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University of Hawai'i Community Colleges
Administrative Affairs

UNIVERSITY of HAWAI'I SYSTEM

October 21, 2019

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

Subject: Draft Environmental Assessment – Anticipated Finding of No Significant Impact (DEA-ANSFI)
University of Hawai'i Community Colleges (UHCC)
Leeward Community College Value-Added Product Development Center
Tax Map Keys (TMK): (1) 2-1-015: 052, 2-1-060-008, and 009 ,
Honolulu, O'ahu, Hawaii

Dear Mr. Glenn:

The University of Hawai'i Community Colleges (UHCC) herewith transmits the subject Draft Environmental Assessment for which it Anticipates a Finding of No Significant Impact (DEA-ANSFI). The DEA-AFNSI has been prepared pursuant to Chapter 343, Hawai'i Revised Statutes and Chapter 11-200.1, Hawai'i Administrative Rules. Please publish notice of this DEA-AFNSI in the upcoming issue of OEQC's *The Environmental Notice*.

Included in the DEA-AFNSI are an archeological literature review and field inspection report, a traffic impact report, a preliminary engineering report, and copies of comments that UHCC received during pre-assessment consultation, along with the corresponding responses regarding the subject project.

We have enclosed one (1) each the following items:

- CD including copies of the DEA-AFNSI, transmittal letter, and OEQC publication form.

Please contact our consultant, Mr. Keola Cheng at (808) 946-2277 if you have any questions.

Sincerely,

Michael T. Unebasami
Associate Vice President for Administrative Affairs
University of Hawai'i Community Colleges (UHCC)

cc:

2327 Dole Street
Honolulu, Hawai'i 96822
Telephone: (808) 956-6023
Fax: (808) 956-3763
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20-126 20-126

Eisen, Thomas H.

From: webmaster@hawaii.gov
Sent: Thursday, October 31, 2019 1:12 PM
To: HI Office of Environmental Quality Control
Subject: New online submission for The Environmental Notice

Action Name

Leeward Community College Value-Added Product Development Center

Type of Document/Determination

Draft environmental assessment and anticipated finding of no significant impact (DEA-AFNSI)

HRS §343-5(a) Trigger(s)

- (1) Propose the use of state or county lands or the use of state or county funds

Judicial district

Wahiawā, O'ahu

Tax Map Key(s) (TMK(s))

(1) 7-4-012:016

Action type

Agency

Other required permits and approvals

Federal: FAA Form 7460-1 "Notice of Proposed Construction or Alteration" State: DLNR Chapter 6E, HRS, State Historic Preservation Law, DOH NPDES Permit and Pollution Control – Noise Permit City and County of Honolulu: BWS Cross-Connection Control Requirements and Backflow Prevention Requirements, DPP Building Permit, Grading Permit/Trenching Permit, Sewer Connection Application, HFD Review of Plans and Drawings

Proposing/determining agency

University of Hawaii

Agency contact name

Denise Yoshimori-Yamamoto

Agency contact email (for info about the action)

dfyoshim@hawaii.edu

Email address or URL for receiving comments

DBeauprez@wilsonokamoto.com

Agency contact phone

(808) 956-0890

Agency address

2327 Dole Street
Honolulu, HI 96822
United States
Map It

Was this submittal prepared by a consultant?

Yes

Consultant

Wilson Okamoto Corporation

Consultant contact name

Keola Cheng

Consultant contact email

KCheng@wilsonokamoto.com

Consultant contact phone

(808) 946-2277

Consultant address

1907 South Beretania Street
Suite 400
Honolulu, HI 96826
United States
Map It

Action summary

The University of Hawai'i (UH), is proposing to construct the Value-Added Product Development Center (VAPDC) located at 1001 California Avenue in downtown Wahiawā. The goal of the project is to repurpose an existing metal warehouse that formerly housed Tamura's Wholesale Outlet. The warehouse was acquired by the State of Hawai'i Department of Agriculture's (DOA) Agribusiness Development Corporation in 2013 to advance agriculture in Hawai'i. The goal of the project is to repurpose the existing warehouse as the VAPDC that will be jointly managed by University of Hawai'i Community Colleges, an office of UH, and the DOA's Agribusiness Development Corporation. The VAPDC will offer a set of programs, services, and training that promote innovation and entrepreneurship within the agricultural industry.

Reasons supporting determination

Please refer to Chapter 6 of the DEA.

Attached documents (signed agency letter & EA/EIS)

- Transmittal-Letter-Signed.doc.pdf
- Final-DEA.pdf

Action location map

- Location-Boundary.zip

Authorized individual

Keola Cheng

Authorization

- The above named authorized individual hereby certifies that he/she has the authority to make this submission.

Leeward Community College Value-Added Product Development Center
Draft Environmental Assessment

November 2019

Prepared For

University of Hawai'i Community Colleges

Prepared By

Wilson Okamoto Corporation

Engineers & Planners
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

DRAFT ENVIRONMENTAL ASSESSMENT

Leeward Community College
Value-Added Product Development Center

Wahiawā, Oʻahu, Hawaiʻi

Prepared For:

University of Hawaiʻi
Community Colleges
2444 Dole Street
Honolulu, HI 96822

And

Ushijima Architects, LLC
2226 Young Street #A
Honolulu, HI 96826

Prepared By:

Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, HI 96826

WOC Job No. 10467-01

October 2019

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Honua Consulting

Appendix B Traffic Impact Report for the Wahiawa Product Development Center
Wilson Okamoto Corporation

Appendix C Preliminary Engineering Report Civil Infrastructure
Wilson Okamoto Corporation

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PREFACE

This Draft Environmental Assessment (EA) / Anticipated Finding of No Significant Impact (FONSI) has been prepared pursuant to Chapter 343, Hawai‘i Revised Statutes (HRS), and Title 11, Chapter 200.1, Hawai‘i Administrative Rules (HAR), Department of Health, State of Hawai‘i.

This EA is required because the proposed project is an “agency action” involving the use of state lands and funds. The proposing agency is the University of Hawai‘i(UH), and the approving agency, which will also be responsible for determining if the Final EA can be filed as a Finding of No Significant Impact (FONSI).

An Archaeological Literature Report and Field Inspection, a Traffic Impact Report, and a Preliminary Engineering Report were conducted in conjunction with this EA. Documentation of this effort is included in the Appendices.

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SUMMARY

Proposing Agency: University of Hawai‘i

Approving Agency: University of Hawai‘i

Location: Wahiawā, O‘ahu, Hawai‘i

Tax Map Keys (TMKs): TMK [1] 7-4-012:016

Recorded Fee Owner: State of Hawai‘i

Existing Use: The project site is a 1.572-acre parcel which was acquired by the State of Hawai‘i Department of Agriculture's Agribusiness Development Corporation in 2013. The project site is occupied by an existing metal warehouse that formerly housed Tamura's Wholesale Outlet and a paved parking lot. The project site is located at the corner of California Avenue and Plum Street.

State Land Use Classification: Urban

County Zoning Designation: According to the City and County of Honolulu Department of Planning and Permitting (DPP), the project area lies within the Community Business District (B-2).

Proposed Action: The University of Hawai‘I (UH) is proposing to construct the Value-Added Product Development Center (VAPDC) located at 1001 California Avenue in downtown Wahiawā. The goal of the project is to repurpose an existing metal warehouse that formerly housed Tamura's Wholesale Outlet. The warehouse was acquired by the State of Hawai‘i Department of Agriculture's (DOA) Agribusiness Development Corporation in 2013 to advance agriculture in Hawai‘i. The goal of the project is to repurpose the existing warehouse as the VAPDC that will be jointly managed by University of Hawai‘i Community Colleges (UHCC), an office of UH, and the DOA's Agribusiness Development Corporation. The VAPDC will offer a set of programs, services, and training that promote innovation and entrepreneurship within the agricultural industry.

Impacts: Potential soil erosion and associated water quality impacts will be mitigated by applying required best management practices to control soil erosion and siltation. No significant impacts on flora and fauna are anticipated as a result of construction or operation of the project. No historic properties will be affected by the

proposed project. Air quality, noise and hazardous materials impacts will be mitigated by compliance with applicable Department of Health rules. Traffic operations in the vicinity of the project site are expected to remain similar to conditions without the proposed project. As such, the proposed project is not expected to have a significant impact on surrounding roadways. No significant impacts regarding water, wastewater, drainage, electrical and communications systems are anticipated. Further consultation and coordination with applicable agencies will assure that construction activities can avoid impacts to existing utility lines.

Anticipated Determination: Finding of No Significant Impact (FONSI)

Parties Consulted During Pre-Assessment:

Federal Agencies
U.S. Environmental Protection Agency
U.S. Army Corps of Engineers
U.S. Department of the Interior, Fish and Wildlife Service

State Legislative Branch
Senator Donovan Dela Cruz
Senator Gil Riviere
Representative Amy Perruso

State Agencies
Department of Accounting and General Services
Department of Agriculture
Department of Business, Economic Development and Tourism
Department of Business, Economic Development and Tourism, Hawai‘i State Energy Office
Department of Business, Economic Development and Tourism, Land Use Commission
Department of Business, Economic Development and Tourism, Office of Planning
Department of Defense
Department of Defense, State Civil Defense
Department of Hawaiian Home Lands
Department of Health
Department of Health, Clean Water Branch
Department of Health, Wastewater Branch
Department of Health, Environmental Management Division
Department of Health, Hazard and Emergency Response Office
Department of Land and Natural Resources
Department of Land and Natural Resources, Office of Coastal and Conservation Lands

Department of Land and Natural Resources, Historic Preservation Division
Department of Transportation
Department of Transportation, Airport Division
Office of Environmental Quality Control
Office of Hawaiian Affairs
University of Hawaiʻi at Mānoa Environmental Center

City Council
Councilmember Heidi Tsuneyoshi

City and County of Honolulu Agencies
Board of Water Supply
Department of Community Services
Department of Design and Construction
Department of Environmental Services
Department of Facility Maintenance
Department of Parks and Recreation
Department of Planning and Permitting
Department of Transportation Services
Honolulu Fire Department
Honolulu Police Department

Utility Companies
Hawaiʻi Gas
Spectrum Hawaiʻi
Hawaiian Telcom
Hawaiian Electric Company

Other Interested Parties and Individuals
Neighborhood Board 26
Hawaiʻi State Library
University of Hawaiʻi Hamilton Library

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1. INTRODUCTION

1.1 Project Location

The University of Hawai‘i (UH) is proposing to construct the Leeward Community College (LCC) Value-Added Product Development Center (VAPDC) located at 1001 California Avenue in downtown Wahiawā (See Figure 1-1). The goal of the project is to repurpose an existing metal warehouse that formerly housed Tamura’s Wholesale Outlet. The warehouse was acquired by the State of Hawai‘i Department of Agriculture’s Agribusiness Development Corporation (ADC) in 2013 to advance agriculture in Hawai‘i. The VAPDC would be jointly managed by the University of Hawai‘i Community Colleges, an office of UH, and the ADC.

The proposed project site is located in downtown Wahiawā on the island of O‘ahu. The subject property is further identified by Tax Map Key (TMK) [1] 7-4-012:016, which encompasses approximately 68,475 square feet (See Figure 1-2).

The project site is a 1.572-acre parcel, which was acquired by the DOA’s Agribusiness Development Corporation in 2013. The project site is occupied by an existing metal warehouse, formerly housed Tamura’s Wholesale Outlet, and a paved parking lot. The project site is located at the corner of California Avenue and Plum Street.

1.2 Surrounding Uses

The scale and feeling of Wahiawā as a small “country town” is clearly evident in the areas surrounding the subject property. The area surrounding the project site is characterized by a residential neighborhoods to the south. To the east, across Plum Street, is Ho‘āla School and the Wahiawā Hongwanji Mission. Adjacent to the subject parcel to the northeast is Wahiawa Auto Repair and Maintenance. North of the project site is Fred Wright Park. To the northwest of project site is a 76 gas station and the Wahiawa Transit Center & Park and Ride. Adjacent to the west is a shopping center which includes Long’s Drug Store, Supercuts, GNC, various restaurants, and other enterprises (See Figure 1-3). The location of the VAPDC at the project site will enhance the immediate area as a town core and setting for social, civic and commercial interactions.

1.3 Land Ownership

The subject property was acquired by the ADC in 2013 with the goal to advance agriculture in Hawai‘i, and is the recorded fee owner. The proposed VAPDC will be jointly managed by UHCC and ADC.

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FIGURE 1-1

Project Location Map

Leeward Community College Value-Added Product Development Center
Wahiawā, O'ahu, Hawai'i

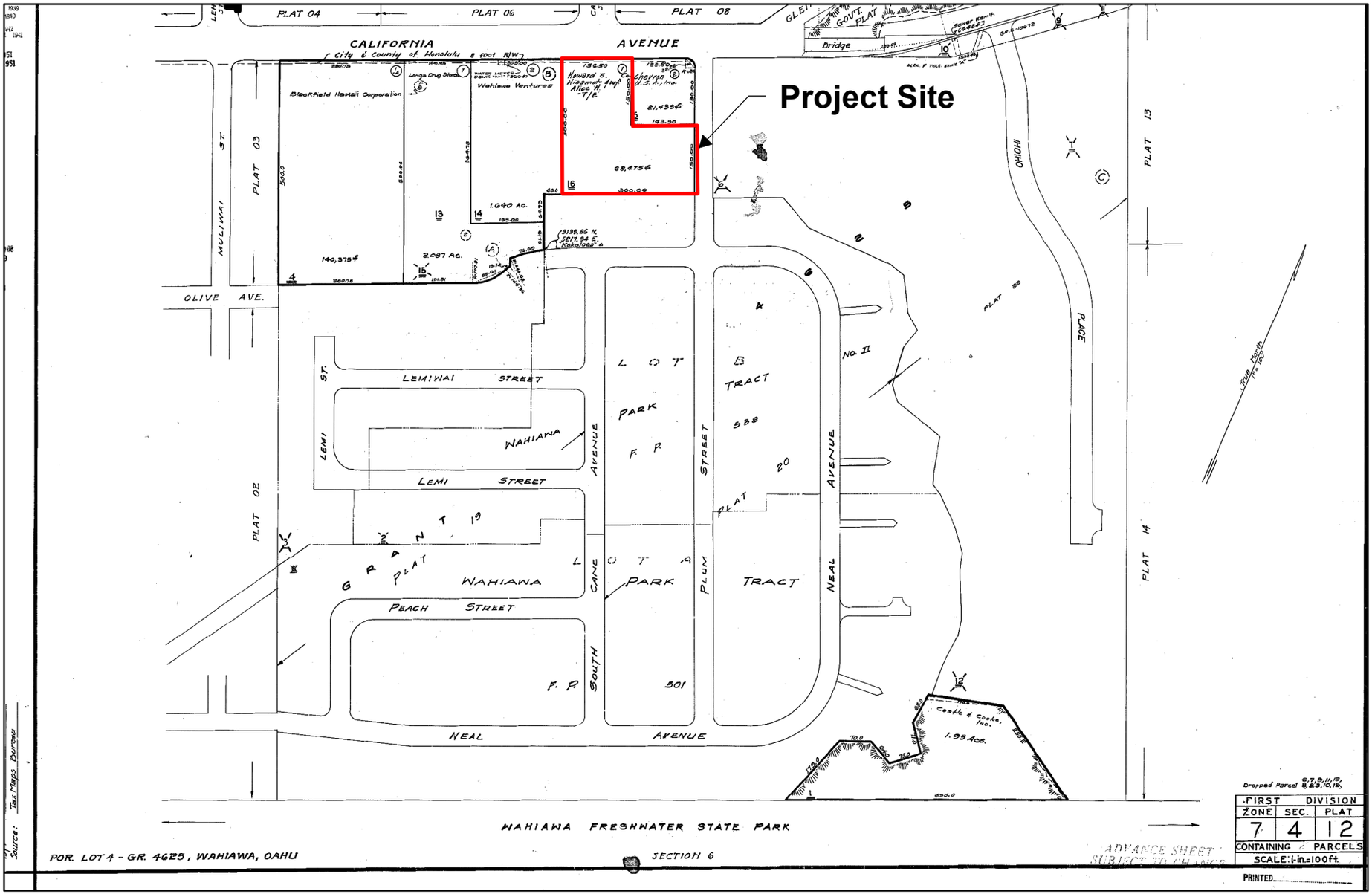

Figure 1-2

TMK Map

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FIGURE 1-3

Surrounding Uses Map

Leeward Community College Value-Added Product Development Center
Wahiawā, O'ahu, Hawai'i

2. PROJECT DESCRIPTION

2.1 PURPOSE AND NEED

The goal of the project is to repurpose the existing warehouse as the VAPDC that will be jointly managed by the UHCC and the DOA-ADC. The warehouse was acquired in 2013 by the Agribusiness Development Corporation to advance agriculture in Hawaiʻi.

The VAPDC will advance agriculture by teaching value-added agriculture and entrepreneurship. Value-added agriculture generally focuses on production or manufacturing processes, marketing, or services that increase the value of primary agricultural commodities.

It is envisioned that the VAPDC will offer a set of programs, services, and training that promote innovation and entrepreneurship within the agricultural industry. The VAPDC will provide students with access to facilities, credit and non-credit courses, and opportunities to learn and develop skills in entrepreneurship as it relates to product development through a series of educational programming components, highlighted in Section 2.2. The VAPDC aims to develop students to be leaders and successful in the food sciences and agriculture industry. Specifically, the VAPDC will support postsecondary education programs aimed towards the development and marketing of value-added food products through recycling of nearby agricultural by products.

As an integral part of the Whitmore Community Food Hub initiative, the VAPDC will have facilities that support the development and marking of products and platforms that promote the promulgation of locally grown food resources through the upcycling of agricultural by products. Moreover, the facility will enhance and support the LCC's agricultural product processing curriculum, revitalize a centrally located parcel in downtown Wahiawā, and fulfill the Agribusiness Development Corporation's larger objective to advance crop diversification agriculture in Hawaiʻi.

In general the objectives of the VAPDC are:

- Support postsecondary education in the incubation and marketing of value-added food products;
- Offer and inspire work and a learning environment capable of attracting students to pursue careers in the food sciences;
- Support the community college's agricultural product processing curriculum, while fulfilling the Agribusiness Development Corporation's larger objective to advance agriculture in Hawaiʻi;
- Contribute to the Hawaiʻi Agricultural Industry by increasing the opportunity to grow and produce more foods to generate new sources of revenue for producers;
- Encourage agribusiness through food-related product development. Build the capacity for local residents to develop entrepreneurial skills and create successful small businesses;

- Provide community access to small business resources and develop a network of public and private partnerships that contributes to the success of small businesses; and
- The VAPDC becomes the premier education and consulting resource for aspiring and current entrepreneurs.

2.2 PROJECT DESCRIPTION

The existing metal warehouse will be repurposed as the VAPDC (See Figure 2-1). The new facility would serve as a multi-purpose facility for activities including, but not limited to, festivals, farmer's markets or other similar market activities, tasting events, merchandising for food products from the facility, etc. The main user of the VAPDC will be Leeward Community College (LCC). Their educational programming will include:

- An entrepreneurship program that will introduce skills vital to start and sustain a food-product based business;
- Integration of curriculum with existing Career and Technical Education (CTE) courses in the areas of agriculture, business, culinary, and industrial integrated technology (manufacturing); and
- Short-term trainings and workshops that target aspiring or existing small business owners. Topics can include but are not limited to the areas of human resources, business development, food safety, process analysis, sales and marketing.

When in not in use by LCC, the food production facilities will be open to the public or small businesses. The design and innovation of the VAPDC facility will help to build interconnected performance among innovation, commerce, public awareness, and education. The VAPDC facility will be designed to include space for:

- A welcoming center
- A public loft
- A tasting court
- Public restrooms
- A specialty kitchen
- An event/media kitchen
- A product incubation loft
- Separate processing area where cross contamination or privacy may be of concern
- A receiving/shipping/storage space
- Cold/storage space
- An administration/testing loft
- Flexible classroom space

USHIJIMA ARCHITECTS

LEEWARD COMMUNITY COLLEGE VALUE ADDED PRODUCT DEVELOPMENT CENTER

WAHIAWA, OAHU

SEPTEMBER 2019

Figure 2-1 Conceptual Rendering

The WDPC production processes proposed include but not limited to: baked goods, juicing, fermentation/pickling, food grade cosmetics, and packaging. Additional processes proposed are: chocolate, charcuterie, confections, and ice cream.

2.3 Development Schedule

Construction is expected to commence once plans and permit applications are approved. It is anticipated that the proposed project will be completed and operating in the year 2021.

2.4 Project Costs

It is anticipated that the construction of the proposed project improvements will cost approximately $12,000,000.

3. DESCRIPTION OF EXISTING ENVIRONMENT, IMPACTS, AND MITIGATION MEASURES

3.1 Climate and Climate Change

The climate of Oʻahu is relatively moderate throughout most of the year and is characterized as semi-tropical with two seasons. The summer period runs from May through September and is generally warm and dry, with predominantly northeast trade winds. In contrast, the winter season runs from October through April and is associated with lower temperatures, higher rainfall and less prevalent trade winds.

The project is located in downtown Wahiawā, on the central plain of Oʻahu. The area is characterized by abundant sunshine, persistent trade winds, relatively constant temperatures, moderate humidity, and the infrequency of severe storms. Northeasterly trade winds prevail throughout the year although its frequency varies.

Temperatures are typically mild and uniform, with the monthly average daily temperatures in Wahiawā around 82 degrees Fahrenheit. Humidity in the area averages between 65 to 80 percent, with higher humidity levels occurring during the winter months. Average annual precipitation in Wahiawā is measured at approximately 60 inches, with rainfall occurring mostly between October and March (Giambelluca, et al., 2013).

The State of Hawaiʻi is being impacted by a myriad of climatic changes through rising sea levels, an increase in ocean acidity, changing rainfall patterns, a decrease in stream base flow, changing wind and wave patterns, and changing habitats and species distribution. There is no consensus, however, about the exact nature, magnitude, and timing of how these changes will occur. Generally speaking, there is an expectation of a rise in air and sea surface temperatures, a decrease in the prevailing northeasterly trade winds, a decline in average rainfall resulting in the continued decline in stream base flow, an increase in ocean acidity, and sea level rise. Research indicates that two centuries of unabated greenhouse gas (GHG) emissions, which includes carbon dioxide, methane, nitrous oxide, and fluorinated gases, from anthropogenic sources is responsible for increases in global atmospheric temperatures and ocean warming over the past century.

GHGs absorb and “trap” solar radiation instead of reflecting it back into space. The main sources of GHG emissions resulting from human activity are from the following sectors, in order from most emissions to least: fossil fuel power stations, industrial activity, transportation, agriculture, fossil fuel processing, residential and commercial activity, land use and biomass burning, and waste disposal and treatment. In 2007, the United States was responsible for approximately 20 percent of global carbon dioxide emissions. Within Hawaiʻi, the island of Oʻahu accounts for approximately 80 percent of the State’s total carbon dioxide emissions.

Impacts and Mitigation Measures

No significant impacts on climate in the project area are anticipated. Construction and operation of proposed project improvements are not anticipated to affect temperatures, wind, or rainfall levels in the project area.

The exact nature of how the climate will change is unknown. New information will continually need to be incorporated within future assessments to identify where efforts should be focused when developing adaptation strategies to climatic changes.

The implementation of the proposed action will result in the short-term irrevocable release of GHGs from construction activities associated with the development of the proposed project improvements. The quantities of GHGs released, however, will be negligible. No mitigation is required or proposed.

3.2 Physiography

3.2.1 Geology and Topography

The island of O‘ahu is a volcanic doublet formed by the Wai‘anae Range to the west and the younger Ko‘olau Range to the east. Both are remnants of shield volcanoes, but the term “range” indicates that they have lost most of their original shield outlines and are now long, narrow ridges shaped largely by erosion. Later post-erosional eruptions sent lava down the valleys and resulted in the formation of volcanic cones such as Diamond Head and Tantalus.

In between the two ranges sits the flat colluvium plain of central O‘ahu which resulted when eroded soils from the Ko‘olau and Wai‘anae ranges accumulated and over lapped at the base of the steep slopes (U.S. Department of Agriculture Soil Conservation Service, 1972). The project site is located within the Schofield Plateau, which was formed when lavas from the Ko‘olau Volcano ponded against the already eroded slopes of the Wai‘anae Volcano. The lava flows on the plateau have undergone in-situ weathering to depths of 50 to 100 feet.

