is kept up to code and running correctly.*

    Response: The State Department of Health (DOH) will review the wastewater system design and enforce compliance. The DOH has the power to assess fines and penalties for any non-compliance. The DOH is also backed by the Federal Environmental Protection Agency. The Homeowners Association will be self-monitoring and must answer to all residents.

11. *The water table is very high in this area and injecting even treated waste water is not wise as it will seep into the potable water and adjacent wetlands.*

    Response: The project site is below or mauka of the UIC line. The underlying aquifer is not considered a drinking water source. The injection well will be compliant with the State Department of Health, Hawai'i Administrative Rules Title 11 Chapter 13.

12. *EA states that no construction or grading will be done next to the wetlands – who will ensure that? The current owner? The Homeowners Association?*

    Response: The applicant and the contractor will use Best Management Practices, including silt fences, to protect the wetland during construction. The wetland is under the jurisdiction of the U.S. Army Corps of Engineers.

13. *A previous zoning change in Haleiwa from R-5 to B-1 by this developer has turned into an ugly disaster for the community – what was presented was not followed through on and the area is now littered with lunch wagons. I have no confidence that what is presented is what will happen or be properly managed.*

Response: The project you refer to was stalled in the permitting phase because of sidewalk requirements. City standards required road widening, curbs, gutters, concrete sidewalks, and other design elements which conflicted with the Hale'iwa Special Design Guidelines. The current use by food trucks is allowed per zoning. It is also viewed as a temporary use until new rural standards are developed.

On another more recent project by the applicant in Hale'iwa, the historic shops were rehabilitated and the applicant created a large parking area to the rear of the shops where none existed before. The shops were dilapidated structures that were unattractive to businesses. The applicant restored what is now called the Hale'iwa Plantation Shops and new tenants are currently moving in. All tenants are local businesses. This project has received praise from multiple sources.

14. *This project has the potential to forever alter our town and the quality of life of the residents and the requests for development and zoning changes should not be taken lightly or at face value. Too often we have been presented with one set of plans and the community ends up with projects we do not want or support. The concerns and voice of our community should carry weight in any and all types of projects small or large that have the potential to impact our lives.*

    Response: The project is an infill project meant to blend in with the existing residential surroundings. The community will have many formal opportunities to comment, as described in response to comment #3.

Thank you for your review and comments. Your comment letter will be included in the Final EA.

Sincerely,

Lisa Imata

Lisa L. Imata
President

Subject: Haleiwa plantation village
From: Jack
Date: 10/22/2015 11:49 AM
To: Limata@planpacific.com

This is another not needed project by a greedy person only thinking of himself. I am in support of a parking lot for the town with ability to come in and out from the bypass

Jack Reid
Loving Life !!!

PLANPACIFIC

January 13, 2016

Mr. Jack Reid
via email

Dear Mr. Reid:

Draft Environmental Assessment, Hale'iwa Plantation Village, Tax Map Keys: 6-6-009: 002 and 6-6-10:003

Thank you for your email dated October 22, 2015 regarding the above-mentioned environmental document and for your comments. The applicant's current plan does not involve a town parking lot. However, I have forwarded your comment supporting additional parking to the applicant for further review. Your comment letter will be included in the Final EA.

Sincerely,

Lisa L. Imata
President

P.O. Box 892735
Mililani, HI 96789

Tel: 521-9418