

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU

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FILE COPY

MAR 08 2018

KIRK CALDWELL
MAYOR



ROBERT J. KRONING, P.E.
DIRECTOR

MARK YONAMINE, P.E.
DEPUTY DIRECTOR

719782

February 23, 2018

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

RECEIVED
18 FEB 26 P 2:02
OFC. OF ENVIRONMENTAL
QUALITY CONTROL

Dear Mr. Glenn:

Subject: Final Environmental Assessment and Finding of No Significant Impact for the Proposed Ted Makalena Golf Course NPDES Improvements, Waipahu, O'ahu, Hawai'i, TMK: (1) 9-3-002: 034 (Por.)

With this letter, the Department of Design and Construction hereby transmits the Final Environmental Assessment and Finding of No Significant Impact (FEA-FONSI) for the proposed Ted Makalena Golf Course NPDES Improvements, TMK: (1) 9-3-002: 034 (por.), on the island of O'ahu, for publication in the next available edition of *The Environmental Notice*.

Enclosed is a completed OEQC Publication Form, one (1) copy of the FEA-FONSI, an Adobe Acrobat PDF file of the same, and an electronic copy of the publication form in MS Word. Simultaneous with this letter, we have submitted the summary of the action in a text file by electronic mail to your office.

Should you have any questions, please contact Kyle Kang of our Facilities Division, at 768-8466, or our authorized agent of this project, Greg Nakai of PBR HAWAII & Associates, Inc., at 521-5631.

Very truly yours,

Handwritten signature of Robert J. Kroning in black ink.

Robert J. Kroning, P.E.
Director

RJK:ln

Enclosures

cc: Sam O. Hirota, Inc. – Steve Tomei
PBR HAWAII & Associates, Inc. – Greg Nakai

18-397

AGENCY PUBLICATION FORM

Project Name:	Ted Makalena Golf Course NPDES Improvements
Project Short Name:	Ted Makalena Golf Course Improvements
HRS §343-5 Trigger(s):	Use of County lands and funds
Island(s):	O'ahu
Judicial District(s):	'Ewa
TMK(s):	(1) 9-3-002: 034 (por.)
Permit(s)/Approval(s):	Special Management Area Use Permit (Major); Dust Control Plan (if necessary); Noise Permit (if necessary); ADA Compliance; Highways Division Permit (if necessary); Grubbing, Grading and Stockpiling Permits; Building Permits; Storm Drain Connection License; Street Usage Permit
Proposing/Determining Agency:	City and County of Honolulu, Department of Design and Construction (DDC)
Contact Name, Email, Telephone, Address	ATTN: Kyle Kang Department of Design and Construction, Facilities Division City and County of Honolulu 650 South King Street, 11 th Floor Honolulu, HI 96813 Phone: (808) 768-8466 Email: kkang@honolulu.gov
Accepting Authority:	(for EIS submittals only)
Contact Name, Email, Telephone, Address	
Consultant:	PBR HAWAII & Associates, Inc.
Contact Name, Email, Telephone, Address	ATTN: Greg Nakai PBR HAWAII & Associates, Inc. 1001 Bishop Street, Suite 650 Honolulu, Hawai'i 96813 Phone: (808) 521-5631 Fax: (808) 523-1402 Email: gnakai@pbrhawaii.com

Status (select one) DEA-AFNSI**Submittal Requirements**

Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEA, and 4) a searchable PDF of the DEA; a 30-day comment period follows from the date of publication in the Notice.

 FEA-FONSI

Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; no comment period follows from publication in the Notice.

 FEA-EISPN

Submit 1) the proposing agency notice of determination/transmittal letter on agency letterhead, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the FEA, and 4) a searchable PDF of the FEA; a 30-day comment period follows from the date of publication in the Notice.

 Act 172-12 EISPN
("Direct to EIS")

Submit 1) the proposing agency notice of determination letter on agency letterhead and 2) this completed OEQC publication form as a Word file; no EA is required and a 30-day comment period follows from the date of publication in the Notice.

 DEIS

Submit 1) a transmittal letter to the OEQC and to the accepting authority, 2) this completed OEQC publication form as a Word file, 3) a hard copy of the DEIS, 4) a searchable PDF of the DEIS, and 5) a searchable PDF of the distribution list; a 45-day comment period follows from the date of publication in the Notice.

 FEIS

Submit 1) a transmittal letter to the OEQC and to the accepting authority, 2) this completed OEQC

publication form as a Word file, 3) a hard copy of the FEIS, 4) a searchable PDF of the FEIS, and 5) a searchable PDF of the distribution list; no comment period follows from publication in the Notice.

- FEIS Acceptance Determination The accepting authority simultaneously transmits to both the OEQC and the proposing agency a letter of its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS; no comment period ensues upon publication in the Notice.
- FEIS Statutory Acceptance Timely statutory acceptance of the FEIS under Section 343-5(c), HRS, is not applicable to agency actions.
- Supplemental EIS Determination The accepting authority simultaneously transmits its notice to both the proposing agency 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 or is not required; no EA is required and no comment period ensues upon publication in the Notice.
- Withdrawal Identify the specific document(s) to withdraw and explain in the project summary section.
- Other Contact the OEQC if your action is not one of the above items.

Project Summary

Provide a description of the proposed action and purpose and need in 200 words or less.

Currently, portions of Ted Makalena Golf Course are unpaved and heavily trafficked by cars and maintenance vehicles. These activities expose soils to erosion from wind and storm runoff. The City and County of Honolulu's Department of Design and Construction proposes improvements incorporating Low Impact Development measures such as bioretention areas and inlet filters with hydrocarbon absorbent pads to improve water quality of storm drainage runoff from the Parking Lot and Maintenance Yard. The Maintenance Yard improvements will include a new bioretention area, concrete driveway, two new drain inlets (with inlet protection), and a new 12" drainline. The asphalt concrete (AC) parking lot extension will include new bioretention areas, street trees, AC pavement, curb and gutters, wheels stops, and ADA stalls. The proposed improvements will prevent overflow parking from using grassed areas as it contributes to exposed soils and sedimentation.

The proposed project is part of ongoing efforts by the City and County of Honolulu for their National Pollutant Discharge Elimination System (NPDES) Small Municipal Separate Storm Sewer Systems (MS4) Permit Program. The purpose of the project is to implement Best Management Practices to reduce pollutants by drainage runoff from the facilities operated and managed by the Department of Enterprise Services.

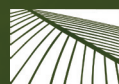


TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS

FINAL ENVIRONMENTAL ASSESSMENT/
FINDING OF NO SIGNIFICANT IMPACT

Prepared for:
City and County of Honolulu

Prepared by:



PBR HAWAII
& ASSOCIATES, INC.

FEBRUARY 2018

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS

FINAL ENVIRONMENTAL ASSESSMENT/ FINDING OF NO SIGNIFICANT IMPACT

Prepared for:

City and County of Honolulu

Prepared by:



February 2018

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
FINAL ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT

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TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
FINAL ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT

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Concurrence Letter (2009)
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FINAL ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT

LIST OF ACRONYMS

The following is a list of terms, abbreviations, and acronyms used in this document.

A

AC	asphalt concrete
ADA	Americans with Disabilities Act
AFONSI	Anticipated Finding of No Significant Impact
ALISH	Agricultural Lands of Importance to the State of Hawai‘i
AMSL	above mean sea level

B

BMPs	best management practices
BWS	City and County of Honolulu, Board of Water Supply

C

CCH	City and County of Honolulu
COSCP	Central O‘ahu Sustainable Communities Plan
CZM	Coastal Zone Management

D

dba	doing business as
DBEDT	State of Hawai‘i, Department of Business, Economic Development, and Tourism
DDC	City and County of Honolulu, Department of Design and Construction
DEA	Draft Environmental Assessment
DES	City and County of Honolulu, Department of Enterprise Services
DFM	City and County of Honolulu, Department of Facility Maintenance
DHS	State of Hawai‘i, Department of Human Services
DLNR	State of Hawai‘i, Department of Land and Natural Resources
DOT	State of Hawai‘i, Department of Transportation
DPP	City and County of Honolulu, Department of Planning and Permitting
DPR	City and County of Honolulu, Department of Parks and Recreation
DTS	City and County of Honolulu, Department of Transportation Services

E

EA	Environmental Assessment
EIS	Environmental Impact Statement
ENV	City and County of Honolulu, Department of Environmental Services
ESA	Endangered Species Act

F

F (°F)	Fahrenheit
Fd	fill land
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact

G

GPD	gallons per day
-----	-----------------

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
FINAL ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT

H	
HAR	Hawai‘i Administrative Rules
HART	Honolulu Authority for Rapid Transportation
HECO	Hawaiian Electric Company
HFD	Honolulu Fire Department
HNL	Daniel K. Inouye International Airport (Honolulu)
HPD	Honolulu Police Department
HRS	Hawai‘i Revised Statutes
K	
KmbA	Kea‘au clay, saline, 0 to 2 percent slopes
L	
LCC	Leeward Community College
LID	low impact development
LSB	Land Study Bureau
LUC	State of Hawai‘i, Land Use Commission
LUO	Land Use Ordinance
M	
MBTA	Migratory Bird Treaty Act of 1918
MHHW	mean higher high water
MPH	miles per hour
MS4	Small Municipal Separate Storm Sewer Systems Permit Program
N	
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System Permit
NPS	non-point source
NRCS	Natural Resources Conservation Service
O	
OP	State of Hawai‘i, Office of Planning
P	
PUC	Primary Urban Center
R	
ROH	Revised Ordinances of Honolulu
S	
SF	square feet
SHPD	State Historic Preservation Division
SLR	sea level rise
SMA	Special Management Area
SOH	Sam O. Hirota, Inc.
T	
TAM	Technical Assistance Memorandum
TMGC	Ted Makalena Golf Course
TMK	tax map key
U	
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
FINAL ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT

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1.0 INTRODUCTION

This Environmental Assessment (EA) is prepared in accordance with Chapter 343, Hawai'i Revised Statutes (HRS) for the proposed Ted Makalena Golf Course (TMGC) National Pollutant Discharge Elimination System (NPDES) Improvements ("Project").

1.1 PROJECT SUMMARY

Project Name:	Ted Makalena Golf Course NPDES Improvements
Location:	93-059 Waipi'o Point Access Road Waipahu, O'ahu 96797
Tax Map Key (TMK):	Portion of (1) 9-3-002: 034
Proposing Agency:	City and County of Honolulu – Department of Design and Construction (DDC)
Landowner:	The City and County of Honolulu ("the City" and/or "the County")
Existing use:	Municipal Golf Course, Club House, Restaurant, Parking Lot, Cart Storage, and Maintenance Building
Proposed Action:	Low Impact Development (LID) measures, including the construction of new bioretention areas and inlet filters with hydrocarbon absorbent pads, water lateral, hose bibb, concrete driveway, two new drain inlets (with inlet protection), and a new 12" drainline. Project also includes a parking lot extension with street trees, asphalt concrete (AC) pavement, curb and gutter, wheel stops, striping signage, and 88 new parking spaces with 7 ADA accessible stalls.
Project Area:	Approximately 0.984 acres (42,863 SF)
Land Use Designations:	<i>State Land Use:</i> Agricultural <i>City and County of Honolulu (County)</i> <i>Central O'ahu Sustainable</i> <i>Communities Plan:</i> Park, Golf Course <i>County Zoning:</i> General Preservation (P-2)
Special Management Area:	The Project is in the Special Management Area

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
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Permits/Approvals Required:	Chapter 343, HRS Compliance Special Management Area Use Permit - Major Dust Control Plan (if necessary) Noise Permit (if necessary) Americans with Disabilities Act Compliance DOT Highways Permit (if necessary) Grading, Grubbing, & Stockpiling Permits Building Permit Storm Drain Connection License Street Usage Permit
Determining Agency:	City and County of Honolulu – Department of Design and Construction (DDC)
Determination:	Finding of No Significant Impact (FONSI)

1.2 LOCATION

The Ted Makalena Golf Course (TMGC) is a 151-acre municipal golf course located on Waipi‘o Peninsula in Waipahu, in Central O‘ahu, in the State of Hawai‘i (Figure 1). The proposed improvements will be located on a portion of the golf course, at the existing parking area and maintenance yard facilities (“Project Site”).

1.3 SURROUNDING LAND USES

The TMGC is surrounded by residential, recreational, and educational uses (Figure 2). The Project Site sits at the base of a peninsula that is bordered on three sides by Pearl Harbor, with the Middle Loch to the east and West Loch to the west.

The TMGC is bounded to the north by the Pearl Harbor Bike Path and residential neighborhoods, beyond which is Farrington Highway. Across Waipi‘o Point Access Road to the northeast is the Waipahu Aloha Clubhouse, and further north is Waipahu High School. The golf course is bounded to the east by Waipi‘o Point Access Road, beyond which is the Middle Loch of Pearl Harbor. To the south of the golf course is the Waipi‘o Peninsula Sports Complex (Soccer Park), and to the west are the Waipahu Convenience Center, Honolulu Police Training Academy, and the Puhala Marsh Wildlife Sanctuary.

1.4 LAND OWNERSHIP

The City and County of Honolulu holds title to the land under the location (Figure 3) of the proposed action. Utilizing the Tax Map Key system, the land under the Project Site is identified as (1) 9-3-002: 034.

1.5 IDENTIFICATION OF PROPOSING & DETERMINING AGENCY

The proposing and determining agency is the City and County of Honolulu, Department of Design and Construction (DDC).

Contact: Mr. Kyle Kang
Department of Design and Construction, Facilities Division
City and County of Honolulu
650 S King St, 11th Floor
Honolulu, HI 96813
Phone: (808) 768-8466
kkang@honolulu.gov

1.6 IDENTIFICATION OF ENVIRONMENTAL CONSULTANT

The City and County of Honolulu's environmental consultant is PBR HAWAII & Associates, Inc. dba PBR HAWAII.

Contact: Mr. Greg Nakai
Planner
PBR HAWAII
1001 Bishop Street
ASB Tower, Suite 650
Honolulu, Hawai'i 96813
Phone: (808) 521-5631
Fax: (808) 523-1402

1.7 COMPLIANCE WITH STATE OF HAWAII' I AND CITY AND COUNTY OF HONOLULU ENVIRONMENTAL LAWS

Preparation of this document falls in accordance with the provisions of Chapter 343, HRS and Title 11, Chapter 200, Hawai'i Administrative Rules (HAR) pertaining to Environmental Impact Statements. Section 343-5, HRS established nine "triggers" that require either an EA or an Environmental Impact Statement (EIS). The use of State or County lands or funds requires the preparation of an Environmental Assessment. In addition, since the proposed action will occur in the Special Management Area, this EA is intended to satisfy the requirements of Chapter 25, Revised Ordinances of Honolulu (ROH).

1.8 IDENTIFICATION OF AGENCIES CONSULTED

A pre-assessment consultation was conducted from September 2017 through October 2017 prior to the preparation of the Draft EA. The purpose of the pre-assessment consultation was to consult with agencies, organizations, and individuals with technical expertise or an interest in, or will be affected by the proposed Project. This process is part of the scoping process for the Draft

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
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EA. Comments and input received during this period were used to identify environmental issues and concerns to be addressed in the Draft EA, which in turn underwent a 30-day public comment period.

As part of this early consultation process, the following agencies, organizations, and individuals were sent pre-assessment consultation letters. Those that provided written comments (either by hard copy or electronically) are highlighted in italics. Copies of the written comments and responses are reproduced in Appendix A.

Federal

Department of the Army Corps of Engineers
Department of the Interior-Fish and Wildlife Service
Federal Emergency Management Agency
University of Hawai‘i Sea Grant College Program

State of Hawai‘i

Senator Clarence Nishihara
Senator Mike Gabbard
Representative Roy Takumi
Representative Ty Cullen
Representative Henry Aquino
Department of Accounting and General Services
Department of Agriculture
Department of Business, Economic Development & Tourism
DBEDT - Energy Division
DBEDT - Office of Planning
Department of Defense
Department of Education
Department of Hawaiian Home Lands
Department of Health
Department of Health - Environmental Planning Office
Department of Human Services
Department of Labor and Industrial Relations
Department of Land and Natural Resources
DLNR - Historic Preservation Division
Department of Transportation
Hawai‘i Housing Finance and Development Corporation
Office of Hawaiian Affairs

City and County of Honolulu

Councilmember Brandon Elefante, Honolulu County Council
Councilmember Ron Menor, Honolulu County Council
Neighborhood Board No. 22
Department of Community Services
Department of Customer Services

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
FINAL ENVIRONMENTAL ASSESSMENT/ FINDING OF NO SIGNIFICANT IMPACT

Department of Design and Construction
Department of Enterprise Services
Department of Environmental Services
Department of Facility Maintenance
Department of Parks and Recreation
Department of Planning and Permitting
Department of Transportation Services
Honolulu Authority for Rapid Transportation
Board of Water Supply
Fire Department
Police Department

Other Organizations

Hawaiian Electric Company, Inc.
Hawaiian Telcom
Spectrum
Sierra Club of Hawai‘i
Surfrider Foundation - O‘ahu Chapter

1.9 PUBLIC REVIEW

The Draft EA was published in the OEQC's *The Environmental Notice* on December 8, 2017, initiating a 30-day public review period that ended on January 8, 2018.

As part of the Draft EA public review process, the following agencies, organizations, and individuals were sent copies of the Draft EA. Those who provided written comments (either by hard copy or electronically) are highlighted in *italics* below. Copies of the written comments and responses are reproduced in Appendix F.

Federal

Department of the Army Corps of Engineers
Department of the Interior-Fish and Wildlife Service
Federal Emergency Management Agency
University of Hawai‘i Sea Grant College Program

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
FINAL ENVIRONMENTAL ASSESSMENT/ FINDING OF NO SIGNIFICANT IMPACT

State of Hawai'i

Senator Clarence Nishihara

Senator Mike Gabbard

Representative Roy Takumi

Representative Ty Cullen

Representative Henry Aquino

Department of Accounting and General Services

Department of Agriculture

Department of Business, Economic Development & Tourism

DBEDT - Energy Division

DBEDT - Office of Planning

Department of Defense

Department of Education

Department of Hawaiian Home Lands

Department of Health

Department of Health - Environmental Planning Office

Department of Human Services

Department of Labor and Industrial Relations

Department of Land and Natural Resources

DLNR - Historic Preservation Division

Department of Transportation

Hawai'i Housing Finance and Development Corporation

Office of Hawaiian Affairs

City and County of Honolulu

Councilmember Brandon Elefante, Honolulu County Council

Councilmember Ron Menor, Honolulu County Council

Neighborhood Board No. 22

Department of Community Services

Department of Customer Services

Department of Design and Construction

Department of Enterprise Services

Department of Environmental Services

Department of Facility Maintenance

Department of Planning and Permitting

Department of Transportation Services

Honolulu Authority for Rapid Transportation

Board of Water Supply

Fire Department

Police Department

Other Organizations

Hawaiian Electric Company, Inc.

Hawaiian Telcom

Spectrum

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
FINAL ENVIRONMENTAL ASSESSMENT/ FINDING OF NO SIGNIFICANT IMPACT

Sierra Club of Hawai‘i
Surfrider Foundation - O‘ahu Chapter

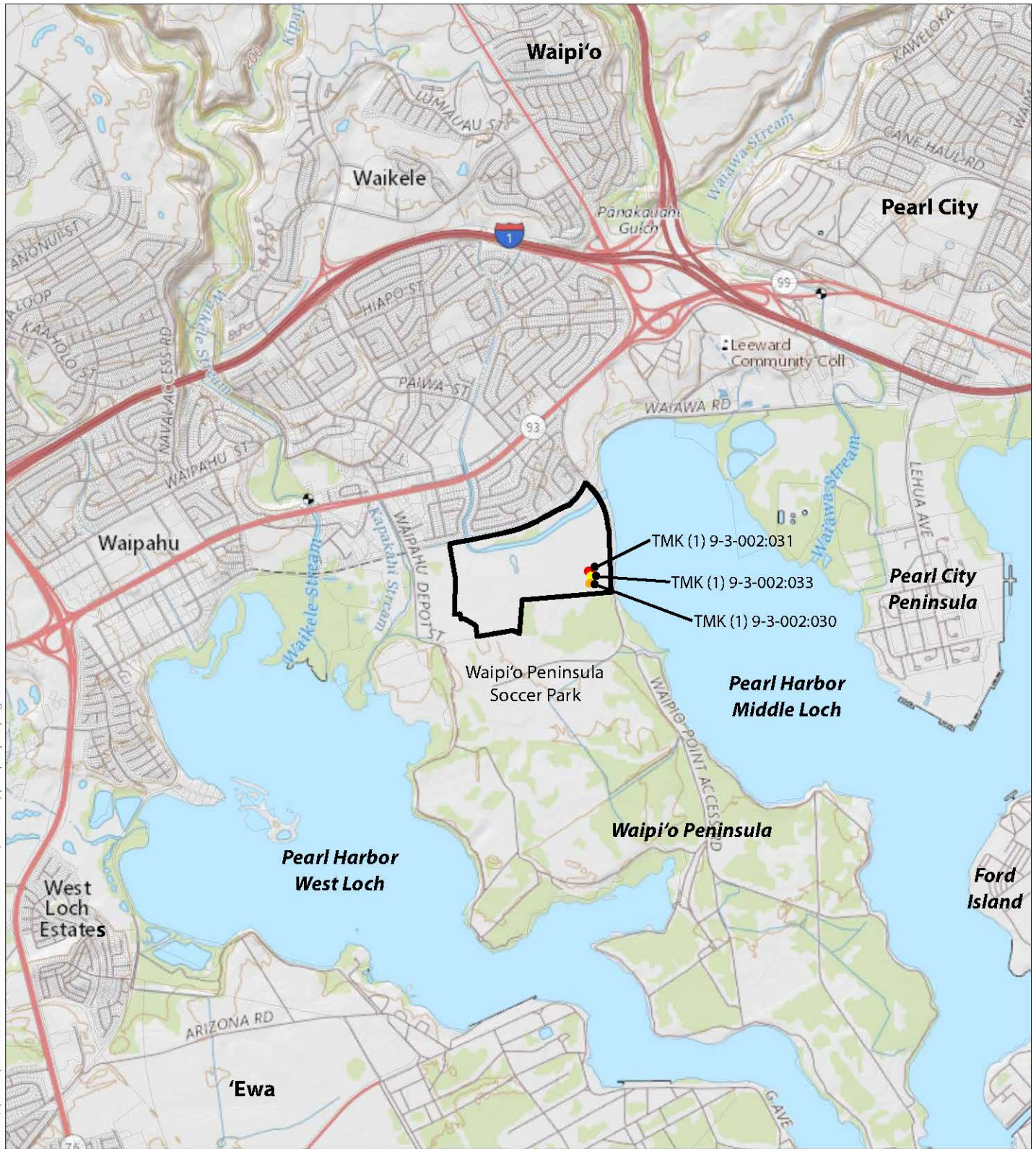
Libraries

Waipahu Public Library
Hawai‘i State Library – Hawai‘i Documents Center

News Media


Honolulu Star Advertiser
Honolulu Civil Beat

PDF: Q:\Oahu\Ted Makalena Golf Course - NPDES MS4 (EA+SMA)\PDF\Figures
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DATE: 10/23/2017

LEGEND

Ted Makalena Golf Course
 TMK (1) 9-3-002:034

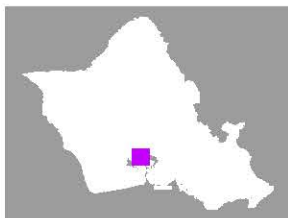
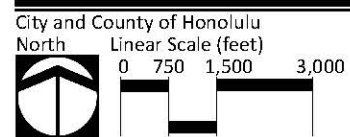


Figure 1:
Regional Location Map

**TED MAKALENA GOLF COURSE
NPDES IMPROVEMENTS**



Source: ESRI, United States Geological Survey, 2017. City and County of Honolulu, 2017.
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PDF: Q:\Oahu\Ted Makalena Golf Course - NPDES MS4 (EA+SMA)\PDF
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DATE: 10/23/2017

LEGEND

- Project Scope
- Ted Makalena Golf Course

Figure 2:
Surrounding Land Uses

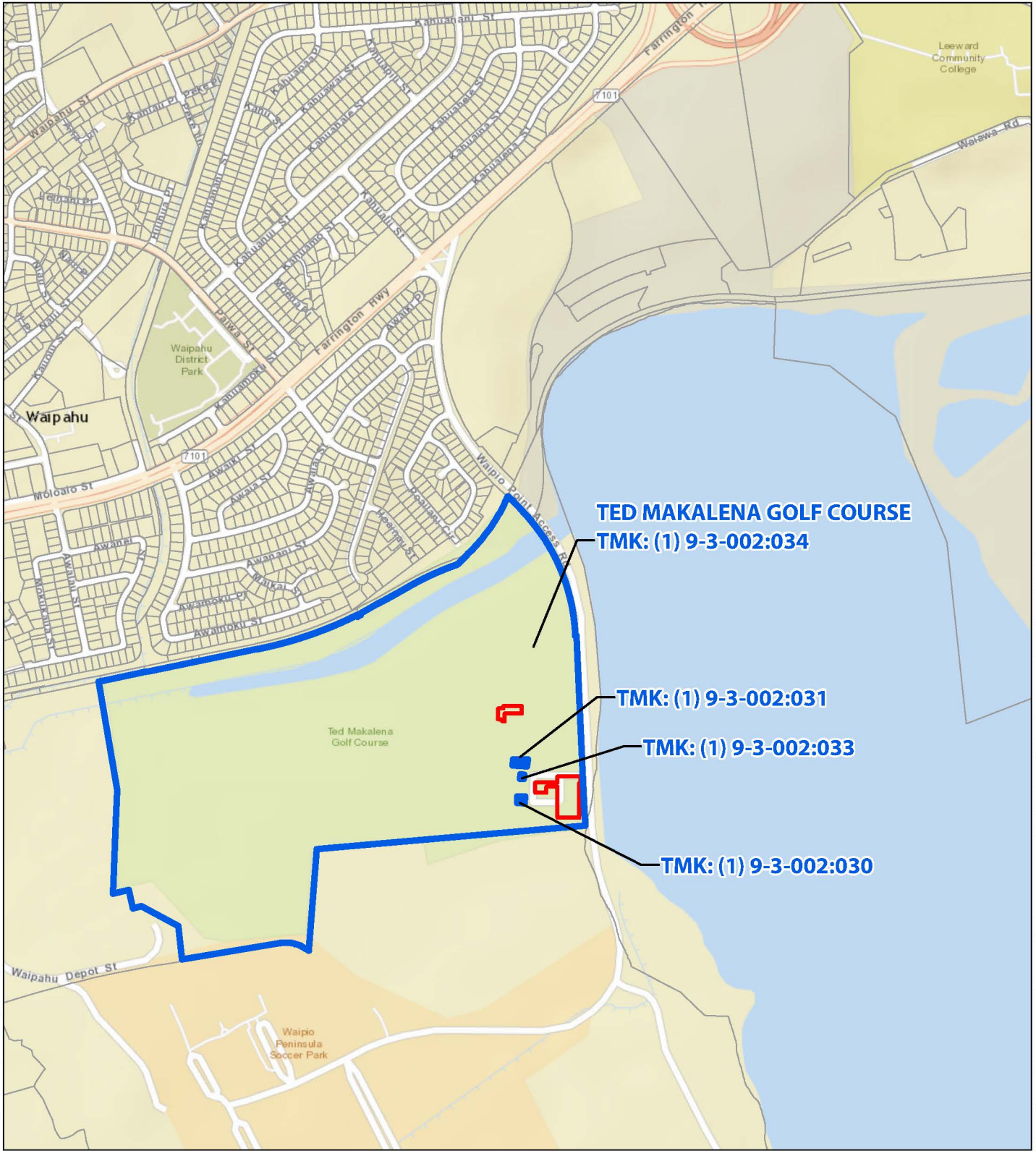
**TED MAKALENA GOLF COURSE
NPDES IMPROVEMENTS**

CITY AND COUNTY OF HONOLULU O'ahu

North Linear Scale (feet)

0 250 500 1,000

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LEGEND




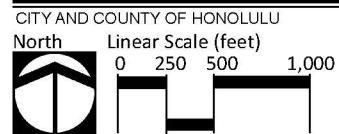
-  Tax Map Key Parcels
-  Project Scope
-  Ted Makalena Golf Course Parcel

Figure 3:
Tax Map Keys

**TED MAKALENA GOLF COURSE
NPDES IMPROVEMENTS**



O'ahu



2.0 PROJECT DESCRIPTION

This section provides background information and a general description of the Ted Makalena Golf Course NPDES Improvements (“Project”).

2.1 BACKGROUND AND NEED FOR THE PROJECT

History of Ted Makalena Golf Course – The Ted Makalena Golf Course in Waipahu is a public golf course owned and operated by the City and County of Honolulu, and was first opened in 1971. The golf course is named after Theodore Makalena (June 14, 1934-September 13, 1968), an American professional golfer who was born and raised in Hawai‘i, and is buried at Diamond Head Memorial Park.

Golf Course Features and Drainage – The 18-hole course includes a clubhouse, cart storage, maintenance yard and parking lots. It measures 5,976 yards from the longest tees and has a slope rating of 110 and a 67.9 USGA rating. The course features 2 sets of tees for different skill levels, with greens and fairways composed of Bermuda grass. The course is on relatively flat ground and is drained by a system of storm drains to a drainage canal on the northern portion of the site adjacent to the 15th and 16th holes. The site generally drains to the north (towards the Wailani Drainage Canal) and to the east (towards the Middle Loch of Pearl Harbor). The Wailani Drainage Canal traverses Waipi‘o Point Access Road and flows into the Middle Loch of Pearl Harbor. Most of the eastern portion of the site, including the parking lot, surface flows into a drainage ditch that runs along Waipi‘o Point Access Road, which eventually discharges into the Middle Loch.

Parking Lot – The existing parking lot is located in the southeastern corner of the site, adjacent to Waipi‘o Point Access Road. It has 152 parking spaces, and gently slopes towards a drainage ditch along Waipi‘o Point Access Road. There is an adjacent grass area to the east of the parking lot that is used as overflow parking, as seen in Figure 4. Surface runoff from the paved parking lot, as well as from the denuded grass overflow parking area, flows into the drainage ditch. This runoff is full of oils/hydrocarbons from parked vehicles, as well as sediments from the denuded overflow parking area. A small portion of the western side of the parking lot drains towards the golf course, which is also untreated.

Maintenance Yard – During current daily operations, golf carts are hose-washed outside of the Cart Storage Building at the Maintenance Yard (see Figure 4). The cart wash runoff contains hydrocarbons from the gas-powered engines, as well as sediments and grass clippings from the wheels. This polluted runoff leaves the cart wash area unchecked, and settles in low points in the adjacent pavement and grass.

2.2 PROJECT OBJECTIVES

The proposed Project is part of an ongoing effort by the City and County of Honolulu to improve the facilities in order to minimize storm water pollutants and improve the water quality of the

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS

FINAL ENVIRONMENTAL ASSESSMENT/ FINDING OF NO SIGNIFICANT IMPACT

downstream water bodies. Sam O. Hirota, Inc. (SOH) was contracted by the City and County of Honolulu to render technical and professional services for the National Pollutant Discharge Elimination System (NPDES) Small Municipal Separate Storm Sewer Systems (MS4) Permit Program. The purpose of the Ted Makalena Golf Course NPDES Improvements Project is to implement several of these Best Management Practices (BMPs) to reduce pollutants by drainage runoff from the facilities operated and managed by the City and County of Honolulu, Department of Enterprise Services (DES). The City and County of Honolulu Department of Design and Construction (DDC) is the Proposing and Determining Agency.

2.3 KEY ELEMENTS OF THE PROPOSED PROJECT

The proposed improvements incorporate Low Impact Development (LID) Measures such as bioretention areas and inlet filters with hydrocarbon-absorbent pads to improve the parking lot and maintenance yard storm drainage runoff water quality. These measures will reduce the amount of unfiltered hydrocarbons and other pollutants either infiltrating the ground and possibly contaminating groundwater or entering the drainage system and eventually polluting coastal waters.

Parking Lot Improvements – The proposed asphalt concrete (AC) parking lot extension will include new bioretention areas, street trees, AC pavement, curb and gutter, wheel stops, striping signage, and the replacement of existing ADA stalls. The proposed improvements will prevent overflow parking from using the grassed area as it kills the groundcover and contributes to tracking and sedimentation. The total number of parking spaces will be increased from 152 to 240, as preferred by the City’s golf course management staff. It will also provide 7 accessible stalls as required by the 2010 Accessible Guidelines (see Figure 5A).

Maintenance Yard Improvements – The Maintenance Yard will include a new bioretention area, water lateral, hose bibb, concrete driveway, two new drain inlets (with inlet protection), and a new 12" drainline (see Figure 5B).

2.4 PROJECT COST AND IMPLEMENTATION TIMEFRAME

Construction will commence after all necessary approvals are received. A one-year construction period is estimated, and construction will be carried out in one phase. Construction costs are estimated to total approximately \$1.7 million in 2017 dollars.

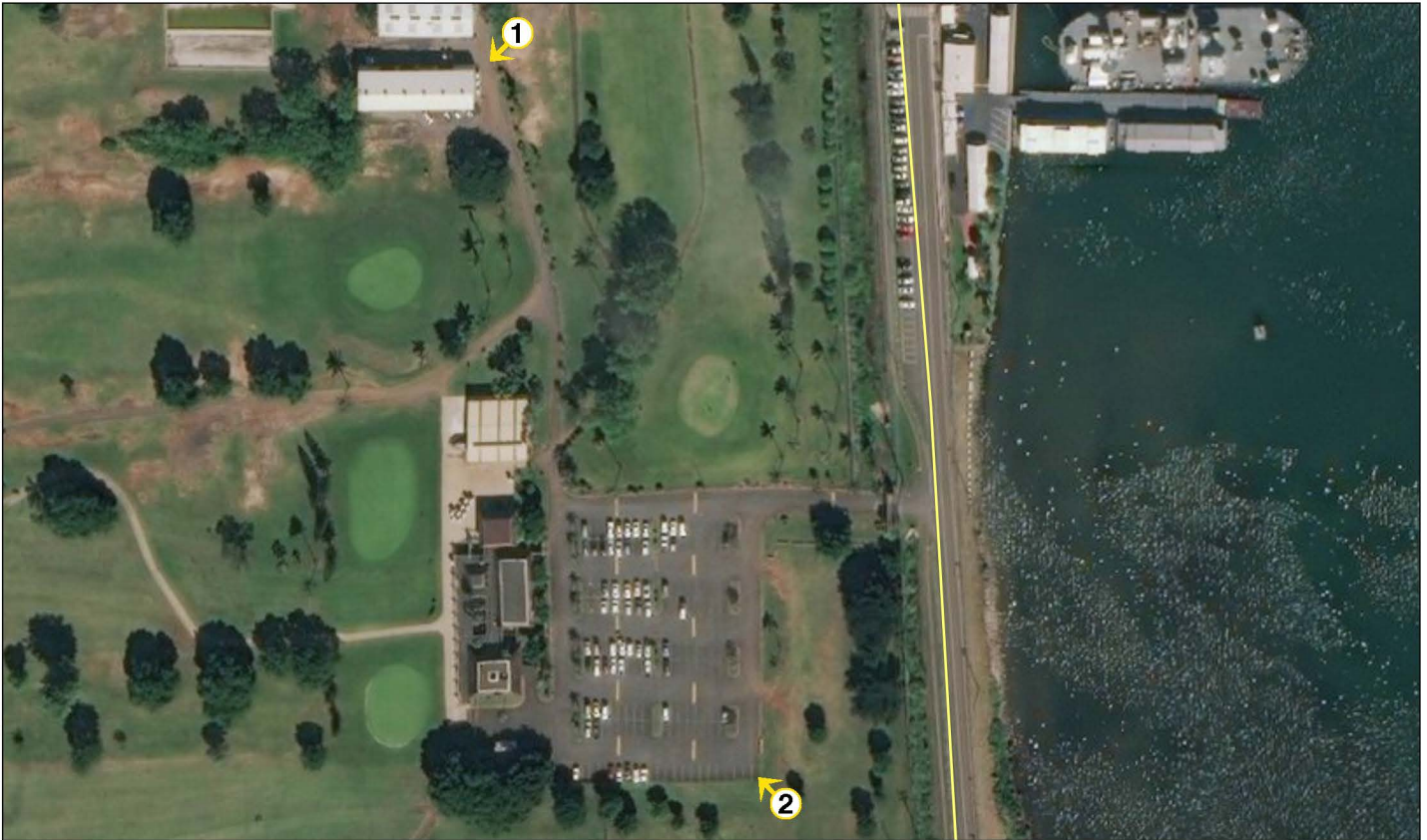


Photo 1: Cart wash area with cart storage building in background.



Photo 2: Parking lot with overflow grass parking.

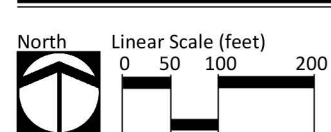
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DATE: 10/20/2017

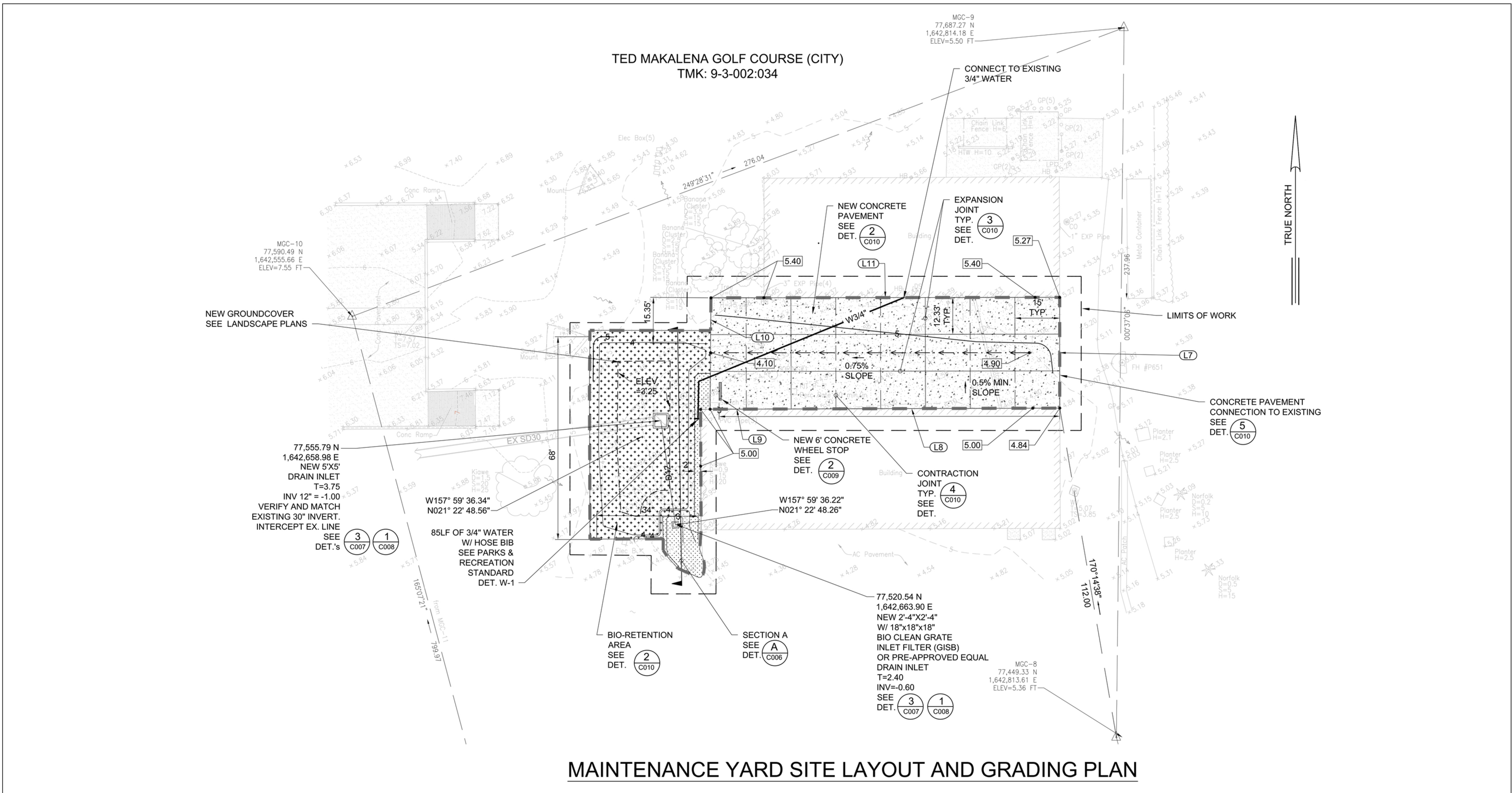
Figure 4
 Site Photographs

**TED MAKALENA GOLF COURSE
 NPDES IMPROVEMENTS**



TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
FINAL ENVIRONMENTAL ASSESSMENT/ FINDING OF NO SIGNIFICANT IMPACT

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MAINTENANCE YARD SITE LAYOUT AND GRADING PLAN

Figure 5B:
 Site Plan - Maintenance Yard Improvements
TED MAKALENA GOLF COURSE
NPDES IMPROVEMENTS

Source: Sam O. Hirota, Inc.
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3.0 DESCRIPTION OF THE NATURAL ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATIVE MEASURES

This section describes the existing conditions of the physical or natural environment. It also identifies potential impacts of the Ted Makalena Golf Course NPDES Improvements Project to the environment, and proposes mitigation measures to minimize impacts.

3.1 CLIMATE

Average annual daily minimum and maximum temperatures in the Project area are approximately 70.7 and 80.2 degrees Fahrenheit, respectively. The annual prevailing wind direction for this area of O‘ahu is east northeast, about 40 percent of the time, at approximately 10 knots (12 miles per hour). This portion of O‘ahu experiences very little rainfall, with a mean annual precipitation of 23 inches per year (Armstrong 1983), most of which occurs between the months of October and March (United States National Oceanic & Atmospheric Administration (NOAA) 2017).

Potential Impacts and Mitigation Measures

Due to the relatively small scale of the improvements and the lack of buildings, there is unlikely to be a significant impact to the area’s existing climate. Although AC paving may contribute to solar heat gain, the addition of new trees and other landscaping improvements (detailed in section 2.3) will mitigate this effect by providing shade and an adequate buffer zone of green space for heat diffusion.

3.2 TOPOGRAPHY

The topography of TMGC is relatively flat, at elevations ranging from five to fifteen feet above mean sea level (AMSL). The Project area lies in the southeast portion of the TMGC, with the parking lot area situated at approximately fifteen feet AMSL, and the maintenance yard area at approximately five feet AMSL (Figure 6).

Potential Impacts and Mitigation Measures

The proposed improvements will be built upon mostly-graded, evenly-sloped land at the existing parking lot area currently at the Diamond Head edge of the golf course, and at the maintenance yard area to the north of the clubhouse. The improvements will not have a significant impact on the topography of the area, but will be designed to improve the drainage of surface water on the Project Site by directing the flow of surface water into new bioretention areas for filtration.

3.3 SOILS

Three soil suitability studies prepared for lands in Hawaii principally focus on the relative agricultural productivity of different land types. These studies are: 1) the U.S. Department of Agriculture Natural Resource Conservation Service (NRCS) Soil Survey; 2) the University of Hawai'i Land Study Bureau Detailed Land Classification; and 3) the State Department of Agriculture's Agricultural Lands of Importance to the State of Hawai'i (ALISH).

3.3.1 Natural Resources Conservation Service (NRCS)

The *Natural Resources Conservation Service, Soil Survey for the Island of O'ahu*, classifies the soil underlying the Project area as: Kea'au clay (KmbA) and Fill Land (Fd) (Figure 7).

Fill land, (Fd). This land type consists of areas filled with dredge material, nearby excavation, garbage, and agricultural slurry.

KmbA: Kea'au clay, saline, 0 to 2 percent slopes, (KmbA). This soil is strongly influenced by its embodied salt, and occurs in depressions near the ocean. It is platy or vesicular in character, runoff and permeability is slow, and the erosion hazard is no more than slight.

3.3.2 Land Study Bureau Detailed Land Classification

The University of Hawai'i Land Study Bureau document, *Detailed Land Classification, Island of O'ahu*, classifies soils based on a productivity rating. Letters indicate class of productivity with A representing the highest class and E the lowest. Although most of the soils of the Ted Makalena Golf Course are classified as Urban, the majority of the parking lot portion of the Project Site is listed as Category D, or 'poor' productivity rating by the LSB study (see Figure 8).

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

The Agricultural Lands of Importance to the State of Hawai'i (ALISH) system classifies agricultural lands as Prime, Unique, or Other Agricultural Land (State of Hawai'i, Department of Agriculture 1977). Although the Ted Makalena Golf Course is located in the Agricultural State Land Use District, the soils are not classified in the ALISH land classification system (see Figure 9).

Potential Impacts and Mitigation Measures

The soils at the Project Site are not well suited for crop cultivation. As such, the proposed Project will not reduce the inventory of productive lands available for agricultural uses.

Short term soil impacts may include the potential for soil erosion and the generation of fugitive dust during grading and construction. All construction activities will comply with all applicable federal, state, and county regulations and rules for erosion, sedimentation, and dust control. Contractors will use best management practices (BMPs) to minimize erosion during construction

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
FINAL ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT

and planting, including watering loose soils during construction, and planting groundcover over areas where construction has been completed. Additionally, BMPs will be implemented to reduce impacts to drainage facilities along Waipi'o Point Access Road. These measures will address any direct impacts from construction and avoid any secondary or cumulative impacts from erosion or fugitive dust caused by construction.

In the long term, the improvements are intended to reduce not only the amount of pollutants infiltrating and contaminating the soils, but also the amount of erosion and runoff from the site.

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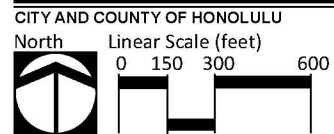
-  Project Scope
-  Ted Makalena Golf Course Parcel
-  Elevation Contours (5 ft.)

Figure 6:
Topography

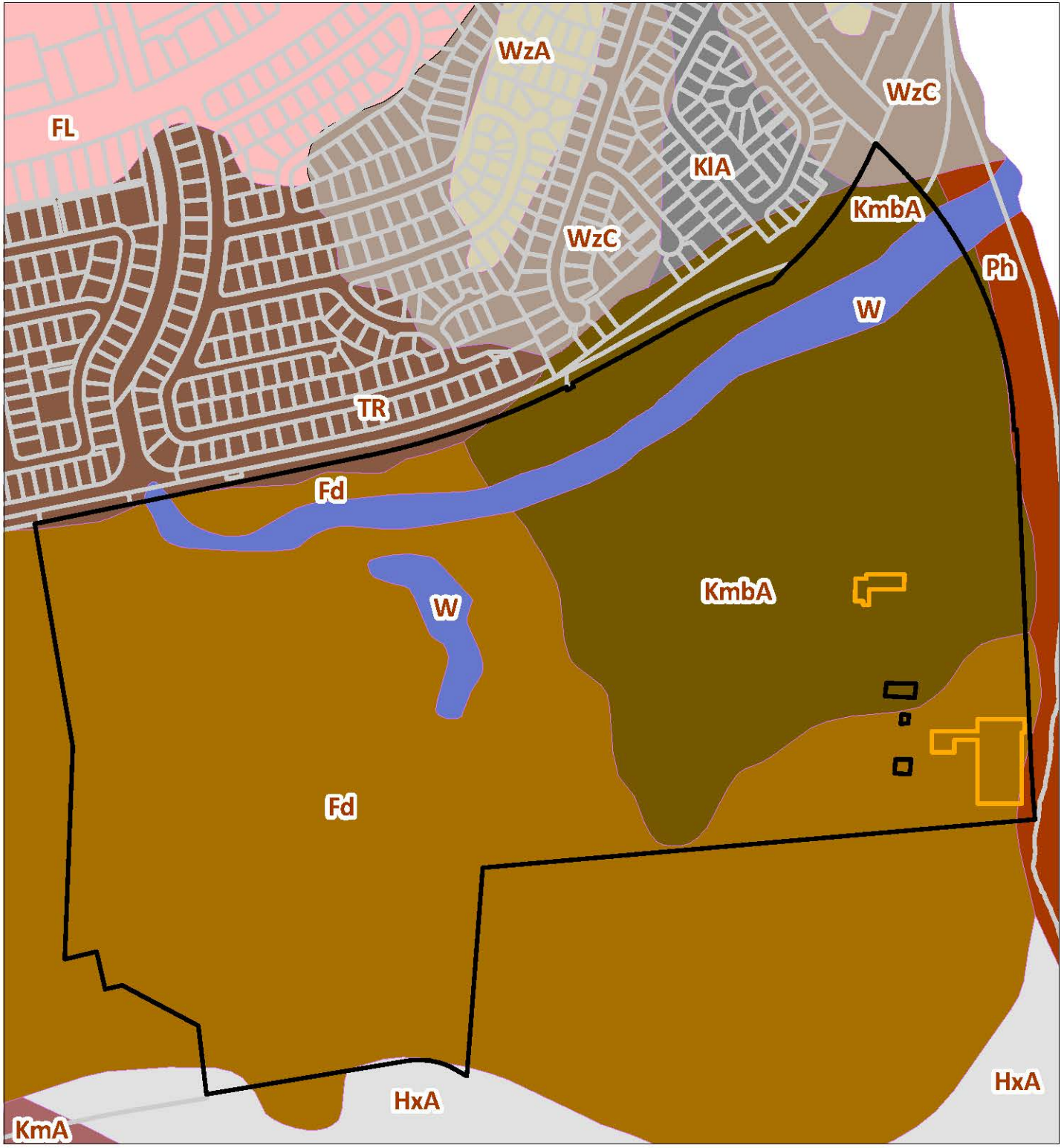
**TED MAKALENA GOLF COURSE
NPDES IMPROVEMENTS**



O'ahu



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LEGEND

- | | | |
|---------------------------------|---|--|
| Project Scope | Soil Type | KmbA |
| Ted Makalena Golf Course Parcel | CR | Ph - Pearl Harbor Clay |
| Tax Map Key Parcels | FL - Fill Land, Mixed | TR - Tropaquepts |
| | Fd - Fill Land | W - Water |
| | HxA - Honouliuli Clay (0-2% slope) | WzA - Waipahu Silty Clay (0-2% slope) |
| | KIA - Kawaihapai Clay Loam (0-2% slope) | WzC - Waipahu Silty Clay (6-12% slope) |
| | KmA - Keaau Clay (0-2% slope) | |

Figure 7:
 Natural Resource Conservation Service (NRCS) Soil Survey

**TED MAKALENA GOLF COURSE
 NPDES IMPROVEMENTS**

CITY AND COUNTY OF HONOLULU O'ahu

North Linear Scale (feet)

Source: USDA NRCS, 2001. ESRI Online Basemaps.

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LEGEND

- Project Scope
- Ted Makalena Golf Course Parcel
- Tax Map Key Parcels
- Overall Productivity Ratings
- A - Very Good
- B - Good
- C - Fair
- D - Poor
- E - Very Poor
- U - Unrated

Figure 8:
 Land Study Bureau (LSB)

**TED MAKALENA GOLF COURSE
 NPDES IMPROVEMENTS**

CITY AND COUNTY OF HONOLULU O'ahu

North Linear Scale (feet)

0 125 250 500

Source: Land Study Bureau's Detailed Land Classification Aerial Photos hand drafted onto paper overlays of the USGS 1:24,000 topographic and orthophoto quads, 1972. ESRI Online Basemaps, 2016.



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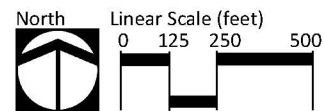
- | | |
|---|--|
|  Project Scope |  Prime ALISH |
|  Ted Makalena Golf Course Parcel |  Unique ALISH |
|  Tax Map Key Parcels |  Other ALISH |
| |  Unclassified |

Figure 9:
 Agricultural Lands of Importance
 to the State of Hawaii (ALISH)

**TED MAKALENA GOLF COURSE
 NPDES IMPROVEMENTS**

CITY AND COUNTY OF HONOLULU

O'ahu



3.4 NATURAL HAZARDS

Natural hazards like flooding, tsunami inundation, hurricanes, earthquakes, and volcanic eruptions have historically impacted the Hawaiian Islands. Climate change will also impact the Islands, as will the related sea level rise.

Flooding

According to the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), National Flood Insurance Program, the Project Site is located in “Zone D”, meaning that base flood statistics have not yet been measured for this area (Figure 10).

The Site sits in a dry and arid environment where the risks of flooding are relatively low due to low rainfall, which averages 23 inches per year with most occurring during the winter months (Armstrong 1983). The Wailani Drainage Canal, which traverses the width of the northern portion of the TMGC and which is designated on the FIRM map as Zone AE (1% annual chance flood), diverts waters from upstream mauka regions to the north into the Middle Loch of Pearl Harbor to the east, sparing the remainder of the golf course from flooding.

Tsunami

Since the early 1800s, approximately 50 tsunami have inundated Hawai‘i’s shores. Seven historical events have caused major damage. Two tsunami were generated locally. The proposed Project is located outside of the Tsunami Evacuation Zone, which is the area in which most of O‘ahu’s tsunami warning events will occur. However, the Project Site is located within the newly designated Extreme Tsunami Evacuation Zone, which is the secondary evacuation zone for the much less common but very large (magnitude 9+) earthquake and tsunami (Figure 11).

Hurricanes

Since 1980, two hurricanes have had a devastating effect on Hawai‘i: Hurricane ‘Iwa in 1982 and Hurricane ‘Iniki in 1992. Long-term prediction of future hurricanes is virtually impossible. However, one should reasonably anticipate the prospect of another hurricane impacting the islands.

Earthquake & Volcanic Hazards

In Hawai‘i, volcanic activity produces most earthquakes in contrast to other areas sitting on tectonic plate margins. Thousands of earthquakes occur in Hawai‘i each year. However, the vast majority of them are undetectable through normal human senses. A few historical earthquakes have reached moderate and even disastrous magnitudes.

The last earthquakes felt statewide were magnitudes of 6.7 and 6.0. These earthquakes occurred at Kīholo Bay along Hawai‘i Island’s Kona Coast on October 15, 2006. These earthquakes resulted in more than \$100 million in damages to the northwest area of Hawai‘i Island and minimal damage on O‘ahu. From that same event, O‘ahu was also subject to an earthquake

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induced electrical blackout that paralyzed the city of Honolulu and shut down the Honolulu International Airport for nearly a day.

Climate Change

As global temperatures increase, established patterns of weather and climate are shifting. These erratic changes in weather patterns have increased the severity of events like droughts, storms, floods, and even hurricanes, while at the same time causing these events to be more difficult to predict and protect against. The fragility of the ecosystems and unique island nature of O‘ahu and the Hawaiian Islands at large makes the state particularly vulnerable to the damaging effects of climate change.

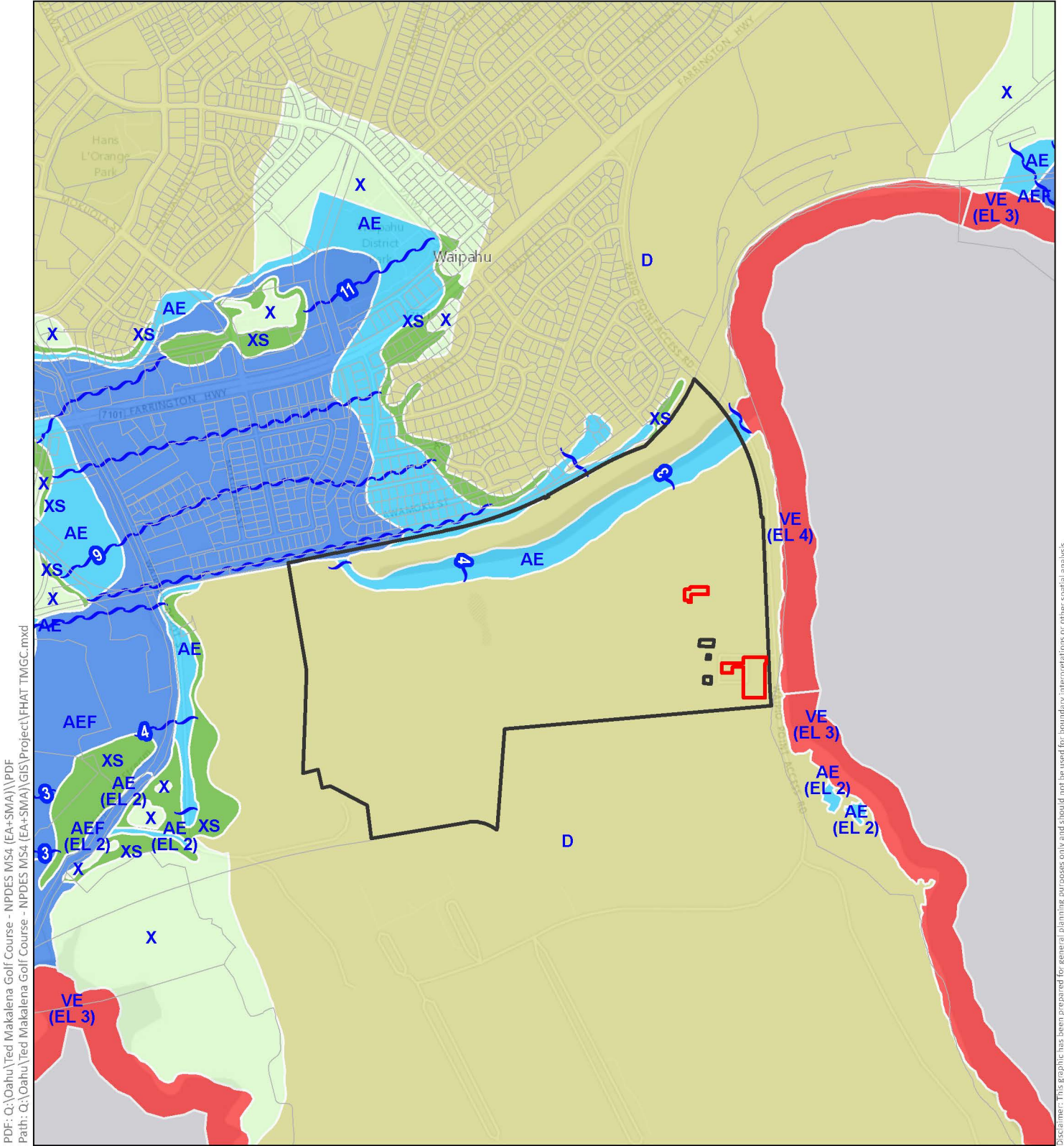
Sea Level Rise

Global sea levels are on the rise, and have the potential to erode and even inundate coastal areas over the course of the next century. The general consensus among climate scientists is that sea levels will likely rise three feet above mean higher high water (MHHW) by the year 2100. According to sea level rise (SLR) inundation maps created by the NOAA Office for Coastal Management, this three-foot SLR is not anticipated to result in inundation of the Project Site (Figure 12A). However, in the less likely event of an extreme SLR of six feet, portions of the Project Site at the Maintenance Yard could potentially experience inundation (Figure 12B).

Potential Impacts and Mitigation Measures

The Project Site is not anticipated to experience normal flooding from storms, tsunamis, or a three-foot sea level rise. Because the Project does not involve alterations to the floodway, nor does it involve new buildings, it is not anticipated to have any significant impact or any deleterious effects on natural hazard conditions. However, the Project Site may be vulnerable to the far less likely but extreme “worst-case scenario” hazards such as very large tsunamis or a SLR of six feet. No unique mitigative measures are planned.

During both the pre-assessment consultation process and the Draft EA review, the State of Hawai‘i Department of Defense, which includes the Hawai‘i Emergency Management Agency, stated that they had “no comments to offer relative to the project” (Appendices A and F).



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Figure 10:
 Flood Insurance Rate Map

**TED MAKALENA GOLF COURSE
 NPDES IMPROVEMENTS**

CITY AND COUNTY OF HONOLULU

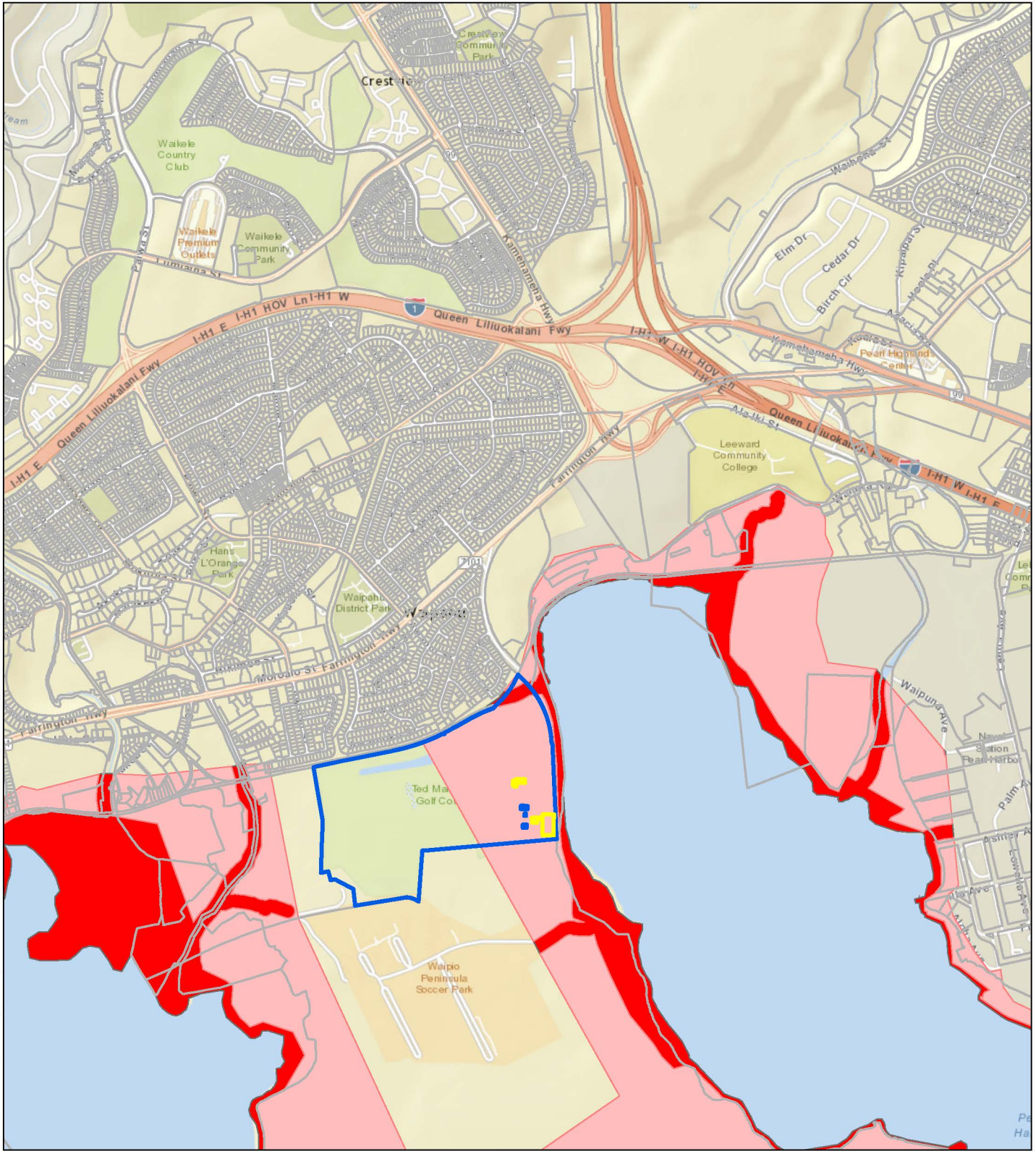
North Linear Scale (feet)
 0 250 500 1,000



LEGEND

- Project Scope
- Ted Makalena Golf Course Parcel
- Tax Map Key Parcels
- Base Flood Elevation (BFE) Line
- Flood Zone Categories**
- AE: 1% annual chance flood, with BFE
- VE: 1% annual chance coastal flood, with BFE
- Floodway areas in AE
- XS: 0.5% annual chance flood
- X: Outside of 0.5% annual chance floodplain
- D: Unstudied areas

Source: FEMA 2017. ESRI Online Basemaps. City and County of Honolulu, 2017



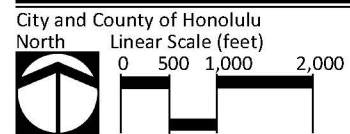
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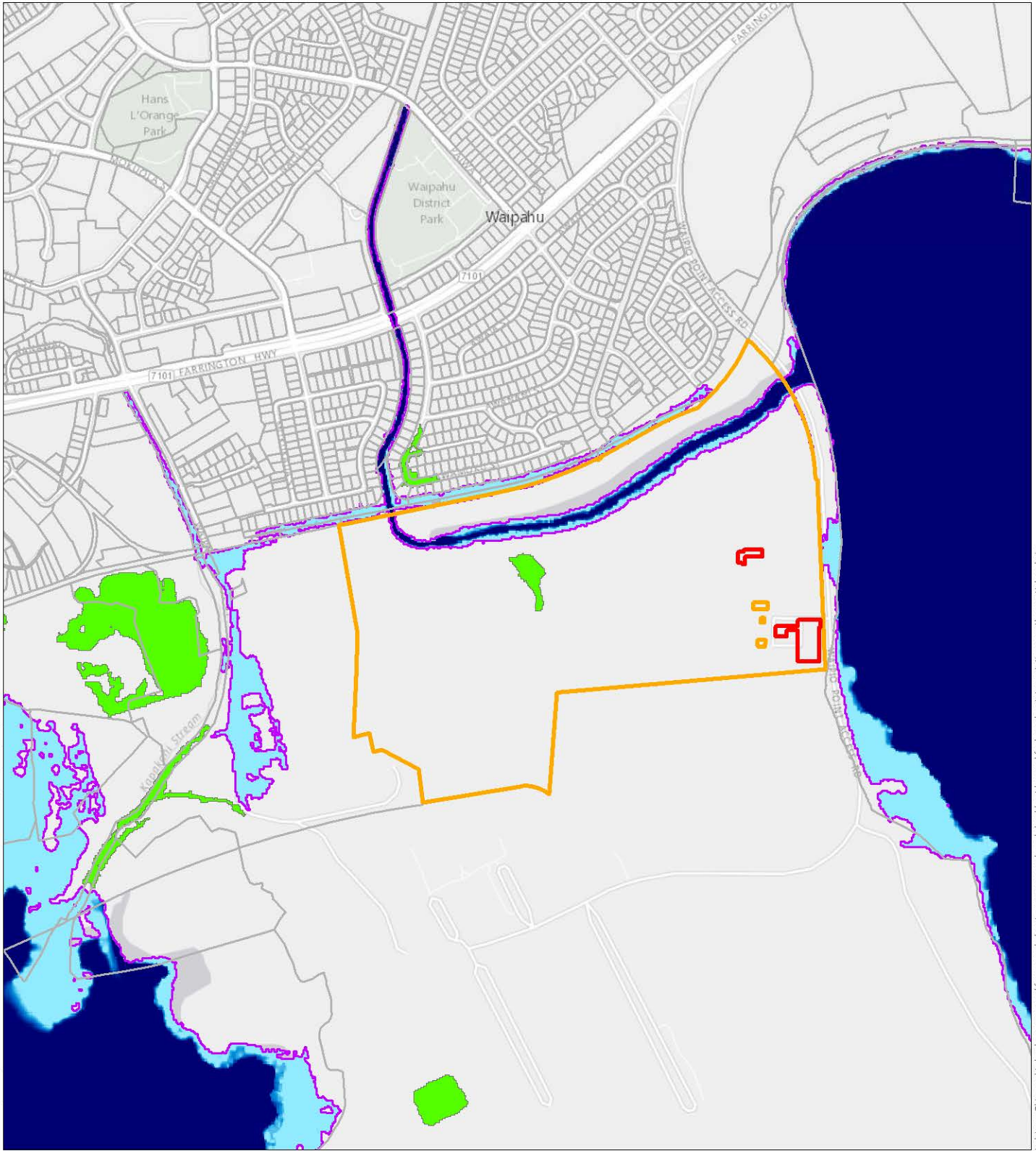
- Project Scope
- Ted Makalena Golf Course Parcel
- Tax Map Key Parcels
- Tsunami Evacuation Zone
- Tsunami Evacuation Zone (Extreme)

Figure 11:
 Tsunami Evacuation Zone

**TED MAKALENA GOLF COURSE
 NPDES IMPROVEMENTS**



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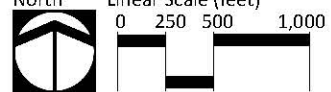
LEGEND

-  Project Scope
-  Ted Makalena Golf Course Parcel
-  Tax Map Key Parcels
-  Low-Lying Areas
-  Sea Level

Water Depth
 High
 Low

Figure 12A:
 Sea Level Rise (3ft)

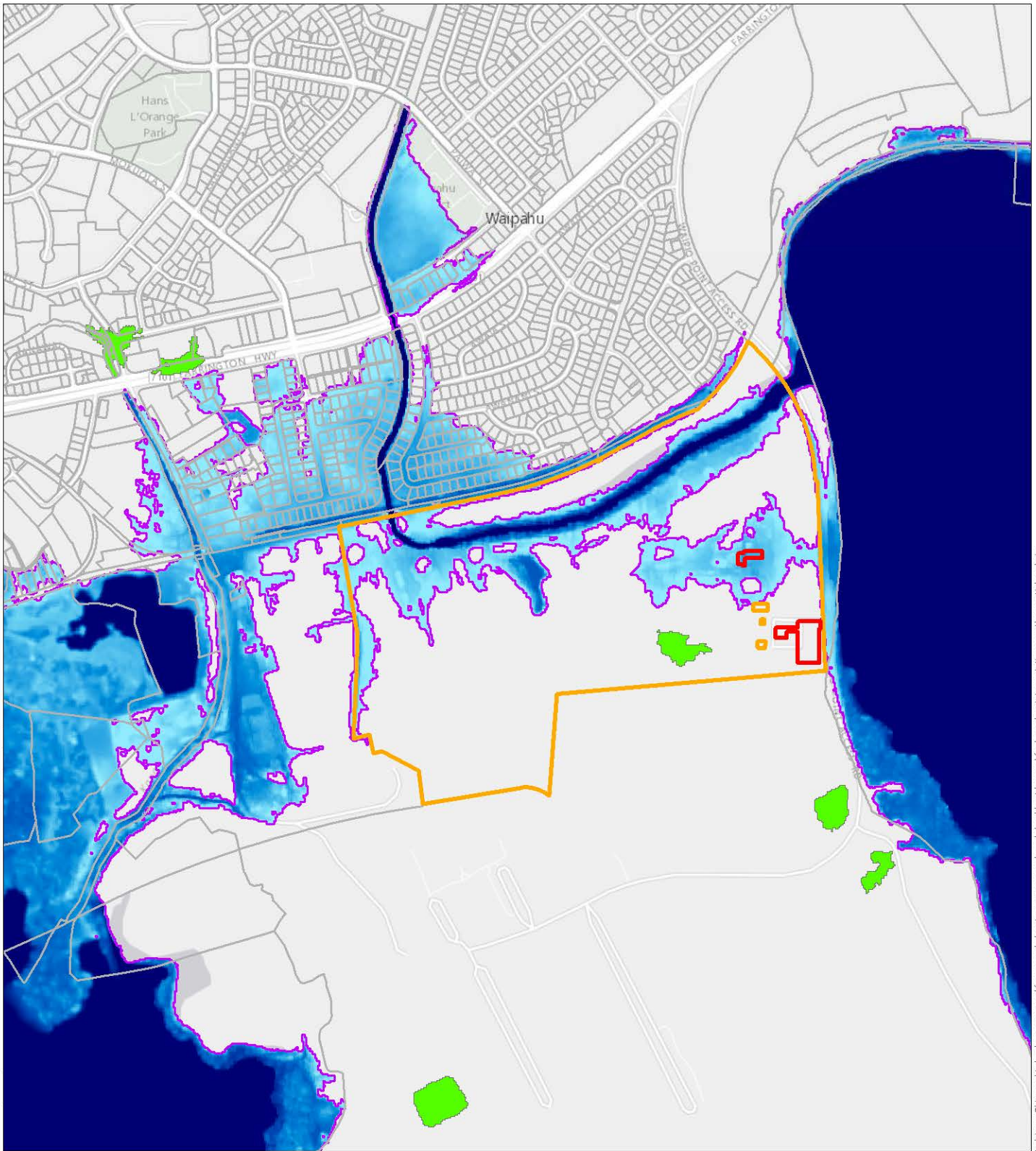
**TED MAKALENA GOLF COURSE
 NPDES IMPROVEMENTS**

City and County of Honolulu
 North Linear Scale (feet)


O'ahu



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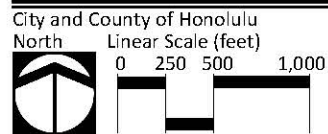
LEGEND

-  Project Scope
-  Ted Makalena Golf Course Parcel
-  Tax Map Key Parcels
-  Low-Lying Areas
-  Sea Level



Figure 12B:
Sea Level Rise (6ft)

**TED MAKALENA GOLF COURSE
NPDES IMPROVEMENTS**



Source: NOAA 2017. ESRI Online Basemaps.