The project parcel is relatively flat and has been built up with buildings and a paved parking lot and generally slopes in the east direction towards Plum Street. Elevations within the parcel range from 924-feet mean sea level (MSL) at the back of the sidewalk along California Avenue to 919-feet MSL along the Plum Street project boundary line.

Impacts and Mitigation Measures

In the short- and long-term, no significant impacts on geology or topography are anticipated during construction or operation of the proposed project. Construction of proposed project will not involve any major land disturbing activities involving mass grading or significant revisions to site contours.

The project site will be graded to provide positive drainage for storm water runoff to be directed away from the proposed building. The storm drainage patterns with reference to the existing drainage system will be taken into consideration when designing on-site grading elevations.

Site grading shall follow the Soils Engineer’s recommendations and conforming to Chapter 14, Article 15 of the Revised Ordinances of Honolulu “Grading, Grubbing and Stockpiling” as amended. All grading and construction work shall comply with the Rules Relating to Water Quality, Department of Planning and Permitting, City and County of Honolulu, amended September 17, 2018, to control soil erosion and ensure that the discharge of pollutants from the construction site will be reduced to the maximum extent practicable (MEP).

3.2.2 Soils

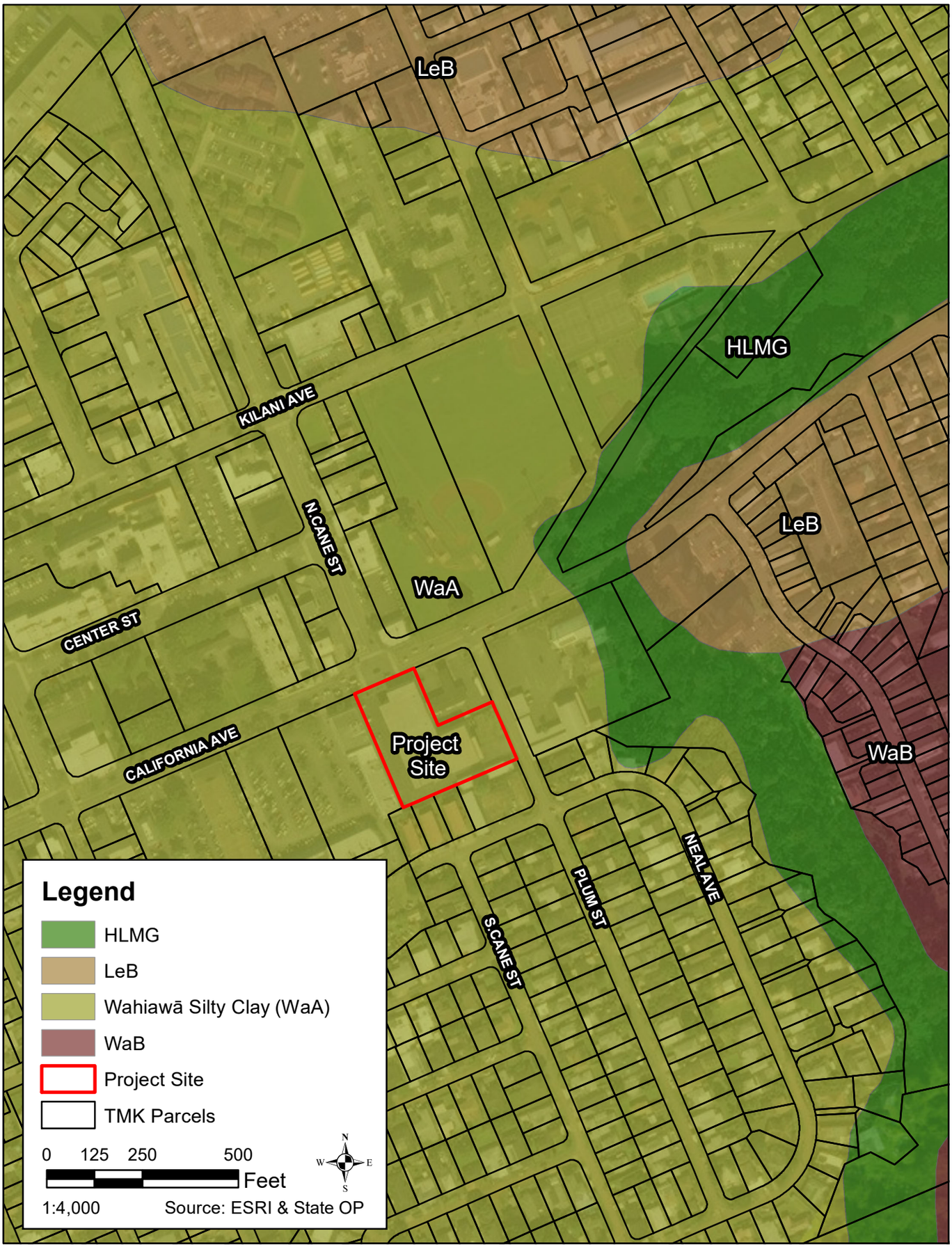
According to the U.S. Department of Agriculture, Natural Resource Conservation Service, soils within the project area are classified as Wahiawā silty clay (0 to 3 percent slopes) (WaA) (See Figure 3-1). This soil occurs on smooth, broad interfluves. Included in the mapping also were small areas of Kunia, Lahaina, and Leilehua soils.

In a representative profile of Wahiawā silty clay, the surface layer is very dusky red and dusky red silty clay about 12 inches thick. The subsoil, about 48 inches thick, is dark reddish-brown silty clay that has subangular blocky structure. The Unified Soil Classification is MH and has low shrink-swell potential. The soil has low corrosivity for uncoated steel and moderate to low corrosivity for concrete. The underlying material is weathered basic igneous rock. The soil is medium acid in the surface layer and medium acid to neutral in the subsoil. Permeability is moderately rapid. Runoff is slow, and the erosion hazard is no more than slight. The available water capacity is about 1.3 inches per foot in the surface layer and about 1.4 inches per foot in the subsoil. In places roots penetrate to a depth of 5 feet or more. This soil is used for sugarcane, pineapple, pasture, and home sites.

Impacts and Mitigation Measures

In the short- and long- term, no significant impacts on soils are anticipated during the construction or operation of the proposed project. The project area is a previously developed site within the urban core of Honolulu. The construction of the proposed project will not involve any major land disturbing activities involving mass grading or significant revisions to site contours. There will be trenching to accommodate utilities and new footings where applicable within and outside of the existing building envelope.

Applicable best management practices and erosion control measures will be implemented. As applicable for each phase, these may include but are not limited to: temporary sediment basins, temporary diversion berms and swales to intercept runoff, silt fences, dust fences, slope protection, stabilized construction vehicle entrance, grate inlet protection, truck wash down areas, and use of compost filter socks. Planting of landscaping also will be done as soon as possible on completed areas to help control erosion. Permanent sediment control measures will be used once construction is completed. Coordination will be undertaken with the appropriate agencies during permitting and construction in order to ensure that the proposed project will not result in significant impacts with regard to soils and erosion. A National Pollutant Discharge Elimination System (NPDES) permit for storm water runoff from construction activities would be required as individual and/or cumulative soil disturbances in the project area should it exceed one acre of land area. Any discharges related to project construction or operation activities will comply with applicable State Water Quality Standards as specified in Hawai‘i Administrative Rules, Chapter 11-54 and 11-55 Water Pollution Control, Department of Health. Excavation and grading activities will be regulated by applicable provisions of the County’s grading ordinance.



WILSON OKAMOTO CORPORATION

FIGURE 3-1

Soils Map

Leeward Community College Value-Added Product Development Center
Wahiawā, O'ahu, Hawai'i

3.3 Hydrology

3.3.1 Surface and Coastal Waters

A number of small perennial and non-perennial streams run from the Waiʻanae and Koʻolau mountain ranges to the central Oʻahu plains.

The nearest fresh water body is Lake Wilson, which is also known as the Wahiawā Reservoir or North Fork Kaukonahua Stream, which is located approximately 0.40 miles to the north of the project site (See Figure 3-2). The Wahiawā Reservoir has been classified as a lake in the National Wetlands Inventory, and encompasses 28.3 acres across Wahiawā. The State of Hawaiʻi Department of Health classifies Lake Wilson as Class 2 waters, indicating that the lake is protected for recreational purposes, the support and propagation of aquatic life, agricultural and industrial water supplies and shipping or navigation (See Figure 3-3). In addition to Lake Wilson, there are a number of riverines north of the project site. These include Helemanō Stream, Poamoho Stream and Helemanō Reservoir.

The proposed project site is not located on the coastline or shoreline. The nearest coastal water offshore of the project area is Pearl Harbor, located approximately 8 miles to the south of the project site.

Impacts and Mitigation Measures

No short- or long-term significant impacts on surface and/or coastal waters in the project vicinity are anticipated during construction or operation of the proposed project. There are no streams or wetlands on or within close proximity to the project area.

Applicable erosion control measures and best management practices will be implemented in order to mitigate any possible adverse effects relating to runoff. As applicable for each phase, these may include but are not be limited to: temporary sediment basins, temporary diversion berms and swales to intercept runoff, silt fences, dust fences, slope protection, stabilized construction vehicle entrance, grate inlet protection, truck wash down areas, and use of compost filter socks. Planting of landscaping also will be done as soon as possible on completed areas to help control erosion. Permanent sediment control measures will be used once construction is completed.

Coordination will be undertaken with the appropriate agencies during permitting and construction in order to ensure that the proposed project will not result in significant impacts with regard to surface and coastal waters. As previously mentioned, a National Pollutant Discharge Elimination System (NPDES) permit for storm water runoff from construction activities would be required as individual and/or cumulative soil disturbances in the project area should it exceed one acre of land area. Any discharges related to project construction or operation activities will comply with applicable State Water Quality Standards as specified in Hawaiʻi Administrative Rules, Chapters 11-54 and 11-55 Water Pollution Control, Department of Health.

Excavation and grading activities will be regulated by applicable provisions of the County's grading ordinance.

3.3.2 Groundwater

The State Department of Land and Natural Resources (DLNR), Commission on Water Resource Management (CWRM) has established a groundwater hydrologic unit and coding system for groundwater resource management. The proposed project area is located within the Central hydrologic unit comprised of the Wahiawā Aquifer System Area, which has an estimated yield of 23 million gallons per day (mgd).

The Central Oʻahu Watershed is a freshwater lens system where water recharge is from infiltration of rainwater and discharge from up gradient groundwater bodies (Honolulu Board of Water Supply, 2007). Dike confined water from the Koʻolau and Waiʻanae ranges also contribute to the Wahiawā Aquifer System Area. In the upper central plain, a significant portion of water recharge and water demand came from agricultural production. As sugar production decreased so did irrigation water demand and recharge rates in the region.

Impacts and Mitigation Measures

No short- or long-term significant impacts on groundwater in the project vicinity are anticipated during construction or operation of the proposed project.

Infiltration of water at the project area would eventually reach seawater in the ground as opposed to the aquifers discussed above, which lie below the caprock. Construction activities are not likely to introduce to, nor release from the soils, any materials that could adversely affect the underlying groundwater. Construction material wastes will appropriately be disposed of to prevent any leachate from contaminating groundwater.

3.4 Natural Hazards

The State of Hawaiʻi is vulnerable to natural hazards, such as flooding, tsunami inundation, hurricanes, and wildfires. The following sections analyze the project site's vulnerability to such hazards.

3.4.1 Sea Level Rise

The Earth's climate has experience natural changes and variability throughout geologic time, however, the changes that have occurred over the past century are unprecedented. Anthropogenic GHG emissions are causing global warming and climate disruption. The concentration of carbon dioxide, as well as other GHG, are well outside the range of natural variability and are reaching the highest levels seen in at least 800,000 years (Hawaiʻi Climate Change Mitigation and Adaptation Commission. 2017).

Sea level is rising at increasing rates due to global warming of the atmosphere and oceans and melting of the glaciers and ice sheets. Rising sea level and projections of stronger and more frequent El Nino events and tropical cyclones in water surrounding Hawaiʻi indicate a growing vulnerability to coastal flooding and erosion. If GHG emissions are maintained at its current rate of increase, the IPCC (2014) predicts up 3.2 feet of global sea level rise by the year 2100. However, recent observations and projections show that this magnitude of sea

level rise could occur as early as year 2060 under recently published high-end scenarios. There are questions and debate around the exact timing of that rise due largely to uncertainties around the future behavior of the Earth's cryosphere and global GHG emission trajectories.

The project area is not located within the 3.2-foot, 5-foot, or 6-foot area as depicted by the National Oceanic and Atmospheric Administration (NOAA) Sea Level Rise data (See Figure 3-4).

Impacts and Mitigation Measures

No short- or long-term impacts on or from sea level rise are anticipated during construction or operation of the proposed project.

The proposed project site is located approximately 8 miles from the nearest shoreline, Pearl Harbor. The proposed project will not be directly impacted from the direct effects of sea level rise under any scenario.

3.4.2 Flood and Tsunami Hazardous

According to the Flood Insurance Rate Map (FIRM), (Community Panel Number 0226F) prepared by the Federal Emergency Management Agency (FEMA), the project area is designated Zone D, an unevaluated area where the flood hazard is currently undetermined (See Figure 3-6).

Since the early 1800's, approximately 50 tsunami have inundated the State of Hawai'i's shores, including the 1946 tsunami that resulted in wave heights of 11 meters and killed 6 people on O'ahu alone. Additional tsunamis to impact O'ahu shores occurred in 1952, 1957, 1960, 1964, and 2011. The closest regular and extreme tsunami evacuation zones begin at the Pearl Harbor Middle Loch close to the University of Hawai'i Leeward Community College. The VAPDC site is located approximately 8 miles from the shoreline in Pearl Harbor.

According to the Tsunami Evacuation Zone maps for O'ahu, the project area lies outside of the tsunami evacuation zone as it is located approximately 8 miles from Pearl Harbor (See Figure 3-6).

Impacts and Mitigation Measures

In the short- and long-term, no significant impacts on flood hazards in the project area are anticipated as the proposed improvements are not anticipated to increase flood risks or cause any adverse flood-related impacts at the project area or lower elevation properties. For the development, all drainage improvements, excavation, drilling, and grading will be coordinated with the appropriate agencies during permitting and construction in order to ensure that the proposed project will not result in significant impacts regarding flood and tsunami hazards.

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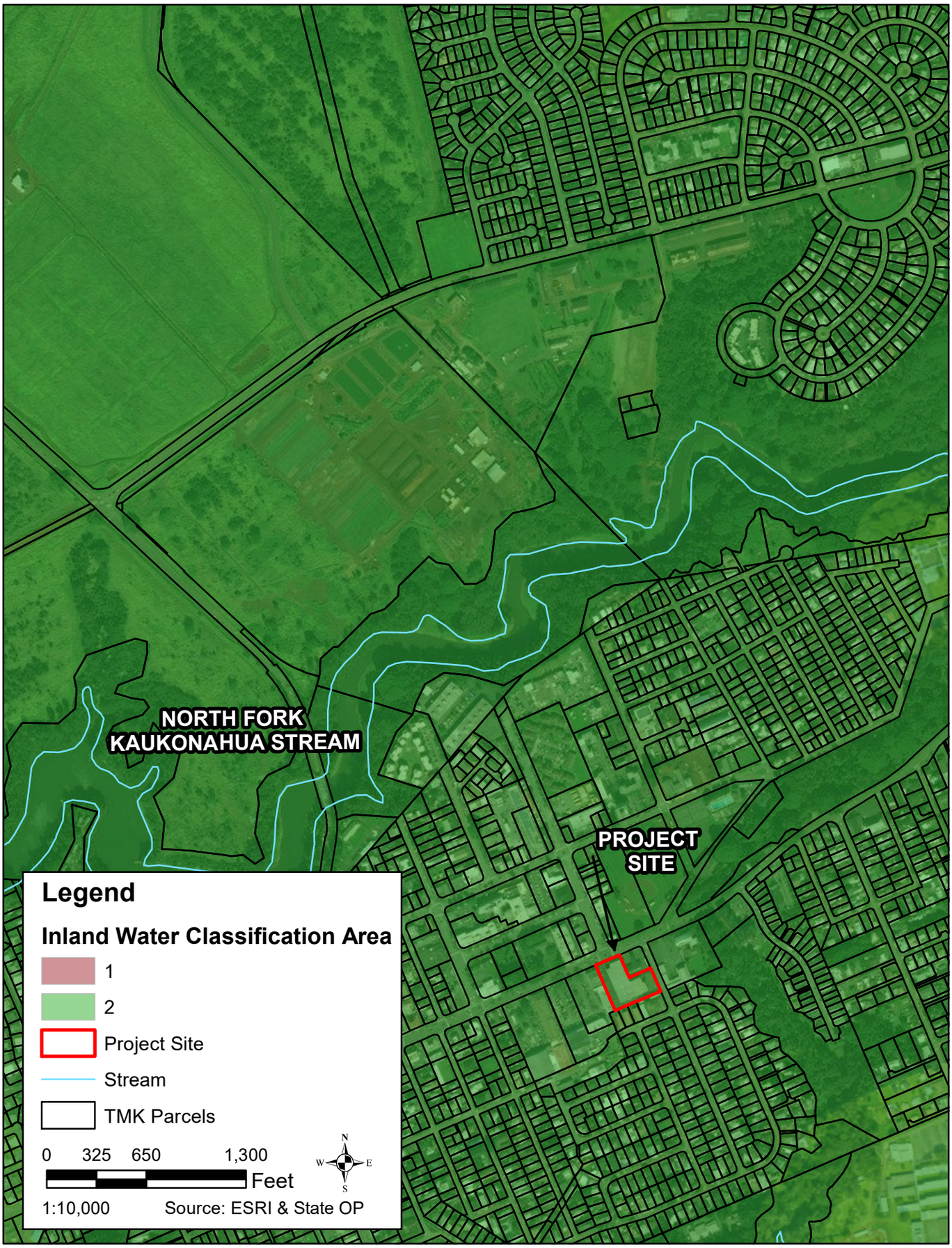
FIGURE 3-2

Surface Waters Map

Leeward Community College Value-Added Product Development Center
Wahiawā, O'ahu, Hawai'i

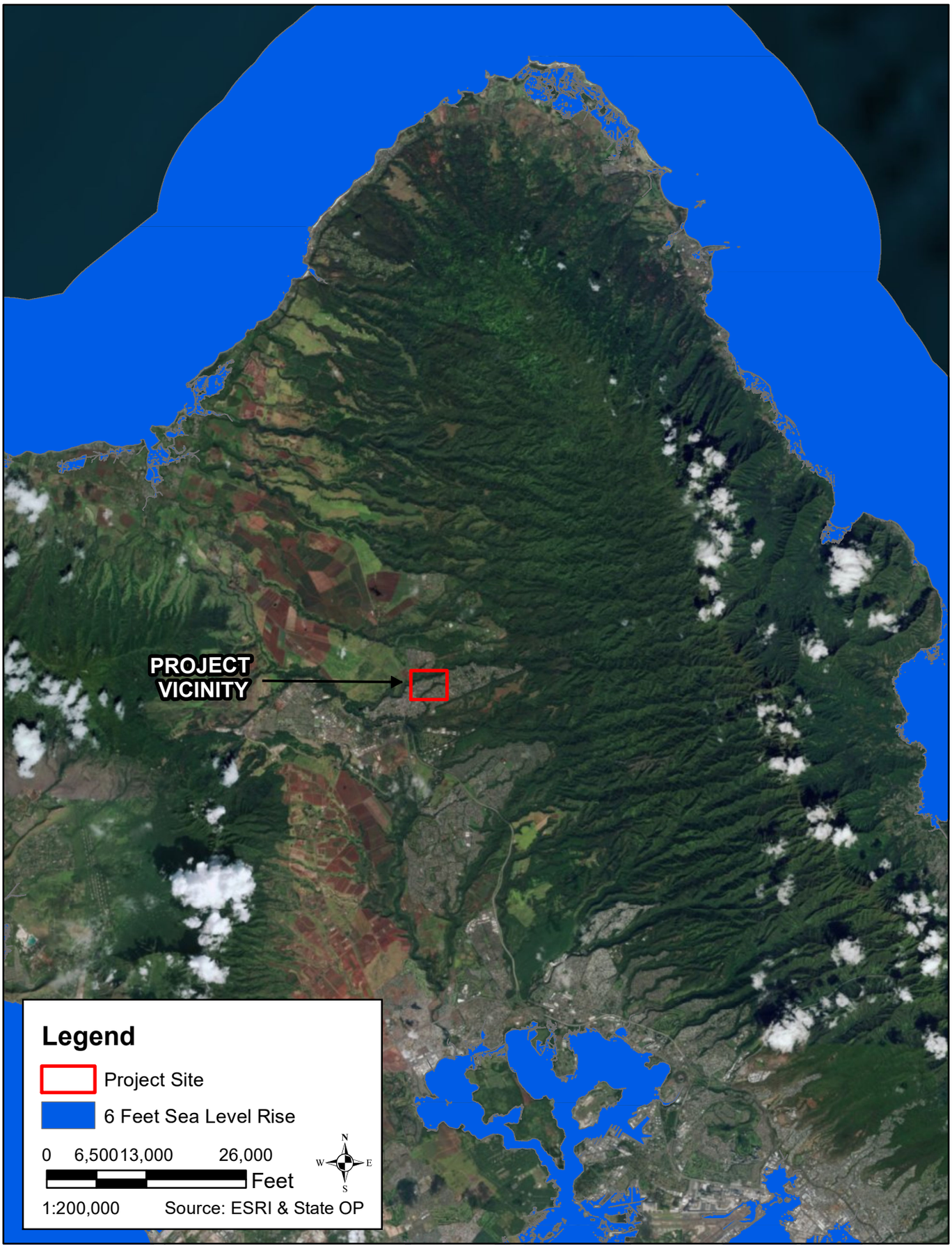


WILSON OKAMOTO
CORPORATION

FIGURE 3-3

Inland Water Classification Map

Leeward Community College Value-Added Product Development Center
Wahiawā, O'ahu, Hawai'i

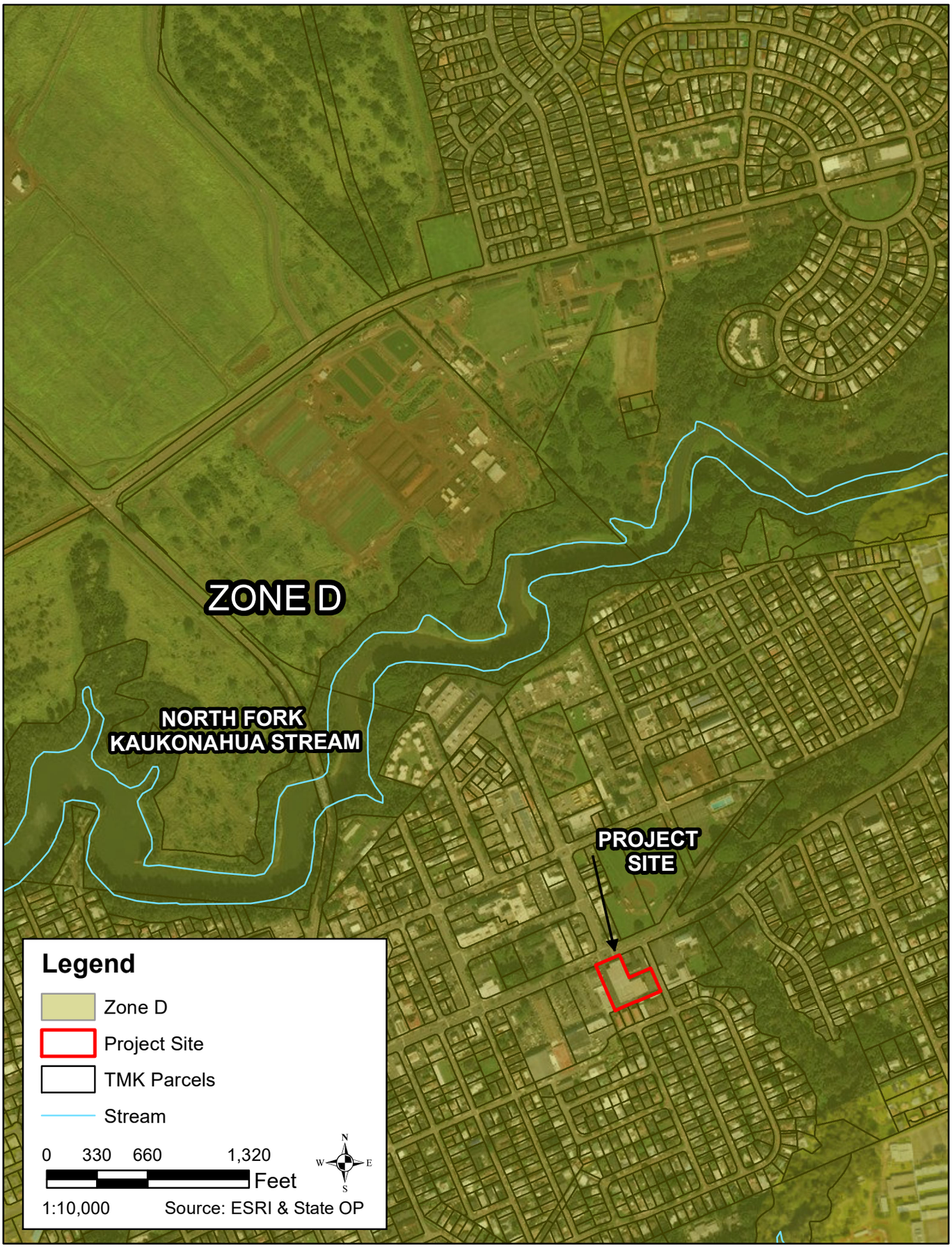


WILSON OKAMOTO CORPORATION

FIGURE 3-4

6 Feet Sea Level Rise Exposure Map

Leeward Community College Value-Added Product Development Center
Wahiawā, O'ahu, Hawai'i

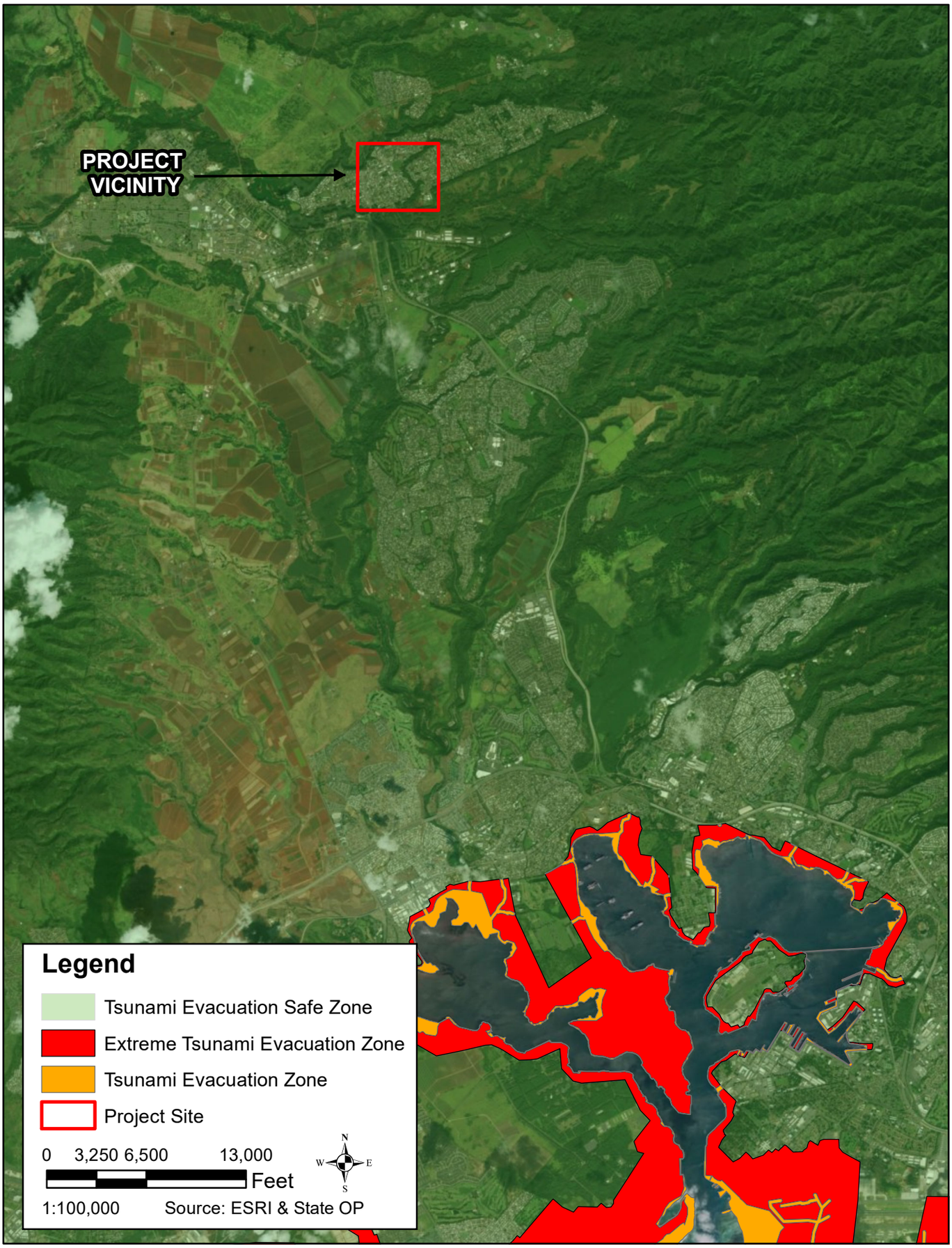


WILSON OKAMOTO
CORPORATION

FIGURE 3-5

Flood Insurance Rate Map

Leeward Community College Value-Added Product Development Center
Wahiawā, O'ahu, Hawai'i



WILSON OKAMOTO CORPORATION

FIGURE 3-6

Tsunami Evacuation Zone Map

Leeward Community College Value-Added Product Development Center
Wahiawā, O'ahu, Hawai'i

3.4.3 Hurricane and Wind Hazard

The Hawaiian Islands are seasonally affected by Pacific hurricanes from the late summer to early winter months. The State has been affected twice since 1982 by significant hurricanes, ‘Iwa in 1982 and ‘Iniki in 1992. Not all of identified hurricane and strong wind storm threats make landfall in Hawai‘i, and actual hurricane strikes in Hawai‘i are relatively rare in modern record. More commonly, near misses that generate large swell and moderately high winds causing varying degrees of damage are the hallmark of hurricanes passing close to the islands.

As a hurricane nears land, the surge of water, topped by battering waves, can move ashore along an area of the coastline into low lying coastal areas. Due to differences in atmospheric pressure, tidal stage, coastal topography, and location relative to the eye of the hurricane it is difficult to predict how hurricane-induced storm surge may impact a specific location.

During hurricanes and storm conditions, high winds cause strong uplift forces on structures, particularly on roofs. Wind-driven materials and debris can attain high velocity and cause devastating property damage and harm to life and limb. It is difficult to predict these natural occurrences, but it is reasonable to assume that future events will occur. The project area is, however, no more or less vulnerable than the rest of the island to the destructive winds and torrential rains associated with hurricanes.

Impacts and Mitigation Measures

The potential for hurricanes, while relatively rare, is present. To safeguard against hurricane damage, project improvements will be designed in compliance with American Society of Civil Engineers and International Building Code standards for wind exposure.

3.4.4 Seismic Hazard

Thousands of earthquakes occur every year in the State of Hawai‘i. Earthquakes in the Hawaiian Islands are associated with volcanic eruptions or tectonic movements. Most of these earthquakes are closely related to volcanic processes and are so small they can only be detected by seismometers. Volcanic hazards in the area are considered minimal due to the extinct status of former volcanoes.

Seismic hazards are those related to ground shaking. Landslides, ground cracks, rock falls and tsunamis are all seismic hazards. Engineers and other professionals have created a system of classifying seismic hazards on the basis of the expected strength of ground shaking and the probability of the shaking actually occurring within a specified time. The results are included in the Uniform Building Code (UBC) seismic provisions.

Central O‘ahu lies within the Moloka‘i Fracture Zone. This region of O‘ahu is classified as 2A Seismic Zone under the Uniform Building Code (UBC). Zone 2A is characterized as having earthquakes that may cause minor damage to structures. Central O‘ahu is assessed to have low vulnerability to earthquakes.

Impacts and Mitigation Measures

O‘ahu has not experienced significant seismic events in the modern era. The proposed project improvements would meet prevailing building codes. However, the proposed project is limited to repurposing the existing structure. The ability of the existing building structure to handle seismic events will not change.

3.5 Natural Environment

3.5.1 Flora and Fauna

The project area is located in a highly altered urban environment. Consequently, no rare, threatened or endangered flora or fauna species have been observed in the project area. Species most commonly frequenting the site and vicinity are typical of urbanized areas and consist of common introduced flora and fauna.

It is known that the Hawaiian hoary bat (‘ōpe‘ape‘a; *Lasiurus cinereus semotus*), the Band-rumped storm-petrel (‘akē‘akē; *Oceanodroma castro*), the Hawaiian petrel (‘ua‘u; *Pterodroma sandwichnesis*), and the Newell’s shearwater (‘a‘o; *Puffinus auricularis newelli*) are species that may be within or traverse through the project area.

Mammals likely to frequent the project area include mice (*Mus domesticus*), rats (*Rattus spp*.), cats (*Felis catus*), and mongoose (*Herpestes auropunctatus*).

Impacts and Mitigation Measures

Potential adverse impacts on flora and fauna are not anticipated. The project area is located within a highly altered urban environment. No listed or protected plant species are within the project area. Rare, threatened, or endangered fauna are not known to utilize the site for either habitat or foraging purposes. Construction activities may temporarily disrupt routine behavior of common faunal species in the immediate project area, but will not result in permanent displacement, or adversely affect regional distribution of affected fauna. Once project activities are complete, faunal activity in the vicinity of the work site is expected to return to pre-existing conditions.

No adverse impacts resulting from the project are anticipated. However, measures to prevent adverse effects to protected seabirds from night lighting will include the following:

- During construction activities, all nighttime lighting will be shielded and angled downward to reduce glare and disruption of bird flight.

- Following construction, permanent light sources will be shielded and angled downward to eliminate glare that could disturb or disorient birds in flight.

3.6 Historic and Archaeological Resources

Honua Consulting prepared an archaeological Literature Review and Field Inspection (LRFI) report for the proposed project in June 2019 to evaluate the presence of significant historic properties within the project area. The report was written using the standards outlined within HAR 13-276 for Archaeological Inventory studies and is intended to assist with historic preservation efforts for the proposed project. The archaeological literature review included

studies of archival sources, historic maps, Land Commission Awards (LCA) and previous archaeological reports to construct a history of land use and to determine if archaeological resources have been recorded on or near the project area. A field inspection of the project area followed to identify and surface archaeological resources and to investigate and assess the potential for impact to such sites. The inspection also sought to identify any sensitive areas that may require further investigation or mitigation before the project proceeds. The Archaeological Literature Review and Field Inspection report is included herein as Appendix A and is summarized below.

The project area is entirely located within the traditional ahupuaʻa of Wahiawā. Wahiawā is translated as "place of noise" as it was said that the sound of waves from the north shore of Oʻahu could be heard in Wahiawā (Pukui et al, 1974). The ahupuaʻa of Wahiawā covered an area from the crest of the Koʻolau Mountains to the center of the plateau just west of the junction of the north and south forks of Kaukonahua Stream.

Wahiawā on the western slopes of the Koʻolau Mountains was an area known as the home of chiefs. One of the most notable chiefs to be raised in Wahiawā was Māʻilikūkahi, who reigned over the island of Oʻahu well before the time of Kamehameha. However, little is known about the Oʻahu central plateau in the early years of the 19th century. The earliest known account was written by Sereno Bishop in 1916. He described the area during his travels in the 1830s as a nearly naked plains with an abundance of ti plants. Cuddihy and Stone (1990) state that, "many of the forests in which these early introductions [including ti] predominate are probably successional after Hawaiian cultivation." It is possible that the ti plants could represent the after-effect of Hawaiian agriculture in the uplands. Also, the sandalwood trade boomed during the 1820s and it is possible that the abundance of ti plants could be a result of sandalwood collection.

During the Māhele and Kuleana Act, the land was issued by the Hawaiian Monarchy to Mark Robinson, who used the land for cattle ranching until the late 19th century. Between 1895 and 1898, the lands granted to Mark Robinson were reclaimed by the Republic of Hawaiʻi and was made available for agricultural homesteads.

In the early 1900s commercial pineapple cultivation begin to take root in the region. Byron Orlando Clark advocated for agriculture to occur on the nearly vacant 1,350 acres of land in Wahiawā at the time. Clark assisted California business men to move to the homestead lands in Wahiawā to harvest pineapple. Clark, along with Alfred W. Eames, began planting and harvesting pineapple in 1900. Eames would quickly establish the Hawaiian Island Packing Company, which would become the pineapple and agricultural giant Del Monte Fresh Produce (Hawaiʻi), Inc., and build a cannery in Wahiawā in 1902. Also, in 1900, James D. Dole (cousin to Sanford B. Dole), obtained approximately 60 acres of homestead lands in Wahiawā. He developed both a plantation and a cannery, which both would become operational by 1903.

In 1906, which contributed to the development of the central plateau was the completion of the Oahu Rail and Land Company Line (OR&L) from Waipahu to Wahiawā. This ensured reliable transport of pineapple from the Wahiawā fields to Honolulu canneries. Within ten years, the homesteaders, including Clark, had grown a thriving pineapple industry. Thousands of acres were in production. Wahiawā has become the center of this growing

industry. Clark would lead Clark Farm Co., Ltd. Dole would lead the Hawaiian Pineapple Company, which would become Dole Food Company. W.B. Thomas, a colleague of Clark's, would establish and lead the Thomas Pineapple Co., which would later become part of Libby, McNeill & Libby when the company expanded into canning fruit. The Thomas plantation consisted of approximately 600 areas in Wahiawā.The plantations would bring many immigrant laborers to the area. While many were still prohibited under the 1895 Land Act from applying for homestead lands themselves, they nonetheless moved into the area, often in plantation housing, and built their lives in Wahiawā.

The OR&L railroad from Waipahu to Wahiawa mentioned above is present just to the west of the current property area. A spur of the railroad as well as structures and gasoline storage tanks associated with the Standard Oil Company of California were once present in the project site and are depicted on a 1942 Sanborn Fire Insurance map of Wahiawā (See Figure 12 in Appendix A).

In 1909, the U.S. military began construction of Schofield Barracks to the west of Wahiawā town. Wheeler Field was developed in the 1920s as a small, two-squadron operation, and was greatly expanded in the 1930s. Pineapple cultivation remained the dominant activity on the east side of the plateau in the early 20th century. In the 1920s, much of the area now included in military lands in Wahiawā, was under pineapple cultivation; Galbraith Spur connected the OR&L line to the fields, passing close to Kaukonahua Camp. Cultivation continued until 1940, when the U.S. Navy acquired a little over 389 acres for the establishment of a radio transmitter facility. Throughout the 20th century, Wahiawā underwent a number of critical changes, but nonetheless maintained its agricultural and rural character.

The property area was included in a single previous study, a broad reconnaissance level survey of Wahiawā town that evaluated properties for listing on the National Register of Historic Places (Stuart et al. 2014). Due to the age of the buildings on the property and in the immediate area, the property area was not located within any of the nine historic districts recommended in the report. Other than the town-wide survey, only a few archaeological studies have been conducted in Wahiawa town. The majority of the studies have been in the area surrounding the town, mostly in support of military construction and infrastructure projects.

No traditional Hawaiian sites are known to exist within the boundaries of Wahiawā town. The most well-known traditional archaeological site of the area is the Kūkaniloko Birthstones State Monument, SIHP # 50-80-04-218 located approximately 1,500 meters to the northwest. The only other potentially prehistoric site is a rock wall, SIHP #-4571 The other traditional sites, including two recorded by McAllister (1933), that once existed in the Wahiawā area are likely to have been expunged from the landscape by use of the area for commercial agriculture, U.S. Military activities and construction, and subsequent urban development.

The historic sites and places of interest in Wahiawā town and the surrounding area are associated with the OR&L Railroad, pineapple cultivation in the area, plantation camps, the growth and development of Wahiawā town, and facilities and infrastructure built by the U.S. military. In the case of Wahiawā town, these are mostly places of general historic interest which are yet have SIHP numbers assigned. The lack of archaeological studies and sites in

the vicinity is due in part to much of Wahiawā town being developed before historic preservation review became commonplace prior to construction activities.

Therefore, archaeological sites on the surface would have been destroyed by extensive commercial agricultural practices. As the Hawaiian populations were heavily-reduced following the arrival of foreigners in the early 19th Century, it is likely that any structural habitation features would have been abandoned and subsequently removed as land was repurposed for maximizing the land for larger crop yields.

The lack of sites can be attributed to a long history of development on the project site. In the past, the project site was used by the Standard Oil Company of California. Several structures and gasoline storage tanks are shown within the property area on a 1942 Sanborn Fire Insurance map of Wahiawā. A spur of the OR&L railroad that once traveled from Waipahu to Wahiawā is also shown along the western side of the property area. Currently, two modern structures are present within the project site. The first structure is a large 32,375 square foot warehouse that once operated as Tamura's Wholesale Outlet. An asphalt parking lot that covers much of the property is present on the west and south sides of the warehouse. The second structure is a set of connected plywood offices that are set on the asphalt and present along the southern boundary of the property. Records show that the warehouse structure was built in 1981 and the office structure was built in 1979 and they do not meet the 45 year old age requirement for National Register of Historic Places eligibility.

Fieldwork for the proposed project was conducted on September 13th and 20th, 2019 in accordance with HAR Chapter 13-282. The archaeological field inspection consisted of a 100% pedestrian survey of the outdoor portion of the property. The interior of the two buildings that take up much of the property were not surveyed. The pedestrian survey consisted of the traversal of several north-south and east-west trending transects across the property, spaced at approximately 10 m intervals. A visual inspection of the ground surface of the property was conducted. A hand-held Trimble GeoXT device was used to record survey tracks on the property. The Trimble maintained an accuracy ranging between 1 to 3 meters (3-10 feet).

Ceramic masonry unit (CMU) retaining walls are present on the western and southern boundaries of the property. The CMU retaining wall running along the southern boundary is approximately 4-5 feet tall and the residential property and roadway to the south were substantially lower than the parking lot. This indicates that the property may have been filled for construction of the warehouse and to cover the structures, railway, and gasoline storage tanks that used to be in the area. The height of the wall on the west side could not be determined due to the strip mall running the length of the western boundary of the parcel.

The only areas of the parcel where the ground surface could be observed was a small landscaped area on the north side of the property between the warehouse and sidewalk for California Avenue, a small landscaped area east at the end of the office structure, and an approximately 400 square meters of grassy area between the loading dock for the warehouse and Plum Street. Modern trash and landscaped vegetation were observed on the surface in the small areas around the buildings. Modern rubbish was also on the surface of this area and broken up concrete chunks were observed on the surface along the fence with the Reynolds Recycling Center. A modern electrical box is present in this area along Plum

Street and it is likely that the utilities on the property are all subsurface. The majority of the property area was either paved parking lot or covered with structures. No structural elements or artifacts were found in association with the railroad, structures, and gasoline tanks observed on the 1942 Sanborn Fire Insurance map of the area. No artifacts or deposits of any kind were observed in the grassy landscaped portions of the property.

Impacts and Mitigation Measures

No adverse impact is anticipated to historical or cultural resources for the Proposed Action.

Due to the lack of historic properties and lack of ground disturbances associated with the project, this study finds the project effect determination is "no historic properties affected". However, due to historic use of the property area and the historic significance of Wahiawā town it is recommended that archaeological monitoring be conducted in accordance with HAR 13-279 (Rules Governing Standards for Archaeological Monitoring Studies and Reports) for any unanticipated ground disturbances in association with the proposed project.

3.7 Cultural Resources and Practices

The project site does not contain any known sites of cultural significance. The project site is located in Wahiawā Town, near former pineapple plantation land. The project site is situated within the traditional boundaries of the *ahupuaʻa* of Wahiawā. The project site is near the sacred Kūkaniloko birthing stones. Wahiawā was an important region in the Pre-contact Period, associated with royalty and recognized as the sacred birthplace of several important chiefs. However, during the Historic Period a major transformation of the land occurred, which began with the large-scale harvesting of native Sandalwood forests for export; and continued with the development of the OR&L railroad and the commercial cultivation of sugar and pineapple, as well as the development of U.S military installations.

Impacts and Mitigation Measures

Based on the above, potential adverse impacts to traditional and cultural practices in the vicinity of the project are not anticipated.

Construction of the proposed project improvements will not disturb traditional sacred sites or traditional cultural objects; will not result in the degradation of resources used by Native Hawaiians for subsistence or traditional cultural practices; will not obstruct culturally significant landforms or way-finding features; and, will not result in loss of access to the shoreline or other areas customarily used by Native Hawaiians or others for resource gathering or traditional cultural practices. No mitigation measures are proposed. Should any unidentified archaeological resources be encountered during construction, all work will cease and the Historic Preservation Office will be contacted for review and approval of mitigation measures.

3.8 Air Quality

The State of Hawaiʻi Department of Health (DOH), Clean Air Branch, monitors the ambient air quality in the State for various gaseous and particulate air pollutants. The U.S. Environmental Protection Agency (EPA) has set national ambient air quality standards

(NAAQS) for six criteria pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), ozone (O_3), and particulate matter (PM_{10} and PM_2). Hawai‘i has also established a state ambient air standard for hydrogen sulfide (H_2S) related to volcanic activity on Hawai‘i Island. The primary purpose of the statewide monitoring network is to measure ambient air concentrations of these pollutants and ensure that these air quality standards are met.

Air pollution in Hawai‘i is caused by many different anthropogenic and natural sources. There are industrial sources of pollution, such as power plants and petroleum refineries; mobile sources, such as cars, trucks and buses; agricultural sources, such as crop burning, and natural sources, such as windblown dust and volcanic activity. The DOH Clean Air Branch is responsible for regulating and monitoring pollution sources to ensure that the levels of criteria pollutants remain well below the State and federal ambient air quality standards.

The State maintains six air monitoring stations on the island of O‘ahu, where most commercial, industrial and transportation activities and their associated air quality effects occur. Hawaiian Electric Company’s downtown power plant is the primary stationary source, while vehicular traffic represents the principal mobile contributor. Emissions from the power plant are in compliance with State and Federal air pollution control regulations.

The closest Department of Health (DOH) monitoring station to the project site is located approximately 10 miles southeast in Pearl City. Federal and State environmental health standards pertaining to outdoor air quality are typically met in the State due to prevalent trade winds and the lack of major stationary sources of pollutant emissions. Based on the air quality data provided by the DOH monitoring station website, the Pearl City station’s air quality index averages under 50 (Good per EPA Air Quality Index), and air pollutant concentration is typically less than 16.0 $\mu g/m^3$ (DOH, 2018).

Impacts and Mitigation Measures

In the short- and long-term, no significant impacts on air quality are anticipated as a result of the construction and operation of the proposed project. The major factor affecting air quality in the area is vehicular traffic. There is expected to be a minor increase in vehicular traffic to the project site and surrounding area. However, this increase is anticipated to have a negligible impact on air quality.

A portion of the construction for the proposed project will involve fine grading as well as limited excavation for utility lines and fencing. There will be trenching to accommodate utilities and new footings where applicable within and outside of the existing building envelope. Fugitive dust will be controlled, as required, by methods such as dust fences, water spraying and sprinkling of loose or exposed soil or ground surface areas. Wind erosion of inactive areas of the site that have been disturbed could be controlled by mulching or by the use of chemical soil stabilizers. Dirt-hauling trucks should be covered when traveling on roadways to prevent windage. As deemed appropriate, planting of landscaping will be done as soon as possible on completed areas to also help control dust. Respective contractors will be responsible for minimizing air quality impacts during the various phases of construction.

Exhaust emissions from construction vehicles are anticipated to have negligible impact on air quality in the project vicinity as the emissions would be relatively small and readily dissipated.

3.9 Noise

The existing noise environment at the project area is characteristic of an urban setting. Ambient noise in the project area is predominantly attributed to vehicular traffic traveling along California Avenue and adjacent roadways.