3.5 FLORA & FAUNA

The Ted Makalena Golf Course has been subject to moderate human utilization since its opening in 1971. The main landscaping features are dominated by Bermuda grass, gentle slopes, trees, and paved sidewalks and golf cart paths between golf fairways. The areas between the buildings and around the parking area are maintained as mowed lawns, and many ornamental landscape plants surround the Clubhouse. No natural plant communities occur in the Project area. There are no known habitats for rare, threatened, or endangered flora or faunal species in the immediate proximity of the Project Site (Figure 13).

A biological study, which included both a botanical survey and a fauna survey, was completed in October of 2017 by Robert Hobdy, an environmental consultant, for the purposes of this document (see Appendix B). The botanical survey found that vegetation in the Project area is dominated by non-native species, and identified only one native plant, kīpūkai, growing on the golf course parcel. It was noted that this species is widespread along the coasts throughout Hawai‘i, as well as on many other Pacific Islands, and is not the focus of any environmental concern.

The botanical survey also noted that some endangered plant species such as Ko‘oloa‘ula (*Abutilon menziesii* – 6.5 miles away), ‘akoko (*Euphorbia skottsbergii* var. *kalaeloana* – 8 miles away) and hinahina ewa (*Achyranthes splendens* var. *rotundata* – 8 miles away) are known to grow in the surrounding ‘Ewa Plain. However, considering 1) the distance from the golf course to these biological resources, 2) the lack of rare or protected native species in or near the Project area, and 3) the dominance of non-native plants in the Project area and the surrounding neighborhood, there is little of concern with regard to the botanical aspects of this Project. Therefore, no important botanical resources are anticipated to be significantly impacted by the further development of this property. The botanical survey report concluded that “no special recommendations with reference to plants are deemed appropriate or necessary.”

The fauna survey revealed similar findings, with the Project Site deemed unsuitable to nesting birds and finding no trace of Hawaiian Hoary bats in the area. Only one native bird, Pacific golden-plover, was found in the area, and is widespread and common throughout its range in Hawai‘i and on the continental U.S., thereby holding no special conservation status. It was noted that young birds flying over the Project Site might become disoriented by bright lights and crash into light structures where they could become vulnerable to injury and predators. It was recommended that any significant outdoor lighting associated with the proposed Project be hooded to direct the light downward to mitigate this threat. With this recommended action, the proposed Project is not expected to have a significant negative impact on the fauna resources in this part of O‘ahu.

The fauna study concluded: “No special fauna habitats were found to occur on or around this golf course project area. No Critical habitat for any endangered animal species is designated within the project area” (Appendix B).

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
FINAL ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT

During the pre-assessment consultation process, the U.S. Fish & Wildlife Service (USFWS) provided the following comment (see comment letter in Appendix A):

“There is no federally designated critical habitat within the immediate vicinity of the proposed project. Our data indicate that the following federally listed species may occur or transit through the vicinity of the proposed project area: the endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*); the endangered Hawaiian stilt (*Himantopus mexicanus knudseni*), endangered Hawaiian coot (*Fulica alai*), endangered Hawaiian gallinule (*Gallinula galeata sandvicensis*), endangered Hawaiian duck (*Anas wyvilliana*) (hereafter collectively referred to as Hawaiian waterbirds); the endangered Hawaiian goose (*Branta sandvicensis*); the endangered Hawaiian petrel (*Pterodroma sandwichensis*), the endangered band-rumped storm-petrel (*Oceanodroma castro*), the threatened Newell's shearwater (*Puffinus auricularis newelli*), and the wedge-tailed shearwater (*Ardenna pacificus*), a seabird species federally protected under the MBTA (hereafter collectively referred to as Hawaiian seabirds).”¹

Potential Impacts and Mitigation Measures

The proposed Project is not anticipated to have any impact on endangered flora species. In their pre-assessment consultation comment letter, the USFWS provided the following information and recommended mitigation measures to minimize impacts to these federally listed faunal species (see letter in Appendix A):

Hawaiian hoary bat

The Hawaiian hoary bat roosts in both exotic and native woody vegetation across all islands and will leave young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping 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.

To minimize impacts to the endangered Hawaiian hoary bat, the USFWS recommended incorporating the following measure into the Project description:

- Woody plants greater than 15 feet tall will not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15).

Hawaiian waterbirds

Listed Hawaiian waterbirds are found in fresh and brackish-water marshes and natural or manmade ponds. Hawaiian stilts may also be found wherever ephemeral or persistent standing water may occur. Hawaiian stilt nesting occurs from mid-February through August. Hawaiian coot nesting occurs primarily from March through September, although some nesting occurs in all months of the year. Hawaiian gallinules nest year-round, but mostly from March through August. For the Hawaiian duck nesting can occur year round. Threats to these species include

¹ The MBTA is the Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712).

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
FINAL ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT

non-native predators, habitat loss, and habitat degradation. Hawaiian ducks are also subject to threats from hybridization with introduced mallards. If a nest is present, potential impacts include parents being flushed from the nest for extended periods of time causing the nest to fail (*e.g.*, exposed to predation) or eggs or chicks being crushed by humans or equipment.

To avoid and minimize potential Project impacts to Hawaiian waterbirds, the USFWS recommended incorporating the following applicable measures into the Project description:

- In areas where waterbirds are known to be present, post and implement reduced speed limits, and inform Project personnel and contractors about the presence of endangered species on-site.
- If water resources are located within or adjacent to the Project Site, incorporate applicable best management practices regarding work in aquatic environments into the Project design.
- Have a biological monitor that is familiar with the species' biology conduct Hawaiian waterbird nest surveys where appropriate habitat occurs within the vicinity of the proposed Project Site prior to Project initiation. Repeat surveys again within three days of Project initiation and after any subsequent delay of work of three or more days (during which the birds may attempt to nest). If a nest or active brood is found:
 - Contact the USFWS within 48 hours for further guidance.
 - Establish and maintain a 100-foot buffer around all active nests and/or broods until the chicks/ducklings have fledged. Do not conduct potentially disruptive activities or habitat alteration within this buffer.
 - Have a biological monitor that is familiar with the species' biology present on the Project Site during all construction or earth moving activities until the chicks/ducklings fledge to ensure that Hawaiian waterbirds and nests are not adversely impacted.

Hawaiian goose

Hawaiian geese have been documented at various sites on O‘ahu and have been seen regularly traversing between Mililani at the Agricultural 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. They have been observed at the Honouliuli Unit of the Pearl Harbor National Wildlife Refuge. They are observed in a variety of habitats, but prefer open areas, such as natural grasslands and shrublands, pastures, wetlands, golf courses, and lava flows. Threats to the species include introduced mammalian and avian predators, wind facilities, and vehicle strikes.

The USFWS recommended incorporating the following applicable measures into the Project description to avoid and minimize impacts to Nene:

- Do not approach, feed, or otherwise disturb Nene.
- If Nene are observed loafing or foraging within the Project area during the Nene breeding season (September through April), have a biologist familiar with the nesting behavior of Nene survey for nests in and around the Project area prior to the resumption of any work.

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
FINAL ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT

Repeat surveys after any subsequent delay of work of three or more days (during which the birds may attempt to nest).

- Cease all work immediately and contact the USFWS for further guidance if a nest is discovered within a radius of 150 feet of proposed work, or a previously undiscovered nest is found within said radius after work begins.
- In areas where Nene are known to be present, post and implement reduced speed limits, and inform Project personnel and contractors about the presence of endangered species on-site.

Hawaiian seabirds

Hawaiian seabirds may traverse the Project area at night during the breeding season (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the Project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable.

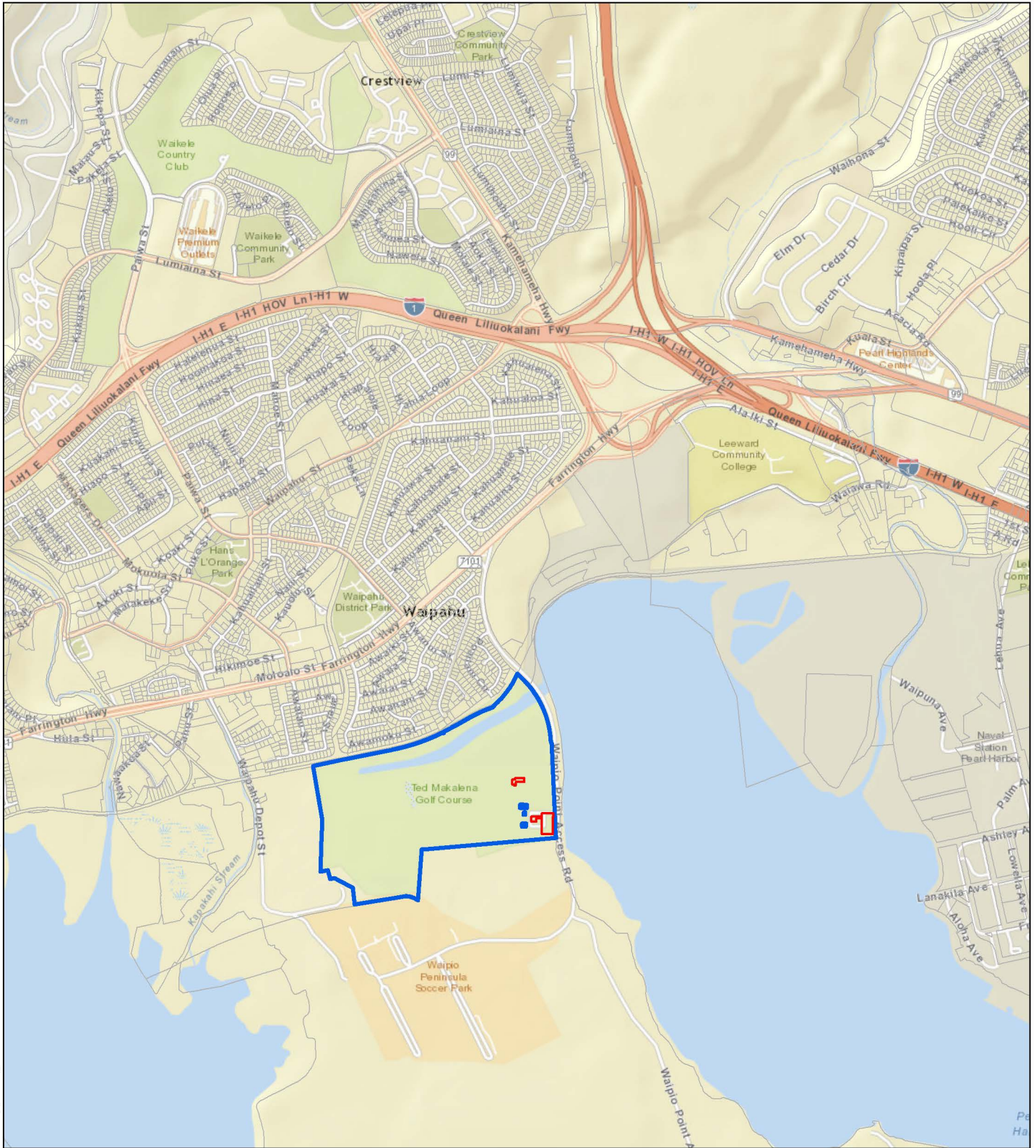
To minimize potential Project impacts to all Hawaiian seabirds the USFWS recommended incorporating the following applicable measures into the Project:

- Fully shield all outdoor lights so the bulb can only be seen from below bulb height and only use when necessary.
- Install automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
- Avoid nighttime construction during the seabird fledging period, September 15 through December 15.

As described above in the introduction to Section 3.5, a biological study was conducted in October 2017, which similarly recommended that any significant outdoor lighting associated with the proposed Project be hooded to direct the light downward to mitigate the potential threat to Hawaiian seabirds. With this recommended action, the proposed Project is not expected to have a significant negative impact on the fauna resources in this part of O‘ahu.

Moreover, because the Project will involve work within close proximity to the aquatic environment, the USFWS also recommended that the relevant Best Management Practices regarding sedimentation and erosion in aquatic environments be incorporated into the Project design.

If it is determined that the Project may affect federally listed species, the USFWS will be contacted early in the planning process to assist with the Endangered Species Act of 1973 (ESA) compliance.



DATE: 10/20/2017

LEGEND

- Project Scope
- Ted Makalena Golf Course Parcel
- Tax Map Key Parcels
- Critical Plant Habitat (none shown)
- Critical Animal Habitat (none shown)

Figure 13:
Critical Habitats

**TED MAKALENA GOLF COURSE
NPDES IMPROVEMENTS**

CITY AND COUNTY OF HONOLULU
 North Linear Scale (feet)
 0 500 1,000 2,000

O'ahu

 PBR HAWAII
 ASSOCIATES, INC.

Source: USFWS, 2017. ESRI Online Basemaps.
 Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

3.6 WATERS & WETLANDS

A Wetlands and Waters of the U.S. Survey and Assessment was completed in October of 2017 by Robert Hobdy, an environmental consultant, for the purposes of this document (see Appendix C). According to this study, the entire Project area, and in fact the whole present Ted Makalena Golf Course and more, was once an ancient Hawaiian fish pond known as Loko‘eo. This famous royal fish pond, which was shown on 19th century maps and in literature from that period, was over 180 acres in size and had an impressive stone sea wall along the edge of Middle Loch. This pond was fed by Wailani Stream which runs through Waipahu Town. Over 80 years ago, Wailani Stream was diverted east to Middle Loch in a cement-walled channel, which effectively drained Loko‘eo. Between 1930 and 1950, the pond was then filled (to the apparent depths of 8 to 10 feet) with bagasse and mill slurry from Waipahu Mill – along with coral and sand dredged from Pearl Harbor during World War II – to create more arable land for the sugar plantation. This agricultural use was eventually abandoned. The Ted Makalena Golf Course opened in 1971 on these highly altered landfill soils that are a mixture of diverse waste materials that are difficult to categorize.

Since Loko‘eo was effectively converted from a wetland to an upland and has been in this condition for at least 70 years, it has been provisionally determined that no wetlands currently occur in the Project area (Appendix C).

Although no wetlands occur directly on the Project Site, the USFWS National Wetlands Inventory indicates that an Estuarine and Marine Wetland is located approximately 82 feet makai (east) of the Parking Lot portion of the Project Site, across Waipi‘o Point Access Road and off the shore of Middle Loch (see Figure 14). Additionally, the edges of the Wailani Drainage Canal, which are situated over 700 feet north of the Maintenance Yard portion of the Project Site, are also designated Estuarine and Marine Wetlands. The waters of both the Wailani Drainage Canal and Middle Loch are designated Estuarine and Marine Deepwaters.

Potential Impacts and Mitigation Measures

Since the results of the Wetland and Waters of the U.S. Survey Assessment found that the Project area contains no wetlands and thus no jurisdictional resources, it meets the definition of a non-wetland. Moreover, it was determined that the Project area contains no jurisdictional Waters of the U.S resources.

Short term impacts to nearby wetlands may include the potential for soil erosion and runoff, and the generation of fugitive dust during grading and construction. All construction activities will comply with all applicable federal, state, and county regulations and rules for erosion, sedimentation, and dust control. Contractors will use best management practices (BMPs) to minimize erosion during construction and planting, including watering loose soils during construction, and planting groundcover over areas where construction has been completed. Additionally, BMPs will be implemented to reduce impacts to drainage facilities along Waipi‘o Point Access Road. These measures will address any direct impacts from construction and avoid any secondary or cumulative impacts from erosion or fugitive dust caused by construction.

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
FINAL ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT

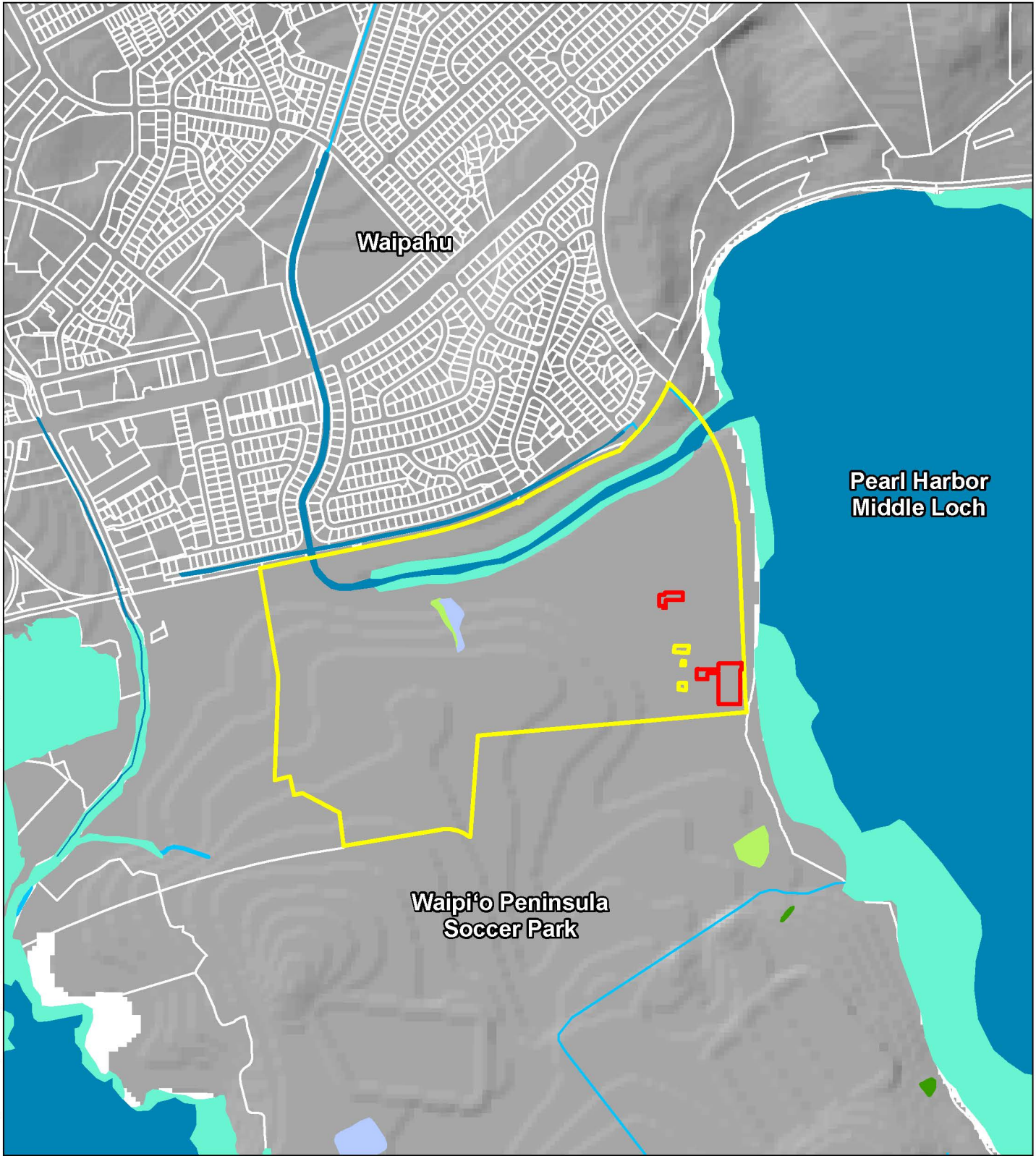
Long-term impacts will be mitigated by the installation of Low-Impact Development (LID) measures to manage stormwater at this site before it is returned to the natural system. Two bioretention areas are proposed, one adjacent to the maintenance yard, the other adjacent to the expanded parking lot. The bioretention areas are designed to manage stormwater in a way that better replicates natural systems, thereby slowing the flow of surface water from the site and reducing pollutants in the process.

The waters of the Middle Loch of Pearl Harbor are classified as Class 1, Inland Waters. Any potential impacts to these waters caused by the construction and/or operation of the proposed project will meet the provisions of the: a) anti-degradation policy (Chapter 11-54-1.1, HAR); b) designated uses (Chapter 11-54-3, HAR); and c) water quality criteria (Chapter 11.54-4 through 11-54-8, HAR, as well as 11-55, HAR). However, direct discharges of storm water runoff into State waters are not expected to occur due to BMPs to reduce airborne dust and waterborne silt during construction.

Although it is not anticipated, a Section 401 Water Quality Certification from the State Department of Health, Clean Water Branch (CWB) pursuant to the “Clean Water Act,” will be obtained if it is determined that the project may result in any discharge into navigable waters or as otherwise triggered.

In addition, the Project will follow the *Guidelines Applicable to Golf Courses in Hawai‘i* (Version 6) in order to address groundwater protection concerns, as well as other environmental concerns.

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DATE: 10/24/2017

Figure 14:
Surface Water Features

**TED MAKALENA GOLF COURSE
NPDES IMPROVEMENTS**

CITY AND COUNTY OF HONOLULU O'ahu

North Linear Scale (feet)

0 250 500 1,000

LEGEND

- | | | |
|---------------------------------|--------------------------------|-----------------------------------|
| Project Scope | Wetlands | Freshwater Emergent Wetland |
| Ted Makalena Golf Course Parcel | Estuarine and Marine Deepwater | Freshwater Forested/Shrub Wetland |
| Tax Map Key Parcels | Estuarine and Marine Wetland | Freshwater Pond |
| | Riverine | |

Source: U.S. Fish and Wildlife Service, 2016. City and County of Honolulu, 2017.
 Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
FINAL ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT

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4.0 DESCRIPTION OF THE HUMAN ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATIVE MEASURES

This section describes the existing conditions of the human environment, potential impacts of the Ted Makalena Golf Course NPDES Improvements, and mitigation measures to minimize any impacts.

4.1 ARCHAEOLOGICAL AND CULTURAL RESOURCES

4.1.1 Archaeological Resources

The Ted Makalena Golf Course was built in 1971, and has been in continuous use for almost 50 years. In 2008 a golf cart route expansion and update project was completed, for which an archaeological literature review and field inspection was conducted by Cultural Surveys Hawai'i, Inc., in order to examine the potential for archaeological resources in the area, especially those from before the construction of the golf course and its composite buildings. The study can be found in Appendix D.

Potential Impacts and Mitigation Measures

The findings of the 2008 project's archaeological study by Cultural Surveys Hawaii (Appendix D) were as follows:

“No historic properties were observed during the field inspection of the project area. The absence of historic properties can be attributed to extensive land modifications associated with historic sugar cultivation and military operations, as well as the modern golf course development observed throughout the project area. Observed land modifications consisted of a dredged drainage canal, leveled and graded areas utilized as fairways, artificial knolls and sand traps, asphalt paved golf cart paths, wooden and concrete structures for golf patrons and maintenance staff, and a green waste dumping area.

“Based on the results of this investigation, no additional cultural resource management work is recommended for the project. This is based on the results of the field inspection, in which no historic properties were observed, as well as a review of previous archaeological work within the project area and in the immediate vicinity, which suggest that the entire project area contains fill layers that are approximately 3 to 7 meters thick (Goodman & Cleghorn 1998; Athens et al. 2000).”

Based on the results of this study, no adverse impacts to archeological resources during construction are anticipated. Should the inadvertent discovery of significant cultural or historic materials and/or burials occur during construction, all work in the immediate area of the find will cease and the State Historic Preservation Division (SHPD) will be notified, as outlined in HAR 13 § 13-275-12. No further mitigation measures are planned.

4.1.2 Cultural Resources

As part of the archaeological study conducted by Cultural Surveys Hawaii in 2008, a traditional historical background and assessment of traditional cultural practices was also performed (Appendix D). According to the report:

“During pre- and early post-contact times the project area would have been burgeoning with traditional Hawaiian activity in the form of habitation, agriculture, and aquaculture. The gathering of plant resources, utilization of marine and freshwater resources, development of trail systems, and the utilization of the area for burial are all traditional cultural practices which were likely to have occurred within the project area. However, historic sugar cultivation and military activities, coupled with modern golf course development have transformed the local environment, through episodes of filling, leveling, and grading, making it no longer viable for traditional Hawaiian land use. Currently there are no known traditional cultural practices being conducted within or in the immediate vicinity of the project area.”

Potential Impacts and Mitigation Measures

Given the findings of the 2008 study by Cultural Surveys Hawaii, it is anticipated that the proposed Project will have no effect on cultural resources.

Based on historical research and the relatively small scope of the planned improvements, it is reasonable to conclude that, pursuant to Act 50, the exercise of Native Hawaiian rights, or any ethnic group, related to gathering, access or other customary activities within the Project area will not be affected and there will be no direct adverse effect upon cultural practices or beliefs.

4.2 TRANSPORTATION

As recommended by the City and County of Honolulu Department of Transportation Services (DTS) during the Draft EA comment period (see letter in Appendix F), a Traffic Management Plan (TMP) has been prepared and added to the Final EA as Appendix E.

4.2.1 Roadways and Traffic

The Ted Makalena Golf Course is situated on a parcel of land that lies along the western edge of a portion of Waipi‘o Point Access Road, and is located approximately 1,300 feet south (makai) of Farrington Highway. The following is a breakdown of the roadways most pertinent to the golf course and Project Site.

Farrington Highway. Farrington Highway is a State Principal Arterial Highway that connects Central and West O‘ahu. Farrington Highway connects to Kamehameha Highway in the vicinity of Pearl Highlands Shopping Center. The posted speed limit near the golf course is 25 miles per hour (mph) in both directions.

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
FINAL ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT

Waipi‘o Point Access Road. Waipi‘o Point Access Road is a two-lane minor collector road providing access to Farrington Highway from its other terminus at the Waipi‘o Peninsula Soccer Park. The entrance to Ted Makalena Golf Course is located approximately 0.8 miles south of the intersection of Waipi‘o Point Access Road and Farrington Highway. The road serves approximately 5,000 vehicles per day, based on State Department of Transportation (DOT) data collected in 2015 (State of Hawai‘i 2015).

Potential Impacts and Mitigation Measures

The Project will not require permanent rerouting or alteration of roadway traffic, but it may be required occasionally to accommodate construction equipment. Construction activities may generate short-term traffic impacts to the motoring public, bicyclists, staff, and visitors to the golf course mostly in the immediate vicinity of the intersection of Waipi‘o Point Access Road and Farrington Highway. Traffic cones and other directional devices will be placed in the roadway to guide vehicles around work areas. The contractor will implement mitigation measures to provide access past work sites and to minimize the inconvenience to the community. These mitigation measures may include the following:

- Posting flagmen for traffic control around work sites;
- Backfilling/covering all trenches at the end of the work day;
- Posting safety devices and signs for the duration of construction;
- Maintaining any existing pedestrian, bicycle, and vehicle access/crossing with the highest safety measures during construction;
- Scheduling the transferal of construction materials and equipment to and from the Project Site during non-peak traffic hours (8:30-3:30), but not during school dismissal periods; and
- Scheduling construction activities requiring lane closures to occur during times that avoid the beginning and ending of work day and school day rush hours (8:30-3:30).

Should construction activities require the closure of any City street, traffic lane, or sidewalk, the applicant will obtain a Street Usage Permit from DTS. Should there be a need to transport any oversized equipment/overweight loads on State highway facilities, a DOT Highways Division permit will be prepared.

During the pre-assessment consultation process, DTS made the following recommendations (see letter in Appendix A):

- The area Neighborhood Board, as well as the area residents, businesses, emergency personnel (fire, ambulance and police), O‘ahu Transit Services, HART, etc. should be kept apprised of the Project and the potential impacts to adjoining local street area network;
- BMP controls should be included at the Project construction site to prevent trailing of dirt and debris on City roadways; and
- Any damage to the existing roadway that is caused by the Project should be repaired to current City standards as well as meet Americans with Disabilities Act (ADA) requirements.

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS

FINAL ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT

Also during the pre-assessment consultation process, the Department of Facility Maintenance (DFM) similarly wrote: “During construction and upon completion of project; any damages/deficiencies to Waipio Point Access Road right-of-way shall be corrected to City Standards and accepted by the City” (Appendix A).

In the long-term, no significant change in visitor numbers is expected due to this Project. Therefore, the Project’s impact on the cumulative traffic impacts on State highways facilities in the area (Farrington Highway) should be minimal. In general, the proposed improvements are not anticipated to have a long-term impact on traffic and access to the area.

4.2.2 Parking

There are currently 152 paved parking stalls at the Ted Makalena Golf Course for staff, golfers, and visitor parking, including 6 accessible (ADA) stalls. During peak or high golf play days, overflow parking utilizes the grassed area adjacent to the existing parking lot causing tire ruts, loosening soil, damaging lawns, and eroding soils during storm events (see Figure 4). The shoulder of nearby Waipi‘o Point Access Road is also currently used for overflow parking.

Potential Impacts and Mitigation Measures

With the proposed parking lot expansion, the total number of parking spaces will be increased from 152 to 240 parking stalls, including 7 accessible stalls. The Department of Enterprise Services (DES) has indicated that the additional parking stalls will be sufficient to accommodate parking demand during peak or high golf play days for the facility.

In the long term, the Project is not anticipated to have a significant impact on the demand for parking at the Ted Makalena Golf Course, as no change in the visitor population is expected as a result of the Project. The planned increase in the number of stalls available to staff and visitors, however, should alleviate any current shortage in parking supply, and will prevent overflow parking from using the current parking lot's grassed areas, thereby preventing the destruction of groundcover and reducing the amount of tracking and sedimentation. Moreover, the new stalls will also prevent overflow parking from using the shoulder of Waipi‘o Point Access Road. Although the parking lot expansion will increase the amount of impermeable surface area at the site, LID measures such as bioretention areas and inlet filters with hydrocarbon absorbent pads will improve the parking lot storm drainage runoff water quality and allow for greater infiltration.

4.2.3 Current Public Transportation

TheBus, which is the public transportation service provided by the City and County of Honolulu, provides bus routes to and from the vicinity of the Ted Makalena Golf Course. The nearest bus stops for routes that service the area are bus stop #678 at Farrington Highway & Waipi‘o Point Access Road (for eastbound routes) and bus stop #454 at Farrington Highway & Kahuali‘i Street (for westbound routes) (Figure 15). However, these bus stops are an approximately 15-minute walk (0.8 miles) from the entrance to the golf course. The routes serviced by this stop include:

- No. 40 connecting Mākaha Towers to Waipahu Transit Center & Ala Moana.
- No. 42 connecting ʻEwa Beach to Waikīkī.
- No. 43 connecting Waipahu to Alapai Transit Center.
- Route A CityExpress! connecting Waipahu to Kalihi Transit Center & the University of Hawaiʻi at Mānoa.

Potential Impacts and Mitigation Measures

No significant change in visitors is anticipated as a result of the Project; as such, no increase in public transit demand is anticipated. As requested in the DTS’s initial pre-consultation letter, O’ahu Transit Services (TheBus, TheHandi-Van) and HART will be informed of Project activities which may affect public transit routes, schedules, or other activities in order to mitigate potential impacts to the City’s transit services.

4.2.4 Future Public Transportation

The County is constructing a high-capacity transit (rail) corridor project between East Kapolei and Ala Moana. The Project Site will be roughly equidistant (via roadway network) to both the Leeward Community College (LCC) rail transit station to the northeast, and the Waipahu Transit Center Station to the northwest, which will be located near the corner of Awalau Street & Farrington Highway. These stations are anticipated to reduce traffic congestion in the area resulting from lower use of personal vehicles by commuters.

At the time of writing, trains are expected to be running between Aloha Stadium and East Kapolei in late 2020, and the full rail line is expected to be operable through Downtown Honolulu and Ala Moana Center by 2025.

Potential Impacts and Mitigation Measures

The Project is not anticipated to have any impact on the City’s future public transit infrastructure. After the rail line is operational, parking in and around Ted Makalena Golf Course may see less demand as visitors and staff are able to use the new HART system to commute to and from the golf course. The HART system is not anticipated to have a significant impact on visitor numbers however, as the rail stations are not within short walking distance of the golf course. No mitigation measures are planned.

4.2.5 Bicycle Infrastructure

Permanent bicycle facilities are limited in the vicinity of the Waipi’o Peninsula and the greater Waipahu area. The Ted Makalena Golf Course can be accessed via Waipi’o Point Access Road and also Waipahu Depot Road via Waipi’o Peninsula Soccer Park. Connecting these two roads is the existing Pearl Harbor Bike Path. For bicyclists accessing the Golf Course from the east, there are a number of bike lanes and paths proposed in the O’ahu Bike Plan (City & County of Honolulu, Department of Transportation Services 2012). For bicyclists traveling from the west, Farrington Highway provides an existing bike route, from which bicyclists can then access either Waipahu Depot Road, Pearl Harbor Bike Path or Waipi’o Point Access Road. For bicyclists

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FINAL ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT

traveling from mauka areas, only Managers Drive/Mokuola Street provides a bike lane (see Figure 3 of the Traffic Management Plan in Appendix E).

Potential Impacts and Mitigation Measures

The Project is not anticipated to have an impact on existing or future bicycle infrastructure. Because of the nature of the sport, it is unlikely that the majority of commuters to the site (golfers) will be able to ride a bicycle while carrying a set of golf clubs in a golf bag. There may be employees who would access the site by bicycle although in general area roads are not suited for sharing with cars and trucks. No mitigation measures are planned.

4.2.6 Airports

According to the comment letter received from the State of Hawai'i Department of Transportation (DOT) during the pre-assessment consultation process, the Project Site is located approximately 4.8 miles from the end of Runway 8L of the Daniel K. Inouye International Airport (HNL) (see Figure 16 and comment letter in Appendix A). The DOT further commented:

The Applicant needs to be aware of the duties of the state and county agencies to implement the State of Hawaii Office of Planning Technical Assistance Memorandum (TAM) related to this project and all projects within 5 miles of an airport. The TAM is available at:
http://files.hawaii.gov/dbedt/op/docs/TAM-FAA-DOT-Airports_08-01-2016.pdf

If any of the project features attract hazardous wildlife, create glint and glare hazard, or create an aerial obstruction hazard to flight operations, the Applicant/Property Owner must coordinate with proper officials and agencies and must implement appropriate mitigation to address the hazards.

Potential Impacts and Mitigation Measures

No significant impact. The Project is not anticipated to attract hazardous wildlife or create a glint or glare hazard for the airport. As no standing structures above ground level will be constructed, the Project will not create an aerial obstruction hazard to flight operations. No mitigation measures are planned.

During the Draft EA comment period, the DOT wrote: "[The] Department of Transportation (DOT) has no further comments at this time."

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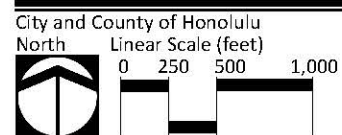
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LEGEND

- Project Scope
- Ted Makalena Golf Course Parcel
- Tax Map Key Parcels
- Bus Route
- Bus Stop
- HART Route
- HART Station

Figure 15:
Public Transportation

**TED MAKALENA GOLF COURSE
NPDES IMPROVEMENTS**



Source: City & County of Honolulu, 2017. ESRI Online Basemaps.
 Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

PDF: Q:\Oahu\Ted Makalena Golf Course - NPDES MS4 (EA+SMA)\PDF\Figures
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DATE: 11/28/2017

LEGEND




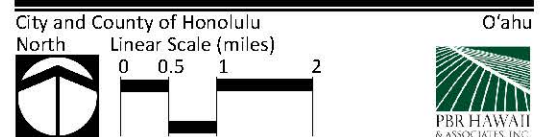
-  Ted Makalena Golf Course
-  Daniel K. Inouye International Airport (HNL)
-  5-mile radius from end of Runway 8L

Figure 16:
Airport Distance

**TED MAKALENA GOLF COURSE
NPDES IMPROVEMENTS**



Source: ESRI, United States Geological Survey, 2017. City and County of Honolulu, 2017.
Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

4.3 NOISE

Existing noise levels at and immediately adjacent to the proposed Project Site are those typical of a golf course. The parking lot portion of the Project Site is bordered by Waipi‘o Point Access Road, beyond which is the Middle Loch of Pearl Harbor to the east, and by the Waipi‘o Peninsula Sports Complex to the south. The rest of the Project rests within the golf course - a relatively calm aural environment.

Potential Impacts and Mitigation Measures

Construction activities for the Project will inevitably create temporary noise impacts. The building contractor may employ mitigation measures to minimize those impacts, including the use of mufflers and implementing construction curfew periods. Pursuant to Chapter 11-46, HAR, all Project activities must comply with all community noise controls.

Once in operation, the Project will not generate long-term noise, with the exception of the noise associated with typical operations at the maintenance yard, as well as the noise from traffic flows in and out of the golf course parking lot. Noise levels may elevate during golf course opening and closing hours, as well as at peak visitor hours. Because the noise generated as a result of the proposed Project represents no substantial change from current noise occurrences, no mitigation measures are proposed.

4.4 AIR QUALITY

The State of Hawai‘i has a reputation as having some of the best air quality in the nation. This superior air quality is largely a function of the predominant tradewinds blowing from the northeast. The typical tradewind pattern blows man-made and volcanic pollutants out from inland (mauka) areas toward the ocean. However, during non-tradewind periods, man-made and volcanic pollutants tend to accumulate on island impacting visibility (also known as “vog”).

Potential Impacts and Mitigation Measures

It is recognized that there is the potential for impacts to air quality during construction. This could occur from additional traffic generated by construction vehicles, machinery, and dust generated during demolition of existing parking pavement and excavation.

An effective dust control plan will be implemented as necessary. All construction activities will comply with the provisions of Title 11, Chapter 59, HAR related to Ambient Air Quality Standards and Section 11-60.1-33, HAR related to Fugitive Dust. Measures to control dust during various phases of construction include:

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
FINAL ENVIRONMENTAL ASSESSMENT/FINDING OF NO SIGNIFICANT IMPACT

- Providing an adequate water source at the site prior to start-up construction activities;
- Irrigating the construction site during periods of drought or high winds;
- Landscaping and rapidly covering bare areas, including slopes, starting from the initial grading phase;
- Disturbing only the areas of construction that are in the immediate zone of construction to limit the amount of time that the areas will be subject to erosion;
- Providing adequate dust control measures during weekends, after hours, and before daily start-up of construction activities; and
- Installing silt screening in the areas of disturbance.

The proposed Project is not likely to have any long-term impact on air quality in the immediate vicinity. No long-term mitigation measures are proposed.

4.5 VISUAL RESOURCES

The proposed Project will be located at the existing parking lot, as well as the area adjacent to the existing maintenance yard buildings on the Ted Makalena Golf Course. The Project plans do not include any structures above ground level.

Potential Impacts and Mitigation Measures

As the proposed improvements at Ted Makalena Golf Course will not include any structures above ground level, no adverse impacts to any recognized view planes are anticipated. Because no visually adverse impacts are expected, no additional mitigative measures are proposed.

4.6 SOCIAL & ECONOMIC CHARACTERISTICS

According to the County's Central O'ahu Sustainable Communities Plan (COSCP) (2002),

“Central Oahu plays a key role in implementing the directed growth policies of the General Plan of the City and County of Honolulu.

The towns of Waipahu and Wahiawa serve as gateways to Ewa and the North Shore. Historically, they have been headquarters for the sugar and pineapple plantations and support centers for the military. Beginning in 1968, Central Oahu also began to play a role as a major area for housing development. At that time, Castle & Cooke began development of Mililani Town, a 3,500 acre planned low-density suburban community which offered affordable single family housing to first time buyers. Subsequently, additional housing has been developed above Waipahu and the H-1 Freeway in Village Park, Gentry Waipio, Waikele, Royal Kunia, and other development projects.

In 1989, the Honolulu City Council approved changes to the General Plan which designated the urban fringe areas in Central Oahu as one of Oahu's principal residential development areas. Since then, Central Oahu, along with the Primary Urban Center

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(PUC) and the Secondary Urban Center and urban fringe areas in Ewa, has provided the bulk of the new housing developed on the island.

*... In support of the **General Plan** policies, the Central Oahu Sustainable Communities Plan... Helps relieve urban development pressures on rural and urban fringe Sustainable Communities Plan Areas (Waianae, North Shore, Ko'olaupoko, Ko'olaupoko, and East Honolulu) so as to preserve the "country" lifestyle of the rural areas and sustain the stable, low density residential character of the urban fringe areas.*

The 2002 COSCP was based on the 2000 Census. According to the 2000 Census, the population of the City and County of Honolulu numbered 876,156 individuals. The population, number of housing units and number of non-construction jobs in Central O'ahu and 'Ewa in 2000 was as follows:

Table 4-1
Year 2000 Housing Units and Non-Construction Jobs

SUSTAINABLE COMMUNITIES PLAN/ DEVELOPMENT PLAN AREA	2000 POPULATION	NUMBER OF HOUSING UNITS IN 2000	NUMBER OF NON- CONSTRUCTION JOBS IN 2000
Central O'ahu	148,208	45,878	44,356
'Ewa	68,696	20,797	14,689

Potential Impacts and Mitigation Measures

The 2002 COSCP is in the process of being updated to accommodate a planning horizon of the year 2030. The County Department of Planning and Permitting's consultant, Belt Collins, provided an overview of projections for the Central O'ahu and 'Ewa Districts to the year 2030 on its website <http://www.beltcollins.com/centraloahu/>.

Table 4-2
Year 2030 Housing Units and Non-Construction Jobs

SUSTAINABLE COMMUNITIES PLAN/ DEVELOPMENT PLAN AREA	2030 POPULATION	NUMBER OF HOUSING UNITS IN 2030	NUMBER OF NON- CONSTRUCTION JOBS IN 2030
Central O'ahu	196,080	65,855	66,924
'Ewa	177,590	57,938	63,076

The proposed Project is not anticipated to have significant, adverse impacts on the social and economic characteristics of the area. The proposed improvements will enhance the recreational experience for future visitors and service industry employees, and the scope of the construction Project will provide a moderate contribution to the construction industry. Further, there will be positive impacts for golf course users, families, and even possibly the community at large from improved access to recreational resources.

4.7 INFRASTRUCTURE AND UTILITIES

4.7.1 Water System

The Ted Makalena Golf Course is served by the City’s Board of Water Supply (BWS) system. Potable water is drawn from a twelve-inch PVC main in Waipahu Depot Road. The main also provides water to several municipal facilities located on lower Waipahu Depot Road.

Irrigation water is drawn from a twelve-inch water main providing irrigation water to the Waipi’o Peninsula Soccer Park. The water main is located in Waipahu Depot Road.

Potential Impacts and Mitigation Measures

The proposed Project will add one hose bibb and one short water lateral to the existing on-site irrigation system. The Project's estimated irrigation water use is 550,000 to 700,000 gallons per day (GPD). No significant impacts to the BWS water system are anticipated.

During both the pre-assessment consultation process and the Draft EA review, the Board of Water Supply (BWS) provided the following comments: “The existing water system is adequate to accommodate the proposed golf course improvements. 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.” Close coordination will be maintained with the BWS to ensure that the water system will not be adversely impacted and to minimize interruption of water services to adjacent areas.

The BWS also commented: “When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage” (see letters in Appendices A and F).

4.7.2 Wastewater System

The TMGC’s existing on-site sewer system is connected to the County sewer system. Wastewater from the two comfort stations and clubhouse is discharged into a sewer lateral crossing the golf course in an east to west direction. Connection is made near the 14th tee from where wastewater gravity flows to the Waipahu Wastewater Pump Station on Waipahu Depot Road about 0.5 miles to the west.

Potential Impacts and Mitigation Measures

The proposed Project will not involve any alterations to the existing on-site wastewater system; therefore it is not anticipated to have any impact on the County sewer system. No mitigation measures are proposed.

4.7.3 Drainage System

The TMGC is drained by a system of storm drains to the Wailani Drainage Canal on the northern portion of the golf course adjacent to the 15th and 16th holes. The TMGC site generally drains to the north (towards the drainage canal) and to the east (towards the Middle Loch of Pearl Harbor). The Wailani Drainage Canal traverses Waipi‘o Point Access Road and flows into the Middle Loch of Pearl Harbor. Most of the eastern portion of the site, including the parking lot, surface flows into a drainage ditch that runs along Waipi‘o Point Access Road and eventually discharges into the Middle Loch.

Maintenance Yard – Currently, golf carts are hose-washed outside of the Cart Storage Building at the maintenance yard area. The cart wash runoff contains hydrocarbons from the gas-powered engines, and sediments and grass clippings from the wheels. This polluted runoff leaves the cart wash area unchecked, and settles in low points in the adjacent pavement and grass areas.

Parking Lot – The existing parking lot is located in the southeastern corner of the TMGC site, adjacent to Waipi‘o Point Access Road. It has 152 parking spaces, and gently slopes towards the drainage ditch along Waipi‘o Point Access Road. There is an adjacent grass area to the east of the parking lot that is used as overflow parking. Surface runoff from the paved parking lot, as well as from the denuded grass overflow parking area, flows into the drainage ditch. This runoff is full of oils/hydrocarbons from parked vehicles, as well as sediments from the denuded overflow parking area. A small portion of the western side of the parking lot drains towards the golf course, which is also untreated.

Potential Impacts and Mitigation Measures

The proposed improvements will address the effects of pollutant discharge from the golf cart washing station and parking lot. In the long-term, the LID strategies planned for the Project will minimize the amount of pollutants in surface runoff, thereby improving the water quality of the downstream water bodies. The Maintenance Yard portion of the project will be designed to direct runoff to the west, toward the bio-retention area and inlet filter (see Figure 5B).

In a letter received during the pre-assessment consultation process, the City and County of Honolulu Department of Facility Maintenance (DFM) provided the following comment: “Once construction phase commence [sic], install approved Best Management Practices (BMP) fronting all drainage facilities on Waipio Point Access Road” (Appendix A).

During construction, Best Management Practices (BMPs) for stormwater management will be implemented to minimize the impact of the Project to the existing area’s hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Following construction, exposed soils will have been built over, paved over or landscaped to control erosion.

4.7.4 Electrical and Telecommunications Systems

The TMGC is served by the Hawaiian Electric Company (HECO) for electrical service, Hawaiian Telcom for telephone service, and Spectrum (formerly Oceanic Time Warner Cable) for cable TV and internet service. Overhead electrical and communication lines are available along Waipi‘o Point Access Road.

Potential Impacts and Mitigation Measures

The proposed Project is not anticipated to have any impact on electrical or telecommunications systems or infrastructure. During the pre-assessment consultation process, Spectrum (Charter Communications) wrote: “The subject project will have no impact to existing Spectrum's infrastructures or future planned projects in the vicinity” (Appendix A).

4.7.5 Solid Waste

Garbage receptacles are located throughout the golf course, and garbage is collected regularly by the City and County of Honolulu.

Potential Impacts and Mitigation Measures

During the construction phase, solid waste generated at the site is anticipated to increase over current conditions. The additional waste is expected to include materials from construction, grading, and landscaping activities. Any construction waste generated by the project will be disposed of at a solid waste disposal facility that complies with the applicable provisions (Chapter 11-58.1, HAR "Solid Waste Management Control"). Solid waste that cannot be recycled will be disposed of at landfills, the incinerator, or transfer stations. A waste-to-energy combustor, H-POWER (Honolulu Program of Waste Energy Recovery) located at the Campbell Industrial Park incinerates about 1,800 tons of combustible waste per day. The electricity generated is bought by Hawaiian Electric Company. Currently, the H-POWER facility receives all residential and commercial packer truck wastes on the island. Waste contractors will be asked to submit disposal receipts and invoices to ensure proper disposal of waste. The proposed improvements will also comply with the provisions of Chapters 11-260 to 11-280, HAR, relating to hazardous waste.

In the long-term, given that the proposed improvements are not expected to result in increased patronage of the golf course, the Project is not anticipated to have a significant impact on solid waste services. No mitigation measures are proposed.

4.8 PUBLIC SERVICES AND FACILITIES

4.8.1 Police Protection

The site is located within Honolulu Police Department (HPD) District 3. District 3 covers the area from Red Hill to Village Park and Waipahu, which is a total area of approximately 66 square miles with a population of 168,400 (2010 census). The Ted Makalena Golf Course is

located in Sector 1, which covers Waipahu and Waikele. The nearest police station is the Pearl City Police Station, located approximately 2.7 miles northeast of the golf course (Figure 17).

Potential Impacts and Mitigation Measures

The Project is not anticipated to create an increased demand on police protection services. During both the pre-assessment consultation process and the Draft EA review period, the Honolulu Police Department stated: “Based on the information provided, this project should have no significant impact on the services or operations of the Honolulu Police Department at this time” (Appendices A and F).

4.8.2 Fire Protection

First response to any on-site emergency would originate from the Waikele Fire Station (Engine 42) located about 2.8 miles to the north of the golf course (Figure 17). An engine company is posted at the station. Second response would originate from the Waipahu Fire Station about 2.8 miles to the west in the Waipahu Industrial Area where engine (Engine 12) and ladder companies (Ladder 12) are posted. A City and County of Honolulu emergency ambulance is posted at the Waipahu Fire Station.

Potential Impacts and Mitigation Measures

As the proposed improvements are not expected to result in increased patronage of the golf course, the Project is not anticipated to create an increased demand on fire protection services. During both the pre-assessment consultation process and the Draft EA review, the Honolulu Fire Department (HFD) commented that “there will be no significant impact to fire department services” (Appendices A and F).

4.8.3 Health Care Services

Health care facilities that provide emergency services located near the Ted Makalena Golf Course, include The Queen’s Medical Center West O’ahu in ‘Ewa, Leeward Health Center, Waipahu Clinic, and the Hawai’i Pacific Health/ Pali Momi Medical Center in ‘Aiea. A variety of health care providers can be found nearby in Waipahu and Pearl City (Figure 17).

Potential Impacts and Mitigation Measures

Although there may be an unavoidable and occasional need for emergency health care services by visitors or employees during the course of the Ted Makalena Golf Course NPDES Improvements, the Project is not expected to significantly increase the need for emergency service, and is not expected to have a long-term adverse impact on emergency medical providers or their ability to service the community. No mitigation measures are proposed.

4.8.4 Recreational Facilities

Other recreational facilities near the TMGC include the adjacent Waipi’o Peninsula Sports Complex (Soccer Park), as well as Waipahu District Park, Hans L’Orange Neighborhood Park, and Waipahu Uka Neighborhood Park (Figure 17).

Potential Impacts and Mitigation Measures

The Project is not anticipated to displace any existing facilities or create any additional demand on recreational facilities in the vicinity of the Project. During the pre-assessment consultation process, the City and County of Honolulu Department of Parks and Recreation (DPR) commented: "...the proposed project will have no impact on any program or facility of the Department" (Appendix A).

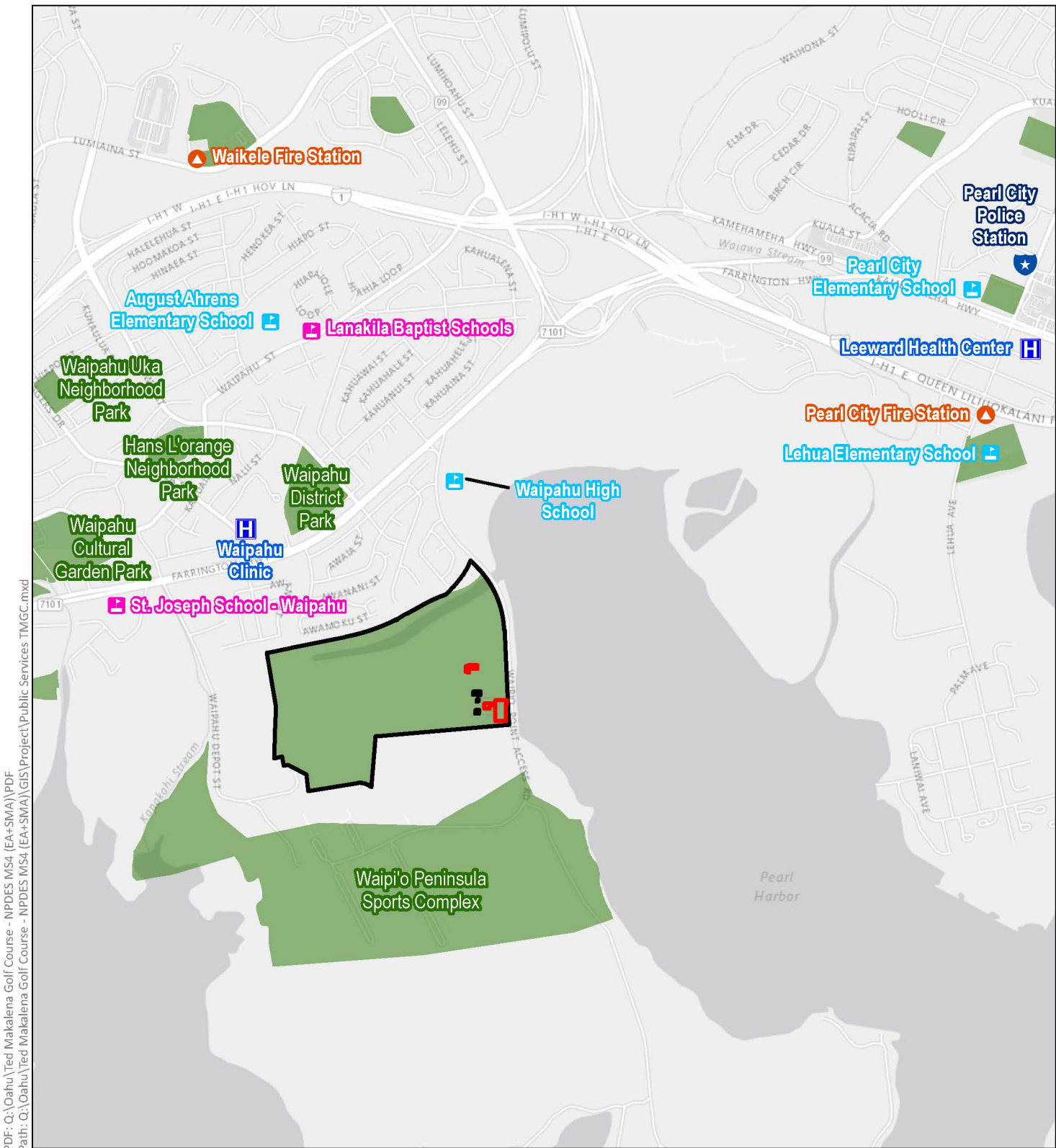
4.8.5 Schools

The Ted Makalena Golf Course is located in Central O‘ahu, between Waipahu and Pearl City. A number of public and private schools are located in the general vicinity of the golf course, including Waipahu High School, the Lanakila Baptist Elementary School, August Ahrens Elementary School, St. Joseph Elementary School, Lehua Elementary School, Pearl City Elementary School, and Waipahu Intermediate School (Figure 17).

Potential Impacts and Mitigation Measures

The Project is not anticipated to have any impact on schools in the surrounding areas. During the Draft EA review period, the State of Hawai‘i Department of Education (DOE) wrote: "The proposed Project will not impact existing DOE schools and facilities" (Appendix F).

In a pre-consultation comment letter, the State of Hawai‘i Department of Human Services (DHS) indicated that there is "one DHS licensed group child care facility in the near vicinity that may be affected during the construction phase" (see letter in Appendix A). In a follow-up phone conversation with Ms. Lisa Galino, DHS Child Care Program Specialist, on November 2, 2017, this DHS licensee was identified as Head Start - Waipahu Park, located at 94-230 Paiwa Street, which is an approximately 1.1-mile drive from the Project Site. Given the distance from the Project Site and the limited scope of the improvements, there are no anticipated impacts to this licensee during construction of the Project.



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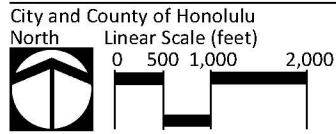
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Figure 17:
Public Services

LEGEND

- Project Scope
- Ted Makalena Golf Course Parcel
- Parks
- Fire Stations
- Police Stations
- Hospitals
- Private Schools
- Public Schools

**TED MAKALENA GOLF COURSE
NPDES IMPROVEMENTS**



Sources: ESRI Online Basemaps. City and County of Honolulu, 2005, 2014, 2017.
 State of Hawai'i Department of Education, 2015. Hawai'i Association of Independent Schools, 2011.

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5.0 LAND USE CONFORMANCE

State and County land use plans and policies and required permits and approvals relevant to the Project are described below.

5.1 STATE OF HAWAI'I

5.1.1 State Land Use Law, Chapter 205, Hawai'i Revised Statutes

The State Land Use Law (Chapter 205, HRS), establishes the State Land Use Commission (LUC) and authorizes this body to designate all lands in the State into one of four districts: Urban, Rural, Agricultural, or Conservation. These districts are defined and mapped by the State Land Use Commission in order to ensure compatibility with neighboring land uses and protection of public health.

The proposed improvements are located within the State Agricultural District (Figure 18). Section 205-4.5 describes permissible uses in the Agricultural district and identifies that golf courses are not permitted. The Ted Makalena Golf Course in Waipahu is a public golf course owned by the City and County of Honolulu. The clubhouse, restaurant, cart storage, and maintenance buildings were all built in 1970-1971 on preservation land, and the golf course was first opened in 1971.

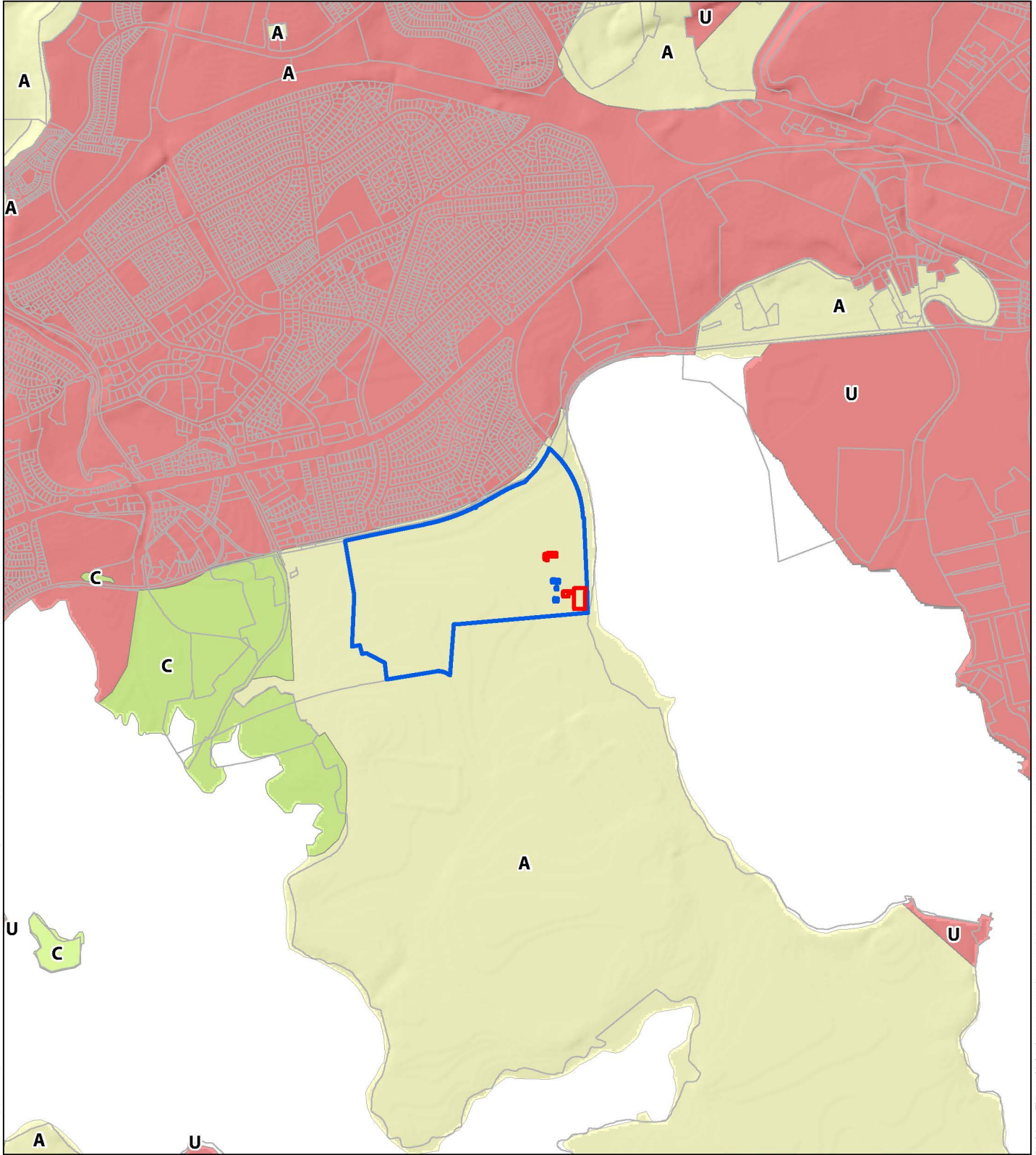
During the pre-assessment consultation process, the City and County of Honolulu Department of Planning and Permitting (DPP) provided the following comment:

“The site is in the State Agricultural District. The Ted Makalena Golf Course was established in the State Agricultural District before July 1, 2005. Per Section 205-4.5(d) of the Hawaii Revised Statutes (State Land Use Law), "(d) Notwithstanding any other provision of this chapter to the contrary, golf courses and golf driving ranges approved by a county before July 1, 2005, for development within the agricultural district shall be permitted uses within the agricultural district." As long as the improvements are within the original approved area, the proposed Project would be in compliance with the State Land Use Law.”

As the TMGC was approved by the County before July 1, 2005, and the proposed improvements are located entirely within the original approved area, the Project is thus in compliance with the State Land Use Law. During the Draft EA review period, the State Office of Planning (OP) provided the following comment:

“OP acknowledges that Section 5.1.1, page 55 of the Draft EA provides justification that the proposed action is in compliance with the State Land Use Law, HRS Section 205. As stated in the Draft EA, the golf course (located within the State Land Use Agricultural District) was approved by the CCH before July 1, 2005, and the proposed improvements are located entirely within the original approved area.”

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DATE: 10/23/2017

LEGEND

- Project Scope
- Ted Makalena Golf Course Parcel
- Tax Map Key Parcels

State Land Use District

- A - Agriculture
- C - Conservation
- U - Urban

Figure 18:
State Land Use District

**TED MAKALENA GOLF COURSE
NPDES IMPROVEMENTS**

City and County of Honolulu O'ahu

North Linear Scale (feet)

0 500 1,000 2,000

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
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5.1.2 Coastal Zone Management Act, Chapter 205A, Hawai'i Revised Statutes

The Coastal Zone Management Area, as defined in Chapter 205A, HRS, includes all the lands of the State. Therefore, the proposed improvements are within the Coastal Zone Management Area. Furthermore, the Project Site is within the Special Management Area (SMA), the requirements of which are implemented by the County (see Section 5.2.4).

The Coastal Zone Management (CZM) Program aims to provide recreational opportunities, protect historic resources, protect scenic and open space resources, protect coastal ecosystems, provide facilities for economic development, reduce hazards, and manage development. The table below discusses the applicability of CZM Program objectives and policies (as described in §205A-2, HRS) to the proposed Project:

COASTAL ZONE MANAGEMENT ACT, CHAPTER 205A, HRS (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
RECREATIONAL RESOURCES			
<i>Objective:</i> (A) Provide coastal recreational opportunities accessible to the public.			
<i>Policies:</i>			
(A) Improve coordination and funding of coastal recreational planning and management; and			X
(B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:			
(i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;			X
(ii) Requiring replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;			X
(iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;			X
(iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;			X
(v) Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;			X
(vi) Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;	X		
(vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and			X
(viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of section 46-6.			X
Discussion: The proposed Project is a recreational resource in the coastal zone. The thrust of the Project is stormwater pollution prevention, and a Project goal is to support minimization of non-point source pollution delivered to nearshore resources. The water quality standards are further discussed under the Coastal Ecosystems objectives and policies.			

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
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COASTAL ZONE MANAGEMENT ACT, CHAPTER 205A, HRS (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
HISTORIC RESOURCES			
Objective: (A) Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.			
Policies:			
(A) Identify and analyze significant archaeological resources;	X		
(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and			X
(C) Support state goals for protection, restoration, interpretation, and display of historic resources.	X		
Discussion: An Archaeological Assessment for a previous project at the site has been conducted and reviewed by SHPD, and SHPD has concurred with the determination of, “no historic properties affected”. Should any archaeological or cultural remains be encountered during construction, all work in the immediate vicinity of the find will cease and the State Historic Preservation Division will be contacted for establishment of appropriate mitigation in accordance with Chapter 6E, Hawai‘i Revised Statutes.			
SCENIC AND OPEN SPACE RESOURCES			
Objective: (A) Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.			
Policies:			
(A) Identify valued scenic resources in the coastal zone management area;			X
(B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;	X		
(C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and			X
(D) Encourage those developments that are not coastal dependent to locate in inland areas.			X
Discussion: The Project is near but separated from Pearl Harbor by a road. Views to the water are maintained with this Project.			
COASTAL ECOSYSTEMS			
Objective: (A) Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.			
Policies:			
(A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;	X		
(B) Improve the technical basis for natural resource management;			X
(C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;	X		
(D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and	X		
(E) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.	X		
Discussion: The Project is anticipated to reduce impacts to the coastal ecosystem, through implementation of Low Impact Development techniques that manage stormwater in a way that better replicates natural systems, thereby slowing the flow of freshwater from the site and reducing pollutants in the process.			

TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS
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COASTAL ZONE MANAGEMENT ACT, CHAPTER 205A, HRS (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
ECONOMIC USES			
Objective: (A) Provide public or private facilities and improvements important to the State's economy in suitable locations.			
Policies:			
(A) Concentrate coastal dependent development in appropriate areas;			X
(B) Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and			X
(C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:			
(i) Use of presently designated locations is not feasible;			X
(ii) Adverse environmental effects are minimized; and			X
(iii) The development is important to the State's economy.			X
Discussion: These policies are not applicable because the proposed development does not involve site selection for the location of a golf course.			
COASTAL HAZARDS			
Objective: (A) Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.			
Policies:			
(A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;			X
(B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards;	X		
(C) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and	X		
(D) Prevent coastal flooding from inland projects.	X		
Discussion: The Ted Makalena Golf Course is not in the tsunami evacuation zone, and the majority of the site is in FIRM Zone D, although a floodway (Wailani Drainage Canal) is noted to pass through the site. Because the Project does not involve alterations to the floodway, nor does it involve new buildings, it is not anticipated to have any impact or any deleterious effects on natural hazard conditions. No unique mitigative measures are planned.			
MANAGING DEVELOPMENT			
Objective: (A) Improve the development review process, communication, and public participation in the management of coastal resources and hazards.			
Policies:			
(A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;			X
(B) Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and			X
(C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.	X		
Discussion: This EA discusses potential impacts and mitigation measures of the proposed Project and will provide an opportunity for input during the Draft EA Public Comment period.			

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COASTAL ZONE MANAGEMENT ACT, CHAPTER 205A, HRS (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
PUBLIC PARTICIPATION			
Objective: (A) Stimulate public awareness, education, and participation in coastal management.			
Policies:			
(A) Promote public involvement in coastal zone management processes;	X		
(B) Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and			X
(C) Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.			X
Discussion: This EA discusses potential impacts and mitigation measures of the proposed Project and will provide an opportunity for input during the Draft EA Public Comment period.			
BEACH PROTECTION			
Objective: (A) Protect beaches for public use and recreation.			
Policies:			
(A) Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;	X		
(B) Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and			X
(C) Minimize the construction of public erosion-protection structures seaward of the shoreline.			X
(D) Prohibit private property owners from creating a public nuisance by inducing or cultivating the private property owner's vegetation in a beach transit corridor; and			X
(E) Prohibit private property owners from creating a public nuisance by allowing the private property owner's unmaintained vegetation to interfere or encroach upon a beach transit corridor.			X
Discussion: Aside from the erosion protection mentioned in the sections above and the location of the Project away from the shoreline, the Project has no relationship to beach protection or access.			
MARINE RESOURCES			
Objective: (A) Promote the protection, use, and development of marine and coastal resources to assure their sustainability.			
Policies:			
(A) Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;	X		
(B) Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;			X
(C) Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;			X
(D) Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and			X
(E) Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.			X
Discussion: The use of LID techniques to manage stormwater at a public golf course is a step toward ensuring development of marine and coastal resources are both ecologically sound and economically beneficial.			

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5.1.3 Hawai‘i State Planning Act, Chapter 226, Hawai‘i Revised Statutes

The Hawai‘i State Plan, Chapter 226 HRS (2007) provides guidelines for the future growth of the State of Hawai‘i. The Hawai‘i State Plan identifies goals, objectives, policies, and priorities for allocating the State's resources, including public funds, services, human resources, land, energy, and water. The plan was enacted to achieve “a desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.” The following table outlines the Project’s conformance with each theme, goal, objective, policy, and guideline of the plan.

HAWAI‘I STATE PLAN, CHAPTER 226, HRS – PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
HRS § 226-1: Findings and Purpose			
HRS § 226-2: Definitions			
HRS § 226-3: Overall Theme.			
<p><i>Hawai‘i’s people, as both individuals and groups, generally accept and live by a number of principles or values which are an integral part of society. This concept is the unifying theme of the State Plan. The following principles or values are established as the overall theme of the Hawai‘i State Plan:</i></p> <ol style="list-style-type: none"> <i>(1) Individual and family self-sufficiency refers to the rights of people to maintain as much self-reliance as possible. It is an expression of the value of independence, in other words, being able to freely pursue personal interests and goals. Self-sufficiency means that individuals and families can express and maintain their own self-interest so long as that self-interest does not adversely affect the general welfare. Individual freedom and individual achievement are possible only by reason of other people in society, the institutions, arrangements and customs that they maintain, and the rights and responsibilities that they sanction.</i> <i>(2) Social and economic mobility refers to the right of individuals to choose and to have the opportunities for choice available to them. It is a corollary to self-sufficiency. Social and economic mobility means that opportunities and incentives are available for people to seek out their own levels of social and economic fulfillment.</i> <i>(3) Community or social well-being is a value that encompasses many things. In essence, it refers to healthy social, economic, and physical environments that benefit the community as a whole. A sense of social responsibility, of caring for others and for the well-being of our community and of participating in social and political life, are important aspects of this concept. It further implies the aloha spirit--attitudes of tolerance, respect, cooperation and unselfish giving, within which Hawai‘i’s society can progress.</i> <p><i>One of the basic functions of our society is to enhance the ability of individuals and groups to pursue their goals freely, to satisfy basic needs and to secure desired socio-economic levels. The elements of choice and mobility within society’s legal framework are fundamental rights. Society’s role is to encourage conditions within which individuals and groups can approach their desired levels of self-reliance and self-determination. This enables people to gain confidence and self-esteem; citizens contribute more when they possess such qualities in a free and open society.</i></p> <p><i>Government promotes citizen freedom, self-reliance, self-determination, social and civic responsibility and goals achievement by keeping order, by increasing cooperation among many diverse individuals and groups, and by fostering social and civic responsibilities that affect the general welfare. The greater the number and activities of individuals and groups, the more complex government’s role becomes. The function of government, however, is to assist citizens in attaining their goals. Government provides for meaningful participation by the people in decision-making and for effective access to authority as well as an equitable sharing of benefits. Citizens have a responsibility to work with their government to contribute to society's improvement. They must also conduct their activities within an agreed-upon legal system that protects human rights.</i></p>			
<p>Discussion: Maintaining public recreational facilities that are available to all is an action that supports these values. Upgrading the facility to utilize LID techniques for stormwater management shows a commitment to the environment.</p>			

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<i>(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)</i>			
HRS § 226-4: State Goals.			
<i>In order to guarantee, for the present and future generations, those elements of choice and mobility that insure that individuals and groups may approach their desired levels of self-reliance and self-determination, it shall be the goal of the State to achieve:</i>			
<i>(1) A strong, viable economy, characterized by stability, diversity and growth that enables fulfillment of the needs and expectations of Hawai'i's present and future generations.</i>			
<i>(2) A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.</i>			
<i>(3) Physical, social and economic well-being, for individuals and families in Hawai'i, that nourishes a sense of community responsibility, of caring and of participation in community life.</i>			
Discussion: The Project includes measures to improve the physical environment through improved management of stormwater.			
HRS § 226-5: Objectives and policies for population.			
<i>(a) Objective: It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic and social objectives contained in this chapter.</i>			
(b) Policies:			
<i>(1) Manage population growth statewide in a manner that provides increased opportunities for Hawai'i's people to pursue their physical, social and economic aspirations while recognizing the unique needs of each county.</i>	X		
<i>(2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires.</i>			X
<i>(3) Promote increased opportunities for Hawai'i's people to pursue their socio-economic aspirations throughout the islands.</i>			X
<i>(4) Encourage research activities and public awareness programs to foster an understanding of Hawai'i's limited capacity to accommodate population needs and to address concerns resulting from an increase in Hawai'i's population.</i>			X
<i>(5) Encourage federal actions and coordination among major governmental agencies to promote a more balanced distribution of immigrants among the states, provided that such actions do not prevent the reunion of immediate family members.</i>			X
<i>(6) Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state's population.</i>			X
<i>(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.</i>			X
Discussion: Maintaining public recreational facilities that are available to all is an action that supports these objectives.			
HRS § 226-6: Objectives and policies for the economy in general.			
<i>(a) Objectives: Planning for the State's economy in general shall be directed toward achievement of the following objectives:</i>			
<i>(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai'i's people, while at the same time stimulating the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.</i>			X
<i>(2) A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.</i>			X

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(b) Policies:			
(1) <i>Promote and encourage entrepreneurship within Hawai'i by residents and nonresidents of the State.</i>			X
(2) <i>Expand Hawai'i's national and international marketing, communication, and organizational ties, to increase the State's capacity to adjust to and capitalize upon economic changes and opportunities occurring outside the State.</i>			X
(3) <i>Promote Hawai'i as an attractive market for environmentally and socially sound investment activities that benefit Hawai'i's people.</i>			X
(4) <i>Transform and maintain Hawai'i as a place that welcomes and facilitates innovative activity that may lead to commercial opportunities.</i>			X
(5) <i>Promote innovative activity that may pose initial risks, but ultimately contribute to the economy of Hawai'i.</i>			X
(6) <i>Seek broader outlets for new or expanded Hawai'i business investments.</i>			X
(7) <i>Expand existing markets and penetrate new markets for Hawai'i's products and services.</i>			X
(8) <i>Assure that the basic economic needs of Hawai'i's people are maintained in the event of disruptions in overseas transportation.</i>			X
(9) <i>Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.</i>			X
(10) <i>Encourage the formation of cooperatives and other favorable marketing arrangements at the local or regional level to assist Hawai'i's small scale producers, manufacturers, and distributors.</i>			X
(11) <i>Encourage labor-intensive activities that are economically satisfying and which offer opportunities for upward mobility.</i>			X
(12) <i>Encourage innovative activities that may not be labor-intensive, but may otherwise contribute to the economy of Hawai'i.</i>			X
(13) <i>Foster greater cooperation and coordination between the government and private sectors in developing Hawai'i's employment and economic growth opportunities.</i>			X
(14) <i>Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.</i>			X
(15) <i>Maintain acceptable working conditions and standards for Hawai'i's workers.</i>			X
(16) <i>Provide equal employment opportunities for all segments of Hawai'i's population through affirmative action and nondiscrimination measures.</i>			X
(17) <i>Stimulate the development and expansion of economic activities capitalizing on defense, dual-use, and science and technology assets, particularly on the neighbor islands where employment opportunities may be limited.</i>			X
(18) <i>Encourage businesses that have favorable financial multiplier effects within Hawai'i's economy, particularly with respect to emerging industries in science and technology.</i>			X
(19) <i>Promote and protect intangible resources in Hawai'i, such as scenic beauty and the aloha spirit, which are vital to a healthy economy.</i>			X
(20) <i>Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new, potential growth industries in particular.</i>			X
(21) <i>Foster a business climate in Hawai'i--including attitudes, tax and regulatory policies, and financial and technical assistance programs--that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry.</i>			X
Discussion: These objectives do not apply as the Project cannot be construed to be an economic development effort.			