Impacts and Mitigation Measures

In the short-term, noise from construction activities such as excavation, grading, cutting, and paving will be unavoidable. The increase in noise level will vary according to the particular phase of construction. Noise may also increase as a result of operation of heavy vehicles and other power equipment during the construction period. Night time construction is not currently anticipated, but if night time construction is performed, a noise variance will be required from the DOH.

Construction noise impacts will be mitigated by compliance with provisions of the State DOH Administrative Rules, Title 11, Chapter 46, “Community Noise Control” regulations. These rules require a noise permit if the noise levels from construction activities are expected to exceed the allowable levels stated in the DOH Administrative Rules. It shall be the contractor’s responsibility to minimize noise by properly maintaining noise mufflers and other noise-attenuating equipment, and to maintain noise levels within regulatory limits. Also, the guidelines for heavy equipment operation and noise curfew times, as set forth by the DOH noise control rules, will be adhered to; or, if necessary, a noise permit shall be obtained.

In the long-term, no significant noise impacts are anticipated once the construction of the proposed project has been completed. Ambient noise levels in the vicinity will increase slightly as a result of the associated increase in vehicular traffic generated by the proposed project.

3.10 Hazardous Materials

A hazardous material item is generally characterized as any item or agent (physical, chemical, or biological) which has the potential to cause harm to humans, animals, or the environment, either independently or through interaction with other factors. Toxic Materials are specific hazardous materials identified in regulations. Hazardous wastes are specifically defined or determined as such based on their ignitability, corrosiveness, reactivity, and toxicity. The potential impacts hazardous materials and waste have on human health and the environment are largely dependent upon their types, quantities, toxicities, and management practices.

Hazardous wastes may take the form of a solid, liquid, contained gas, or semi-solid. In general, any combination of wastes that poses a substantial present or potential hazard to human health or the environment that has been discarded or abandoned is a hazardous waste.

EPA and Hawai‘i universal waste regulations streamline hazardous waste management standards for federally-designated "universal wastes," which include: batteries, pesticides and mercury-containing materials. Universal wastes are considered hazardous, however, they are subject to less restrictive waste disposal regulations than for hazardous wastes.

Hazardous wastes, including used oils, antifreeze and solvents associated with construction are handled and disposed of by licensed contractors.

Construction activities associated with the implementation of the proposed project improvements may involve the use of materials and processes that involve chemical agents or materials typical to construction that could be considered hazardous. These materials are primarily associated with vehicle and/or equipment maintenance that typically include flammable and combustible liquids, acids, aerosols, batteries, corrosives, solvents, paints, and hydraulic fluids.

Impacts and Mitigation Measures

Hazardous materials would be utilized and generated as the result of some of the functions of the operations of the proposed project improvements. However, these functions are consistent with current standard value-added processes, and the hazardous materials used and generated as a result are not different from existing materials.

Hazardous materials, including chemicals, petroleum-based projects, and waste materials, including solid and liquid waste, would be stored in areas specifically designed to prevent discharge into storm water runoff. Areas used for storage of toxic materials would be designed with full enclosure in mind. The proposed project work would require the removal of asbestos materials if encountered. These remediation activities would comply with all established regulations and procedural guidelines.

Design features specific to the reduction of the potential effects of hazardous spills will be implemented, where appropriate.

No significant impacts to hazardous waste disposal are anticipated to result from the implementation and operation of the proposed project improvements.

3.11 Traffic

A Traffic Impact Report (TIR) was prepared by Wilson Okamoto Corporation in September 2019 to identify and assess the traffic impacts resulting from implementation of the VAPDC project in downtown Wahiawā. The findings of this report are summarized below, and included herein as Appendix B.

Area Roadway System

The proposed project site is located on the corner of California Avenue and Plum Street. The existing roadway network in the vicinity of the project includes California Avenue, Muliwai Avenue, North Cane Street, Lehua Street and Plum Street.

California Avenue serves as one of the main access roads through Wahiawā and is generally oriented in an east-west direction. West of the project site, California Avenue intersects with Lehua Street and Muliwai Avenue. At this signalized intersection, the westbound and eastbound approaches of California Avenue include two lanes that serve all traffic movements. The north leg of the intersection is comprised of Lehua Street, a predominately two-lane, two-way roadway generally oriented in the north-south direction that serves as a connector roadway between California Avenue and Kilani Avenue. At the intersection with California Avenue and Muliwai Avenue, the southbound approach of Lehua Street has a shared left-turn and through lane and an exclusive right-turn lane. The south leg of the intersection is comprised of Muliwai Avenue, a predominately two-lane roadway generally oriented in the north-south direction that provides access to the residential uses along its alignment. The Muliwai Avenue approach includes one lane that serves all traffic movements.

East of the intersection with Muliwai Avenue and Lehua Street, California Avenue intersects N. Cane Street. At this signalized intersection, the eastbound approach of California Avenue includes an exclusive left-turn lane and two through lanes while the westbound approach includes a through lane and a shared through and right-turn lane. The north leg of the intersection is comprised of N. Cane Street, a predominantly two-lane, two-way roadway generally oriented in the north-south direction that serves as a connector roadway between California Avenue and Kilani Avenue. At the intersection with California Avenue, the southbound approach of N. Cane Street includes exclusive left-turn and right-turn lanes.

Further east, California Avenue intersects Plum Street. At this unsignalized T intersection, the eastbound approach of California Avenue includes a through lane and an exclusive right turn lane while the westbound approach has one wide lane that serves left-turn and through movements. The south leg of the intersection is comprised of Plum Street, a predominantly two-lane, two-way roadway generally oriented in the north-south direction that provides access to the residential uses along its alignment. The northbound approach of Plum Street includes a stop-controlled lane that serves left-turn and right-turn traffic movements.

Transportation Facilities

Transit within the project vicinity is provided by “The Bus” which is operated by the O‘ahu Transit Service (OTS) for the City and County of Honolulu Department of Transportation Services. Northwest of the project site is the Wahiawā Transit Center which serves 6 bus routes (Routes 52, 62, 72, 83, 88A, and PH3). In addition, there are 5 additional bus stop locations within a quarter mile radius of the project site along California Avenue.

Bike Facilities

A dedicated bike lane is currently provided for westbound traffic along the north side of California Avenue between N. Cane Street and Kamehameha Highway while there are signs designating the south side of the roadway as a bike route for eastbound traffic. In addition, there is also a dedicated bike lane for southbound traffic along N. Cane Street along the west side of the roadway. It should be noted that according to the information provided in the City and County of Honolulu’s O‘ahu Bike Plan (updated 2019), there are future plans to extend the existing bike lane along California Avenue further east to Kilea Place.

Pedestrian Facilities

In the vicinity of the project site, California Avenue has sidewalks and street lighting along both sides of the roadway. Crosswalks and curb ramps are provided at the intersection of California Avenue with N. Cane Street as well as at the intersection with Lehua Street and Muliwai Avenue with pedestrian crossing facilitated through pedestrian phasing at those signalized intersections. East of the project site, pedestrian facilities along Plum Street are limited to sidewalks along both sides of the roadway between the intersection with California Avenue and project driveway. South of the project driveway, pedestrian traffic utilizes the unimproved paved shoulder areas.

Existing Traffic Conditions

The subject TIR is based on the concept of Level of Service (LOS) to identify the traffic impacts associated with traffic demands during the peak periods of traffic. LOS is a quantitative and qualitative assessment of traffic operations. Levels of Service are defined by LOS “A” through “F”; LOS “A” representing ideal or free-flow traffic operating conditions and LOS “F” unacceptable or potentially congested traffic operating conditions.

“Volume-to-Capacity” (v/c) ratio is another measure indicating the relative traffic demand to the road carrying capacity. A v/c ratio of one (1.00) indicates that the roadway is operating at or near capacity. A v/c ratio of greater than 1.00 indicates that the traffic demand exceeds the road’s carrying capacity.

Field investigations were conducted in April 2019 and consisted of manual turning movement count surveys during the morning peak hours between 6:00 AM and 9:00 AM, and the afternoon peak hours between 3:00 PM and 6:00 PM at the following intersections:

- California Avenue, Lehua Street, and Muliwai Avenue
- California Avenue, and N. Cane Street
- California Avenue and Plum Street

<u>California Avenue, Lehua Street, and Muliwai Avenue</u>
At the intersection with Lehua Street and Muliwai Avenue, California Avenue carries 571 vehicles eastbound and 854 vehicles westbound during the AM peak period. During the PM peak period, the overall volume is less with 629 vehicles travelling eastbound and 722 vehicles travelling westbound. The eastbound and westbound approaches operate at LOS “A” during both peak periods. Traffic queues periodically formed on the California Avenue approaches of the intersection, with the most significant queuing occurring during the AM peak period. Average queue lengths of 5-7 vehicles were observed the eastbound approach while average queue lengths of 10-12 vehicles were observed on the westbound approach during this peak period. These queues were observed clearing the intersection after each traffic signal cycle change.

The Lehua Street approach of the intersection carries 134 vehicles and 242 vehicles southbound during the AM and PM peak periods, respectively. The southbound approach operates at LOS “B” during both peak periods. Traffic queues periodically formed on the Lehua Street approach of the intersection with average queue lengths of 1-3 vehicles

observed during both peak periods. These queues were observed to clear the intersection after each traffic signal cycle change.

The Muliwai Avenue approach of the intersection carries 344 vehicles northbound during the AM peak period and 267 vehicles during the PM peak period. The northbound approach operates at LOS “B” during both peak periods. Traffic queues periodically formed on the Muliwai Avenue approach of the intersection with the most significant queueing occurring during the PM peak period. Average queue lengths of 4-7 vehicles were observed during that peak period. These queues were observed to clear the intersection after each traffic signal cycle change.

Crosswalks are provided across California Avenue on the east and west sides of the intersection, as well as across Lehua Street and Muliwai Avenue on the north and south sides of the intersection. During the AM peak period, 23 pedestrians and 13 pedestrians were observed crossing California Avenue on the east and west sides of the intersection, respectively, while 17 pedestrians were observed crossing Lehua Street on the north side of the intersection with 50 pedestrians observed crossing Mulawai Avenue on the south side of the intersection. During the PM peak period, 8 pedestrians and 12 pedestrians were observed crossing California Avenue on the east and west sides of the intersection, respectively, while 10 pedestrians were observed crossing Lehua Street on the north side of the intersection with 38 pedestrians observed crossing Mulawai Street on the south side of the intersection.

<u>California Avenue and N.Cane Street</u>
At the intersection with N. Cane Street, California Avenue carries 637 eastbound vehicles and 923 westbound vehicles during the AM peak period. During the PM peak period, the overall volume is less with 763 vehicles travelling eastbound and 670 vehicles travelling westbound. The eastbound and westbound approaches operate at LOS “A” during both peak periods. Traffic queues periodically formed on both approaches of California Avenue with the most significant queueing occurring during the AM peak period due to the nearby school. Average queue lengths of 12-15 vehicles were observed on the eastbound approach with average queue lengths of 7-9 vehicles observed on the westbound approach. These queues were observed to clear the intersection once the adjacent school was in session.

The N. Cane Street approach of the intersection carries 300 vehicles during the AM peak period and 291 vehicles during the PM peak period. The southbound approach operates at LOS “B” during both peak periods. Traffic queues periodically formed at the southbound approach of N. Cane Street with average queue lengths of 5-7 vehicles observed during both peak periods. These queues were observed clearing the intersection after each traffic signal cycle change.

Crosswalks are provided across California Avenue on the east and west sides of the intersection, as well as across N. Cane Street on the north side of the intersection. During the AM peak period, 21 pedestrians were observed crossing California Avenue on the west side of the intersection, while 6 pedestrians were observed crossing N. Cane Street on the north side of the intersection. During the PM peak period, 5 pedestrians and 18 pedestrians were observed crossing California Avenue on the east and west sides of the intersection,

respectively, while 9 pedestrians were observed crossing N. Cane Street on the north side of the intersection.

California Avenue and Plum Street
At the intersection with Plum Street, California Avenue carries 760 vehicles eastbound and 974 vehicles westbound during the AM peak period. During the PM peak period, the overall volume is less with 772 vehicles travelling eastbound and 658 vehicles travelling westbound. This approach operates at LOS "A" and LOS "B" during the AM and PM peak periods, respectively. As previously mentioned, the westbound approach includes one wide lane for left-turn and through movements. Field observation indicates that when there are left-turning vehicles from this approach, there is sufficient width for through vehicles to bypass the left-turn queues unimpeded by turning vehicles.

The Plum Street approach of the intersection carries 154 vehicles and 74 vehicles northbound during the AM and PM peak periods, respectively. The northbound approach operates at LOS "C" during both peak periods. Traffic queues occasionally formed on the Plum Street approach of the intersection with average queue lengths of 2-3 vehicles observed during both peak periods.

A marked crosswalk is provided across Plum Street on the south side of the intersection. During the AM peak period, 25 pedestrians were observed crossing Plum Street on the south side of the intersection, while 27 pedestrians were observed crossing Plum Street during the PM peak period.

Impacts and Mitigation Measures
The proposed project development is expected to be completed and operating by the year 2021.

Total Traffic Volumes Without Project

Under Year 2021 without project conditions, traffic operations are generally expected to remain similar to existing conditions. Along California Avenue, the approaches at the Lehua Street/Muliwai Avenue and N. Cane Street intersections are expected to continue operating at LOS "B" or better during the AM and PM peak periods. At the intersection with Plum Street, traffic operations are expected to continue operating at LOS "C" or better during both peak periods. The projected Year 2021 AM and PM peak period traffic volumes and operating conditions without the addition of the proposed project is summarized in Table 3-1 below.

Table 3-1: Existing and Year 2021 (Without Project) LOS Traffic Operating Conditions

Intersection	Approach/Critical Movement	AM		PM	
		Exist	Year 2021 w/out Proj.	Exist	Year 2021 w/out Proj.

California Ave/ Lehua St/ Muliwai Ave	Eastbound	A	A	A	A
	Westbound	A	A	A	A
	Northbound	B	B	B	B
	Southbound	B	B	B	B
California Ave/ N. Cane St	Eastbound	A	A	A	A
	Westbound	A	A	A	A
	Southbound	B	B	B	B
California Ave/ Plum St	Westbound	A	A	B	B
	Northbound	C	C	C	C

*LT = Left Turn

Total Traffic Volumes With Project

Under Year 2021 with project conditions, traffic operations in the vicinity of the proposed project are generally expected to remain similar to without project conditions. Along California Avenue, the approaches at the Lehua Street/Muliwai Avenue and N. Cane Street intersections are expected to continue operating at LOS "B" during better during both periods. At the intersection with Plum Street, traffic operations are expected to continue operating at LOS "C" or better during the AM peak period but the northbound approach is expected deteriorate from LOS "C" to an LOS "D" during the PM peak period. However, it should be noted that due to the proximity of the adjacent signalized intersection at N. Cane Street, there is sufficient gaps in the traffic stream for vehicles to enter California Avenue. The remaining study intersections along California Avenue at the intersections with Lehua Street and Muliwai Avenue and N. Cane Street are expected to continue operating at LOS "B" or better during the peak AM and PM peak periods. The projected Year 2021 AM and PM peak period traffic volumes and operating conditions resulting from the proposed project are summarized in Table 3-2 below. The projected Year 2021 (Without Project) operating conditions are provided for comparison purposes.

Table 3-2: Year 2021 (Without and With Project) LOS Traffic Operating Conditions

Intersection	Approach/ Critical Movement	AM			PM		
		Exist	Year 2021		Exist	Year 2021	
			w/o Proj	w/ Proj		w/o Proj	w/ Proj
California Ave/ Lehua St / Muliwai Ave/	Eastbound	A	A	A	A	A	A
	Westbound	A	A	A	A	A	A
	Northbound	B	B	B	B	B	B
	Southbound	B	B	B	B	B	B
California Ave/	Eastbound	A	A	A	A	A	A

N. Cane St	Westbound	A	A	A	A	A	A
	Southbound	B	B	B	B	B	B
California Ave/ Plum St	Westbound	A	A	A	B	B	B
	Northbound	C	C	C	C	C	D

Recommendations and Conclusions

Based on the analysis of the traffic data, the following are the recommendations of the subject TIR to be incorporated in the project design.

1. Maintain sufficient sight distance for motorists to safely enter and exit all project driveways.

2. Maintain adequate on-site loading and off-loading service areas and prohibit off-site loading operations.

3. Maintain adequate turn-around area for service, delivery, and refuse collection vehicles to maneuver on the project site to avoid vehicle-reversing maneuvers onto public roadways.

4. Maintain sufficient turning radii at all project driveways to avoid vehicle encroachments to oncoming traffic lanes.

5. Maintain one-way traffic flow through the project site with all vehicles entering via the driveway off California Avenue and exiting via the driveway off Plum Street.

6. Prohibit left-turn movements into the project driveway from the westbound approach of California Avenue given the alignment of the project driveway with the intersection and the proximity of the opposing left-turning vehicles from the eastbound approach.

7. Modify the intersection of California Avenue and N. Cane Street with the project driveway including modifications to the traffic signal system and signage to accommodate the one-way traffic flow into the project driveway.

8. Coordinate with vendors accessing the site to inform them of the allowed vehicle size and delivery routes to/from the project site.

9. Prepare a Traffic Management Plan (TMP) to identify strategies to minimize the impact of the special events and other off-peak activities associated with the LCC VAPDC on the surrounding roadways.

Additional traffic would occur from construction workers traveling to and from the project site. The construction traffic management plan would identify appropriate parking areas for construction workers and constructions vehicles that will park within

the project area and, thus will not affect traffic flow along adjoining roadways except while traveling to and from the site. Construction contractor(s) will be required to mitigate potential vehicular and pedestrian traffic impacts through appropriate traffic control measures and safety devices. Examples of such measures that may be implemented include:

- Publishing newspaper notices to alert the public of construction projects;
- Providing signage and other warning to alert approaching motorists and pedestrians to construction activities ahead;
- Providing barriers, cones, signage, lighting, non-skid covering over trenches, adequate and safe sidewalk widths, adequate intersection visibility and other provisions to promote safe passage of vehicles and pedestrians through construction zones;
- Restricting transport of construction vehicles during school and commuter peak traffic hours. To the extent possible, require construction vehicles to use available main routes/roads as alternate routes to the project site rather than local streets, to minimize impacts to area residents;
- Providing flaggers and/or police officers, when necessary, to control traffic and pedestrian flow;
- Notifying providers of emergency services (fire, ambulance, police) prior to implementation of any required detours or street closures;
- Coordinating with the City Department of Transportation Services (DTS) and O‘ahu Transit Services of any detours or street closures; and,
- Providing appropriate barriers as necessary to deter the public from unauthorized entry into restricted or hazardous construction zones during working and nonworking hours.

Within the project area, provisions will be implemented for the safe passage of pedestrians around the project site during construction activities. The contractor may implement necessary measures such as temporary chain-link fences to protect materials and construction-related equipment areas would be clearly marked and temporary fences used to keep unauthorized persons out.

Internal access roads and parking lot layouts for the proposed project will be designed to meet applicable State and City requirements. Geometrics and pavement structure for fire lanes and parking lots will need to be designed based on the appropriate design vehicles. Proposed pavement structures will follow the Soils Engineer’s recommendations. The walkways and parking layouts, dimensions, longitudinal and cross slopes will comply with Americans with Disabilities Act (ADA) Accessibility Guidelines to the maximum extent practicable.

3.12 Visual Resources

Hawai‘i’s visual resources are important to the state’s tourism industry and the quality of life enjoyed by the State’s residents. The State’s visual resources include a broad range of natural and developed areas and a tremendous variety of land uses, water bodies, and vegetation types. These visual resources also include urbanized areas that range from small rural towns to the metropolitan center of Honolulu.

Visual landmarks and significant vistas identified in the Wahiawā Urban Design Plan and the Central Oʻahu Sustainable Communities Plan includes views of Lake Wilson from Kamehameha Highway at the H-2 Freeway off-ramp, Lake Wilson from Kamehameha Highway the Karsten Thot Bridge, the Waiʻanae and Koʻolau Mountains from Kamehameha Highway and the view of the upper Central Oʻahu plains toward Waialua from the end of Koa Street in Wahiawā. The plan suggests limiting building heights outside of Waipahu and Wahiawā to low rise structures in order to protect panoramic views and the character of the built environment.

Impacts and Mitigation Measures

No short- and long-term significant impacts are anticipated on visual resources. No significant visual resources are in the vicinity and the proposed project does not call for any new buildings to be constructed. The VAPDC will comply with applicable building and energy code requirement. Visual impacts will be mitigated by attractive design, adhering to setback standards, and by providing appropriate landscape planting to soften the parking lot and street frontage.

3.13 Socio-Economic Characteristics

The project area is located within the Wahiawā Census Designated Place (CPD). Demographic and other information was reviewed from the U.S. Census American Community Survey 5-Year Estimates for 2017 and is shown on Table 3-3 below.

Table 3-3
Demographic Characteristics

Subject	Wahiawā CDP		City and County of Honolulu	
	Number	Percent	Number	Percent
Total Population	**17,555**	**100**	**990,060**	**100**
AGE				
Under 5 years	894	5.1	64,644	6.5
5-19 years	3,392	19.3	169,511	17.2
20-64 years	10,023	57.1	530,898	53.6
65 years and over	3,243	18.5	162,580	16.4
Median age (years)	37.8	--	37.6	--
RACE				
White	2.588	14.7	209,222	21.1
Black or African American	299	1.7	23,248	2.3
American Indian and Alaskan Native	16	0.1	1,391	0.1
Asian	7,374	42.0	424,558	42.9
Native Hawaiian and other Pacific Islander	1,894	10.8	92,743	9.4
Two or more races	5,310	30.2	229,359	23.2
Other	74	0.4	9,539	1.0
HOUSEHOLD (BY TYPE)				

Total households	**6,063**	**100**	**346,374**	**100**
Family households (families)	3,843	68.6	219,859	70.6
Married-couple family	2,622	46.8	164,797	52.9
With own children under 18 years	1,489	26.6	84,556	27.1
Female householder, no husband present	893	15.9	38,263	12.3
Nonfamily household	1,757	31.4	91,592	29.4
Average household size				
By owner	3.32	--	3.32	--
By renter	2.91	--	2.91	--
HOUSING OCCUPANCY AND TENURE				
Total housing Units	**6,063**	**100**	**346,374**	**100**
Occupied Units	5,600	92.4	**311,451**	89.9
By owner	2,711	48.4	173,242	55.6
By renter	2,889	51.6	138,209	44.4
Vacant Units	463	7.6	34,923	10.1

Source: American Community Survey, 2017

The median age in Wahiawā is slightly older than the State and County median, while the percentage of children under 18 is roughly equal across the geographic areas.

In terms of race characteristics, the Wahiawā CDP has a higher percentage of those that are two or more races (30.2%) compared to the City and County of Honolulu (23.2%). The Wahiawā CDP has a lower percentage of Whites (14.7%) and Asians (42%) compared to the County (21.1% and 42.9%, respectively).

Approximately 68% of the total households in the Wahiawā CDP are family occupied, of which, only 48% of the total households are married-couple families. These pecentages are both less when compared to the City and County's pecentages (70.6% and 52.9% respectively). Of the total housing units, approximately 51.6% are by renter, while 48.4% are owner-occupied. Approximately, 7.6% of the housing units are vacant. Compared to the City and County, Wahiawā CDP housing units have a higher percentage of renters and a lower percentage of owners, while the City and County have a higher percentage of vacant units.

Impacts and Mitigation Measures

In the short- term, construction expenditures related to the project will provide positive benefits to the local economy. This would include creation of construction and construction support jobs, and the purchase of materials from local suppliers, as well as indirect benefits to local retail businesses resulting from construction activities.

In the long-term, the VAPDC will offer a set of programs, services, and training that promote innovation and entrepreneurship within the agricultural industry. The VAPDC will also market and develop products and platforms that promote the promulgation of locally grown food resources. Moreover, the facility will enhance and support the

community college's agricultural product processing curriculum, and also revitalize a centrally located parcel in downtown Wahiawā, while fulfilling the Agribusiness Development Corporation's larger objective to advance agriculture in Hawai'i.

The proposed project is not anticipated to have a major change in the population size or demographics in the Wahiawā CDP.

3.14 Public Services and Facilities

3.14.1 Police Fire, and Medical Services

Police protection is provided by the City's Honolulu Police Department. The project area is a part of District 2 – Wahiawā/North Shore, Sector 2, which encompasses Wahiawā as well as the communities of Mililani, Kunia, Whitmore, Waialua, Haleiwa, Waimea, and Sunset Beach, and is served by the Downtown Substation located at 330 N. Cane Street, approximately 0.34 miles north of the project site.

Fire protection is provided by the City's Honolulu Fire Department. The project site is served by the Wahiawā Fire Station located at 640 California Avenue, approximately 0.24 miles northeast of the project area.

The closest hospital to the project area is the Wahiawā General Hospital located approximately 0.14 miles northwest of the project site. Wahiawā General Hospital is a community-owned, non-profit hospital serving Wahiawā and the communities of Central O'ahu and the North Shore and offers a comprehensive range of primary and specialized care services.

Emergency medical service is provided by the City's Emergency Services Department, Emergency Medical Services (EMS) Division. The Department has 22 ambulance units under two districts. All ambulance units are designated as advanced life support units, meaning they are staffed by at least two people. The project site is served by District 1, which includes leeward and Central O'ahu. The Honolulu Fire Department also co-responds to medical emergencies, providing first aid in coordination with EMS.

Impacts and Mitigation Measures

In the short- and long-term, no significant impacts on police, fire, and medical services are anticipated.

In the long-term, the proposed project may require occasional police and fire protection, as well as medical services, however it would likely not represent a significant amount relative to the overall regional demand.

The proposed project will be designed and built in compliance with the applicable County fire code requirements.

3.14.2 Education

The project area is located within the State Department of Education's (DOE) Leilehua Complex Area which includes Wahiawā, Daniel K. Inouye, Helemano, 'Iliahi, and Ka'ala

Elementary Schools; and, Wahiawā Middle School, which feeds into Leilehua High School. Wahiawā Community School is also located within the vicinity of the site. DOE records indicate that the complex has served approximately 6,100 students on an annual basis for the past several years. Generally speaking, statewide total enrollment numbers in DOE schools have remained virtually flat over the course of the past decade, fluctuating less than 2% in growth/decline on an annual basis.

Wheeler Air Force Base has two elementary schools and an intermediate school on base including Major Sheldon Wheeler Elementary School, Major Sheldon Wheeler Intermediate School and Sergeant Samuel K. Solomon Elementary School.

There are two private schools in the vicinity of the site, Hoʻāla School (grades K-12), and Trinity Lutheran Church and School (grades K-8). Both are located less than a mile apart off of California Avenue.

Impacts and Mitigation Measures

In the short- and long-term, no significant impacts or increase in demand on schools are anticipated. The proposed project will not induce population growth. Therefore, it is not expected to affect student enrollment at public schools in the area.

3.14.3 Recreational Facilities

The primary recreational resource near the project area is Wahiawā District Park. Amenities provided at the park include baseball fields, basketball courts, a public swimming pool, and community spaces such as the Wahiawā Recreation Center. The Wahiawā Botanical Garden sits roughly 0.5 miles away from the project area. Originally established as an experimental arboretum, the 27-acre botanical garden and forest preserve is now home to a collection of native Hawaiian plant species. In addition to Wahiawā District Park and Wahiawā Botanical Garden, located approximately 2.5 miles from the site are various neighborhood parks that include Kahi Kani Neighborhood Park, Whitmore Community Park, and the Whitmore Neighborhood Park.

Impacts and Mitigation Measures

No short- or long-term significant impacts to recreational facilities are anticipated as a result of the construction and operation of the proposed project. The proposed project does not include residences that could generate demand for recreational facilities.

3.14.4 Solid Waste Collection and Disposal

Solid waste collection and disposal service is provided by the City and County of Honolulu's Department of Environmental Services (ENV) and numerous private companies. Currently there are a total of two landfills, nine public refuse drop-off locations, six convenience centers and three transfer stations for the disposal of commercial and residential generated waste. All residential waste is then processed by the appropriate County solid waste disposal facility. Waste generated from construction and demolition activities is sent to the PVT Integrated Solid Waste Management Facility in Nānākuli. The City and County of Honolulu also operates a waste-to-energy plant located in the Campbell Industrial Park where over 700,000 tons of waste is incinerated to generate 10% of Oʻahu's power needs. Solid waste generated in the Wahiawā region is managed locally at the refuse collection yard located on

California Avenue, close to the wastewater treatment plant. There is also one convenience center located next to Schofield Barracks on Wilikina Drive for residential bulk waste disposal.

Impacts and Mitigation Measures

No short-term significant impacts to municipal solid waste collection and disposal facilities are anticipated as a result of the construction and operation of the proposed project. However, the project is anticipated to impact the long-term waste generation in the area, however, it is not expected to overtax current capacity as operations of all of the proposed elements of the project will include recycling measures.

3.15 Infrastructure and Utilities

3.15.1 Water System

Potable water in Wahiawā is supplied by the City and County of Honolulu Board of Water Supply (BWS), which draws only from groundwater sources. There are currently 17 well sources and 14 reservoirs which holds approximately 18 million gallons of potable water servicing the Central O‘ahu region. The BWS water system in the vicinity of the project site consists of a system of distribution mains and fire hydrants. BWS record drawings and facility maps indicate an existing 12-inch water main running along California Avenue. A 6-inch water line tees off of the 12-inch main line near the intersection of California Avenue and N. Cane Street. BWS records show two existing water meters servicing the project site: a 1” meter (M/N 00400621) and a 6” DC meter (M/N 80159605) coming off of the 6-inch line. Running along Plum Street is an 8-inch water line and a 6-inch lateral connected to a fire hydrant.

On July 30, 2019, a letter was submitted to the BWS requesting information on the availability of water for the project and water pressure information for fire hydrants in the vicinity of the project site. This initial letter was based on programming for the proposed redevelopment and the estimated average daily water demand shown below (See Appendix C).

VAPDC Facility – Proposed Program Information

Facility	Area	Avg. Daily Water Demand (gpd)
VAPDC Facility	33,220 sf	2,288
	Total:	**2,288 gpd**

On August 20, 2019, the BWS responded stating that based on current data, the existing water system is adequate to accommodate the proposed development scenarios. BWS record information indicates the water supply system has a calculated fire flow capacity of 2,000 gallons per minute. The final decision on the availability of water will be made when the building permit application is submitted for approval.

Impacts and Mitigation Measures

No short- or long-term significant impacts are anticipated to result from the development and operation of the proposed project improvements.

On-site water system improvements will be required to accommodate the proposed redevelopment consisting of a new water meter. Proposed connection to the BWS system will be to a new 1.5-inch lateral located within California Avenue.The final line size and location will be determined during the design phase of the project. Proposed connections and improvements will be confirmed when construction drawings for the proposed project are developed and submitted to BWS for review and approval. Trenching and backfilling of proposed water lines will follow BWS standards and the Soils Engineer's recommendations.

3.15.2 Wastewater System

It is important to note that the project site is located in the critical wastewater disposal area as determined by the O'ahu Wastewater Advisory Committee, meaning that the installation and use of any individual wastewater system is prohibited.

Record drawings indicate that there are two 6-inch sewer laterals serving the project site, one on California Avenue and one on Plum Street. The Plum Street sewer lateral currently provides service to the project site and is connected to the 6-inch main. A 10-inch main runs along California Avenue with two 6-inch laterals. The City's sewer system collects and transports sewage from the project site to the Honolulu City Wahiawa Wastewater Treatment Plant for treatment and disposal. A summary of the existing sewer lines serving the project site are in the table below:

Table 3-4: Existing Wastewater System

Location	TMK	Existing Adjacent Sewer System
Wahiawa Parcel	7-4-012: 016	10-inch sewer main along California Avenue 6-inch sewer lateral along California Avenue 4-inch sewer lateral along California Avenue 6-inch sewer main along Plum Street 6-inch sewer lateral along Plum Street

The Department of Planning and Permitting's (DPP) Wastewater Branch (WWB) reviews and authorizes sewer connection applications for developments which require sanitary sewer service. On September 5, 2019, a preliminary sewer connection application (SCA) based on the proposed program was approved by WWB, indicating that the existing City wastewater system is adequate to support the proposed project's wastewater demand (See Appendix C).

The expiration date of the approved application is September 3, 2021. Construction plans shall be completed and approved within this 2-year period. Construction shall commence within 1-year after approval of plans. The application can be renewed by submitting a revised SCA, however its approval is not guaranteed.

Impacts and Mitigation Measures

Sewer lateral connection to the City and County of Honolulu's (CCH's) wastewater system is available to the property. The proposed on-site sewer improvements will consist of a new sewer connection point on the Northwest side of the proposed VAPDC building. The proposed sewer line will connect to the existing 4-inch lateral that runs parallel to California Avenue on the north side of the building. The existing sewer lateral on Plum Street will be cut and plugged.

The new sewer lateral location and size will be verified during the design phase. Trenching and backfilling of proposed sewer lines will follow CCH standards and the Soils Engineer's recommendations. Upon City approvals of the SCA(s) and construction plans, along with payment of the sewer facilities charges, the proposed system can be connected to the City sewer system.

No significant impacts are anticipated on the existing wastewater system as a result of the construction and operation of the proposed project as indicated by DPP's WWB.

3.15.3 Drainage System

The existing on-site storm drainage system consists of a drywell located at the south end of the property and a drain inlet located at the north end which discharges to California Avenue via four 4-inch sidewalk culverts. The drywell receives flow from the south portion of the roof while the drain inlet receives flows from the north portion of the roof. Flow from the east portion of the roof and the parking lot sheet flows onto Plum Street. There is no underground drainage system in the immediate project vicinity. The underground roadway storm drain system within California Avenue is owned and maintained by the City and County of Honolulu and consist of a network of drain lines, catch basins, and manholes (See Appendix C).

Impacts and Mitigation Measures

No short- or long-term significant impacts on the quantity or quality of drainage in the project vicinity are anticipated during construction or operation of the proposed project. There are no streams or wetlands on or within close proximity to the project area. Construction of the proposed project will not involve major land disturbing activities that will significantly alter site contours. Applicable erosion control measures and best management practices will be implemented in order to mitigate any possible adverse effects relating to runoff. As applicable for each phase, these may include but are not be limited to: temporary sediment basins, temporary diversion berms and swales to intercept runoff, silt fences, dust fences, slope protection, stabilized construction vehicle entrance, grate inlet protection, truck wash down areas, and use of compost filter socks. Planting of landscaping also will be done as soon as possible on completed areas to help control erosion. Permanent sediment control measures will be used once construction is completed.

Drainage runoff rates and improvements for the proposed improvements will be determined based on the City and County of Honolulu Department of Planning and Permitting, Storm Drainage Standards, dated August 2017. Any increase in runoff

due to the proposed improvements will need to be retained on-site to ensure that the project will not have any adverse effects on downstream properties.

In addition, the proposed drainage improvements will also be required to comply with the City's Rules Relating to Water Quality amended dated September 2018. Under these rules, projects that disturb less than one (1) acre of land and reconstruct 5,000 square feet or more of impervious surfaces are classified as "Priority B1" projects.

Priority B1 projects are required (unless determined to be infeasible) to:

- Incorporate appropriate Low Impact Development (LID) site design strategies to the "maximum extent practicable" (MEP).
- Incorporate appropriate Source Control Best Management Practices (BMPs) to the MEP.
- Retain on-site by infiltration, evapotranspiration, or harvest/reuse as much of the water quality volume (WQV) as feasible with appropriate LID Retention Post-Construction Treatment Control BMP's.
- Biofilter any portion of the WQV that is not retained on-site with appropriate LID Biofiltration Post-Construction Treatment Control BMPs.

If it is determined to be infeasible to retain and/or biofilter the Water Quality Volume, the City rules require the project to:

- Treat (by detention, filtration, settling, or vortex separation) and discharge with appropriate Alternative Compliance Post-Construction Treatment Control BMPs, any portion of the WQV that is not retained on-site or biofiltered.
- Retain or biofilter at an offsite location, the volume of runoff from a non-tributary drainage area equivalent to the difference between the project's WQV and the amount retained on-site or biofiltered.

The area identified for the proposed improvements is currently fully developed with impervious surfaces. Thus, it is expected that any increase in the storm water runoff peak discharge rate will be minimal compared to the existing conditions. Any increase in flow to the City system due to the proposed project will need to be retained, reused, or disposed of by percolation on site.

The onsite drainage improvements will be confirmed during the design phase and will maintain the existing discharge points to California Ave. and Plum Street. As required by the Storm Drainage Standards, Department of Planning and Permitting, City and County of Honolulu, dated August 2017, storm water quality measures shall be installed to treat the water quality volume.

Coordination will be undertaken with the appropriate agencies during permitting and construction in order to ensure that the proposed project will not result in significant impacts related to drainage.

3.15.4 Electrical and Communications Systems

Electrical power on the island of O‘ahu is provided by Hawaiian Electric Company (HECO). HECO generates its electricity from oiled focused power plants in Pearl City and Kapolei, a waste-to-energy power plant (HPOWER) in Kapolei and other renewable energy generators across the island. The HECO distribution system in the vicinity consists of aerial 12 kV primary distribution and aerial secondary distribution system conductors.

Telephone and cable services in the area is provided by Hawaiian Telcom and Spectrum to the Wahiawā area. Spectrum is the local CATV provider in the region.

Impacts and Mitigation Measures

In the short- and long-term, the proposed project is not anticipated to impact or increase overall demand on electrical and communication systems in the area.

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4. RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

This section discusses the State and City and County of Honolulu land use plans, policies and controls relating to the proposed project.

4.1 State Land Use Plans and Policies

4.1.1 Hawai‘i State Plan

The Hawai‘i State Plan, Chapter 226, HRS, as amended, provides goals, objectives, policies, and priorities for the State. The purpose of the Hawai‘i State Plan is to set forth a plan that shall serve as a guide for the future long-range development of the State; identify the goals, objectives, policies, and priorities for the State; provide a basis for determining priorities and allocating limited resources, such as public funds, services, human resources, land, energy, water, and other resources; improve coordination of federal, state, and county plans, policies, programs, projects, and regulatory activities; and to establish a system for plan formulation and program coordination to provide for an integration of all major state, and county activities. The State Plan is divided into three sections. Part 1 is Overall Theme, Goals, Objectives and Policies. Part 2 is Planning Coordination and Implementation. Part 3 is Priority Guidelines. The Proposed Action's consistency with applicable goals, objectives and policies of Part 1 is discussed in Table 5-1, and an assessment of conformance with Part 3 is discussed in Table 5-2. Part 2 of the State Plan, which primarily covers internal government affairs, is not addressed.

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
§226-4 State goals. In order to ensure, for present and future generations, those elements of choice and mobility that ensure 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:			
(1) A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawai‘i’s present and future generations.	X		
(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.	X		
(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.	X		
Discussion: The Proposed Action will support the State of Hawai‘i’s economy by creating the proposed jointly managed VAPDC by the University of Hawai‘i Community Colleges and the State of Hawai‘i Department of Agriculture Agribusiness Corporation. The VAPDC will link food producers to consumers and work towards achieving a strong, viable, locally based economy. The Proposed Action will integrate innovation, retail, education, and messaging to develop students into leaders, while establishing the food sciences industry, with a long term goal of expanding the local food economy. The VAPDC will offer a set of programs, services, and training that promote innovation and entrepreneurship within the agricultural industry. The VAPDC will also market and develop products and platforms that promote the promulgation of locally grown food resources. Moreover, the facility will enhance and support the community college’s agricultural product processing curriculum, and also revitalizing a centrally located parcel in downtown Wahiawā, while fulfilling the Agribusiness Development Corporation’s larger objective to advance agriculture in Hawai‘i.			

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
An economy based on agricultural production can be robust and can maintain the rural natural beauty of the region that is cherished by residents and visitors alike. Supporting the agriculture economy will also ensure a more sustainable and stable food supply for O‘ahu which will increase the physical and social well-being of Hawai‘i’s families.			
§226-5 Objective and policies for population. (a) 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. To achieve the population objective, it shall be the policy of this State to:			
(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.			X
(2) Encourage an increase in economic activities and employment opportunities on the Neighbor Islands consistent with community needs and desires.			X
(3) Promote increased opportunities for Hawai‘i's people to pursue their socio-economic aspirations throughout the islands.			X
(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.			X
(5) Encourage federal actions that will promote a more balanced distribution of immigrants among the states, provided that such actions do not prevent the reunion of immediate family members.			X
(6) Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state's population.			X
(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.			x
Discussion: The Proposed Action does not include facilities or improvements that would directly affect objectives and policies for population of this area of Hawai‘i.			
§226-6 Objectives and policies for the economy--in general. (a) Planning for the State's economy in general shall be directed toward achievement of the following objectives: (1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai‘i’s people. (2) A steady 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. (b) To achieve the general economic objectives, it shall be the policy of this State to:			
(1) Promote and encourage entrepreneurship within Hawai‘i by residents and nonresidents of the State.	X		
(2) 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.			X

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
(3) Promote Hawai‘i as an attractive market for environmentally and socially sound investment activities that benefit Hawai‘i's people.			X
(4) Transform and maintain Hawai‘i as a place that welcomes and facilitates innovative activity that may lead to commercial opportunities.			X
(5) Promote innovative activity that may pose initial risks, but ultimately contribute to the economy of Hawai‘i.			X
(6) Seek broader outlets for new or expanded Hawai‘i business investments.			X
(7) Expand existing markets and penetrate new markets for Hawai‘i's products and services.	X		
(8) Assure that the basic economic needs of Hawai‘i's people are maintained in the event of disruptions in overseas transportation.			X
(9) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.	X		
(10) 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.	X		
(11) Encourage labor-intensive activities that are economically satisfying and which offer opportunities for upward mobility.			X
(12) Encourage innovative activities that may not be labor-intensive, but may otherwise contribute to the economy of Hawai‘i.			X
(13) Foster greater cooperation and coordination between the public and private sectors in developing Hawai‘i's employment and economic growth opportunities.			X
(14) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.			X
(15) Maintain acceptable working conditions and standards for Hawai‘i's workers.	X		
(16) Provide equal employment opportunities for all segments of Hawai‘i's population through affirmative action and non-discrimination measures.			X
(17) 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.			X
(18) Encourage businesses that have favorable financial multiplier effects within Hawai‘i's economy, particularly with respect to emerging industries in science and technology.			X
(19) Promote and protect intangible resources in Hawai‘i, such as scenic beauty and the aloha spirit, which are vital to a healthy economy.			X
(20) 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.	X		
(21) 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.			X

Discussion: The Proposed Action will support the objectives and policies of the State for the economy – in general.

In the short-term, project construction expenditures will confer positive benefits on the local economy. These benefits would be derived from the creation of construction and construction support jobs as well as revenues generated by the procurement of building supplies and materials.

In the long-term, the proposed VAPDC will strengthen the food sciences and agriculture industry in Hawai‘i. A key function of the VAPDC is to promote the commercialization of value-added products made by students enrolled in the community college program. As an incubator, the VAPDC will market products and promote locally grown food resources, linking food producers and consumers. Specifically, the VAPDC will support

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
postsecondary education programs aimed towards the development and marketing of value-added food products through recycling of nearby agricultural by products. Moreover, when the facility is not in use by LCC, the food production facilities will be open to the public or small businesses. The facility will also host events such as farmer’s markets which will support small-scale economic activity by providing a facility where small-scale farmers can process and sell their agricultural goods efficiently and cost effectively. The design and innovation of the VAPDC facility will help to build interconnected performance among innovation, commerce, public awareness, and education.			
§226-7 Objectives and policies for the economy--agriculture. (a) Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives: (1) Viability of Hawai‘i's sugar and pineapple industries. (2) Growth and development of diversified agriculture throughout the State. (3) An agriculture industry that continues to constitute a dynamic and essential component of Hawai‘i's strategic, economic, and social well-being To achieve the agriculture objectives, it shall be the policy of this State to:			
(1) Establish a clear direction for Hawai‘i's agriculture through stakeholder commitment and advocacy.			X
(2) Encourage agriculture by making the best use of natural resources.	X		
(3) Provide the governor and the legislature with information and options needed for prudent decision-making for the development of agriculture.			X
(4) Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits.			X
(5) Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawai‘i's economy.	X		
(6) Seek the enactment and retention of federal and state legislation that benefits Hawai‘i's agricultural industries.			X
(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.			X
(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.	X		
(9) Enhance agricultural growth by providing public incentives and encouraging private initiatives.			X
(10) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.			X
(11) Increase the attractiveness and opportunities for an agricultural education and livelihood.	X		
(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.			X
(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.			X
(14) Promote and assist in the establishment of sound financial programs for diversified agriculture			X
(15) Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.	X		

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
(16) Facilitate the transition of agricultural lands in economically non-feasible agricultural production to economically viable agricultural uses.			X
(17) Perpetuate, promote, and increase use of traditional Hawaiian farming systems, such as the use of loko i‘a, māla, and irrigated lo‘i, and growth of traditional Hawaiian crops, such as kalo, ‘uala, and ‘ulu.			X
(18) Increase and develop small-scale farms.			X
Discussion: The proposed project supports the objectives and policies for economy related to agriculture. The VAPDC is intended to strengthen agriculture in Hawai‘i. The project will serve as an integral part of implementing the State’s goal of investing in the agricultural industry for the benefit of state. It is envisioned that the VAPDC will offer a set of programs, services, and training that promote innovation and entrepreneurship within the agricultural industry. The VAPDC aims to develop students to be leaders and successful in the food sciences and agriculture industry. Specifically, the VAPDC will support postsecondary education programs aimed towards the development and marketing of value-added food products through recycling of nearby agricultural by products. The VAPDC will also market and develop products and platforms that promote the promulgation of locally grown food resources. Moreover, the facility will enhance and support the community college’s agricultural product processing curriculum, and also revitalizing a centrally located parcel in downtown Wahiawā, while fulfilling the Agribusiness Development Corporation’s larger objective to advance agriculture in Hawai‘i.			
226-8 Objective and policies for the economy--visitor industry. (a) 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. (b) To achieve the visitor industry objective, it shall be the policy of this State to:			
(1) Support and assist in the promotion of Hawai‘i's visitor attractions and facilities.			X
(2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawai‘i's people.			X
(3) Improve the quality of existing visitor destination areas by utilizing Hawai‘i's strengths in science and technology.			X
(4) Encourage cooperation between the public and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.			X
(5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawai‘i's people.			X
(6) Provide opportunities for Hawai‘i's people to obtain job training and education that will allow for upward mobility within the visitor industry.			X
(7) Foster a recognition of the contribution of the visitor industry to Hawai‘i's economy and the need to perpetuate the aloha spirit.			X
(8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawai‘i's cultures and values.			X
Discussion: The Proposed Action will not have an effect on the visitor industry on O‘ahu.			
§226 9 Objective and policies for the economy--federal expenditures. (a) 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. (b) To achieve the federal expenditures objective, it shall be the policy of this State to:			
(1) Encourage the sustained flow of federal expenditures in Hawai‘i that generates long-term government civilian employment.			X

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
(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.			X
(3) Promote the development of federally supported activities in Hawai‘i that respect statewide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawai‘i's environment.			X
(4) Increase opportunities for entry and advancement of Hawai‘i's people into federal government service.			X
(5) Promote federal use of local commodities, services, and facilities available in Hawai‘i.			X
(6) Strengthen federal-state-county communication and coordination in all federal activities that affect Hawai‘i.			X
(7) 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.			X
Discussion: The Proposed Action will not include the use of federal expenditures.			
§226-10 Objective and policies for the economy--potential growth and innovative activities. (a) 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. (b) To achieve the potential growth activity objective, it shall be the policy of this State to:			
(1) Facilitate investment and employment growth 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.	X		
(2) 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.	X		
(3) 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.	X		
(4) 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.			X
(5) 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.	X		
(6) Expand Hawai‘i's capacity to attract and service international programs and activities that generate employment for Hawai‘i's people.			X
(7) Enhance and promote Hawai‘i's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts.			X
(8) Accelerate research and development of new energy-related industries based on wind, solar, ocean, and underground resources and solid waste.			X
(9) Promote Hawai‘i's geographic, environmental, social, and technological advantages to attract new economic activities into the State.			X

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
(10) Provide public incentives and encourage private initiative to attract new industries that best support Hawai‘i's social, economic, physical, and environmental objectives.			X
(11) Increase research and the development of ocean related economic activities such as mining, food production, and scientific research.	X		
(12) 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.	X		
(13) Foster a broader public recognition and understanding of the potential benefits of new, growth oriented industry in Hawai‘i.	X		
(14) 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.			X
(15) Increase research and development of businesses and services in the telecommunications and information industries.			X
(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: In the long-term, the VAPDC will benefit the potential growth and innovative activities of Hawai‘i’s economy. The VAPDC is intended to advance the objectives of the Agribusiness Development Corporation in scaling development of local food economies statewide. The VAPDC is an incubator component in a larger portfolio of missing middle-scaled cooperative food facilities that link food producers and consumers. Core portfolio facilities to be developed include food hubs and product development centers for the shared sorting, grading, processing, packaging, storing and distributing of agricultural products. Other facilities will include shared commercial kitchens, bakeries, bar lines, confectionary lines, freeze dryers, juicers, and bottling facilities. In addition, the VAPDC will support postsecondary education in the incubation and marketing of value-added food products through the recycling of nearby agricultural waste streams.			
226-10.5 Objectives and policies for the economy--information industry. (a) 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. (b) To achieve the information industry objective, it shall be the policy of this State to:			
(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

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
(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 Proposed Action will not affect the telecommunications and information technology industries.			
§226-11 Objectives and policies for the physical environment--land-based, shoreline, and marine resources. (a) The land-based, shoreline, and marine resources objectives are: (1) Prudent use of Hawai‘i's land-based, shoreline, and marine resources. (2) Effective protection of Hawai‘i's unique and fragile environmental resources. (b) To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:			
(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
(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai‘i.			X
(7) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.			X
(8) Pursue compatible relationships among activities, facilities, and natural resources.	X		
(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.	X		
Discussion: The Proposed Action will support the objective and policies for the physical environment – land-based, shoreline, and marine resources. No short- or long-term significant impacts on surface and/or coastal waters are anticipated to result from the construction and operation of the proposed project. The proposed project is repurposing previously developed land and building. As such, this represents prudent use of Hawai‘i’s land-based resources. The project site is located within a highly altered urban environment. There are no streams or wetlands on or within close proximity to the project area. Applicable erosion control measures and best management practices will be implemented in order to mitigate any possible adverse effects relating to runoff. As applicable, these may include but are not be limited to: temporary sediment basins, temporary diversion berms and swales to intercept runoff, silt fences, dust fences, slope protection, stabilized construction vehicle entrance, grate inlet protection, equipment wash down areas, and use of compost filter socks. Coordination will be undertaken with the appropriate agencies during permitting and construction in order to ensure that the proposed project will not result in significant impacts. No listed or protected plant species are known from the project area. Rare, threatened, or endangered fauna are not known to utilize the site for either habitat or foraging purposes. However, measures to prevent adverse effects to protected seabirds from night lighting, any permanent light sources will be shielded and angled downward to eliminate glare that could disturb or disorient seabirds in flight.			