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<i>(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)</i>			
HRS § 226-7: Objectives and policies for the economy – agriculture			
<i>(a) Objectives: Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:</i>			
• <i>Viability of Hawai'i's sugar and pineapple industries.</i>			X
• <i>Growth and development of diversified agriculture throughout the State.</i>			X
• <i>An agriculture industry that continues to constitute a dynamic and essential component of Hawai'i's strategic, economic, and social well-being.</i>			X
(b) Policies:			
<i>(1) Establish a clear direction for Hawai'i's agriculture through stakeholder commitment and advocacy.</i>			X
<i>(2) Encourage agriculture by making best use of natural resources.</i>			X
<i>(3) Provide the governor and the legislature with information and options needed for prudent decision making for the development of agriculture.</i>			X
<i>(4) Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits.</i>			X
<i>(5) Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawai'i's economy.</i>			X
<i>(6) Seek the enactment and retention of federal and state legislation that benefits Hawai'i's agricultural industries.</i>			X
<i>(7) Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawai'i's food producers and consumers in the State, nation, and world.</i>			X
<i>(8) Support research and development activities that strengthen economic productivity in agriculture, stimulate greater efficiency, and enhance the development of new products and agricultural by-products.</i>			X
<i>(9) Enhance agricultural growth by providing public incentives and encouraging private initiatives.</i>			X
<i>(10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.</i>			X
<i>(11) Increase the attractiveness and opportunities for an agricultural education and livelihood.</i>			X
<i>(12) In addition to the State's priority on food, expand Hawai'i's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.</i>			X
<i>(13) Promote economically competitive activities that increase Hawai'i's agricultural self-sufficiency, including the increased purchase and use of Hawai'i-grown food and food products by residents, businesses, and governmental bodies as defined under section 103D-104.</i>			X
<i>(14) Promote and assist in the establishment of sound financial programs for diversified agriculture.</i>			X
<i>(15) Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.</i>			X
<i>(16) Facilitate the transition of agricultural lands in economically nonfeasible agricultural production to economically viable agricultural uses.</i>			X

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<i>(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)</i>			
Discussion: These objectives do not apply as the Project cannot be construed to be an agricultural effort.			
As noted by DPP: “The site is in the State Agricultural District. The Ted Makalena Golf Course was established in the State Agricultural District before July 1, 2005. Per Section 205-4.5(d) of the Hawaii Revised Statutes (State Land Use Law), ‘(d) Notwithstanding any other provision of this chapter to the contrary, golf courses and golf driving ranges approved by a county before July 1, 2005, for development within the agricultural district shall be permitted uses within the agricultural district.’ As long as the improvements are within the original approved area, the proposed Project would be in compliance with the State Land Use Law.”			
HRS § 226-8: Objectives and policies for the economy – visitor industry			
<i>(a) Objectives: Planning for the State’s economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawai’i’s economy.</i>			
(b) Policies:			
<i>(1) Support and assist in the promotion of Hawai’i’s visitor attractions and facilities.</i>			X
<i>(2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawai’i’s people.</i>			X
<i>(3) Improve the quality of existing visitor destination areas by utilizing Hawai’i’s strengths in science and technology.</i>			X
<i>(4) Encourage cooperation and coordination between the government and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.</i>			X
<i>(5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawai’i’s people.</i>			X
<i>(6) Provide opportunities for Hawai’i’s people to obtain job training and education that will allow for upward mobility within the visitor industry.</i>			X
<i>(7) Foster a recognition of the contribution of the visitor industry to Hawai’i’s economy and the need to perpetuate the aloha spirit.</i>			X
<i>(8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawai’i’s cultures and values.</i>			X
Discussion: The Ted Makalena Golf Course is open to residents and visitors. Improvements to the facility will benefit all guests of the course.			
HRS § 226-9: Objective and policies for the economy – federal expenditures			
<i>(a) Objective: Planning for the State’s economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawai’i’s economy.</i>			
(b) Policies:			
<i>(1) Encourage the sustained flow of federal expenditures in Hawai’i that generates long-term government civilian employment.</i>			X
<i>(2) Promote Hawai’i’s supportive role in national defense, in a manner consistent with Hawai’i’s social, environmental, and cultural goals by building upon dual-use and defense applications to develop thriving ocean engineering, aerospace research and development, and related dual-use technology sectors in Hawai’i’s economy.</i>			X
<i>(3) Promote the development of federally supported activities in Hawai’i that respect state-wide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawai’i’s environment.</i>			X
<i>(4) Increase opportunities for entry and advancement of Hawai’i’s people into federal government service.</i>			X
<i>(5) Promote federal use of local commodities, services, and facilities available in Hawai’i.</i>			X
<i>(6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawai’i.</i>			X

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(7) <i>Pursue the return of federally controlled lands in Hawai'i that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties.</i>			X
Discussion: The Project has no relation to the State's goals on federal expenditures.			
HRS § 226-10: Objectives and policies for the economy – potential growth and innovative activities.			
(a) Objective: <i>Planning for the State's economy with regard to potential growth and innovative activities shall be directed towards achievement of the objective of development and expansion of potential growth and innovative activities that serve to increase and diversify Hawai'i's economic base.</i>			
(b) Policies:			
(1) <i>Facilitate investment and employment in economic activities that have the potential to expand and diversify Hawai'i's economy, including but not limited to diversified agriculture, aquaculture, renewable energy development, creative media, health care, and science and technology-based sectors.</i>			X
(2) <i>Facilitate investment in innovative activity that may pose risks or be less labor-intensive than other traditional business activity, but if successful, will generate revenue in Hawai'i through the export of services or products or substitution of imported services or products.</i>			X
(3) <i>Encourage entrepreneurship in innovative activity by academic researchers and instructors who may not have the background, skill, or initial inclination to commercially exploit their discoveries or achievements.</i>			X
(4) <i>Recognize that innovative activity is not exclusively dependent upon individuals with advanced formal education, but that many self-taught, motivated individuals are able, willing, sufficiently knowledgeable, and equipped with the attitude necessary to undertake innovative activity.</i>			X
(5) <i>Increase the opportunities for investors in innovative activity and talent engaged in innovative activity to personally meet and interact at cultural, art, entertainment, culinary, athletic, or visitor-oriented events without a business focus.</i>			X
(6) <i>Expand Hawai'i's capacity to attract and service international programs and activities that generate employment for Hawai'i's people.</i>			X
(7) <i>Enhance and promote Hawai'i's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts.</i>			X
(8) <i>Accelerate research and development of new energy- related industries based on wind, solar, ocean, and underground resources and solid waste.</i>			X
(9) <i>Promote Hawai'i's geographic, environmental, social, and technological advantages to attract new economic activities into the State.</i>			X
(10) <i>Provide public incentives and encourage private initiative to attract new industries that best support Hawai'i's social, economic, physical, and environmental objectives.</i>			X
(11) <i>Increase research and the development of ocean-related economic activities such as mining, food production, and scientific research.</i>			X
(12) <i>Develop, promote, and support research and educational and training programs that will enhance Hawai'i's ability to attract and develop economic activities of benefit to Hawai'i.</i>			X
(13) <i>Foster a broader public recognition and understanding of the potential benefits of new, or innovative growth-oriented industry in Hawai'i.</i>			X
(14) <i>Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawai'i's social, economic, physical, and environmental objectives.</i>			X
(15) <i>Increase research and development of businesses and services in the telecommunications and information industries.</i>			X

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(16) Foster the research and development of nonfossil fuel and energy efficient modes of transportation.			X
(17) Recognize and promote health care and health care information technology as growth industries.			X
Discussion: The Project has no relation to these objectives and policies.			
HRS § 226-10.5: Objectives and policies for the economy – information industry			
<i>(a) Objective: Planning for the State's economy with regard to telecommunications and information technology shall be directed toward recognizing that broadband and wireless communication capability and infrastructure are foundations for an innovative economy and positioning Hawai'i as a leader in broadband and wireless communications and applications in the Pacific Region.</i>			
(b) Policies:			
(1) Promote efforts to attain the highest speeds of electronic and wireless communication within Hawai'i and between Hawai'i and the world, and make high speed communication available to all residents and businesses in Hawai'i.			X
(2) Encourage the continued development and expansion of the telecommunications infrastructure serving Hawai'i to accommodate future growth and innovation in Hawai'i's economy.			X
(3) Facilitate the development of new or innovative business and service ventures in the information industry which will provide employment opportunities for the people of Hawai'i.			X
(4) Encourage mainland- and foreign-based companies of all sizes, whether information technology-focused or not, to allow their principals, employees, or contractors to live in and work from Hawai'i, using technology to communicate with their headquarters, offices, or customers located out-of-state.			X
(5) Encourage greater cooperation between the public and private sectors in developing and maintaining a well-designed information industry.			X
(6) Ensure that the development of new businesses and services in the industry are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people.			X
(7) Provide opportunities for Hawai'i's people to obtain job training and education that will allow for upward mobility within the information industry.			X
(8) Foster a recognition of the contribution of the information industry to Hawai'i's economy.			X
(9) Assist in the promotion of Hawai'i as a broker, creator, and processor of information in the Pacific.			X
Discussion: The Project has no relation to the State's goals on information and technology.			
HRS § 226-11: Objectives and policies for the physical environment – land-based, shoreline, and marine resources.			
<i>(a) Objectives: Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:</i>			
(1) Prudent use of Hawai'i's land-based, shoreline, and marine resources.			X
(2) Effective protection of Hawai'i's unique and fragile environmental resources.	X		
(b) Policies:			
(1) Exercise an overall conservation ethic in the use of Hawai'i's natural resources.	X		
(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.			X
(3) Take into account the physical attributes of areas when planning and designing activities and facilities.			X
(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.			X
(5) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.			X

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(6) <i>Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai'i.</i>			X
(7) <i>Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.</i>			X
(8) <i>Pursue compatible relationships among activities, facilities, and natural resources.</i>			X
(9) <i>Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.</i>			X
Discussion: The Project involves improved stormwater management through LID features which will serve to satisfy these objectives and policies.			
HRS § 226-12: Objective and policies for the physical environment – scenic, natural beauty, and historic resources.			
(a) Objective: <i>Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawai'i's scenic assets, natural beauty, and multi-cultural/historical resources.</i>			
(b) Policies:			
(1) <i>Promote the preservation and restoration of significant natural and historic resources.</i>			X
(2) <i>Provide incentives to maintain and enhance historic, cultural, and scenic amenities.</i>			X
(3) <i>Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.</i>	X		
(4) <i>Protect those special areas, structures, and elements that are an integral and functional part of Hawai'i's ethnic and cultural heritage.</i>			X
(5) <i>Encourage the design of developments and activities that complement the natural beauty of the islands.</i>			X
Discussion: The Project preserves a recreational resource that has views to Pearl Harbor.			
HRS § 226-13: Objectives and policies for the physical environment – land, air, and water quality.			
(a) Objectives: <i>Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives:</i>			
(1) <i>Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources.</i>	X		
(2) <i>Greater public awareness and appreciation of Hawai'i's environmental resources.</i>			X
(b) Policies:			
(1) <i>Foster educational activities that promote a better understanding of Hawai'i's limited environmental resources.</i>			X
(2) <i>Promote the proper management of Hawai'i's land and water resources.</i>	X		
(3) <i>Promote effective measures to achieve desired quality in Hawai'i's surface, ground, and coastal waters.</i>			X
(4) <i>Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai'i's people.</i>			X
(5) <i>Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.</i>			X
(6) <i>Encourage design and construction practices that enhance the physical qualities of Hawai'i's communities.</i>			X
(7) <i>Encourage urban developments in close proximity to existing services and facilities.</i>			X
(8) <i>Foster recognition of the importance and value of the land, air, and water resources to Hawai'i's people, their cultures and visitors.</i>			X
Discussion: The Project pursues improved water quality in support of this objective.			
HRS § 226-14: Objective and policies for facility systems – in general.			
(a) Objective: <i>Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.</i>			
(b) Policies:			

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(1) Accommodate the needs of Hawai'i's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.			X
(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.	X		
(3) Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.			X
(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.			X
Discussion: The Project incorporates the growing understanding of best stormwater practices and implements it in a public facility which supports this objective.			
HRS § 226-15: Objectives and policies for facility systems – solid and liquid wastes.			
(a) Objectives: 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.			X
(2) Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.			X
(b) Policies:			
(1) Encourage the adequate development of sewerage facilities that complement planned growth.			X
(2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.			X
(3) Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes.			X
Discussion: The Project has no relationship to the State's goals for solid and liquid wastes.			
HRS § 226-16: Objective and policies for facility systems – water.			
(a) Objective: Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities.			
(b) Policies:			
(1) Coordinate development of land use activities with existing and potential water supply.			X
(2) Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs.			X
(3) Reclaim and encourage the productive use of runoff water and wastewater discharges.	X		
(4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.			X
(5) Support water supply services to areas experiencing critical water problems.			X
(6) Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.			X
Discussion: The Project involves improved stormwater management through LID features which will serve to satisfy these objectives and policies.			
HRS § 226-17: Objectives and policies for facility systems – transportation.			
(a) Objective: Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives:			
(1) An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods.			X
(2) A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.			X
(b) Policies:			

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(1) <i>Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter;</i>			X
(2) <i>Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives;</i>			X
(3) <i>Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties;</i>			X
(4) <i>Provide for improved accessibility to shipping, docking, and storage facilities;</i>			X
(5) <i>Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs;</i>			X
(6) <i>Encourage transportation systems that serve to accommodate present and future development needs of communities;</i>			X
(7) <i>Encourage a variety of carriers to offer increased opportunities and advantages to interisland movement of people and goods;</i>			X
(8) <i>Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs;</i>			X
(9) <i>Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification;</i>			X
(10) <i>Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawai'i's natural environment;</i>			X
(11) <i>Encourage safe and convenient use of low-cost, energy-efficient, non-polluting means of transportation;</i>			X
(12) <i>Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives; and</i>			X
(13) <i>Encourage diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency.</i>			X
Discussion: The Project has no relationship to the provision or facilitation of transportation.			
HRS § 226-18: Objectives and policies for facility systems – energy.			
(a) Objectives: Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all:			
(1) <i>Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;</i>			X
(2) <i>Increased energy security and self-sufficiency through the reduction and ultimate elimination of Hawaii's dependence on imported fuels for electrical generation and ground transportation;</i>			X
(3) <i>Greater diversification of energy generation in the face of threats to Hawai'i's energy supplies and systems;</i>			X
(4) <i>Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and</i>			X
(5) <i>Utility models that make the social and financial interests of Hawaii's utility customers a priority.</i>			X
(b) To achieve the energy objectives, it shall be the policy of this State to ensure the short- and long-term provision of adequate, reasonably priced, and dependable energy services to accommodate demand.			
(c) Other Policies:			
(1) <i>Support research and development as well as promote the use of renewable energy sources;</i>			X
(2) <i>Ensure that the combination of energy supplies and energy-saving systems is sufficient to support the demands of growth;</i>			X

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(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)			
(3) <i>Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits;</i>			X
(4) <i>Promote all cost-effective conservation of power and fuel supplies through measures including:</i>			
(A) <i>Development of cost-effective demand-side management programs;</i>			X
(B) <i>Education;</i>			X
(C) <i>Adoption of energy-efficient practices and technologies; and</i>			X
(D) <i>Increasing energy efficiency and decreasing energy use in public infrastructure;</i>			X
(5) <i>Ensure, to the extent that new supply-side resources are needed, that the development or expansion of energy systems uses the least-cost energy supply option and maximizes efficient technologies;</i>			X
(6) <i>Support research, development, demonstration, and use of energy efficiency, load management, and other demand-side management programs, practices, and technologies;</i>			X
(7) <i>Promote alternate fuels and transportation energy efficiency;</i>			X
(8) <i>Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications;</i>			X
(9) <i>Support actions that reduce, avoid, or sequester Hawai'i's greenhouse gas emissions through agriculture and forestry initiatives.</i>			X
(10) <i>Provide priority handling and processing for all state and county permits required for renewable energy projects;</i>			X
(11) <i>Ensure that liquefied natural gas is used only as a cost-effective transitional, limited-term replacement of petroleum for electricity generation and does not impede the development and use of other cost-effective renewable energy sources; and</i>			X
(12) <i>Promote the development of indigenous geothermal energy resources that are located on public trust land as an affordable and reliable source of firm power for Hawai'i.</i>			X
Discussion: This Project does not affect energy use, thus has no relationship to these objectives and policies.			
HRS § 226-18.5: Objectives and policies for facility systems – telecommunications.			
<i>(a) Objective: Planning for the State's telecommunications facility systems shall be directed towards the achievement of dependable, efficient, and economical statewide telecommunications systems capable of supporting the needs of the people.</i>			
<i>(b) To achieve the telecommunications objective, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable telecommunications services to accommodate demand.</i>			
(c) Other Policies:			
(1) <i>Facilitate research and development of telecommunications systems and resources;</i>			X
(2) <i>Encourage public and private sector efforts to develop means for adequate, ongoing telecommunications planning;</i>			X
(3) <i>Promote efficient management and use of existing telecommunications systems and services; and</i>			X
(4) <i>Facilitate the development of education and training of telecommunications personnel.</i>			X
Discussion: The Project has no relationship to the State's goals for telecommunications.			
HRS § 226-19: Objectives and policies for socio-cultural advancement – housing.			
<i>(a) Objectives: Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives:</i>			

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(1) <i>Greater opportunities for Hawai'i'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 Hawai'i's population.</i>			X
(2) <i>The orderly development of residential areas sensitive to community needs and other land uses.</i>			X
(3) <i>The development and provision of affordable rental housing by the State to meet the housing needs of Hawai'i's people.</i>			X
(b) Policies:			
(1) <i>Effectively accommodate the housing needs of Hawai'i's people.</i>			X
(2) <i>Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households.</i>			X
(3) <i>Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.</i>			X
(4) <i>Promote appropriate improvement, rehabilitation, and maintenance of existing housing units and residential areas.</i>			X
(5) <i>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.</i>			X
(6) <i>Facilitate the use of available vacant, developable, and underutilized urban lands for housing.</i>			X
(7) <i>Foster a variety of lifestyles traditional to Hawai'i through the design and maintenance of neighborhoods that reflect the culture and values of the community.</i>			X
(8) <i>Promote research and development of methods to reduce the cost of housing construction in Hawai'i.</i>			X
Discussion: The Project has no relationship to the availability of housing in the State of Hawai'i.			
HRS § 226-20: Objectives and policies for socio-cultural advancement – health			
(a) Objectives: Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives:			
(1) <i>Fulfillment of basic individual health needs of the general public.</i>	X		
(2) <i>Maintenance of sanitary and environmentally healthful conditions in Hawai'i's communities.</i>			X
(3) <i>Elimination of health disparities by identifying and addressing social determinants of health.</i>			X
(b) Policies:			
(1) <i>Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse.</i>			X
(2) <i>Encourage improved cooperation among public and private sectors in the provision of health care to accommodate the total health needs of individuals throughout the State.</i>			X
(3) <i>Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs.</i>			X
(4) <i>Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures.</i>	X		
(5) <i>Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions.</i>			X
(6) <i>Improve the State's capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement.</i>			X

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(7) <i>Prioritize programs, services, interventions, and activities that address identified social determinants of health to improve native Hawaiian health and well-being consistent with the United States Congress' declaration of policy as codified in title 42 United States Code section 11702, and to reduce health disparities of disproportionately affected demographics, including native Hawaiians, other Pacific Islanders, and Filipinos. The prioritization of affected demographic groups other than native Hawaiians may be reviewed every ten years and revised based on the best available epidemiological and public health data.</i>			X
Discussion: The Project provides improvements to a public golf course. Recognizing that active lifestyles are important to reduction of chronic disease, these objectives and policies are satisfied.			
HRS § 226-21: Objective and policies for socio-cultural advancement – education.			
(a) Objectives: <i>Planning for the State's socio-cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations.</i>			
(b) Policies:			
(1) <i>Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.</i>			X
(2) <i>Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.</i>			X
(3) <i>Provide appropriate educational opportunities for groups with special needs.</i>			X
(4) <i>Promote educational programs which enhance understanding of Hawai'i's cultural heritage.</i>			X
(5) <i>Provide higher educational opportunities that enable Hawai'i's people to adapt to changing employment demands.</i>			X
(6) <i>Assist individuals, especially those experiencing critical employment problems or barriers, or undergoing employment transitions, by providing appropriate employment training programs and other related educational opportunities.</i>			X
(7) <i>Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning.</i>			X
(8) <i>Emphasize quality educational programs in Hawai'i's institutions to promote academic excellence.</i>			X
(9) <i>Support research programs and activities that enhance the education programs of the State.</i>			X
Discussion: The Project has no relationship to the provision of educational opportunities.			
HRS § 226-22: Objective and policies for socio-cultural advancement – social services.			
(a) Objective: <i>Planning for the State's socio-cultural advancement with regard to social services shall be directed towards the achievement of the objective of improved public and private social services and activities that enable individuals, families, and groups to become more self-reliant and confident to improve their well-being.</i>			
(b) Policies:			
(1) <i>Assist individuals, especially those in need of attaining a minimally adequate standard of living and those confronted by social and economic hardship conditions, through social services and activities within the State's fiscal capacities.</i>			X
(2) <i>Promote coordination and integrative approaches among public and private agencies and programs to jointly address social problems that will enable individuals, families, and groups to deal effectively with social problems and to enhance their participation in society.</i>			X
(3) <i>Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawai'i's communities.</i>			X
(4) <i>Promote alternatives to institutional care in the provision of long-term care for elder and disabled populations.</i>			X

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(5) <i>Support public and private efforts to prevent domestic abuse and child molestation, and assist victims of abuse and neglect.</i>			X
(6) <i>Promote programs which assist people in need of family planning services to enable them to meet their needs.</i>			X
Discussion: The Project has no relation to the provision of social services by the State of Hawai'i.			
HRS § 226-23: Objective and policies for socio-cultural advancement – leisure.			
<i>(a) Objective: Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.</i>			
(b) Policies:			
(1) <i>Foster and preserve Hawai'i's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.</i>			X
(2) <i>Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.</i>	X		
(3) <i>Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.</i>	X		
(4) <i>Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.</i>	X		
(5) <i>Ensure opportunities for everyone to use and enjoy Hawai'i's recreational resources.</i>	X		
(6) <i>Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs.</i>			X
(7) <i>Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawai'i's people.</i>			X
(8) <i>Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms.</i>			X
(9) <i>Encourage the development of creative expression in the artistic disciplines to enable all segments of Hawai'i's population to participate in the creative arts.</i>			X
(10) <i>Assure adequate access to significant natural and cultural resources in public ownership.</i>			X
Discussion: The Project involves improvements to a public golf course, thereby providing improved facilities to fulfill the recreational needs of Hawai'i's diverse population. These objectives and policies regarding leisure are thus satisfied.			
HRS § 226-24: Objective and policies for socio-cultural advancement – individual rights and personal well-being.			
<i>(a) Objective: Planning for the State's socio-cultural advancement with regard to individual rights and personal well-being shall be directed towards achievement of the objective of increased opportunities and protection of individual rights to enable individuals to fulfill their socio-economic needs and aspirations.</i>			
(b) Policies:			
(1) <i>Provide effective services and activities that protect individuals from criminal acts and unfair practices and that alleviate the consequences of criminal acts in order to foster a safe and secure environment.</i>			X
(2) <i>Uphold and protect the national and state constitutional rights of every individual.</i>			X
(3) <i>Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice.</i>			X
(4) <i>Ensure equal opportunities for individual participation in society.</i>	X		
Discussion: Public recreational facilities provide community members and visitors with opportunities to build social capital vital to the expression of individual rights and personal well-being. By providing citizens with better resources, services, and public spaces, the State is empowering the next generation to fulfill their needs and aspirations, socio-economic and otherwise.			

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<i>(Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)</i>			
HRS § 226-25: Objective and policies for socio-cultural advancement – culture.			
<i>(a) Objective: Planning for the State's socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawai'i's people.</i>			
(b) Policies:			
<i>(1) Foster increased knowledge and understanding of Hawai'i's ethnic and cultural heritages and the history of Hawai'i.</i>			X
<i>(2) Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawai'i's people and which are sensitive and responsive to family and community needs.</i>			X
<i>(3) Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawai'i.</i>			X
<i>(4) Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawai'i's people and visitors.</i>			X
Discussion: The Project has no direct relation to the State's goals for the advancement of culture.			
HRS § 226-26: Objectives and policies for socio-cultural advancement – public safety.			
<i>Objectives: Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives:</i>			
<i>(1) Assurance of public safety and adequate protection of life and property for all people.</i>			X
<i>(2) Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances.</i>			X
<i>(3) Promotion of a sense of community responsibility for the welfare and safety of Hawai'i's people.</i>	X		
(b) Policies related to public safety:			
<i>(1) Ensure that public safety programs are effective and responsive to community needs.</i>			X
<i>(2) Encourage increased community awareness and participation in public safety programs.</i>			X
(c) Policies related to criminal justice:			
<i>(1) Support criminal justice programs aimed at preventing and curtailing criminal activities.</i>			X
<i>(2) Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies.</i>			X
<i>(3) Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community.</i>			X
(d) Policies related to emergency management:			
<i>(1) Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times.</i>			X
<i>(2) Enhance the coordination between emergency management programs throughout the State.</i>			X
Discussion: The Project goal is to protect water quality for the health and safety of the surrounding community and the public. This goal may help promote a sense of community responsibility for public welfare provided by the Best Management Practices (BMPs) for storm water management.			
HRS § 226-27: Objectives and policies for socio-cultural advancement – government.			
<i>(a) Objectives: Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives:</i>			
<i>(1) Efficient, effective, and responsive government services at all levels in the State.</i>			X
<i>(2) Fiscal integrity, responsibility, and efficiency in the state government and county governments.</i>			X

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(b) Policies:			
(4) <i>Provide for necessary public goods and services not assumed by the private sector.</i>	X		
(5) <i>Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response.</i>			X
(6) <i>Minimize the size of government to that necessary to be effective.</i>			X
(7) <i>Stimulate the responsibility in citizens to productively participate in government for a better Hawai'i.</i>			X
(8) <i>Assure that government attitudes, actions, and services are sensitive to community needs and concerns.</i>	X		
(9) <i>Provide for a balanced fiscal budget.</i>			X
(10) <i>Improve the fiscal budgeting and management system of the State.</i>			X
(11) <i>Promote the consolidation of state and county governmental functions to increase the effective and efficient delivery of government programs and services and to eliminate duplicative services wherever feasible.</i>			X
Discussion: The Project will provide the following public goods for the community: open access to recreational facilities, and better water quality of adjacent water bodies. The Project fulfills the goal of government responsiveness specifically for the health and recreational needs of the residents of Hawai'i.			

HAWAI'I STATE PLAN, CHAPTER 226, HRS – PART III. PRIORITY GUIDELINES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
HRS § 226-101: Purpose. <i>The purpose of this part is to establish overall priority guidelines to address areas of statewide concern.</i>			
HRS § 226-102: Overall direction. <i>The State shall strive to improve the quality of life for Hawai'i's present and future present and future population through the pursuit of desirable courses of action in five major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, quality education, principles of sustainability, and climate change adaptation.</i>			
HRS § 226-103: Economic priority guidelines.			
(a) Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawai'i's people and achieve a stable and diversified economy:			
(1) <i>Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.</i>			X
<i>Encourage investments which:</i>			
(i) <i>Reflect long term commitments to the State;</i>			X
(ii) <i>Rely on economic linkages within the local economy;</i>			X
(iii) <i>Diversify the economy;</i>			X
(iv) <i>Reinvest in the local economy;</i>			X
(v) <i>Are sensitive to community needs and priorities; and</i>			X
(vi) <i>Demonstrate a commitment to provide management opportunities to Hawai'i residents; and</i>			X
<i>Encourage investments in innovative activities that have a nexus to the State, such as:</i>			
(i) <i>Present or former residents acting as entrepreneurs or principals;</i>			X
(ii) <i>Academic support from an institution of higher education in Hawai'i;</i>			X
(iii) <i>Investment interest from Hawai'i residents;</i>			X
(iv) <i>Resources unique to Hawai'i that are required for innovative activity; and</i>			X
(v) <i>Complementary or supportive industries or government programs or projects.</i>			X
(2) <i>Encourage the expansion of technological research to assist industry development and support the development and commercialization of technological advancements.</i>			X

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(3) <i>Improve the quality, accessibility, and range of services provided by government to business, including data and reference services and assistance in complying with governmental regulations.</i>			X
(4) <i>Seek to ensure that state business tax and labor laws and administrative policies are equitable, rational, and predictable.</i>			X
(5) <i>Streamline the processes for building and development permit and review and telecommunication infrastructure installation approval and eliminate or consolidate other burdensome or duplicative governmental requirements imposed on business, where scientific evidence indicates that public health, safety, and welfare would not be adversely affected.</i>			X
(6) <i>Encourage the formation of cooperatives and other favorable marketing or distribution arrangements at the regional or local level to assist Hawai'i's small-scale producers, manufacturers, and distributors.</i>			X
(7) <i>Continue to seek legislation to protect Hawai'i from transportation interruptions between Hawai'i and the continental United States.</i>			X
<i>Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics:</i>			
(A) <i>An industry that can take advantage of Hawai'i's unique location and available physical and human resources.</i>			X
(B) <i>A clean industry that would have minimal adverse effects on Hawai'i's environment.</i>			X
(C) <i>An industry that is willing to hire and train Hawai'i's people to meet the industry's labor needs at all levels of employment.</i>			X
(D) <i>An industry that would provide reasonable income and steady employment.</i>			X
(8) <i>Support and encourage, through educational and technical assistance programs and other means, expanded opportunities for employee ownership and participation in Hawai'i business.</i>			X
<i>Enhance the quality of Hawai'i's labor force and develop and maintain career opportunities for Hawai'i's people through the following actions:</i>			
(A) <i>Expand vocational training in diversified agriculture, aquaculture, information industry, and other areas where growth is desired and feasible.</i>			X
(B) <i>Encourage more effective career counseling and guidance in high schools and post-secondary institutions to inform students of present and future career opportunities.</i>			X
(C) <i>Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired.</i>			X
(D) <i>Promote career opportunities in all industries for Hawai'i's people by encouraging firms doing business in the State to hire residents.</i>			X
(E) <i>Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on-the-job training opportunities.</i>			X
(F) <i>Provide retraining programs and other support services to assist entry of displaced workers into alternative employment.</i>			X
(b) Priority guidelines to promote the economic health and quality of the visitor industry:			
(1) <i>Promote visitor satisfaction by fostering an environment which enhances the Aloha Spirit and minimizes inconveniences to Hawai'i's residents and visitors.</i>	X		
(2) <i>Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access.</i>			X
(3) <i>Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities.</i>	X		

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(4) <i>Encourage visitor industry practices and activities which respect, preserve, and enhance Hawai'i's significant natural, scenic, historic, and cultural resources.</i>			X
(5) <i>Develop and maintain career opportunities in the visitor industry for Hawai'i's people, with emphasis on managerial positions.</i>			X
(6) <i>Support and coordinate tourism promotion abroad to enhance Hawai'i's share of existing and potential visitor markets.</i>			X
(7) <i>Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.</i>			X
(8) <i>Support law enforcement activities that provide a safer environment for both visitors and residents alike.</i>			X
(9) <i>Coordinate visitor industry activities and promotions to business visitors through the state network of advanced data communication techniques.</i>			X
(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:			
(1) <i>Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries.</i>			X
(2) <i>Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawai'i.</i>			X
(3) <i>Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops.</i>			X
(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:			
(1) <i>Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.</i>			X
(2) <i>Assist in providing adequate, reasonably priced water for agricultural activities.</i>			X
(3) <i>Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture.</i>			X
(4) <i>Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs.</i>			X
(5) <i>Encourage and assist with the development of a waterborne and airborne freight and cargo system capable of meeting the needs of Hawai'i's agricultural community.</i>			X
(6) <i>Seek favorable freight rates for Hawai'i's agricultural products from interisland and overseas transportation operators.</i>			X
(7) <i>Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities.</i>			X
(8) <i>Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans.</i>			X
(9) <i>Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions.</i>			X
(10) <i>Support the continuation of land currently in use for diversified agriculture.</i>			X
(11) <i>Encourage residents and visitors to support Hawai'i's farmers by purchasing locally grown food and food products.</i>			X
(e) Priority guidelines for water use and development:			
(1) <i>Maintain and improve water conservation programs to reduce the overall water consumption rate.</i>			X
(2) <i>Encourage the improvement of irrigation technology and promote the use of nonpotable water for agricultural and landscaping purposes.</i>	X		
(3) <i>Increase the support for research and development of economically feasible alternative water sources.</i>			X
(4) <i>Explore alternative funding sources and approaches to support future water development programs and water system improvements.</i>			X

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(f) Priority guidelines for energy use and development:			
(1) Encourage the development, demonstration, and commercialization of renewable energy sources.			X
(2) Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy.			X
(3) Provide incentives to encourage the use of energy conserving technology in residential, industrial, and other buildings.			X
(4) Encourage the development and use of energy conserving and cost-efficient transportation systems.			X
(g) Priority guidelines to promote the development of the information industry:			
(1) Establish an information network, with an emphasis on broadband and wireless infrastructure and capability, that will serve as the foundation of and catalyst for overall economic growth and diversification in Hawai‘i.			X
(2) Encourage the development of services such as financial data processing, a products and services exchange, foreign language translations, telemarketing, teleconferencing, a twenty-four-hour international stock exchange, international banking, and a Pacific Rim management center.			X
(3) Encourage the development of small businesses in the information field such as software development, the development of new information systems, peripherals, and applications; data conversion and data entry services; and home or cottage services such as computer programming, secretarial, and accounting services.			X
(4) Encourage the development or expansion of educational and training opportunities for residents in the information and telecommunications fields.			X
(5) Encourage research activities, including legal research in the information and telecommunications fields.			X
(6) Support promotional activities to market Hawai‘i’s information industry services.			X
(7) Encourage the location or co-location of telecommunication or wireless information relay facilities in the community, including public areas, where scientific evidence indicates that the public health, safety, and welfare would not be adversely affected.			X
Discussion: The Project will promote the economic health and quality of the visitor industry by continuing to foster visitor satisfaction and enhanced visitor facilities, while also being sensitive to neighboring communities by investing in capital improvements that support the environmental health of adjacent water bodies and the surrounding ecosystems.			
HRS § 226-104: Population growth and land resources priority guidelines.			
(a) Priority guidelines to effect desired statewide growth and distribution:			
(1) Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawai‘i’s people.			X
(2) Manage a growth rate for Hawai‘i’s economy that will parallel future employment needs for Hawai‘i’s people.			X
(3) Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State.			X
(4) Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate.			X
(5) Explore the possibility of making available urban land, low-interest loans, and housing subsidies to encourage the provision of housing to support selective economic and population growth on the neighbor islands.			X
(6) Seek federal funds and other funding sources outside the State for research, program development, and training to provide future employment opportunities on the neighbor islands.			X
(7) Support the development of high technology parks on the neighbor islands.			X

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(b) Priority guidelines for regional growth distribution and land resource utilization:			
(1) Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.			X
(2) Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.			X
(3) Restrict development when drafting of water would result in exceeding the sustainable yield or in significantly diminishing the recharge capacity of any groundwater area.			X
(4) Encourage restriction of new urban development in areas where water is insufficient from any source for both agricultural and domestic use.			X
(5) In order to preserve green belts, give priority to state capital-improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a noncontiguous new urban core.			X
(6) Seek participation from the private sector for the cost of building infrastructure and utilities, and maintaining open spaces.			X
(7) Pursue rehabilitation of appropriate urban areas.			X
(8) Support the redevelopment of Kaka'ako into a viable residential, industrial, and commercial community.			X
(9) Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized.	X		
(10) Identify critical environmental areas in Hawai'i to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreational shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources.			X
(11) Identify all areas where priority should be given to preserving rural character and lifestyle.			X
(12) Utilize Hawai'i's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations.			X
(13) Protect and enhance Hawai'i's shoreline, open spaces, and scenic resources.	X		
Discussion: The Project implements mitigating LID measures that minimize negative impacts on the environment, thereby protecting and enhancing Hawai'i's shoreline resources. The Project also maintains and enhances open spaces while preserving scenic views of Pearl Harbor.			
HRS § 226-105: Crime and criminal justice.			
Priority guidelines in the area of crime and criminal justice:			
(1) Support law enforcement activities and other criminal justice efforts that are directed to provide a safer environment.			X
(2) Target state and local resources on efforts to reduce the incidence of violent crime and on programs relating to the apprehension and prosecution of repeat offenders.			X
(3) Support community and neighborhood program initiatives that enable residents to assist law enforcement agencies in preventing criminal activities.			X
(4) Reduce overcrowding or substandard conditions in correctional facilities through a comprehensive approach among all criminal justice agencies which may include sentencing law revisions and use of alternative sanctions other than incarceration for persons who pose no danger to their community.			X
(5) Provide a range of appropriate sanctions for juvenile offenders, including community-based programs and other alternative sanctions.			X

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(6) <i>Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization.</i>			X
Discussion: The Project has no direct relationship to criminal justice.			
HRS § 226-106: Affordable housing.			
Priority guidelines for the provision of affordable housing:			
(1) <i>Seek to use marginal or nonessential agricultural land and public land to meet housing needs of low- and moderate-income and gap-group households.</i>			X
(2) <i>Encourage the use of alternative construction and development methods as a means of reducing production costs.</i>			X
(3) <i>Improve information and analysis relative to land availability and suitability for housing.</i>			X
(4) <i>Create incentives for development which would increase home ownership and rental opportunities for Hawai'i's low- and moderate-income households, gap-group households, and residents with special needs.</i>			X
(5) <i>Encourage continued support for government or private housing programs that provide low interest mortgages to Hawai'i's people for the purchase of initial owner- occupied housing.</i>			X
(6) <i>Encourage public and private sector cooperation in the development of rental housing alternatives.</i>			X
(7) <i>Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.</i>			X
(8) <i>Give higher priority to the provision of quality housing that is affordable for Hawai'i's residents and less priority to development of housing intended primarily for individuals outside of Hawai'i.</i>			X
Discussion: The Project has no relationship to affordable housing.			
HRS § 226-107: Quality education.			
Priority guidelines to promote quality education:			
(1) <i>Pursue effective programs which reflect the varied district, school, and student needs to strengthen basic skills achievement;</i>			X
(2) <i>Continue emphasis on general education "core" requirements to provide common background to students and essential support to other university programs;</i>			X
(3) <i>Initiate efforts to improve the quality of education by improving the capabilities of the education work force;</i>			X
(4) <i>Promote increased opportunities for greater autonomy and flexibility of educational institutions in their decision-making responsibilities;</i>			X
<i>Increase and improve the use of information technology in education by the availability of telecommunications equipment for:</i>			
(A) <i>The electronic exchange of information;</i>			X
(B) <i>Statewide electronic mail; and</i>			X
(C) <i>Access to the Internet.</i>			X
<i>Encourage programs that increase the public's awareness and understanding of the impact of information technologies on our lives;</i>			
(5) <i>Pursue the establishment of Hawai'i's public and private universities and colleges as research and training centers of the Pacific;</i>			X
(6) <i>Develop resources and programs for early childhood education;</i>			X
(7) <i>Explore alternatives for funding and delivery of educational services to improve the overall quality of education; and</i>			X
(8) <i>Strengthen and expand educational programs and services for students with special needs.</i>			X
Discussion: The Project has no direct relationship to education.			
HRS § 226-108: Sustainability.			
Priority guidelines and principles to promote sustainability shall include:			
(1) <i>Encouraging balanced economic, social, community, and environmental priorities;</i>	X		

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(2) <i>Encouraging planning that respects and promotes living within the natural resources and limits of the State;</i>	X		
(3) <i>Promoting a diversified and dynamic economy;</i>			X
(4) <i>Encouraging respect for the host culture;</i>			X
(5) <i>Promoting decisions based on meeting the needs of the present without compromising the needs of future generations</i>	X		
(6) <i>Considering the principles of the ahupua'a system; and</i>			X
(7) <i>Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawai'i.</i>	X		
Discussion: The Project promotes future social, community and environmental sustainability by focusing on mitigating adverse environmental impacts associated with untreated storm water. Encouraging capital improvement projects that implement LID features and storm water BMPs supports the economic and physical well-being of visitors, surrounding community members, and the public at large by ensuring decreased or negative environmental impacts to adjacent water bodies.			
HRS § 226-109: Climate change adaptation priority guidelines.			
<i>Priority guidelines to prepare the State to address the impacts of climate change, including impacts to the areas of agriculture; conservation lands; coastal and nearshore marine areas; natural and cultural resources; education; energy; higher education; health; historic preservation; water resources; the built environment, such as housing, recreation, transportation; and the economy shall:</i>			
(1) <i>Ensure that Hawai'i's people are educated, informed, and aware of the impacts climate change may have on their communities;</i>			X
(2) <i>Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies;</i>			X
(3) <i>Invest in continued monitoring and research of Hawai'i's climate and the impacts of climate change on the State;</i>			X
(4) <i>Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change;</i>			X
(5) <i>Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change;</i>			X
(6) <i>Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments;</i>			X
(7) <i>Promote sector resilience in areas such as water, roads, airports, and public health, by encouraging the identification of climate change threats, assessment of potential consequences, and evaluation of adaptation options;</i>			X
(8) <i>Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities;</i>			X
(9) <i>Use management and implementation approaches that encourage the continual collection, evaluation, and integration of new information and strategies into new and existing practices, policies, and plans; and</i>			X
(10) <i>Encourage planning and management of the natural and built environments that effectively integrate climate change policy.</i>			X
Discussion: The Project has no direct relationship to the State's climate change adaptation priority guidelines.			

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5.1.4 State Environmental Policy, Chapter 344, Hawai'i Revised Statutes

The State Environmental Policy, as defined in Chapter 344, HRS, establishes the policy of the State of Hawai'i on natural resource conservation and the environment. The Project's consistency with the State Environmental Policy is outlined in the table below:

STATE ENVIRONMENTAL POLICY, CHAPTER 344, HAWAII REVISED STATUTES (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
STATE ENVIRONMENTAL POLICY			
§344-3 Environmental policy. It shall be the policy of the State, through its programs, authorities, and resources to:			
(1) Conserve the natural resources, so that land, water, mineral, visual, air and other natural resources are protected by controlling pollution, by preserving or augmenting natural resources, and by safeguarding the State's unique natural environmental characteristics in a manner which will foster and promote the general welfare, create and maintain conditions under which humanity and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of the people of Hawaii.	X		
(2) Enhance the quality of life by:			
(A) Setting population limits so that the interaction between the natural and artificial environments and the population is mutually beneficial;			X
(B) Creating opportunities for the residents of Hawaii to improve their quality of life through diverse economic activities which are stable and in balance with the physical and social environments;			X
(C) Establishing communities which provide a sense of identity, wise use of land, efficient transportation, and aesthetic and social satisfaction in harmony with the natural environment which is uniquely Hawaiian; and			X
(D) Establishing a commitment on the part of each person to protect and enhance Hawaii's environment and reduce the drain on nonrenewable resources.	X		
Discussion: The storm water BMPs and LID measures proposed by the Project protect natural resources by controlling pollution and safeguarding the State's fresh and marine water bodies. The Project also establishes and affirms a commitment to protect and enhance Hawai'i's environment.			
GUIDELINES			
§344-4 Guidelines. In pursuance of the state policy to conserve the natural resources and enhance the quality of life, all agencies, in the development of programs, shall, insofar as practicable, consider the following guidelines:			
(1) Population.			
(A) Recognize population impact as a major factor in environmental degradation and adopt guidelines to alleviate this impact and minimize future degradation;			X
(B) Recognize optimum population levels for counties and districts within the State, keeping in mind that these will change with technology and circumstance, and adopt guidelines to limit population to the levels determined.			X
Discussion: The Project will neither encourage nor discourage population growth.			
(2) Land, water, mineral, visual, air, and other natural resources.			
(A) Encourage management practices which conserve and fully utilize all natural resources;	X		
(B) Promote irrigation and waste water management practices which conserve and fully utilize vital water resources;			X
(C) Promote the recycling of waste water;			X
(D) Encourage management practices which conserve and protect watersheds and	X		

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water sources, forest, and open space areas;			
(E) Establish and maintain natural area preserves, wildlife preserves, forest reserves, marine preserves, and unique ecological preserves;			X
(F) Maintain an integrated system of state land use planning which coordinates the state and county general plans;			X
(G) Promote the optimal use of solid wastes through programs of waste prevention, energy resource recovery, and recycling so that all our wastes become utilized.			X
Discussion: The Project proposes to implement water pollution mitigation measures that will preserve existing water quality and protect the surrounding watershed and adjacent waterbodies.			
(3) Flora and fauna.			
(A) Protect endangered species of indigenous plants and animals and introduce new plants or animals only upon assurance of negligible ecological hazard;	X		
(B) Foster the planting of native as well as other trees, shrubs, and flowering plants compatible to the enhancement of our environment.	X		
Discussion: The Project is not in any critical habitat areas, and will have no impact on endangered species. Should federally listed species of flora or fauna be detected in the Project Site, appropriate mitigation measures will be implemented (see Section 3.5). The proposed landscaping and bioretention areas provide an opportunity to plant native or other compatible flora to further enhance the environment.			
(4) Parks, recreation, and open space.			
(A) Establish, preserve and maintain scenic, historic, cultural, park and recreation areas, including the shorelines, for public recreational, educational, and scientific uses;	X		
(B) Protect the shorelines of the State from encroachment of artificial improvements, structures, and activities;			X
(C) Promote open space in view of its natural beauty not only as a natural resource but as an ennobling, living environment for its people.	X		
Discussion: The Project is located within a public open space and seeks to preserve, maintain and enhance this space for public recreational uses.			
(5) Economic development.			
(A) Encourage industries in Hawaii which would be in harmony with our environment;			X
(B) Promote and foster the agricultural industry of the State; and preserve and conserve productive agricultural lands;			X
(C) Encourage federal activities in Hawaii to protect the environment;			X
(D) Encourage all industries including the fishing, aquaculture, oceanography, recreation, and forest products industries to protect the environment;			X
(E) Establish visitor destination areas with planning controls which shall include but not be limited to the number of rooms;			X
(F) Promote and foster the aquaculture industry of the State; and preserve and conserve productive aquacultural lands.			X
Discussion: The Project has no direct relationship to the State's economic development guidelines.			
(6) Transportation.			
(A) Encourage transportation systems in harmony with the lifestyle of the people and environment of the State;			X
(B) Adopt guidelines to alleviate environmental degradation caused by motor vehicles;	X		
(C) Encourage public and private vehicles and transportation systems to conserve energy, reduce pollution emission, including noise, and provide safe and convenient accommodations for their users.			X

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Discussion: The Project will implement BMPs and LID measures that improve surface runoff water quality by removing pollutants originating from golf carts and automobiles, thereby alleviating environmental degradation caused by these motor vehicles.			
(7) Energy.			
(A) Encourage the efficient use of energy resources.			X
Discussion: The Project has no direct relationship to the State's environmental guidelines regarding energy resources.			
(8) Community life and housing.			
(A) Foster lifestyles compatible with the environment; preserve the variety of lifestyles traditional to Hawaii through the design and maintenance of neighborhoods which reflect the culture and mores of the community;	X		
(B) Develop communities which provide a sense of identity and social satisfaction in harmony with the environment and provide internal opportunities for shopping, employment, education, and recreation;	X		
(C) Encourage the reduction of environmental pollution which may degrade a community;	X		
(D) Foster safe, sanitary, and decent homes;			X
(E) Recognize community appearances as major economic and aesthetic assets of the counties and the State; encourage green belts, plantings, and landscape plans and designs in urban areas; and preserve and promote mountain-to-ocean vistas.	X		
Discussion: The Project will enhance community life in the area by providing opportunities for outdoor recreation and fostering active and healthy lifestyles compatible with the environment. The improvements also help reduce environmental pollution while preserving scenic views and open spaces with enhanced landscaping.			
(9) Education and culture.			
(A) Foster culture and the arts and promote their linkage to the enhancement of the environment;			X
(B) Encourage both formal and informal environmental education to all age groups.			X
Discussion: The Project has no direct relationship to the State's environmental guidelines regarding education and culture.			
(10) Citizen participation.			
(A) Encourage all individuals in the State to adopt a moral ethic to respect the natural environment; to reduce waste and excessive consumption; and to fulfill the responsibility as trustees of the environment for the present and succeeding generations; and	X		
(B) Provide for expanding citizen participation in the decision making process so it continually embraces more citizens and more issues.	X		
Discussion: Through the implementation of LID measures as part of this Project, the State will lead by example in adopting a moral ethic to respect and protect the natural environment. To promote citizen participation in the environmental review and decision making process, this EA discusses potential impacts and mitigation measures of the proposed Project and will provide an opportunity for public input during the Draft EA Public Comment period.			

5.2 CITY AND COUNTY OF HONOLULU

5.2.1 General Plan

The City and County of Honolulu's General Plan is the policy document for the long-range development of the Island of O'ahu. The General Plan is a statement of general conditions to be sought in the 20 year planning horizon and policies to help direct attainment of the plan's objectives.

Specific General Plan goals and policies applicable to the proposed Project are discussed below.

Natural Environment

Objective A – To protect and preserve the natural environment

Policies

- (4) *Require development projects to give due consideration to natural features such as slope, flood and erosion hazards, water- recharge areas, distinctive land forms, and existing vegetation.*
- (6) *Design surface drainage and flood-control systems in a manner which will help preserve their natural settings.*
- (7) *Protect the natural environment from damaging levels of air, water, and noise pollution.*

Objective B – To preserve and enhance the natural monuments and scenic view of O'ahu for the benefit of both residents and visitors.

- (1) *Protect the Island's well-known resources: its mountains and craters; forests and watershed areas; marshes, rivers, and streams; shoreline, fishponds, and bays; and reefs and offshore islands.*
- (2) *Protect O'ahu's scenic views, especially those seen from highly developed and heavily traveled areas.*
- (4) *Provide opportunities for recreational and educational use and physical contact with O'ahu's natural environment.*

Culture and Recreation

Objective D – To provide a wide range of recreational facilities and services that are readily available to all residents of O'ahu.

Policies

- (2) *Develop and maintain a system of regional parks and specialized recreation facilities.*

Discussion: The Project is in accordance with the City & County's goals for Culture and Recreation, and for the Natural Environment, as the proposed improvements, located on an existing City & County golf course, are part of an ongoing effort by the

City & County of Honolulu to upgrade its public recreational facilities by minimizing storm water pollutants and improving the water quality of downstream water bodies, while also maintaining and protecting scenic views.

5.2.2 Central O‘ahu Sustainable Communities Plan

The City and County of Honolulu has adopted the Central O‘ahu Sustainable Communities Plan (COSCP) as one of eight community-oriented plans to guide public policy, investment and decision making through the 2025 planning horizon. The document contains policies, principles, and guidelines specific to the Central O‘ahu region. These policies, principles, and guidelines are then implemented through ordinances such as the Land Use Ordinance (zoning code).

According to the COSCP Urban Land Use Map, the TMGC is situated on lands designated “Golf Course” (see Figure 19).

Applicable land use policies, principles, and guidelines from the COSCP include:

§3.1.1 Open space will be used to protect scenic views and provide recreation

Discussion: The Project will support the above open space preservation policy by maintaining views of Pearl Harbor and other view planes, while providing upgrades to public recreational facilities.

§3.1.4.6 Golf Courses – Guidelines

- *Golf courses should be located and designed to optimize their function as drainage retention areas and as buffers between developments.*
- *Golf courses should be designed to provide view amenities for adjacent urban areas, including public rights-of-way.*

Discussion: The proposed Project is consistent with the above guidelines, as it will provide LID measures to improve drainage and storm water quality, while preserving views of Pearl Harbor.

§4.6.1 Drainage Systems – General Policies

- *Drainage system design should emphasize control and minimization of nonpoint source pollution and the retention and/or detention of storm water on-site and in appropriate open space and wetland areas.*
- *Storm water should be viewed as a potential irregular source of water for recharge of the aquifer which should be retained for absorption rather than quickly moved to coastal waters.*
- *Natural and man-made vegetated drainageways and retention basins should be the preferred solution to drainage problems wherever they could promote water recharge, help control nonpoint source pollutants, and provide passive recreation benefits.*

§4.6.2 Drainage Systems – Planning Principles

- a) *Retention and Detention.* Public and private agencies should employ methods of retaining or detaining storm water as the preferred strategy for management of nonpoint source pollutants in storm water. Where feasible, any open space, including parking lots, landscaped areas, mini and community parks, and public and private golf courses should be used to detain or infiltrate storm water flows to reduce their volume and runoff rates, and the amounts of sediments and pollutants transported.

Discussion: The proposed Project is consistent with the above policies and principles, as it will incorporate BMPs and LID measures such as bioretention areas designed to control and minimize nonpoint source pollution and retain storm water on-site, allowing greater infiltration and absorption rather than quick transport to coastal waters.

5.2.3 Land Use Ordinance

The Land Use Ordinance (LUO), Chapter 21 of the Revised Ordinances of the City and County of Honolulu (ROH), implements the goals and objectives of the General Plan and the Central O‘ahu SCP. All lands within the City and County of Honolulu are zoned into specific districts. According to the Department of Planning and Permitting, the Project Site is zoned General Preservation (P-2) (see Figure 20).

According to the LUO Master Use Table (Table 21-3 of the LUO), public uses and structures are permitted in all zoning districts. In the P-2 zoning district, golf courses are a permitted use subject to the standards in Section 5:

§21-5.280 Golf Courses

In the P-2 zoning district, the following standards shall apply:

- a) *Golf courses shall be permitted in the P-2 general preservation district only when consistent with the city's development plans. Golf courses on P-2 zoned land shall be deemed consistent with the development plans only when situated on lands designated preservation, parks and recreation, or golf course on the development plan land use maps.*
- b) *Uses accessory to a golf course shall be designed and scaled to meet only the requirements of the members, guests or users of the facility.*
- c) *Approval of requests for golf courses may be based on the following additional criteria:*
- (1) Encouraging the use of nonpotable water for irrigation, including sewage effluent and brackish water, or other means to reduce the need for use of potable water, subject to the approval of a proposed irrigation plan by the state departments of health and land and natural resources and the city board of water supply;*
 - (2) Provisions to enhance the opportunities for public play for Hawaii residents;*
 - (3) Programs to minimize and monitor the environmentally detrimental effects of the application of fertilizers, pesticides and herbicides;*
 - (4) Programs to address any displacement of existing uses and residents;*

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- (5) *The compatibility of the proposed golf course with both existing and planned surrounding uses;*
- (6) *Preservation or enhancement of greenbelts or open space, historic and natural resources, and public views; and*
- (7) *Any other impacts which may potentially affect surrounding uses and residents.*

Discussion: The proposed Project is consistent with the LUO in that the municipal golf course is a public use permitted in all zoning districts, and is a permitted use in the P-2 general preservation district, only when consistent with the City's development plans. The Central O‘ahu Sustainable Communities Plan (COSCP) Urban Land Use Map indicates that the TMGC is situated on lands designated “Golf Course” (see Figure 19). Moreover, the Project involves improvements to accessory uses (parking lot and maintenance yard facilities) that are designed and scaled to meet only the requirements of the members, guests, users, and staff of the facility. Project specifications thus comply with the development standards for golf courses in the P-2 zoning district, as outlined in §21-5.280 of the LUO.

5.2.4 Special Management Area

As shown in Figure 21, the Project is located in the Special Management Area (SMA), and is thus subject to the provisions of Chapter 25, ROH. During the pre-assessment consultation process, DPP provided the following comment:

“The site is also in the Special Management Area (SMA); development within the SMA requires an SMA Permit. An SMA Permit (Minor) is required if the valuation of the improvements do not exceed \$500,000; an SMA Use Permit (Major) is required if the valuation exceeds \$500,000.”

According to §25-3.1, ROH, the objectives and policies of Chapter 25 are those of the CZM Program (§205A-2, HRS), which is discussed in Section 5.1.2 above. The guidelines for the review of developments proposed in the SMA are set forth in §25-3.2, ROH, and are discussed in the table below:

SPECIAL MANAGEMENT AREA, CHAPTER 25, ROH (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
§25-3.2 REVIEW GUIDELINES			
The following guidelines shall be used by the [city] council or its designated agency for the review of developments proposed in the special management area.			
(a) All development in the special management area shall be subject to reasonable terms and conditions set by the council to ensure that:			
(1) 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;	X		
(2) Adequate and properly located public recreation areas and wildlife preserves are reserved;	X		
(3) Provisions are made for solid and liquid waste treatment, disposition and management which will minimize adverse effects upon special management area resources; and	X		

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SPECIAL MANAGEMENT AREA, CHAPTER 25, ROH (Key: S = Supportive, N/S = Not Supportive, N/A = Not Applicable)	S	N/S	N/A
(4) Alterations to existing land forms and vegetation; except crops, and construction of structures shall cause minimum adverse effect to water resources and scenic recreational amenities and minimum danger of floods, landslides, erosion, siltation or failure in the event of earthquake.	X		
Discussion: The proposed Project is a recreational resource in the SMA, and will not affect access to or availability of this or other publicly owned or used beaches, recreation areas, and natural reserves. The thrust of the Project is stormwater pollution prevention, and a Project goal is to minimize non-point source pollution and to improve the water quality of downstream and nearshore resources.			
(b) No development shall be approved unless the [city] council has first found that:			
(1) 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 and safety, or compelling public interest. Such adverse effect 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;	X		
(2) The development is consistent with the objectives and policies set forth in Section 25-3.1 and area guidelines contained in HRS Section 205 A 26;	X		
(3) The development is consistent with the county general plan, development plans and zoning. Such a finding of consistency does not preclude concurrent processing where a development plan amendment or zone change may also be required.	X		
Discussion: As a Project goal is to minimize non-point source pollution and to improve the water quality of downstream or nearshore resources, the proposed Project is not anticipated to have any substantial, adverse environment or ecological effect, nor is it anticipated to have a cumulative adverse impact. The Project is consistent with the objectives and policies set forth in §25-3.1, ROH (see the discussion on the Coastal Zone Management Program in Section 5.1.2 above) and SMA guidelines contained in §205A-26, HRS (which are identical to the review guidelines contained in §25-3.2, ROH). As discussed in Sections 5.2.1, 5.2.2, and 5.2.3 above, the proposed Project is consistent with the City & County of Honolulu General Plan, Central O’ahu Sustainable Communities Plan, and Land Use Ordinance (zoning), respectively.			
(c) The [city] council shall seek to minimize, where reasonable:			
(1) Dredging, filling or otherwise altering any bay, estuary, salt marsh, river mouth, slough or lagoon;			X
(2) Any development which would reduce the size of any beach or other area usable for public recreation;			X
(3) 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 area and the mean high tide line where there is no beach;			X
(4) 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			X
(5) 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.			X
Discussion: The proposed Project will not involve: (1) dredging, filling, or altering any bay, estuary, salt marsh, river mouth, slough, or lagoon; (2) reducing the size of any beach or other area usable for public recreation; (3) reducing or imposing restrictions upon public access to tidal and submerged lands, beaches, portions of rivers and streams within the SMA and the mean high tide line where there is no beach; (4) interfering with or detracting from the line of sight toward the sea from the state highway nearest the coast (see Section 4.5 Visual Resources above); or (5) adversely affecting 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. As a Project goal is to minimize non-point source pollution and to improve the water quality of downstream or nearshore resources, the Project is not anticipated to adversely affect the environment.			

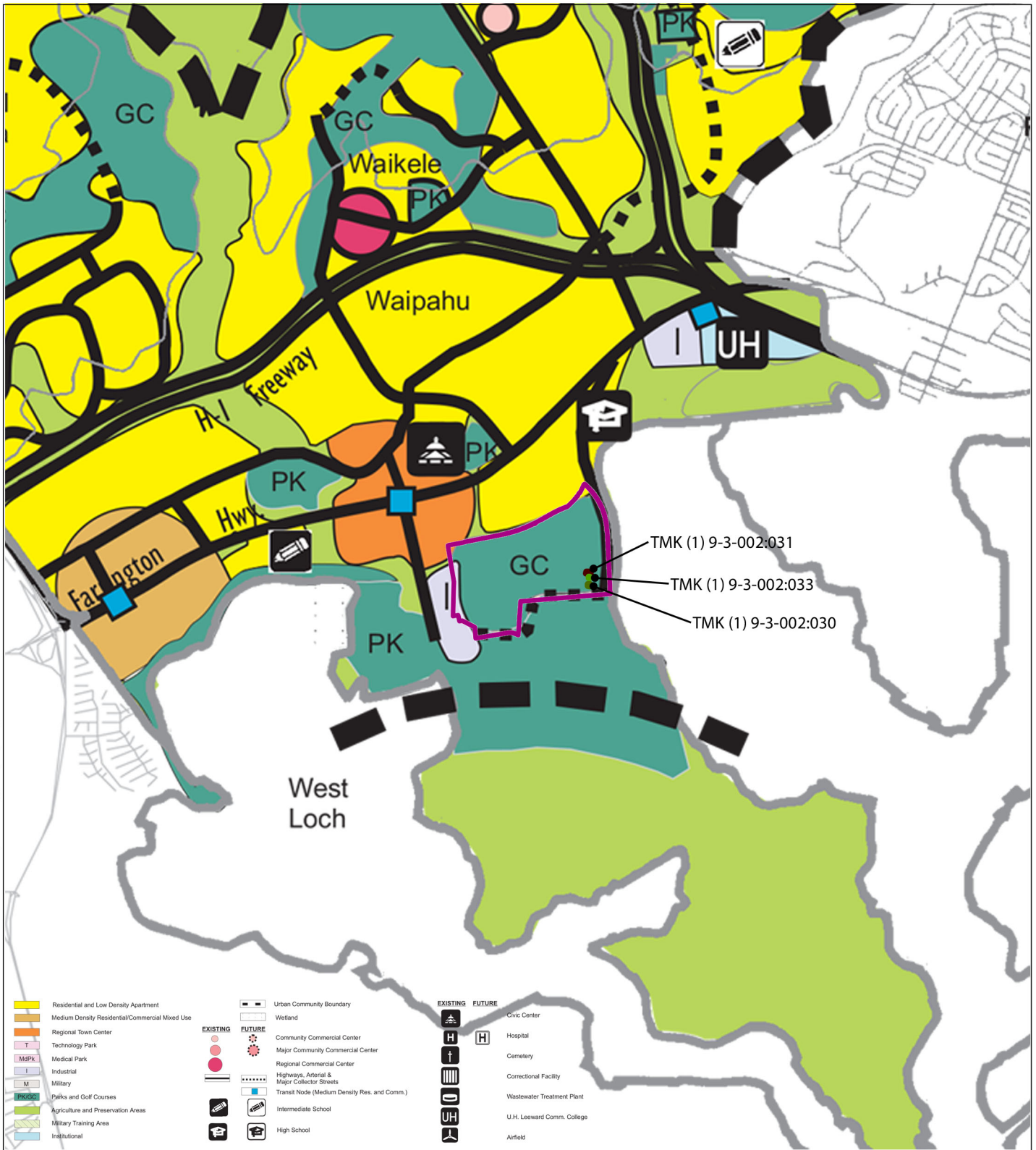



Figure 19
 Central Oahu
 Sustainable Communities Plan
**TED MAKALENA GOLF COURSE
 NPDES IMPROVEMENTS**

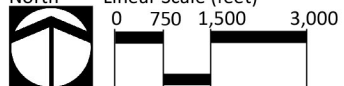
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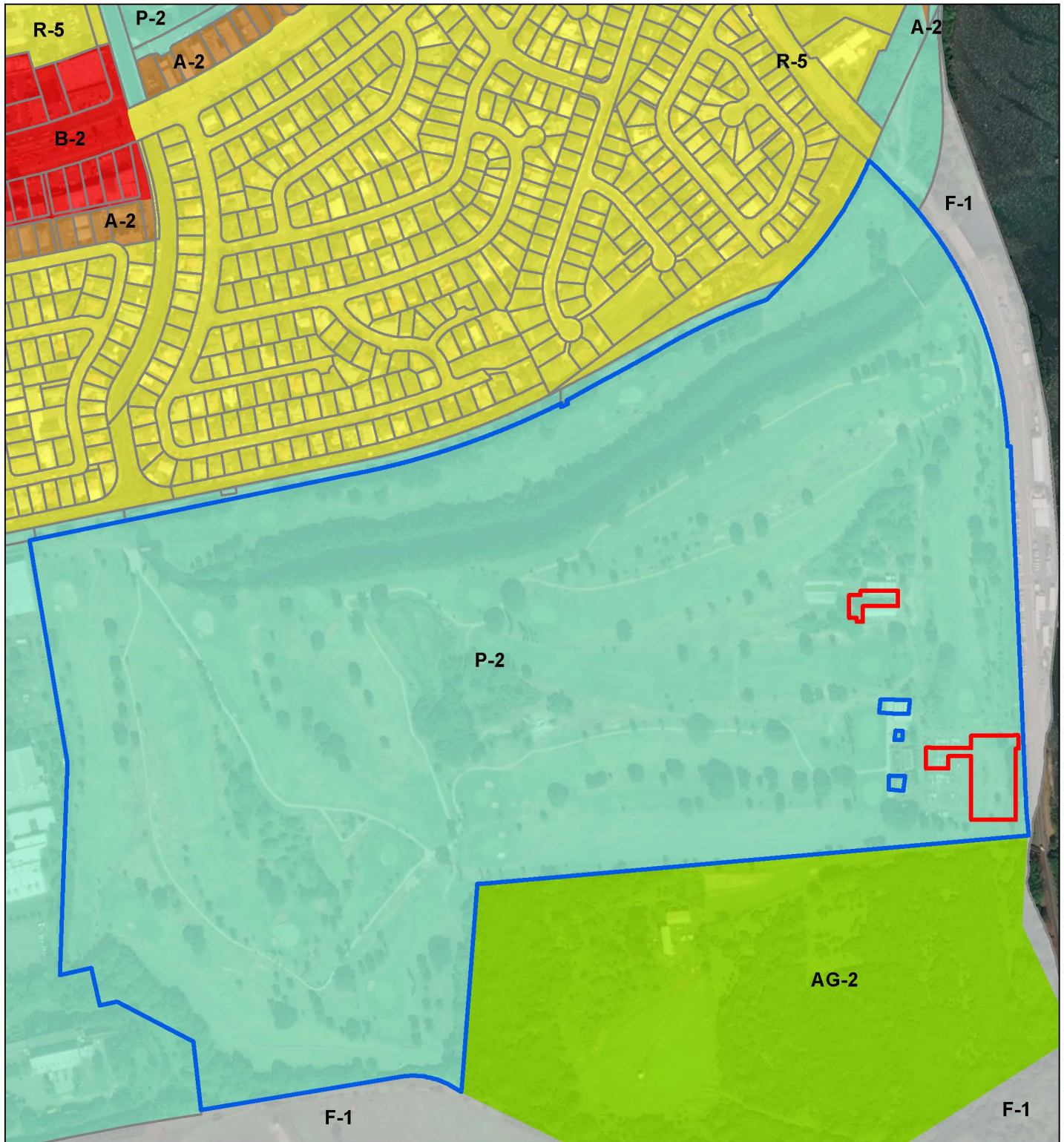
Ted Makalena Golf Course
 TMK (1) 9-3-002:034



City and County of Honolulu
 North
 Linear Scale (feet)
 0 750 1,500 3,000




Source: City & County of Honolulu, Department of Planning & Permitting, 2002. City and County of Honolulu, 2017.
 Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.



Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

DATE: 10/24/2017

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






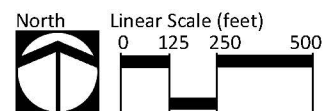
- | | |
|---|--|
|  Project Scope | Zoning |
|  Ted Makalena Golf Course Parcel |  P-2 General Preservation |
|  Tax Map Key Parcels |  F-1 Federal and Military |
| |  AG-2 General Agriculture |
| |  R-5 Residential |
| |  A-2 Medium Density Apt. |
| |  B-2 Community Business |

Figure 20:
City and County of Honolulu Zoning

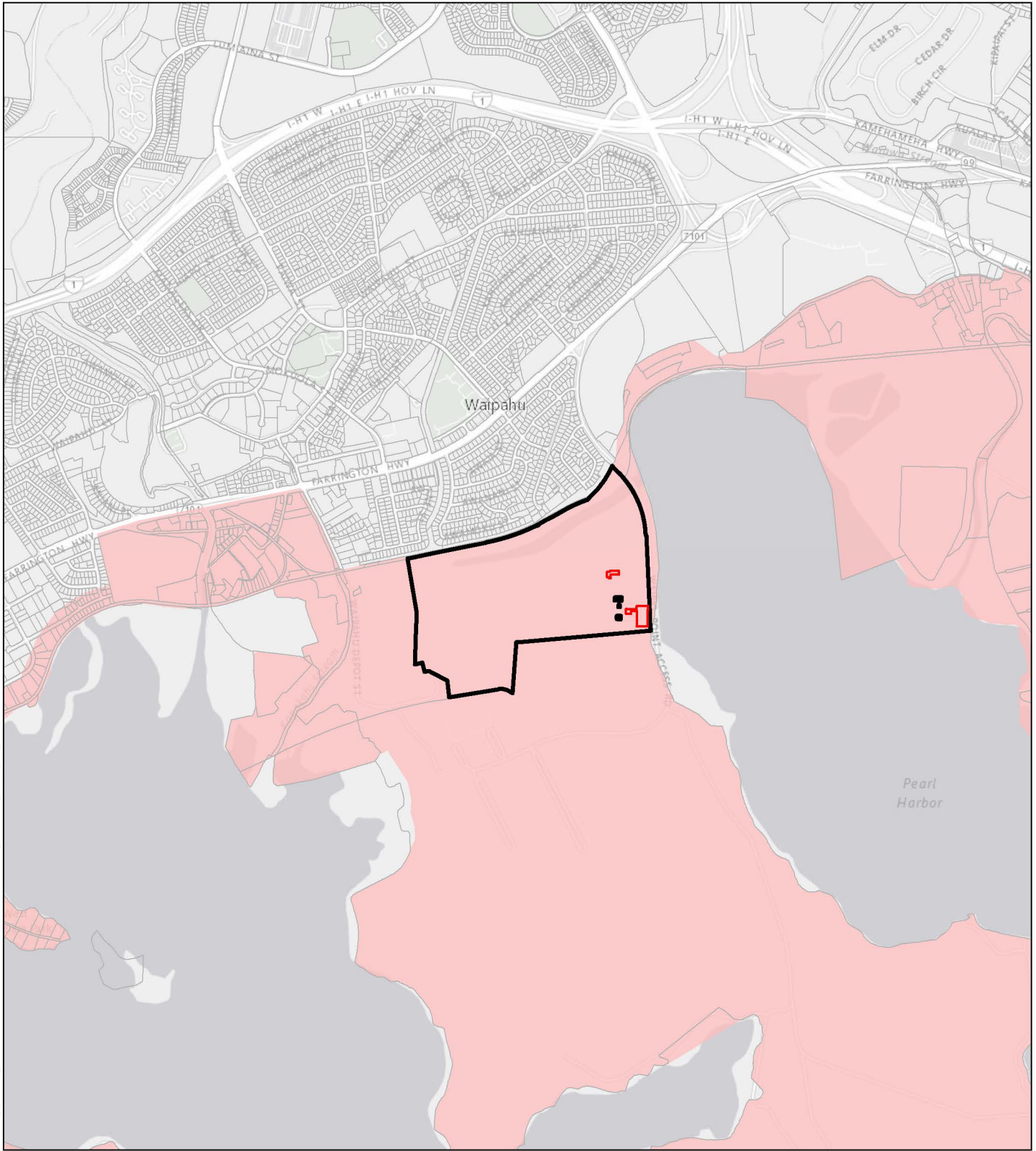
**TED MAKALENA GOLF COURSE
NPDES IMPROVEMENTS**

CITY AND COUNTY OF HONOLULU

O'ahu



PDF: Q:\Oahu\Ted Makalena Golf Course - NPDES MS4 (EA+SMA)\PDF
Path: Q:\Oahu\Ted Makalena Golf Course - NPDES MS4 (EA+SMA)\GIS\Project\SMA TMGC.mxd



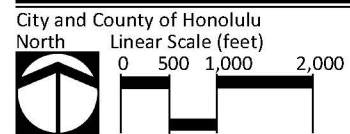
DATE: 10/20/2017

LEGEND

-  Project Scope
-  Ted Makalena Golf Course Parcel
-  Tax Map Key Parcels
-  Special Management Area

Figure 21:
Special Management Area (SMA)

**TED MAKALENA GOLF COURSE
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O'ahu



Source: City & County of Honolulu, 2017. Esri Online Basemaps.
Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

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5.3 LIST OF REQUIRED PERMITS AND APPROVALS

Anticipated permits and approvals that may be required are outlined in Table 5-1, below.