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
§226-12 Objective and policies for the physical environment--scenic, natural beauty, and historic resources. (a) 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 (b) To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to:			
(1) Promote the preservation and restoration of significant natural and historic resources.			X
(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.			X
(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.			X
(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawai‘i's ethnic and cultural heritage.			X
(5) Encourage the design of developments and activities that complement the natural beauty of the islands.			X
Discussion: The Proposed Action will not have an impact on the objectives and policies for the physical environment – scenic, natural beauty, and historic resources.			
§226-13 Objectives and policies for the physical environment--land, air, and water quality. (a) Planning for the State’s physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives: (1) Maintenance and pursuit of improved quality in Hawai‘i’s land, air, and water resources. (2) Greater public awareness and appreciation of Hawai‘i’s environmental resources. (b) To achieve the land, air, and water quality objectives, it shall be the policy of this State to:			
(1) Foster educational activities that promote a better understanding of Hawai‘i's limited environmental resources.	X		
(2) Promote the proper management of Hawai‘i's land and water resources.	X		
(3) Promote effective measures to achieve desired quality in Hawai‘i's surface, ground, and coastal waters.			X
(4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai‘i's people.			X
(5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.	X		
(6) Encourage design and construction practices that enhance the physical qualities of Hawai‘i's communities.	X		
(7) Encourage urban developments in close proximity to existing services and facilities.	X		
(8) Foster recognition of the importance and value of the land, air, and water resources to Hawai‘i's people, their cultures, and visitors.	X		
Discussion: The Proposed Action will support objectives and policies related to the physical environment – land, air, and water quality. BMPs will be implemented during construction per State regulations and City and County of Honolulu requirements in order to maintain and preserve Hawai‘i’s land, air, and water resources. The repurposed building will be compliant with current code requirements for the safety and protection of its users in the event of a natural hazard. Moreover, the project site is in proximity to public utilities and services as it is located in the downtown Wahiawā.			

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
§226-14 Objective and policies for facility systems--in general. (a) 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. (b) To achieve the general facility systems objective, it shall be the policy of this State to :			
(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 Proposed Action will not affect the objectives and policies for facility systems – in general.			
§226-15 Objectives and policies for facility systems--solid and liquid wastes. (b) Planning for the State's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives: (1) Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes. (2) Provision of adequate sewerage facilities of physical and economic activities that alleviate problems in housing, employment, mobility, and other areas. (c) To achieve solid and liquid waste objectives, it shall be the policy of this State to:			
(1) Encourage the adequate development of sewerage facilities that complement planned growth.			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 disposals of solid and liquid wastes.			X
Discussion: The Proposed Action will not involve facility systems related to solid and liquid wastes.			
§226-16 Objective and policies for facility systems--water. (a) 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) To achieve the facility systems water objective, it shall be the policy of the State to:			
(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 waste water 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

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
(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 proposed project will support the State's objective and policies for water facility systems. Wilson Okamoto Corporation is coordinating with the Board of Water Supply (BWS) to ensure there is adequate water source, storage, and delivery to service the proposed project.			
§226-17 Objectives and policies for facility systems--transportation. (a) Planning for the State's facility systems with regard to transportation shall be directed towards 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. (2) A statewide transportation system consistent with planned growth objectives throughout the State (b) To achieve the transportation objectives, it shall be the policy of this State to:			
(1) Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter.			X
(2) Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives.			X
(3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties.			X
(4) Provide for improved accessibility to shipping, docking, and storage facilities.			X
(5) Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs.			X
(6) Encourage transportation systems that serve to accommodate present and future development needs of communities.			X
(7) Encourage a variety of carriers to offer increased opportunities and advantages to inter-island movement of people and goods.			X
(8) Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs.			X
(9) Encourage the development of transportation, systems and programs which would assist statewide economic growth and diversification.			X
(10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawai‘i's natural environment.			X
(11) Encourage safe and convenient uses of low-cost, energy-efficient, non-polluting means of transportation.			X
(12) Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives.			X
(13) Encourage diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency.			X
Discussion: The Proposed Action will not involve facility systems related to transportation.			
§226-18 Objectives and policies for facility systems—energy. (a) 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) Dependable, efficient, and economical statewide energy and telecommunication systems capable of supporting the needs of the people.			

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
(2) Increased energy self-sufficiency through the reduction and ultimate elimination of Hawai‘i's dependence on imported fuels for electrical generation and ground transportation; (3) Greater diversification of energy generation in the face of threats to Hawai‘i's energy supplies and systems; (4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use; and (5) Utility models that make the social and financial interests of Hawai‘i's utility customers a priority. (b) To achieve the energy objectives, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable energy services to accommodate demand (c) To further achieve the energy objectives, it shall be the policy of this State to:			
(1) Support research and development as well as promote the use of renewable energy sources.			X
(2) Ensure a sufficient supply of energy to enable power systems to support the demands of growth.			X
(3) 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.			X
(4) Promote all cost-effective conservation of power and fuel supplies through measures, including: (A) Development of cost-effective demand-side management programs; (B) Education; (C) Adoption of energy-efficient practices and technologies; and (D) Increasing energy efficiency and decreasing energy use in public infrastructure.			X
(5) 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.			X
(6) Support research, development, demonstration, and use of energy efficiency, load management, and other demand-side management programs, practices, and technologies.			X
(7) Promote alternate fuels and transportation energy efficiency.			X
(8) Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications.			X
(9) Support actions that reduce, avoid, or sequester Hawai‘i's greenhouse gas emissions through agriculture and forestry initiatives.			X
(10) Provide priority handling and processing for all state and county permits required for renewable energy projects.			X
(11) 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.			X
(12) 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.			X
Discussion: The Proposed Action will not involve the objectives and policies for facility systems related to energy.			
§226-18.5 Objectives and policies for facility systems--telecommunications. (a) 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.			

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
(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. (c) To further achieve the telecommunications objective, it shall be the policy of this State to:			
(1) Facilitate research and development of telecommunication systems and resources.			X
(2) Encourage public and private sector efforts to develop means for adequate, ongoing telecommunication planning.			X
(3) Promote efficient management and use of existing telecommunication systems and services.			X
(4) Facilitate the development of education and training of telecommunication personnel.			X
Discussion: The Proposed Action will not involve facility systems related to telecommunications.			
§226-19 Objectives and policies for socio-cultural advancement--housing. (a) Planning for the State's socio-cultural advancement with regard to housing shall be directed toward the achievement of the following objectives: (1) Greater opportunities for 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 rental and for sale affordable housing is made available to extremely low-, very low-, lower-, moderate-, and above moderate-income segments of Hawai‘i's population. (2) The orderly development of residential areas sensitive to community needs and other land uses. (3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawai‘i's people. (b) To achieve the housing objectives, it shall be the policy of this State to:			
(1) Effectively accommodate the housing needs of Hawai‘i's people.			X
(2) Stimulate and promote feasible approaches that increase affordable rental and for sale housing choices for extremely low-, very low-, lower-, moderate-, and above moderate-income households.			X
(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.			X
(4) Promote appropriate improvement, rehabilitation, and maintenance of existing housing units and residential areas.			X
(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.			X
(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.			X
(7) Foster a variety of lifestyles traditional to Hawai‘i through the design and maintenance of neighborhoods that reflect the cultures and values of the community.			X
(8) Promote research and development of methods to reduce the cost of housing construction in Hawai‘i.			X
Discussion: The Proposed Action will not affect the objectives and policies for socio-cultural advancement related to housing.			
§226-20 Objectives and policies for socio-cultural advancement--health.			

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
(a) Planning for the State's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives: (1) Fulfillment of basic individual health needs of the general public. (2) Maintenance of sanitary and environmentally healthful conditions in Hawai‘i's communities. (3) Elimination of health disparities by identifying and addressing social determinants of health. (b) To achieve the health objectives, it shall be the policy of this State to:			
(1) Provide adequate and accessible services and facilities for prevention and treatment of physical and mental health problems, including substance abuse.			X
(2) 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.			X
(3) Encourage public and private efforts to develop and promote statewide and local strategies to reduce health care and related insurance costs.			X
(4) Foster an awareness of the need for personal health maintenance and preventive health care through education and other measures.			X
(5) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions.			X
(6) Improve the State's capabilities in preventing contamination by pesticides and other potentially hazardous substances through increased coordination, education, monitoring, and enforcement			X
(7) 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.			X
Discussion: The Proposed Action will not affect the objectives and policies for socio-cultural advancement related to health. However, the proposed project will be compliant with the Food Safety Modernization Act which regulates how foods are grown, harvested, and processed. Compliance with this federal standard will ensure consumers are protected and food is processed appropriately.			
§226-21 Objective and policies for socio-cultural advancement--education. (a) 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. (b) To achieve the education objective, it shall be the policy of this State to:			
(1) Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.	X		
(2) Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.	X		
(3) Provide appropriate educational opportunities for groups with special needs.	X		
(4) Promote educational programs which enhance understanding of Hawai‘i's cultural heritage.			X
(5) Provide higher educational opportunities that enable Hawai‘i's people to adapt to changing employment demands.	X		
(6) 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.			X

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
(7) Promote programs and activities that facilitate the acquisition of basic skills, such as reading, writing, computing, listening, speaking, and reasoning.			X
(8) Emphasize quality educational programs in Hawai‘i's institutions to promote academic excellence.	X		
(9) Support research programs and activities that enhance the education programs of the State.	X		
Discussion: The Proposed Action will support the objectives and policies for socio-cultural advancement related to education. The VAPDC will advance agriculture by teaching value-added agriculture and entrepreneurship. The VAPDC will work to integrate innovation, retail, and messaging to enhance and support UHCC's agricultural product processing curriculum. The VAPDC aims to develop students to be leaders and successful in the food sciences and agriculture industry. Specifically, the VAPDC will support postsecondary education programs aimed towards the development and marketing of value-added food products through recycling of nearby agricultural by products. Moreover, the facility will provide parking stalls compliant with the American Disability Act (ADA) to allow those with special needs access to the facility and its resources.			
§226-22 Objective and policies for socio-cultural advancement--social services. (a) 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. (b) To achieve the social services objective, it shall be the policy of this State to:			
(1) 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.			X
(2) Facilitate the adjustment of new residents, especially recently arrived immigrants, into Hawai‘i's communities			X
(3) Promote alternatives to institutional care in the provision of long-term care for elder and disabled populations.			X
(4) Support public and private efforts to prevent domestic abuse and child molestation, and assist victims of abuse and neglect.			X
(5) Promote programs which assist people in need of family planning services to enable them to meet their needs.			X
Discussion: The Proposed Action will not affect the objectives and policies for socio-cultural advancement related to social services.			
§226-23 Objective and policies for socio-cultural advancement--leisure. (a) 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. (b) To achieve the leisure objective, it shall be the policy of this State to:			
(1) Foster and preserve Hawai‘i's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.			X
(2) 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.			X
(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.			X
(4) 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			X

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
(5) Ensure opportunities for everyone to use and enjoy Hawai‘i's recreational resources.			X
(6) Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs			X
(7) Provide adequate and accessible physical fitness programs to promote the physical and mental well-being of Hawai‘i's people.			X
(8) Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms.			X
(9) 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.			X
(10) Assure adequate access to significant natural and cultural resources in public ownership.			X
Discussion: The Proposed Action will not have an impact on the objectives and policies for socio-cultural advancement related to leisure.			
§226-24 Objective and policies for socio-cultural advancement--individual rights and personal well-being. (a) 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. (b) To achieve the individual rights and personal wellbeing objective, it shall be the policy of this State to:			
(1) 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.			X
(2) Uphold and protect the national and state constitutional rights of every individual.			X
(3) Assure access to, and availability of, legal assistance, consumer protection, and other public services which strive to attain social justice.			X
(4) Ensure equal opportunities for individual participation in society.			X
Discussion: The Proposed Action will not affect the objectives and policies for socio-cultural advancement related to individual rights and personal well-being.			
§226-25 Objective and policies for socio-cultural advancement--culture. (a) 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. (b) To achieve the culture objective, it shall be the policy of this State to:			
(1) Foster increased knowledge and understanding of Hawai‘i's ethnic and cultural heritages and the history of Hawai‘i.			X
(2) Support activities and conditions that promote cultural values, customs, and arts that enrich the life styles of Hawai‘i's people and which are sensitive and responsive to family and community needs.			X
(3) Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community life styles in Hawai‘i.			X
(4) Encourage the essence of the aloha spirit in people's daily-activities to promote harmonious relationships among Hawai‘i's people and visitors.			X
Discussion: The Proposed Action will not have an effect the objectives and policies for socio-cultural advancement related to culture.			

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
§226-26 Objectives and policies for socio-cultural advancement--public safety. (a) Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives: (1) Assurance of public safety and adequate protection of life and property for all people. (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. (3) Promotion of a sense of community responsibility for the welfare and safety of Hawai‘i’s (b) To achieve the public safety programs objectives, it shall be the policy of this State to:			
(1) Ensure that public safety programs are effective and responsive to community needs.			X
(2) Encourage increased community awareness and participation in public safety programs.			X
(c) To achieve the public safety programs objectives, it shall be the policy of this State to:			
(1) Support criminal justice programs aimed at preventing and curtailing criminal activities.			X
(2) Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies.			X
(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.			X
(d) To further achieve public safety objectives related to emergency management, it shall be the policy of this State to:			
(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.			X
(2) Enhance the coordination between emergency management programs throughout the State.			X
Discussion: The Proposed Action will not have an effect on the objectives and policies for socio-cultural advancement – public safety.			
§226-27 Objectives and policies for socio-cultural advancement--government. (a) Planning the State's socio-cultural advancement with regard to government shall be directed towards the achievement of the following objectives: (1) Efficient, effective, and responsive government services at all levels in the State. (2) Fiscal integrity, responsibility and efficiency in the state government and county governments. (b) To achieve the government objectives, it shall be the policy of this State to:			
(1) Provide for necessary public goods and services not assumed by the private sector.	X		
(2) Pursue an openness and responsiveness in government that permits the flow of public information, interaction, and response.	X		
(3) Minimize the size of government to that necessary to be effective.			X
(4) Stimulate the responsibility in citizens to productively participate in government for a better Hawai‘i.			X
(5) Assure that government attitudes, actions, and services are sensitive to community needs and concerns.	X		
(6) Provide for a balanced fiscal budget.			X

Table 4-1: The Hawai‘i State Plan Part I	S	NS	N/A
(7) Improve the fiscal budgeting and management system of the State.			X
(8) 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.			X
Discussion: The Proposed Action will support the objectives and policies for socio-cultural advancement related to government. The proposed project has been initiated by UHCC in partnership with the DOA-ADC to efficiently and effectively respond to community needs and concerns. Project team representatives have participated in community outreach events and met with many stakeholders and government agencies in the course of preparing the plan and designs for the VAPDC project. Ultimately, the proposed project will provide a facility to further advance agriculture and the food sciences industries in Hawai‘i.			

PART III. PRIORITY GUIDELINES

Part III of the Hawai‘i State Plan establishes the overall priority guidelines to address areas of statewide concern. Under HRS § 226-102, "The State shall strive to improve the quality of life for Hawai‘i's present and future population through the pursuit of desirable courses of action in seven 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."

Table 4-2: The Hawai‘i State Plan Part III	S	NS	N/A
§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) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.			X
(2) Encourage the expansion of technological research to assist industry development and support the development and commercialization of technological advancements.			X
(3) 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.			X
(4) Seek to ensure that state business tax and labor laws and administrative policies are equitable, rational, and predictable.			X
(5) Streamline the building and development permit and review process, and eliminate or consolidate other burdensome or duplicative governmental requirements imposed on business, where public health, safety, and welfare would not be adversely affected.			X
(6) 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.			X
(7) Continue to seek legislation to protect Hawai‘i from transportation interruptions between Hawai‘i and the continental United States.			X
(8) Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics: (a) An industry that can take advantage of Hawai‘i's unique location and available physical and human resources.			X

Table 4-2: The Hawai‘i State Plan Part III	S	NS	N/A
(b) A clean industry that would have minimal adverse effects on Hawai‘i's environment. (c) An industry that is willing to hire and train Hawai‘i's people to meet the industry's labor needs. (d) An industry that would provide reasonable income and steady employment.			
(9) Support and encourage, through educational and technical assistance programs and other means, expanded opportunities for employee ownership and participation in Hawai‘i business.	X		
(10) Enhance the quality of Hawai‘i’s labor force and develop and maintain career opportunities for Hawai‘i’s people through the following actions: (a) Expand vocational training in diversified agriculture, aquaculture, and other areas where growth is desired and feasible. (b) Encourage more effective career counseling and guidance in high schools and post-secondary institutions to inform students of present and future career opportunities. (c) Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired. (d) Promote career opportunities in all industries for Hawai‘i's people by encouraging firms doing business in the State to hire residents. (e) Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on-the-job training opportunities. (f) Provide retraining programs and other support services to assist entry of displaced workers into alternative employment.	X		
(b) Priority guidelines to promote the economic health and quality of the visitor industry:			
(1) Promote visitor satisfaction by fostering an environment which enhances the Aloha Spirit and minimizes inconveniences to Hawai‘i's residents and visitors.			X
(2) 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 provides for adequate shoreline setbacks and beach access.			X
(3) 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.			X
(4) Encourage visitor industry practices and activities which respect, preserve, and enhance Hawai‘i's significant natural, scenic, historic, and cultural resources.			X
(5) Develop and maintain career opportunities in the visitor industry for Hawai‘i's people, with emphasis on managerial positions.			X
(6) Support and coordinate tourism promotion abroad to enhance Hawai‘i's share of existing and potential visitor markets.			X
(7) Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.			X
(8) Support law enforcement activities that provide a safer environment for both visitors and residents alike.			X
(c) Priority guidelines to promote the continued viability of the sugar and pineapple industries:			
(1) Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries.			X
(2) Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawai‘i.			X
(3) Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops.			X
(d) Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:			
(1) 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.			X

Table 4-2: The Hawai‘i State Plan Part III	S	NS	N/A
(2) Assist in providing adequate, reasonably priced water for agricultural activities.			X
(3) Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture.			X
(4) Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs.			X
(5) 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			X
(6) Seek favorable freight rates for Hawai‘i’s agricultural products from interisland and overseas transportation operators.			X
(7) Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities.			X
(8) Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans.			X
(9) Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions.			X
(e) Priority guidelines for water use and development:			
(1) Maintain and improve water conservation programs to reduce the overall water consumption rate.			X
(2) Encourage the improvement of irrigation technology and promote the use of non-potable water for agricultural and landscaping purposes.			X
(3) Increase the support for research and development of economically feasible alternative water sources.			X
(4) Explore alternative funding sources and approaches to support future water development programs and water system improvements.			X
(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

Table 4-2: The Hawai‘i State Plan Part III	S	NS	N/A
(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 Proposed Action will support the Economic Priority Guidelines. The VAPDC will advance agriculture by teaching value-added agriculture and entrepreneurship. The VAPDC will work to integrate innovation, retail, and messaging to enhance and support UHCC's agricultural product processing curriculum. The VAPDC aims to develop students to be leaders and successful in the food sciences and agriculture industry. Specifically, the VAPDC will support postsecondary education programs aimed towards the development and marketing of value-added food products through recycling of nearby agricultural by products.			
§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
(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 non-essential 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 non-contiguous 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

Table 4-2: The Hawai‘i State Plan Part III	S	NS	N/A
(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 Proposed Action will not impact the Population Growth and Land Resources Priority Guidelines.			
§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
(6) Increase public and private efforts to assist witnesses and victims of crimes and to minimize the costs of victimization.			X
Discussion: The priority guidelines related to crime and criminal justice are not applicable to the Proposed Action.			
§226-106 Affordable housing Priority guidelines for the provision of affordable housing:			
(1) Seek to use marginal or non-essential agricultural land and public land to meet housing needs of low and moderate-income and gap-group households.			X
(2) Encourage the use of alternative construction and development methods as a means of reducing production costs.			X
(3) Improve information and analysis relative to land availability and suitability for housing.			X
(4) 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.			X

Table 4-2: The Hawai‘i State Plan Part III	S	NS	N/A
(5) 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.			X
(6) Encourage public and private sector cooperation in the development of rental housing alternatives.			X
(7) Encourage improved coordination between various agencies and levels of government to deal with housing policies and regulations.			X
(8) 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.			X
Discussion: The priority guidelines related to the provision of affordable housing are not applicable to the Proposed Action.			
§226-107 Quality education. Priority guidelines to promote quality education:			
(1) Pursue effective programs which reflect the varied district, school, and student needs to strengthen basic skills achievement.	X		
(2) Continue emphasis on general education "core" requirements to provide common background to students and essential support to other university programs.			X
(3) Initiate efforts to improve the quality of education by improving the capabilities of the education work force.			X
(4) Promote increased opportunities for greater autonomy and flexibility of educational institutions in their decision-making responsibilities.			X
(5) Increase and improve the use of information technology in education by the availability of telecommunications equipment for: (A) The electronic exchange of information; (B) Statewide electronic mail; and (C) Access to the Internet. Encourage programs that increase the public's awareness and understanding of the impact of information technologies on our lives.			X
(6) Pursue the establishment of Hawai‘i’s public and private universities and colleges as research and training centers of the Pacific.	X		
(7) Develop resources and programs for early childhood education.			X
(8) Explore alternatives for funding and delivery of educational services to improve the overall quality of education.			X
(9) Strengthen and expand educational programs and services for students with special needs.			X
Discussion: The proposed project will support the priority guidelines related to promoting quality education. The VAPDC is intended to strengthen agriculture in Hawai‘i. The project will serve as an integral part of implementing the State’s goal of investing in the agricultural industry for the benefit of state. It is envisioned that the VAPDC will offer a set of programs, services, and training that promote innovation and entrepreneurship within the agricultural industry. The VAPDC aims to develop students to be leaders and successful in the food sciences and agriculture industry. Specifically, the VAPDC will support postsecondary education programs aimed towards the development and marketing of value-added food products through recycling of nearby agricultural by products. The VAPDC will also market and develop products and platforms that promote the promulgation of locally grown food resources. Moreover, the facility will enhance and support the community college’s agricultural product processing curriculum, and also revitalizing a centrally located parcel in downtown Wahiawā, while fulfilling the Agribusiness Development Corporation’s larger objective to advance agriculture in Hawai‘i.			
§226-108 Sustainability.			

Table 4-2: The Hawai‘i State Plan Part III	S	NS	N/A
Priority guidelines and principals to promote sustainability:			
(1) Encouraging balanced economic, social, community, and environmental priorities.	X		
(2) Encouraging planning that respects and promotes living within the natural resources and limits of the State.			X
(3) Promoting a diversified and dynamic economy.	X		
(4) Encouraging respect for the host culture.			X
(5) Promoting decisions based on meeting the needs of the present without compromising the needs of future generations.			X
(6) Considering the principles of the ahupua‘a system.			X
(7) Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawai‘i.			X
Discussion: The Proposed Action supports the Priority Guidelines and principles supporting sustainability. The proposed project will work towards marketing and developing products and platforms that promote locally grown food resources.			
§226-109 Climate change adaption. Priority guidelines for climate change adaption:			
(1) Ensure that Hawai‘i's people are educated, informed, and aware of the impacts climate change may have on their communities.			X
(2) Encourage community stewardship groups and local stakeholders to participate in planning and implementation of climate change policies.			X
(3) Invest in continued monitoring and research of Hawai‘i's climate and the impacts of climate change on the State.			X
(4) Consider native Hawaiian traditional knowledge and practices in planning for the impacts of climate change.			X
(5) 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.			X
(6) 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.			X
(7) 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.			X
(8) Foster cross-jurisdictional collaboration between county, state, and federal agencies and partnerships between government and private entities and other nongovernmental entities, including nonprofit entities.			X
(9) 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.			X
(10) Encourage planning and management of the natural and built environments that effectively integrate climate change policy.			X
Discussion: The Priority Guidelines related to climate change adaptation are not applicable to the Proposed Action.			

4.1.2 State Functional Plans

The Hawai‘i State Plan directs appropriate State agencies to prepare Functional Plans which address statewide needs, problems, and issues, and recommend policies and actions to mitigate those problems. The Functional Plans are prepared to further define and implement statewide goals, objectives, policies, and priority guidelines contained in the Hawai‘i State Plan. Thirteen Functional Plans were prepared to implement the State Plan provisions in the areas of agriculture, conservation lands, education, employment, energy, health, higher education, historic preservation, housing, human services, recreation, tourism, and transportation.

Table 4-3: Hawai‘i State Functional Plans		S	NS	N/A
1	**Agricultural State Functional Plan (1991)**			
Purpose: Continued viability of agriculture throughout the State		**X**		
Discussion: The Proposed Action will support the Agricultural State Functional Plan. The VAPDC is intended to strengthen agriculture in Hawai‘i. The project will serve as an integral part of implementing the State's goal of investing in the agricultural industry for the benefit of state. It is envisioned that the VAPDC will offer a set of programs, services, and training that promote innovation and entrepreneurship within the agricultural industry. The VAPDC aims to develop students to be leaders and successful in the food sciences and agriculture industry. Specifically, the VAPDC will support postsecondary education programs aimed towards the development and marketing of value-added food products through recycling of nearby agricultural by products. The VAPDC will also market and develop products and platforms that promote the promulgation of locally grown food resources. Moreover, the facility will enhance and support the community college's agricultural product processing curriculum, and also revitalizing a centrally located parcel in downtown Wahiawā, while fulfilling the Agribusiness Development Corporation's larger objective to advance agriculture in Hawai‘i.				
2	**Conservation Lands State Functional Plan (1991)**			
Purpose: Addresses issues of population and economic growth and its strain on current natural resources; broadening public use of natural resources while protecting lands and shorelines from overuse; additionally, promotes the aquaculture industry				**X**
Discussion: The Proposed Action will not have an effect the Conservation Lands State Functional Plan.				
3	**Education State Functional Plan (1989)**			
Purpose: Improvements to Hawai‘i's educational curriculum, quality of educational staff, and access to adequate facilities		**X**		
Discussion: The Proposed Action will support the Education State Functional Plan. A major component of the VAPDC will support postsecondary education teaching value-added agriculture and entrepreneurship. The VAPDC will offer a set of programs, services, and training that promote innovation and entrepreneurship within the agricultural industry. The VAPDC will provide students access to facilities, capital, non-credit/credit, and opportunities to learn and develop skills in entrepreneurship as it relates to product development. Specifically, the VAPDC will support postsecondary education programs aimed towards the development and marketing of value-added food products through recycling of nearby agricultural byproducts. The goal of the VAPDC is to develop students to be leaders and successful in the food science and agricultural industry, and food systems development.				

Table 4-3: Hawai‘i State Functional Plans		S	NS	N/A
4	**Employment State Functional Plan (1990)**			
Purpose: Improve the qualifications, productivity, and effectiveness of the State's workforce through better education and training of workers as well as efficient planning of economic development, employment opportunities, and training activities				X
Discussion: The Employment State Functional Plan is not applicable to the Proposed Action.				
5	**Energy State Functional Plan (1991)**			
Purpose: Lessen the reliance on petroleum and other fossil fuels in favor of alternative sources of energy so as to keep up with the State's increasing energy demands while also becoming a more sustainable island state; achieving dependable, efficient, and economical statewide energy systems				X
Discussion: The Energy State Functional Plan is not applicable to the Proposed Action.				
6	**Health State Functional Plan**			
Purpose: Improve the health care system by providing for those who do not have access to private health care providers; increasing preventative health measures; addressing 'quality of care' elements in private and public sectors to cut increasing costs				X
Discussion: The Health State Functional Plan is not applicable to the Proposed Action.				
7	**Higher Education Functional Plan (1984)**			
Purpose: Prepare Hawai‘i's citizens for the demands of an increasingly complex world through providing technical and intellectual tools		X		
Discussion: The proposed action will support the Hawai‘i State Higher Educational Functional Plan. The VAPDC will provide students with access to postsecondary and higher education, specifically offering programs for students that promote innovation and entrepreneurship within the food science and agricultural industries. Furthermore, the VAPDC will further diversify UHCC's array of vocational, academic, and professional programs that are offered.				
8	**Historic Preservation State Functional Plan (1991)**			
Purpose: Preservation of historic properties, records, artifacts and oral histories; provide public with information/education on the ethnic and cultural heritages and history of Hawai‘i				X
Discussion: The Historic Preservation State Functional Plan is not applicable to the Proposed Action.				
9	**Housing State Functional Plan (1989)**			
Purpose: Provide affordable rental and for-sale housing; increase homeownership and amount of rental housing units; acquiring public and privately-owned lands for future residential development; maintain a statewide housing data system				X
Discussion: The Housing State Functional Plan is not applicable to the Proposed Action.				
10	**Human Services State Functional Plan (1991)**			
Purpose: Refining support systems for families and individuals by improving elderly care, increasing preventative measures to combat child/spousal abuse and neglect; providing means for 'self-sufficiency'				X

Table 4-3: Hawai‘i State Functional Plans		S	NS	N/A
Discussion: The Human Services State Functional Plan is not applicable to the Proposed Action.				
11	**Recreation State Functional Plan (1991)**			
Purpose: Manage the use of recreational resources via addressing issues: (1) ocean and shoreline recreation, (2) mauka, urban, and other recreation, (3) public access to shoreline and upland recreation areas, (4) resource conservation and management, (5) management of recreation programs/facilities/areas, and (6) wetlands protection and management				X
Discussion: The Recreation State Functional Plan does not apply to the Proposed Action.				
12	**Tourism State Functional Plan (1991)**			
Purpose: Balance tourism/economic growth with environmental and community concerns; development that is cognizant of the limited land and water resources of the islands; maintaining friendly relations between tourists and community members; development of a productive workforce and enhancement of career and employment opportunities in the visitor industry				X
Discussion: The Tourism State Functional Plan is not applicable to the Proposed Action.				
13	**Transportation State Functional Plan (1991)**			
Purpose: Development of a safer, more efficient transportation system that also is consistent with planned physical and economic growth of the state; construction of facility and infrastructure improvements; develop a transportation system balanced with new alternatives; pursue land use initiatives which help reduce travel demand				X
Discussion: The Transportation State Functional Plan is not applicable to the Proposed Action.				

4.1.3 State Land Use District

The State Land Use Law, Chapter 205, HRS, establishes an overall framework of land use management whereby all lands in the State of Hawai‘i are classified into one of four land use districts: Urban District, Agricultural District, Conservation District, and Rural District. The State Land Use Commission (LUC) is responsible for preserving and protecting Hawai‘i’s lands and encouraging those uses to which lands are best suited.

Discussion:
The proposed project is situated entirely in the Urban State Land Use District (See Figure 4-1). Urban District lands generally include lands characterized by “city-like” concentrations of people, structures, and services. This District also includes vacant areas for future development. Jurisdiction of Urban Districts lie primarily with the county. In general, lot sizes and uses permitted in the district area are established by the county through ordinances or rules. The purposed and intent of the proposed project are consistent with the Urban State Land Use District.

WILSON OKAMOTO CORPORATION

FIGURE 4-1

State Land Use District Map

Leeward Community College Value-Added Product Development Center
Wahiawā, O'ahu, Hawai'i

4.1.4 Hawai‘i Coastal Zone Management Program

The National Coastal Zone Management (CZM) Program was created through passage of the Coastal Zone Management Act of 1972. The U.S. Congress enacted the CZM Act to assist states in better managing coastal and estuarine environments. The Act provides grants to states that develop and implement federally-approved CZM plans. The goal of the CZM Act is to “preserve, protect, develop, and where possible, to restore or enhance the resources of the nation’s coastal zone.” Hawai‘i’s CZM Act, adopted as Chapter 205A, HRS, provides a basis for protecting, restoring and responsibly developing coastal communities and resources. In Hawai‘i, the "coastal zone management area" means 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 territorial sea.

The Proposed Action's conformance with the ten objectives and numerous policies of the State of Hawai‘i CZMP is set forth in Table 4-4 below. The Proposed Action does include the use of land that is within the Special Management Area designated by the County of Honolulu. Therefore, Special Management Area permits are needed to implement the Proposed Action

Table 4-4: Hawai‘i Coastal Zone Management Act	S	NS	N/A
Recreational Resources			
Objective: Provide coastal recreational opportunities accessible to the public.			
Policies			
(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:			X
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 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

Table 4-4: Hawai'i Coastal Zone Management Act	S	NS	N/A
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 Action does not adversely impact the shoreline and would not affect coastal recreational opportunities accessible to the public. No archaeological resources, remains or artifacts were found during the course of the f			
Historic Resources			
Objective: 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: The Proposed Action will have no significant impact on historic and cultural resources. A Literature Review and Field Inspection Report was conducted by Honua Consulting in 2019 as part of this environmental assessment. No archaeological resources, remains or artifacts were found during the course of the survey. The building located on the project site were evaluated for historical and cultural significance and were found to be of no preservation value. Construction of the proposed project improvements will not disturb traditional sacred sites or traditional cultural objects; will not result in the degradation of resources used by Native Hawaiians for subsistence or traditional cultural practices; will not obstruct culturally significant landforms or way-finding features; and, will not result in loss of access to the shoreline or other areas customarily used by Native Hawaiians or others for resource gathering or traditional cultural practices. However, should any significant archeological, cultural, or historic resources be found during construction activities, all work will cease and SHPD be immediately notified for appropriate response and action.			
Scenic and Open Space Resources			
Objective: 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 land forms 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 Proposed Action not have an impact on scenic and open space resources. The VAPDC will not impinge upon any significant public scenic view corridors and will not have an impact on coastal views as the proposed project will repurpose the existing building on the project site.			

Table 4-4: Hawai‘i Coastal Zone Management Act	S	NS	N/A
Coastal Ecosystems			
Objective: 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 Proposed Action will not have an effect on the coastal systems as the project site is located approximately 8 miles from the shoreline at Pearl Harbor. Moreover, appropriate BMPs and erosion control measures will be implemented to ensure that coastal ecosystems are not adversely impacted by construction activities.			
Economic Uses			
Objective: 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; ii. Adverse environmental effects are minimized; and iii. The development is important to the State's economy;			X
Discussion: The Proposed Action is not expected to have any adverse effects on any public or private facilities in coastal areas that are important to the State’s economy.			
Coastal Hazards			
Objective: 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

Table 4-4: Hawai'i Coastal Zone Management Act	S	NS	N/A
(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 Proposed Action is not expected to exacerbate natural levels of flooding or affect flood zone areas.			
Managing Development			
Objective: 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 environmental assessment has been prepared under the procedural provisions of HRS, Chapter 343, and HAR, Title 11, Chapter 200.1, which allows for public review and participation. Accordingly, the preparation of this environmental assessment, and disclosure of anticipated effects of the project, will comply with the policy on managing development, and be reviewed by the public and various state and county agencies through this environmental review process.			
Public Participation			
Objective: 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 mitigation to respond to coastal issues and conflicts.			X
Discussion: This environmental assessment serves as a disclosure document of potential impacts and mitigation measures, including coastal management issues. This environmental assessment is published in the Office of Environmental Quality Control's *Environmental Notice,* whereby opportunity for comment by agencies and the public are provided. Pre-Assessment consultation comments for this environmental assessment were obtained and reproduced in Appendix C.			
Beach Protection			
Objective: Protect beaches for public use and recreation.			
Policies:			

Table 4-4: Hawai‘i Coastal Zone Management Act	S	NS	N/A
(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: The Proposed Action is not anticipated to have a significant impact on beach and shoreline processes. The proposed project site is located approximately 8 miles from the shoreline at Pearl Harbor.			
Marine Resources			
Objective: 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 Proposed Action is not anticipated to adversely affect marine or aquatic resources. The proposed project site is well outside the coastal zone. Appropriate BMPs and erosion control measures will be implemented to ensure that marine and coastal resources are not adversely impacted from construction activities.			

4.2 City and County of Honolulu Land Use Plans and Policies

4.2.1 City and County of Honolulu General Plan

The City and County of Honolulu last updated its General Plan (1992 edition) in October 2002. The General plan is intended to be a dynamic document, expressing the aspirations of the residents of O‘ahu. It sets forth the long-range objectives and policies for the general welfare and, together with the regional development plans, provides a direction and framework to guide the programs and activities of the City and County of Honolulu. It is a written commitment by the City and County government to a future for the Island of O‘ahu that it considers desirable and attainable. The Plan is a two-fold document: First, it is a statement of the long-range social,

economic, environmental, and design objectives for the general welfare and prosperity of the people of O‘ahu. These objectives contain both statements of desirable conditions to be sought over the long run and statements of desirable conditions that can be achieved within an approximately 20-year time horizon. Second, the General Plan is a statement of broad policies that facilitate the attainment of the objectives of the Plan.

The General Plan is a guide for all levels of government, private enterprise, neighborhood and citizen groups, organizations, and individual citizens in eleven areas of concern:

(1) Population;
(2) Economic Activity;
(3) Natural Environment;
(4) Housing;
(5) Transportation and utilities;
(6) Energy;
(7) Physical development and urban design;
(8) Public safety;
(9) Health and Education;
(10) Culture and recreation; and
(11) Government operations and fiscal management.

The proposed project is relevant and consistent with the following applicable goals, objectives, policies, and actions of the *City and County of Honolulu General Plan*:

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	**S**	**NS**	**N/A**
I. Population			
Objective A. To control the growth of O‘ahu’s resident and visitor populations in order to avoid social, economic, and environmental disruptions.			
(1) Participate in State and Federal programs which seek to develop social, economic, legal, and environmental controls over population growth.			**X**
(2) Seek a balance between the rate of inmigration and the rate of outmigration by reducing inmigration.			**X**
(3) Support Federal policies providing for a more even distribution of immigrants throughout the country.			**X**
(4) Seek to maintain a desirable pace of physical development through City and County regulations.			**X**
(5) Encourage family planning.			**X**
(6) Publicize the desire of the City and County to limit population growth.			**X**
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu’s General Plan, in regards to Population, Objective A.			
Objective B. To plan for future population growth.			

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(1) Allocate efficiently the money and re- sources of the City and County in order to meet the needs of O‘ahu 's anticipated future population.			X
(2) Provide adequate support facilities to accommodate future growth in the number of visitors to O‘ahu .			X
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu’s General Plan, in regards to Population, Objective B.			
Objective C. To establish a pattern of population distribution that will allow the people of O‘ahu to live and work in harmony.			
(1) Facilitate the full development of the primary urban center.			X
(2) Encourage development within the secondary urban center at Kapolei and the ‘Ewa and Central O‘ahu urban-fringe areas to relieve developmental pressures in the remaining urban-fringe and rural areas and to meet housing needs not readily provided in the primary urban center.			X
(3) Manage physical growth and development in the urban-fringe and rural areas so that: a. An undesirable spreading of development is prevented; and b. Their population densities are consistent with the character of development and environmental qualities desired for such areas.			
(4) Direct growth according to Policies 1, 2, and 3 above by providing land development capacity and needed infrastructure to seek a 2025 distribution of Oahu's residential population as follows: **Location** — **% Share of 2025 Islandwide Population** Primary Urban Center 46% ‘Ewa 13% Central O‘ahu 17% East Honolulu 5.3% Ko‘olaupoko 11.6% Ko‘olauloa 1.4% North Shore 1.7% Wai‘anae 4.0% **Total 100%**			X
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu’s General Plan, in regards to Population, Objective C.			
II. Economic Activity			
Objective A. To promote employment opportunities that will enable all the people of O‘ahu to attain a decent standard of living.			
(1) Encourage the growth and diversification of O‘ahu's economic base.	X		

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(2) Encourage the development of small businesses and larger industries which will contribute to the economic and social well-being of O‘ahu residents.			X
(3) Encourage the development in appropriate locations on O‘ahu of trade, communications, and other industries of a nonpolluting nature.			X
(4) Encourage the development of local, national, and world markets for the products of O‘ahu-based industries.	X		
(5) Encourage the wider distribution of available employment opportunities through such methods as shortening the work week and reducing the use of overtime.			X
(6) Encourage the continuation of a significant level of Federal employment on O‘ahu.			X
Discussion: The Proposed Action will support the City and County of Honolulu’s General Plan, in regards to Economic Activity, Objective A. The VAPDC is intended to strengthen agriculture in Hawai‘i. The project will serve as an integral part of implementing the State’s goal of investing in the agricultural industry for the benefit of state. It is envisioned that the VAPDC will offer a set of programs, services, and training that promote innovation and entrepreneurship within the agricultural industry. The VAPDC aims to develop students to be leaders and successful in the food sciences and agriculture industry. Specifically, the VAPDC will support postsecondary education programs aimed towards the development and marketing of value-added food products through recycling of nearby agricultural by products. The VAPDC will also market and develop products and platforms that promote the promulgation of locally grown food resources. Moreover, the facility will enhance and support the community college’s agricultural product processing curriculum, and also revitalizing a centrally located parcel in downtown Wahiawā, while fulfilling the Agribusiness Development Corporation’s larger objective to advance agriculture in Hawai‘i.			
Objective B. To maintain the viability of O‘ahu’s visitor industry.			
(1) Provide for the long-term viability of Waikiki as O‘ahu 's primary resort area by giving the area priority in visitor industry related public expenditures.			X
(2) Provide for a high quality and safe environment for visitors and residents in Waikiki.			X
(3) Encourage private participation in improvements to facilities in Waikiki.			X
(4) Prohibit major increases in permitted development densities in Waikiki.			X
(5) Prohibit further growth in the permitted number of hotel and resort condominium units in Waikiki.			X
(6) Permit the development of secondary resort areas in West Beach, Kahuku, Makaha, and Laie.			X
(7) Manage the development of secondary resort areas in a manner which respects existing lifestyles and the natural environment, and avoids substantial increases in the cost of providing public services in the area.			X
(8) Preserve the well-known and widely publicized beauty of Oahu for visitors as well as residents.			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(9) Encourage the visitor industry to provide a high level of service to visitors.			X
Discussion: The Proposed Action will not have an effect on maintaining the viability of O‘ahu’s visitor industry.			
Objective C. To maintain the viability agriculture on O‘ahu.			
(1) Assist the agricultural industry to ensure the continuation of agriculture as an important source of income and employment.	X		
(2) Support agricultural diversification in all agricultural areas on O‘ahu .			X
(3) Support the development of markets for local products, particularly those with the potential for economic growth.	X		
(4) Provide sufficient agricultural land in Ewa, Central Oahu, and the North Shore to encourage the continuation of sugar and pineapple as viable industries.			X
(5) Maintain agricultural land along the Windward, North Shore, and Waianae coasts for truck farming, flower growing, aquaculture, livestock production, and other types of diversified agriculture.			X
(6) Encourage the more intensive use of productive agricultural land.			X
(7) Encourage the use of more efficient production practices by agriculture, including the efficient use of water.	X		
(8) Encourage the more efficient use of non- potable water for agricultural use.			X
Discussion: The Proposed Action supports the City and County of Honolulu’s agriculture general plan. The VAPDC is intended to strengthen agriculture in Hawai‘i. The project will serve as an integral part of implementing the State’s goal of investing in the agricultural industry for the benefit of state. It is envisioned that the VAPDC will offer a set of programs, services, and training that promote innovation and entrepreneurship within the agricultural industry. The VAPDC aims to develop students to be leaders and successful in the food sciences and agriculture industry. Specifically, the VAPDC will support postsecondary education programs aimed towards the development and marketing of value-added food products through recycling of nearby agricultural by products. The VAPDC will also market and develop products and platforms that promote the promulgation of locally grown food resources. Moreover, the facility will enhance and support the community college’s agricultural product processing curriculum, and also revitalizing a centrally located parcel in downtown Wahiawā, while fulfilling the Agribusiness Development Corporation’s larger objective to advance agriculture in Hawai‘i.			
Objective D. To make full use of the economic resources of the sea.			
(1) Assist the fishing industry to maintain its viability.			X
(2) Encourage the development of aquaculture, ocean research, and other ocean- related industries.			X
(3) Focus the development of ocean related economic activities in the Northwestern Hawaiian Islands on those which are compatible with preserving the area's unique environmental, marine, and wildlife assets.			X
Discussion: The Proposed Action will not have an impact on the economic resources of the sea.			