Table 5-1 Required Permits and Approvals

AGENCY	PERMIT/APPROVAL
STATE OF HAWAI'I	
Office of Environmental Quality Control	<ul style="list-style-type: none"> • Chapter 343, HRS Compliance
Department of Health	<ul style="list-style-type: none"> • Dust Control Plan (if necessary) • Noise Permit (if necessary)
Department of Health – Disability and Communication Access Board	<ul style="list-style-type: none"> • Americans with Disabilities Act Compliance
Department of Transportation	<ul style="list-style-type: none"> • Highways Division Permit (if necessary)
CITY AND COUNTY OF HONOLULU	
Department of Planning and Permitting	<ul style="list-style-type: none"> • Special Management Area Use Permit – Major • Grading Permit • Grubbing Permit • Stockpiling Permit • Building Permit • Storm Drain Connection License
Department of Transportation Services	<ul style="list-style-type: none"> • Street Usage Permit

6.0 ALTERNATIVES

In compliance with the provisions of Section 11-200-17(f), HAR relating to Environmental Impact Statements, an environmental assessment must discuss potential alternatives to the proposed action. The alternatives considered include:

6.1 NO ACTION

The no-action alternative would be to introduce no change to the existing site. Under this alternative, the proposed Ted Makalena Golf Course NPDES Improvements would not be constructed. Without the proposed Project, the Project Site would maintain the status quo, and would leave the City and County of Honolulu vulnerable to fines by the Department of Health for illicit discharges and violations of the NPDES General permit. This would result in adverse impacts to the environment in the form of non-point source pollution and degraded water quality.

6.2 ALTERNATIVES

Alternative 1: Parking Lot Expansion and Maintenance Yard Driveway Only

This alternative would limit the Project to adding hardened surfaces, i.e., the new paved parking spaces to the existing lot, as well as the new concrete driveway to the maintenance yard area. This option would address the parking shortage by adding a number of parking stalls as assessed by the City's golf course management staff, and it would satisfy ADA parking stall slope requirements, based on the 2010 Standards for Accessible Guidelines. This option would also provide a concrete area for washing and maintaining golf carts. However, this alternative would not satisfy the need for improved pollutant management or the heightened NPDES requirements.

Alternative 2: LID Measures Only

This alternative would entail only the construction of bioretention areas and other LID measures specified in the Project description. This alternative would address NPDES requirements, by filtering runoff pollutants. Bioretention was chosen for this over inlet filters and grass paving systems due to the low maintenance and high filtration qualities, as well as the existing familiarity of on-site DES staff with the routine maintenance. However, if taken alone, these LID measures would not address the parking shortage or the impacts caused by cars parked on the denuded overflow parking area.

Alternative 3: Both Parking Lot Expansion and LID Measures

This alternative would include not only the parking lot expansion and maintenance yard driveway, but also the NPDES Improvements, thereby satisfying both the need for better pollutant management to achieve national NPDES standards, and the need for more ADA-accessible and general parking lot stalls. This alternative is the most-preferred by the City and County of Honolulu as it would address liability concerns while protecting and improving water resources and public access to the recreational services of the golf course.

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7.0 FINDINGS, SUPPORTING REASONS, AND ANTICIPATED DETERMINATION

To determine whether the Ted Makalena Golf Course NPDES Improvements may have a significant impact on the physical and human environment, all components and expected consequences of the proposed Project have been evaluated, including potential primary, secondary, short-range, long-range, and cumulative impacts. Based on this evaluation, the Approving Agency (City and County of Honolulu, Department of Design and Construction) issues a Finding of No Significant Impact (FONSI) for the Project. The supporting rationale for this finding is presented in this chapter.

7.1 PROBABLE IMPACT, INCLUDING CUMULATIVE IMPACTS

Cumulative impacts are impacts on the environment that result from the action when added to other past, present, and foreseeable future actions by other agencies or persons. Examples of possible cumulative impacts of a proposed action could be those related to increased traffic and greater demand on water, sanitary sewer and storm drainage capacity.

The present configuration of drainage infrastructure at the existing parking lot and maintenance yard does not meet the current requirements of national NPDES standards. The planned Project will address this deficit, and is also anticipated to have beneficial long-term and cumulative impacts on the physical environment. This includes impacts to the local watershed and nearby water resources, especially when compared with the long-term and cumulative impacts of the TMGC's status quo operations.

Socio-economic impacts resulting from the proposed Project are anticipated to be beneficial. Construction generates employment and economic opportunities. The NPDES Improvements will provide the Ted Makalena Golf Course with the improved storm water drainage infrastructure necessary to address NPDES Standards and mitigate polluted runoff from the parking lot and maintenance yard facilities, while continuing to deliver quality recreational services to its visitors. Overall, the net cumulative impact is expected to have a positive effect on visitors and the broader community.

7.2 SIGNIFICANCE CRITERIA

Based upon the previous information presented in this document, the proposed Ted Makalena Golf Course NPDES Improvements will likely have no significant environmental impacts. This determination is based upon the Significance Criteria outlined in Chapter 343, HRS, as amended and Title 11 Chapter 200, HAR (1996), discussed on the following pages.

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- (1) *Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;***

The Project Site's status as an existing paved and landscaped area, plus prior land disturbance suggests that the site is absent any resources potentially subject to irrevocable loss as a result of construction.

- (2) *Curtails the range of beneficial uses of the environment;***

The Ted Makalena Golf Course NPDES Improvements will not curtail the range of beneficial uses of the environment, as the site is currently developed.

- (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 Environmental Policies enumerated in Chapter 344, HRS promote conservation of natural resources, and an enhanced quality of life for all citizens. As detailed in Section 5.1.4 above, the proposed NPDES Improvements do not conflict with the State's long-term environmental policies, goals, or guidelines as expressed in Chapter 344, HRS, and will not significantly impact natural resources due to the fact that the site is already developed.

- (4) *Substantially affects the economic or social welfare of the community or State;***

The proposed improvements will positively influence social and economic welfare by facilitating the use of public lands in an environmentally responsible manner, while enhancing the recreational experience for future visitors and service industry employees; meanwhile, the scope of the construction Project will provide a moderate positive contribution to the construction industry. Further, there will be positive impacts for golf course users, families, and even possibly the community at large from improved access to recreational resources.

- (5) *Substantially affects public health;***

The potential public health impacts related to noise, air or water quality during construction will be mitigated through best management practices in compliance with Federal, State and County requirements. The City and County of Honolulu's initiative to build sustainably will help to ensure that the proposed NPDES Improvements will not negatively affect public health. In the long-term, as the golf course facilities promote an active lifestyle among the general public, the Project is anticipated to have a net positive effect on public health.

- (6) *Involves substantial secondary impacts, such as population changes or effects on public facilities;***

Although access to the public facilities at TMGC is anticipated to be improved as a result of the planned Project, the County foresees no increase in visitor numbers or impacts to the population

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as a result of the proposed NPDES Improvements, as the Project will address needs at the existing and currently-planned visitor levels. The improved facilities provided will help current visitors access the public through increased availability of paved parking.

(7) *Involves a substantial degradation of environmental quality;*

No substantial environmental degradation is anticipated. As a goal of the proposed improvements is to decrease the amount of surface water pollutants and improve the water quality of downstream water bodies, the Project is anticipated to reduce negative impacts to the environment.

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

The proposed action will not have any substantial negative secondary impacts on the environment. Implementation of the proposed Project will not commit the County to any other larger actions, and will not generate any additional actions having a cumulative effect on the environment.

(9) *Substantially affects a rare, threatened or endangered species or its habitat;*

The NPDES Improvements will occupy a site that is already committed to a portion of an existing landscaped area and parking lot. The site has been determined to contain no habitats for rare, threatened or endangered plant or animal species.

(10) *Detrimentially affects air or water quality or ambient noise levels;*

Air Quality: No State or Federal air quality standards will be violated during or after the construction of the TMGC NPDES Improvements.

Water Quality: No State or Federal water quality standards will be violated during or after the construction of the TMGC NPDES Improvements.

Ambient Noise Levels: Construction activities for the Project will inevitably create temporary noise impacts. The developer may employ mitigation measures to minimize those temporary noise impacts including the use of mufflers and implementing construction curfew periods. Pursuant to Chapter 11-46, Hawai'i Administrative Rules, the Project activities will comply with all community noise controls.

(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, fresh water, or coastal waters;*

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The Project Site does not lie in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, estuary, freshwater or coastal waters. Likewise, the Project is not anticipated to have any impact on any natural hazard conditions.

(12) *Substantially affects scenic vistas and view planes identified in County or State plans or studies; or,*

Since the Project does not include any structural components above ground level, it is not anticipated to affect views to/from the surrounding built environment (the existing buildings of the TMGC), or to ocean views from the Project Site. No identified scenic vistas or view planes will be affected.

(13) *Requires substantial energy consumption.*

The proposed Project will not require substantial energy consumption beyond the energy required for construction of the Project components.

7.3 DETERMINATION

On the basis of impacts and mitigation measures examined in this document and analyzed under the above criteria, it has been determined that the TMGC NPDES Improvements will not have a significant effect on the physical or human environments. Pursuant to Chapter 343, HRS, the approving agency, the City and County of Honolulu, Department of Design and Construction, issues a Finding of No Significant Impact (FONSI).

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APPENDIX A

Pre-Assessment Consultation Comment Letters and Responses





United States Department of the Interior



FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96850

In Reply Refer To:
01EPIF00-2017-TA-0208

OCT 18 2017

Mr. Greg Nakai
Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Subject: Pre-Assessment Consultation for an Environmental Assessment - Ted Makalena
Golf Course NPDES Improvements, Waipahu, Oahu

Dear Mr. Nakai:

The U.S. Fish and Wildlife Service (Service) received your letter on September 21, 2017, requesting our comments on proposed improvements at the Ted Makalena Golf Course. The project is located on 0.9 acres (total parcel area 150.5 acres) at 93-059 Waipio Point Access Road, Waipahu, Oahu [TMK: (1) 9-3-002:034]. We understand Sam O. Hirota, Inc. has subcontracted PBR Hawaii & Associates, Inc. to prepare the Environmental Assessment (EA) for the project in accordance with Chapter 343, Hawaii Revised Statutes. The project improvements involve incorporating Low Impact Development (LID) measures such as bioretention areas and inlet filters with hydrocarbon absorbent pads to improve the water quality of the storm drainage runoff from the parking lot and maintenance yard. The asphalt concrete (AC) parking lot extension will include new bioretention areas, street trees, AC pavement, curb and gutters, wheel stops, and ADA stalls. The maintenance yard portion will include a new bioretention area, concrete driveway, two new drain inlets (with inlet protection), and a new 12" drainline.

We offer the following comments for your consideration. Our comments are provided under the authorities of the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*), as amended (ESA); National Environmental Policy Act of 1969 [42 U.S.C. 4321 *et seq.*; 83 Stat. 401], as amended (NEPA); Fish and Wildlife Coordination Act of 1934 (16 U.S.C. 661 *et seq.*; 48 Stat. 401); and Migratory Bird Treaty Act of 1918 (MBTA) (16 U.S.C. 703-712), among others.

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 in accordance with section 7 of the ESA. There is no federally designated critical habitat within the immediate vicinity of the proposed project. Our data indicate that the following federally listed species may occur or transit through the vicinity of the proposed project area: the endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*); the

endangered Hawaiian stilt (*Himantopus mexicanus knudseni*), endangered Hawaiian coot (*Fulica alai*), endangered Hawaiian gallinule (*Gallinula galeata sandvicensis*), endangered Hawaiian duck (*Anas wyvilliana*) (hereafter collectively referred to as Hawaiian waterbirds); the endangered Hawaiian goose (*Branta sandvicensis*); the endangered Hawaiian petrel (*Pterodroma sandwichensis*), the endangered band-rumped storm-petrel (*Oceanodroma castro*), the threatened Newell's shearwater (*Puffinus auricularis newelli*), and the wedge-tailed shearwater (*Ardenna pacificus*), a seabird species federally protected under the MBTA (hereafter collectively referred to as Hawaiian seabirds).

Hawaiian hoary bat

The Hawaiian hoary bat roosts in both exotic and native woody vegetation across all islands and will leave young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping 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.

To minimize impacts to the endangered Hawaiian hoary bat we recommend you consider incorporating the following measure into your project description:

- Woody plants greater than 15 feet tall will not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15).

Hawaiian waterbirds

Listed Hawaiian waterbirds are found in fresh and brackish-water marshes and natural or man-made ponds. Hawaiian stilts may also be found wherever ephemeral or persistent standing water may occur. Hawaiian stilt nesting occurs from mid-February through August. Hawaiian coot nesting occurs primarily from March through September, although some nesting occurs in all months of the year. Hawaiian gallinules nest year-round, but mostly from March through August. For the Hawaiian duck nesting can occur year round. Threats to these species include non-native predators, habitat loss, and habitat degradation. Hawaiian ducks are also subject to threats from hybridization with introduced mallards. If a nest is present, potential impacts include parents being flushed from the nest for extended periods of time causing the nest to fail (e.g., exposed to predation) or eggs or chicks being crushed by humans or equipment.

To avoid and minimize potential project impacts to Hawaiian waterbirds we recommend you consider incorporating the following applicable measures into your project description:

- In areas where waterbirds are known to be present, post and implement reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site.
- If water resources are located within or adjacent to the project site, incorporate applicable best management practices regarding work in aquatic environments into the project design.
- Have a biological monitor that is familiar with the species' biology conduct Hawaiian waterbird nest surveys where appropriate habitat occurs within the vicinity of the proposed project site prior to project initiation. Repeat surveys again within three days of

project initiation and after any subsequent delay of work of three or more days (during which the birds may attempt to nest). If a nest or active brood is found:

- Contact the Service within 48 hours for further guidance.
- Establish and maintain a 100-foot buffer around all active nests and/or broods until the chicks/ducklings have fledged. Do not conduct potentially disruptive activities or habitat alteration within this buffer.
- Have a biological monitor that is familiar with the species' biology present on the project site during all construction or earth moving activities until the chicks/ducklings fledge to ensure that Hawaiian waterbirds and nests are not adversely impacted.

Hawaiian goose

Hawaiian geese have been documented at various sites on O'ahu and have been seen regularly traversing between Mililani at the Agricultural 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. They have been observed at the Honouliuli Unit of the Pearl Harbor National Wildlife Refuge. They are observed in a variety of habitats, but prefer open areas, such as natural grasslands and shrublands, pastures, wetlands, golf courses, and lava flows. Threats to the species include introduced mammalian and avian predators, wind facilities, and vehicle strikes.

We recommend you consider incorporating the following applicable measures into your project description to avoid and minimize impacts to Nene:

- Do not approach, feed, or otherwise disturb Nene.
- If Nene are observed loafing or foraging within the project area during the Nene breeding season (September through April), have a biologist familiar with the nesting behavior of Nene survey for nests in and around the project area prior to the resumption of any work. Repeat surveys after any subsequent delay of work of three or more days (during which the birds may attempt to nest).
 - Cease all work immediately and contact the Service for further guidance if a nest is discovered within a radius of 150 feet of proposed work, or a previously undiscovered nest is found within said radius after work begins.
- In areas where Nene are known to be present, post and implement reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site.

Hawaiian seabirds

Hawaiian seabirds may traverse the project area at night during the breeding season (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable.

To minimize potential project impacts to all Hawaiian seabirds we recommend you consider incorporating the following applicable measures into your project:

- Fully shield all outdoor lights so the bulb can only be seen from below bulb height and only use when necessary.
- Install automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
- Avoid nighttime construction during the seabird fledging period, September 15 through December 15.

Because the proposed project will involve work within close proximity to the aquatic environment, we are attaching the Service's recommended Best Management Practices regarding sedimentation and erosion in aquatic environments. We encourage you to incorporate the relevant practices into your project design.

If 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.

We look forward to reviewing the Draft EA. If you have questions regarding these comments, please contact Leila Nagatani, Fish and Wildlife Biologist (phone: 808-792-9400, email: leila_nagatani@fws.gov). When referring to this project, please include this reference number: 01EPIF00-2017-TA-0208.

Sincerely,



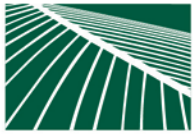
Aaron Nadig
Island Team Manager
O'ahu, Kaua'i, North Western Hawaiian
Islands and American Samoa

Enclosures: 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) recommends 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.



PBR HAWAII
& ASSOCIATES, INC.

November 27, 2017

Mr. Aaron Nadig
Island Team Manager
O'ahu, Kaua'i, Northwestern 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

Attn: Ms. Leila Nagatani, Fish and Wildlife Biologist

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Nadig:

Thank you for your letter dated October 18, 2017 (your reference number 01EPIF00-2017-TA-0208), regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comments and provide the following response.

We appreciate the information provided regarding: 1) the lack of a federally designated critical habitat within the immediate vicinity of the proposed project; 2) endangered, threatened, and protected species that could be impacted by the proposed improvements; 3) recommended measures to mitigate potential impacts to these species; and 4) recommended Best Management Practices to control sedimentation and erosion in aquatic environments. This information will be included in the Draft Environmental Assessment (DEA).

We value your participation in the environmental review process. Your letter will be reproduced in the forthcoming DEA.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Jon Loeswick – Sam O. Hirota, Inc.

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
President / Principal

RUSSELL Y. J. CHUNG, FASLA, LEED® AP BD+C
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Vice-President / Principal

GRANT T. MURAKAMI, AICP, LEED® AP BD+C
Vice-President / Principal

TOM SCHNELL, AICP
Principal

KIMI MIKAMI YUEN, LEED® AP BD+C
Principal

W. FRANK BRANDT, FASLA
Chairman Emeritus

ANN MIKIKO BOUSLOG, PhD
Project Director

RAMSAY R. M. TAUM
Cultural Sustainability Planner

RAYMOND T. HIGA, ASLA
Senior Associate

CATIE CULLISON, AICP
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SCOTT MURAKAMI, ASLA, LEED® AP
Associate

DACHENG DONG, LEED® AP
Associate

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Associate

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Honolulu, Hawai'i 96813-3484
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O:\Job28\2875.01_02 Ted Makalena Golf Course - NPDES MS4\EA\Pre-Consultation\Comments and Responses\Responses\Federal_USFWS response.docx

DAVID Y. IGE
GOVERNOR



RODERICK K. BECKER
Comptroller

AUDREY HIDANO
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

P.O. BOX 119, HONOLULU, HAWAII 96810-0119

OCT - 6 2017

(P)1338.7

Mr. Greg Nakai
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Nakai:

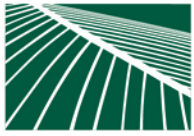
Subject: Pre-Assessment Consultation for a HRS Chapter 343 Environmental Assessment
Ted Makalena Golf Course NPDES Improvements
Waipahu, Oahu, Hawaii
TMK: (1) 9-3-002:034 (por.)

Thank you for the opportunity to provide comments for the subject project. This project does not impact any of the Department of Accounting and General Services' projects or existing facilities in this area, and we have no comments to offer at this time.

If you have any questions, your staff may contact Mr. Kimo Marion of the Public Works Division at 586-0491.

Sincerely,

RODERICK K. BECKER
Comptroller



PBR HAWAII
& ASSOCIATES, INC.

November 27, 2017

Mr. Roderick K. Becker
Comptroller
State of Hawai'i
Department of Accounting and General Services
P.O. Box 119
Honolulu, Hawai'i 96810-0119

Attn: Mr. Kimo Marion, Public Works Division

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Becker:

Thank you for your letter dated October 6, 2017 (your reference number (P)1338.7), regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comment that the subject project does not impact any of the Department of Accounting and General Services' projects or existing facilities in this area, and that you have no comments to offer at this time.

We value your participation in the environmental review process. Your letter will be included in the forthcoming Draft Environmental Assessment.

Sincerely,
PBR HAWAII

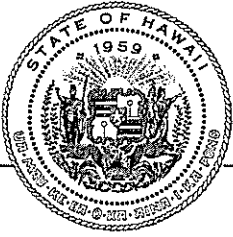
Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Jon Loeswick – Sam O. Hirota, Inc.

O:\Job28\2875.01_02 Ted Makalena Golf Course - NPDES MS4\EA\Pre-Consultation(Comments and Responses)\Responses\State_DAGS response.docx

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OFFICE OF PLANNING STATE OF HAWAII

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
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Telephone: (808) 587-2846
Fax: (808) 587-2824
Web: <http://planning.hawaii.gov/>

DAVID Y. IGE
GOVERNOR

LEO R. ASUNCION
DIRECTOR
OFFICE OF PLANNING

DTS201710231515

October 24, 2017

Mr. Greg Nakai
Planner
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Nakai:

Subject: Pre-Assessment Consultation for a HRS Chapter 343 Environmental Assessment – Ted Makalena Golf Course National Pollutant Discharge Elimination System Improvements, Waipahu, Oahu, Hawaii; TMK: (1) 9-3-002: 034

Thank you for the opportunity to provide comments on the pre-consultation request for the preparation of a Draft Environmental Assessment (Draft EA) for proposed improvements to the drainage infrastructure and onsite stormwater management at the Ted Makalena Golf Course. The pre-consultation review material was transmitted to our office via letter dated September 20, 2017.

The purpose of this project is to implement several best management practices (BMP) to reduce pollutants by drainage runoff from facilities operated and managed by the City and County of Honolulu. It is our understanding that the City and County of Honolulu, Department of Environmental Services proposes storm runoff pollutant mitigation improvements to the Ted Makalena Golf Course. Along the golf course, unpaved heavily trafficked areas have exposed soil that poses an erosion risk. To mitigate for this, low impact development (LID) measures such as bioretention areas, and inlet filters with hydrocarbon absorbent pads will be installed around the maintenance yard and parking lot.

The Office of Planning (OP) has reviewed the transmitted material and has the following comments to offer:

1. Pursuant to Hawaii Administrative Rules (HAR) § 11-200-10(4) – general description of the action's technical, economic, social, and environmental characteristics, this project must demonstrate that it is consistent with a number of state environmental, social, economic goals, and policies. Hawaii Revised Statutes (HRS) Chapter 226, the Hawaii State Planning Act, provides goals, objectives, policies, planning coordination and implementation, and priority guidelines for growth, development, and the allocation of resources throughout the state.

The Draft EA should include a discussion on the project's ability to meet all parts of HRS Chapter 226. The analysis should examine consistency with these statutes or clarify where it is in conflict with them. If any of these statutes are not applicable to the project, the analysis should affirmatively state such determination, followed by discussion paragraphs.

2. The coastal zone management (CZM) area is defined as "all lands of the State and the area extending seaward from the shoreline to the limit of the State's police power and management authority, including the U.S. territorial sea" (HRS § 205A-1).

HRS Chapter 205A-5(b) requires all state and county agencies to enforce the CZM objectives and policies. The Draft EA should include an assessment as to how the proposed action conforms to each of the goals and objectives as listed in HRS § 205A-2. Compliance with HRS § 205A-2 is an important component for satisfying the requirements of HRS Chapter 343.

3. The entire Waipio Peninsula is within the special management area (SMA) as delineated by the City and County of Honolulu. Please consult with the Department of Planning and Permitting, City and County of Honolulu on SMA determination and permitting requirements.

As a supporting document for a SMA permit application, the Environmental Assessment should specifically discuss the requirements of the SMA use in accordance with the SMA guidelines pursuant to HRS § 205A-26, and the City and County of Honolulu, Revised Ordinances of Honolulu Chapter 25.

4. Pursuant to HAR § 11-200-10(6) – identification and summary of impacts and alternatives considered; in order to ensure that the surface water and marine resources of Pearl Harbor remain protected, the negative effects of stormwater inundation, potentially caused by the proposed development activities, should be evaluated in the Draft EA.

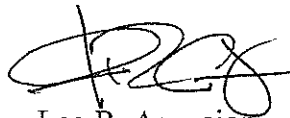
Issues that may be examined include, but are not limited to, project site characteristics in relation to flood and erosion prone areas, open spaces, the potential vulnerability of surface water resources, drainage infrastructure currently in place, soil absorption characteristics of the area, and examining the amount of permeable versus impervious surfaces in the project area. These items should be considered when developing mitigation measures for the protection for surface water resources and the coastal ecosystem, pursuant to HAR § 11-200-10(7).

OP has developed a number of resources and recommends consulting these guidance documents and stormwater evaluative tools when developing strategies to address polluted runoff. They offer useful techniques to keep land-based pollutants and sediment in place and prevent nearshore water contamination while considering the BMPs suited for the project and the types of contaminants affecting the project area. The evaluative tools that should be used during the design process include:

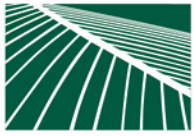
- Stormwater Impact Assessments can be used to identify and analyze information on hydrology, sensitivity of coastal and riparian resources, and management measures to control runoff, as well as consider secondary and cumulative impacts to the area.
http://files.hawaii.gov/dbedt/op/czm/initiative/stomwater_impact/final_stormwater_impact_assessments_guidance.pdf
- Low Impact Development (LID), A Practitioners Guide covers a range of structural BMPs for stormwater control management, onsite infiltration techniques, water reuse methods, and building layout designs that minimize negative environmental impacts.
http://files.hawaii.gov/dbedt/op/czm/initiative/lid/lid_guide_2006.pdf

If you have any questions regarding this comment letter, please contact Joshua Hekekoa of our office at (808) 587-2845.

Sincerely,



Leo R. Asuncion
Director



PBR HAWAII
& ASSOCIATES, INC.

November 27, 2017

Mr. Leo R. Asuncion, Director
State of Hawai'i
Office of Planning
P.O. Box 2359
Honolulu, Hawai'i 96804

Attn: Mr. Joshua Hekekoa

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Asuncion:

Thank you for your letter dated October 24, 2017 (your reference number DTS201710231515), regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comments and provide the following response.

The Draft Environmental Assessment (DEA) will include a(n):

1. Discussion on the project's ability to meet all parts of Hawai'i Revised Statutes (HRS) Chapter 226 (the Hawai'i State Planning Act), pursuant to Hawai'i Administrative Rules (HAR) § 11-200-17(h). This analysis will examine consistency with the statutes or clarify where it is in conflict with them. If any of these statutes are not applicable to the project, the analysis will affirmatively state such determination;
2. Assessment as to how the proposed action conforms to each of the goals and objectives of the Coastal Zone Management (CZM) program, as listed in HRS Chapter 205A-2;
3. Discussion on the requirements of the Special Management Area (SMA) use permit requirements and guidelines pursuant to HRS § 205A-26, and the City and County of Honolulu, Revised Ordinances of Honolulu (ROH) Chapter 25; and
4. Evaluation of potential impacts of stormwater inundation to surface water and marine resources, and mitigation measures for the protection of these resources, pursuant to HAR § 11-200-10(6 and 7).

We value your participation in the environmental review process. Your letter will be included in the forthcoming DEA.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Jon Loeswick – Sam O. Hirota, Inc.

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
President / Principal

RUSSELL Y. J. CHUNG, FASLA, LEED®AP BD+C
Executive Vice-President / Principal

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Vice-President / Principal

GRANT T. MURAKAMI, AICP, LEED®AP BD+C
Vice-President / Principal

TOM SCHNELL, AICP
Principal

KIMI MIKAMI YUEN, LEED®AP BD+C
Principal

W. FRANK BRANDT, FASLA
Chairman Emeritus

ANN MIKIKO BOUSLOG, PhD
Project Director

RAMSAY R. M. TAUM
Cultural Sustainability Planner

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CATIE CULLISON, AICP
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SCOTT MURAKAMI, ASLA, LEED®AP
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DAVID Y. IGE
GOVERNOR



ARTHUR J. LOGAN
MAJOR GENERAL
ADJUTANT GENERAL

KENNETH S. HARA
BRIGADIER GENERAL
DEPUTY ADJUTANT GENERAL

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96816-4495

October 2, 2017

Mr. Greg Nakai
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Nakai

Subject: Pre-Assessment Consultation for a HRS Chapter 343 Environmental Assessment -
Ted Makalenda Golf Course NPDES Improvements, Waipahu, Oahu, Hawaii
TMK: (1) 9-3-002:034 (Por.)

Thank you for the opportunity to comment on the above project. The State of Hawaii
Department of Defense has no comments to offer relative to the project.

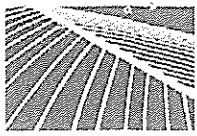
Should you have any questions or concerns, please have your staff contact Ms. Shao Yu Lee, our
Land Manager on Oahu, at (808) 733-4222.

Sincerely,

A handwritten signature in blue ink, appearing to read "Neal S. Mitsuyoshi".

NEAL S. MITSUYOSHI, P.E.
Colonel, Hawaii National Guard
Chief Engineering Officer

- c: Mr. David Kennard, Hawaii Emergency Management Agency (HI-EMA)
Ms. Havinne Okamura, HI-EMA
Mr. Albert Chong, HI-EMA
Mr. Karl Motoyama, Hawaii Army National Guard Environmental (HIARNG-ENV)
Maj Nhut Dao, 154th Civil Engineer Squadron (154th CES)



September 20, 2017

Major General Arthur Logan
Adjutant General
State of Hawai'i
Department of Defense
3949 Diamond Head Road
Honolulu, HI 96816

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHU, O'AHU, HAWAII, TMK (1) 9-3-002: 034 (POR.)

Dear Major General Logan,

PBR HAWAII & Associates, Inc., has been subcontracted by Sam O. Hirota, Inc. (SOH), to prepare a Hawai'i Revised Statutes (HRS) Chapter 343 Environmental Assessment (EA) for proposed improvements at the Ted Makalena Golf Course (TMGC), which is located at 93-059 Waipi'o Point Access Road, Waipahu, Hawai'i 96797. The Project Site is approximately 0.984 acre and is located on a portion of Tax Map Key (TMK) parcel: (1) 9-3-002:034 (total parcel area 150.528 acres). A location map is attached.


Currently, certain portions of TMGC are unpaved and heavily trafficked by cars and maintenance vehicles. These activities expose soils to erosion from wind and storm runoff. The proposed improvements incorporate Low Impact Development (LID) measures such as bioretention areas and inlet filters with hydrocarbon absorbent pads to improve the water quality of the storm drainage runoff from the Parking Lot and Maintenance Yard. The Maintenance Yard will include a new bioretention area, concrete driveway, two new drain inlets (with inlet protection), and a new 12" drainline. The asphalt concrete (AC) parking lot extension will include new bioretention areas, street trees, AC pavement, curb and gutters, wheels stops, and ADA stalls. The proposed improvements will prevent overflow parking from using grassed areas as it contributes to exposed soils and sedimentation.

The proposed project is part of an ongoing effort by the City and County of Honolulu, Department of Environmental Services' (ENV) National Pollutant Discharge Elimination System (NPDES) Small Municipal Separate Storm Sewer Systems (MS4) Permit Program. The purpose of the "Ted Makalena Golf Course NPDES Improvements" project is to implement several of these Best Management Practices (BMPs) to reduce pollutants by drainage runoff from the facilities operated and managed by the City and County of Honolulu, Department of Enterprise Services (DES).

With this letter, we seek your input on the project and comments as to whether the proposed project may have an impact on any of your existing or proposed projects, plans, policies, or programs that we should consider when preparing the HRS Chapter 343 Draft EA. Please send us any comments you may have by **OCTOBER 20, 2017**. You may mail your comments to:

PBR HAWAII & Associates, Inc.
Attn: Greg Nakai
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

Sincerely,
PBR HAWAII


Greg Nakai
Planner

Enclosure: Regional Location Map

THOMAS WITEN, ASLA
Assistant Planner

R. STANLEY CAN, ASLA
Assistant Planner

RUSSELL EICHEN, ASLA, LEED AP BD+C
Assistant Vice President, Planner

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Assistant Planner

CATHY CUTLISON, AICP
Assistant Director

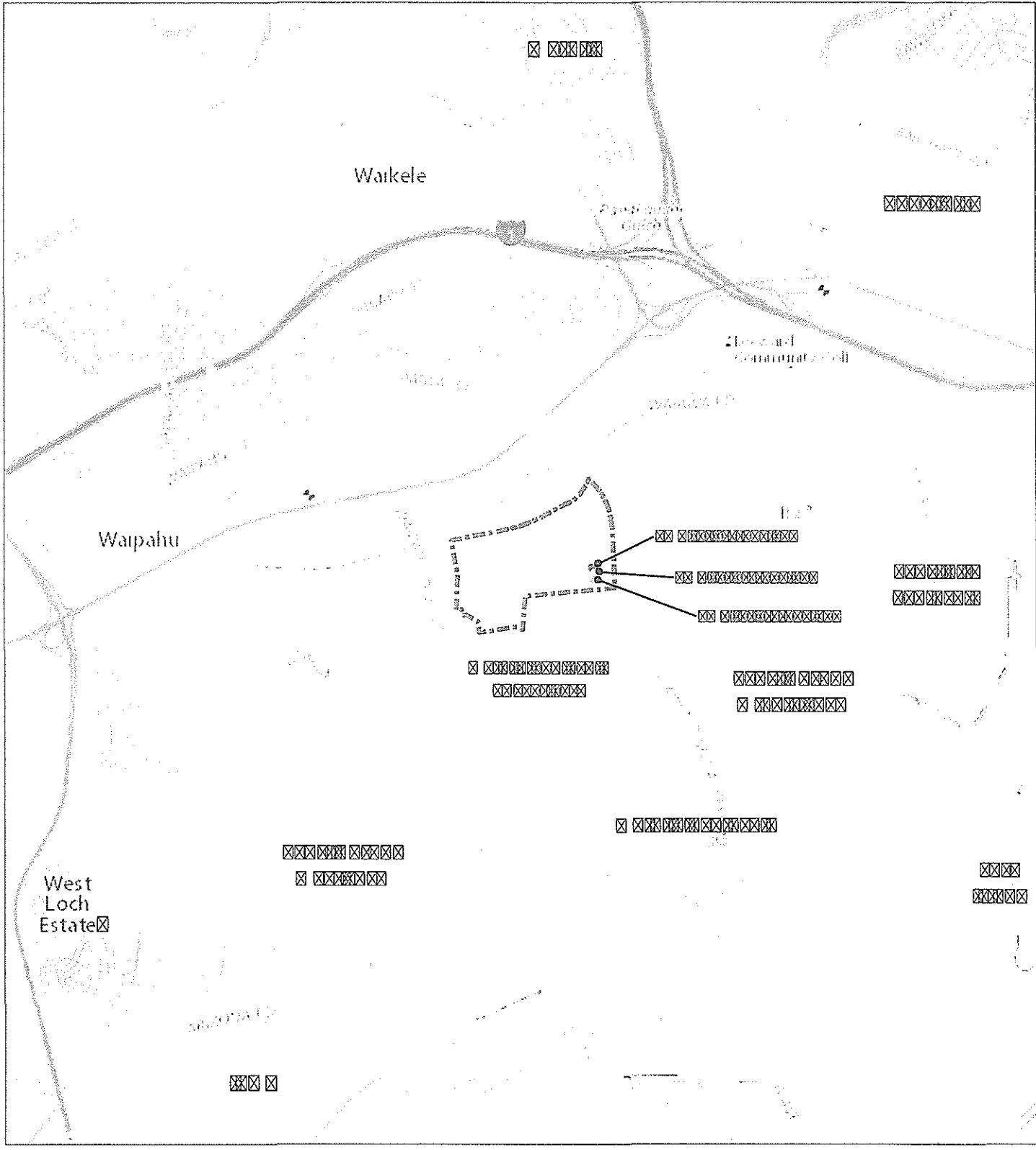
SCOTT MURAKAMI, ASLA, LEED AP
Assistant

DACHING DONG, LEED AP
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MARC SHIMAZU, ASLA
Assistant


MICHAEL MATHIAS, ASLA, LEED AP
Assistant

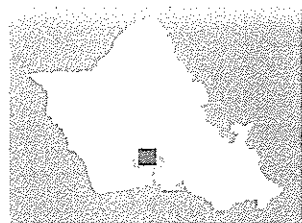
HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Tel: (808) 521-3631
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DATE: 9/20/2017

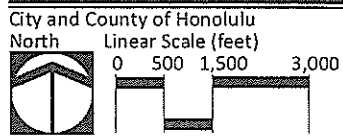
LEGEND

Ted Makalena Golf Course
 TMK (1) 9-3-002:034

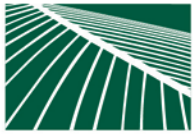


Regional Location Map

**TED MAKALENA GOLF COURSE
 NPDES IMPROVEMENTS**



Source: ESRI, United States Geological Survey, 2017. City and County of Honolulu, 2017.
 This map is for general informational purposes only and should not be used for boundary, metrological, or other spatial analysis.



PBR HAWAII
& ASSOCIATES, INC.

November 27, 2017

Colonel Neal S. Mitsuyoshi
Chief Engineering Officer
State of Hawai'i
Department of Defense
Office of the Adjutant General
3949 Diamond Head Road
Honolulu, Hawai'i 96816

Attn: Ms. Shao Yu Lee, O'ahu Land Manager

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Colonel Mitsuyoshi:

Thank you for your letter dated October 2, 2017, regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge that the State of Hawai'i Department of Defense has no comments to offer relative to the project at this time.

We value your participation in the environmental review process. Your letter will be included in the forthcoming Draft Environmental Assessment.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Jon Loeswick – Sam O. Hirota, Inc.

O:\Job28\2875.01_02 Ted Makalena Golf Course - NPDES MS4\EA\Pre-Consultation\Comments and Responses\Responses\State_DOD response.docx

HONOLULU OFFICE
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printed on recycled paper

DAVID Y. IGE
GOVERNOR OF HAWAII



VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH

P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

EPO 17-240

September 27, 2017

Mr. Greg Nakai
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Email: sysadmin@pbrhawaii.com

Dear Mr. Nakai:

SUBJECT: Pre-Assessment Consultation for Environmental Assessment (PAC EA) for Ted Makalena Golf Course NPDES Improvements, Waipahu, Oahu
TMK: (1) 9-3-002:034 (por)

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your PAC EA to our office on September 21, 2017.

We understand from the project summary that *“The proposed improvements incorporate Low Impact Development (LID) measures such as bio retention areas and inlet filters with hydrocarbon absorbent pads to improve the water quality of the storm drainage runoff from the Parking Lot and Maintenance Yard. The Maintenance Yard will include a new bio retention area, concrete driveway, two new drain inlets (with inlet protection), and a new 12" drain line. The asphalt concrete (AC) parking lot extension will include new bio retention areas, street trees, AC pavement, curb and gutters, wheels stops, and ADA stalls. The proposed improvements will prevent overflow parking from using grassed areas as it contributes to exposed soils and sedimentation.”*

Hawaii’s environmental review laws require Environmental Assessments (EAs) and Environmental Impact Statements (EISs) to consider health in the discussion and the mitigation measures to reduce negative impacts. In its definition of ‘impacts,’ §11-200-2, Hawaii Administrative Rules (HAR) includes health effects, whether primary (direct), secondary (indirect), or cumulative. Further, §11-200-12(b)(5), HAR, lists public health as one of the criteria for determining whether an action may have a significant impact on the environment.

In the development and implementation of all projects, EPO strongly recommends regular review of State and Federal environmental health land use guidance. State standard comments to support sustainable healthy design are provided at: <http://health.hawaii.gov/epo/landuse>. Projects are required to adhere to all applicable standard comments.

We suggest you review the requirements of the Clean Water Branch (Hawaii Administrative Rules {HAR}, Chapter 11-54-1.1, -3, 4-8) and/or the National Pollutant Discharge Elimination System (NPDES) permit (HAR, Chapter 11-55) at: <http://health.hawaii.gov/cwb>. If you have any questions, please contact the Clean Water Branch (CWB), Engineering Section at (808) 586-4309 or cleanwaterbranch@doh.hawaii.gov. If your project involves waters of the U.S., it is highly recommended that you contact the Army Corps of Engineers, Regulatory Branch at: (808) 835-4303.

Any waste generated by the project (that is not a hazardous waste as defined in state hazardous waste laws and regulations), needs to be disposed of at a solid waste management facility that complies with the applicable provisions (HAR, Chapter 11-58.1 “Solid Waste Management Control”). The open burning of any of these wastes, on

Mr. Greg Nakai
Page 2
September 27, 2017

or off site, is strictly prohibited. You may wish you review the Minimizing Construction & Demolition Waste Management Guide at: <http://health.hawaii.gov/shwb/files/2016/05/constdem16.pdf> Additional information is accessible at: <http://health.hawaii.gov/shwb>. For specific questions call (808) 586-4226.

If noise created during the construction phase of the project may exceed the maximum allowable levels (HAR, Chapter 11-46, "Community Noise Control") then a noise permit may be required and needs to be obtained before the commencement of work. Relevant information is online at: <http://health.hawaii.gov/irhb/noise> EPO recommends you contact the Indoor and Radiological Health Branch (IRHB) at (808) 586-4700 with any specific questions.

EPO also encourages you to examine and utilize the Hawaii Environmental Health Portal at: <https://eha-cloud.doh.hawaii.gov>. This site provides links to our e-Permitting Portal, Environmental Health Warehouse, Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings.

To better protect public health and the environment, the U.S. Environmental Protection Agency (EPA) has developed an environmental justice (EJ) mapping and screening tool called EJSCREEN. It is based on nationally consistent data and combines environmental and demographic indicators in maps and reports. EPO encourages you to explore, launch and utilize this powerful tool in planning your project. The EPA EJSCREEN tool is available at: <http://www.epa.gov/ejscreen>.

We hope this information is helpful. If you have any questions please contact us at DOH.epo@doh.hawaii.gov or call us at (808) 586-4337. Thank you for the opportunity to comment.

Mahalo nui loa,



Laura Leialoha Phillips McIntyre, AICP
Program Manager, Environmental Planning Office

LM:nn

c: DOH: CWB, IRHB {via email only}

Attachment: U.S. EPA EJSCREEN Report for Project Area

Please be advised:

The Environmental Planning Office (EPO), along with the Clean Air, Clean Water, and Wastewater Branches will be moving in November 2017. The new address, for EPO, **as of December 1, 2017**, will be:

Environmental Planning Office, DOH, Hale Ola, 2827 Waimano Home Road #109, Pearl City, Hawaii 96782

Please feel free to come and visit our new offices anytime. Please note that there is a security guard at the bottom of the hill (before entering DOH property). Our office phone numbers, email and website will all remain the same.





EJSCREEN Report (Version 2017)



1 mile Ring Centered at 21.378583,-157.992149, HAWAII, EPA Region 9

Approximate Population: 11,278

Input Area (sq. miles): 3.14

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	N/A	N/A	N/A
EJ Index for Ozone	N/A	N/A	N/A
EJ Index for NATA* Diesel PM	73	44	65
EJ Index for NATA* Air Toxics Cancer Risk	87	74	87
EJ Index for NATA* Respiratory Hazard Index	87	65	81
EJ Index for Traffic Proximity and Volume	84	84	94
EJ Index for Lead Paint Indicator	87	77	87
EJ Index for Superfund Proximity	98	97	98
EJ Index for RMP Proximity	51	50	70
EJ Index for Hazardous Waste Proximity	92	86	93
EJ Index for Wastewater Discharge Indicator	88	76	80



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

1 mile Ring Centered at 21.378583,-157.992149, HAWAII, EPA Region 9

Approximate Population: 11,278

Input Area (sq. miles): 3.14



Sites reporting to EPA	
Superfund NPL	1
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0



EJSCREEN Report (Version 2017)



1 mile Ring Centered at 21.378583,-157.992149, HAWAII, EPA Region 9

Approximate Population: 11,278

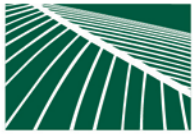
Input Area (sq. miles): 3.14

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in $\mu\text{g}/\text{m}^3$)	N/A	N/A	N/A	9.9	N/A	9.14	N/A
Ozone (ppb)	N/A	N/A	N/A	41.8	N/A	38.4	N/A
NATA* Diesel PM ($\mu\text{g}/\text{m}^3$)	0.091	0.149	50	0.978	<50th	0.938	<50th
NATA* Cancer Risk (lifetime risk per million)	38	34	78	43	<50th	40	<50th
NATA* Respiratory Hazard Index	1.2	1	73	2	<50th	1.8	<50th
Traffic Proximity and Volume (daily traffic count/distance to road)	1000	1000	77	1100	72	590	87
Lead Paint Indicator (% Pre-1960 Housing)	0.23	0.16	72	0.24	59	0.29	54
Superfund Proximity (site count/km distance)	0.82	0.1	99	0.15	97	0.13	97
RMP Proximity (facility count/km distance)	0.096	0.39	26	0.98	9	0.73	15
Hazardous Waste Proximity (facility count/km distance)	0.18	0.1	91	0.12	84	0.093	89
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	8.6E-06	0.04	84	13	64	30	49
Demographic Indicators							
Demographic Index	58%	51%	70	47%	66	36%	79
Minority Population	88%	77%	64	59%	80	38%	89
Low Income Population	26%	26%	56	36%	39	34%	40
Linguistically Isolated Population	13%	6%	85	9%	73	5%	87
Population With Less Than High School Education	15%	9%	81	17%	55	13%	66
Population Under 5 years of age	6%	6%	49	7%	47	6%	51
Population over 64 years of age	15%	16%	51	13%	71	14%	63

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: <https://www.epa.gov/national-air-toxics-assessment>.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.



November 27, 2017

Ms. Laura Leialoha Phillips McIntyre, AICP
Program Manager
Environmental Planning Office
State of Hawai'i, Department of Health
P.O. Box 3378
Honolulu, Hawai'i 96801

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Ms. McIntyre:

Thank you for your letter dated September 27, 2017 (your reference EPO 17-240) regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction (DDC), we want to thank you for your letter.

As required by Hawai'i's environmental review laws, the Environmental Assessment (EA) will consider health in both the discussion and the mitigation measures to reduce negative impacts, acknowledging that the term "impacts" includes health effects, whether primary (direct), secondary (indirect), or cumulative.

As recommended, we reviewed the Environmental Planning Office's (EPO) standard comments relating to Environmental Health programs. We understand that all standard comments specifically applicable to the proposed project must be adhered to. The organization of this letter follows the list of standard comments on your website.

Clean Air Branch

We acknowledge that there is a potential for fugitive dust emissions during construction. The Draft Environmental Assessment (DEA) will address construction-related impacts related to fugitive dust. All construction activities will comply with the provisions of Section 11-60.1-33, Hawai'i Administrative Rules (HAR) related to Fugitive Dust. Adequate measures to control dust during construction will be required to be implemented by the contractor.

Clean Water Branch

We reviewed and understand the standard comments provided by the Clean Water Branch (CWB).

1. **Potential Impacts to State Waters.** The waters of the Pearl Harbor National Wildlife Refuge (Middle Loch) are classified as Class 1, Inland Waters. Any potential impacts to these waters caused by the construction and/or operation of the proposed project will meet the provisions of the: a) anti-degradation policy (Chapter 11-54-1.1, HAR); b) designated uses (Chapter 11-54-3, HAR); and c) water quality criteria (Chapter 11.54-4 through 11-54-8, HAR). However, direct discharges of storm water runoff into State waters are not expected to occur due to Best Management Practices to reduce airborne dust and waterborne silt during construction.

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
President / Principal

RUSSELL Y. J. CHUNG, FASLA, LEED®AP BD+C
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Vice-President / Principal

GRANT T. MURAKAMI, AICP, LEED®AP BD+C
Vice-President / Principal

TOM SCHNELL, AICP
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E-mail: sysadmin@pbrhawaii.com

Ms. Laura McIntyre

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O‘AHU, HAWAI‘I, TMK (1) 9-3-002: 034 (POR.)

November 27, 2017

Page 2 of 3

2. **National Pollutant Discharge Elimination System permit coverage.** As the area to be disturbed will not exceed one acre, a National Pollutant Discharge Elimination System (NPDES) permit for Storm Water Associated with Construction Activity will not be necessary.
3. **Clean Water Act.** Pursuant to the “Clean Water Act,” a Section 401 Water Quality Certification from the State Department of Health, Clean Water Branch will be obtained if it is determined that the project may result in any discharge into navigable waters or as otherwise triggered.
4. **State Water Quality Standards (Chapter 11-54 and 11-55, HAR).** All discharges related to the construction and operation of the proposed project will comply with the State’s Water Quality requirements contained in Chapters 11-54 and 11-55, HAR.

Hazard Evaluation and Emergency Response Office

We understand that the Hazard Evaluation and Emergency Response (HEER) Office provides leadership, support, and partnership in preventing, planning for, responding to, and enforcing environmental laws relating to releases or threats of releases of hazardous substances. We do not expect hazardous substances, pollutants, or contaminants to be present at the project site. However, if any of these are found at the project site, HEER will be contacted to determine the appropriate actions to comply with the relevant environmental laws.

Indoor and Radiological Health (IRH) Branch

The proposed improvements will comply with the provisions of Chapter 11-46 regarding Community Noise Control. If noise created during the construction phase of the project is expected to exceed the maximum allowable levels, then a noise permit will be obtained before the commencement of work.

Safe Drinking Water Branch

We note that the Safe Drinking Water Branch administers programs to protect drinking water sources from contamination.

1. **Public Water Systems.** A public water system will not be developed as part of the proposed project.
2. **Underground Injection Control (UIC).** The proposed project will not utilize injection wells for the subsurface disposal of wastewater, sewage effluent, or surface runoff.
3. **Groundwater Protection Program.** The project will follow the *Guidelines Applicable to Golf Courses in Hawai‘i* (Version 6) in order to address groundwater protection concerns, as well as other environmental concerns.

Solid and Hazardous Waste Branch

Any construction waste generated by the project will be disposed of at a solid waste disposal facility that complies with the applicable provisions (Chapter 11-58.1, HAR "Solid Waste Management Control"). Solid waste that cannot be recycled will be disposed of at landfills, the incinerator, or transfer stations. A waste-to-energy combustor, H-POWER (Honolulu Program of Waste Energy Recovery) located at the Campbell Industrial Park incinerates about 1,800 tons of combustible waste per day. The electricity generated is bought by Hawaiian Electric Company. Currently, the H-POWER facility receives all residential and commercial packer truck wastes on the island. Waste contractors will be asked to submit disposal receipts and invoices to ensure proper disposal of waste. The proposed improvements will also comply with the provisions of Chapters 11-260 to 11-280, HAR, relating to hazardous waste.

Ms. Laura McIntyre

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O‘AHU, HAWAI‘I, TMK (1) 9-3-002: 034 (POR.)

November 27, 2017

Page 3 of 3

Wastewater Branch

Domestic wastewater will not be generated by the subject project.

In addition to the State standard comments addressed above, we have also reviewed the Hawai‘i Environmental Health Portal and its links to various sources of state environmental data. Additionally, we have reviewed the materials available on EJSCREEN.

We value your participation in the environmental review process. Your letter will be included in the DEA.

Sincerely,
PBR HAWAII



Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Jon Loeswick – Sam O. Hirota, Inc.



STATE OF HAWAII
DEPARTMENT OF HUMAN SERVICES
Benefit, Employment and Support Services Division
1010 Richards Street, Suite 512
Honolulu, Hawai'i 96813

October 6, 2017

Re: 17-0451

PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484
Attn: Greg Nakai

Dear Mr. Nakai:

SUBJECT: Pre-Assessment Consultation for A HRS Chapter 343 Environmental Assessment – Ted Makalena Golf Course NPDES Improvements, Waipahu, Oahu, Hawaii TMK (1) 9-3-002: 034 (por.)

This is in response to your letter dated September 20, 2017 requesting the Department of Human Services (DHS) review and comment on the above-named project.

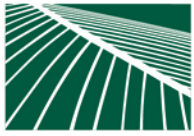
The DHS has reviewed the map of the proposed improvement area of the Ted Makalena Golf Course. A check on DHS' internal data system and Google Maps has found one DHS licensed group child care facility in the near vicinity that may be affected during the construction phase.

If you should have any question regarding this matter, please contact Ms. Lisa Galino, Child Care Program Specialist at (808) 586-5712.

Sincerely,

Scott Nakasone
Assistant Division Administrator

c: Pankaj Bhanot, Director



PBR HAWAII
& ASSOCIATES, INC.

November 27, 2017

Mr. Scott Nakasone
Assistant Division Administrator
State of Hawai'i
Department of Human Services
Benefit, Employment, and Support Services Division
1010 Richards Street, Suite 512
Honolulu, Hawai'i 96813

Attn: Ms. Lisa Galino, Child Care Program Specialist

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Nakasone:

Thank you for your letter dated October 6, 2017 (your reference number 17-0451) regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comment that there is one Department of Human Services (DHS) licensed group child care facility within the vicinity of the Project Site that may be affected during the construction phase of the Project.

In a follow-up phone conversation with Ms. Lisa Galino, DHS Child Care Program Specialist, on November 2, 2017, the DHS licensee was identified as Head Start - Waipahu Park, located at 94-230 Paiwa Street, approximately 1.1 miles from the Project Site. The Draft Environmental Assessment (DEA) will include this information, and will state that, given the distance from the Project Site and the limited scope of the improvements, there are no anticipated impacts to this licensee during construction of the Project.

We value your participation in the environmental review process. Your letter will be included in the forthcoming DEA.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Jon Loeswick – Sam O. Hirota, Inc.

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
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Principal

KIMI MIKAMI YUEN, LEED®AP BD+C
Principal

W. FRANK BRANDT, FASLA
Chairman Emeritus

ANN MIKIKO BOUSLOG, PhD
Project Director

RAMSAY R. M. TAUM
Cultural Sustainability Planner

RAYMOND T. HIGA, ASLA
Senior Associate

CATIE CULLISON, AICP
Senior Associate

SCOTT MURAKAMI, ASLA, LEED®AP
Associate

DACHENG DONG, LEED®AP
Associate

MARC SHIMATSU, ASLA
Associate

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Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
DIR 1204
STP 8.2244

October 25, 2017

Mr. Greg Nakai
Planner
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Nakai:

Subject: Ted Makalena Golf Course NPDES Improvements
Environmental Assessment Pre-Assessment Consultation
Waipahu, Oahu, Hawaii
TMK: (1) 9-3-002: 034 (POR.)

The City and County of Honolulu, Department of Environmental Services has proposed that certain improvements incorporating best management practices be made to certain areas within the Ted Makalena Golf Course to reduce pollutants resulting from runoff from the facility. The golf course is located along Waipio Point Access Road.

Our Department of Transportation's (DOT) comments on the subject project are as follows:

The proposed project consisting of drainage improvements including a bio-retention area is located approximately 4.8 miles from the end of Runway 8L of the Daniel K. Inouye International Airport (HNL) along Waipio Point Access Road.

The Applicant needs to be aware of the duties of the state and county agencies to implement the State of Hawaii Office of Planning Technical Assistance Memorandum (TAM) related to this project and all projects within 5 miles of an airport. The TAM is available at:
http://files.hawaii.gov/dbedt/op/docs/TAM-FAA-DOT-Airports_08-01-2016.pdf.

If any of the project features attract hazardous wildlife, create glint and glare hazard, or create an aerial obstruction hazard to flight operations, the Applicant/Property Owner must coordinate with proper officials and agencies and must implement appropriate mitigation to address the hazards

Mr. Greg Nakai
October 25, 2017
Page 2

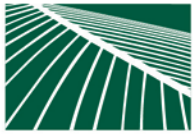
DIR 1204
STP 8.2244

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



PBR HAWAII
& ASSOCIATES, INC.

November 27, 2017

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
President / Principal

RUSSELL Y. J. CHUNG, FASLA, LEED® AP BD+C
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VINCENT SHIGEKUNI
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Principal

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W. FRANK BRANDT, FASLA
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Senior Associate

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

DACHENG DONG, LEED® AP
Associate

MARC SHIMATSU, ASLA
Associate

Mr. Jade Butay
Interim Director
State of Hawai'i
Department of Transportation
869 Punchbowl Street
Honolulu, Hawai'i 96813-5097

Attn: Mr. Norren Kato, DOT Statewide Transportation Planning Office

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O’AHU, HAWAI’I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Butay:

Thank you for your Department's letter dated October 25, 2017 (your reference number DIR 1204, STP 8.2244), regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comments and provide the following responses.

The Draft Environmental Assessment will note your comments that:

- (1) The proposed project is located approximately 4.8 miles from the end of Runway 8L of the Daniel K. Inouye International Airport (HNL);
- (2) State and county agencies are obligated to implement the State of Hawai'i Office of Planning Technical Assistance Memorandum (TAM) related to projects within 5 miles of an airport; and
- (3) The Applicant/Property Owner must coordinate with proper officials and agencies and must implement appropriate mitigation if the project attracts hazardous wildlife, creates glint and glare hazards, or creates an aerial obstruction hazard to flight operations. The DEA will include an assessment of any potential impacts to the airport, as well as measures to mitigate any hazards.

We value your participation in the environmental review process. Your letter will be included in the forthcoming DEA.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

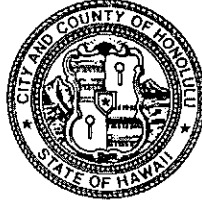
cc: Kyle Kang – DDC, Facilities Division
Jon Loeswick – Sam O. Hirota, Inc.

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

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

KIRK CALDWELL
MAYOR



ROSS S. SASAMURA, P.E.
DIRECTOR AND CHIEF ENGINEER

EDUARDO P. MANGLALLAN
DEPUTY DIRECTOR

IN REPLY REFER TO:
DRM 17-551

October 10, 2017

Mr. Greg Nakai
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Nakai:

Subject: Pre-Consultation for A HRS, Chapter 343
EA - Ted Makalena Golf Course NPDES
Improvements, Waipahu
TMK: (1) 9-3-002:034 (POR.)

This is in response to your letter dated September 20, 2017, requesting for comments on the subject project.

Our comments are as follows:

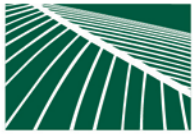
- Once construction phase commence, install approved Best Management Practices (BMP) fronting all drainage facilities on Waipio Point Access Road.
- During construction and upon completion of project; any damages/deficiencies to Waipio Point Access Road right-of-way shall be corrected to City Standards 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,

A handwritten signature in black ink, appearing to read "Ross S. Sasamura".

Ross S. Sasamura, P.E.
Director and Chief Engineer



PBR HAWAII
& ASSOCIATES, INC.

November 27, 2017

Mr. Ross S. Sasamura, P.E.
Director and Chief Engineer
Department of Facility Maintenance
City and County of Honolulu
1000 Ulu'ohia Street, Suite 215
Kapolei, Hawai'i 96707

Attn: Mr. Kyle Oyasato, Division of Road Maintenance

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHI, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Sasamura:

Thank you for your letter dated October 10, 2017 (your reference number DRM 17-551), regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comments and provide the following response.

The Draft Environmental Assessment (DEA) will include your requests that: (1) approved Best Management Practices (BMPs) are installed fronting all drainage facilities on Waipi'o Point Access Road once construction commences, and (2) any project-related damages/deficiencies to Waipi'o Point Access Road right-of-way are corrected to City Standards and accepted by the City.

We value your participation in the environmental review process. Your letter will be included in the forthcoming DEA.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Jon Loeswick – Sam O. Hirota, Inc.

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
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RUSSELL Y. J. CHUNG, FASLA, LEED® AP BD+C
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Principal

KIMI MIKAMI YUEN, LEED® AP BD+C
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Project Director

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DACHENG DONG, LEED® AP
Associate

MARC SHIMATSU, ASLA
Associate

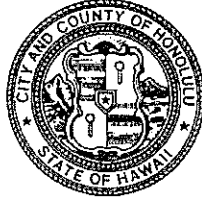
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E-mail: sysadmin@pbrhawaii.com

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DEPARTMENT OF PARKS & RECREATION
CITY AND COUNTY OF HONOLULU

1000 Uluohia Street, Suite 309, Kapolei, Hawaii 96707
Phone: (808) 768-3003 • Fax: (808) 768-3053
Website: www.honolulu.gov

KIRK CALDWELL
MAYOR



MICHELE K. NEKOTA
DIRECTOR

JEANNE C. ISHIKAWA
DEPUTY DIRECTOR

October 3, 2017

Mr. Greg Nakai, Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Nakai:

SUBJECT: Pre-Assessment Consultation-Environmental Assessment
Ted Makalena Golf Course NPDES Improvements
Tax Map Key: (1) 9-3-002:034

Thank you for the opportunity to review and comment at the pre-consultation stage of the subject Environmental Assessment.

The Department of Parks and Recreation has no comment. As the proposed project will have no impact on any program or facility of the Department, you may remove us as a consulted party to the balance of the EIS process.

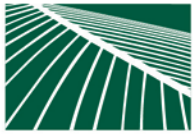
Should you have any questions, please contact Mr. John Reid, Planner at 768-3017.

Sincerely,

A handwritten signature in black ink, reading "Michele K. Nekota". The signature is fluid and cursive, with a large, sweeping flourish at the end.

Michele K, Nekota
Director

MKN:jr
(704102)



PBR HAWAII
& ASSOCIATES, INC.

November 27, 2017

Ms. Michele K. Nekota, Director
Department of Parks and Recreation
City and County of Honolulu
1000 Uluohia Street, Suite 309
Kapolei, Hawai'i 96707

Attn: Mr. John Reid, Planner

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Ms. Nekota:

Thank you for your letter dated October 3, 2017 (your reference number 704102), regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comment that the Department of Parks and Recreation (DPR) has no comment, and that the proposed project will have no impact on any DPR program or facility. As requested, you will be removed as a consulted party to the balance of the Environmental Assessment (EA) process.

We value your participation in the environmental review process. Your letter will be included in the forthcoming Draft EA.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Jon Loeswick – Sam O. Hirota, Inc.

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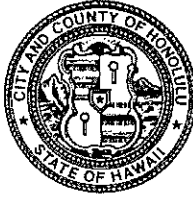
HONOLULU OFFICE
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DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

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PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEBSITE: www.honolulu.dpp.org • CITY WEBSITE: www.honolulu.gov

KIRK CALDWELL
MAYOR



KATHY K. SOKUGAWA
ACTING DIRECTOR

TIMOTHY F. T. HIU
DEPUTY DIRECTOR

2017/ELOG-1950(JS)

October 17, 2017

Mr. Greg Nakai
PBR Hawaii & Associates, Inc.
1001 Bishop Street
ASB Tower, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Nakai:

SUBJECT: Pre-Assessment Consultation
Ted Makalena Golf Course Improvements
Tax Map Key 9-3-002: 034 (portion of)

This responds to your request (letter received September 22, 2017), for comments regarding the above proposal to implement best management practices to reduce pollutants by drainage runoff from the Ted Makalena Golf Course facilities (Project). We have the following comments:

1. The site is in the State Agricultural District. The Ted Makalena Golf Course was established in the State Agricultural District before July 1, 2005. Per Section 205-4.5(d) of the Hawaii Revised Statutes (State Land Use Law), "(d) Notwithstanding any other provision of this chapter to the contrary, golf courses and golf driving ranges approved by a county before July 1, 2005, for development within the agricultural district shall be permitted uses within the agricultural district." As long as the improvements are within the original approved area, the proposed Project would be in compliance with the State Land Use Law.
2. The site is also in the Special Management Area (SMA); development within the SMA requires an SMA Permit. An SMA Permit (Minor) is required if the valuation of the improvements do not exceed \$500,000; an SMA Use Permit (Major) is required if the valuation exceeds \$500,000.

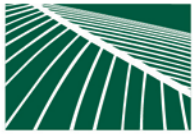
Mr. Greg Nakai
October 17, 2017
Page 2

3. The Draft Environmental Assessment (DEA) should indicate the proximity of wetlands and streams to the site and any potential impacts the Project may have on these features.
4. The DEA should include a complete listing of required permits and approvals.

We look forward to reviewing and commenting on the DEA. Should you have any questions, please contact Joyce Shoji, of our staff, at 768-8014.

Very truly yours,


for Kathy K. Sokugawa
Acting Director



PBR HAWAII
& ASSOCIATES, INC.

November 27, 2017

Ms. Kathy K. Sokugawa, Acting Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, Hawai'i 96813

Attn: Ms. Joyce Shoji

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Ms. Sokugawa:

Thank you for your letter dated October 17, 2017 (your reference number 2017/ELOG-1950(JS)), regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comments and provide the following response.

The Draft Environmental Assessment (DEA) will:

1. Note that the project site is in the State Agricultural District, and that the Ted Makalena Golf Course was established before July 1, 2005. Per Section 205-4.5(d) of the Hawai'i Revised Statutes (State Land Use Law), the proposed project is thus in compliance with the State Land Use Law;
2. Note that the project site is in the Special Management Area (SMA) and thus requires an SMA Permit (Major);
3. Indicate the proximity of wetlands and streams to the site and any potential impacts the project may have on these features; and
4. Include a complete listing of required permits and approvals.

We value your participation in the environmental review process. Your letter will be included in the forthcoming DEA.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Jon Loeswick – Sam O. Hirota, Inc.

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
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Associate

DACHENG DONG, LEED®AP
Associate

MARC SHIMATSU, ASLA
Associate

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DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

KIRK CALDWELL
MAYOR



WES FRYSZTACKI
DIRECTOR

JON Y. NOUCHI
DEPUTY DIRECTOR

TP10/17-705669R

October 19, 2017

Mr. Greg Nakai
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Nakai:

SUBJECT: Pre-Consultation Draft Environmental Assessment (DEA) for Ted Makalena Golf Course NPDES Improvements, Waipahu, Oahu, Hawaii

In response to your letter dated September 20, 2017, we have the following comments:

1. The DEA should include a discussion of traffic impacts the project may have on any surrounding City roadways, including short-term impacts during construction with corresponding measures to mitigate these impacts.
2. The existing parking lot usage and the number of additional parking stalls that will be provided with this project should be included and discussed in the DEA. Sufficient parking should be provided on-site to handle all parking needs for the facility.
3. 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.
4. Any existing pedestrian, bicycle and vehicle access/crossing will be maintained with the highest safety measures during construction.
5. Best Management Practice controls should be included at construction site to prevent trailing of dirt and debris on City roadways.

Mr. Greg Nakai
October 19, 2017
Page 2

6. Any damage to the existing roadway that is caused by the project should be repaired to current City standards as well as meet Americans with Disabilities Act requirements.
7. The area Neighborhood Board, as well as the area businesses, emergency personnel (fire, ambulance and police), Oahu Transit Services, Inc. (TheBus and TheHandi-Van), etc., should be kept apprised of the details of the proposed project and the impacts that the project may have on the adjoining local street area network.
8. A street usage permit from the City's Department of Transportation Services should be obtained for any construction-related work that may require the temporary closure of any traffic lane on a City street.

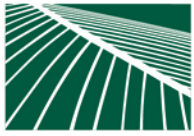
We reserve further comment pending review of the DEA.

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,



Wes Frysztacki
Director



November 27, 2017

Mr. Wes Frysztacki, Director
Department of Transportation Services
City and County of Honolulu
650 South King Street, 3rd Floor
Honolulu, Hawai'i 96813

Attn: Ms. Renee Yamasaki

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Frysztacki:

Thank you for your letter dated October 19, 2017 (your reference number TP10/17-705669R), regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge the comments by the Department of Transportation Services (DTS) and provide the following responses.

The Draft Environmental Assessment (DEA) will:

1. Include a discussion of potential traffic impacts and mitigation measures;
2. Discuss existing parking lot usage and the number of proposed additional parking stalls;
3. Note that construction materials and equipment should be transferred to and from the project site during off-peak traffic hours;
4. Note that any existing pedestrian, bicycle and vehicle access/crossings should be maintained with the highest safety measures during construction;
5. Indicate that Best Management Practice controls should be included at the construction site to prevent the trailing of dirt and debris on City roadways;
6. Clarify that any damage to the existing roadway that is caused by the project should be repaired to current City standards as well as meet Americans with Disabilities Act requirements;
7. Note your recommendation that the area Neighborhood Board, as well as area businesses, emergency personnel (fire, ambulance and police), Oahu Transit Services, Inc. (TheBus and TheHandi-Van), etc., should be kept apprised of the details of the proposed project and the impacts that the project may have on the adjoining local street area network; and
8. Note that a street usage permit from DTS should be obtained for any construction-related work that may require the temporary closure of any traffic lane on a City street.

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
President / Principal

RUSSELL Y. J. CHUNG, FASLA, LEED®AP BD+C
Executive Vice-President / Principal

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Principal

KIMI MIKAMI YUEN, LEED®AP BD+C
Principal

W. FRANK BRANDT, FASLA
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RAMSAY R. M. TAUM
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RAYMOND T. HIGA, ASLA
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SCOTT MURAKAMI, ASLA, LEED®AP
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DACHENG DONG, LEED®AP
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MARC SHIMATSU, ASLA
Associate

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Fax: (808) 523-1402
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Mr. Wes Frysztacki

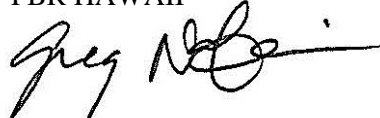
SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O‘AHU, HAWAI‘I, TMK (1) 9-3-002: 034 (POR.)

November 27, 2017

Page 2 of 2

We value your participation in the environmental review process. Your letter will be included in the forthcoming DEA.

Sincerely,
PBR HAWAII

A handwritten signature in black ink, appearing to read "Greg Nakai", with a long horizontal flourish extending to the right.

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Jon Loeswick – Sam O. Hirota, Inc.

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843
www.boardofwatersupply.com



October 13, 2017

KIRK CALDWELL, MAYOR

BRYAN P. ANDAYA, Chair
KAPUA SPROAT, Vice Chair
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ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer *ELL*

Mr. Greg Nakai
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Nakai:

Subject: Your Letter Dated September 20, 2017 Requesting Comments on the Pre-Assessment Consultation for the Environmental Assessment for the Proposed Ted Makalena Golf Course National Pollutant Discharge Elimination System Improvements in Waipahu – Tax Map Key: 9-3-002: 034

Thank you for the opportunity to comment on the proposed golf course improvements.

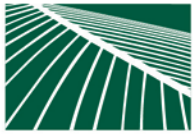
The existing water system is adequate to accommodate the proposed golf course improvements. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval 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.

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



PBR HAWAII
& ASSOCIATES, INC.

November 27, 2017

Mr. Ernest Y. W. Lau, P.E.
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawai'i 96843

Attn: Mr. Robert Chun, Project Review Branch, Water Resources Division

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHI, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Lau:

Thank you for your letter dated October 13, 2017, regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comments and provide the following response.

We appreciate the information that the existing water system is adequate to accommodate the proposed improvements. However, we also acknowledge that the Board of Water Supply's (BWS's) final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

The Draft Environmental Assessment (DEA) will note that there are BWS Water System Facilities Charges for resource development, transmission, and daily storage.

We value your participation in the environmental review process. Your letter will be included in the forthcoming DEA.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Jon Loeswick – Sam O. Hirota, Inc.

THOMAS S. WITTEN, FASLA
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Cultural Sustainability Planner

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SCOTT MURAKAMI, ASLA, LEED®AP
Associate

DACHENG DONG, LEED®AP
Associate

MARC SHIMATSU, ASLA
Associate

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E-mail: sysadmin@pbrhawaii.com

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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

October 12, 2017

Mr. Greg Nakai
Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Nakai:

Subject: Preassessment Consultation for Environmental Assessment
Ted Makalena Golf Course National Pollution Discharge System
Improvements
Waipahu, Hawaii
Tax Map Key: 9-3-002: 034 (por.)

In response to your letter dated September 20, 2017, regarding the abovementioned subject, the Honolulu Fire Department determined that there will be no significant impact to fire department services.

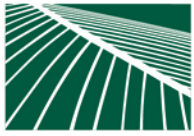
Should you have questions, please contact Battalion Chief Wayne Masuda of our Fire Prevention Bureau at 723-7151 or wmasuda@honolulu.gov.

Sincerely,

A handwritten signature in blue ink that reads "Socrates D. Bratakos".

SOCRATES D. BRATAKOS
Assistant Chief

SDB/TC:ps



PBR HAWAII
& ASSOCIATES, INC.

November 27, 2017

Mr. Socrates D. Bratakos
Assistant Chief
Honolulu Fire Department
City and County of Honolulu
636 South Street
Honolulu, Hawai'i 96813-5007

Attn: Battalion Chief Wayne Masuda, Fire Prevention Bureau

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Bratakos:

Thank you for your letter dated October 12, 2017, regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comment that there will be no significant impact to Honolulu Fire Department services.

We value your participation in the environmental review process. Your letter will be included in the forthcoming Draft Environmental Assessment.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Jon Loeswick – Sam O. Hirota, Inc.

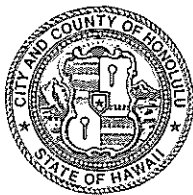
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POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 · INTERNET: www.honolulu.gov



KIRK CALDWELL
MAYOR

LOUIS-M-KAALOHAA
CHIEF

CARY OKIMOTO
~~JERRY HONUYE~~
DEPUTY CHIEFS

OUR REFERENCE MT-DK

October 2, 2017

Mr. Greg Nakai, Planner
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Nakai:

This is in response to your letter of September 20, 2017, requesting comments on a Pre-Assessment Consultation, Environmental Assessment, for the Ted Makalena Golf Course National Pollutant Discharge Elimination System Improvements project.

Based on the information provided, this project should have no significant impact on the services or operations of the Honolulu Police Department at this time.

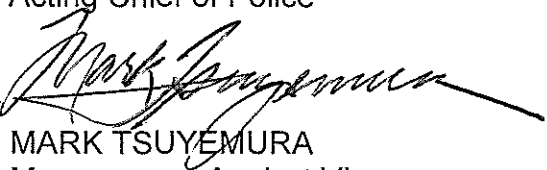
If there are any questions, please call Major Dagan Tsuchida District 3 (Pearl City) at 723-8803.

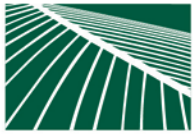
Thank you for the opportunity to review this project.

Sincerely,

CARY OKIMOTO
Acting Chief of Police

By


MARK TSUYEMURA
Management Analyst VI
Office of the Chief



PBR HAWAII
& ASSOCIATES, INC.

November 27, 2017

Susan Ballard
Chief of Police
Honolulu Police Department
City and County of Honolulu
801 South Beretania Street
Honolulu, Hawai'i 96813

Attn: Major Dagan Tsuchida, District 3 (Pearl City)

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Chief Ballard:

Thank you for your Department's letter dated October 2, 2017, regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comment that the subject project should have no significant impact on the services or operations of the Honolulu Police Department at this time.

We value your participation in the environmental review process. Your letter will be included in the forthcoming Draft Environmental Assessment.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Jon Loeswick – Sam O. Hirota, Inc.

O:\Job28\2875.01_02 Ted Makalena Golf Course - NPDES MS4\EA\Pre-Consultation\Comments and Responses\Responses\County_HPD response.docx

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Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
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October 17, 2017

PBR HAWAII & Associates, Inc.
ATTN: Greg Nakai
1001 Bishop Street, Suite 650
Honolulu, HI 96813-3484

Subject: Pre-Assessment Consultation for a HRS Chapter 343 Environmental Assessment – Ted Makalena Golf Course NPDES Improvements, Waipahu, Oahu, Hawaii, TMK (1) 9-3-002:034

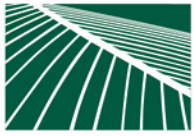
Thank you for the opportunity to review and comment on the Draft Environment Assessment for the subject project. The subject project will have no impact to existing Spectrum's infrastructures or future planned projects in the vicinity.

If you have any questions, please call me at 625-8378.

Sincerely,

A handwritten signature in black ink, appearing to read "Tuan Nguyen", written in a cursive style.

Tuan Nguyen



PBR HAWAII
& ASSOCIATES, INC.

November 27, 2017

Mr. Tuan Nguyen
Spectrum/Charter Communications
200 Akamainui Street
Mililani, Hawai'i 96789

SUBJECT: PRE-ASSESSMENT CONSULTATION FOR A HRS CHAPTER 343 ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Nguyen:

Thank you for your letter dated October 17, 2017, regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comment that the subject project will have no impact to Spectrum's existing infrastructure or future planned projects in the vicinity.

We value your participation in the environmental review process. Your letter will be included in the forthcoming Draft Environmental Assessment.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Jon Loeswick – Sam O. Hirota, Inc.

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Principal

KIMI MIKAMI YUEN, LEED®AP BD+C
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W. FRANK BRANDT, FASLA
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ANN MIKIKO BOUSLOG, PhD
Project Director

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MARC SHIMATSU, ASLA
Associate

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APPENDIX B

Flora and Fauna Study



FLORA AND FAUNA STUDY
TED MAKALENA GOLF COURSE PROJECT
WAIPAHAU, WAIPI'O, O'AHU

by:

Robert Hobdy
Environmental Consultant
Kokomo, Maui
October 2017

Prepared for:
PBR Hawaii

FLORA AND FAUNA STUDY
TED MAKALENA GOLF COURSE PROJECT
WAIPI'O, O'AHU

INTRODUCTION

The Ted Makalena Golf Course Project lies on approximately 2.5 acres of Course Clubhouse, Parking Area and Maintenance Yard Facilities at Waipahu, Waipi'o, O'ahu (TMK 9-3-02:034 por.) (See Figure 1). The project area is just below Waipahu Town along the west side of Waipi'o Point Access Road. This study was initiated by the City and County of Honolulu in fulfillment of environmental requirements of the planning process.

SITE DESCRIPTION

The Ted Makalena Golf Course project area consists mainly of existing structures that serve the administration of golfing activities and the maintenance of the fairways and greens. The areas between the buildings and around the parking area are maintained as mowed lawns, and many ornamental landscape plants surround the Clubhouse. No natural plant communities occur in the project area. The soils in the project area, and indeed within the entire 151 acre golf course which surround it, is characterized as Fill Land (Fd) which consists of bagasse and mill slurry from the former sugar cane operation at the Waipahu Mill, and some coral and sand material dredged from Pearl Harbor by the military during World War II and some Kea'au Clay, Saline, 0-2% slopes (KmbA) (Foote et al, 1972). This entire area was formerly the ancient Hawaiian Loko 'eo Fish Pond which was filled in to increase arable lands for the sugar plantation between 1930 and 1950. The resulting soil is an unpredictable mixture of soil, sand and coral fragments which overlays a solid ancient coral reef layer laid down during a higher stand of the sea thousands of years ago. Elevations in the project area average between six and ten feet above present mean sea level. Annual rainfall averages around 25 inches with most occurring during winter months (Armstrong, 1983).

SURVEY OBJECTIVES

This report summarizes the findings of a flora and fauna study of the proposed Ted Makalena Golf Course Project that was conducted in October 2017. The objectives of the survey were to:

1. Document what plant and animal species occur on the property or may likely occur in the existing habitat.
2. Document the status and abundance of each species.
3. Determine the presence or likely occurrence of any native flora and fauna, particularly any that are Federally listed as Threatened or Endangered. If such occur, identify what features of the habitat may be essential for these species.
4. Determine if the project area contains any special habitats which if lost or altered might result in a significant negative impact on the native flora and fauna in this part of the island.

BOTANICAL SURVEY REPORT

SURVEY METHODS

A walk-through botanical survey was used to cover this acre project area. All representative habitats were examined around the buildings and open areas. Close attention was paid to ascertaining the presence of any native plant species and to determine if any of these are listed as Threatened or Endangered species.

DESCRIPTION OF THE VEGETATION

The vegetation within this project area consists mainly of grasses, ornamental shrubs and trees, and a variety of herbaceous weeds. Just one species was abundant throughout the area, Bermuda grass (*Cynodon dactylon*). The remaining 89 species were all relatively uncommon or rare by comparison. Just one common native indigenous species was observed, the kīpūkai (*Heliotropium curassavicum*), which occurs in coastal, saline environments. Thirty nine species were ornamental plants in the landscape, and thirty eight species are considered to be weeds.

DISCUSSION AND RECOMMENDATIONS

The vegetation in the project area is dominated by non-native species. Just one native plant, kīpūkai, was found. This species is widespread along the coasts throughout Hawaii as well as on many other Pacific islands and is not the focus of any environmental concern.

There are some Endangered plants species known to occur in the surrounding Ewa Plain. Ko'oloa'ula (*Abutilon menziesii*) grows about 6.5 miles to the west of the project site in a protected area and an 'akoko (*Euphorbia skottsbergii* var. *kalaeloana*) and hinahina ewa (*Achyranthes splendens* var. *rotundata*) grow about 8 miles to the southwest of the project area or its vicinity. No important botanical resources should be negatively affected by development of this property.

Because the vegetation in this project area and the surrounding neighborhood is dominated by common non-native plants, and because there are no rare or protected native species in or near this area, there is little of botanical concern with regard to this project. The proposed development is not expected to have a significant negative impact on the botanical resources in this part of O'ahu.

No special recommendations with reference to plants are deemed appropriate or necessary.

PLANT SPECIES LIST

Following is a checklist of all those vascular plant species inventoried during the field studies. Plant families are arranged alphabetically within each of four groups: Ferns, Conifers, Monocots and Dicots. Taxonomy and nomenclature of the flowering plants (Monocots and Dicots) are in accordance with Wagner et al. (1999).

For each species, the following information is provided:

1. Scientific name with author citation.
2. Common English or Hawaiian name.
3. Bio-geographical status. The following symbols are used:

endemic = native only to the Hawaiian Islands; not naturally occurring anywhere else in the world.

indigenous = native to the Hawaiian Islands and also to one or more other geographic area(s).

non-native = all those plants brought to the islands intentionally or accidentally after western contact.

Polynesian = brought by the Hawaiians during Polynesian migrations.

4. Abundance of each species within the project area:

abundant = forming a major part of the vegetation within the project area.

common = widely scattered throughout the area or locally abundant within a portion of it.

uncommon = scattered sparsely throughout the area or occurring in a few small patches.

rare = only a few isolated individuals within the project area.

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
FERNS			
NEPHROLEPIDACEAE (Sword Fern Family)			
<i>Nephrolepis cordifolia</i> (L.) C. Presl	kupukupu	indigenous	rare
CONIFERS			
ARAUCARIACEAE (Araucaria Family)			
<i>Araucaria columnaris</i> (G. Forester) J.D. Hooker	Cook pine	non-native	rare
MONOCOTS			
AMARYLLIDACEAE (Amaryllis Family)			
<i>Crinum asiaticum</i> L.	giant lily	non-native	rare
ARECACEAE (Palm Family)			
<i>Cocos nucifera</i> L.	niu, coconut	Polynesian	rare
<i>Dypsis lutescens</i> (H. Wendl.) Beentjie & J. Dransfield	golden fruited palm	non-native	rare
<i>Pritchardia pacifica</i> Seeman & H. Wendland	Fiji fan palm	non-native	uncommon
<i>Veitchia merrillii</i> (Becc.) H.E. Moore	Manila palm	non-native	uncommon
ASPARAGACEAE (Asparagus Family)			
<i>Agave americana</i> L.	century plant	non-native	rare
<i>Cordyline fruticosa</i> (L.) A. Chev.	ki, ti	Polynesian	uncommon
<i>Dracaena fragrans</i> (L.) Ker Gawler	fragrant dracaena	non-native	rare
<i>Dracaena marginata</i> Lamarck	money tree	non-native	rare
<i>Dracaena reflexa</i> Lamarck	song-of-India	non-native	rare
BROMELIACEAE (Bromeliad Family)			
<i>Tillandsia usneoides</i> (L.) L.	Spanish moss, hinahina	non-native	rare
COMMELINACEAE (Spiderwort Family)			
<i>Commelina benghalensis</i> L.	hairy honohono	non-native	rare
<i>Tradescantia spathacea</i> (Swartz & Stearn)	Moses in the cradle	non-native	rare
CYPERACEAE (Sedge Family)			
<i>Cyperus gracilis</i> R. Br.	McCoy sedge	non-native	uncommon
<i>Cyperus rotundus</i> L.	nut sedge	non-native	rare
HELICONIACEAE (Heliconia Family)			
<i>Heliconia bihai</i> (L.) L.	lobster claw	non-native	rare
MUSACEAE (Banana Family)			
<i>Musa acuminata x balbisiana</i> Colla	banana	non-native	rare
ORCHIDACEAE (Orchid Family)			
<i>Epidendrum x hybrid</i>	buttonhole orchid	non-native	rare
POACEAE (Grass Family)			
<i>Bothriochloa pertusa</i> (L.) A. Camus	pitted beardgrass	non-native	rare
<i>Chloris barbata</i> (L.) Sw.	swollen fingergrass	non-native	uncommon
<i>Cynodon dactylon</i> (L.) Pers.	Bermuda grass	non-native	abundan
<i>Eleusine indica</i> (L.) Pers.	wiregrass	non-native	rare

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
<i>Eragrostis amabilis</i> (L.) Wight & Arnott	Japanese lovegrass	non-native	rare
<i>Eragrostis pectinacea</i> (Michx.) Nees	Carolina lovegrass	non-native	rare
<i>Megathyrsus maximus</i> (Jacq.) Simon & Jacobs	Guinea grass	non-native	uncommon
<i>Paspalum conjugatum</i> Bergius	Hilo grass	non-native	rare
<i>Setaria verticillata</i> (L.) P. Beauv.	bristly foxtail	non-native	rare
<i>Sporobolus</i> sp.	-----	non-native	rare
<i>Urochloa subquadriflora</i> (Trin.) R.D. Webster	tropical signalgrass	non-native	rare
ZINGIBERACEAE (Ginger Family)			
<i>Alpinia purpurata</i> (Veillard) K. Schumann	red ginger	non-native	rare
DICOTS			
ACANTHACEAE (Acanthus Family)			
<i>Pseuderanthemum carruthersii</i> (Seemann) Guillamin	-----	non-native	uncommon
AIZOACEAE (Ice Plant Family)			
<i>Trianthema portulacastrum</i> L.	desert horsepurslane	non-native	rare
AMARANTHACEAE (Amaranth Family)			
<i>Amaranthus viridis</i> L.	slender amaranth	non-native	uncommon
<i>Alternanthera pungens</i> Kunth	khaki weed	non-native	rare
<i>Atriplex suberecta</i> Verd.	saltbush	non-native	rare
ANACARDIACEAE (Custard-apple Family)			
<i>Annona muricata</i> L.	soursop	non-native	rare
APOCYNACEAE (Dogbane Family)			
<i>Catharanthus roseus</i> (L.) G. Don	Madagascar periwinkle	non-native	rare
<i>Plumeria obtusa</i> L.	Singapore plumeria	non-native	rare
<i>Plumeria pudica</i> Jacq.	spatulate-leaved plumeria	non-native	uncommon
<i>Plumeria rubra</i> L.	temple flower	non-native	uncommon
ARALIACEAE (Panax Family)			
<i>Schefflera actinophylla</i> (Endl.) Harms	octopus tree	non-native	rare
ASTERACEAE (Sunflower Family)			
<i>Calyptocarpus vialis</i> L.	straggler daisy	non-native	uncommon
<i>Conyza bonariensis</i> (L.) Cronq.	hairy horseweed	non-native	rare
<i>Emilia fosbergii</i> Nicolson	red pualele	non-native	rare
<i>Flaveria trinervia</i> (Spreng.) C. Mohr	clustered yellowtops	non-native	rare
<i>Pluchea indica</i> (L.) Less.	Indian fleabane	non-native	rare
<i>Sonchus oleraceus</i> L.	pualele	non-native	rare
<i>Synedrella nodiflora</i> (L.) Gaertn.	nodeweed	non-native	rare

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
<i>Tridax procumbens</i> L.	coat buttons	non-native	rare
BORAGINACEAE (Borage Family)			
<i>Heliotropium curassavicum</i> L.	kīpūkai	indigenous	rare
CARICACEAE (Papaya Family)			
<i>Carica papaya</i> L.	papaya	non-native	rare
CELASTRACEAE (Bittersweet Family)			
<i>Elaeodendron orientale</i> N. Jacq.	false olive	non-native	uncommon
CLEOMACEAE (Cleome Family)			
<i>Cleome gynandra</i> L.	wild spider-flower	non-native	rare
CLUSIACEAE (Clusia Family)			
<i>Clusia rosea</i> N. Jacq.	autograph tree	non-native	rare
CONVOLVULACEAE (Morning Glory Family)			
<i>Ipomoea batatas</i> (L.) Lam.	sweet potato	Polynesian	rare
<i>Ipomoea triloba</i> L.	little bell	non-native	uncommon
EUPHORBIACEAE (Spurge Family)			
<i>Codiaeum variegatum</i> (L.) Blume	croton	non-native	uncommon
<i>Euphorbia hirta</i> L.	hairy spurge	non-native	uncommon
<i>Euphorbia hypericifolia</i> L.	graceful spurge	non-native	uncommon
<i>Euphorbia prostrata</i> Aiton	prostrate spurge	non-native	rare
<i>Euphorbia pulcherrima</i> Klotzsch	poinsettia	non-native	rare
FABACEAE (Pea Family)			
<i>Desmanthus pernambucanus</i> (L.) Thellung	slender mimosa	non-native	rare
<i>Desmodium tortuosum</i> (Sw.) DC.	Florida beggarweed	non-native	rare
<i>Indigofera spicata</i> Forssk.	creeping indigo	non-native	uncommon
<i>Leucaena leucocephala</i> (Lam.) de Wit	koa haole	non-native	uncommon
<i>Pithecellobium dulce</i> (Roxb.) Benth.	'ōpiuma	non-native	rare
<i>Prosopis pallida</i> (Humb. & Bonpl. ex Willd.) Kunth	kiawe	non-native	uncommon
<i>Samanea saman</i> (Jacq.) Merr.	monkeypod	non-native	rare
LAMIACEAE (Mint Family)			
<i>Ocimum basilicum</i> L.	basil	non-native	rare
LYTHRACEAE (Crepe Myrtle Family)			
<i>Lagerstroemia indica</i> L.	crepe myrtle	non-native	rare
MALVACEAE (Mallow Family)			
<i>Hibiscus rosa-sinensis</i> L.	Chinese hibiscus	non-native	rare
<i>Hibiscus tiliaceus</i> L.	hau	Polynesian	rare
<i>Malvastrum coromandelianum</i> (L.) Garcke	false mallow	non-native	uncommon

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
<i>Sida ciliaris</i> L.	bracted fan-petals	non-native	uncommon
MORACEAE (Mulberry Family)			
<i>Ficus benjamina</i> L.	weeping fig	non-native	uncommon
<i>Ficus microcarpa</i> L.f.	Chinese banyan	non-native	uncommon
<i>Ficus microcarpa</i> var. <i>crassifolia</i> (W.C.Shiel) J.C. Liao	wax fig	non-native	uncommon
MORINGACEAE (Drumstick Tree Family)			
<i>Moringa oleifera</i> Lam.	drumstick tree	non-native	rare
NYCTAGINACEAE (Four-o'clock Family)			
<i>Boerhavia coccinea</i> Mill.	scarlet spiderling	non-native	uncommon
<i>Bougainvillea spectabilis</i> Willd.	bougainvillea	non-native	uncommon
PHYLLANTHACEAE (Phyllanthus Family)			
<i>Phyllanthus tenellus</i> Roxb.	long-stalked phyllanthus	non-native	rare
PORTULACACEAE (Purslane Family)			
<i>Portulaca oleracea</i> L.	purslane	non-native	rare
ROSACEAE (Rose Family)			
<i>Eriobotrya japonica</i> (Thunberg) Lindley	loquat	non-native	rare
RUBIACEAE (Coffee Family)			
<i>Morinda citrifolia</i> L.	noni	Polynesian	rare
RUTACEAE (Citrus Family)			
<i>Citrus limon</i> (L.) N.L. Burmann	lemon	non-native	rare
<i>Citrus sinensis</i> (L.) Osbeck	sweet orange	non-native	rare
VERBENACEAE (Verbena Family)			
<i>Citharexylum spinosum</i> L.	fiddlewood	non-native	rare
<i>Duranta erecta</i> L.	golden dewdrop	non-native	uncommon

FAUNA SURVEY REPORT

SURVEY METHODS

A fauna survey was conducted in conjunction with the flora survey. All parts of the project area were covered. Observations were made with the assistance of binoculars. Notes were made of species, numbers and status as well as on tracks, scat and signs of feeding. An inventory was made of all of the animal species encountered.

In addition, an evening survey was conducted to observe crepuscular activities and calls, and to determine any occurrence of the Endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) in the project area.

MAMMALS

Three non-native mammal species were observed in the project area during two site visits. Taxonomy and nomenclature follow Tomich 1986. These included several cats (*Felis catus*) that appeared during the evening, mongoose (*Herpestes auropunctatus*) and domestic dogs (*Canis familiaris*). Other non-native mammals likely to frequent this area include mice (*Mus domesticus*) and rats (*Rattus* spp.)

A special effort was made to look for the native Hawaiian hoary bat which is a federally listed Endangered species. An evening survey was conducted at two locations using both visual and electronic techniques. When present in an area these bats are clearly visible in the glow of twilight as they forage for insects that become active during evening hours. In addition a bat detecting device (Batbox IIID) was used, set to the frequencies of 27,000 to 28,000 hertz which these bats use when echo-locating for flying insects. No evidence of presence of the Hawaiian hoary bat was detected.

BIRDS

Birdlife was moderate both in number of species present and in the numbers of individuals seen. Nine species were observed including eight common non-native species and one migratory species, the Pacific golden plover (*Pluvialis fulva*). Identifications were made visually and with the aid of binoculars, and by listening to their vocalizations. Taxonomy and nomenclature follow the American Ornithologists' Union (2017). Most common were the zebra dove (*Geopelia striata*), spotted dove (*Streptopelia chinensis*), common myna (*Acridotheres tristis*) and red-crested cardinal (*Paroaria coronata*).

A few other non-native birds may also occasionally use this property. The habitat, however, is not suitable for Oahu's native forest birds which are presently restricted to good quality native forests at higher elevations. The habitat is also not suitable for native seabirds such as the Endangered 'ua'u (*Pterodroma sandwichensis*) and the Threatened 'a'o (*Puffinus auricularis newelli*) which nests in dense, wet fern shrubland near the summits of the mountains. Two Endangered waterbirds, the 'alae ke'oke'o or Hawaiian coot (*Fulica alai*) and the ae'o or Hawaiian stilt (*Himantopus mexicanus knudseni*), occur in a wetland sanctuary in nearby West loch and the ae'o may congregate for the night in open fields and fairways near the project area but they do not use these areas for feeding or breeding and nesting.

INSECTS

Insect life was quite sparse in the project area during two site visits. Just three non-native insect species were observed, the housefly (*Musca domestica*), a long-legged fly (*Chrysosoma palapes*) and the big-headed ant (*Pheidole megacephala*). Taxonomy and nomenclature follow Nishida et al (1992). No native insects were found.

DISCUSSION AND RECOMMENDATIONS

Of the three mammals, nine birds and three insect species seen during the fauna survey, only one native bird, Pacific golden-plover, was a native species. This migratory bird is widespread and common throughout its range in Hawaii and on the mainland and it has no special conservation status. Likewise, all of the non-native fauna species are of no special conservation concern. No special fauna habitats were found to occur on or around this golf course project area. No Critical habitat for any endangered animal species is designated within the project area.

The Endangered 'ua'u and the Threatened 'a'o, while not nesting in the project area, do fly over it during dusk to access their burrows high in the mountains and again at dawn to head out to sea. Young birds taking their first fledging flights are inexperienced fliers. They often are disoriented by bright lights and crash into light structures where they become vulnerable to injury and predators. It is recommended that any significant outdoor lighting associated with the proposed project be hooded to direct the light downward to mitigate this threat.

With the above recommended action the proposed development project is not expected to have a significant negative impact on the fauna resources in this part of O'ahu.

ANIMAL SPECIES LIST

Following is a checklist of the animal species inventoried during the field work. Animal species are arranged in descending abundance within three groups: Mammals, Birds and Insects. For each species the following information is provided:

1. Common name
2. Scientific name
3. Bio-geographical status. The following symbols are used:

endemic = native only to Hawaii; not naturally occurring anywhere else in the world.

indigenous = native to the Hawaiian Islands and also to one or more other geographic area(s).

migratory = bird species that spend the fall and winter months in Hawaii and the spring and summer months breeding in the arctic.

non-native = all those animals brought to Hawaii intentionally or accidentally after western contact.

4. Abundance of each species within the project area:

abundant = many flocks or individuals seen throughout the area at all times of day.

common = a few flocks or well scattered individuals throughout the area.

uncommon = only one flock or several individuals seen within the project area.

rare = only one or two seen within the project area.

MAMMALS

FELIDAE (Cat Family)

Felis catus L. domestic cat non-native uncommon

VIVERRIDAE (Mongoose Family)

Herpestes auropunctatus Hodgson small Indian mongoose non-native uncommon

CANIDAE (Dog Family)

Canis familiaris L. domestic dog non-native rare

BIRDS

COLUMBIDAE (Dove Family)

Geopelia striata L. zebra dove non-native common

Streptopelia chinensis Scopoli spotted dove non-native common

STURNIDAE (Starling Family)

Acridotheres tristis L. common myna non-native common

THRAUPIDAE (Tanager Family)

Paroaria coronata Miller red-crested cardinal non-native common

CHARADRIIDAE (Plover Family)

Pluvialis fulva Gmelin Pacific golden-plover indigenous, migratory uncommon

ZOSTEROPIDAE (White-eye Family)

Zosterops japonicus Temminck & Schlegel Japanese white-eye non-native rare

FRINGILLIDAE (Finch Family)

Carpodacus mexicanus Muller house finch non-native rare

ESTRILDIDAE (Estrildid Finch Family)

Lonchura punctulata L. nutmeg mannikin non-native rare

PHASIANIDAE (Pheasant Family)

Gallus gallus L. common chicken non-native rare

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
INSECTS			
Order DIPTERA - flies			
DOLICHOPODIDAE (Long-legged Fly Family)			
<i>Chrysosoma palapes</i> Handy & Kohn	long-legged fly	non-native	rare
MUSCIDAE (Housefly Family)			
<i>Musca domestica</i> L.	housefly	non-native	uncommon
Order HYMENOPTERA - bees, wasps, ants			
FORMICIDAE (Ant Family)			
<i>Pheidole megacephala</i> Fabricius	big-headed ant	non-native	uncommon



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Image © 2017 DigitalGlobe
Image USGS

Figure 1. Project Area – Ted Makalena Golf Course Waipahu, Waipi'o, O'ahu.



Figure 2. Ted Makalena Golf Course with project area shown in red.

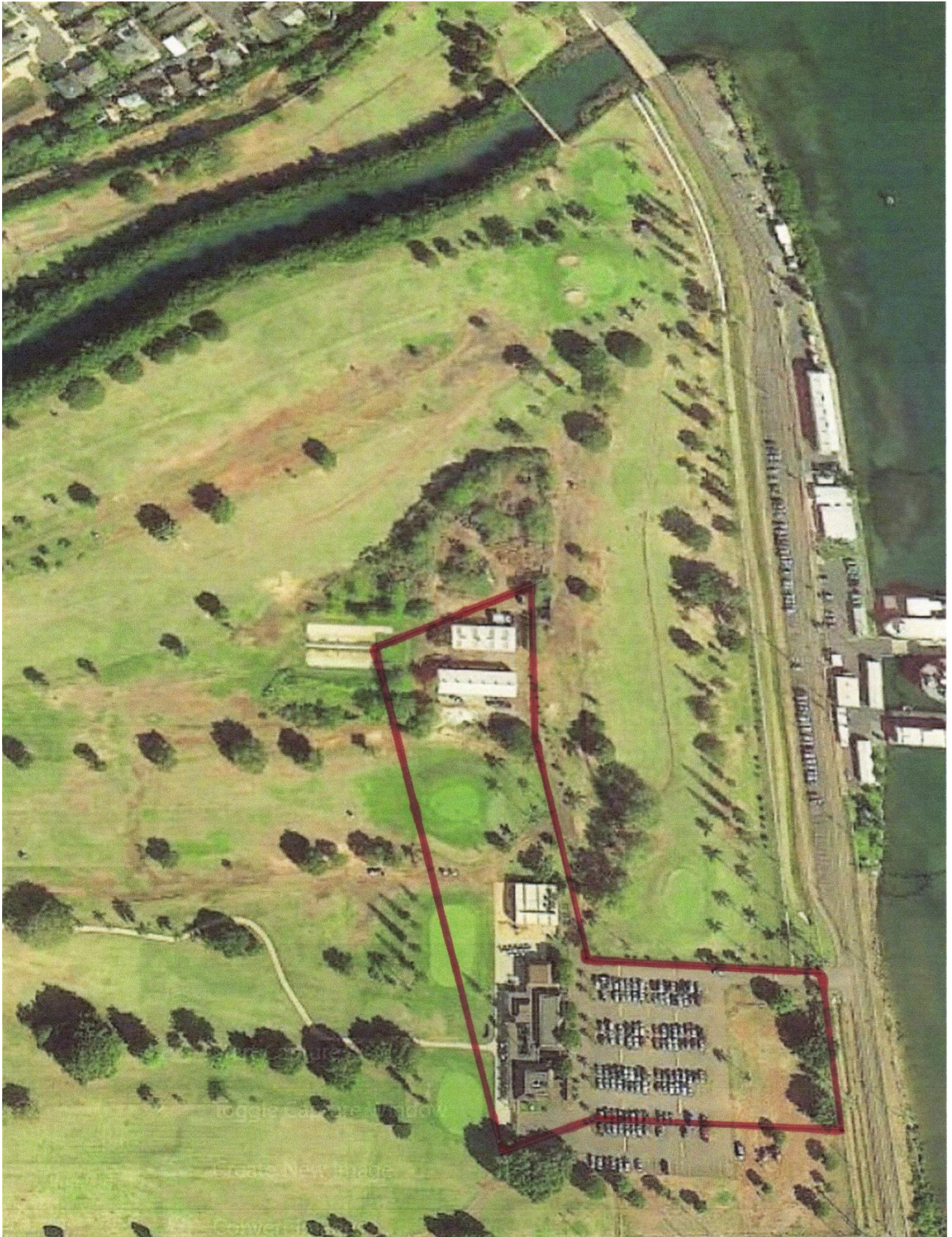


Figure 3. Project area in detail

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APPENDIX C

Wetlands and Waters of the U.S. Survey and Assessment



Wetlands and Waters of the U.S. Survey and Assessment
for the Ted Makalena Golf Course Project – TMK 9-3-2:34
Waipi'o, Ewa, O'ahu

by: Robert W. Hobdy
October 2017

prepared for:
PBR HAWAII

INTRODUCTION

The Ted Makalena Golf Course Project lies on approximately 2.5 acres within this 151 acre golf course, around the clubhouse, parking area and maintenance yard facilities. It is located at the lower edge of Waipahu Town at the upper end of Waipi'o Peninsula adjacent to Middle Loch (see Figures 1, 2, 3). This study was initiated by the owner in fulfillment of environmental requirements of the planning process.

SITE DESCRIPTION

The project area lies along the west side of Waipi'o Point Access Road which borders Middle Loch. The terrain gently slopes up from the road and the project area is situated at six to ten feet above mean sea level. The area is dominated by a clubhouse, parking area and a maintenance yard, but has grass lawn and ornamental landscaping around these facilities. The soils are characterized as Fill Land (Fd) and Kea'au clay, Saline, 0 – 2% slopes (KmbA) (Foote et al, 1972). Rainfall averages 25 inches per year with most occurring during the winter months (Armstrong, 1983).

SITE HISTORY

The entire project area, and in fact the whole present Ted Makalena Golf Course and more, was once an ancient Hawaiian fish pond known as Loko 'eo. This famous royal fish pond, which was shown on 19th century maps and in literature from that period, was over 180 acres in size and had an impressive stone sea wall along the edge of Middle Loch. It was photographed intact in 1930, (see Figure 4, Bishop Museum archives) and shown on a Territorial Tax Map (see Figure 5). This pond was fed by Wailani Stream which flows through Waipahu. Wailani Stream was diverted east to Middle Loch in a cement-walled channel which effectively drained Loko 'eo. The pond was then filled in between 1930 and 1950 with bagasse and mill slurry from Waipahu Mill and some coral and sand dredged from Pearl harbor during World War II to create more arable land for the sugar plantation. This agricultural use was eventually abandoned.

The Ted Makalena Golf Course opened in 1971 on these highly altered soils and has been a popular course for local resident to this day.

WETLAND ASSESSMENT

STUDY OBJECTIVES

This study analyzes the parameters of vegetation, soils and hydrology in the project area following guidelines established by the U.S. Army Corps of Engineers and makes a proposed determination as to whether the area qualifies as having any Jurisdictional Wetlands under their oversight.

SITE DESCRIPTION

The project area lies along the west side of Waipi'o Point Access Road which borders Middle Loch. The terrain gently slopes up from the road and the project area is situated at six to ten feet above mean sea level. The area is dominated by a clubhouse, parking area and maintenance yard, but has grass lawn and ornamental landscaping around these facilities. The soils are characterized as Fill Land (Fd) and Kea'au Clay, Saline, 0 – 2% slopes (KmbA) (Foote et al, 1972). Rainfall averages 25 inches per year with most occurring during the winter months (Armstrong, 1983).

Tools and supplies used to dig and assess each Sampling Point include the following:

- sharpshooter shovel
- 3 inch diameter soil auger
- Natural Resource Conservation Service – soil survey maps and data
- Munsell soil color charts
- camera
- tape measure
- U.S. Army Corps of Engineers Wetland Delineation Manual (1987)
- USACE Regional Supplement: Hawaii and Pacific Islands Region (2012)
- Wetland Determination Data Forms – Hawaii and Pacific Islands Region – version 2.0
- USACE Waters of the U.S. Jurisdictional Form Instructional Guidebook (2007)
- Wetland Indicator Status List for Hawaiian Plants

RESULTS

Sampling Point 1

This sampling point was located near the southeast boundary fence bordering Waipi'o Point Access Road and was about 60 feet from West Loch's water's edge, and an elevation of 6.5 feet above mean sea level. The soil pit was dug with a shovel and an auger to a depth of 47 inches. The first 9 inches was a well-drained reddish-brown silty clay loam. The soil profile from 9 inches to 47 inches consisted of decomposing coral, the last few inches being slightly moist. At 47 inches a hard layer of coral was reached. No water table was present at this depth. It is clear that the water table is deeply buried beneath the surface here and none of the parameters of vegetation, soil or hydrology show any wetland indicators. This sampling point is not within a wetland.

Sampling Point 2

This sampling point is located in the northwest corner of the project area, about 325 feet from West Loch and at an elevation of 8 feet above sea level. The soil pit was dug with a shovel and an auger to a depth of 19 inches. The soil was a well-drained, unstratified silty clay loam which was permeated with angular fragments of hard coral which is consistent with residue from dredged reef material. At 19 inches a layer of hard coral was encountered and further digging was not possible. No water table was present and it is clear that it would be deeply buried within or beneath the coral layer. None of the parameters of vegetation, soil or hydrology exhibited any positive wetland indicators. This sampling point is not within a wetland.

Wetland Study Summary

This project area once lay entirely within the extensive wetland environment of Loko 'eo Fish Pond. This fish pond was fed by Wailani Stream which runs through Waipahu Town. This stream was channelized and diverted laterally to Middle Loch, effectively draining Loko 'eo. The pond was then filled with mill wastes and dredged coral and sand to the apparent depths of 8 to 10 feet. This occurred more than 70 years ago. Land fill projects produce an unpredictable mixture of diverse waste materials that defy categorization.

Loko 'eo was effectively converted from a wetland to an upland and has been in this condition for at least 70 years. It is provisionally determined that no wetlands occur in the project area.

WETLAND DETERMINATION DATA FORM – Hawai'i and Pacific Islands Region

Project/Site: Ted Makalena Golf Course City: Waipahu Sampling Date: 9-29-17 Time: 9:00 am
 Applicant/Owner: City & County of Honolulu State/Terr/Comth.: HI Island: O'ahu Sampling Point: 1
 Investigator(s): Robert Hobby TMK/Parcel: 9-3-2:34 (Por.)
 Landform (hillslope, coastal plain, etc.): Coastal plain Local relief (concave, convex, none): Convex
 Lat: 21° 22' 42-38" N Long: 157° 59' 30-24" W Datum: 6-5-ft. Slope (%): 3%
 Soil Map Unit Name: Fill Land NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>This golf course was formerly a walled fish pond (Loko Eo) prior to 1930 - It was filled in with mill waste by the Sugar Plantation between 1930 and 1950 to create arable land. It became golf course in 1971.</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. <u>Ficus benjamina</u>	<u>60</u>	<u>yes</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)																
2. _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)																
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)																
4. _____																				
5. _____																				
<u>60</u> = Total Cover				Prevalence Index worksheet:																
Sapling/Shrub Stratum (Plot size: _____)				<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>130</u></td> <td>x 4 = <u>520</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>130</u> (A)</td> <td><u>520</u> (B)</td> </tr> <tr> <td align="center" colspan="2">Prevalence Index = B/A = <u>4.0</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>130</u>	x 4 = <u>520</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>130</u> (A)	<u>520</u> (B)	Prevalence Index = B/A = <u>4.0</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>130</u>	x 4 = <u>520</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>130</u> (A)	<u>520</u> (B)																			
Prevalence Index = B/A = <u>4.0</u>																				
Herb Stratum (Plot size: <u>30 ft. radius</u>)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 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.																
1. <u>Cynodon dactylon</u>	<u>70</u>	<u>yes</u>	<u>FACU</u>																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
<u>70</u> = Total Cover																				
Woody Vine Stratum (Plot size: _____)																				
1. _____																				
2. _____																				
<u>0</u> = Total Cover																				
Remarks: <u>This site is a mowed lawn with one large ornamental tree shading a portion of the sampling point.</u>																				

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	2.5YR 5/3	100	None	-	-	-	Silty clay loam, reddish brown	
9-26	5Y 7/1	100	None	-	-	-	decomposed coral, light gray	
26-42	5Y 7/3	100	None	-	-	-	decomposed coral, pale yellow	
42-47	2.5YR 4/3	100	None	-	-	-	decomposed coral, brown, moist	
47+	?	-	-	-	-	-	Layer of hard coral	

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Muck Presence (A8)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Gleyed 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 Soils³:

- Stratified Layers (A5)
- Sandy Mucky Mineral (S1)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Coral
Depth (inches): 47

Hydric Soil Present? Yes No

Remarks: This soil consisted of unstratified reddish-brown material overlaying fossil reef in varying stages of decomposition. It had no hydric soil indicators.

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)
- Inundation 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 Tilled 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)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

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

Remarks: This soil had no wetland hydrology indicators. The former fish pond is so deeply buried with fill material that has lost all wetland characteristics.



Soil Pit 1A – Southeast corner of the project area, elevation 6.5 feet.
Auger shown at 47 inches depth, where struck solid coral layer.



Soil Pit 1B – reddish brown silty clay loam over layers of decomposing coral.
Brown layer at 47 inches was only slightly moist.

WETLAND DETERMINATION DATA FORM – Hawai'i and Pacific Islands Region

Project/Site: Ted Makalena Golf Course City: Waipahu Sampling Date: 9-30-17 Time: 9:00am
 Applicant/Owner: City & County of Honolulu State/Terr/Comlth.: HI Island: O'ahu Sampling Point: 2
 Investigator(s): Robert Hobby TMK/Parcel: 9-3-2:34(por.)
 Landform (hillslope, coastal plain, etc.): Coastal plain Local relief (concave, convex, none): Convex
 Lat: 21°22'48.61" N Long: 157°59'36.73" W Datum: 8 ft Slope (%): 1%
 Soil Map Unit Name: Kea'au Clay, Saline, 0-2% NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (if needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>This golf course was formerly a walled fish pond (Loko Eo) prior to 1930. It was filled in with mill waste by the Sugar Plantation between 1930 and 1950 to create arable land. It became a golf course in 1971.</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30ft Radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Prosopis pallida</u>	<u>55</u>	<u>yes</u>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____				
5. _____				
<u>55</u> = Total Cover				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: _____)				Total % Cover of: _____ Multiply by: _____
1. _____				OBL species <u>0</u> x 1 = <u>0</u>
2. _____				FACW species <u>0</u> x 2 = <u>0</u>
3. _____				FAC species <u>0</u> x 3 = <u>0</u>
4. _____				FACU species <u>110</u> x 4 = <u>440</u>
5. _____				UPL species <u>0</u> x 5 = <u>0</u>
<u>0</u> = Total Cover				Column Totals: <u>110</u> (A) <u>440</u> (B)
Herb Stratum (Plot size: <u>30ft Radius</u>)				Prevalence Index = B/A = <u>4.0</u>
1. <u>Cynodon dactylon</u>	<u>55</u>	<u>yes</u>	<u>FACU</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
<u>55</u> = Total Cover				Hydrophytic Vegetation Indicators:
Woody Vine Stratum (Plot size: _____)				<input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain in Remarks or in the delineation report)
1. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
<u>0</u> = Total Cover				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>This site is a mowed lawn with one kiawe tree shading a portion of the sampling point.</u>				

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-19	5YR 4/4	100	none	-	-	-	silty clay loam, reddish-brown	
19+	?	-	-	-	-	-	with numerous coral fragments ↓ hard coral stratum	

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

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Red Parent Material (F21) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Muck Presence (A8)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

Restrictive Layer (if observed):

Type: Coral

Depth (inches): 19

Hydric Soil Present? Yes No

Remarks: This soil consisted of unstratified reddish-brown material with numerous coral fragments overlaying a dense hard fossil coral reef. It had no hydric soil indicators.

HYDROLOGY

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

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Tilapia Nests (B17)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Salt Deposits (C5)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Fiddler Crab Burrows (C10) (Guam, CNMI, and American Samoa)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)		

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): _____

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

Wetland Hydrology Present? Yes No

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

Remarks: This soil had no wetland hydrology indicators.



Soil Pit 2A at northwest corner of project area, elevation 8 feet. Unstratified layer of reddish brown silty clay loam to 19 inches where struck a solid layer of coral.



Soil Pit 2B – Reddish brown silty clay loam with numerous coral fragments over an impervious layer of hard coral at a depth of 19 inches.

Waters of the U.S. Assessment

The diversion of Wailani Stream and the subsequent filling of Loko 'eo Fish Pond resulted in two dramatic changes to the aquatic resources in the project area and its surroundings: First, all traces of stream courses and other flow patterns had been obliterated and second, all potential wetland resources had been deeply buried under 8 to 10 feet of fill material. The present ground surface is mostly level with a few slight undulations, and with a gentle downward slope on the east boundary toward Waipio Point Access Road and Middle Loch shoreline.

No wetlands were found in the project area and no other aquatic resources were identified. The USACE Approved Jurisdictional Determination Form and its Instructional Guidebook were applied to this project and its resources, but none of the resources matched any of the categories set forth in this evaluation process as aquatic resources of any kind.

This leads to the conclusion there are no Waters of the U.S. resources in this project area.

SUMMARY

The Ted Makalena Golf Course project was the subject of studies assessing any potential Wetlands and Waters of the U.S. following Corps of Engineers guidelines. Analyses following these two sets of guidelines yielded these two proposed determinations.

1. The project area was found to have no Wetlands and thus no jurisdictional resources. It meets the definition of a non-wetland.
2. The project area contains no jurisdictional Waters of the U.S. resources.

These analyses and proposed determinations are to be submitted to the U.S. Army Corps of Engineers, Regulatory Office, Building 230, Fort Shafter, HI 96858-5440 for their review, formal determination and certification.

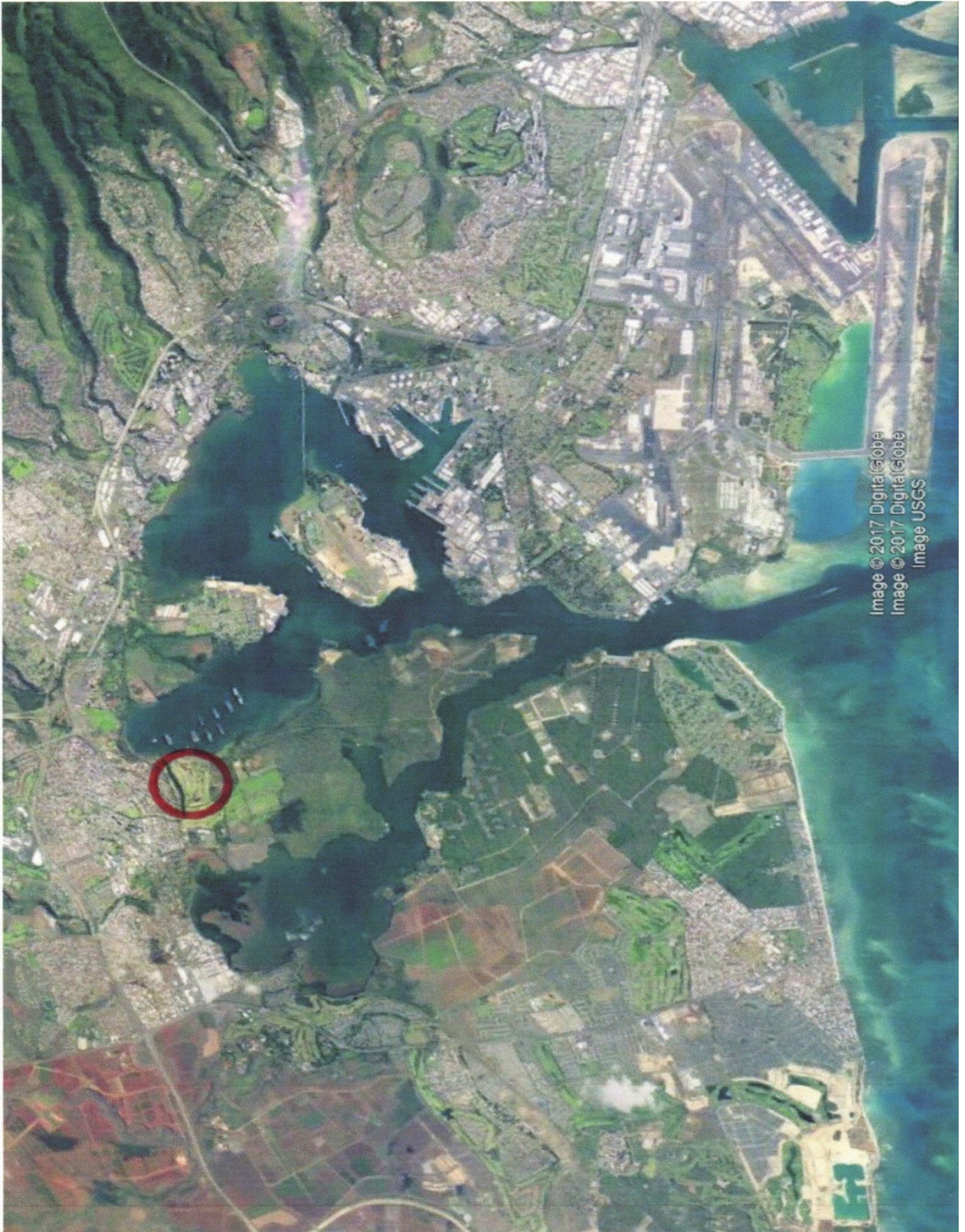


Figure 1. Project Area – Ted Makalena Golf Course, Waipahu, Waipi’o, O’ahu



Figure 2. Ted Makalena Golf Course with project area shown.

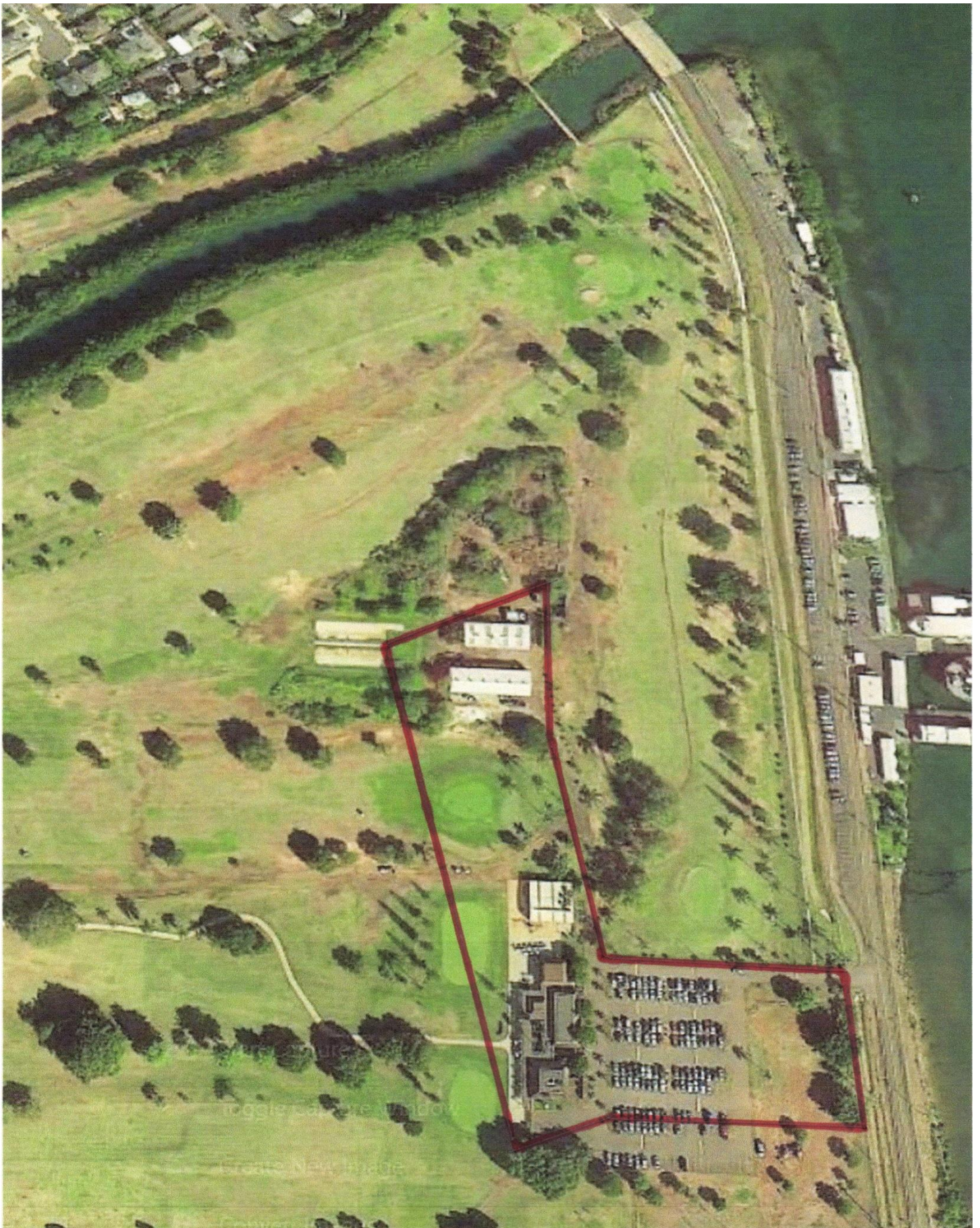


Figure 3. Project Area in detail



Figure 4.

photograph taken in 1930 at Loko 'eo fishpond in the Waipi'o Peninsula of Pearl Harbor
(J. Gilbert McAllister photograph, CN 15355, Bishop Museum Archives).

The Loko 'eo fishpond was filled and now is the site of the present-day Ted Makalena golf course.



Figure 6. Project area showing locations of sampling points 1 and 2.

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):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: HAWAII County/parish/borough: City and County HONOLULU City: HONOLULU

Center coordinates of site (lat/long in degree decimal format): Lat. 21.3791° N, Long. 157.9843° W.

Universal Transverse Mercator:

Name of nearest waterbody: MIDDLE LOCH, PEARL HARBOR, 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): 3062

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:

Field Determination. Date(s):

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 waters² (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: 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: **The entire project area, and in fact the whole present Ted Makalena Golf Course and more, was once an ancient Hawaiian fishpond known as Loko 'eo. This famous royal fish pond, which was shown on 19th century maps**

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.

and in literature from that period, was over 180 acres in size and had an impressive stone sea wall along the edge of Middle Loch. It was photographed intact in 1930 (see Figure 4, Bishop Museum archives) and shown on a Territorial Tax Map (see Figure 5). This pond was fed by Wailani Stream which flows through Waipahu. Wailani Stream was diverted east to Middle Loch in a cement-walled channel before 1930 which effectively drained Loko 'eo. The pond was then filled in between 1930 and 1950 with bagasse and mill slurry from Waipahu Mill and some coral and sand dredged from Pearl Harbor during World War II to create more arable land for the sugar plantation. This agricultural use was eventually abandoned.

The Ted Makalena Golf Course opened in 1971 on these highly altered soils and has been a popular course for local residents to this day.

Proceed to 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 waterbody⁴ 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 TNW⁵:

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:
 Manipulated (man-altered). Explain:

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):

- | | | |
|--|--|-----------------------------------|
| <input type="checkbox"/> Silts | <input type="checkbox"/> Sands | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles | <input type="checkbox"/> Gravel | <input type="checkbox"/> Muck |
| <input type="checkbox"/> Bedrock | <input type="checkbox"/> Vegetation. Type/% cover: | |
| <input type="checkbox"/> 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):

- | | | |
|---|---|--|
| <input type="checkbox"/> Bed and banks | | |
| <input type="checkbox"/> OHWM ⁶ (check all indicators that apply): | | |
| <input type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> the presence of litter and debris | |
| <input type="checkbox"/> changes in the character of soil | <input type="checkbox"/> destruction of terrestrial vegetation | |
| <input type="checkbox"/> shelving | <input type="checkbox"/> the presence of wrack line | |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> sediment sorting | |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> scour | |
| <input type="checkbox"/> sediment deposition | <input type="checkbox"/> multiple observed or predicted flow events | |
| <input type="checkbox"/> water staining | <input type="checkbox"/> abrupt change in plant community | |
| <input type="checkbox"/> other (list): | | |
| <input type="checkbox"/> Discontinuous OHWM. ⁷ Explain: | | |

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- | | |
|--|--|
| <input type="checkbox"/> High Tide Line indicated by: | <input type="checkbox"/> Mean High Water Mark indicated by: |
| <input type="checkbox"/> oil or scum line along shore objects | <input type="checkbox"/> survey to available datum; |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings; |
| <input type="checkbox"/> physical markings/characteristics | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges | |
| <input type="checkbox"/> 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:

⁶A 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.

⁷Ibid.

(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:

(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)

Summarize overall biological, chemical and physical functions being performed:

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:

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-RPWs⁸ 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 jurisdictional. 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: .

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰Prior 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: .
- Other: (explain, if not covered above): **This project area was drained and filled-in between 1930 and 1950 to create an essentially level well-drained surface 8 to 10 feet above sea level. All aquatic features were obliterated from the area. The project area and surroundings now meet the definition of an upland habitat.**

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: .
- USDA Natural Resources Conservation Service Soil Survey. Citation: .
- National wetlands inventory map(s). Cite name: .
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):GOOGLE EARTH 2017.
or Other (Name & Date): 1930 PHOTO OF LOKO 'EO, BISHOP MUSEUM ARCHIVES.
- 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:

Literature Cited

Armstrong, R.W. 1983. Atlas of Hawaii, Second Edition. University of Hawaii Press, Honolulu.

Foote, D.E., E.L. Hill, S. Nakamura, F. Stephens. 1972. Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii. USDA, SCS (NRCS). Washington, D.C.

USACE, 1987. Corps of Engineers Wetland Delineation Manual. Department of the Army. Washington, D.C.

USACE, 2012. Regional Supplement to the Corps of Engineers. Wetland Delineation Manual: Hawaii and Pacific Islands Region. Washington, DC.

USACE. Wetland Determination Data Form, version 2.0

USACE. Approved Jurisdictional Determination Form.

USACE. 2013. The National Wetland Plant List.

APPENDIX D

Archaeological Literature Review and Field Inspection (2008)

SHPD Concurrence Letter (2009)



**An Archaeological Literature Review and Field Inspection
for the Ted Makalena Golf Course Improvements Project
Waipi'o Ahupua'a, 'Ewa District, O'ahu
TMK: [1] 9-3-002: 034**

**Prepared for
Gerald Park Urban Planner**

**Prepared by
Jon Tulchin, B.A.
and
Matt McDermott, M.A.**

**Cultural Surveys Hawai'i, Inc.
Kailua, Hawai'i
(Job Code: WAIPIO 4)**

July 2008

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Management Summary

Reference	Archaeological Literature Review and Field Inspection for the Ted Makalena Golf Course Improvements Project Waipi'o Ahupua'a, 'Ewa District, O'ahu TMK: [1] 9-3-002: 034 (Tulchin & McDermott 2008)
Date	July 2008
Project Number	Cultural Surveys Hawai'i Inc. (CSH) Job Code: WAIPIO 4
Investigation Permit Number	The fieldwork component of the archaeological literature review and field inspection study was carried out under CSH's annual archaeological permit # 08-14 issued by the Hawai'i State Historic Preservation Division/Department of Land and Natural Resources (SHPD/DLNR), per Hawai'i Administrative Rules (HAR) Chapter 13-282.
Project Location	The project area is located within the northern portion of the Waipi'o Peninsula, and is bordered by the Middle Loch of Pearl Harbor to the east, Kapakahi Stream to the west, the remnants of the Oahu Railway and Land Company (OR&L) railroad grade to the north, and a government reservation to the south. This area is depicted on the 1999 Pearl Harbor USGS 7.5-minute topographic quadrangle.
Project Funding and Land Jurisdiction	City and County of Honolulu (City)
Project Area Acreage	Approximately 150 acres
Project Description	The Ted Makalena Golf Course Improvements Project consists of the realignment of golf cart paths throughout the project area. Ground disturbance will involve 8-inch deep and 10-foot wide excavations for the installation of 8 feet wide reinforced concrete golf cart paths.
Agencies	SHPD, City
Historic Preservation Regulatory Context and Document Purpose	The proposed project is subject to Hawai'i State environmental and historic preservation review legislation [Hawai'i Revised Statutes (HRS) Chapter 343 and HRS Chapter 6E-8 and HAR Chapter 13-275]. This investigation does not fulfill the requirements of an archaeological inventory survey investigation per the rules and regulations of the SHPD/DLNR (per HAR Chapter 13-276). However, the level of work is sufficient to determine if there are any major archaeological concerns within the project area and to develop data on the general nature, density and distribution of archaeological resources, as well as to provide recommendations of any additional cultural resource management work that might be needed prior to land alteration within the project area. This document was prepared to support the project's historic preservation and environmental review.

Fieldwork Effort	The fieldwork component of the archaeological literature review and field inspection study was accomplished on May 27, 2008, by two CSH archaeologists, Jon Tulchin, B.A., and Douglas Thurman, B.A., under the general supervision of Matt McDermott, M.A. (principal investigator). The fieldwork required approximately 2 person-days to complete.
Results Summary	No historic properties were observed during the field inspection of the project area. The absence of historic properties can be attributed to extensive land modifications associated with historic sugar cultivation and military operations, as well as the modern golf course development observed throughout the project area. Observed land modifications consisted of a dredged drainage canal, leveled and graded areas utilized as fairways, artificial knolls and sand traps, asphalt paved golf cart paths, wooden and concrete structures for golf patrons and maintenance staff, and a green waste dumping area.
Recommendations	<p>CSH recommends consultation with SHPD/DLNR prior to land alteration within the project area. This document should be used to support this consultation with SHPD to establish the appropriate cultural resource management requirements for the project.</p> <p>Based on the results of this investigation, no additional cultural resource management work is recommended for the project. This is based on the results of the field inspection, in which no historic properties were observed, as well as a review of previous archaeological work within the project area and in the immediate vicinity, which suggest that the entire project area contains fill layers that are approximately 3 to 7 meters thick (Goodman & Cleghorn 1998; Athens et al. 2000). The proposed Ted Makalena Golf Course Improvements Project involves minimal ground disturbance involving 8-inch deep and 10-foot wide excavations for the installation of 8 feet wide reinforced concrete golf cart paths. The shallow excavations proposed for this project would be confined within fill layers and would not impact naturally deposited sediments, thus avoiding any subsurface archaeological deposits that may be present.</p>

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Section 1 Introduction

1.1 Project Background

At the request of Gerald Park Urban Planner, Cultural Surveys Hawai'i, Inc. (CSH) completed this archaeological literature review and field inspection study for the Ted Makalena Golf Course Improvements Project, Waipi'o Ahupua'a, 'Ewa District, O'ahu Island, TMK: [1] 9-3-002: 34. The project area is approximately 150-acres and is under the land jurisdiction of the City and County of Honolulu (City). It is located within the northern portion of the Waipi'o Peninsula, and is bordered by the Middle Loch of Pearl Harbor to the east, Kapakahi Stream to the west, the remnants of the Oahu Railway and Land Company (OR&L) railroad grade to the north, and a government reservation to the south. This area is depicted on the 1999 Pearl Harbor USGS 7.5- minute topographic quadrangle (Figure 1, Figure 2, & Figure 3).

The City-funded Ted Makalena Golf Course Improvements Project consists of the realignment of golf cart paths throughout the project area (Figure 4). Ground disturbance will involve 8-inch deep and 10-foot wide excavations for the installation of 8 feet wide reinforced concrete golf cart paths.

The proposed project is subject to Hawai'i State environmental and historic preservation review legislation [Hawai'i Revised Statutes (HRS) Chapter 343 and HRS Chapter 6E-8 and Hawaii Administrative Rules (HAR) Chapter 13-275]. This investigation does not fulfill the requirements of an archaeological inventory survey investigation per the rules and regulations of the State Historic Preservation Division / Department of Land and Natural Resources (SHPD/DLNR) (per HAR Chapter 13-276). However, the level of work is sufficient to determine if there are any major archaeological concerns within the project area and to develop data on the general nature, density, and distribution of archaeological resources, as well as to provide recommendations of any additional cultural resource management work that might be needed prior to land alteration within the project area. This document was prepared to support the project's historic preservation and environmental review.

1.2 Scope of Work

The agreed upon scope of work for this archaeological literature review and field inspection was as follows:

1. Historical research including study of archival sources, historic maps, Land Commission Awards and previous archaeological reports to construct a history of land use and to determine if archaeological sites have been recorded on or near the project area.
2. Limited field inspection of the project area to identify any surface archaeological features and to investigate and assess the potential for impact to such sites. This assessment will identify any sensitive areas that may require further investigation or mitigation before the project proceeds.

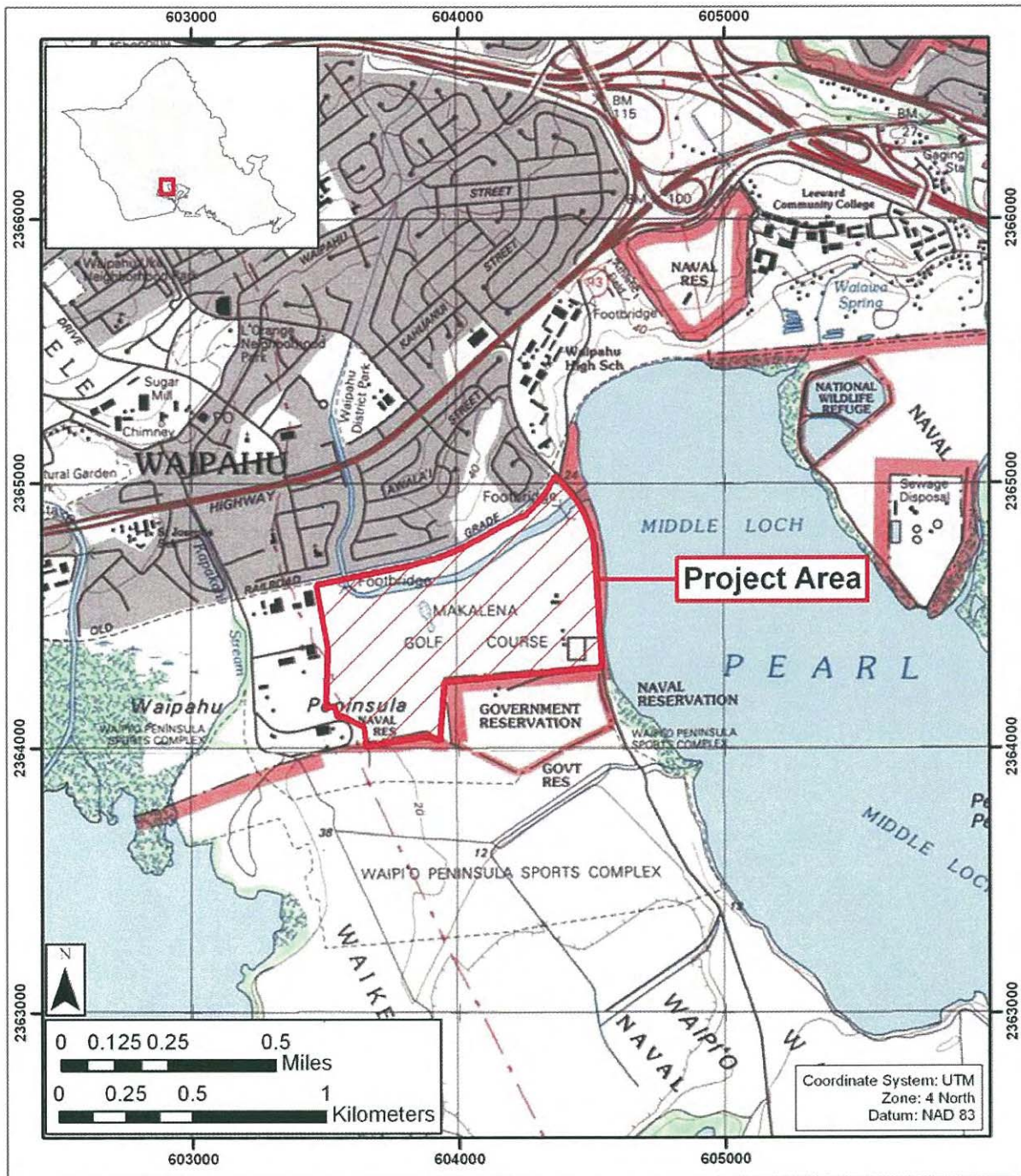


Figure 1. Portion of 1998 Pearl Harbor USGS 7.5-minute topographic quadrangle, showing the location of the project area

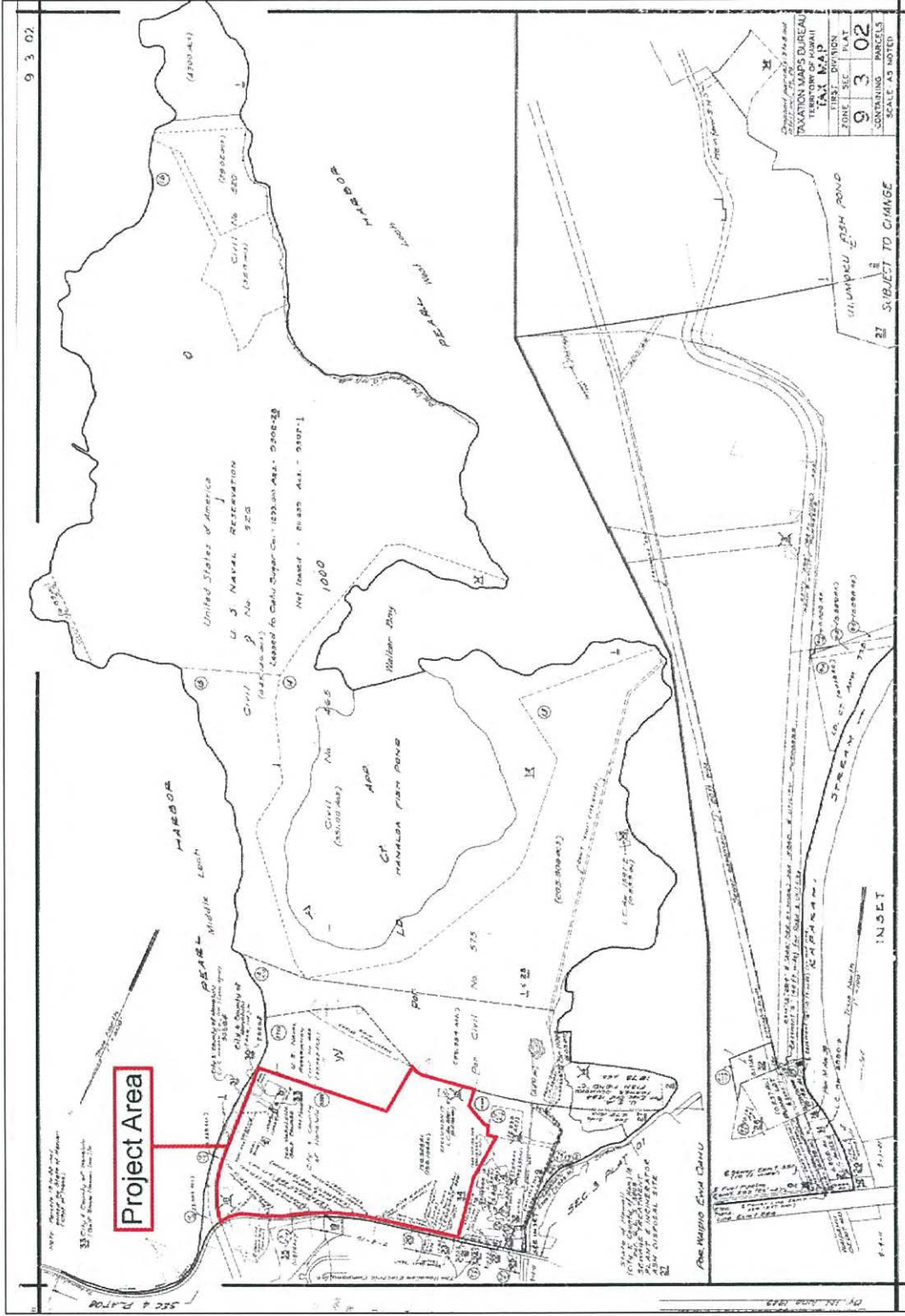


Figure 2. Tax Map Key 9-3-002 showing project area location

Field Inspection and Literature Review for the Ted Makalena Golf Course

TMK [1] 9-3-002: 034



Figure 3. Aerial photograph showing the location of the project area (source: U.S.G.S Orthoimagery 2005)

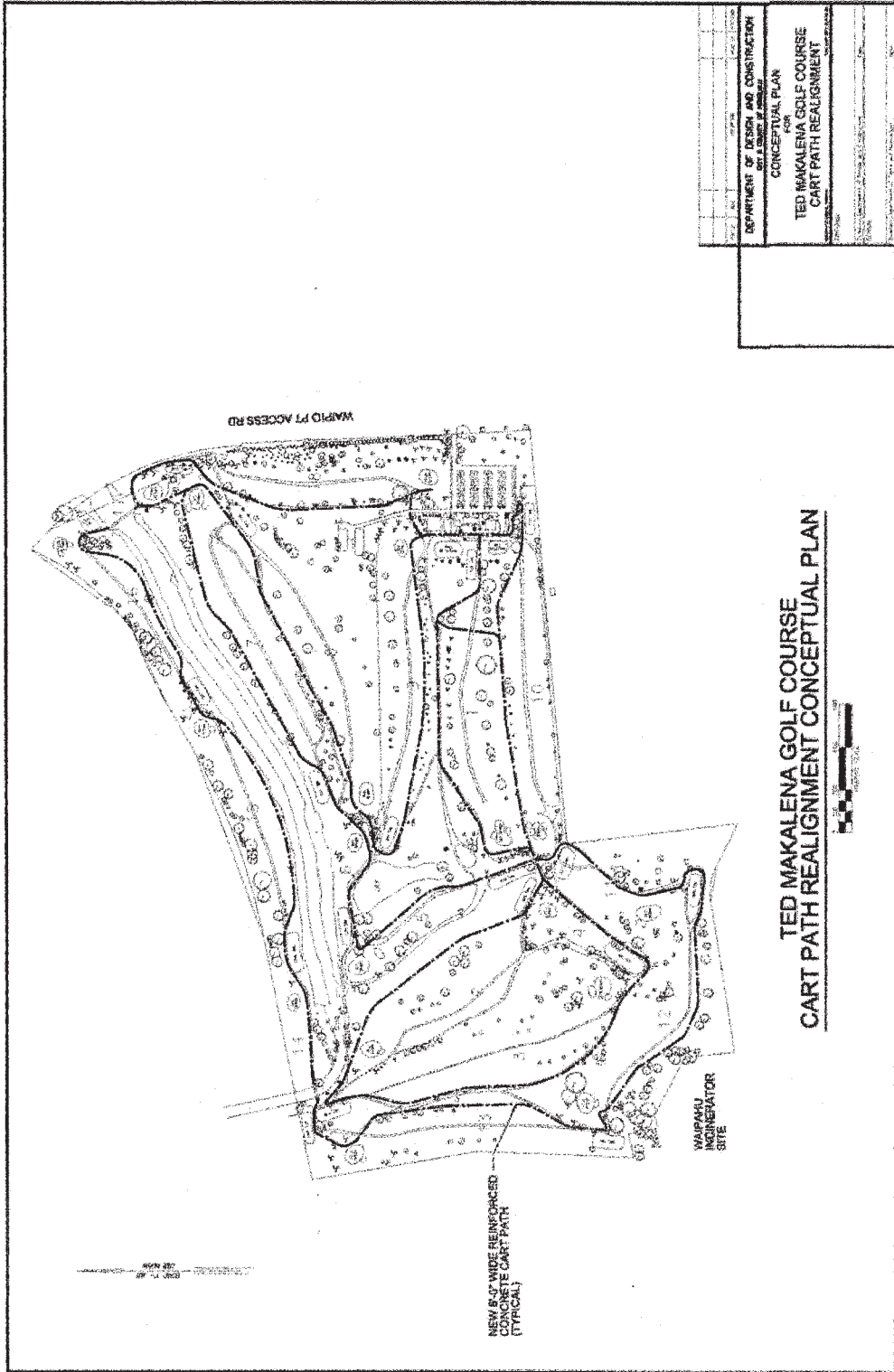


Figure 4. Ted Makalena Golf Course Cart Path Realignment Conceptual Plan (source City & County of Honolulu Department of Design & Construction)

3. Preparation of a report to include the results of historical research and the limited fieldwork with an assessment of archaeological potential based on that research, with recommendations for further archaeological work, if appropriate. It will also provide mitigation recommendations if there are archaeologically sensitive areas that need to be taken into consideration

1.3 Environmental Setting

1.3.1 Natural Environment

The project area is located on the northernmost portion of the low-lying Waipi'o Peninsula. The topography within the project area is level with elevations ranging from approximately 1-5 m (3-16 ft.) AMSL (Above Mean Sea Level). The average annual rainfall in the vicinity of the project area is approximately 600-800 mm (23-31 in.) (Giambelluca et al. 1986). Vegetation in the project area predominantly consists of manicured lawns and ornamental trees.

Soils within the project area primarily consist of Keaau Clay (KmbA) and Fill Land (Fd) (Figure 5). Soils of the Keaau Series consist of "poorly drained soils on coastal plains... developed in alluvium deposited over reef limestone or consolidated coral sand" (Foote et al. 1972). Fill Land consists of "areas filled with material from dredging, excavation from adjacent uplands, garbage, and bagasse and slurry from sugar mills" (Foote et al. 1972).

1.3.2 Built Environment

The entire project area appears to have been disturbed during previous land modification activities, such as filling, leveling, and grading, associated with the construction of the Ted Makelena Golf Course. The project area consists of an in-use golf course facility consisting of multiple structures utilized for golf patron services and maintenance facilities, an asphalt paved parking lot, and an approximately 150-acre golf course (see Figure 3). The golf course consists of an artificial landscape containing knolls, depressions, flats, and sand traps, as well as an extensive network of dirt roads. Also of note is a channelized stream which runs through the northern portion of the project area and empties into the Middle Loch of Pearl Harbor.

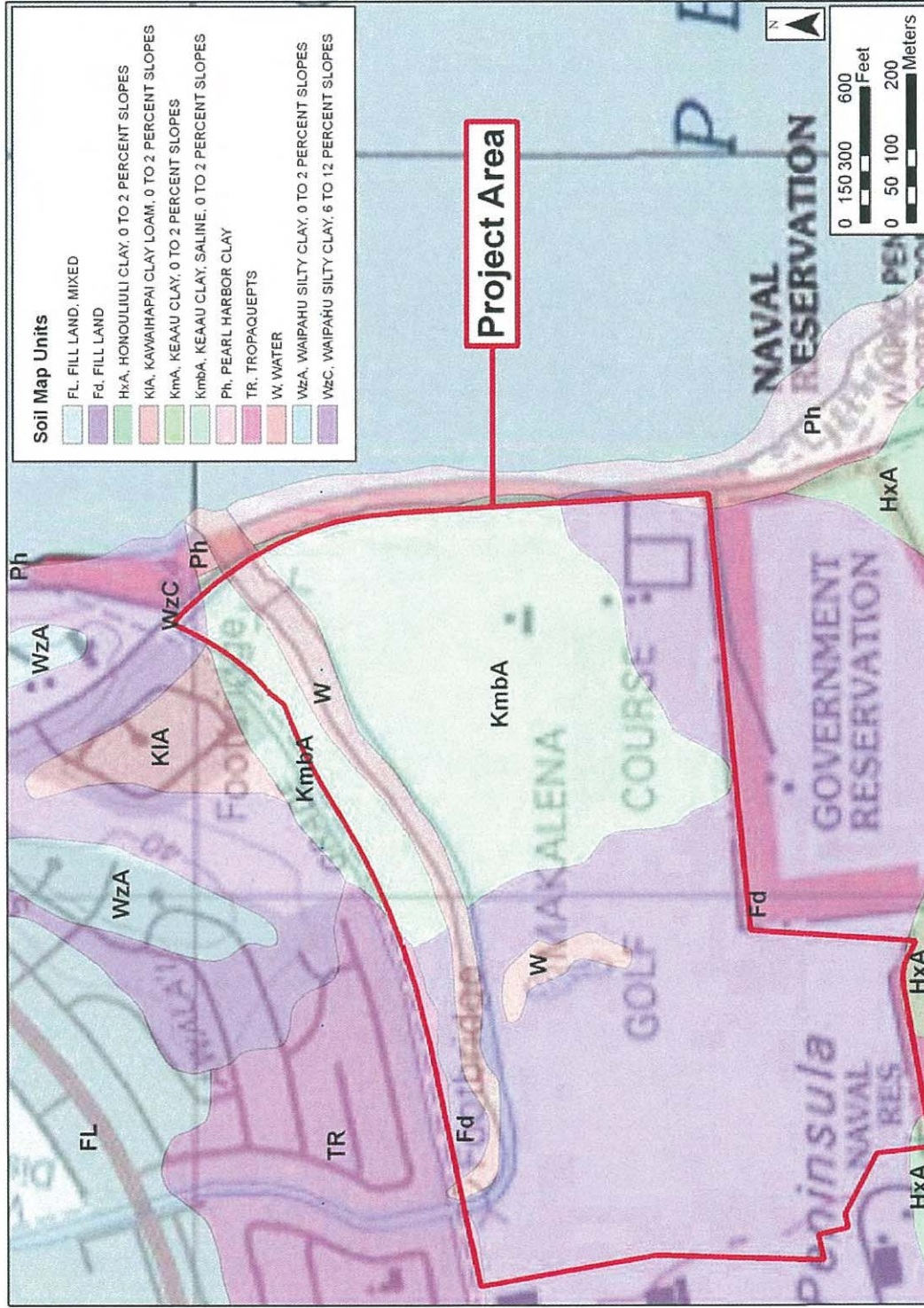


Figure 5. Overlay of Soil Survey of the State of Hawai'i (Foote et al. 1972), indicating sediment types within the project area

Section 2 Methods

2.1 Document Review

Background research included: a review of previous archaeological studies on file at SHPD; review of documents at Hamilton Library of the University of Hawai'i, the Hawai'i State Archives, the Mission Houses Museum Library, the Hawai'i Public Library, and the Archives of the Bishop Museum; study of historic photographs at the Hawai'i State Archives and the Archives of the Bishop Museum; and study of historic maps at the Survey Office of the Department of Land and Natural Resources. Historic maps and photographs from the CSH library were also consulted. In addition, Māhele records were examined from the Waihona 'Aina database (<www.waihona.com>).

This research provided the environmental, cultural, historic, and archaeological background for the study area. The sources studied were used to formulate a predictive model regarding the expected types and locations of historic properties in the study area.

2.2 Field Methods

The fieldwork component of the archaeological literature review and field inspection was conducted on May 27, 2008 by two CSH archaeologists, Jon Tulchin, B.A., and Douglas Thurman, B.A., under the general supervision of Matt McDermott, M.A. (principal investigator). The fieldwork required 2 person-days to complete.

In general, the purpose of the field inspection was to develop data on the nature, density, and distribution of archaeological sites within the study area, and also to develop information on the degree of difficulty that vegetation and terrain create for future archaeological studies. The field inspection consisted of a walk-through reconnaissance along the proposed route of the golf cart realignment corridor (see Figure 4). The spacing between the archaeologists was generally 10-20 m. Potential archaeological sites or site areas were documented with brief written descriptions, and photographs, and were located with Garmin GPS survey technology (accuracy 3-5 m). A track log of the area covered by the pedestrian survey was also generated (see section 4).

Section 3 Background Research

3.1 Traditional and Historical Background

3.1.1 Historical Setting

Handy and Handy (1972) provide the historical context of a prominent 'Ewa District coveted by the Hawaiian *ali'i* (aristocracy):

The primary reason for 'Ewa's prominence in history...was undoubtedly the existence of the great number of fishponds at different points around Pearl Harbor, which was 'Ewa territory. Two of the largest were on the peninsula, and another was at its northwest corner (Handy and Handy 1972:470).

The lowlands, bisected by ample streams, were ideal terrain for the cultivation of irrigated taro. The hinterland consisted of deep valleys running far back into the Ko'olau range. Between the valleys were ridges, with steep sides, but a very gradual increase of altitude. The lower parts of the valley sides were excellent for the culture of yams and bananas. Farther inland grew the 'awa for which the area was famous. The length or depth of the valleys and the gradual slope of the ridges made the inhabited lowlands much more distant from the wao, or upland jungle, than was the case on the windward coast. Yet the wao here was more extensive, giving greater opportunity to forage for wild foods in famine time (Handy and Handy 1972:469).

Waipi'o Ahupua'a, located within the 'Ewa District, was a focus of Hawaiian settlement and activity during the centuries preceding western contact. The name of the *ahupua'a* is translated as "curved, winding water" (Sterling and Summers 1978:1), which probably refers to the curving shorelines of the Middle Loch of Pearl Harbor, with its many adjacent fishponds. Located within the project area is one of the Pearl Harbor fishponds, called Loko 'Eo (Figure 6), where the word *loko* is translated as "pond" and 'eo is translated as "full of food" (Pukui and Elbert 1986:42). A nineteenth century visitor to Loko 'Eo described it in the Hawaiian newspaper Ka Nūpepa Kū'oko'a (Aug. 11, 1899):

We rode and reached Waipio. Saw Halaulani House; only the house stood there for the inhabitants had gone to Mana. The bubbling waster of the pond Eo rippled on the left. There a recollection came of the bundles of fat eel from that place and the delicious mullet of Makahanaloa. It was delicious clean and that is why the very juice in the ti leaves was sucked up by Kohala's son (cited in Sterling and Summers 1978:20).

Handy and Handy (1972) characterize Waipi'o and its peninsula as "an *ali'i* stronghold," and it is known as the scene of many battles between local and invading *ali'i* for political control of O'ahu. The preferred dwelling place of the *ali'i* was located on the eastern portion of Waipi'o Peninsula, known as Lepau, located just south of the current project area (McAllister 1933). The *ali'i* at Waipi'o were no doubt attracted to the great abundance the region offered.

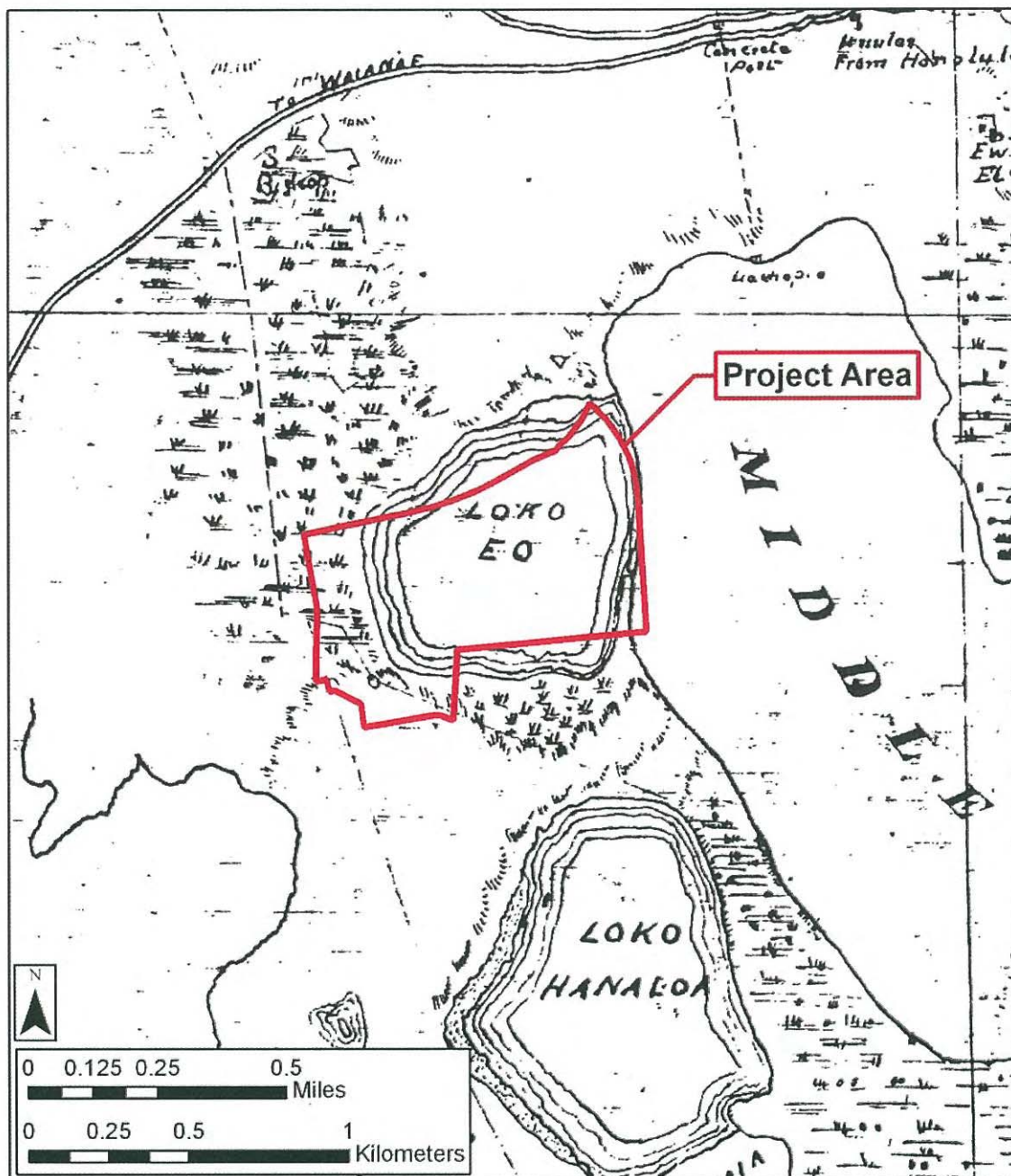


Figure 6. Portion of 1877 J. F. Brown's map of Waipi'o Ahupua'a, showing the project area

The lowland areas of Waipi'o were used for agriculture, as described by E. Craighill Handy in the 1940s:

Between the West Loch of Pearl Harbor and Loko Eo the lowlands were filled with terraces that extended for over a mile up into the flats of Waikele Stream. The lower terraces were formerly irrigated partly from Waipahu Stream, which Hawaiians believe came all the way through the mountains from Kahuku. It is said that terraces formerly existed on the flats in Kipapa Gulch for at least two miles upstream above its junction with Waikele. Wild taros grow in abundance in upper Kipapa Gulch (Handy 1940:82).

3.1.2 Pre-contact to 1800

In the legend of Nāmakaokapao'o, the *kula o Keahumoa* (plain of Keahumoa), located northwest of the project area and just *makai* of Kīpapa gulch, is mentioned. Nāmakaokapao'o's mother was Pokai and his father was Kaulukahai, a great chief of Kahiki (the ancestral home of the Hawaiians). The father returned to his home before the birth of his son, Nāmakaokapao'o, leaving his O'ahu family destitute. A man named Puali'i saw Pokai and desired to marry her. They then resided on the plains of Keahumoa, planting sweet potatoes. Nāmakaokapao'o was a small, brave child who took a dislike to his stepfather, and pulled up the sweet potatoes Puali'i had planted at their home in Keahumoa. When Puali'i came after Nāmakaokapao'o with an axe, Nāmakaokapao'o delivered a death prayer against him, and slew Puali'i, hurling his head into a cave in Waipouli, near the beach at Honouliuli (Fornander 1919, Vol. 5:274-276).

The plains of Keahumoa are of interest as it was the location where sometime during the first half of the eighteenth century, a chief named Kualii; consolidated his supreme power over the entire island of O'ahu by defeating the chiefs of 'Ewa (Cordy 2002:32). Kualii met the competing army on the plains of Keahumoa, but the 'Ewa chiefs surrendered when they saw Kualii's overwhelming forces, and they ceded the lands of Ko'olauloa, Ko'olaupoko, Waialua, and Wai'anae to him (Fornander 1917, Volume IV (2):366, 400).

During the second half of the eighteenth century, Waipi'o again became a focus of political intrigue and warfare. In 1783, the forces of the Maui chief Kahekili gained control of the island of O'ahu by defeating the mō'i, Kahahana, "from the powerful 'Ewa chiefs' line" (Cordy 1981:207). According to the nineteenth-century Hawaiian historian Samuel Kamakau, the defeated O'ahu chiefs plotted to kill the Maui chiefs. Waipi'o was given the name Waipi'o kīmopō, "Waipi'o of secret rebellion," due to all the covert planning (Kamakau 1992:138). Following the plan's failure, Kahekili took revenge on the 'Ewa and Kona districts:

...and when Ka-hekili learned that Elani of 'Ewa was one of the plotters, the districts of Kona and 'Ewa were attacked and men, women, and children were massacred, until the streams of Makaho and Niuhelewai in Kona and of Kahoa'ai'ai in 'Ewa were choked with the bodies of the dead, and their waters became bitter to the taste, as eyewitnesses say, from the brains that turned the water bitter. All the O'ahu chiefs were killed and the chiefesses tortured (Kamakau 1992:138).

If Kamakau is correct, the population of Waipi'o would have been decimated during the 1780s. "The O'ahu society never rose again" (Cordy 1981:208).

Kahekili and the Maui chiefs retained control of O'ahu until the 1790s. Kahekili died at Waikiki in 1794. His son, Kalanikāpule, was defeated the following year at the battle of Nu'uuanu by Kamehameha, who distributed the O'ahu lands - including Waipi'o Ahupua'a - among his favorite followers where "...land belonging to the old chiefs was given to strange chiefs and that of old residents on the land to their companies of soldiers, leaving the old settled families destitute" (Kamakau 1992:376-377).

3.1.3 1800s to 1850

Native Hawaiian activity and habitation at the middle of the nineteenth century continued to be clustered in the *makai* (seaward) lowlands and the fishponds near the coast. The *makai* landscape of the *ahupua'a* was dominated by an extensive network of taro *lo'i* (irrigated fields), as indicated by Land Commission Award (LCA) documents from the mid-nineteenth century Māhele.

The end of the eighteenth century and beginning of the nineteenth century marked Hawai'i's entry into world trade networks. One of the chief exports at this time was sandalwood (*Santalum* sp.) or *'iliahi*, which was prized in China for its unique fragrance and used in the manufacture of household items, as incense, as perfume, and as medicine (St. John 1947). The central plains of 'Ewa (*mauka* of present project area) supplied the Hawaiian Kingdom with *'iliahi*. One of the first generation missionaries, Sereno Bishop (1901), described his memories of the central O'ahu region in the 1830s:

Our family made repeated trips to the home of Rev. John S. Emerson at Waialua during those years. There was then no road save a foot path across the generally smooth upland. We forded the streams. Beyond Kipapa gulch the upland was dotted with occasional groves of Koa trees. On the high plains the ti plant abounded, often so high as to intercept the view. No cattle then existed to destroy its succulent foliage. According to the statements of the natives, a forest formerly covered the whole of the then nearly naked plains. It was burned off by the natives in search of sandalwood, which they detected by its odor burning [cited in Sterling and Summers 1978: 89].

The dry forests formerly covering this region probably never came back, particularly considering the harm done to the *'iliahi* seedlings with the introduction of cattle soon thereafter (Judd 1933).

Around the 1830s, cattle grazing began in the *mauka* regions of Waipi'o (Bishop 1901:87). In 1847, residents of more *makai* land petitioned the Minister of the Interior, John Young, to resolve the problem of stray animals (cited in Hammatt et al. 1996). These stray animals may have been from herds of cattle and goats grazing on the *kula* lands of Waipi'o. In addition to damage from stray animals on the lands of Waipi'o, the impact of grazing animals was noted several kilometers away at Pearl Harbor and in the vicinity of the present project area. Stray cattle probably continued to be a problem until large-scale agriculture was introduced in the early part of the twentieth century. The occupation of the uplands by cattle denuded the countryside of

ground cover, and caused vast quantities of earth to be washed down by storms into the lagoons, shoaling the water for a long distance seaward (Bishop 1901:87).

During much of the nineteenth century, Waipi'o Ahupua'a was associated with John Papa 'I'i, a significant figure and chronicler of the Hawaiian Kingdom. In an account of his birth, 'I'i records the establishment of his family at Waipi'o after the ascendancy of Kamehameha on O'ahu:

John Papa Ii was born in Kumelewai, Waipio, in Ewa, Oahu, on the third day of August (Hilinehu in the Hawaiian calendar) in 1800, on the land of Papa Ii, whose namesake he was. Papa ['I'i's uncle] was the owner of the pond of Hanaloa and two other pieces of property, all of which he had received from Kamehameha, as did others who lived on that *ahupua'a*, or land division, after the battle of Nuuanu. He gave the property to his *kaikua hine*, or cousin, who was the mother of the aforementioned boy. Her names were Wanaoa, Pahulemu, and Kalaikane ['I'i 1959:20].

'I'i's writings, collected in *Fragments of Hawaiian History*, provide glimpses of life within Waipi'o Ahupua'a during 'I'i's lifetime. 'I'i mentions the "family [going] to Kipapa from Kumelewai by way of upper Waipi'o to make ditches for the farms" ('I'i 1959:28) and recalls that, during the visit to O'ahu by the Kaua'i chief Kaumuali'i and his entourage, the chief's attendants were provided with gifts: "From Waipi'o in Ewa and from some lands of Hawaii came tapa made of *mamaki* bark" ('I'i 1959:83). 'I'i notes how a period of famine was managed in Waipi'o and what resources were available during the famine:

Here is a wonderful thing about the land of Waipio. After a famine had raged in that land, the removal of new crops from the taro patches and gardens was prohibited until all of the people had gathered and the farmers had joined in thanks to the gods. This prohibition was called *kapu 'ohi'a* because, while the famine was upon the land, the people had lived on mountain apples (*'ohi'a 'ai*), ti, yams, and other upland foods. On the morning of Kane an offering of taro greens and other things was made to remove the *'ohi'a* prohibition, after which each farmer took of his own crops for the needs of his family ['I'i 1959:77].

3.1.4 The Māhele

The Organic Acts of 1845 and 1846 initiated the process of the Māhele, the division of Hawaiian lands, which introduced private property into Hawaiian society. In 1848, the crown and the *ali'i* received their land titles. The common people (*maka'āinana*) received their *kuleana* awards (individual land parcels) in 1850. It is through records for Land Commission Awards (LCAs) generated during the Māhele that the first specific documentation of life in Waipi'o Ahupua'a, as it had evolved up to the mid-nineteenth century come to light.

The great majority of the awarded land parcels were located in the *makai* portions of Waipi'o, at or just above the peninsula. John Papa 'I'i was awarded most of the *ahupua'a* of Waipi'o in LCA 8241, comprising approximately 20,540 acres. Included in the documentation for 'I'i's award is a list of "the people living on the land of Waipi'o 'Ewa in 1848" (Native Register vol.5: 512-517).

A substantial award within the *ahupua'a* went to Abenera Pākī, the father of Bernice Pauahi Bishop. Part of LCA 10613 given to Pākī comprised the 350 acres of the *'ili* of Hanaloa. Also receiving a land award (LCA 2937) in Waipi'o was William Harbottle, who claimed two acres at Hanapouli'i.

The remaining land claims documented in the records, totaling 99 (not all of which were awarded), are for *kuleana* worked and lived upon by the Hawaiians of Waipi'o. Predominant among the claimed land usages in Waipi'o are 312 *lo'i*, irrigated taro patches, of various sizes; and 43 *mo'o*, or fields, comprising indeterminate numbers of *lo'i*. Clearly, wetland taro cultivation was the primary agricultural pursuit within the *ahupua'a* at the mid-nineteenth century, likely reflecting a long history of taro farming. At the coast, four fishponds are claimed. In the *mauka* reaches of Waipi'o, 53 claims were made for portions of *kula* (pasture land) and 25 for "okipu" or *'okipu'u* (forest clearings). The fact that several claims were made in the *mauka* regions suggests that Waipi'o residents had particular locales that they traveled to repeatedly. *Kula* land is a general term for open fields, pastures, uncultivated fields, or fields for cultivation, and upland (drier), which is distinct from meadow or wetland (Lucas 1995:60). *Kula* lands were often used for opportunistic plantings such as bananas, sugar cane, sweet potatoes, dry land taro, and others that did not depend heavily on a consistent source of water. *Okipu'u* is defined as a forest clearing (Lucas 1995:82), a place that was presumably used to gather forest products and medicinal herbs and or for pasturage.

In contrast to the well-populated *makai* lands of Waipi'o, the *mauka* regions were often described in nineteenth century accounts as virtually uninhabited. The missionary William Ellis described the interior regions of 'Ewa in 1823-24:

The plain of Eva is nearly twenty miles in length, from the Pearl River to Waialua, and in some parts nine or ten miles across. The soil is fertile, and watered by a number of rivulets, which wind their way along the deep water-courses that intersect its surface, and empty themselves into the sea. Though capable of a high state of improvement, a very small portion of it is enclosed or under any kind of culture, and in traveling across it, scarce a habitation is to be seen [Ellis 1963:7].

Despite Ellis' impression of desuetude and absence of people in the more *mauka* reaches of 'Ewa, there is evidence that the population of Waipi'o during the early nineteenth century was not focused solely on the fertile coast. Kamakau notes, in an inventory of advances in education during the reign of Kamehameha III (from 1825 to 1854) that "schools were built in the mountains and in the crowded settlements. Waipi'o had school houses near the coast and in the uplands" (Kamakau 1992:424). The placement of a school "in the uplands" of Waipi'o suggests that some portion of the *ahupua'a* population was settled there.

A 1928 map of Land Court Application 1000 shows nineteen LCAs within the project area, all of which are concentrated within the western portion of the project area, surrounding Loko 'Eo (Figure 7). Documentation from eight LCAs was reviewed in an attempt to reconstruct traditional Hawaiian land use patterns within the project area during the mid nineteenth century (Table 1; see Appendix A). LCA documentation indicates that the project area was utilized for

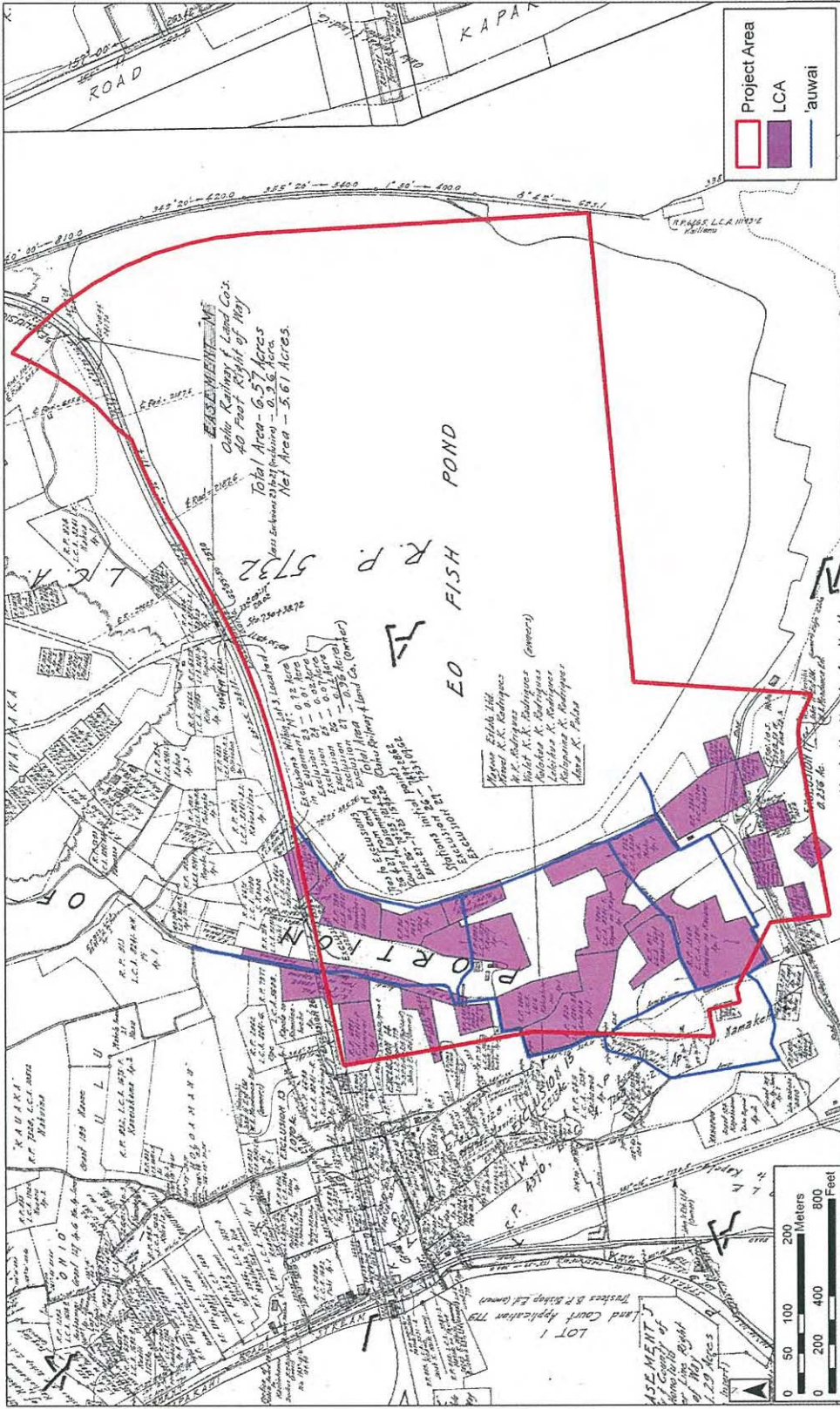


Figure 7. 1928 map of Land Court Application 1000 showing LCAs and 'auwai within the project area

Table 1. Land Commission Awards Located within the Project Area

Land Claim #	Claimant	'Ii	Land Use	Landscape Feature	Awarded
5811	Kumumu	Hanaloa	<i>Kō 'ele</i> (small land unit farmed for the chief), 9 <i>lo 'i</i> (wet land taro patch), <i>loko i 'a kalo</i> (combination fish pond and taro patch), <i>kula</i> (dry land agricultural plot)	Boundary walls, Henuhenu fish pond, sand dunes	2 ap.; 4.65 Acs
6076	Humehume	Puopae	<i>Kō 'ele</i> , <i>loko i 'a kalo</i>	' <i>auwai</i> , <i>loko</i> (fish pond), boundary walls, sand dunes	2 ap.; 1.198 Acs.
8241BB	Koleaka	Homaikaia	<i>loko i 'a kalo</i>	' <i>auwai</i> (irrigation ditch)	1 ap. 1.81 Acs.
8241CB	Keawekolohe	Homaikaia, Hanaloa	<i>Kō 'ele</i> , <i>lo 'i</i> , <i>loko</i>	-	1 ap. 412 Acs.
8241GH	Moku	Kalualaea	House lot, <i>lo 'i</i> , <i>loko</i>	' <i>auwai</i>	1 ap. 255 Acs.
8241GO	Kawahinelawaia	Keio	2 <i>lo 'i</i>	Bounded on all sides by <i>kula</i> and sea of Konohiki	
11199	Kauaila, wahine	Kalualaa, Puuopae	House lot, 2 fish ponds (<i>puuone</i>)	<i>Loko</i> , ' <i>auwai</i> , <i>mo 'o</i> (raised strip of land between ' <i>auwai</i>)	2 ap.; 1.63 Acres
1200	Kihewa	Eoiki, Puuopae	<i>Kula</i> , <i>loko kalo</i> (combination fish pond and taro patch)	Boundary walls, <i>Loko</i> (fish pond)	1 ap.; 1.4 Acs.

traditional Hawaiian habitation, agriculture, and aquaculture. The presence of house lots, *'auwai* (irrigation ditches), *lo'i* (wet land taro patches), *loko* (fish ponds), *loko i'a kalo* (combination fish pond and taro patch) *kula* (dry land agricultural plots), and *kō 'ele* (small land units farmed for the chief) are all indicated, suggesting extensive traditional Hawaiian land use within the project area.

3.1.5 1850's to 1900

During the later 1800s, taro fields were converted to rice fields as Chinese immigrants began to lease and purchase land. The 1877 Brown map of Waipi'o Ahupua'a (see Figure 6) shows the western portion of the project area as swamplands, which would be suitable for rice cultivation.

After John Papa 'Ī'ī's death in 1870, his estate--including the Waipi'o lands-- was inherited by his daughter Irene 'Ī'ī Brown. Shortly after, small parcels within the *ahupua'a* were sold off, including land sold to James Robinson and Co. in September 1871 (Riford and Cleghorn 1986:22). It would not be until the late 1890s that large tracts of Waipi'o land would be leased for large-scale commercial agriculture.

In 1897, the newly organized Oahu Sugar Company leased 3,400 acres of Waipi'o land from the 'Ī'ī estate (Condé and Best 1973:313). A 1925 Oahu Sugar Company map indicates that the current project area was within the boundaries of Oahu Sugar Company operations (Figure 8). The project area does not appear to have been planted with cane, but may have been utilized for other aspects of sugar cane operations such as a staging area for irrigation and/or railroad maintenance equipment.

In 1889, Benjamin Dillingham organized the Oahu Railway and Land (OR&L) Company. The railroad connected the outlying areas of O'ahu to Honolulu. By 1890, the railroad reached from Honolulu to Pearl City and continued on to Waianae in 1895, to Waialua Plantation in 1898, and to Kahuku in 1899 (Kuykendall 1967:100). A 1919 War Department map shows railroad tracks running along the northern and eastern borders of the project area (Figure 9).

3.1.6 1900's to Present

By the early decades of the twentieth century, rice farming in the area (as in the rest of the Hawaiian Islands) was in decline, beset by crop diseases and cheaper prices for rice from the mainland. Commercial agriculture became dominated by sugar, particularly with the founding and development of the Oahu Sugar Company.

A lease from the John 'Ī'ī Estate, Ltd. to Yoshisuke Tanimoto and Kintaro Izumi in 1908 led to the formation of the Waipi'o Pineapple Company, which cleared and cultivated approximately 223 acres in portions of Kipapa Gulch (Department of Land and Natural Resources Land Record Books:228-235). In 1915, Libby, McNeill & Libby took over Waipi'o Pineapple Company's leases and continued to cultivate pineapple in the area. By the late 1920s, James Dole's Hawaiian Pineapple Company, incorporated in 1901, was cultivating pineapple on thousands of acres leased from the 'Ī'ī estate in the *mauka* area of Waipi'o.

Meanwhile, the Oahu Sugar Company was dealing with the problem of obtaining sufficient water to cultivate sugar. In 1913 a project began to transport water from the windward side of

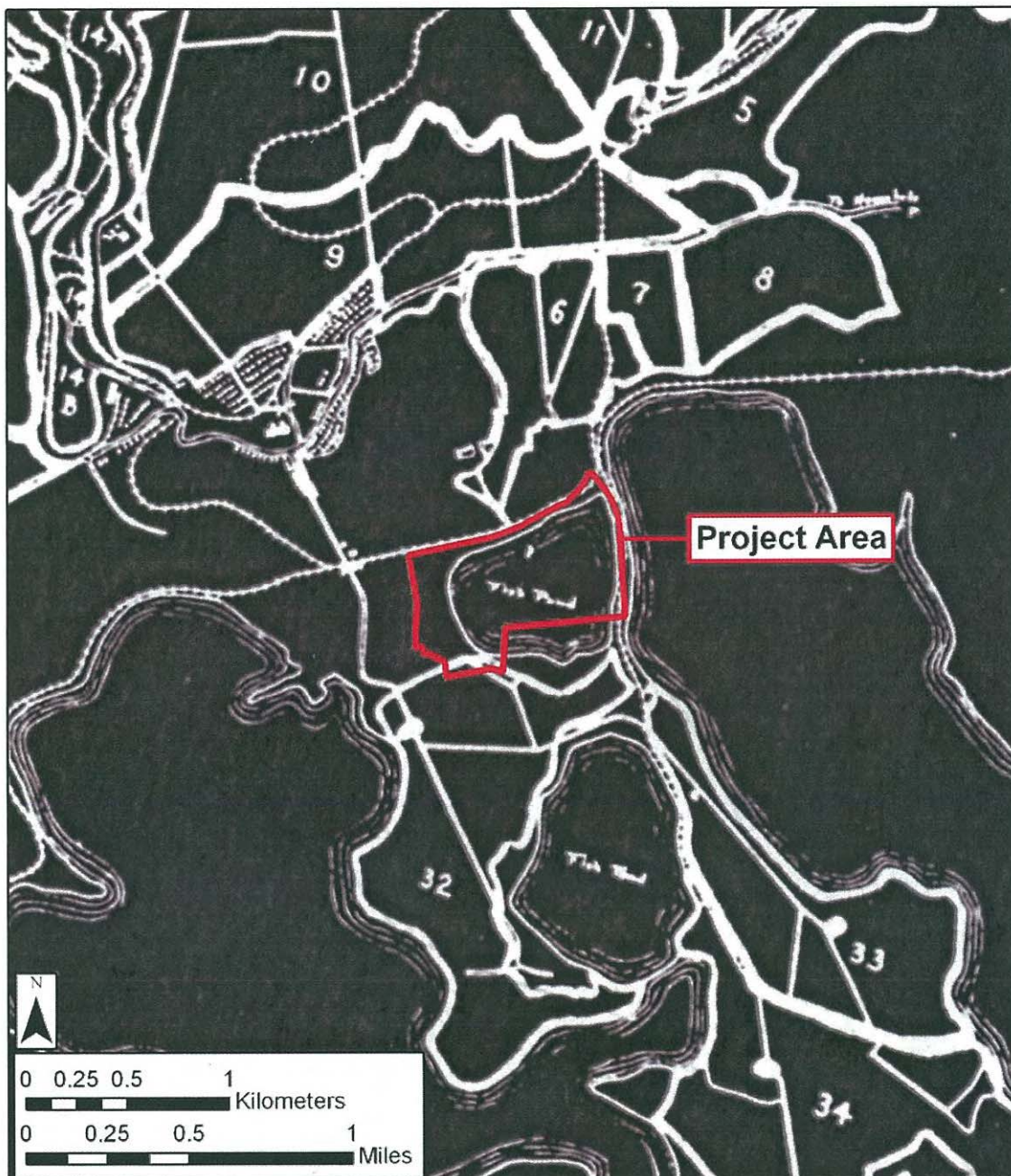


Figure 8. 1925 Oahu Sugar Company map showing project area location

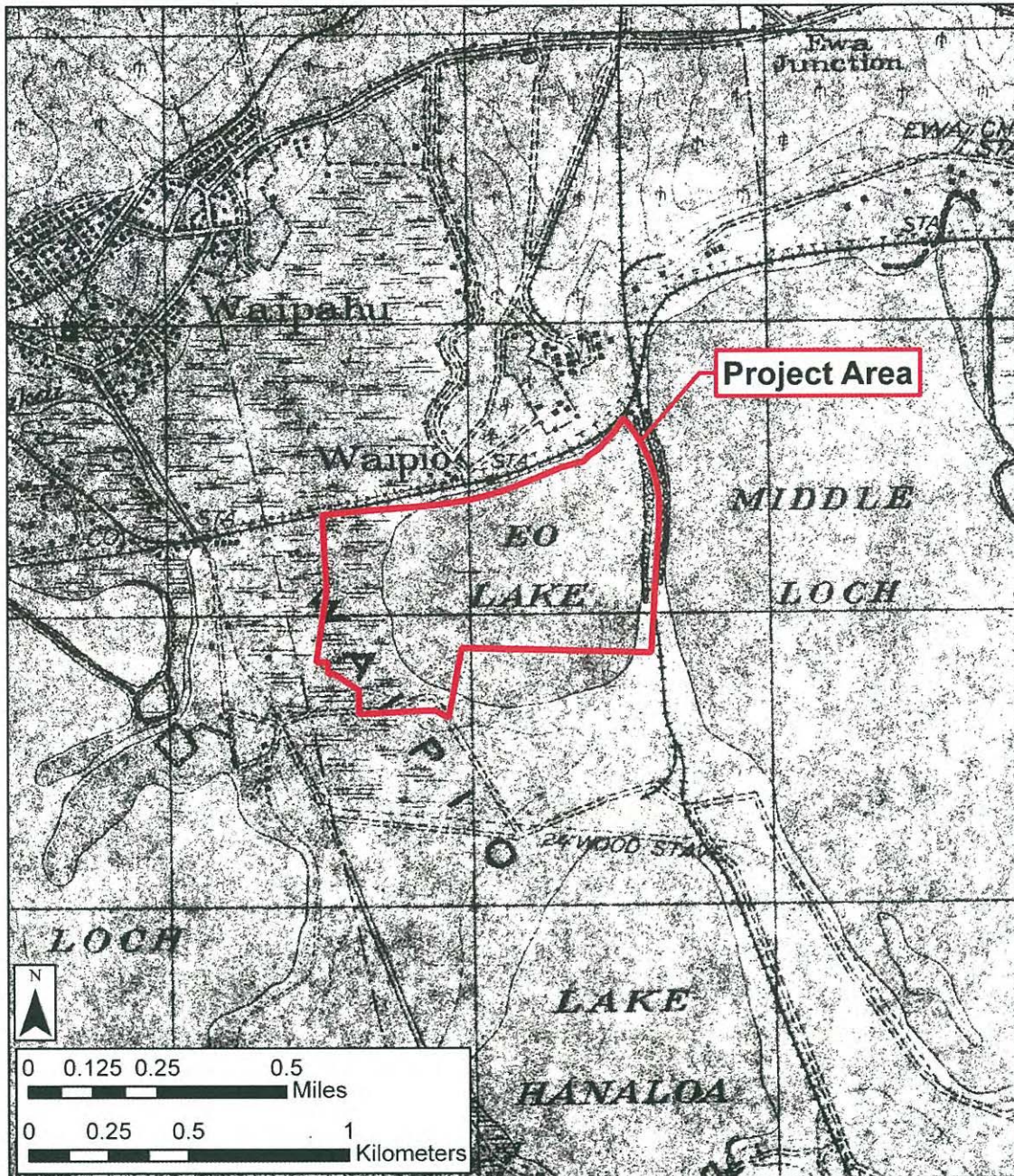


Figure 9. 1919 War Department map showing the location of the project area

O'ahu through the Ko'olau Range to irrigate the fields and provide water to the mill of the Oahu Sugar Company in 'Ewa. The Waiāhole Water Company, a subsidiary of Oahu Sugar, created the Waiāhole Ditch System, which was "an engineering feat of epic proportion for those times" (Condé and Best 1973:37). The ditch system was completed in 1916 and, with some modifications, is still in use. A 1927 USGS map and a 1943 War Department map indicate flumes and pipe lines running through the western portion of the project area, and may represent the expansion of sugar cane activities into this area (Figure 10 & Figure 11).

Early in the twentieth century, the U.S. Government began acquiring the coastal lands of 'Ewa for the development of a naval base at Pearl Harbor. The U.S. Navy began a preliminary dredging program, which created a 30-foot deep entrance channel measuring 200 feet wide and 3,085 feet long. In 1908, money was appropriated for five miles of entrance channel dredged to an additional 35 feet down (Downes 1953). In 1909, the government appropriated the entire Waipi'o peninsula from the 'Ī'Ī estate.

By 1941, Pacific Naval Air Bases expenditures for new construction at Pearl Harbor were in the hundreds of millions of dollars. The Japanese attack on Pearl Harbor, December 7, 1941, damaged or destroyed much of the new construction. Reconstruction was instituted to double the Pearl Harbor's war capacity. Military planners approved a new ammunition depot in the mountainside of Waipahu, a large new hospital in 'Aiea, and thousands of additional changes to the Navy Yard to accommodate the new aircraft carrier task forces (Woodbury 1946). During World War II, the military used the sugar cane rail system to "haul large quantities of ammunition" (Condé and Best 1973:315). A 1956 U.S. Army Map Service map shows the entire project area as part of a "naval reservation" with Loko 'Eo completely drained and filled in (Figure 12).

1968 Dept of Defense Map indicates that the project area is no longer designated as a naval reservation (Figure 13). Also of note is the extensive residential development along the northern border of the project area. It is during this time period that the land jurisdiction of the project area was probably transferred to the City and County of Honolulu, the current land owner of the project area. Following the demilitarization of the project area, the City and County developed it into a municipal golf course. The Ted Makalena Golf Course was opened in 1971 and continues to be in operation. A 1977 aerial photograph shows the completely developed golf course (Figure 14). Of note is the presence of a newly dredged canal through the northern portion of the project area.

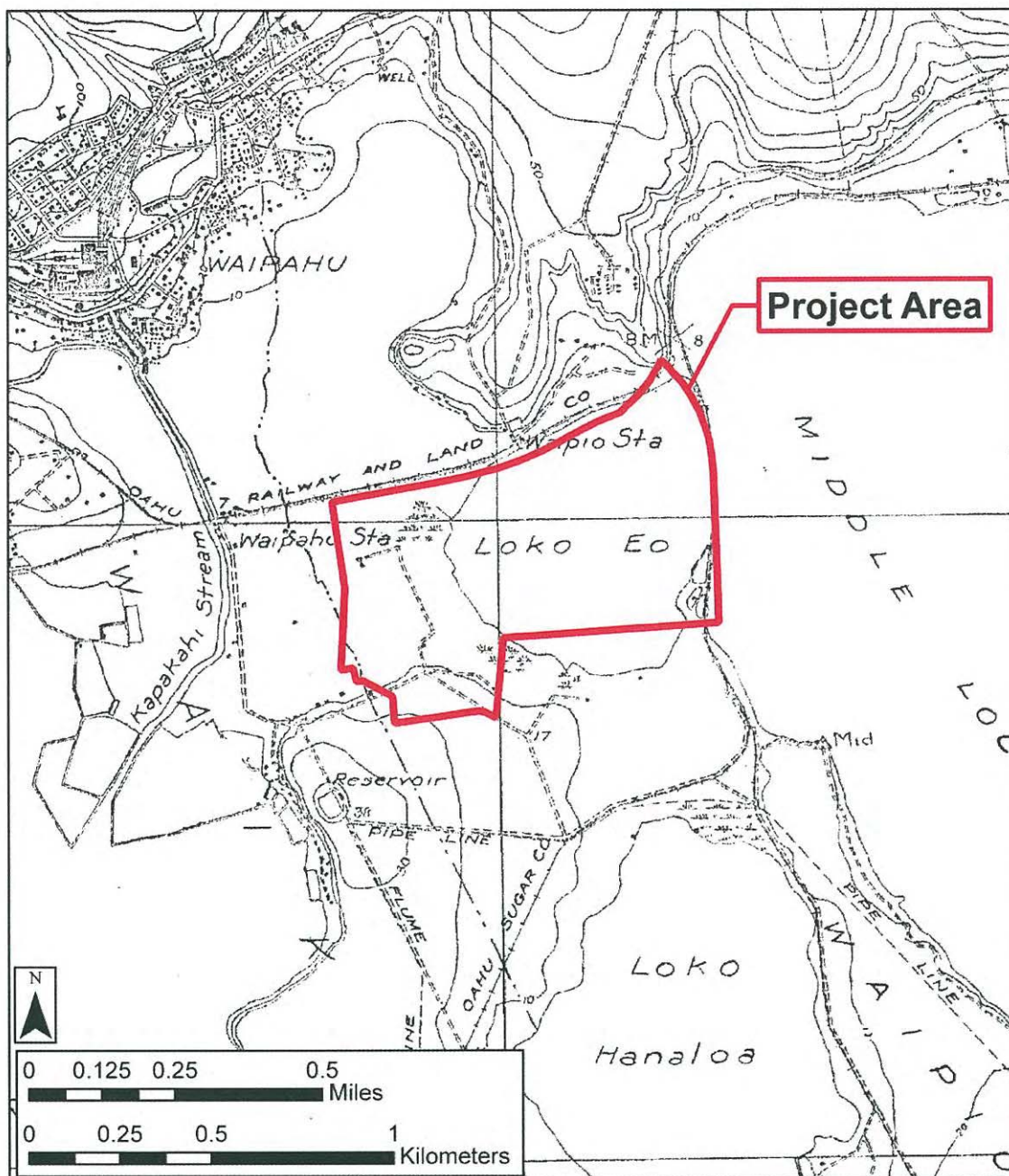


Figure 10. 1927 USGS map showing project area location

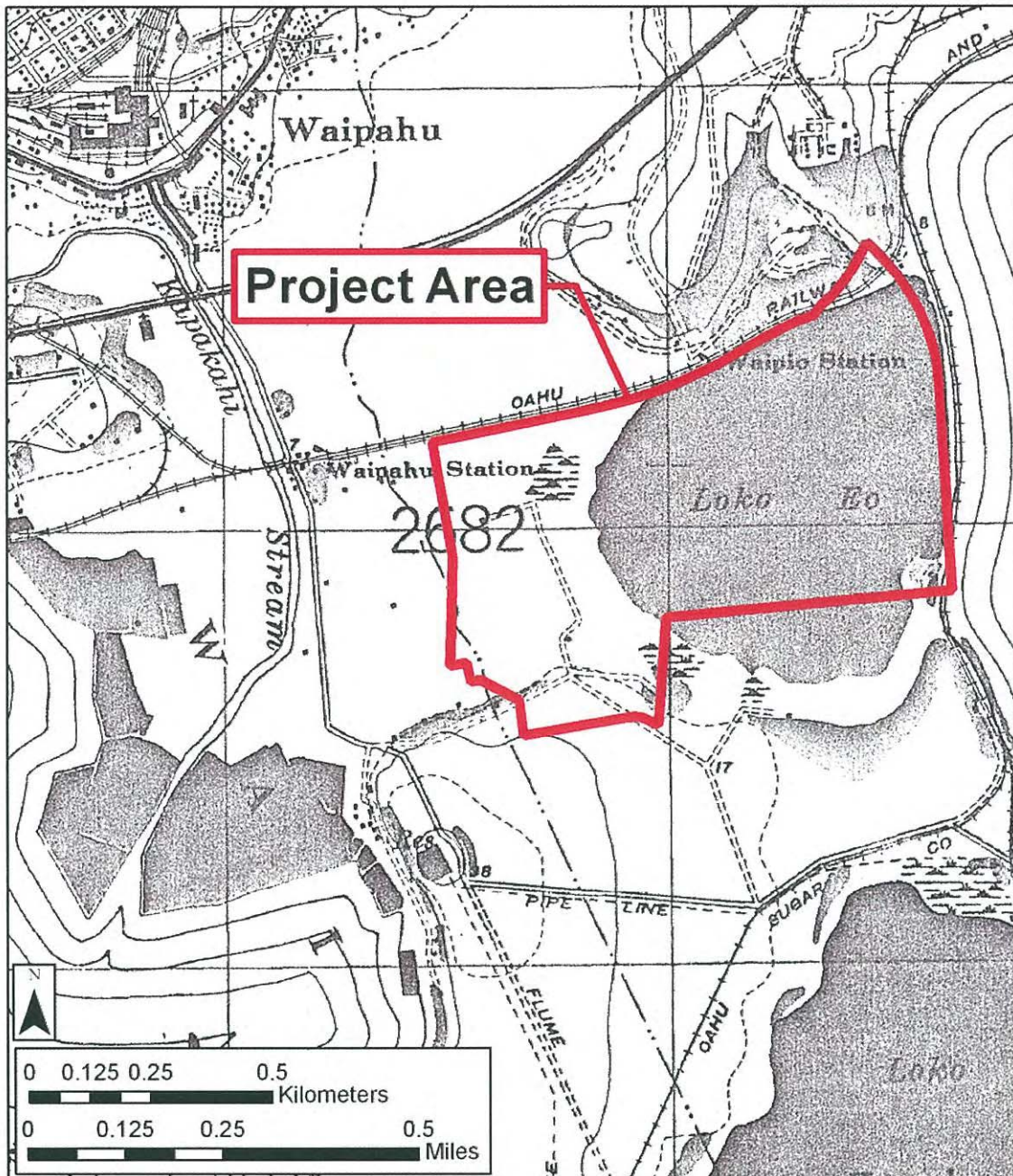


Figure 11. 1943 War Department map showing project area location

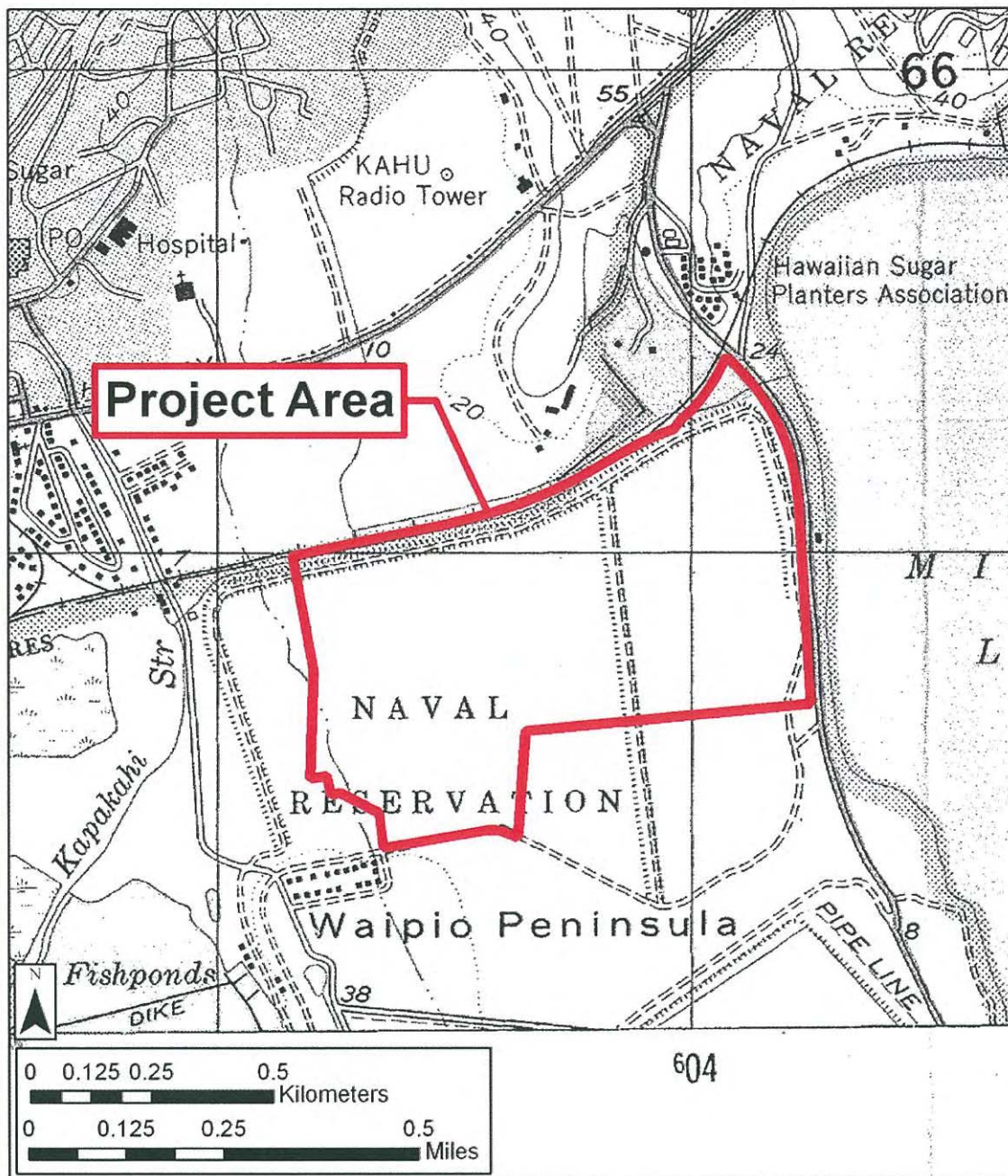


Figure 12. 1956 U.S. Army Map Service map showing project area location

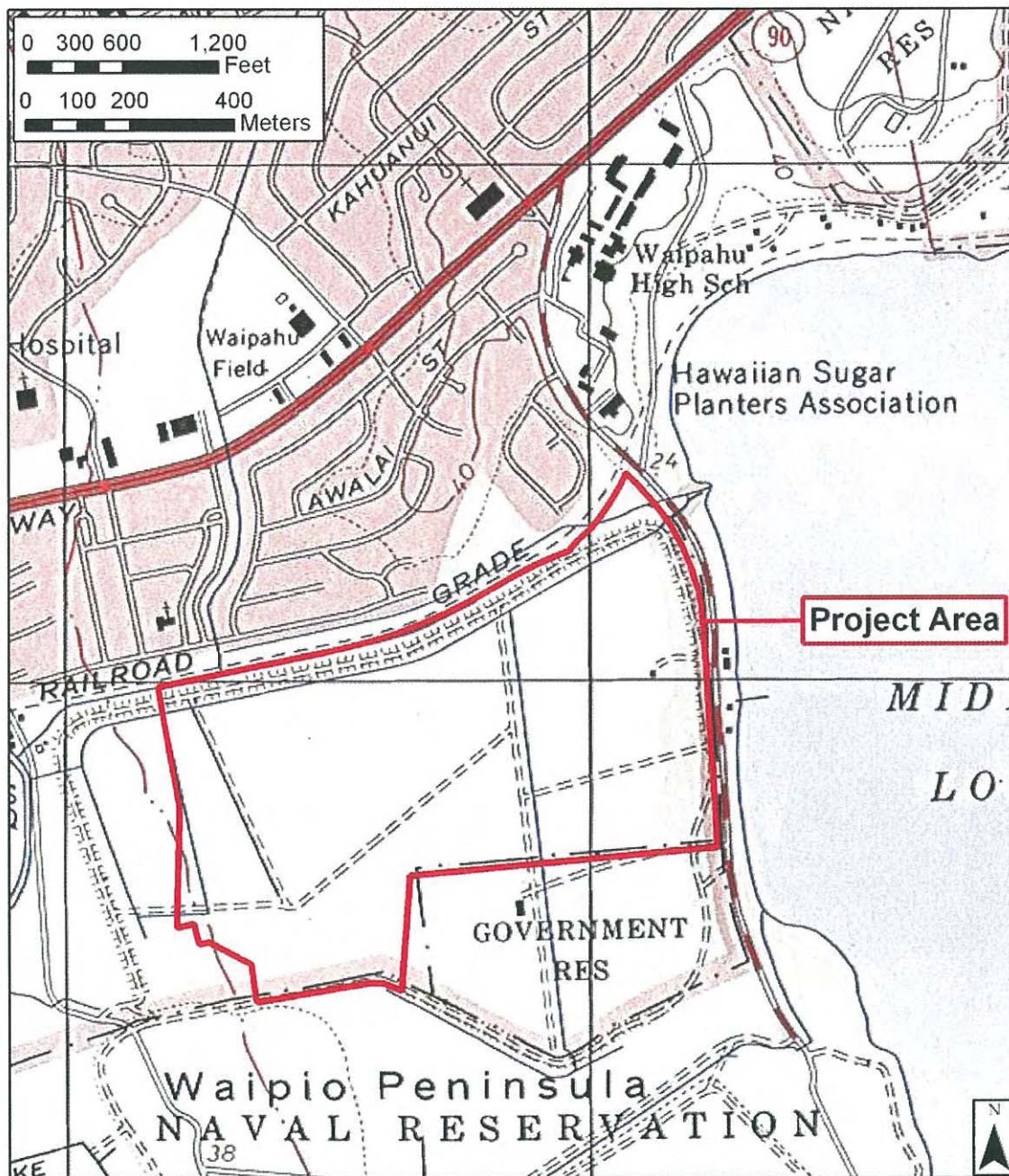


Figure 13. 1968 Dept of Defense Map showing project area location

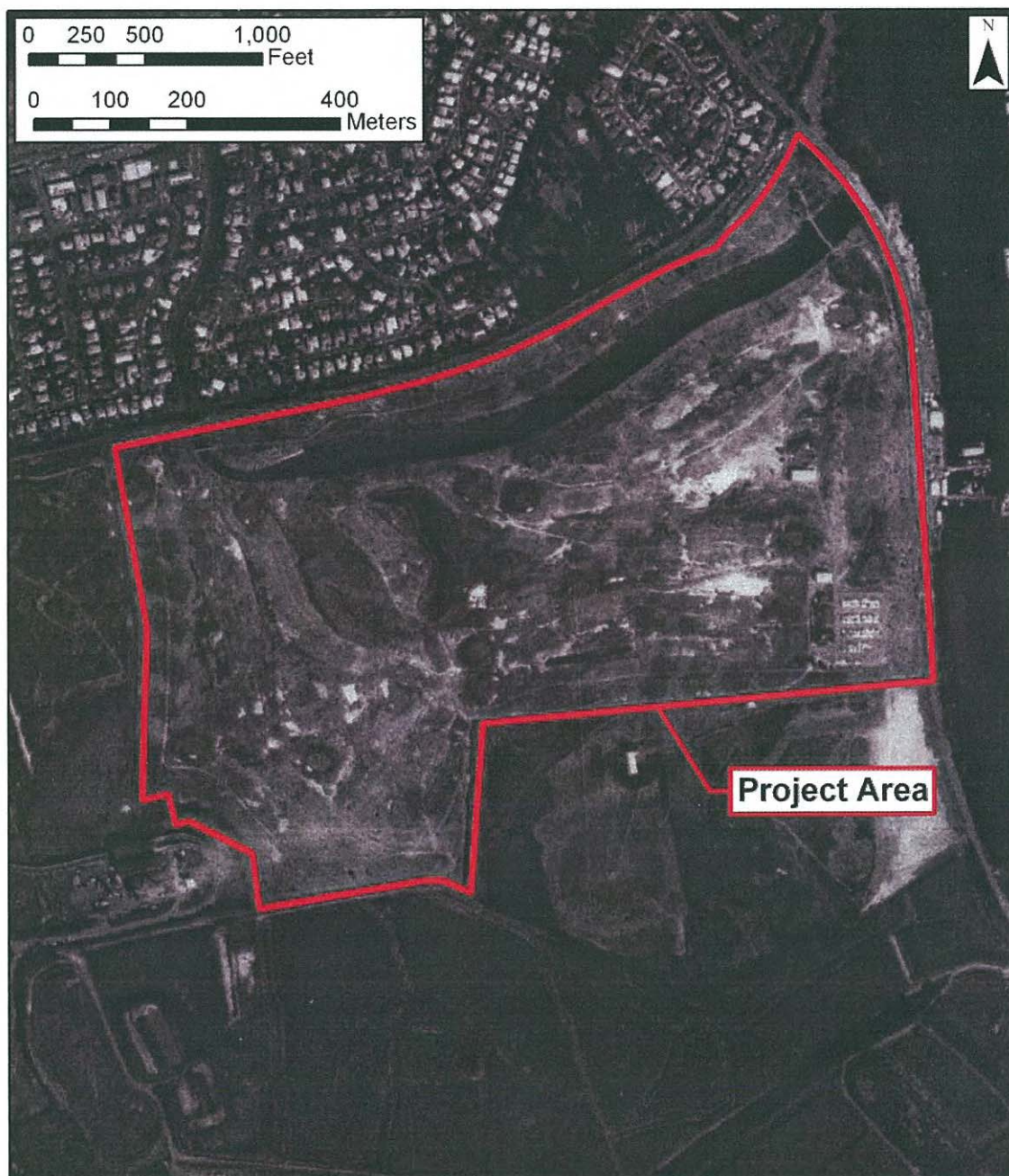


Figure 14. 1977 aerial photograph showing the location of the project area (source: USGS orthoimagery)

3.2 Previous Archaeological Research

Previous archaeological studies in the vicinity of the current project area are presented in Table 2 and shown in Figure 15. Historic properties identified in the vicinity of the project area are shown on Figure 16. The following is a summary of these archaeological studies.

The earliest archaeological documentation in Waipi'o Ahupua'a was conducted by J. Gilbert McAllister in the 1930s. McAllister described several sites in Waipi'o, most of which were located either near the marine resources and fishponds of Pearl Harbor or on the wide coastal plain in proximity to the Waipi'o Peninsula (McAllister 1933:106-107). McAllister identified two sites in the vicinity of the project area: Site 122 ('Ahu'ena Heiau) and Site 123 (Loko 'Eo) (Figure 17).

Site 122 is the now destroyed 'Ahu'ena Heiau (meaning "red-hot heap"), located just north of the project area. McAllister describes what was left of the *heiau* (altar, oracle tower, shrine, etc.) during his site visit:

Site 122. Ahuena heiau, Halaulani, Waipio, just seaward of the Experimental Station of the Hawaiian Sugar Planters' Assn.

Only a small portion of paving of very small waterorn stones at the edge of the 25 foot elevation remains of what must have been an important heiau, for the site is known and remembered by all the old Hawaiians (kamaaina) in the district. There is a vague memory that this heiau was formerly located in the mountains in Honouliuli at Punahawele. Thrum states "Hon. John Ii used to be the custodian of its idols." (McAllister 1933 in Sterling & Summers 1978: 19)

Site 123 consists of Loko 'Eo, a large fish pond, approximately 137 acres, surrounded on three sides by a wall (Figure 18). Loko 'Eo is located within the project area, but was drained and filled in by the military during the 1950's.

In 1995, the International Archaeological Research Institute, Inc. conducted subsurface archaeological investigations of Loko 'Eo (Athens et al. 2000). These investigations consisted of the extraction of four sediment cores within the perimeter of the filled in fish pond. Analysis of the cores revealed that sediment associated with fish pond layers existed beneath approximately 7 meters of fill. The study also determined that the pond was initially filled by the O'ahu Sugar Company and used as a settling pond for capturing topsoil from irrigation water (Athens et al. 2000). The topsoil would periodically be removed with heavy equipment causing disturbance to the naturally deposited sediments below.

In 1998, Pacific Legacy conducted an archaeological inventory survey for the Waipi'o Sports Complex, which abuts the southern boundary of the current project area (Goodman & Cleghorn 1998). Two historic properties were identified: State Inventory of Historic Properties (SIHP) # 50-80-13-5597, a sugarcane irrigation complex consisting of two concrete pumping stations and associated irrigation ditches; and SIHP # 50-80-12-9714, a railroad berm remnant and an iron bridge associated with the O.R. & L. Right-of-Way. Subsurface testing determined that "the peninsula has at least 3.0 m of fill on it, effectively burying any evidence of prehistoric use" (Goodman & Cleghorn 1998: 33).

Table 2. Previous Archaeological Studies in the Vicinity of the Project Area

Reference	Location	Nature of Study	Results
McAllister 1933	Island of O'ahu	Island-wide archaeological survey	Identified 'Ahu'ena Heiau (Site 122) and Loko 'Eo fishpond (Site 123)
Goodman & Cleghorn 1998	Waipi'o Sports Complex	Archaeological inventory survey	Two historic properties identified: SIHP #50-80-13-5597, a sugarcane irrigation complex consisting of two concrete pumping stations and associated irrigation ditches; and SIHP #50-80-12- 9714, a railroad berm remnant and an iron bridge associated with the O.R. & L. Right-of-Way.
Hammatt & Chiogioji 2000	TMK [1] 9-3- 002: por. 009	Archaeological & cultural assessment	No surface archaeological sites were found during a one-day field inspection.
Athens et al. 2000	Loko 'Eo, TMK [1] 9-3- 002: por. 034	Archaeological investigations of Pearl Harbor fish ponds	Established the presence of approximately 7 m of fill above fish pond sediments.
Perzinski et al. 2004	TMK [1] 9-4- 038: 083 & [1] 9-4-050: 59	Archeological inventory survey	Identified three historic properties: SIHP 50-80-09-6671, the historic remnants of the Brown estate, SIHP - 6672, pre- and post-contact cultural layer, and SIHP -6673, pre- and post- contact cultural layer with two associated pre-contact burials.

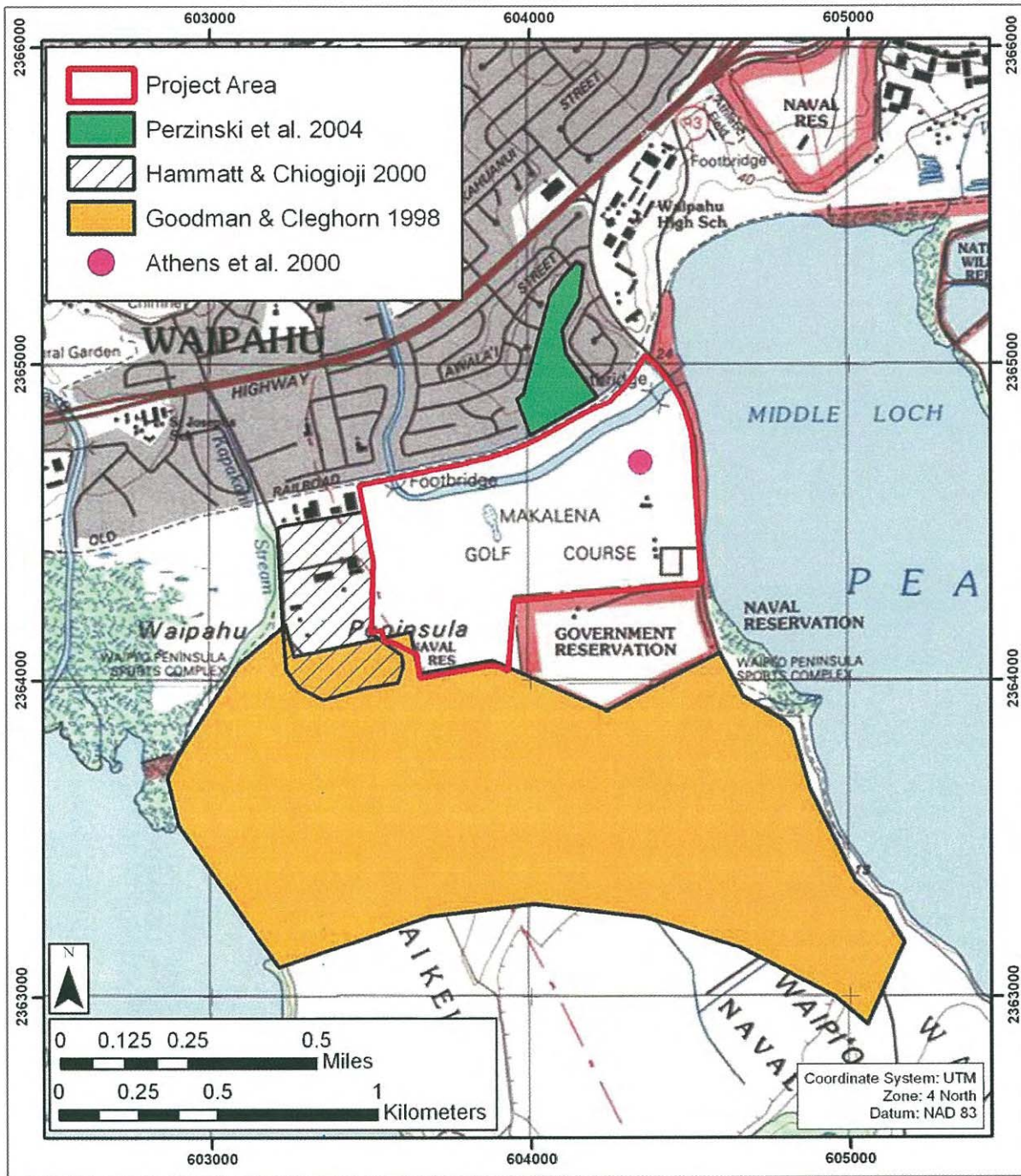


Figure 15. USGS 7.5-Minute Series Topographic Map, Pearl Harbor quadrangle (1999), showing archaeological studies in the vicinity of the project area

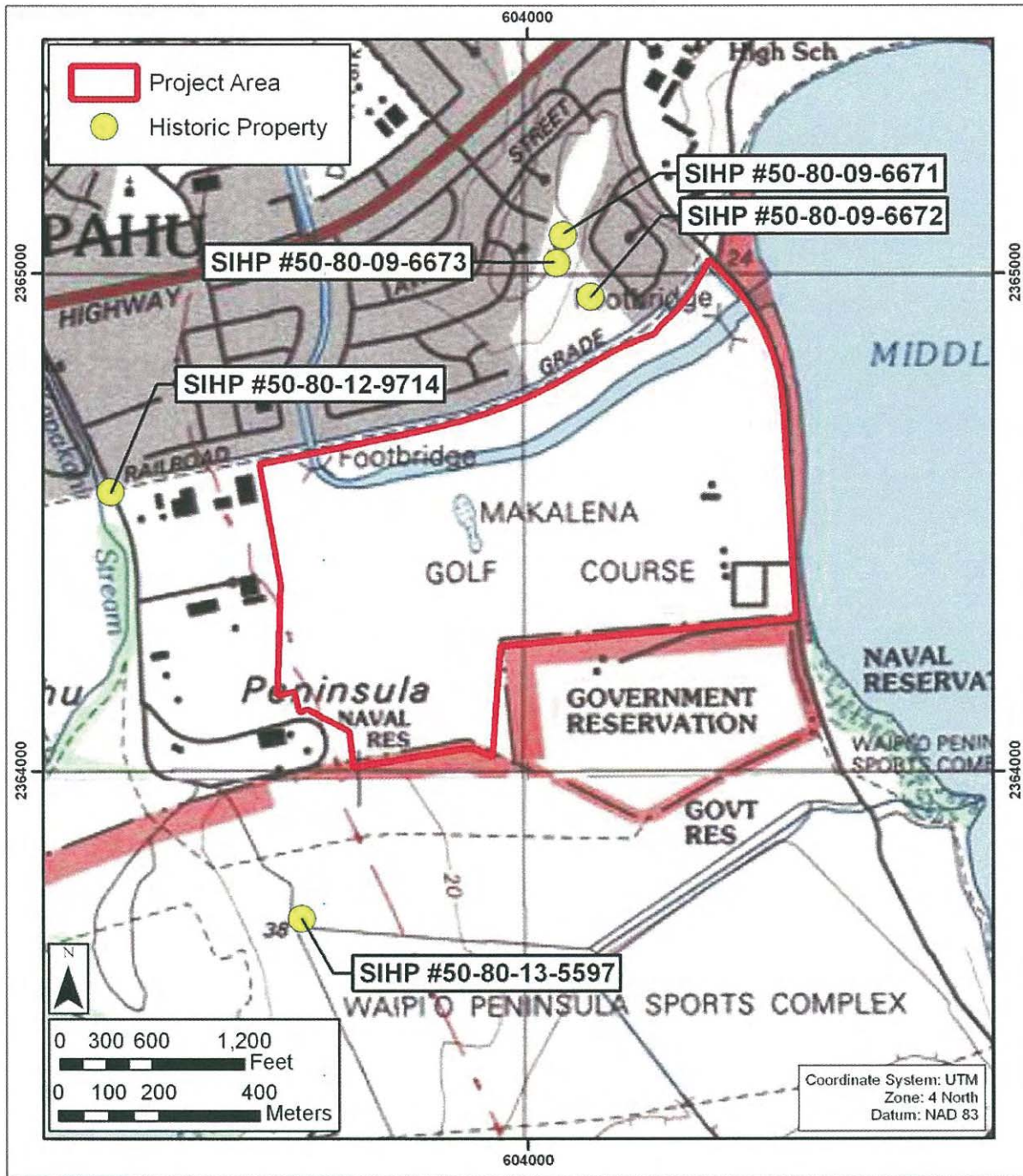


Figure 16. USGS 7.5-Minute Series Topographic Map, Pearl Harbor quadrangle (1999), showing historic properties in the vicinity of the project area

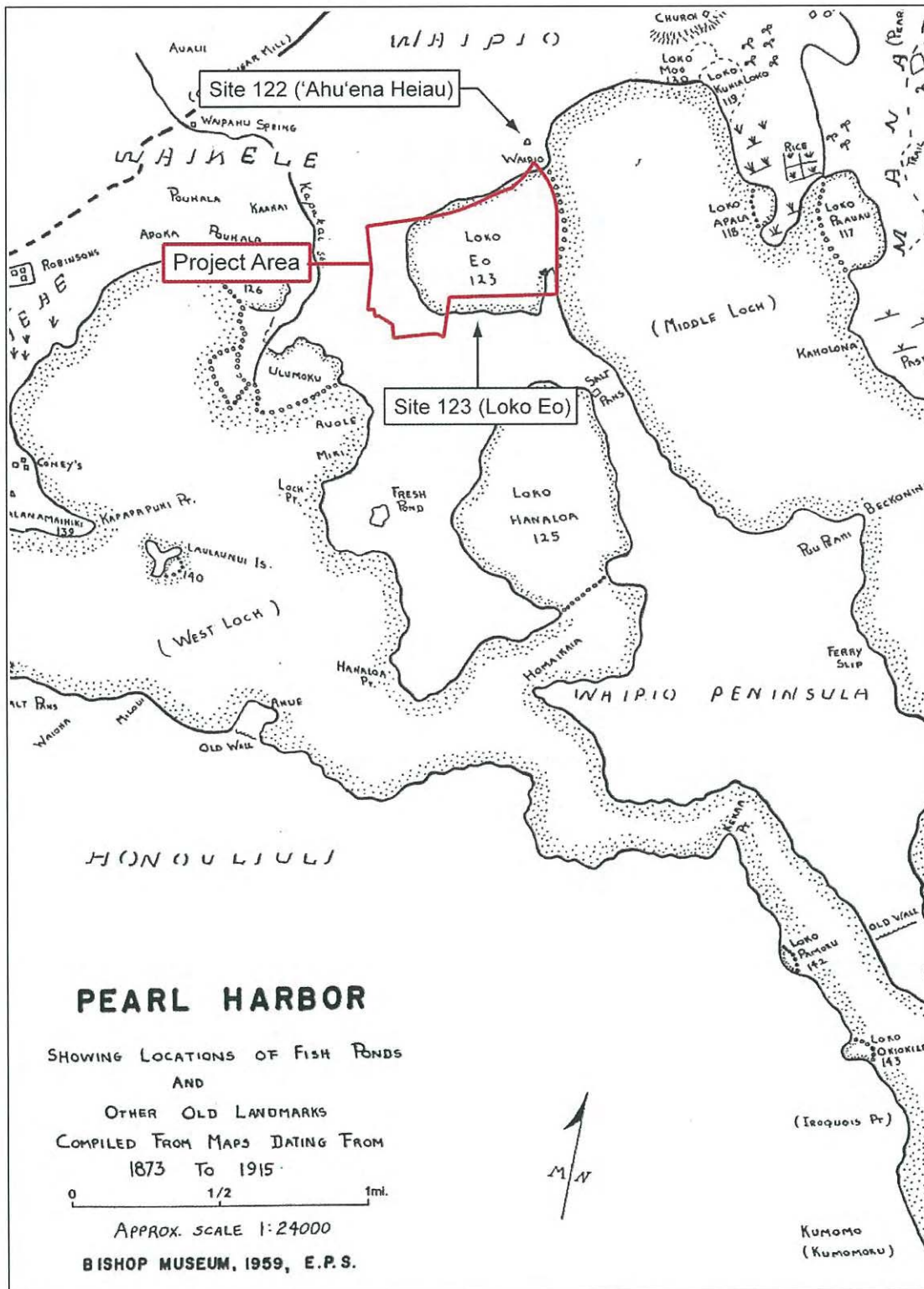


Figure 17. 1959 Bishop Museum map showing McAllister sites in the vicinity of the project area

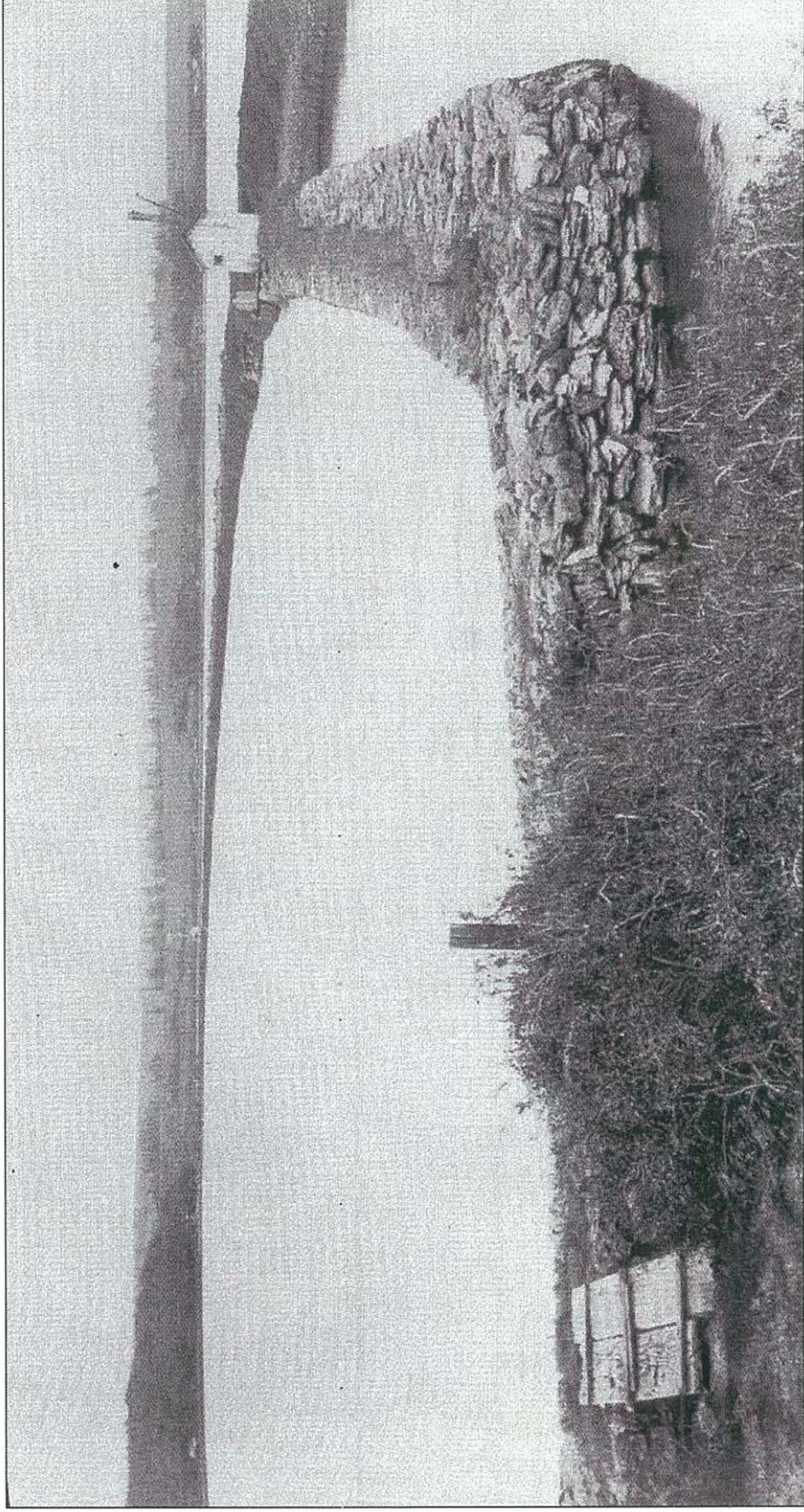


Figure 18. Historic Photograph of Loko 'Eo (Source: Chong 1998:109)

In 2000, CSH conducted an archaeological and cultural assessment of a City and County of Honolulu-owned parcel on Waipi'o Peninsula, located immediately west of the current project area (Hammatt and Chiogioji 2000). No surface archaeological sites associated with traditional Hawaiian occupation were observed in any portion of the study area. An existing land fill and modern building activities have eliminated any remnant sites. Additionally, it was determined that intact subsurface evidence of traditional Hawaiian occupation would have been similarly eliminated during the decades of rice farming documented within the study area. No further archaeological investigation of the study area was recommended.

In 2004, CSH conducted an archaeological inventory survey of a 13-acre parcel located immediately north of the current project area (Perzinski et al. 2004). Three historic properties were identified: SIHP #50-80-09-6671, the historic remnants of the Brown estate consisting of concrete and cinder block foundations; SIHP #50-80-09-6672, a subsurface cultural layer containing evidence of both pre- and post-contact land use; and SIHP #50-80-09-6673, a pre- and post-contact cultural layer containing two pre-contact flexed human burials.

3.3 Background Summary and Predictive Model

The Waipi'o Peninsula and the surrounding loch waters of Pearl Harbor contained abundant marine resources and arable land which would have been extremely favorable to pre-contact Hawaiian populations for the development of large scale taro cultivation and the implementation of aquaculture in the form of large fish ponds or *loko*. A 1928 map of Land Court Application 1000 shows a massive fish pond, Loko 'Eo, surrounded by LCAs within the project area (see Figure 7) LCA documentation indicates that by the mid-eighteenth century the entire project area consisted of a complex network of irrigation ditches, agricultural fields, fish ponds, and habitations, probably developed over many centuries. Previous archaeological research has identified pre-contact subsurface cultural layers and human burials just north of the project area (Perzinski et al. 2004), providing further evidence of the pre-contact Hawaiian occupation of the area.

During the late nineteenth century the Oahu Sugar Company established sugarcane operations in Waipi'o. A 1925 Oahu Sugar Company map indicates that the current project area was within the boundaries of Oahu Sugar Company operations (see Figure 8). The project area does not appear to have been planted with cane, but may have been utilized for other aspects of sugar cane operations such as a staging area for irrigation and/or railroad maintenance equipment. Subsurface archaeological investigation by the International Archaeological Research Institute, Inc. have suggested that Loko 'Eo, which comprises approximately 75% of the project area, was filled by the O'ahu Sugar Company and used as a settling pond for capturing topsoil from irrigation water (Athens et al. 2000).

Early in the twentieth century, the U.S. Government began acquiring the coastal lands of 'Ewa for the development of a naval base at Pearl Harbor. By 1909, the government appropriated the entire Waipi'o peninsula. A 1956 U.S. Army Map Service map shows the entire project area as part of a "naval reservation" with Loko 'Eo completely drained and filled in (see Figure 12). Subsurface testing just south of the project area determined that "the peninsula has at least 3.0 m of fill on it, effectively burying any evidence of prehistoric use" (Goodman & Cleghorn 1998: 33).

During the 1960's the project area was demilitarized and land jurisdiction was transferred to the City and County of Honolulu. Following the transfer of jurisdiction, the City and County developed the project area into a municipal golf course. The Ted Makalena Golf Course was opened in 1971 and continues to be in operation.

Based on background research, no historic properties (i.e. archaeological sites) are expected to be encountered during the field inspection of the project area. Land modifications within the project area associated with historic sugar agriculture and military operations, as well as modern golf course development have caused extensive land disturbances (i.e. grading, leveling, filling, etc.) which would have destroyed and/or buried any evidence of both pre- and post-contact land use. In the unlikely event that surface historic properties are encountered, they would be in the form of post-contact irrigation infrastructure (i.e. ditches, flumes, pumping stations, etc.) and/or historic military base remnants (i.e. cement foundations, abandoned utility boxes, etc.).

Section 4 Results of Field Inspection

No historic properties were observed during the field inspection of the project area, which confirmed the findings of background research. The field inspection consisted of a walk-through reconnaissance along the proposed route of the golf cart realignment corridor (see Figure 4). The actual route traveled by the archaeologists is shown in Figure 19.

The absence of historic properties can be attributed to extensive land modifications associated with historic sugar cultivation and military operations, as well as the modern golf course development observed throughout the project area. Observed land modifications consisted of a dredged drainage canal running within the northern boundary of the project area (Figure 20 & Figure 21), leveled and graded areas utilized as fairways (Figure 22), artificial knolls and sand traps, wooden and concrete structures for golf patrons and maintenance staff (Figure 23), and a green waste dumping area (Figure 24). Of note is the fact that approximately half of the proposed golf cart realignment corridor overlaps existing asphalt paved golf cart paths (Figure 25 & Figure 26).

Particular attention was to given areas along the proposed golf cart realignment corridor which were in the vicinity of the LCAs documented within the western portion of the project area (Figure 27). Significant land disturbance associated with golf course infrastructure was observed throughout this area. A restroom facility, a segment of the drainage canal, and leveled and graded areas were observed in the northwestern portion of the project area within and in the vicinity of LCA locations (Figure 28 & Figure 29). The western and southwestern portions of the project area consisted of artificial land surfaces developed during golf course construction (Figure 30). Also observed in this area were exposed patches of asphalt beneath golf course fairways probably remnants of prior military operations (Figure 31). No surface remains associated with the LCAs were observed.

Additionally the project area was inspected for any remnants of Loko 'Eo. Background research has indicated that the fish pond was completely filled in during the historic utilization of the area by the Oahu Sugar Company and subsequently by the U.S. military, however a recently dredged (circa 1971) drainage canal cuts thru a portion of the known location of Loko 'Eo and provided an opportunity to prospect for fish pond wall remnants and/or sediment deposits. These investigations focused on of the eastern segment of the drainage canal, which was not lined with concrete and contained exposed soil banks (Figure 32). No remnants of Loko 'Eo were observed.

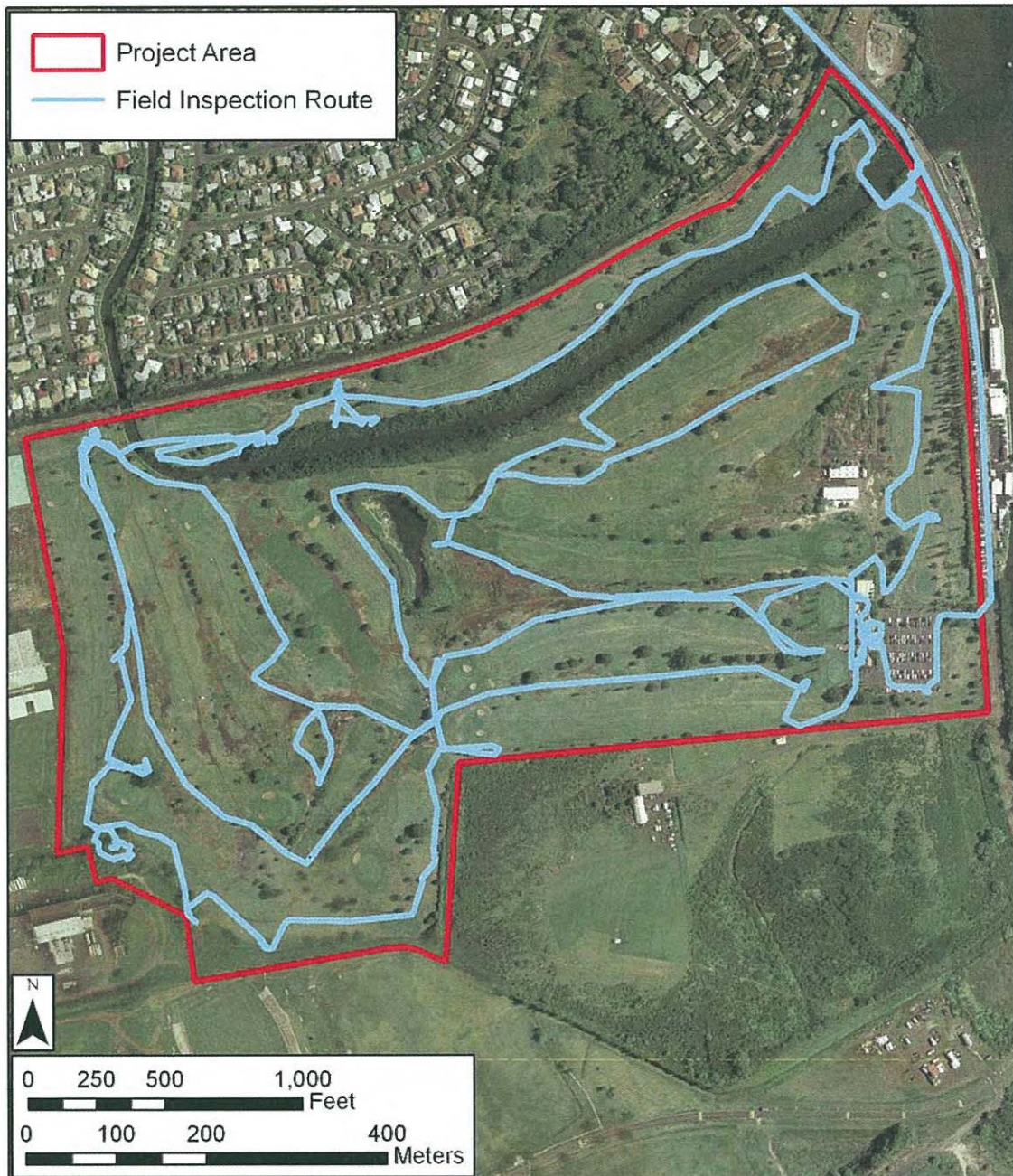


Figure 19. Aerial photograph showing the route of field inspection through the project area (source: U.S.G.S Orthoimagery 2005)

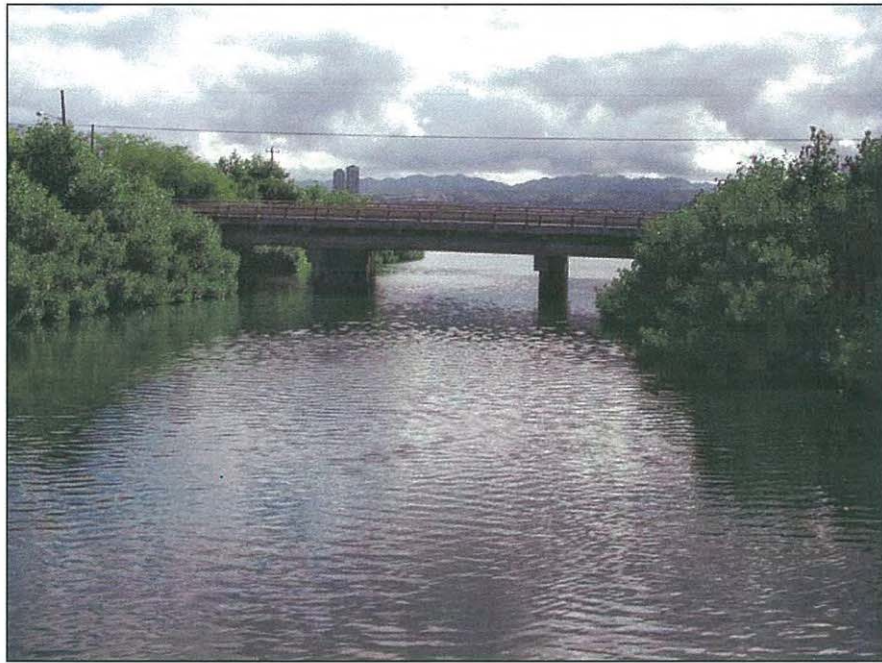


Figure 20. Photograph of drainage canal emptying into Middle Loch of Pearl Harbor, view to northeast



Figure 21. Photograph of concrete lined drainage canal, taken from northwestern portion of project area, view to south



Figure 22. Photograph of leveled and graded area utilized as a fairway, taken from northern portion of project area, view to southwest



Figure 23. Photograph of golf patron club house and golf cart maintenance facility, view to east



Figure 24. Photograph of green waste dumping area located in the center of the project area, view to west



Figure 25. Photograph of eastern edge of project area overlooking proposed golf cart realignment path overlapping an existing cart path, view to north

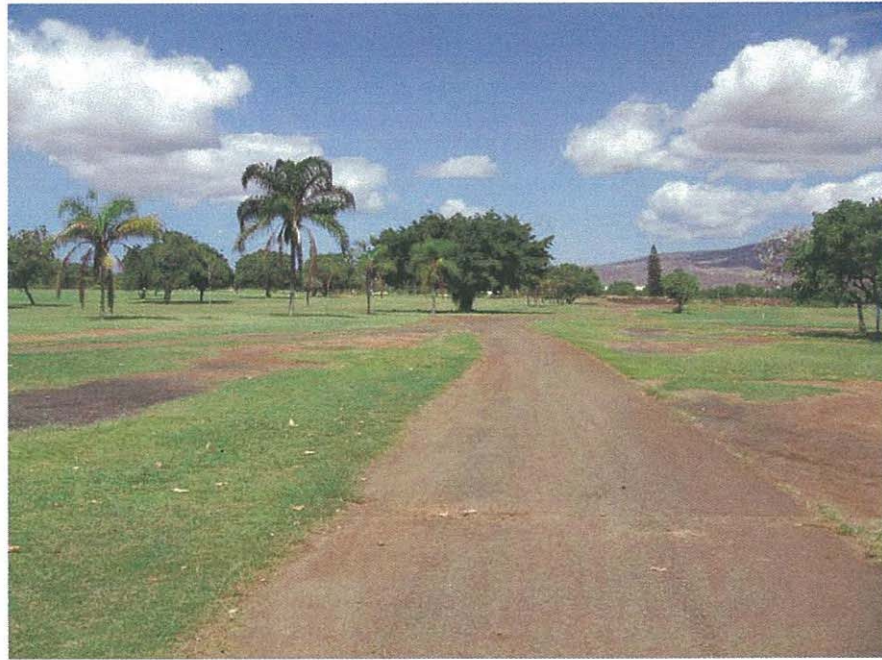


Figure 26. Photograph of central portion of project area overlooking proposed golf cart realignment path overlapping an existing cart path, view to west

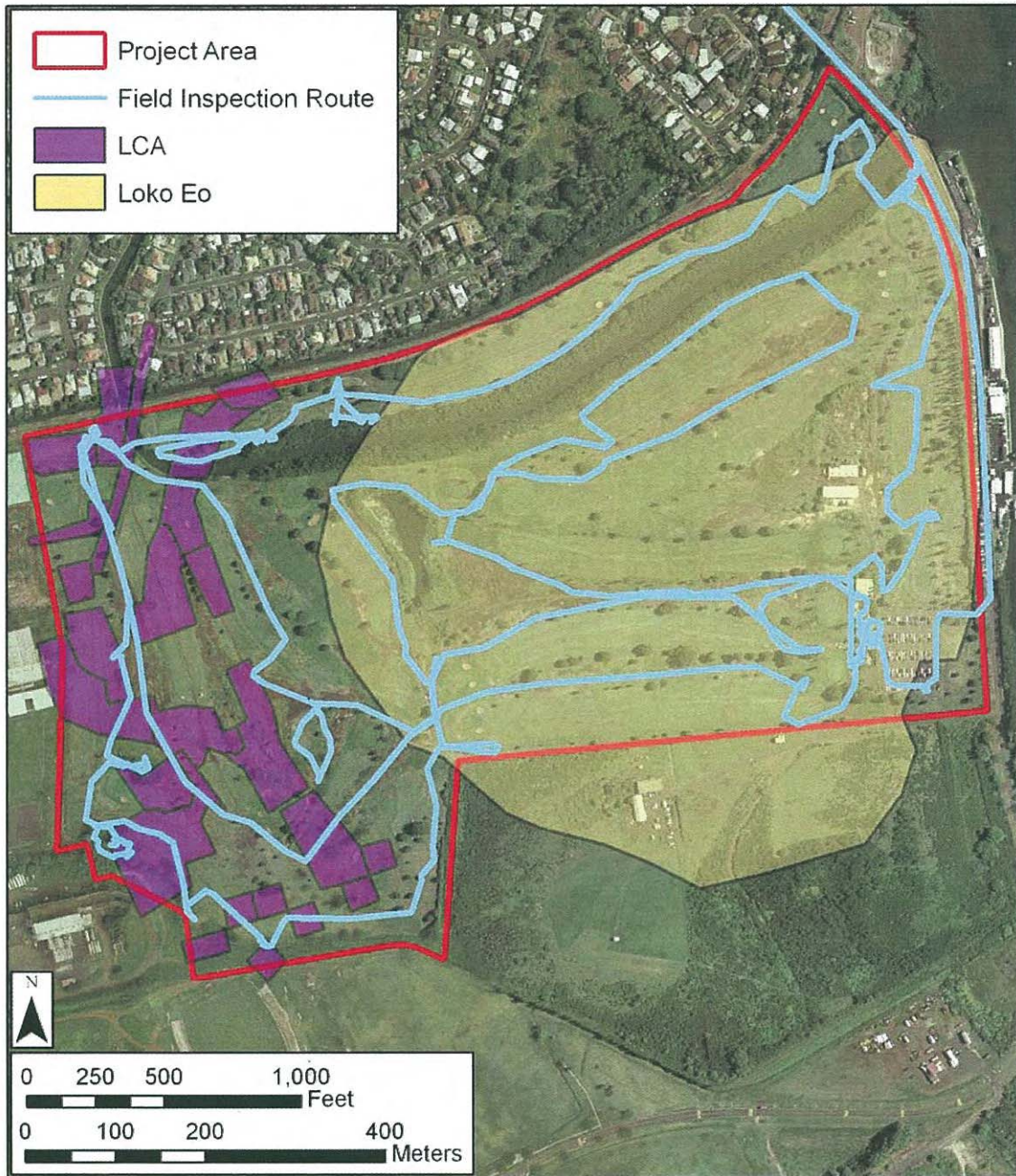


Figure 27. Aerial photograph showing project area with overlay of LCAs and Loko 'Eo (source: U.S.G.S Orthoimagery 2005)

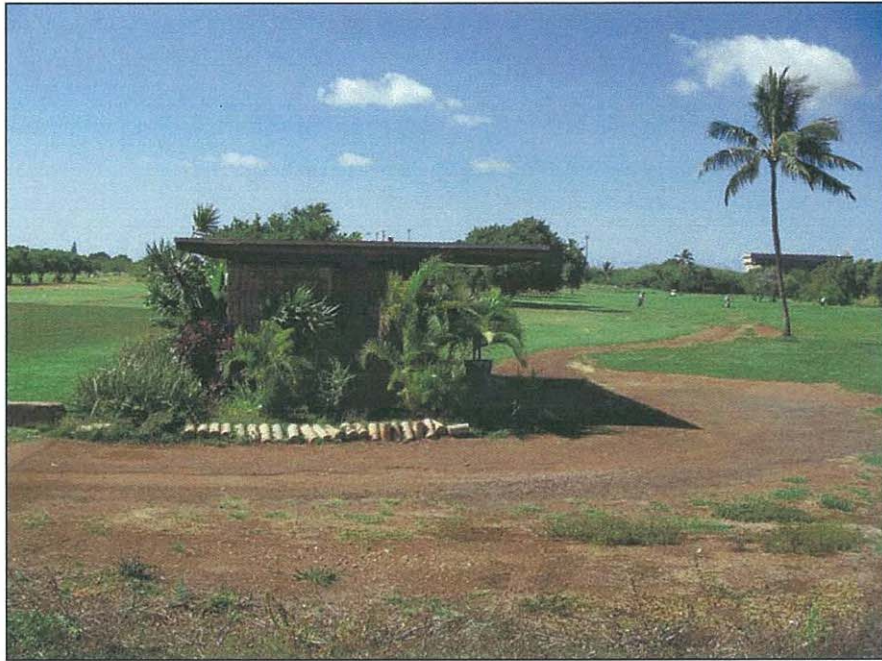


Figure 28. Photograph of restroom facility situated atop LCAs within the northwestern corner of the project area.



Figure 29. Photograph of drainage canal bisecting LCAs within the northwestern corner of the project area.



Figure 30. Photograph of artificial land surface covering western portion of project area known to contain LCAs, view to east



Figure 31. Photograph of exposed asphalt surface beneath golf course fairway, taken in western portion of project area, view to southeast



Figure 32. Photograph of exposed soil bank along drainage canal, view to west

Section 5 Traditional Cultural Practices

Traditional cultural practices are based on a profound awareness concerning harmony between man and our natural resources. The Hawaiians of old depended on these cultural practices for survival. Based on their familiarity with specific places and through much trial and error, Hawaiians communities were able to devise systems that fostered sustainable use of nature's resources. Many of these cultural practices have been passed down from generation to generation and are still practiced in some of Hawai'i's communities today.

This portion of the investigation seeks to identify on-going traditional cultural practices and resource procurement within the project area. This section will assess the likelihood that such activities are on-going within the project area and its vicinity. It will also assess the likelihood that the current project will affect on-going traditional cultural practices.

5.1 Gathering for Plant Resources

The present project area was completely graded, leveled, and filled in since circa 1956 when the area was utilized as a naval reservation (see Figure 12). Following the military occupation of the project area, it was developed into a municipal golf course circa 1971 (see Figure 14). Prior to western contact this area consisted of a marsh environment with rich alluvial soil deposits and was utilized by traditional Hawaiian for the cultivation of taro. It is unlikely that any gathering of plant resources occurred within the project area other than the harvesting of cultivated crops. Additionally, there are no known gathering practices that have occurred within the project area during modern times.

5.2 Marine and Freshwater Resources

The Waipi'o Peninsula and the surrounding loch waters of Pearl Harbor contained abundant marine resources which would have been extremely favorable to pre-contact Hawaiian populations for the procurement of marine resources and the development of fish ponds or *loko*. A 1928 map of Land Court Application 1000 shows a massive fish pond, Loko 'Eo, surrounded by LCAs within the project area (see Figure 7) LCA documentation indicates the presence of numerous small fish ponds feeding off of the larger Loko 'Eo, all situated within the project area.

Historic land modifications to the project area have drained and filled in the fish pond that once existed within the project area. Currently a drainage canal runs thru the northern portion of the project area, emptying into the Middle Lock of Pearl Harbor. While fish and shellfish were observed within the canal, the fertilizer and pesticide runoff from the golf course, coupled with the pollution from naval activities observed immediately to the east, would make the marine resources within the canal very undesirable. No procurement of marine resources was observed during the field inspection of the project area.

The proposed development within the project area does not impact the drainage canal and would not appear to have any effect on marine or freshwater resources.

5.3 Historic Properties

No historic properties were observed during the field inspection of the project area.

5.4 Burials

As the project area currently functions as a municipal golf course there is no evidence pertaining to on-going cultural practices relating to burials on the property or in the immediate vicinity.

No human burials have been documented within the project area; however, two human burials (SIHP #50-80-09-6673) were identified approximately 200 m north of the project area (Perzinski et al. 2004) (see Figure 16). Both sets of remains consisted of pre-contact flexed burials situated within alluvial sediments approximately 45 cm below the existing surface. Charcoal collected from the burial pits of both burials yielded calibrated 2-sigma date ranges of 1300-1480AD and 1450-1660AD, respectively. Also of note is fact that both burials were either within or in the immediate vicinity of an LCA.

While no burials have been documented within the project area, it is known to contain nineteen LCAs, many of which indicate habitation as a primary land use (see Section 3.1.4 above). The proximity of SIHP #50-80-09-6673 and the density of LCAs suggest the possibility that human burials may be located within the project area. Any burials that may be present would be limited to the western portion of the project area, as this is the location of the LCAs and the remainder of the project area was once a large fish pond which would not have been utilized for interment. However if burials are present they would have been buried by fill associated with historic military land modifications and modern golf course development as indicated by the Soil Survey of the State of Hawai'i (Foote et al. 1972). These fill deposits are approximately 3 to 7 meters thick, based on subsurface investigations conducted within the project area by International Archaeological Research Institute, Inc. (Athens et al. 2000) and investigations conducted by Pacific Legacy in the Waipi'o Peninsula Sports Complex located just south of the project area (Goodman & Cleghorn 1998).

Due to the presence of extensive fill layers within the project area the proposed golf cart realignment project, involving excavations with a maximum a depth of 8 inches, is not expected to effect any burials that may be present within the project area.

5.5 Trails

A review of historic maps spanning from 1877 to 1956 does not indicate any major trail systems traversing through the project area (see Figure 6, Figure 7, Figure 8, Figure 9, Figure 10, Figure 11, & Figure 12).

5.6 Summary of Traditional Cultural Practices

During pre- and early post-contact times the project area would have been burgeoning with traditional Hawaiian activity in the form of habitation, agriculture, and aquaculture. The gathering of plant resources, utilization of marine and freshwater resources, development of trail systems, and the utilization of the area for burial are all traditional cultural practices which were

likely to have occurred within the project area. However, historic sugar cultivation and military activities, coupled with modern golf course development have transformed the local environment, through episodes of filling, leveling, and grading, making it no longer viable for traditional Hawaiian land use. Currently there are no known traditional cultural practices being conducted within or in the immediate vicinity of the project area.

The currently proposed project is relatively small in scope, consisting largely of improvements to golf cart paths. If there were as yet unidentified on-going traditional cultural practices within the project area, for example marine or plant resource procurement, it is extremely unlikely that the proposed project would affect these on-going practices.

Section 6 Summary and Recommendations

At the request of Gerald Park, CSH completed this archaeological literature review and field inspection study for the Ted Makalena Golf Course Improvements Project. This investigation does not fulfill the requirements of an archaeological inventory survey investigation per the rules and regulations of the SHPD/DLNR (per HAR Chapter 13-276); however, the level of work is sufficient to determine if there are any major archaeological concerns within the project area.

Background research has indicated that during pre- and early post-contact times the project area was burgeoning with traditional Hawaiian activity in the form of habitation, agriculture, and aquaculture. LCA documentation indicates that by the mid-eighteenth the entire project area consisted of a complex network of irrigation ditches, agricultural fields, fish ponds, and habitations. However, successive land modifications associated with historic sugar cultivation and military operations, as well as modern golf course development have caused extensive land disturbances (i.e. grading, leveling, filling, etc.) throughout the project area which have destroyed and/or buried any evidence of both pre- and post-contact land use. As expected, no historic properties were observed during the field inspection of the project area.

CSH recommends consultation with SHPD/DLNR prior to land alteration within the project area. This document should be used to support this consultation with SHPD to establish the appropriate cultural resource management requirements for the project.

Based on the results of this investigation, no additional cultural resource management work is recommended for the project. This is based on the results of the field inspection, in which no historic properties were observed, as well as a review of previous archaeological work within the project area and in the immediate vicinity, which suggest that the entire project area contains fill layers that are approximately 3 to 7 meters thick (Goodman & Cleghorn 1998; Athens et al. 2000). The proposed Ted Makalena Golf Course Improvements Project involves minimal ground disturbance involving 8-inch deep and 10-foot wide excavations for the installation of 8 feet wide reinforced concrete golf cart paths. The shallow excavations proposed for this project would be confined within fill layers and would not impact naturally deposited sediments, thus avoiding any subsurface archaeological deposits that may be present. Additionally, based on all available information, it is extremely unlikely that the proposed project will affect on-going traditional cultural practices.

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Appendix A LCA Documentation



DOCUMENT DELIVERY

[Change password](#)[Log out](#)

Mahele Database Documents

Number: 11199

Claim Number:	11199		
Claimant:	Kauaia, wahine		
Other claimant:			
Other name:			
Island:	Oahu		
District:	Ewa		
Ahupuaa:	Waipio		
Ili:	Kalualaa, Puuopae		
Apana:	2	Awarded:	1
Loi:	0	FR:	
Plus:		NR:	
Mala Taro:	0	FT:	172v9
Kula:	0	NT:	
House lot:	1	RP:	4998
Kihapai/Pakanu:	0	Number of Royal Patents:	1
Salt lands:	0	Koele/Poolima:	No
Wauke:	0	Loko:	Yes
Olonā:	0	Lokoia:	No
Noni:	0	Fishing Rights:	No
Hala:	0	Sea/Shore/Dunes:	No
Sweet Potatoes:	0	Auwai/Ditch:	Yes
Irish Potatoes:	0	Other Edifice:	No
Bananas:	0	Spring/Well:	No
Breadfruit:	0	Pigpen:	No
Coconut:	0	Road/Path:	No
Coffee:	0	Burial/Graveyard:	No
Oranges:	0	Wall/Fence:	No
Bitter Melon/Gourd:	0	Stream/Muliwai/River:	No
Sugar Cane:	0	Pali:	No
Tobacco:	0	Disease:	No

Koa/Kou Trees:	0	Claimant Died:	No
Other Plants:	0	Other Trees:	0
Other Mammals:	No	Miscellaneous:	

No. 11199, Kauila (Wahine), Claimant
F.T. 172-173v9

Kaia, sworn says, he knows the land of Claimant. It is a moo kalo called Kauefoko in the ili of Kalualaa, Waipio, Ewa, Oahu. It consists of one loko kalo with 2 auwais with 2 fish ponds (puuone) all in once piece, Also a kahuahale in Puuopae, in another place.

Apana 1 is bounded:
Mauka by the land of Ewa, Oahu
Honolulu by the land of Ewa, Oahu
Makai by land of Kikahi[?]
Waianae by Kalualaa of Konohiki.

Claimant received the land from her father, Koluia, in the time of Kamehameha I and has held the same in quiet until now.

Nahua, sworn, testifies to the correctness of the above testimony and says it is also his own.

[Award 11199; R.P. 4998; Kalualaa & Poupae Ili, Waipio Ewa; 2 ap.; 1.63 Acres]



Number: 11200

Claim Number:	11200		
Claimant:	Kihewa		
Other claimant:			
Other name:			
Island:	Oahu		
District:	Ewa		
Ahupuaa:	Waipio		
Ili:	Eotiki, Puuopae		
Apana:	2	Awarded:	1
Loi:		FR:	
Plus:		NR:	
Mala Taro:		FT:	173v9
Kula:		NT:	
House lot:		RP:	2861
Kihapai/Pakanu:		Number of Royal Patents:	1
Salt lands:		Koele/Poolima:	No
Wauke:		Loko:	No
Olonā:		Lokoia:	No
Noni:		Fishing Rights:	No
Hala:		Sea/Shore/Dunes:	No
Sweet Potatoes:		Auwai/Ditch:	No
Irish Potatoes:		Other Edifice:	No

Bananas:	Spring/Well:	No
Breadfruit:	Pigpen:	No
Coconut:	Road/Path:	No
Coffee:	Burial/Graveyard:	No
Oranges:	Wall/Fence:	Yes
Bitter Melon/Gourd:	Stream/Mulivai/River:	No
Sugar Cane:	Pali:	No
Tobacco:	Disease:	No
Koa/Kou Trees:	Claimant Died:	No
Other Plants:	Other Trees:	
Other Mammals: No	Miscellaneous:	

No. 11200, Kihewa, Claimant
F.T. 173-174v9

Kaia, sworn says, he knows the land of Claimant. It is a loko kalo and kula, called Poiki in Waipio, Ewa, Oahu in one piece, and a kahuahale in Puuopae in another.

Apama 1 is bounded:
Mauka by the loko Eonui
Honolulu by loko Kaaina
Makai by loko o konohiki called Namahana
Waianae by aina o Moku.

Apama 2 - kahahale ma Puuopae Waipio bounded:
Mauka by kahuahale Humehume
Honolulu by kula of konohiki
Makai by kahuahale Kauponai[?]
Waianae by the Paaina.

Claimant received the land from KaKaha in the time of Liholiho, and has held quiet possession of the same until now.

Nahua, sworn says, the testimony of Kaia is correct (He adds as konohiki) that since there are mono (note: rooms literal) on the land to pay the land tax, a portion of the production of the land has been taken by him, to satisfy the konohiki's demands. Ua makua(?) ia ka aina e ia, i loa i ke kalo, auhau no ka mea ole name e hana i ka la o konohiki.

[Award 11200; R.P. 28861; Eoiki Waipio Ewa; 1 ap.; 1.4 Acs]



Number: 05811

Claim Number:	05811
Claimant:	Kumumu
Other claimant:	
Other name:	
Island:	Oahu
District:	Ewa
Ahupuaa:	Waipio, Waikele
Ili:	Hanalea

Apana:	4	Awarded:	1
Loi:	9	FR:	
Plus:		NR:	144v5
Mala Taro:		FT:	113v9
Kula:	1	NT:	260v9
House lot:		RP:	2864
Kihapai/Pakant:		Number of Royal Patents:	1
Salt lands:		Koele/Poalima:	Yes
Wauke:		Loko:	No
Olonā:		Lokoia:	Yes
Noni:		Fishing Rights:	No
Hala:		Sea/Shore/Dunes:	No
Sweet Potatoes:		Auwai/Ditch:	No
Irish Potatoes:		Other Edifice:	No
Bananas:		Spring/Well:	No
Breadfruit:		Pigpen:	No
Coconut:		Road/Path:	No
Coffee:		Burial/Graveyard:	No
Oranges:		Wall/Fence:	Yes
Bitter Melon/Gourd:		Stream/Muliwai/River:	No
Sugar Cane:		Pali:	No
Tobacco:		Disease:	No
Koa/Kou Trees:		Claimant Died:	No
Other Plants:		Other Trees:	
Other Mammals:	No	Miscellaneous:	Henuhenu fish pond

No. 5811, Kumumu
N.R. 144v5

To the Honorable Land Commissioners of the Hawaiian Islands, Greetings: I hereby state my claim for land, it is at Hanaloa in Waipio, Ewa, Island of Oahu. It is bounded on the north by the lo'i of Kaahuwalu, on the east by the Pond of Kamaunu, on the south by a kula, on the west by a land boundary wall.

My second land claim is bounded on the north by the lo'i of Koleaka, on the east by a lo'i ko'ele, on the south by the lo'i of Kaahuwalu, on the west by the lo'i of Kuaona.

My third land claim is bounded on the north by a land boundary wall, on the east by the mo'o of Lauheaiiku, on the south by lo'i ko'ele, on the west by ko'ele.

My third /sic/ claim for land is at Waikele, a Pond. It is bounded on the north by the lo'i of Kaihumua, on the east by the Pond of Kamarunu, on the south by the Pond of Pauao, on the west by the lo'i of Hana. Lo'i Kauaa ???
KUMUMU

F.T. 113-114v9
No. 5811, Kumumu, Cft.

Ohule, sworn says, the land of Claimant is a moeaina called Kahuaiki in the ili Hanaloa, Waipio, Ewa.

It contains

1st - 6 lois and a kula in one piece &
2d - three lois & 1 fishpond called Henuhenu in the same ili of Hanaloa.

Apana 1 is bounded:
Mauka by the mooina Kamooiki
Honolulu by Punui a moo of Ku
Makai by the moo Kanukakua
Waianae by the paaina.

Apana 2 is bounded:
Mauka by the fishpond Kapapawaa
Honolulu by paaina & Waikele
Makai by paaina & Waikele
Waianae by ili Kahakuohia.

Claimant received his land from Paki in the time of Kinau & has held it in quiet until now.

Kulani, sworn says, the testimony of Ohule is true & is his own.

N.T. 260v9
No. 5811, Kumumu (court action)

Ohule, sworn, he has seen his land Katuaiki, a moo land in the ili of Hanaloa in Waipio Ewa, Oahu - 6 patches and a pasture in 1 section. Section 2 - 3 patches and (?) sand dunes of Henuhenu.

Section 1:
Mauka by Kamooiki moo land
Honolulu by Punui moo land
Makai by Kamoohakua moo land
Waianae by Land enclosure.

Section 2:
Mauka by Kapapawaa pond
Honolulu by Land enclosure
Makai by Land enclosure
Waianae by Kahakuohia ili.

Land from Paki during Kinau's time. No objections.

Kulani, sworn, testimony similar to Ohule.

[Award 5811; R.P. 2864; Hanaloa Waipio Ewa; 2 ap.; 4.85 Acs]



Number: 06076

Claim Number:	06076
Claimant:	Hunehume
Other claimant:	
Other name:	Hunahuma
Island:	Oahu
District:	Ewa
Ahupuaa:	Waipio

lli:	Puopae		
Apana:	3	Awarded:	1
Loi:		FR:	
Plus:		NR:	229v5
Mala Taro:		FT:	124v9
Kula:		NT:	271v9
House lot:		RP:	818
Kihapai/Pakanu:		Number of Royal Patents:	1
Salt lands:		Koele/Poolima:	Yes
Wauke:		Loko:	Yes
Olonā:		Lokoia:	Yes
Noni:		Fishing Rights:	No
Hala:		Sea/Shore/Dunes:	No
Sweet Potatoes:		Auwai/Ditch:	Yes
Irish Potatoes:		Other Edifice:	No
Bananas:		Spring/Well:	No
Breadfruit:		Pigpen:	No
Coconut:		Road/Path:	No
Coffee:		Burial/Graveyard:	No
Oranges:		Wall/Fence:	Yes
Bitter Melon/Gourd:		Stream/Muliwai/River:	No
Sugar Cane:		Pali:	No
Tobacco:		Disease:	No
Koa/Kou Trees:		Claimant Died:	No
Other Plants:		Other Trees:	
Other Mammals:	No	Miscellaneous:	loko kalo and an auwai

No. 6076, Hunahuma, Waipio, December 3, 1847
N.R. 229v5

To the Honorable Land Commissioners of the Hawaiian Islands, Greetings: I hereby state my claim for land. This is at Homaikai in Waipio, Ewa, Island of Oahu. It is bounded on the north by the lo'i of Kala, on the east by Eo, on the south by the pond of Kailua, on the west by lo'i ko'ele. My second land claim is bounded on the north by a ko'ele, on the east by the mo'o of Moku, on the south by a ko'ele, on the west by Homaikaia.
I am respectfully, your obedient servant.
HUNAHUMA X

F.T. 124-125v9
[No.] 6076, Humehume Claimant

Naia, sworn says, the land of Claimant is a lokokalo, an auwai & a fish pond in three pieces. The auwai is separated from the other by the koele.

Apana 1 is bounded, viz., the lokokalo
Mauka by the fish pond Eo
Honolulu by fish pond of Kuewa
Makai by koele of Nahui

Waianae by loko kalo Kalualaea.

Apana 2 the auwai, bounded:
Mauka by the koele Kalualaea
Honolulu by Keio
Makai by loko of Honomoana
Waianae by Puou.

Apana 3, kahuahale in the kula of Puopae bounded:
Mauka by the kula of konohiki
Honolulu by paaina
Makai by kahuahale of Kigewa
Waianae by loko.

Claimant received the land from Kakinukawa in the time of Kinau and has held quiet possession until the present.

Kailehua, sworn, confirms the above testimony as true & calls it his own.

N.T. 271v9
No. 6076, Humehume, (court action)

Kaia, sworn, he has seen his land, 1 taro deposit, a sand dune and a ditch. The ditch is in the koele of Eo, ili in Waipio, Ewa, Oahu.

Section 1:
Mauka, Eo stonewall, pond
Honolulu, Kihewa's sand dune
Makai, Kahui's koele
Waianae, Kalualaka.

Section 2 - The ditch.
Mauka, Kalualaea koele
Honolulu, Keio koele
Makai, Holomoana pond
Waianae, Puou's 3 ponds.

Section 3 - House site at Puopae.
Mauka, the konohiki's pasture
Honolulu, land enclosure
Makai, Kihewa's house site
Waianae, Kihewa's pond.

No one objected to Humehume.

Kailehua, sworn, he has known in the same way as Kaia.

[Award 6076; R.P. 818; Kalualaea Waipio Ewa; 2 ap.; 1.198 Acs]

 Number: 08241BB

Claim Number: **08241BB**
Claimant: **Koleaka**
Other claimant:

Other name:			
Island:	Oahu		
District:	Ewa		
Ahupuaa:	Waipio		
Ili:	Homaikaia		
Apana:	2	Awarded:	1
Loi:		FR:	
Plus:		NR:	512v6
Mala Taro:		FT:	
Kula:		NT:	
House lot:		RP:	1
Kihapai/Pakanu:		Number of Royal Patents:	820
Salt lands:		Koele/Poolima:	No
Wauke:		Loko:	No
Oloha:		Lokoia:	No
Noni:		Fishing Rights:	No
Hala:		Sea/Shore/Dunes:	No
Sweet Potatoes:		Auwai/Ditch:	No
Irish Potatoes:		Other Edifice:	No
Bananas:		Spring/Well:	No
Breadfruit:		Pigpen:	No
Coconut:		Road/Path:	No
Coffee:		Burial/Graveyard:	No
Oranges:		Wall/Fence:	No
Bitter Melon/Gourd:		Stream/Muliwai/River:	No
Sugar Cane:		Pali:	No
Tobacco:		Disease:	No
Koa/Kou Trees:		Claimant Died:	No
Other Plants:		Other Trees:	
Other Mammals:	No	Miscellaneous:	See 8241 for Native Register document, 1 house

**No. 8241BB, Koleaka, Claimant
F.T. 174v9**

Kahaakoi, sworn says, he knows the land of claimant. It consists of 2 loko kalo that is cultivated called Ainaio(?) and Nuiawatea in the Ili of Homaikaia, Waipio, Ewa, Oahu, and a kula kahuahale in Lepari (2 apana).

It is bounded:
Mauka by Kalokaloa
Honolulu by auwai of Keahupuaa
Makai by auwai of Hanaloa
Waianae by the path between Waipio and Waikele.


Apana 2 Kahuahale in Lepari is bounded:
Mauka by kahuahale of Kaumiumi
Honolulu by Kula of Konohiki

Makai by Kula of Konohiki
 Waianae by Kula of Konohiki.

Claimant received the land from li, in the time of Kamehameha I, and has held the same in quiet possession until now.

Kahiamoe, sworn says, he knows the land of claimant and the testimony above is true, and her own accords with it.

[Award 8241BB; R.P. 820; Homaikaia Waipio Ewa; 1 ap. 1.81 Acs.; Lepau Waipio Ewa; 1 ap. .256 acs.; See 8241 for Native Register document]

 Number: 08241CB

Claim Number:	08241CB	
Claimant:	Keawekolohe	
Other claimant:		
Other name:		
Island:	Oahu	
District:	Ewa	
Ahupuaa:	Waipio	
Ili:	Homaikaia, Hanaloa	
Apana:	2	Awarded: 1
Loi:	1	FR:
Plus:		NR: 512v5
Mala Taro:		FT: 177v9
Kula:		NT:
House lot:		RP: 804
Kihapai/Pakanu:		Number of Royal Patents: 1
Salt lands:		Koele/Poalima: Yes
Wauke:		Loko: Yes
Olona:		Lokoia: No
Noni:		Fishing Rights: No
Hala:		Sea/Shore/Dunes: No
Sweet Potatoes:		Auwai/Ditch: No
Irish Potatoes:		Other Edifice: No
Bananas:		Spring/Well: No
Breadfruit:		Pigpen: No
Coconut:		Road/Path: No
Coffee:		Burial/Graveyard: No
Oranges:		Wall/Fence: No
Bitter Melon/Gourd:		Stream/Muliwai/River: No
Sugar Cane:		Pali: No
Tobacco:		Disease: No
Koa/Kou Trees:		Claimant Died: No

Other Plants: Other Trees:
 Other Mammals: No Miscellaneous: See 8241 for Native Register document, 1 house

No. 8241CB, Keawekolohe, claimant
 F.T. 177v9

Kuku, sworn, she knows the land of claimant. It is a loi in the moo Kaaikakawela, ili of Homaikaia, Waipio, Ewa, Oahu. This is the bounds of his which I know.

It is bounded:
 Mauka by koele of konohiki
 Honolulu by loi of Kaumiumi
 Makai by loko of Hoomaikaia
 Waianae by moo aina of Nawaakautua [? Smudged].

Claimant received the land from Kauuahi in the year 1846 and has held quiet possession ever since.

Kahiamoe, sworn says, the testimony above is true and is also his own.

[Award 8241CB; R.P. 804; Hanaloa Waipio Ewa; 1 ap. 3 Acs; Homaikaia Waipio Ewa; 1 ap. .412 Ac.; See 8241 for Native Register document]



Number: 08241GH

Claim Number:	08241GH		
Claimant:	Moku		
Other claimant:			
Other name:			
Island:	Oahu		
District:	Ewa		
Ahupuaa:	Waipio		
Ili:	Katualaea		
Apana:	3	Awarded:	1
Loi:	1	FR:	
Plus:		NR:	512v5
Mala Taro:		FT:	189v9
Kula:		NT:	
House lot:	1	RP:	822
Kihapai/Pakanu:		Number of Royal Patents:	1
Salt lands:		Koele/Poafima:	No
Wauke:		Loko:	Yes
Olona:		Lokoia:	No
Noni:		Fishing Rights:	No
Hala:		Sea/Store/Dunes:	No
Sweet Potatoes:		Auwai/Ditch:	Yes
Irish Potatoes:		Other Edifice:	No

Bananas:	Spring/Well:	No
Breadfruit:	Pigpen:	No
Coconut:	Road/Path:	No
Coffee:	Burial/Graveyard:	No
Oranges:	Wall/Fence:	No
Bitter Melon/Gourd:	Stream/Muliwai/River:	No
Sugar Cane:	Pali:	No
Tobacco:	Disease:	No
Koa/Kou Trees:	Claimant Died:	No
Other Plants:	Other Trees:	
Other Mammals: No	Miscellaneous:	claims 2 loko, See 8241 for Native Register document, 1 house

**No. 8241GH, Moku
F.T. 189v9**

Nahua, sworn say, he knows the land of claimant. It is a moo aina in Kaluaalea in the ahupuaa of Ewa, Oahu, Waipio. It contains 2 apana and a kahuahale in Puuopae.

Apana 1 contains 2 lokos and an auwai and a small loi. It is bounded:
Mauka by the land of konohiki of Eo
Honolulu lby the land of Kihewa
Makai by the land of konohiki
Waianae by land of Hueu.

Apana 2 is situated in Kukio in Waipio and contains 1 auwai and is bounded:
Mauka by the ili of Hanaloa
Honolulu by the konohiki
Makai by konohiki (or Pi)
Waianae by Pi.

Claimant inherited the land from his fathers of old and has held quiet possession of the same until now.

Apana 3, kahuahale. It is situated in kula of Hanaloa and is bounded:
Mauka by the lhouse of Kaia
Honolulu by kula of Hanaloa
Makai by kula of Hanaloa
Waianae by paaina.

Humehume, sworn, confirms the testimony of the above, and says it is also his own.

[Award 8241GH; R.P. 822; Puopae Waipio Ewa; 1 ap. .255 Acs.; See 8241 for Native Register document]

 Number: 08241GO

Claim Number: 08241GO
Claimant: Kawahinelawaia
Other claimant:

Other name:	Nawahinelawaia		
Island:	Oahu		
District:	Ewa		
Ahupuaa:	Waipio		
Ili:	Keio		
Apana:	1	Awarded:	1
Loi:	2	FR:	
Plus:		NR:	512v5
Mala Taro:		FT:	163v9
Kula:		NT:	
House lot:		RP:	798
Kihapai/Pakanu:		Number of Royal Patents:	1
Salt lands:		Koele/Poolima:	No
Wauke:		Loko:	No
Oloha:		Lokoia:	No
Noni:		Fishing Rights:	No
Hala:		Sea/Shore/Dunes:	No
Sweet Potatoes:		Auwai/Ditch:	No
Irish Potatoes:		Other Edifice:	No
Bananas:		Spring/Well:	No
Breadfruit:		Pigpen:	No
Coconut:		Road/Path:	No
Coffee:		Burial/Graveyard:	No
Oranges:		Wall/Fence:	No
Bitter Melon/Gourd:		Stream/Muliwai/River:	No
Sugar Cane:		Pali:	No
Tobacco:		Disease:	No
Koa/Kou Trees:		Claimant Died:	No
Other Plants:		Other Trees:	
Other Mammals:	No	Miscellaneous:	See 8241 for Native Register document, 1 house

**No. 8241GO, Kawahinelawaia, Claimant
F.T. 163v9**

Uma, sworn says, he knows the land of claimant. It is a moo kalo called Keio in the ili of Keio, Waipio, Ewa, Oahu. It contains 2 [lois?] in one piece and a kahuahale in the kula Puleo, Kepookala, Waipio, in another.

Apana 1 is bounded:
Mauka by the koele of Keio
Honokulu by loko of Eo
Makai by land of Keia
Weianae by the koeles of Keio.

Apana 2, Kahuahale, bounded: On all sides by kula and sea of Konohiki.

Claimant received the land from Kekaha in the time of Kaahumanu and has held iquqiet possession

of the same until now.

Awala, sworn, says the testimony of Uma is correct and is also his own.

[Award 8241GO; R.P. 798; Keio Waipio Ewa; 1 ap. 1.09 Acs; See 8241 for Native Register document]



LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSCJI
FIRST DEPUTY

KEN C. KAWAHARA
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

October 29, 2009

Mr. Gerald Park
Gerald Park Urban Planner
95-595 Kanamee Street, #324
Mililani, Hawaii'i 96789

LOG NO: 2009.4333
DOC NO: 0910NM51
Archaeology

Dear Mr. Park:

**SUBJECT: Chapter 6E-8 Historic Preservation Review –
DRAFT Environmental Assessment—
Ted Makalena Golf Course Cart Path Replacement City and County of Honolulu
Waipio Ahupua'a, Ewa District, Oahu Hawaii'i
TMK: (1) 9-3-002: 34**



Thank you for providing the opportunity to comment on this DRAFT Environmental Assessment which we received on September 30, 2009. We concur that there will be **"no historic properties affected"** by this project since an archaeological assessment and literature review was conducted by Cultural Surveys Hawaii and no historic properties were found.

Please contact me at (808) 692-8015 if you have any questions or concerns regarding this letter.

Aloha,

A handwritten signature in cursive script that reads "Nancy A. McMahon".

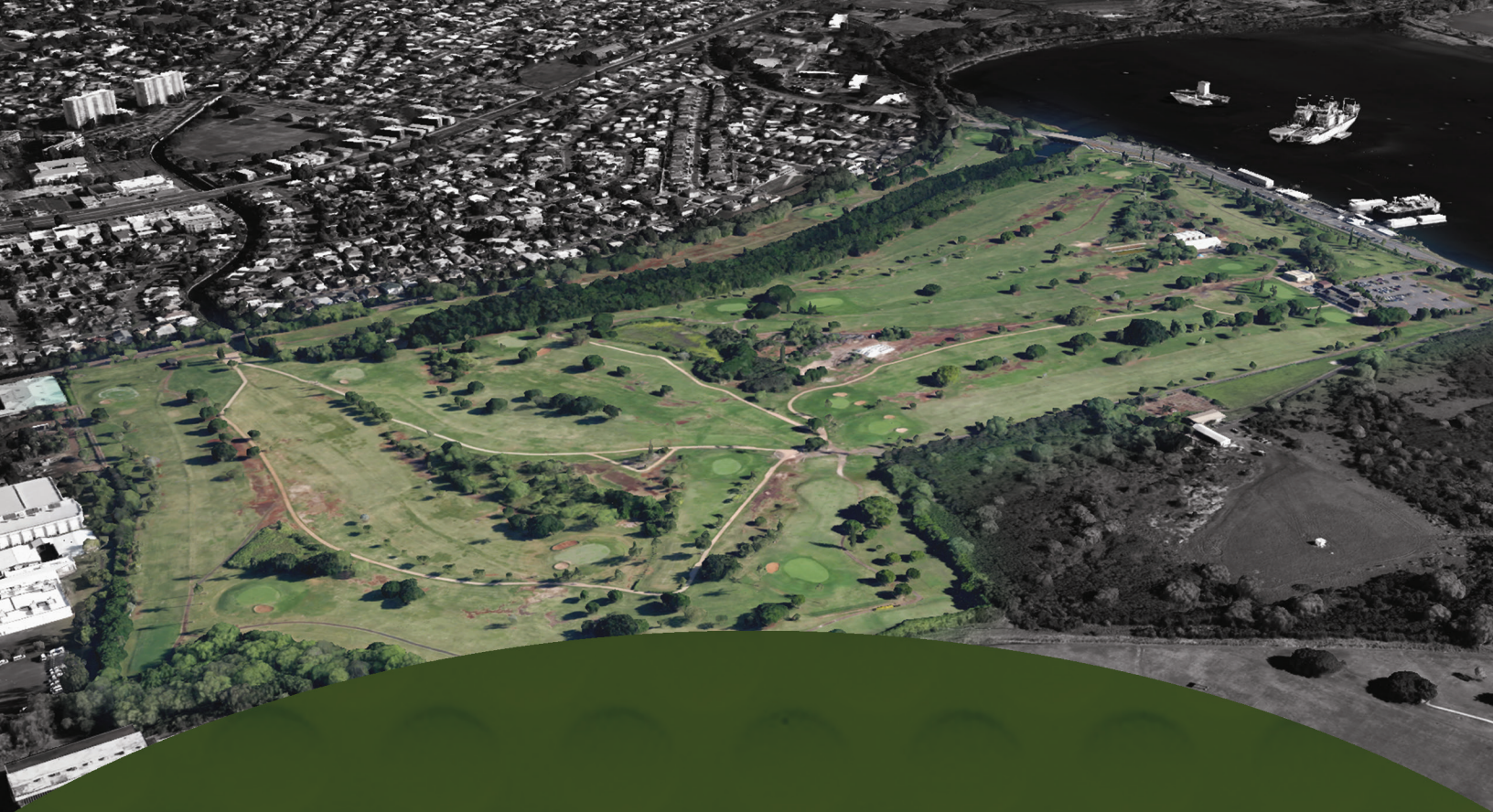
Nancy A. McMahon (Deputy SHPO)
Archaeology and Historic Preservation Manager

Cc: OEQC, 235 South Beretania St, Room 702 Honolulu, HI 96813

APPENDIX E

Traffic Management Plan



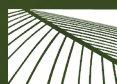


TRAFFIC MANAGEMENT PLAN

Ted Makalena Golf Course NPDES Improvements

Prepared for:
City and County of Honolulu

Prepared by:



PBR HAWAII
& ASSOCIATES, INC.

February 2018

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TED MAKALENA GOLF COURSE

Traffic Management Plan

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1.0 TRAFFIC MANAGEMENT PLAN OBJECTIVES

The objective of this Traffic Management Plan is to encourage employees and visitors of the Ted Makalena Golf Course to bike, carpool and use public transit.

2.0 ROADWAYS AND TRAFFIC

The Ted Makalena Golf Course is situated on a parcel of land that lies along the western edge of a portion of Waipi‘o Point Access Road, and is located approximately 1,300 feet south (makai) of Farrington Highway (see Figure 1). The following is a breakdown of the roadways most pertinent to the golf course and Project Site.

Farrington Highway. Farrington Highway is a State Principal Arterial Highway that connects Central and West O‘ahu. Farrington Highway connects to Kamehameha Highway in the vicinity of Pearl Highlands Shopping Center. The posted speed limit near the golf course is 25 miles per hour (mph) in both directions.

Waipi‘o Point Access Road. Waipi‘o Point Access Road is a two-lane minor collector road providing access to Farrington Highway from its other terminus at the Waipi‘o Peninsula Soccer Park. The entrance to Ted Makalena Golf Course is located approximately 0.8 miles south of the intersection of Waipi‘o Point Access Road and Farrington Highway. The road serves approximately 5,000 vehicles per day, based on State Department of Transportation (DOT) data collected in 2015 (State of Hawai‘i 2015).

3.0 PARKING

There are currently 152 paved parking stalls at the Ted Makalena Golf Course for staff, golfers, and visitor parking, including 6 accessible (ADA) stalls. During peak or high golf play days, overflow parking utilizes the grassed area adjacent to the existing parking lot causing tire ruts, loosening soil, damaging lawns, and eroding soils during storm events (see Figure 2). The shoulder of nearby Waipi‘o Point Access Road is also currently used for overflow parking.

PDF: Q:\Oahu\Ted Makalena Golf Course - NPDES MS4 (EA+SMA)\PDF
 Path: Q:\Oahu\Ted Makalena Golf Course - NPDES MS4 (EA+SMA)\GIS\Project\Surrounding Land Uses.mxd



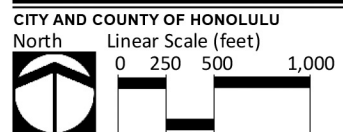
DATE: 10/23/2017

LEGEND

- Project Scope
- Ted Makalena Golf Course

Figure 1:
 Surrounding Land Uses

**TED MAKALENA GOLF COURSE
 NPDES IMPROVEMENTS**



O'ahu





Photo 1: Cart wash area with cart storage building in background.



Photo 2: Parking lot with overflow grass parking.

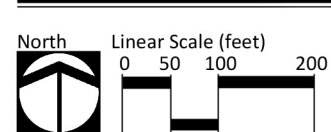
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 Path: Q:\Oahu\Ted Makalena Golf Course - NPDES MS4 (EA+SMA)\GIS\Project\Site Photos Key Map TM/GC.mxd



DATE: 10/20/2017

Figure 2:
Site Photographs

**TED MAKALENA GOLF COURSE
NPDES IMPROVEMENTS**



4.0 CURRENT BICYCLE FACILITIES

Permanent bicycle facilities are limited in the vicinity of the Waipi‘o Peninsula and the greater Waipahu area. The Ted Makalena Golf Course can be accessed via Waipi‘o Point Access Road and also Waipahu Depot Road via Waipi‘o Peninsula Soccer Park. Connecting these two roads is the existing Pearl Harbor Bike Path. For bicyclists accessing the Golf Course from the east, there are a number of bike lanes and paths proposed in the O‘ahu Bike Plan (City & County of Honolulu, Department of Transportation Services 2012). For bicyclists traveling from the west, Farrington Highway provides an existing bike route, from which bicyclists can then access either Waipahu Depot Road, Pearl Harbor Bike Path or Waipi‘o Point Access Road. For bicyclists traveling from mauka areas, only Managers Drive/Mokuola Street provides a bike lane (see Figure 3).

5.0 CURRENT PUBLIC TRANSPORTATION

TheBus, which is the public transportation service provided by the City and County of Honolulu, provides bus routes to and from the vicinity of the Ted Makalena Golf Course. The nearest bus stops for routes that service the area are bus stop #678 at Farrington Highway & Waipi‘o Point Access Road (for eastbound routes) and bus stop #454 at Farrington Highway & Kahuali‘i Street (for westbound routes), see Figure 4. However, these bus stops are an approximately 15-minute walk (0.8 miles) from the entrance to the golf course. The routes serviced by this stop include:

- No. 40 connecting Mākaha Towers to Waipahu Transit Center & Ala Moana.
- No. 42 connecting ‘Ewa Beach to Waikīkī.
- No. 43 connecting Waipahu to Alapai Transit Center.
- Route A CityExpress! connecting Waipahu to Kalihi Transit Center & the University of Hawai‘i at Mānoa.

6.0 FUTURE PUBLIC TRANSPORTATION

The County is constructing a high-capacity transit (rail) corridor project between East Kapolei and Ala Moana. The Project Site will be roughly equidistant (via roadway network) to both the Leeward Community College (LCC) rail transit station to the northeast, and the Waipahu Transit Center Station to the northwest, which will be located near the corner of Awalau Street & Farrington Highway (see Figure 4). These stations are anticipated to reduce traffic congestion in the area resulting from lower use of personal vehicles by commuters.

At the time of writing, trains are expected to be running between Aloha Stadium and East Kapolei in late 2020, and the full rail line is expected to be operable through Downtown Honolulu and Ala Moana Center by 2025.



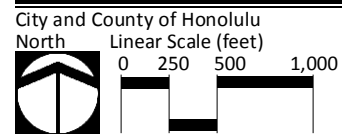
DATE: 2/2/2018

LEGEND

- Project Scope
- Ted Makalena Golf Course Parcel
- Existing Bicycle Routes
- Proposed Bicycle Routes (2012 O'ahu Bike Plan)

Figure 3:
Bicycle Routes

**TED MAKALENA GOLF COURSE
NPDES IMPROVEMENTS**



PDF: Q:\Oahu\Ted Makalena Golf Course - NPDES MS4 (EA+SMA)\PDF
 Path: Q:\Oahu\Ted Makalena Golf Course - NPDES MS4 (EA+SMA)\GIS\Project\Public Transportation TMGC.mxd



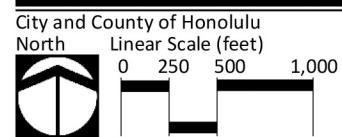
DATE: 11/28/2017

LEGEND

- Project Scope
- Ted Makalena Golf Course Parcel
- Tax Map Key Parcels
- Bus Route
- Bus Stop
- HART Route
- HART Station

Figure 4:
Public Transportation

**TED MAKALENA GOLF COURSE
NPDES IMPROVEMENTS**



Source: City & County of Honolulu, 2017. ESRI Online Basemaps.
 Disclaimer: This graphic has been prepared for general planning purposes only and should not be used for boundary interpretations or other spatial analysis.

7.0 TRAFFIC MANAGEMENT RECOMMENDATIONS

Construction-Related Impacts and Mitigation Measures

The Project will not require permanent rerouting or alteration of roadway traffic, but it may be required occasionally to accommodate construction equipment. Construction activities may generate short-term traffic impacts to the motoring public, bicyclists, staff, and visitors to the golf course mostly in the immediate vicinity of the intersection of Waipi'o Point Access Road and Farrington Highway. Traffic cones and other directional devices will be placed in the roadway to guide vehicles around work areas. The contractor will implement mitigation measures to provide access past work sites and to minimize the inconvenience to the community. These mitigation measures may include the following:

- Posting flagmen for traffic control around work sites;
- Backfilling/covering all trenches at the end of the work day;
- Posting safety devices and signs for the duration of construction;
- Maintaining any existing pedestrian, bicycle, and vehicle access/crossing with the highest safety measures during construction;
- Scheduling the transferal of construction materials and equipment to and from the Project Site during non-peak traffic hours (8:30-3:30), but not during school dismissal periods; and
- Scheduling construction activities requiring lane closures to occur during times that avoid the beginning and ending of work day and school day rush hours (8:30-3:30).

Should construction activities require the closure of any City street, traffic lane, or sidewalk, the applicant will obtain a Street Usage Permit from the City and County of Honolulu Department of Transportation Services (DTS). Should there be a need to transport any oversized equipment/overweight loads on State highway facilities, a DOT Highways Division permit will be prepared.

During the pre-assessment consultation process, DTS made the following recommendations (see letter in Appendix A of the Final EA):

- The area Neighborhood Board, as well as the area residents, businesses, emergency personnel (fire, ambulance and police), O'ahu Transit Services, HART, etc. should be kept apprised of the Project and the potential impacts to adjoining local street area network;
- BMP controls should be included at the Project construction site to prevent trailing of dirt and debris on City roadways; and
- Any damage to the existing roadway that is caused by the Project should be repaired to current City standards as well as meet Americans with Disabilities Act (ADA) requirements.

Also during the pre-assessment consultation process, the Department of Facility Maintenance (DFM) similarly wrote: "During construction and upon completion of project; any damages/deficiencies to Waipio Point Access Road right-of-way shall be corrected to City Standards and accepted by the City" (see Appendix A of the Final EA).

Operations-Related Impacts on Motorized Vehicles

In the long-term, no significant change in visitor numbers is expected due to this Project. Therefore, the Project's impact on the cumulative traffic impacts on State highways facilities in the area (Farrington Highway) should be minimal. In general, the proposed improvements are not anticipated to have a long-term impact on traffic and access to the area.

Operations-Related Impacts on Parking for Motorized Vehicles and Mitigation Measures

With the proposed parking lot expansion, the total number of parking spaces will be increased from 152 to 240 parking stalls, including 7 accessible stalls. The Department of Enterprise Services (DES) has indicated that the additional parking stalls will be sufficient to accommodate parking demand during peak or high golf play days for the facility.

In the long term, the Project is not anticipated to have a significant impact on the demand for parking at the Ted Makalena Golf Course, as no change in the visitor population is expected as a result of the Project. The planned increase in the number of stalls available to staff and visitors, however, should alleviate any current shortage in parking supply, and will prevent overflow parking from using the current parking lot's grassed areas, thereby preventing the destruction of groundcover and reducing the amount of tracking and sedimentation. Moreover, the new stalls will also prevent overflow parking from using the shoulder of Waipi'o Point Access Road. Although the parking lot expansion will increase the amount of impermeable surface area at the site, LID measures such as bioretention areas and inlet filters with hydrocarbon absorbent pads will improve the parking lot storm drainage runoff water quality and allow for greater infiltration.

Operations-Related Impacts on Bicycle Facilities and Mitigation Measures

Because of the nature of the sport, it is unlikely that the majority of commuters to the site (golfers) will be able to ride a bicycle while carrying a set of golf clubs in a golf bag. There may be employees who would access the site by bicycle although in general area roads are not suited for sharing with cars and trucks.

Operations-Related Impacts on Public Transit

No significant change in visitors is anticipated as a result of the Project; as such, no increase in public transit demand is anticipated. As requested in the DTS' initial pre-consultation letter, O'ahu Transit Services (TheBus, TheHandi-Van) and HART will be informed of Project activities which may affect public transit routes, schedules, or other activities in order to mitigate potential impacts to the City's transit services.

The Project is not anticipated to have any impact on the City's future public transit infrastructure. After the rail line is operational, parking in and around Ted Makalena Golf Course may see less demand as visitors and staff are able to use the new HART system to commute to and from the golf course. The HART system is not anticipated to have a significant impact on visitor numbers however, as the rail stations are not within short walking distance of the golf course. No mitigation measures are planned.

8.0 REFERENCES

- City & County of Honolulu, Department of Transportation Services. *O‘ahu Bike Plan: A bicycle master plan*. Honolulu, HI: Helber Hastert & Fee, Planners, 2012.
- State of Hawai‘i. *Traffic Station Mapbook, Island of O‘ahu*. Honolulu: Department of Transportation, Highways Division, Planning Branch; in cooperation with the U.S. Department of Transportation Federal Highway Administration, 2015.

APPENDIX F

Draft EA Comment Letters and Responses



BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843
www.boardofwatersupply.com



December 22, 2017

KIRK CALDWELL, MAYOR

BRYAN P. ANDAYA, Chair
KAPUA SPROAT, Vice Chair
DAVID C. HULIHEE
KAY C. MATSUI
RAY C. SOON

ROSS S. SASAMURA, Ex-Officio
JADE T. BUTAY, Ex-Officio

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer *elle*

TO: ROBERT J. KRONING, P.E.
DEPARTMENT OF DESIGN AND CONSTRUCTION

ATTN: KYLE KANG, FACILITIES DIVISION

FROM: ERNEST Y.W. LAU, P.E., MANAGER AND CHIEF ENGINEER *EL*

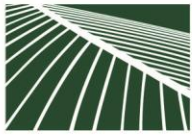
SUBJECT: YOUR LETTER DATED DECEMBER 5, 2017 REQUESTING
COMMENTS ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR
TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS PROJECT
OFF WAIPIO POINT ACCESS ROAD - TAX MAP KEY: 9-3-002: 034

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.

If you have any questions, please contact Robert Chun, Project Review Branch of our Water Resources Division at 748-5443.

cc: *Greg* Greg Nakai, PBR Hawaii



PBR HAWAII

& ASSOCIATES, INC.

February 23, 2018

Mr. Ernest Y. W. Lau, P.E.
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawai'i 96843

Attn: Mr. Robert Chun, Project Review Branch, Water Resources Division

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Lau:

Thank you for your letter dated December 22, 2017, regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comments and provide the following response.

We appreciate the information that the existing water system is adequate to accommodate the proposed improvements. However, we acknowledge that the Board of Water Supply's (BWS's) final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

This information was included in the Draft Environmental Assessment (EA), as well as the information that there are BWS Water System Facilities Charges for resource development, transmission, and daily storage.

We value your participation in the environmental review process. Your letter will be included in the forthcoming Final EA.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Steve Tomei – Sam O. Hirota, Inc.

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
President / Principal

RUSSELL Y. J. CHUNG, FASLA, LEED® AP BD+C
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Vice-President / Principal

GRANT T. MURAKAMI, AICP, LEED® AP BD+C
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TOM SCHNELL, AICP
Principal

KIMI MIKAMI YUEN, LEED® AP BD+C
Principal

W. FRANK BRANDT, FASLA
Chairman Emeritus

ANN MIKIKO BOUSLOG, PhD
Project Director

RAMSAY R. M. TAUM
Cultural Sustainability Planner

RAYMOND T. HIGA, ASLA
Senior Associate

CATIE CULLISON, AICP
Senior Associate

MARC SHIMATSU, ASLA
Senior Associate

DACHENG DONG, LEED® AP
Senior Associate

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

MICAH McMILLEN, ASLA, LEED® AP
Associate

NATHALIE RAZO
Associate

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Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

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DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU

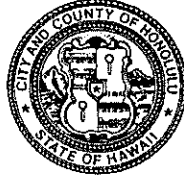
650 SOUTH KING STREET, 11TH FLOOR
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Phone: (808) 768-8480 • Fax: (808) 768-4567
Web site: www.honolulu.gov

KIRK CALDWELL
MAYOR

ROBERT J. KRONING, P.E.
DIRECTOR

MARK YONAMINE, P.E.
DEPUTY DIRECTOR



January 9, 2018

PBR Hawaii & Associates, Inc.
ATTN: Greg Nakai
1001 Bishop Street, Suite 650
Honolulu, HI 96813


Mr. Nakai,

Subject: Draft Environmental Assessment for Ted Makalena Golf
Course NPDES Improvements

Thank you for the opportunity to review and comment. The Department of
Design and Construction does not have any comments at this time.

Should you have any further questions, please call me at 768-8480.

Sincerely,


Robert J. Kroning, P.E.
Director

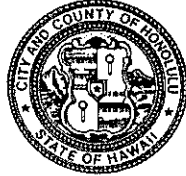
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DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR
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Web site: www.honolulu.gov

KIRK CALDWELL
MAYOR



ROBERT J. KRONING, P.E.
DIRECTOR

MARK YONAMINE, P.E.
DEPUTY DIRECTOR

January 16, 2018

PBR Hawaii & Associates, Inc.
ATTN: Greg Nakai
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Nakai,

Subject: Pre-Assessment Consultation for a HRS Chapter 343
Environmental Assessment- Ted Makalena Course NPDES
Improvements TMK: (1) 9-3-002:034 (por.)

Thank you for the opportunity to review and comment. The Department of Design and Construction does not have any comments at this time.

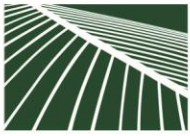
Should you have any further questions, please call me at 768-8480.

Sincerely,

A handwritten signature in black ink, appearing to read "R. J. Kroning".

Robert J. Kroning, P.E.
Director

RJK:ms(703984)



PBR HAWAII

& ASSOCIATES, INC.

February 23, 2018

Mr. Robert J. Kroning, P.E.
Director
Department of Design and Construction
City and County of Honolulu
650 South King Street, 11th Floor
Honolulu, Hawai'i 96813

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHU, O‘AHU, HAWAI‘I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Kroning:

Thank you for your letters dated January 9 and January 16, 2018, regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comments that your department has no comments at this time.

We value your participation in the environmental review process. Your letters will be included in the forthcoming Final EA.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Steve Tomei – Sam O. Hirota, Inc.

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
President / Principal

RUSSELL Y. J. CHUNG, FASLA, LEED® AP BD+C
Executive Vice-President / Principal

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GRANT T. MURAKAMI, AICP, LEED® AP BD+C
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TOM SCHNELL, AICP
Principal

KIMI MIKAMI YUEN, LEED® AP BD+C
Principal

W. FRANK BRANDT, FASLA
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ANN MIKIKO BOUSLOG, PhD
Project Director

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DACHENG DONG, LEED® AP
Senior Associate

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

MICAH McMILLEN, ASLA, LEED® AP
Associate

NATHALIE RAZO
Associate

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E-mail: sysadmin@pbrhawaii.com

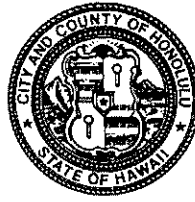
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DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

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PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honolulu.gov • CITY WEB SITE: www.honolulu.gov

KIRK CALDWELL
MAYOR



KATHY K. SOKUGAWA
ACTING DIRECTOR

TIMOTHY F. T. HIU
DEPUTY DIRECTOR

2017/ELOG-2490(ZS)

January 3, 2018

Mr. Greg Nakai, Planner
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Nakai:

SUBJECT: Draft Environmental Assessment
Ted Makalena Golf Course NPDES Improvements – Waipahu
Tax Map Key 9-3-002: Portion of 034

This is in response to your letter received on December 7, 2017, requesting comments on the subject document. We have the following comments:

1. Parking requirements for Public Uses are determined by the director, according to Table 21-6.1 of the Land Use Ordinance (LUO). Parking lots must be landscaped or screened in accordance with LUO Section 21-4.70.
2. Section 4.7.3 of the document says the site “generally” drains to the north and to the east. Figure 5B shows the new bioretention area and inlet filter to the west of impervious surfaces at the maintenance yard. Will runoff be redirected west, toward the bioretention area and inlet filter?
3. In the City and County of Honolulu’s General Plan, Part 3, Objective A, Policy 2 is to “seek the restoration of environmentally damaged areas and natural resources.” In this spirit, vegetation that is native to the area should be considered for any landscaping. Native, xeriscape species also eliminate the need for irrigation.
4. Part 6, Objective C, Policy 1 of the General Plan is to “encourage the use of commercially available solar energy systems in public facilities, institutions, residences, and business developments.” Additionally, Part 6, Objective D, Policy 1 is to “Support and participate in research, development, demonstration, and commercialization programs aimed at producing new, economical, and environmentally sound energy supplies from: a. solar insolation; b. biomass energy conversion; c. wind energy conversion;

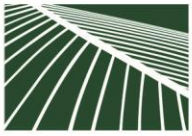
Mr. Greg Nakai
January 3, 2018
Page 2

d. geothermal energy; and e. ocean thermal energy conversion.” In this spirit, please consider this project as an opportunity to install solar panels in conjunction with the proposed parking lot expansion and maintenance yard improvements.

If you have any questions, please contact Zack Stoddard, of our Land Use Approval Branch, at (808) 768-8019.

Very truly yours,


for Kathy K. Sokugawa
Acting Director



PBR HAWAII
& ASSOCIATES, INC.

February 23, 2018

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
President / Principal

RUSSELL Y. J. CHUNG, FASLA, LEED® AP BD+C
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Vice-President / Principal

GRANT T. MURAKAMI, AICP, LEED® AP BD+C
Vice-President / Principal

TOM SCHNELL, AICP
Principal

KIMI MIKAMI YUEN, LEED® AP BD+C
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Project Director

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Cultural Sustainability Planner

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Senior Associate

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

MICAH McMILLEN, ASLA, LEED® AP
Associate

NATHALIE RAZO
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
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E-mail: sysadmin@pbrhawaii.com

Ms. Kathy Sokugawa
Acting Director
Department of Planning & Permitting
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, Hawai'i 96813

Attn: Mr. Zack Stoddard, Land Use Approval Branch

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Ms. Sokugawa:

Thank you for your letter dated January 3, 2018, regarding the subject project (2017 /ELOG-2490(ZS)). As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comments and provide the following responses.

1. While we appreciate the information on parking landscape requirements, we would respectfully ask the Director to waive any requirements that would result in increasing project costs.
2. We can confirm that the Maintenance Yard portion of the project (as shown on Figure 5B) has been designed to direct runoff towards the west, toward the bio-retention area and inlet filter.
3. While the opportunity for major re-landscaping of the site is not available for the proposed project, plant species that are suited to the climate of the area and current irrigation practices will be considered for any landscaping.
4. While we are supportive of alternative energy sources, the proposed project is not budgeted to include photovoltaic panels.

We value your participation in the environmental review process. Your letter will be included in the forthcoming Final EA.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Steve Tomei – Sam O. Hirota, Inc.

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DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

KIRK CALDWELL
MAYOR



WES FRYSZTACKI
DIRECTOR

JON Y. NOUCHI
DEPUTY DIRECTOR

TP10/17-705669R

January 5, 2018

Mr. Greg Nakai
Planner
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Nakai:

SUBJECT: Draft Environmental Assessment (DEA) for Ted Makalena Golf Course NPDES Improvements, Waipahu, Oahu, Hawaii

This is in response to the DEA notice dated December 5, 2017, requesting our review and comments on the subject project. We have the following comments:

1. **Traffic Management Plan (TMP).** Prepare a TMP which:
 - a. Is jointly reviewed and accepted by the Department of Transportation Services and the Department of Planning and Permitting.
 - b. Includes mitigation measures that are listed in section 4.2.1. Roadways and Traffic, page 39.
 - c. Encourages employees and visitors to bike, carpool and use public transit.

2. **Complete Streets.** The Application should contain discussion of compliance with County and State Complete Streets policies, pursuant to Act 54, Session Laws of Hawaii 2009, HRS §264-20.5 and ROH 12-15. The Project should elaborate on how it will comply with Complete Streets policies, including specific adherence to the following key Complete Streets principles: safety, Context Sensitive Solutions, accessibility and mobility for all, use and comfort of all users, consistency of design

Mr. Greg Nakai
January 5, 2018
Page 2

guidelines and standards, energy efficiency; health and green infrastructure.

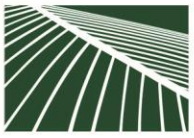
3. **Bike Racks.** On-site bike racks for the employees and visitors should be included and located on the site plan.

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,


Wes Frysztacki
Director

cc: Kyle Kang, Facilities Division, Department of Design and Construction



February 23, 2018

Mr. Wes Frysztacki
Director
Department of Transportation Services
City and County of Honolulu
650 South King Street, 3rd Floor
Honolulu, Hawai'i 96813

Attn: Ms. Renee Yamasaki

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O‘AHU, HAWAI‘I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Frysztacki:

Thank you for your letter dated January 3, 2018, regarding the subject project (TP10/17-705669R). As the planning consultant for the City and County of Honolulu Department of Design and Construction (DDC), we acknowledge your comments and provide the following responses.

1. The Final EA will include a Traffic Management Plan.
2. We are supportive of the City and County of Honolulu's Complete Streets Program, but it is possible that the streets which provide access to the Ted Makalena Golf Course are currently not high priority candidates for the application of this Program. We understand the criteria for the application of Complete Streets include:
 - Land Use Context and Demand;
 - Facility Attributes;
 - Function;
 - Connectivity;
 - Crashes;
 - Transit Operations;
 - Bicycling;
 - Walking; and
 - Vehicles.

Our preliminary review would indicate that unless alternative modes of transportation are provided (TheBus; bicycle facilities) that would connect the Ted Makalena Golf Course to the region, the application of Complete Streets to Waipi'o Point Access Road would have a much lower priority than streets to other key destinations, such as to area public schools.

3. While we are supportive of alternative modes of transportation, the proposed project is not budgeted to include on-site bike racks. Because of the nature of the sport, it is unlikely that the majority of commuters to the site (golfers) will be able to ride a bicycle while carrying a set of golf clubs in a golf bag. There may be employees who would access the site by bicycle, although in general, area roads are not suited for sharing with cars and trucks.

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
President / Principal

RUSSELL Y. J. CHUNG, FASLA, LEED® AP BD+C
Executive Vice-President / Principal

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GRANT T. MURAKAMI, AICP, LEED® AP BD+C
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Principal

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Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

Mr. Wes Frysztacki

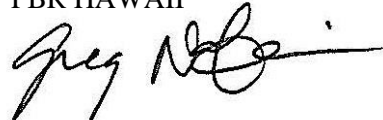
SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O‘AHU, HAWAI‘I, TMK (1) 9-3-002: 034 (POR.)

February 23, 2018

Page 2 of 2

We value your participation in the environmental review process. Your letter will be included in the forthcoming Final EA.

Sincerely,
PBR HAWAII

A handwritten signature in black ink, appearing to read "Greg Nakai", with a long horizontal flourish extending to the right.

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Steve Tomei – Sam O. Hirota, 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

December 21, 2017

Mr. Greg Nakai, Planner
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Dear Mr. Nakai:

Subject: Ted Makalena Golf Course National Pollutant Discharge Elimination System
Improvements
Tax Map Key: 9-3-002: 034

In response to your letter dated December 5, 2017, regarding the abovementioned subject, the Honolulu Fire Department determined that there will be no significant impact to department services.

Should you have questions, please contact Battalion Chief Wayne Masuda of our Fire Prevention Bureau at 723-7151 or wmasuda@honolulu.gov.

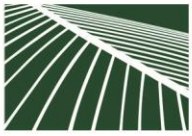
Sincerely,

A handwritten signature in blue ink that reads "Socrates D. Bratakos".

SOCRATES D. BRATAKOS
Assistant Chief

SDB/TC:jl

cc: Kyle Kang, Department of Design
and Construction



PBR HAWAII

& ASSOCIATES, INC.

February 23, 2018

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
President / Principal

RUSSELL Y. J. CHUNG, FASLA, LEED® AP BD+C
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Vice-President / Principal

GRANT T. MURAKAMI, AICP, LEED® AP BD+C
Vice-President / Principal

TOM SCHNELL, AICP
Principal

KIMI MIKAMI YUEN, LEED® AP BD+C
Principal

W. FRANK BRANDT, FASLA
Chairman Emeritus

ANN MIKIKO BOUSLOG, PhD
Project Director

RAMSAY R. M. TAUM
Cultural Sustainability Planner

RAYMOND T. HIGA, ASLA
Senior Associate

CATIE CULLISON, AICP
Senior Associate

MARC SHIMATSU, ASLA
Senior Associate

DACHENG DONG, LEED® AP
Senior Associate

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

MICAH McMILLEN, ASLA, LEED® AP
Associate

NATHALIE RAZO
Associate

Mr. Socrates D. Bratakos
Assistant Chief
Honolulu Fire Department
City and County of Honolulu
636 South Street
Honolulu, Hawai'i 96813-5007

Attn: Battalion Chief Wayne Masuda, Fire Prevention Bureau

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Bratakos:

Thank you for your letter dated December 21, 2017, regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comment that there will be no significant impact to Honolulu Fire Department services. This information was included in the Draft Environmental Assessment (EA).

We value your participation in the environmental review process. Your letter will be included in the forthcoming Final EA.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Steve Tomei – Sam O. Hirota, Inc.

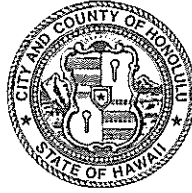
O:\Job28\2875.01_02 Ted Makalena Golf Course - NPDES MS4\EA\DEA\Comments and Responses\Responses\County_HFD response.docx

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

printed on recycled paper

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 · INTERNET: www.honoluluupd.org



KIRK CALDWELL
MAYOR

SUSAN BALLARD
CHIEF

JOHN D. MCCARTHY
JOHATHON GREMS
DEPUTY CHIEFS

OUR REFERENCE MT-AL

January 8, 2018

Mr. Greg Nakai, Planner
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813-3484

Dear Mr. Nakai:

This is in response to your letter of December 5, 2017, requesting comments on a Draft Environmental Assessment for the Ted Makalena Golf Course National Pollutant Discharge Elimination System Improvements project.

Based on the information provided, this project should have no significant impact on the services or operations of the Honolulu Police Department at this time.

If there are any questions, please call Major Dagan Tsuchida District 3 (Pearl City) at 723-8803.

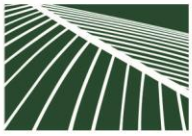
Thank you for the opportunity to review this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Tsuyemura", is written over a horizontal line.

MARK TSUYEMURA
Management Analyst VI
Office of the Chief

cc: Mr. Kyle Kang
Department of Design and Construction



PBR HAWAII
& ASSOCIATES, INC.

February 23, 2018

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
President / Principal

RUSSELL Y. J. CHUNG, FASLA, LEED® AP BD+C
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TOM SCHNELL, AICP
Principal

KIMI MIKAMI YUEN, LEED® AP BD+C
Principal

W. FRANK BRANDT, FASLA
Chairman Emeritus

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Project Director

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Cultural Sustainability Planner

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MARC SHIMATSU, ASLA
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DACHENG DONG, LEED® AP
Senior Associate

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

MICAH McMILLEN, ASLA, LEED® AP
Associate

NATHALIE RAZO
Associate

Mr. Mark Tsuyemura
Management Analyst VI
Office of the Chief
Honolulu Police Department
City and County of Honolulu
801 South Beretania Street
Honolulu, Hawai'i 96813

Attn: Major Dagan Tsuchida, District 3 (Pearl City)

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Tsuyemura:

Thank you for your letter dated January 8, 2018 (your reference MT-AL), regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comment that the project should have no significant impact on the services or operations of the Honolulu Police Department at this time. This information was included in the Draft Environmental Assessment (EA).

We value your participation in the environmental review process. Your letter will be included in the forthcoming Final EA.

Sincerely,
PBR HAWAII

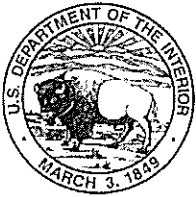
Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Steve Tomei – Sam O. Hirota, Inc.

O:\Job28\2875.01_02 Ted Makalena Golf Course - NPDES MS4\EA\DEA\Comments and Responses\Responses\County_HPDC response.docx

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96850

In Reply Refer To:
01EPIF00-2018-TA-0086

JAN 04 2018

Mr. Kyle Kang
Facilities Division
City and County of Honolulu
Department of Design and Construction
650 South King Street, 11th Floor
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment - Ted Makalena Golf Course NPDES
Improvements, Waipahu, Oahu

Dear Mr. Kang:

The U.S. Fish and Wildlife Service (Service) received your letter on December 7, 2017, requesting our comments on proposed improvements at the Ted Makalena Golf Course. The project is located on 0.9 acres (total parcel area 150.5 acres) at 93-059 Waipio Point Access Road, Waipahu, Oahu [TMK: (1) 9-3-002:034 (portion)]. We understand PBR Hawaii & Associates, Inc. has prepared the Draft Environmental Assessment (EA) for the project in accordance with Chapter 343, Hawaii Revised Statutes. The project improvements involve incorporating Low Impact Development (LID) measures such as bioretention areas and inlet filters with hydrocarbon absorbent pads, water lateral, hose bibb, two new drain inlets (with inlet protection), and a new 12" drainline to improve the water quality of the storm drainage runoff from the parking lot and maintenance yard. The asphalt concrete (AC) parking lot extension will include new bioretention areas, street trees, AC pavement, curb and gutters, wheel stops, and 88 new parking spaces with ADA accessible stalls.

We offer the following comments for your consideration. Our comments are provided under the authorities of the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*), as amended (ESA); National Environmental Policy Act of 1969 [42 U.S.C. 4321 *et seq.*; 83 Stat. 401], as amended (NEPA); Fish and Wildlife Coordination Act of 1934 (16 U.S.C. 661 *et seq.*; 48 Stat. 401); and Migratory Bird Treaty Act of 1918 (MBTA) (16 U.S.C. 703-712), among others.

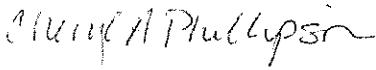
We previously provided comments regarding the proposed project in a letter dated, October 18, 2017 (Service File Number: 01EPIF00-2017-TA-0208). The DEA provides the avoidance and minimization recommendations provided by the Service regarding the endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*); the endangered Hawaiian stilt (*Himantopus mexicanus knudseni*), endangered Hawaiian coot (*Fulica alai*), endangered Hawaiian gallinule (*Gallinula*

galeata sandvicensis), endangered Hawaiian duck (*Anas wyvilliana*); the endangered Hawaiian goose (*Branta sandvicensis*); the endangered Hawaiian petrel (*Pterodroma sandwichensis*), the endangered band-rumped storm-petrel (*Oceanodroma castro*), the threatened Newell's shearwater (*Puffinus auricularis newelli*), and the wedge-tailed shearwater (*Ardenna pacificus*), a seabird species federally protected under the MBTA. However, the DEA is unclear which avoidance and minimization measures for each listed species will be incorporated into the project to minimize potential project impacts to the species. We recommend the Final EA specify which applicable avoidance and minimization measures will be incorporated for each listed species into the project description.

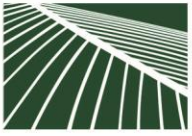
If it is determined that the proposed project may affect federally listed species, we recommend you contact our office early in the planning process so that we may further assist you with ESA compliance.

If you have questions regarding these comments, please contact Leila Nagatani, Fish and Wildlife Biologist (phone: 808-792-9400, email: leila_nagatani@fws.gov). When referring to this project, please include this reference number: 01EPIF00-2018-TA-0086.

Sincerely,


acting for:
Aaron Nadig
Island Team Manager
O'ahu, Kaua'i, North Western Hawaiian Islands,
and American Samoa

cc: PBR Hawaii & Associates, Inc.



PBR HAWAII
& ASSOCIATES, INC.

February 23, 2018

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
President / Principal

RUSSELL Y. J. CHUNG, FASLA, LEED® AP BD+C
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Vice-President / Principal

GRANT T. MURAKAMI, AICP, LEED® AP BD+C
Vice-President / Principal

TOM SCHNELL, AICP
Principal

KIMI MIKAMI YUEN, LEED® AP BD+C
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W. FRANK BRANDT, FASLA
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MARC SHIMATSU, ASLA
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DACHENG DONG, LEED® AP
Senior Associate

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

MICAH McMILLEN, ASLA, LEED® AP
Associate

NATHALIE RAZO
Associate

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

Attn: Ms. Leila Nagatani, Fish and Wildlife Biologist

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Nadig:

Thank you for your letter dated January 4, 2018 (your reference number 01EPIF00-2018-TA-0086), regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comments and provide the following responses.

The Environmental Assessment (EA) lists in Section 3.5 the avoidance and minimization measures for each listed species as recommended by the U.S. Fish and Wildlife Service (USFWS). As described in the Draft EA, a biological study was conducted in October 2017, which recommended that any significant outdoor lighting associated with the project be hooded to direct the light downward to mitigate the potential threat to Hawaiian seabirds. The study concluded that, with this recommended action, the proposed project is not expected to have a significant impact on the fauna resources in this area.

We value your participation in the environmental review process. Your letter will be included in the forthcoming Final EA.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Steve Tomei – Sam O. Hirota, Inc.

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

DAVID Y. IGE
GOVERNOR



RODERICK K. BECKER
Comptroller

AUDREY HIDANO
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)1013.8

JAN 17 2018

Mr. Greg Nakai, Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu Hawaii 96813-3484

Dear Mr. Nakai:

Subject: Draft Environmental Assessment for
Ted Makalena Golf Course NPDES Improvements
Waipahu, Oahu, Hawaii
TMK: (1) 9-3-002:034 (por)

Thank you for the opportunity to provide comments for the subject project. This project does not impact any of the Department of Accounting and General Services' projects or existing facilities in this area, and we have no comments to offer at this time.

If you have any questions, your staff may call Ms. Gayle Takasaki of the Planning Branch at 586-0584.

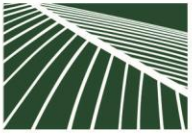
Sincerely,

A handwritten signature in blue ink, appearing to read "Keith S. Kogachi".

KEITH S. KOGACHI
Acting Public Works Administrator

GT:mo

c: Mr. Kyle Kang, C&C DDC



PBR HAWAII
& ASSOCIATES, INC.

February 23, 2018

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
President / Principal

RUSSELL Y. J. CHUNG, FASLA, LEED® AP BD+C
Executive Vice-President / Principal

VINCENT SHIGEKUNI
Vice-President / Principal

GRANT T. MURAKAMI, AICP, LEED® AP BD+C
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TOM SCHNELL, AICP
Principal

KIMI MIKAMI YUEN, LEED® AP BD+C
Principal

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Project Director

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Cultural Sustainability Planner

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MARC SHIMATSU, ASLA
Senior Associate

DACHENG DONG, LEED® AP
Senior Associate

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

MICAH McMILLEN, ASLA, LEED® AP
Associate

NATHALIE RAZO
Associate

Mr. Keith S. Kogachi
Acting Public Works Administrator
State of Hawai'i
Department of Accounting and General Services
P.O. Box 119
Honolulu, Hawai'i 96810-0119

Attn: Ms. Gayle Takasaki, Planning Branch

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Kogachi:

Thank you for your letter dated January 17, 2018 (your reference number (P)1013.8), regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge the State of Hawai'i Department of Accounting and General Services' (DAGS's) comment that the proposed project will not impact DAGS's projects or existing facilities, and that your department has no comments to offer at this time. This information will be included in the Final Environmental Assessment (EA).

We value your participation in the environmental review process. Your letter will be included in the forthcoming Final EA.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

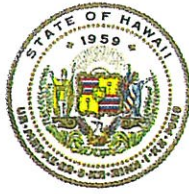
cc: Kyle Kang – DDC, Facilities Division
Steve Tomei – Sam O. Hirota, Inc.

O:\Job28\2875.01_02 Ted Makalena Golf Course - NPDES MS4\EA\DEA\Comments and Responses\Responses\State_DAGS response.docx

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

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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

January 4, 2018

City and County of Honolulu
Department of Design and Construction
Attention: Mr. Kyle Kang, Facilities Division
650 South King Street, 11th Floor
Honolulu, Hawaii 96813

Dear Mr. Kang:

SUBJECT: Draft Environmental Assessment (DEA) for Ted Makalena Golf Course
NPDES Improvements

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 the (a) Engineering Division, (b) Land Division – Oahu District and (c) Division of Aquatic Resources on the subject matter. Should you have any questions, please feel free to call Lydia Morikawa at 587-0410. Thank you.

Sincerely,

A handwritten signature in blue ink, appearing to read "Russell Y. Tsuji".

Russell Y. Tsuji
Land Administrator

Enclosure(s)

cc: Central Files
Greg Nakai, Planner; PBR HAWAII & Associates, Inc.



RECEIVED
SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

2017 DEC 15 AM 10:48

DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 11, 2017

MEMORANDUM

17 DEC 12 AM 10:02 ENGINEERING

TO:

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division**
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Oahu District
- Historic Preservation

FROM

TO

FROM:

Russell Y. Tsuji, Land Administrator

SUBJECT:

Draft Environmental Assessment (DEA) for Ted Makalena Golf Course NPDES Improvements

LOCATION:

Waipahu, Island of Oahu; TMK No. (1) 9-3-002:034 (por.)

APPLICANT:

City and County of Honolulu, Department of Design and Construction

Transmitted for your review and comment is information on the above-referenced project. We would appreciate your comments on this project. Please submit any comments by **January 4, 2018**.

The DEA can be found on-line at: <http://health.hawaii.gov/oeqc/> (Click on the Current Environmental Notice in the middle of the page.)

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 Lydia Morikawa at 587-0410. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed:

Print Name:

Cary S. Chang, Chief Engineer

Date:

12/14/17

cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Y. Tsuji

Ref: **Draft Environmental Assessment (DEA) for Ted Makalena Golf
Course NPDES Improvements, Waipahu, Island of Oahu;
TMK No. (1) 9-3-002:034 (por.)**

COMMENTS

The rules and regulations of the National Flood Insurance Program (NFIP), Title 44 of the Code of Federal Regulations (44CFR), are in effect when development falls within a Special Flood Hazard Area (high risk areas). Be advised that 44CFR reflects the minimum standards as set forth by the NFIP. Local community flood ordinances may stipulate higher standards that can be more restrictive and would take precedence over the minimum NFIP standards.

The owner of the project property and/or their representative is responsible to research the Flood Hazard Zone designation for the project. Flood Hazard Zones are designated on FEMA's Flood Insurance Rate Maps (FIRM), which can be viewed on our Flood Hazard Assessment Tool (FHAT) (<http://gis.hawaiinfip.org/FHAT>).

If there are questions regarding the local flood ordinances, please contact the applicable County NFIP coordinating agency below:

- Oahu: City and County of Honolulu, Department of Planning and Permitting (808) 768-8098.
- Hawaii Island: County of Hawaii, Department of Public Works (808) 961-8327.
- Maui/Molokai/Lanai County of Maui, Department of Planning (808) 270-7253.
- Kauai: County of Kauai, Department of Public Works (808) 241-4846.

Signed: _____


CARTY S. CHANG, CHIEF ENGINEER

Date: _____

12/14/17



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 11, 2017

MEMORANDUM

RECEIVED
LAND DIVISION
2017 DEC 20 AM 8:35
DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

TO:

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Oahu District
- Historic Preservation

FROM:

Russell Y. Tsuji, Land Administrator

SUBJECT:

Draft Environmental Assessment (DEA) for Ted Makalena Golf Course NPDES Improvements

LOCATION:

Waipahu, Island of Oahu; TMK No. (1) 9-3-002:034 (por.)

APPLICANT:

City and County of Honolulu, Department of Design and Construction

Transmitted for your review and comment is information on the above-referenced project. We would appreciate your comments on this project. Please submit any comments by **January 4, 2018**.

The DEA can be found on-line at: <http://health.hawaii.gov/oeqc/> (Click on the Current Environmental Notice in the middle of the page.)

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 Lydia Morikawa at 587-0410. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed:

Print Name:

Darlene Bryant-Takamatsu

Date:

12/15/17

cc: Central Files



RECEIVED

DEC 13 2017

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

Division of Aquatic Resources

DAR 5657

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 11, 2017

MEMORANDUM

TO:

DLNR Agencies:

- Div. of Aquatic Resources
- Div. of Boating & Ocean Recreation
- Engineering Division
- Div. of Forestry & Wildlife
- Div. of State Parks
- Commission on Water Resource Management
- Office of Conservation & Coastal Lands
- Land Division – Oahu District
- Historic Preservation

FROM:

Russell Y. Tsuji, Land Administrator

SUBJECT:

Draft Environmental Assessment (DEA) for Ted Makalena Golf Course NPDES Improvements

LOCATION:

Waipahu, Island of Oahu; TMK No. (1) 9-3-002:034 (por.)

APPLICANT:

City and County of Honolulu, Department of Design and Construction

Transmitted for your review and comment is information on the above-referenced project. We would appreciate your comments on this project. Please submit any comments by **January 4, 2018**.

The DEA can be found on-line at: <http://health.hawaii.gov/oeqc/> (Click on the Current Environmental Notice in the middle of the page.)

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 Lydia Morikawa at 587-0410. Thank you.

Attachments

- We have no objections.
- We have no comments.
- Comments are attached.

Signed:

Print Name: Bruce S. Anderson, PhD, DAR Administrator

Date:

12/19/17

cc: Central Files

DAVID Y. IGE
GOVERNOR OF
HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
FIRST DEPUTY

JEFFREY T. PEARSON, P.E.
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
KAILOOLAWE ISLAND RESERVE COMMISSION
LAND-
STATE PARKS

RECEIVED
LAND DIVISION
DEC 20 AM 11:03
DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

Date: 12/18/17
DAR # 5657

MEMORANDUM

TO: Bruce S. Anderson, PhD
DAR Administrator

FROM: Ryan Okano, PhD ^{RO}, Aquatic Biologist

SUBJECT: Draft Environmental Assessment (DEA) for Ted Makalena Golf Course NPDES Improvements

Request Submitted by: Russell Y. Tsuji, Land Administrator

Location of Project: Waipahu, Island of Oahu

Brief Description of Project:

The purpose of the Ted Makalena Golf Course NPDES Improvements Project is to implement several Best Management Practices to reduce pollutants from drainage runoff from the golf course facilities. Improvements will focus on the facilities Parking Lot and Maintenance Yard. Improvements will include the construction of new bio-retention areas and inlet filters with hydrocarbon absorbent pads, water lateral, hose bibb, concrete driveway, two new drain inlets, and a new 12" drainline.

(continued on next page)

Comments:

No Comments Comments Attached

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plan, DAR requests the opportunity to review and comment on those changes.

Comments Approved: Bruce S. Anderson Date: 12/19/17
Bruce S. Anderson, PhD
DAR Administrator

DAR# 5657

Brief Description of Project

Project also includes a parking lot extension with street trees, asphalt concrete pavement, curb and gutter, wheel stops, striping signage, and 88 new parking spaces with 7 ADA accessible stalls.

DAR# 5657

Comments

The Division of Aquatic Resources (DAR) commends the City and County of Honolulu for the planned improvements to the Ted Makalena golf course in particular the environmental considerations pertaining to the planned improvements. The interest that DAR has in this project stems from its proximity to marine water.

DAR does understand the intent of this plans, however the divisions would like the Draft Environmental Assessments to include a few more details.

We recognize the Flora and Fauna Study that focuses on terrestrial biological resources. The division would like to see a similar effort that captures the aquatic biological resources.

To properly review this plan a more detailed description of the retention pond should be included, which covers dimension, materials, vegetation, and maintenance of the pond.

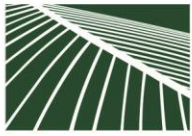
Due to the influence of Water Quality on aquatic resources we request a section on the impacts and benefits on Water Quality during construction and after improvements to the parking lot and maintenance yard have been completed.

DAR asks for more detail in reference to Best Management Practices (BMPs) the will be implemented during the construction phase of this project.

Our division would like to see a maintenance plan for the proposed bio-retention areas and inlet filters with hydrocarbon absorbent pads, water lateral, two new drain inlets, and 12" drainline. The concern is that at times these proposed water conduits may become clogged with debris, rendering them ineffective, and in some case making the situation worse then prior to the installation of BMPs.

We would appreciate more information on the absorbent pads that will serve as the inlet filter, such as life expectancy once deployed and frequency of replacement.

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plan, DAR requests the opportunity to review and comment on those changes.



February 23, 2018

Mr. Russell Y. Tsuji
Land Administrator
State of Hawai'i
Department of Land and Natural Resources
Land Division
Post Office Box 621
Honolulu, Hawai'i 96809

Attn: Ms. Lydia Morikawa

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Tsuji:

Thank you for your letter dated January 4, 2018, regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we appreciate the comments provided by the (a) Engineering Division; (b) Land Division; and, (c) Division of Aquatic Resources. We are providing the following responses:

- a. Engineering Division – We appreciate the information provided about the National Flood Insurance Program. The Final Environmental Assessment (EA) will include a Flood Insurance Rate Map and other information.
- b. Land Division – We acknowledge that Land Division has no comments.
- c. Division of Aquatic Resources – We appreciate the comments provided by the Division of Aquatic Resources (DAR). Please refer to Figures 5A and 5B of the Draft EA for more details on the proposed Parking Lot and Maintenance Yard Improvements.

We appreciate the efforts of DAR to improve the water quality of Pearl Harbor, which we understand is not recommended for fishing (for human consumption). The proposed project is located inland of Waipi'o Access Road and does not abut Pearl Harbor.

We acknowledge that, while the proposed project is within the 90 square mile Pearl Harbor Drainage Basin, it is intended to reduce pollutants from drainage runoff from the golf course facilities, and it does represent a very small percentage of the Pearl Harbor Drainage Basin.

We value your participation in the environmental review process. Your agency's letter and our responses will be included in the Environmental Assessment (EA).

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
President / Principal

RUSSELL Y. J. CHUNG, FASLA, LEED® AP BD+C
Executive Vice-President / Principal

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Vice-President / Principal

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Principal

KIMI MIKAMI YUEN, LEED® AP BD+C
Principal

W. FRANK BRANDT, FASLA
Chairman Emeritus

ANN MIKIKO BOUSLOG, PhD
Project Director

RAMSAY R. M. TAUM
Cultural Sustainability Planner

RAYMOND T. HIGA, ASLA
Senior Associate

GATIE CULLISON, AICP
Senior Associate

MARC SHIMATSU, ASLA
Senior Associate

DACHENG DONG, LEED® AP
Senior Associate

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

MICAH McMILLEN, ASLA, LEED® AP
Associate

NATHALIE RAZO
Associate

HONOLULU OFFICE
1001 Bishop Street, Suite 650
Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

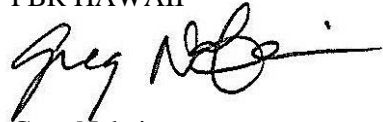
Mr. Russell Y. Tsuji

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL
ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU,
O‘AHU, HAWAI‘I, TMK (1) 9-3-002: 034 (POR.)

February 23, 2018

Page 2 of 2

Sincerely,
PBR HAWAII

A handwritten signature in black ink, appearing to read "Greg Nakai", with a long horizontal flourish extending to the right.

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Steve Tomei – Sam O. Hirota, Inc.

DAVID Y. IGE
GOVERNOR



ARTHUR J. LOGAN
MAJOR GENERAL
ADJUTANT GENERAL

KENNETH S. HARA
BRIGADIER GENERAL
DEPUTY ADJUTANT GENERAL

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96816-4495

December 12, 2017

City and County of Honolulu
Department of Design and Construction
Attn: Kyle Kang, Facilities Division
650 South King Street, 11th Floor
Honolulu, HI 96813

Dear Mr. Kang:

Subject: Ted Makalena Golf Course NPDES Improvements

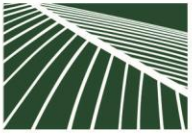
Thank you for the opportunity to comment on the above project. The State of Hawaii Department of Defense has no further comments to offer relative to the proposed project.

Should you have any questions or concerns, please have your staff contact Ms. Shao Yu Lee, our Land Manager on Oahu, at (808) 733-4222.

Sincerely,

NEAL S. MITSUYOSHI, P.E.
Colonel, Hawaii National Guard
Chief Engineering Officer

c: ✓ Mr. Greg Nakai, Planner, PBR Hawaii Consultant
Mr. David Kennard, Hawaii Emergency Management Agency (HI-EMA)
Ms. Havinne Okamura, HI-EMA
Mr. Albert Chong, HI-EMA
Mr. Karl Motoyama, Hawaii Army National Guard Environmental (HIARNG-ENV)
Maj Nhut Dao, 154th Civil Engineer Squadron (154th CES)



PBR HAWAII
& ASSOCIATES, INC.

February 23, 2018

Colonel Neal S. Mitsuyoshi
Chief Engineering Officer
State of Hawai'i
Department of Defense
Office of the Adjutant General
3949 Diamond Head Road
Honolulu, Hawai'i 96816

Attn: Ms. Shao Yu Lee, O'ahu Land Manager

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Colonel Mitsuyoshi:

Thank you for your letter dated December 12, 2017, regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge that the State of Hawai'i Department of Defense has no further comments to offer relative to the project at this time.

We value your participation in the environmental review process. Your letter will be included in the forthcoming Final Environmental Assessment (EA).

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Steve Tomei – Sam O. Hirota, Inc.

O:\Job28\2875.01_02 Ted Makalena Golf Course - NPDES MS4\EA\DEA\Comments and Responses\Responses\State_DOD response.docx

THOMAS S. WITTEN, FASLA
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TOM SCHNELL, AICP
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KIMI MIKAMI YUEN, LEED® AP BD+C
Principal

W. FRANK BRANDT, FASLA
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Project Director

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Cultural Sustainability Planner

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MARC SHIMATSU, ASLA
Senior Associate

DACHENG DONG, LEED® AP
Senior Associate

SCOTT MURAKAMI, ASLA, LEED® AP
Associate

MICAH McMILLEN, ASLA, LEED® AP
Associate

NATHALIE RAZO
Associate

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Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
Fax: (808) 523-1402
E-mail: sysadmin@pbrhawaii.com

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STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF SCHOOL FACILITIES AND SUPPORT SERVICES

January 8, 2018

Mr. Greg Nakai
PBR HAWAII & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813

Re: Draft Environmental Assessment for the Ted Makalena
Golf Course NPDES Improvements
Waipahu, Oahu, Hawaii, TMK: 9-3-002: por. 034

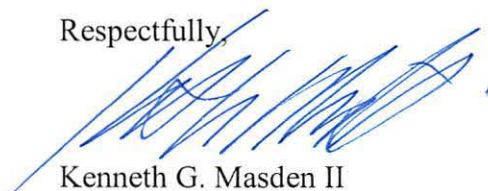
Dear Mr. Nakai:

The Department of Education (DOE) has the following comments for the Draft Environmental Assessment (DEA) for the proposed Ted Makalena Golf Course NPDES Improvements (Project). According to the DEA, the proposed Project is to implement Best Management Practices at the existing parking lot and maintenance yard to improve storm drainage run-off water quality on approximately one acre of land located at Waipahu, Island of Oahu, TMK: 9-3-002: por. 034.

The proposed Project will not impact existing DOE schools and facilities.

Thank you for the opportunity to comment. Should you have any questions, please contact Heidi Meeker of the Planning Section, Facilities Development Branch, at 784-5094.

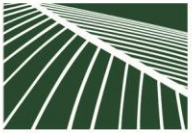
Respectfully,



Kenneth G. Masden II
Public Works Manager
Planning Section

KGM:jmb

c: Kyle Kang, City & County of Honolulu Department of Design and Construction



PBR HAWAII
& ASSOCIATES, INC.

February 23, 2018

THOMAS S. WITTEN, FASLA
Chairman / Principal

R. STAN DUNCAN, ASLA
President / Principal

RUSSELL Y. J. CHUNG, FASLA, LEED® AP BD+C
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SCOTT MURAKAMI, ASLA, LEED® AP
Associate

MICAH McMILLEN, ASLA, LEED® AP
Associate

NATHALIE RAZO
Associate

Kenneth G. Masden II
Public Works Manager, Planning Section
State of Hawai'i, Department of Education
Office of School Facilities and Support Services
P.O. Box 2360
Honolulu, Hawai'i 96804

Attn: Ms. Heidi Meeker, Planning Section, Facilities Development Branch

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Masden:

Thank you for your letter dated January 8, 2018, regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge the State of Hawai'i Department of Education's (DOE's) comment that the proposed project will not impact existing DOE schools and facilities. This information will be included in the Final Environmental Assessment (EA).

We value your participation in the environmental review process. Your letter will be included in the forthcoming Final EA.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Steve Tomei – Sam O. Hirota, Inc.

O:\Job28\2875.01_02 Ted Makalena Golf Course - NPDES MS4\EA\DEA\Comments and Responses\Responses\State_DOE response.docx

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Honolulu, Hawai'i 96813-3484
Tel: (808) 521-5631
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DAVID Y. IGE
GOVERNOR OF HAWAII



VIRGINIA PRESSLER, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

EPO 17-310

January 5, 2018

Mr. Greg Nakai, Planner
PBR Hawaii & Associates, Inc.
1001 Bishop Street, Suite 650
Honolulu, Hawaii 96813
Email: sysadmin@pbrhawaii.com

Dear Mr. Nakai:

SUBJECT: Draft Environmental Assessment (DEA) for Ted Makalena Golf Course Improvements
TMK: (1) 9-3-002: 034 (por.)

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your DEA to our office via the OEQC link:

http://oeqc2.doh.hawaii.gov/EA_EIS_Library/2017-12-08-OA-DEA-Ted-Makalena-Golf-Course-Improvements.pdf

We understand from the OEQC publication form project summary that *"The City and County of Honolulu's Department of Design and Construction proposes improvements incorporating Low Impact Development measures such as bioretention areas and inlet filters with hydrocarbon absorbent pads to improve water quality of storm drainage runoff from the Parking Lot and Maintenance Yard. The Maintenance Yard improvements will include a new bioretention area, concrete driveway, two new drain inlets (with inlet protection), and a new 12" drainline. The asphalt concrete (AC) parking lot extension will include new bioretention areas, street trees, AC pavement, curb and gutters, wheels stops, and ADA stalls. The proposed improvements will prevent overflow parking from using grassed areas as it contributes to exposed soils and sedimentation."*

Hawaii's environmental review laws require Environmental Assessments (EAs) and Environmental Impact Statements (EISs) to consider health in the discussion and the mitigation measures to reduce negative impacts. In its definition of 'impacts,' §11-200-2, Hawaii Administrative Rules (HAR) includes health effects, whether primary (direct), secondary (indirect), or cumulative. Further, §11-200-12(b)(5), HAR, lists public health as one of the criteria for determining whether an action may have a significant impact on the environment.

In the development and implementation of all projects, EPO strongly recommends regular review of State and Federal environmental health land use guidance. State standard comments to support sustainable healthy design are provided at: <http://health.hawaii.gov/epo/landuse>. Projects are required to adhere to all applicable standard comments.

We suggest you review the requirements of the Clean Water Branch (Hawaii Administrative Rules {HAR}, Chapter 11-54-1.1, -3, 4-8) and/or the National Pollutant Discharge Elimination System (NPDES) permit (HAR, Chapter 11-55) at: <http://health.hawaii.gov/cwb>. If you have any questions, please contact the Clean Water Branch (CWB), Engineering Section at (808) 586-4309 or cleanwaterbranch@doh.hawaii.gov. If your project involves waters of the U.S., it is highly recommended that you contact the Army Corps of Engineers, Regulatory Branch at: (808) 835-4303.

If temporary fugitive dust emissions could be emitted when the project site is prepared for construction and/or when construction activities occur, we recommend you review the need and/or requirements from the Clean Air Branch

Mr. Greg Nakai, Planner
Page 2
January 5, 2018

(CAB) (HAR, Chapter 11-60.1 "Air Pollution Control"). Effective air pollution control measures need to be provided to prevent or minimize any fugitive dust emissions caused by construction work from affecting the surrounding areas. This includes the off-site roadways used to enter/exit the project. The control measures could include, but are not limited to, the use of water wagons, sprinkler systems, and dust fences. For questions contact the Clean Air Branch via e-mail at: Cab.General@doh.hawaii.gov or call (808) 586-4200.

Any waste generated by the project (that is not a hazardous waste as defined in state hazardous waste laws and regulations), needs to be disposed of at a solid waste management facility that complies with the applicable provisions (HAR, Chapter 11-58.1 "Solid Waste Management Control"). The open burning of any of these wastes, on or off site, is strictly prohibited. You may wish you review the Minimizing Construction & Demolition Waste Management Guide at: <http://health.hawaii.gov/shwb/files/2016/05/constdem16.pdf> Additional information is accessible at: <http://health.hawaii.gov/shwb>. For specific questions call (808) 586-4226.

If noise created during the construction phase of the project may exceed the maximum allowable levels (HAR, Chapter 11-46, "Community Noise Control") then a noise permit may be required and needs to be obtained before the commencement of work. Relevant information is online at: <http://health.hawaii.gov/irhb/noise> EPO recommends you contact the Indoor and Radiological Health Branch (IRHB) at (808) 586-4700 with any specific questions.

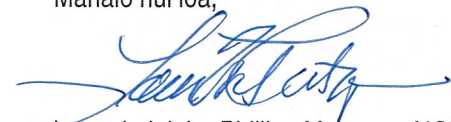
EPO also encourages you to examine and utilize the Hawaii Environmental Health Portal at: <https://eha-cloud.doh.hawaii.gov>. This site provides links to our e-Permitting Portal, Environmental Health Warehouse, Groundwater Contamination Viewer, Hawaii Emergency Response Exchange, Hawaii State and Local Emission Inventory System, Water Pollution Control Viewer, Water Quality Data, Warnings, Advisories and Postings.

You may also wish to review the draft Office of Environmental Quality Control (OEQC) viewer at: <http://eha-web.doh.hawaii.gov/oeqc-viewer>. This viewer geographically shows where some previous Hawaii Environmental Policy Act (HEPA) {Hawaii Revised Statutes, Chapter 343} documents have been prepared.

To better protect public health and the environment, the U.S. Environmental Protection Agency (EPA) has developed an environmental justice (EJ) mapping and screening tool called EJSCREEN. It is based on nationally consistent data and combines environmental and demographic indicators in maps and reports. EPO encourages you to explore, launch and utilize this powerful tool in planning your project. The EPA EJSCREEN tool is available at: <http://www.epa.gov/ejscreen>.

We hope this information is helpful. If you have any questions please contact us at DOH.epo@doh.hawaii.gov or call us at (808) 586-4337. Thank you for the opportunity to comment.

Mahalo nui loa,



Laura Leialoha Phillips McIntyre, AICP
Environmental Planning Office

LM:nn

c: Kyle Kang, Dept. of Design & Construction, Facilities Division (via email: kkang@honolulu.gov)
DOH: IRHB, DCAB, CWB, CAB {via email only}

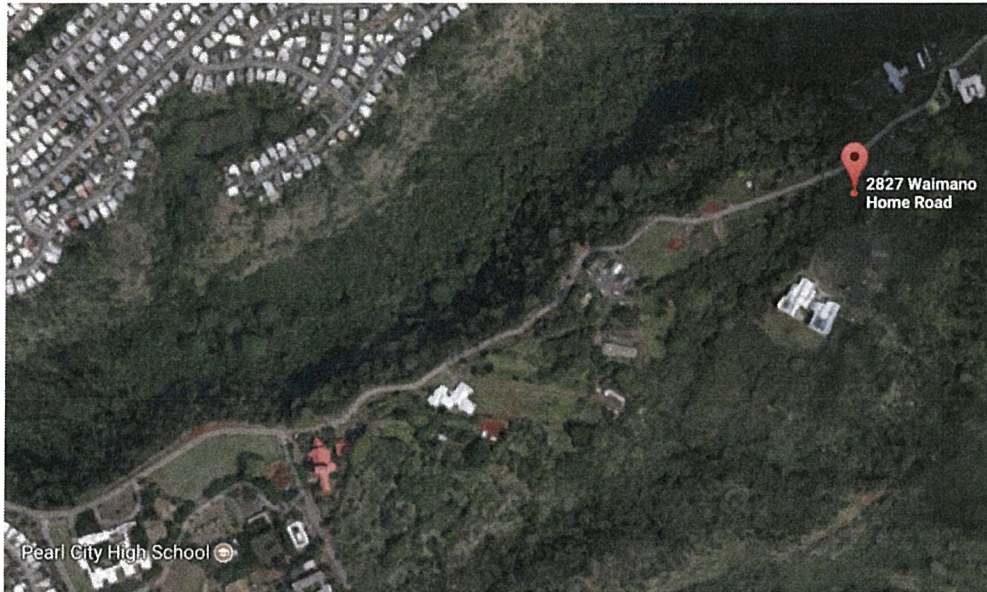
Attachment 1: Office of Environmental Quality Control (OEQC) viewer (of some past EA's, EIS's in area)
Attachment 2: U.S. EPA EJSCREEN Report for Project Area

Please be advised:

The Environmental Planning Office (EPO), along with the Clean Air, Clean Water, and Wastewater Branches moved to Waimano Ridge. The new address, for EPO, **as of December 1, 2017**, is:

Environmental Planning Office, DOH, Hale Ola, 2827 Waimano Home Road #109, Pearl City, Hawaii 96782

Please feel free to come and visit our new offices anytime. Please note that there is a security guard at the bottom of the hill (before entering DOH property). Our office phone numbers, email and website will all remain the same.



Attachment 1: Office of Environmental Quality Control (OEQC) viewer (of some past EA's, EIS's in area)

The screenshot displays the OEQC Viewer interface. At the top right, the text "OEQC Viewer" is visible. Below it, a search bar contains the text "Waipahu" and indicates "3 sites found". There are buttons for "Results" and "Filter", and a link to "Show sites with no location".

The main area is a satellite map of Waipahu, Hawaii, showing streets like Farrington Hwy, Waipahu St, and Waipio Point Access Rd. Key locations marked include Waipahu Intermediate School, Ted Makalena Golf Course, and Waipio Peninsula Soccer Park. A pink pin is placed on the map near the Waipio Stream area.

On the left side, a list of environmental assessment sites is shown:

- Waterfront Passive Park **Waipahu** Depot Rd (DEA-AFNSI) Environmental Assessment (Agency)
- WAIPAHU** INTERMEDIATE SCHOOL CAFETERIA (FEA-FONSI) Environmental Assessment (Agency)
- WAIPAHU** ASH LANDFILL CLOSURE (FEA-FONSI) Environmental Assessment (Agency)

At the bottom left, the "Google" logo is present. At the bottom right, there is a small copyright notice: "Map data © 2018 Google Imagery © 2018 DigitalGlobe, U.S. Geological Survey, USGS Terms of Use Report a map error".



EJSCREEN Report (Version 2017)

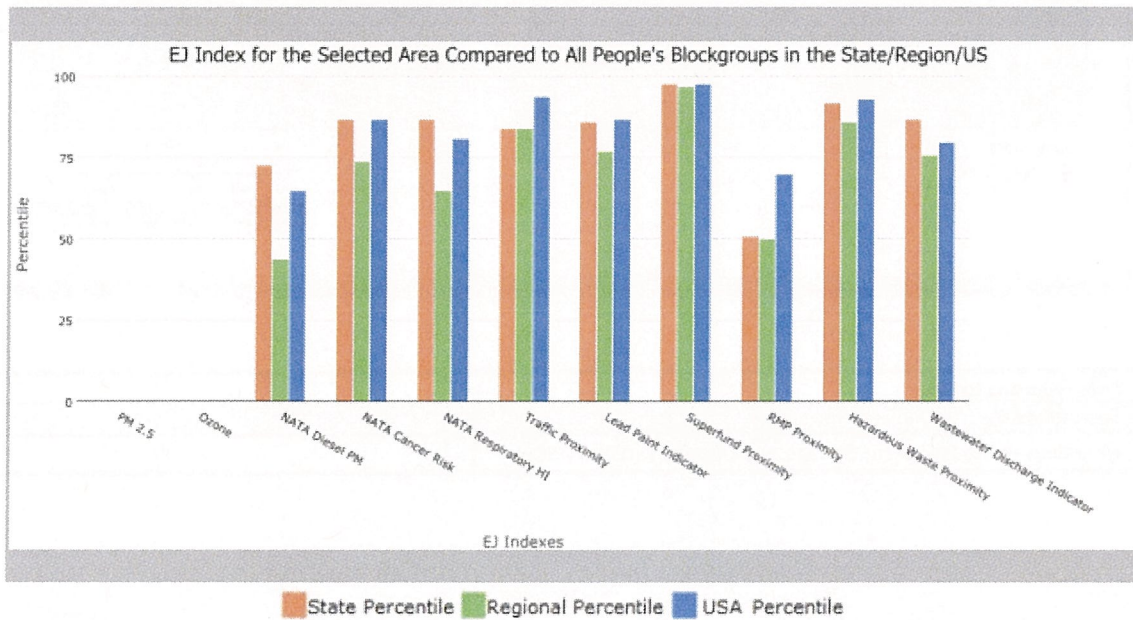


1 mile Ring Centered at 21.379307,-157.992469, HAWAII, EPA Region 9

Approximate Population: 12,193

Input Area (sq. miles): 3.14

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	N/A	N/A	N/A
EJ Index for Ozone	N/A	N/A	N/A
EJ Index for NATA* Diesel PM	73	44	65
EJ Index for NATA* Air Toxics Cancer Risk	87	74	87
EJ Index for NATA* Respiratory Hazard Index	87	65	81
EJ Index for Traffic Proximity and Volume	84	84	94
EJ Index for Lead Paint Indicator	86	77	87
EJ Index for Superfund Proximity	98	97	98
EJ Index for RMP Proximity	51	50	70
EJ Index for Hazardous Waste Proximity	92	86	93
EJ Index for Wastewater Discharge Indicator	87	76	80



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

EJSCREEN Report (Version 2017)



1 mile Ring Centered at 21.379307,-157.992469, HAWAII, EPA Region 9

Approximate Population: 12,193

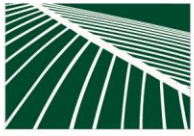
Input Area (sq. miles): 3.14

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in $\mu\text{g}/\text{m}^3$)	N/A	N/A	N/A	9.9	N/A	9.14	N/A
Ozone (ppb)	N/A	N/A	N/A	41.8	N/A	38.4	N/A
NATA* Diesel PM ($\mu\text{g}/\text{m}^3$)	0.0915	0.149	51	0.978	<50th	0.938	<50th
NATA* Cancer Risk (lifetime risk per million)	38	34	78	43	<50th	40	<50th
NATA* Respiratory Hazard Index	1.2	1	73	2	<50th	1.8	<50th
Traffic Proximity and Volume (daily traffic count/distance to road)	1000	1000	77	1100	72	590	87
Lead Paint Indicator (% Pre-1960 Housing)	0.22	0.16	70	0.24	58	0.29	53
Superfund Proximity (site count/km distance)	0.81	0.1	99	0.15	97	0.13	97
RMP Proximity (facility count/km distance)	0.096	0.39	26	0.98	9	0.73	15
Hazardous Waste Proximity (facility count/km distance)	0.18	0.1	91	0.12	84	0.093	89
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	8.2E-06	0.04	84	13	64	30	48
Demographic Indicators							
Demographic Index	58%	51%	70	47%	66	36%	79
Minority Population	89%	77%	67	59%	81	38%	89
Low Income Population	25%	26%	54	36%	38	34%	39
Linguistically Isolated Population	13%	6%	85	9%	74	5%	87
Population With Less Than High School Education	15%	9%	81	17%	55	13%	66
Population Under 5 years of age	6%	6%	48	7%	46	6%	49
Population over 64 years of age	16%	16%	53	13%	72	14%	65

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: <https://www.epa.gov/national-air-toxics-assessment>.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.



February 23, 2018

Ms. Laura Leialoha Phillips McIntyre, AICP
Program Manager
Environmental Planning Office
State of Hawai'i, Department of Health
P.O. Box 3378
Honolulu, Hawai'i 96801

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Ms. McIntyre:

Thank you for your letter dated January 5, 2018 (your reference EPO 17-310) regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction (DDC), we want to thank you for your letter.

As required by Hawai'i's environmental review laws, the Environmental Assessment (EA) considers health in both the discussion and the mitigation measures to reduce negative impacts, acknowledging that the term "impacts" includes health effects, whether primary (direct), secondary (indirect), or cumulative.

As recommended, and as noted in our previous reply dated November 27, 2017, we reviewed the Environmental Planning Office's (EPO) standard comments relating to Environmental Health programs. We understand that all standard comments specifically applicable to the proposed project must be adhered to. The organization of this letter follows the list of standard comments on your website.

Clean Air Branch

We acknowledge that there is a potential for fugitive dust emissions during construction. The Draft Environmental Assessment (DEA) addresses construction-related impacts related to fugitive dust. All construction activities will comply with the provisions of Section 11-60.1-33, Hawai'i Administrative Rules (HAR) related to Fugitive Dust. Adequate measures to control dust during construction will be required to be implemented by the contractor.

Clean Water Branch

We reviewed and understand the standard comments provided by the Clean Water Branch (CWB).

1. **Potential Impacts to State Waters.** The waters of the Pearl Harbor National Wildlife Refuge (Middle Loch) are classified as Class 1, Inland Waters. Any potential impacts to these waters caused by the construction and/or operation of the proposed project will meet the provisions of the: a) anti-degradation policy (Chapter 11-54-1.1, HAR); b) designated uses (Chapter 11-54-3, HAR); and c) water quality criteria (Chapter 11.54-4 through 11-54-8, HAR). However, direct discharges of storm water runoff into State waters are not expected to occur due to Best Management Practices to reduce airborne dust and waterborne silt during construction.

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Ms. Laura McIntyre

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O‘AHU, HAWAI‘I, TMK (1) 9-3-002: 034 (POR.)

February 23, 2018

Page 2 of 3

2. **National Pollutant Discharge Elimination System permit coverage.** As the area to be disturbed will not exceed one acre, a National Pollutant Discharge Elimination System (NPDES) permit for Storm Water Associated with Construction Activity will not be necessary.
3. **Clean Water Act.** Pursuant to the “Clean Water Act,” a Section 401 Water Quality Certification from the State Department of Health, Clean Water Branch will be obtained if it is determined that the project may result in any discharge into navigable waters or as otherwise triggered.
4. **State Water Quality Standards (Chapter 11-54 and 11-55, HAR).** All discharges related to the construction and operation of the proposed project will comply with the State’s Water Quality requirements contained in Chapters 11-54 and 11-55, HAR.

Hazard Evaluation and Emergency Response Office

We understand that the Hazard Evaluation and Emergency Response (HEER) Office provides leadership, support, and partnership in preventing, planning for, responding to, and enforcing environmental laws relating to releases or threats of releases of hazardous substances. We do not expect hazardous substances, pollutants, or contaminants to be present at the project site. However, if any of these are found at the project site, HEER will be contacted to determine the appropriate actions to comply with the relevant environmental laws.

Indoor and Radiological Health (IRH) Branch

The proposed improvements will comply with the provisions of Chapter 11-46 regarding Community Noise Control. If noise created during the construction phase of the project is expected to exceed the maximum allowable levels, then a noise permit will be obtained before the commencement of work.

Safe Drinking Water Branch

We note that the Safe Drinking Water Branch administers programs to protect drinking water sources from contamination.

1. **Public Water Systems.** A public water system will not be developed as part of the proposed project.
2. **Underground Injection Control (UIC).** The proposed project will not utilize injection wells for the subsurface disposal of wastewater, sewage effluent, or surface runoff.
3. **Groundwater Protection Program.** The project will follow the *Guidelines Applicable to Golf Courses in Hawai‘i* (Version 6) in order to address groundwater protection concerns, as well as other environmental concerns.

Solid and Hazardous Waste Branch

Any construction waste generated by the project will be disposed of at a solid waste disposal facility that complies with the applicable provisions (Chapter 11-58.1, HAR "Solid Waste Management Control"). Solid waste that cannot be recycled will be disposed of at landfills, the incinerator, or transfer stations. A waste-to-energy combustor, H-POWER (Honolulu Program of Waste Energy Recovery) located at the Campbell Industrial Park incinerates about 1,800 tons of combustible waste per day. The electricity generated is bought by Hawaiian Electric Company. Currently, the H-POWER facility receives all residential and commercial packer truck wastes on the island. Waste contractors will be asked to submit disposal receipts and invoices to ensure proper disposal of waste. The proposed improvements will also comply with the provisions of Chapters 11-260 to 11-280, HAR, relating to hazardous waste.

Ms. Laura McIntyre

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O‘AHU, HAWAI‘I, TMK (1) 9-3-002: 034 (POR.)

February 23, 2018

Page 3 of 3

Wastewater Branch

Domestic wastewater will not be generated by the subject project.

In addition to the State standard comments addressed above, we have also reviewed the Hawai‘i Environmental Health Portal and its links to various sources of state environmental data. Additionally, we have reviewed the Office of Environmental Quality Control (OEQC) viewer, as well as the materials available on EJSCREEN.

We value your participation in the environmental review process. Your letter will be included in the Final EA.

Sincerely,
PBR HAWAII



Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Steve Tomei – Sam O. Hirota, Inc.

DAVID Y. IGE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

JADE T. BUTAY
INTERIM DIRECTOR

Deputy Directors
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:
DIR 1551
STP 8.2283

January 4, 2018

Mr. Kyle Kang
Facilities Division
Department of Design and Construction
650 South King Street, 11th Floor
Honolulu, Hawaii 96813

Dear Mr. Kang:

Subject: Ted Makalena Golf Course National Pollutant Discharge Elimination
System Improvements
Draft Environmental Assessment
Waipahu, Oahu, Hawaii
TMK: (1) 9-3-002: 034 (Por.)

Our Department of Transportation (DOT) has no further comments at this time.

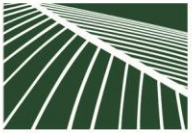
If there are any questions, please contact Mr. Norren Kato of the DOT Statewide Transportation Planning Office at telephone number (808) 831-7976.

Sincerely,

A handwritten signature in cursive script that reads "Jade T. Butay".

JADE T. BUTAY
Interim Director of Transportation

c: ✓ Greg Nakai, PBR HAWAII & Associates, Inc.



PBR HAWAII
& ASSOCIATES, INC.

February 23, 2018

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Mr. Jade T. Butay
Interim Director of Transportation
State of Hawai'i, Department of Transportation
869 Punchbowl Street
Honolulu, Hawai'i 96813-5097

Attn: Mr. Norren Kato, DOT Statewide Transportation Planning Office

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHAU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Butay:

Thank you for your letter dated January 4, 2018 (your reference number DIR 1551, STP 8.2283), regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge that the State of Hawai'i Department of Transportation (DOT) has no further comments at this time.

We value your participation in the environmental review process. Your letter will be included in the forthcoming Final Environmental Assessment (EA).

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Steve Tomei – Sam O. Hirota, Inc.

O:\Job28\2875.01_02 Ted Makalena Golf Course - NPDES MS4\EA\DEA\Comments and Responses\Responses\State_DOT response.docx

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DAVID Y. IGE
GOVERNOR

LEO R. ASUNCION
DIRECTOR
OFFICE OF PLANNING

DTS 201712290810RI

December 29, 2017

Mr. Robert J. Kroning, P.E.
Director
City and County of Honolulu
Department of Design and Construction
650 S. King Street, 11th Floor
Honolulu, Hawaii 96813

Attention: Kyle Kang, Facilities Division

Dear Mr. Kroning:

Subject: Draft Environmental Assessment for Ted Makalena Golf Course National Pollutant Discharge Elimination System Improvements, Waipahu, Ewa, Oahu; TMK: (1) 9-3-002: 034 (por.)

Thank you for the opportunity to provide comments on the Draft Environmental Assessment (Draft EA) for the Ted Makalena Golf Course National Pollutant Discharge Elimination System (NPDES) project, proposed by the City and County of Honolulu, Department of Design and Construction. The Draft EA review material was transmitted to our office by letter dated December 5, 2017.

It is our understanding that the proposed project is part of ongoing efforts by the City and County of Honolulu (CCH) for the NPDES Small Municipal Separate Storm Sewer Systems (MS4) Permit Program. The purpose of the project is to implement best management practices to reduce pollutants by drainage runoff from the facilities operated and managed by the Department of Enterprise Services.

The Department of Design and Construction proposes improvements incorporating low impact development (LID) measures such as bioretention areas and inlet filters with hydrocarbon absorbent pads to improve water quality of storm drainage runoff from the golf course's parking lot and maintenance yard.

The parking lot proposed extension and maintenance yard improvements are expected to prevent storm overflow limit soil sedimentation and toxins from the golf course impacting nearshore waters of the Waipio Peninsula.

The Office of Planning (OP) has reviewed the transmitted material and has the following comments to offer:

1. Our Pre-Consultation request response letter (DTS-201710231515), dated October 24, 2017, recommended that the Draft EA:
 - Evaluate the project's consistency with all parts of the Hawaii State Planning Act, Hawaii Revised Statutes (HRS) Chapter 226;

Mr. Robert J. Kroning, P.E.
Director
December 29, 2017
Page 2

- Assess the project's ability to meet the objectives and policies of the Hawaii Coastal Zone Management (CZM) program, as listed in HRS § 205A-2;
- Provide information in the Draft EA to serve as a supporting document for any special management area (SMA) use requirements required by the Department of Planning and Permitting. The Draft EA acknowledges the need for a SMA-Major Permit, and DPP was consulted on this matter; and
- Analyze the impact of polluted stormwater and the effects of the proposed NPDES improvements, in particular impacts to the waters of surface water and marine resources near the Waipio Peninsula and Pearl Harbor. OP recommended that the applicant review guidance developed by our office on those matters.

OP acknowledges that the comments and concerns cited above in our pre-consultation request letter have been addressed in the Draft EA

2. When the CZM Program first became law in 1975, the State of Hawaii Legislature established SMA regulatory functions at the county level. The Final Environmental Assessment should correct Table 5-1, page 94 of the Draft EA, and list DPP as the agency with permit/approval of the required SMA use permit for the subject project.
3. OP acknowledges that Section 5.1.1, page 55 of the Draft EA provides justification that the proposed action is in compliance with the State Land Use Law, HRS Section 205. As stated in the Draft EA, the golf course (located within the State Land Use Agricultural District) was approved by the CCH before July 1, 2005, and the proposed improvements are located entirely within the original approved area.

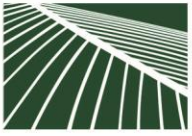
We have no further comments at this time. If you have any questions regarding this comment letter, please contact Joshua Hekeka of our office at (808) 587-2845.

Sincerely,



R- Leo R. Asuncion
Director

c: Greg Nakai, PBR Hawaii & Associates, Inc.



PBR HAWAII
& ASSOCIATES, INC.

February 23, 2018

Mr. Leo R. Asuncion
Director
Office of Planning
State of Hawai'i
P.O. Box 2359
Honolulu, Hawai'i 96804

Attn: Mr. Joshua Hekekoa

SUBJECT: COMMENTS ON THE HRS CHAPTER 343 DRAFT ENVIRONMENTAL ASSESSMENT – TED MAKALENA GOLF COURSE NPDES IMPROVEMENTS, WAIPAHU, O'AHU, HAWAI'I, TMK (1) 9-3-002: 034 (POR.)

Dear Mr. Asuncion:

Thank you for your letter dated December 29, 2017 (your reference number DTS 201712290810RI), regarding the subject project. As the planning consultant for the City and County of Honolulu Department of Design and Construction, we acknowledge your comments and provide the following responses.

1. We acknowledge your confirmation that the comments and concerns raised by the Office of Planning (OP) in the pre-consultation letter dated October 24, 2017, have been addressed in the Draft Environmental Assessment (EA).
2. Table 5-1 will be corrected in the Final EA to list the Department of Planning and Permitting (DPP) as the agency with permit/approval of the required SMA use permit for the subject project.
3. We acknowledge your confirmation that Section 5.1.1 of the EA provides justification that the proposed action is in compliance with the State Land Use Law, HRS Section 205.

We value your participation in the environmental review process. Your letter will be included in the forthcoming Final EA.

Sincerely,
PBR HAWAII

Greg Nakai
Planner

cc: Kyle Kang – DDC, Facilities Division
Steve Tomei – Sam O. Hirota, Inc.

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