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
Objective E. To prevent the occurrence of large scale unemployment.			
(1) Encourage the training and employment of present residents for currently available and future jobs.			X
(2) Make full use of State and Federal employment and training programs.			X
(3) Encourage the provision of retraining programs for workers in industries with planned reductions in their labor force.			X
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu's General Plan, in regards to Economic Activity, Objective E.			
Objective F. To increase the amount of federal spending on O'ahu.			
(1) Take full advantage of Federal programs and grants which will contribute to the economic and social well-being of O'ahu 's residents.			X
(2) Encourage the Federal government to pay for the cost of public services used by Federal agencies.			X
(3) Encourage the Federal government to lease new facilities rather than construct them on tax-exempt public land.			X
(4) Encourage the military to purchase locally all needed services and supplies which are available on O'ahu .			X
Discussion: The Proposed Action will not have an effect on the amount of federal spending on O'ahu, nor does the proposed project involve any federal funds.			
Objective G. To bring about orderly economic growth on O'ahu.			
(1) Direct major economic activity and government services to the primary urban center and the secondary urban center at Kapolei.			X
(2) Permit the moderate growth of business centers in the urban-fringe areas.			X
(3) Maintain sufficient land in appropriately located commercial and industrial areas to help ensure a favorable business climate on O'ahu .			X
(4) Encourage the continuation of a high level of military-related employment in the Hickam-Pearl Harbor, Wahiawa, Kailua-Kaneohe, and Ewa areas.			X
Discussion: The Proposed Action will not affect orderly economic growth on O'ahu.			
III. Natural Environment			
Objective A. To protect and preserve the natural environment.			
(1) Protect O'ahu 's natural environment, especially the shoreline, valleys, and ridges, from incompatible development.			X
(2) Seek the restoration of environmentally damaged areas and natural resources.			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(3) Retain the Island's streams as scenic, aquatic, and recreation resources.			X
(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.	X		
(5) Require sufficient setbacks of improvements in unstable shoreline areas to avoid the future need for protective structures.			X
(6) Design surface drainage and flood-control systems in a manner which will help preserve their natural settings.			X
(7) Protect the natural environment from damaging levels of air, water, and noise pollution.	X		
(8) Protect plants, birds, and other animals that are unique to the State of Hawai‘i and the Island of O‘ahu .	X		
(9) Protect mature trees on public and private lands and encourage their integration into new developments.			X
(10) Increase public awareness and appreciation of O‘ahu 's land, air, and water resources.			X
(11) Encourage the State and Federal governments to protect the unique environmental, marine, and wildlife assets of the Northwestern Hawaiian Islands.			X
Discussion: The proposed project will support the Objective A of Section III of the City and County of Honolulu General Plan. The proposed project gives due consideration to the natural features and environment of the site and surrounding area through this environmental assessment. Potential impacts to the natural setting and will be mitigated through BMPs during the implementation of the proposed project. This will ensure no impacts to plants, birds, and other animals unique to the island of O‘ahu and State of Hawai‘i.			
Objective B. To preserve and enhance the natural monuments and scenic views 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.			X
(2) Protect O‘ahu 's scenic views, especially those seen from highly developed and heavily traveled areas.			X
(3) Locate roads, highways, and other public facilities and utilities in areas where they will least obstruct important views of the mountains and the sea.			X
(4) Provide opportunities for recreational and educational use and physical contact with O‘ahu 's natural environment.			X
Discussion: The proposed project will not affect Objective B of Section III of the City and County of Honolulu General Plan.			
IV. Housing			
Objective A. To provide decent housing for all the people of O‘ahu at prices they can afford.			

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(1) Develop programs and controls which will provide decent homes at the least possible cost.			X
(2) Streamline approval and permit procedures for housing and other development projects.			X
(3) Encourage innovative residential development which will result in lower costs, added convenience and privacy, and the more efficient use of streets and utilities.			X
(4) Establish public, and encourage private, programs to maintain and improve the condition of existing housing.			X
(5) Make full use of State and Federal programs that provide financial assistance for low- and moderate-income homebuyers.			X
(6) Expand local funding mechanisms available to pay for government housing programs.			X
(7) Provide financial and other incentives to encourage the private sector to build homes for low- and moderate-income residents.			X
(8) Encourage and participate in joint public-private development of low- and moderate- income housing.			X
(9) Encourage the preservation of existing housing which is affordable to low- and moderate-income persons.			X
(10) Promote the construction of affordable dwellings which take advantage of Oʻahu 's year-round moderate climate.			X
(11) Encourage the construction of affordable homes within established low-density communities by such means as 'ohana' units, duplex dwellings, and cluster development.			X
(12) Encourage the production and maintenance of affordable rental housing.			X
(13) Encourage the provision of affordable housing designed for the elderly and the handicapped.			X
(14) Encourage equitable relationships between landowners and leaseholders, between landlords and tenants, and between condominium developers and owners.			X
Discussion: The Proposed Action will not have an effect on affordable housing on Oʻahu.			
Objective B. To reduce speculation in land and housing.			
(1) Encourage the State government to coordinate its urban-area designations with the developmental policies of the City and County.			X
(2) Discourage private developers from acquiring and assembling land outside of areas planned for urban use.			X
(3) Seek public benefits from increases in the value of land owing to City and State developmental policies and decisions.			X
(4) Require government-subsidized housing to be delivered to appropriate purchasers and renters.			X
(5) Prohibit the selling or renting of government-subsidized housing for large profits.			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu's General Plan, in regards to Housing, Objective B.			
Objective C. To provide the people of O'ahu with a choice of living environments which are reasonably close to employment, recreation, and commercial centers and which are adequately served by public utilities.			
(1) Encourage residential developments that offer a variety of homes to people of different income levels and to families of various sizes.			X
(2) Encourage the fair distribution of low- and moderate-income housing throughout the Island.			X
(3) Encourage residential development near employment centers.			X
(4) Encourage residential development in areas where existing roads, utilities, and other community facilities are not being used to capacity.			X
(5) Discourage residential development where roads, utilities, and community facilities cannot be provided at a reasonable cost.			X
(6) Preserve older communities through self-help, housing-rehabilitation, improvement districts, and other governmental programs.			X
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu's General Plan, in regards to Housing, Objective C.			
V. Transportation & Utilities			
Objective A. To create a transportation system which will enable people and goods to move safely, efficiently, and at a reasonable cost; serve all people, including the poor, the elderly, and the physically handicapped; and offer a variety of attractive and convenient modes of travel.			
(1) Develop and maintain an integrated ground-transportation system consisting of the following elements and their primary purposes:			
a. Public transportation-for travel to and from work, and travel within Central Honolulu;			X
b. Roads and highways-for commercial traffic and travel in nonurban areas;			X
c. Bikeways-for recreational activities and trips to work, schools, shopping centers, and community facilities; and			X
d. Pedestrian walkways-for getting around Downtown and Waikiki, and for trips to schools, parks, and shopping centers.			X
(2) Provide transportation services to people living within the Ewa, Central O'ahu , and Pearl City-Hawai'i Kai corridors primarily through a mass transit system including exclusive right-of-way rapid transit and feeder-bus components as well as through the existing highway system with limited improvements as may be appropriate.			X
(3) Provide transportation services outside the Ewa, Central O'ahu , and Pearl City-Hawai'i Kai corridors primarily through a system of express- and feeder-buses as well as through the highway system with limited to moderate improvements sufficient to meet the needs of the communities being served.			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(4) Improve transportation facilities and services in the Ewa corridor and in the trans-Koolau corridors to meet the needs of Ewa and Windward communities.			X
(5) Improve roads in existing communities to reduce congestion and eliminate unsafe conditions.			X
(6) Consider both environmental impact as well as construction and operating costs as important factors in planning alternative nodes of transportation.			X
(7) Promote the use of public transportation as a means of moving people quickly and efficiently, of conserving energy, and of guiding urban development.			X
(8) Make available transportation services to people with limited mobility: the young, the elderly, the handicapped, and the poor.			X
(9) Promote programs to reduce dependence on the use of automobiles.			X
(10) Discourage the inefficient use of the private automobile, especially in congested corridors and during peak-hours.			X
(11) Make public, and encourage private, improvements to major walkway systems.			X
(12) Encourage the provision of separate aviation facilities for small civilian aircraft.			X
(13) Facilitate the development of a second deep-water harbor to relieve congestion in Honolulu Harbor.			X
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu's General Plan, in regards to Transportation & Utilities, Objective A.			
Objective B. To meet the needs of the people of O'ahu for an adequate supply of water and for environmentally sound systems of waste disposal.			
(1) Develop and maintain an adequate supply of water for both residents and visitors.			X
(2) Develop and maintain an adequate supply of water for agricultural and industrial needs.			X
(3) Encourage the development of new technology which will reduce the cost of providing water and the cost of waste disposal.			X
(4) Encourage a lowering of the per-capita consumption of water and the per-capita production of waste.			X
(5) Provide safe, efficient, and environmentally sensitive waste-collection and waste- disposal services.			X
(6) Support programs to recover resources from solid-waste and recycle wastewater.			X
(7) Require the safe disposal of hazardous waste.			X
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu's General Plan, in regards to Transportation & Utilities, Objective B.			

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
Objective C. To maintain a high level of service for all utilities.			
(1) Maintain existing utility systems in order to avoid major breakdowns.			X
(2) Provide improvements to utilities in existing neighborhoods to reduce substandard conditions.			X
(3) Plan for the timely and orderly expansion of utility systems.			X
(4) Increase the efficiency of public utilities by encouraging a mixture of uses with peak periods of demand occurring at different times of the day.			X
Discussion: The Proposed Action will not have an impact on service for utilities.			
Objective D. To maintain transportation and utility systems which will help O‘ahu continue to be a desirable place to live and visit.			
(1) Give primary emphasis in the capital- improvement program to the maintenance and improvement of existing roads and utilities.			X
(2) Use the transportation and utility systems as a means of guiding growth and the pattern of land use on O‘ahu .			X
(3) Encourage the study and use of telecommunications as an alternative to conventional transportation facilities.			X
(4) Evaluate the social, economic, and environ- mental impact of additions to the transportation and utility systems before they are constructed.			X
(5) Require the installation of underground utility lines wherever feasible.			X
(6) Seek improved taxing powers for the City and County in order to provide a more equitable means of financing transportation and utility services.			X
Discussion: The Proposed Action will not impact the City and County of Honolulu’s General Plan, with respect to Transportation & Utilities, Objective D.			
VI. Energy			
Objective A. To maintain an adequate, dependable, and economical supply of energy for O‘ahu residents.			
(1) Develop and maintain a comprehensive plan to guide and coordinate energy conservation and alternative energy development and utilization programs on O‘ahu .			X
(2) Establish economic incentives and regulatory measures which will reduce O‘ahu 's dependence on petroleum as its primary source of energy.			X
(3) Support programs and projects which contribute to the attainment of energy self- sufficiency on O‘ahu .			X
(4) Promote and assist efforts to establish adequate petroleum reserves within Hawai‘i's boundaries.			X
(5) Give adequate consideration to environ- mental, public health, and safety concerns, to resource limitations, and to relative costs when making decisions concerning alternatives for conserving energy and developing natural energy resources.			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(6) Work closely with the State and Federal governments in the formulation and implementation of all City and County energy-related programs.			X
Discussion: The Proposed Action will not effect the supply of energy for O'ahu residents.			
Objective B. To conserve energy through the more efficient management of its use.			
(1) Ensure that the efficient use of energy is a primary factor in the preparation and administration of land use plans and regulations.			X
(2) Provide incentives and, where appropriate, mandatory controls to achieve energy- efficient siting and design of new developments.			X
(3) Carry out public, and promote private, programs to more efficiently use energy in existing buildings and outdoor facilities.			X
(4) Promote the development of an energy- efficient transportation system.			X
Discussion: The Proposed Action does not relate to the efficiency of energy usage.			
Objective C. To fully utilize proven alternative sources of energy.			
(1) Encourage the use of commercially available solar energy systems in public facilities, institutions, residences, and business developments.			X
(2) Support the increased use of operational solid waste energy recovery and other biomass energy conversion systems.			X
Discussion: The Proposed Action will not have an effect on alternative sources of energy.			
Objective D. To develop and apply new, locally available energy resources.			
(1) Support and participate in research, development, demonstration, and commercialization programs aimed at producing new, economical, and environmentally sound energy supplies from:			
a. solar insolation;			X
b. biomass energy conversion;			X
c. wind energy conversion;			X
d. geothermal energy; and			X
e. ocean thermal energy conversion.			X
(2) Secure State and Federal support of City and County efforts to develop new sources of energy.			X
Discussion: The Proposed Action will not have an impact on the research or development of renewable energy resources.			
Objective E. To establish a continuing information program.			
(1) Supply citizens with the information they need to fully understand the potential supply, cost, and other problems associated with O'ahu's dependence on imported petroleum.			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(2) Foster the development of an energy conservation ethic among O‘ahu residents.			X
(3) Keep consumers informed about available alternative energy sources and their costs and benefits.			X
(4) Provide information concerning the impact of public and private decisions on future energy use.			X
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu’s General Plan, in regards to Energy, Objective E.			
VII. Physical Development and Urban Design			
Objective A. To coordinate changes in the physical environment of O‘ahu to ensure that all new developments are timely, well-designed, and appropriate for the areas in which they will be located.			
(1) Plan for the construction of new public facilities and utilities in the various parts of the Island according to the following order of priority: first, in the primary urban center; second, in the secondary urban center at Kapolei; and third, in the urban- fringe and rural areas.			X
(2) Coordinate the location and timing of new development with the availability of adequate water supply, sewage treatment, drainage, transportation, and public safety facilities.	X		
(3) Phase the construction of new developments so that they do not require more regional supporting services than are available.			X
(4) Require new developments to provide or pay the cost of all essential community services, including roads, utilities, schools, parks, and emergency facilities that are intended to directly serve the development.			X
(5) Provide for more compact development and intensive use of urban lands where compatible with the physical and social character of existing communities.			X
(6) Encourage the clustering of developments to reduce the cost of providing utilities and other public services.			X
(7) Locate new industries and new commercial areas so that they will be well related to their markets and suppliers, and to residential areas and transportation facilities.			X
(8) Locate community facilities on sites that will be convenient to the people they are intended to serve.			X
(9) Exclude from residential areas, uses which are major sources of noise and air pollution.			X
(10) Establish danger zones to exclude incompatible uses from hazardous areas surrounding airfields, electromagnetic- radiation sources, and storage places for fuel and explosives.			X
(11) Prohibit new airfields, electromagnetic- radiation sources, and storage places for fuel and explosives from locating on sites where they will endanger or disrupt nearby communities.			X
Discussion: The Proposed Action will support the City and County of Honolulu’s physical development and urban design general plan.			

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
The proposed project will be located in downtown Wahiawā on an existing developed site with adequate utility capacity as BWS and ENV have been consulted with during the design and project process. Moreover, a traffic impact assessment report has been prepared in conjunction with this environmental assessment and is further discussed in Section 3.11.			
Objective B. To develop Honolulu (Waialae-Kahala to Halawa), Aiea, and Pearl City as the Island's primary urban center.			
(1) Stimulate development in the primary urban center by means of the City and County's capital improvement program and State and Federal grant and loan programs.			X
(2) Provide for the expanded development of low-rise multi-unit housing.			X
(3) Encourage the establishment of mixed-use districts with appropriate design and development controls to insure an attractive living environment and compatibility with surrounding land uses.			X
(4) Provide downtown Honolulu and other major business centers with a well-balanced mixture of uses.			X
(5) Encourage the development of attractive residential communities in downtown and other business centers.			X
(6) Maintain and improve downtown as the financial and office center of the Island, and as a major retail center.			X
(7) Provide for the continued viability of the Hawai‘i Capital District as a center of government activities and as an attractive park-like setting in the heart of the City.			X
(8) Foster the development of Honolulu's waterfront as the State's major port and maritime center, as a people-oriented mixed-use area, and as a major recreation area.			X
(9) Facilitate the redevelopment of Kakaako as a major residential, as well as commercial and light industrial area.			X
Discussion: The Proposed Action will not have an impact on developing O‘ahu's primary urban center as the project site is located in downtown Wahiawā.			
Objective C. To develop a secondary urban center with its nucleus in the Kapolei area.			
(1) Allocate funds from the City and County's capital-improvement program for public projects that are needed to facilitate development of the secondary urban center at Kapolei.			X
(2) Encourage the development of a major residential, commercial, and employment center within the secondary urban center at Kapolei.			X
(3) Encourage the continuing development of Barbers Point as a major industrial center.			X
(4) Coordinate plans for the development of the secondary urban center at Kapolei with the State and Federal governments and with the sugar industry.			X
(5) Cooperate with the State and Federal governments in the development of a deep water harbor at Barbers Point.			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(6) Encourage the development of the Ewa Marina Community as a major residential and recreation area emphasizing recreational boating activities through the provision of a major marina and a related maritime commercial center containing light-industrial, commercial, and visitor accommodation uses.			X
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu's General Plan, in regards to Physical Development and Urban Design, Objective C as the project site is located in downtown Wahiawā.			
Objective D. To maintain those development characteristics in the urban-fringe and rural areas which make them desirable places to live.			
(1) Develop and maintain urban-fringe areas as predominantly residential areas characterized by generally low rise, low density development which may include significant levels of retail and service commercial uses as well as satellite institutional and public uses geared to serving the needs of households.			X
(2) Coordinate plans for developments within the Ewa and Central O‘ahu urban-fringe areas with the State and Federal governments and with the sugar, pineapple, and other emerging agricultural industries.			X
(3) Establish a green belt in the Ewa and Central O‘ahu areas of O‘ahu in the Development Plans.			X
(4) Maintain rural areas as areas which are intended to provide environments supportive of lifestyle choices which are dependent on the availability of land suitable for small to moderate size agricultural pursuits, a relatively open and scenic setting, and/or a small town, country atmosphere consisting of communities which are small in size, very low density and low rise in character, and may contain a mixture of uses.			X
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu's General Plan, in regards to Physical Development and Urban Design, Objective D.			
Objective E. To create and maintain attractive, meaningful, and stimulated environments throughout O‘ahu.			
(1) Prepare and maintain a comprehensive urban-design plan for the Island of O‘ahu.			X
(2) Integrate the City and County's urban- design plan into all levels of physical planning and developmental controls.			X
(3) Encourage distinctive community identities for both new and existing districts and neighborhoods.			X
(4) Require the consideration of urban-design principles in all development projects.			X
(5) Require new developments in stable, established communities and rural areas to be compatible with the existing communities and areas.	X		
(6) Provide special design standards and controls that will allow more compact development and intensive use of lands in the primary urban center.			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(7) Promote public and private programs to beautify the urban and rural environments.			X
(8) Preserve and maintain beneficial open space in urbanized areas.			X
(9) Design public structures to meet high aesthetic and functional standards and to complement the physical character of the communities they will serve.			X
(10) Establish a review process to evaluate the design of major development projects.			X
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu's General Plan, in regards to Physical Development and Urban Design, Objective E.			
Objective F. To promote and enhance the social and physical character of O'ahu's older towns and neighborhoods.			
(1) Encourage new construction to complement the ethnic qualities of the older communities of O'ahu .			X
(2) Encourage, wherever desirable, the rehabilitation of existing substandard structures.	X		
(3) Provide and maintain roads, public facilities, and utilities without damaging the character of older communities.			X
(4) Seek the satisfactory relocation of residents before permitting their displacement by new development, redevelopment, or neighborhood rehabilitation.			X
Discussion: The Proposed Action support Objective F of the City and County of Honolulu's physical development and urban design general plan. The VAPDC will repurpose an existing metal warehouse that was originally the Tamura Wholesale Outlet to house UHCC programs and training to advance agriculture in Hawai'i.			
VIII. Public Safety			
Objective A. To prevent and control crime and maintain public order.			
(1) Provide a safe environment for residents and visitors on O'ahu .			X
(2) Provide adequate criminal justice facilities and staffing for City and County law- enforcement agencies.			X
(3) Emphasize improvements to police and prosecution operations which will result in a higher proportion of wrongdoers who are arrested, convicted, and punished for their crimes.			X
(4) Keep the public informed of the nature and extent of criminal activity on O'ahu .			X
(5) Establish and maintain programs to encourage public cooperation in the prevention and solution of crimes.			X
(6) Seek the help of State and Federal law- enforcement agencies to curtail the activities of organized crime syndicates on O'ahu .			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(7) Conduct periodic reviews of criminal laws to ensure their relevance to the community's needs and values.			X
(8) Cooperate with other law-enforcement agencies to develop new methods of fighting crime.			X
(9) Encourage the improvement of rehabilitation programs and facilities for criminals and juvenile offenders.			X
Discussion: The Proposed Action will not have an effect on public safety.			
Objective B. To protect the people of O‘ahu and their property against natural disasters and other emergencies, traffic and fire hazards, and unsafe conditions.			
(1) Keep up-to-date and enforce all City and County safety regulations.			X
(2) Require all developments in areas subject to floods and tsunamis to be located and constructed in a manner that will not create any health or safety hazard.			X
(3) Participate with State and Federal agencies in the funding and construction of flood- control projects.			X
(4) Cooperate with State and Federal agencies to provide tsunami warning and protection for O‘ahu .			X
(5) Cooperate with State and Federal agencies to provide protection from war, civil disruptions, and other major disturbances.			X
(6) Reduce hazardous traffic conditions.			X
(7) Provide adequate fire protection and effective fire prevention programs.			X
(8) Provide adequate search and rescue and disaster response services.			X
(9) Design safe and secure public buildings.			X
(10) Provide adequate staff to supervise activities at public facilities.			X
(11) Develop civil defense plans and programs to protect and promote public health, safety and welfare of the people.			X
(12) Provide educational materials on civil defense preparedness, fire protection, traffic hazards and other unsafe conditions.			X
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu’s General Plan, in regards to Public Safety, Objective B.			
IX. Health and Education			
Objective A. To protect the health of the people of O‘ahu.			
(1) Encourage the provision of health-care facilities that are accessible to both employment and residential centers.			X
(2) Encourage prompt and adequate ambulance and first-aid services in all areas of O‘ahu .			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(3) Coordinate City and County health codes and other regulations with State and Federal health codes to facilitate the enforcement of air-, water-, and noise-pollution controls.			X
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu's General Plan, in regards to Health and Education, Objective A.			
Objective B. To provide a wide range of educational opportunities for the people of O'ahu.			
(1) Support education programs that encourage the development of employable skills.	X		
(2) Encourage the provision of informal educational programs for people of all age groups.			X
(3) Encourage the after-hours use of school buildings, grounds, and facilities.			X
(4) Encourage the construction of school facilities that are designed for flexibility and high levels of use.	X		
(5) Facilitate the appropriate location of learning institutions from the preschool through the university levels.	X		
Discussion: The Proposed Action support Objective B of Section IX of the City and County General Plan. The VAPDC will offer a set of programs, services, and training that promote innovation and entrepreneurship within the agricultural industry. The VAPDC will provide students access to facilities, capital, non-credit/credit, and opportunities to learn and develop skills in entrepreneurship as it relates to product development. Specifically, the VAPDC will support postsecondary education programs aimed towards the development and marketing of value-added food products through recycling of nearby agricultural byproducts.			
Objective C. To make Honolulu the center of higher education in the Pacific.			
(1) Encourage continuing improvement in the quality of higher education in Hawai'i.	X		
(2) Encourage the development of diverse opportunities in higher education.	X		
(3) Encourage research institutions to establish branches on O'ahu .			X
Discussion: The Proposed Action will support Objective C of Section IX of the City and County General Plan. The goal of the project is to repurpose the existing warehouse as the VAPDC that will be jointly managed by the University of Hawai'i Community Colleges and the DOA's Agribusiness Development Corporation. The warehouse was acquired in 2013 by the Agribusiness Development Corporation to advance agriculture in Hawai'i. The VAPDC will offer a set of programs, services, and training that promote innovation and entrepreneurship within the agricultural industry. The VAPDC will provide students access to facilities, capital, non-credit/credit, and opportunities to learn and develop skills in entrepreneurship as it relates to product development. Specifically, the VAPDC will support postsecondary education programs aimed towards the development and marketing of value-added food products through recycling of nearby agricultural byproducts.			

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
The VAPDC will also market and develop products and platforms that promote the promulgation of locally grown food resources. The VAPDC aims to develop students to be leaders and successful in the food sciences industry and food systems development.			
X. Culture and Recreation			
Objective A. To foster the multiethnic culture of Hawai‘i.			
(1) Encourage the preservation and enhancement of Hawai‘i's diverse cultures.			X
(2) Encourage greater public awareness, understanding, and appreciation of cultural heritage and contributions to Hawai‘i made by the City's various ethnic groups.			X
(3) Encourage opportunities for better interaction among people with different ethnic, social, and cultural backgrounds.			X
(4) Encourage the protection of the ethnic identities of the older communities of O‘ahu .			X
Discussion: The Proposed Action will not impact the multiethnic culture of Hawai‘i.			
Objective B. To protect O‘ahu’s cultural, historic, architectural, and archaeological resources.			
(1) Encourage the restoration and preservation of early Hawaiian structures, artifacts, and landmarks.			X
(2) Identify, and to the extent possible, preserve and restore buildings, sites, and areas of social, cultural, historic, architectural, and archaeological significance.			X
(3) Cooperate with the State and Federal governments in developing and implementing a comprehensive preservation program for social, cultural, historic, architectural, and archaeological resources.			X
(4) Promote the interpretive and educational use of cultural, historic, architectural, and archaeological sites, buildings, and artifacts.			X
(5) Seek public and private funds, and public participation and support, to protect social, cultural, historic, architectural, and archaeological resources.			X
(6) Provide incentives for the restoration, preservation, and maintenance of social, cultural, historic, architectural, and archaeological resources.			X
Discussion: The Proposed Action will not impact the City and County of Honolulu’s General Plan, in regards to Culture and Recreation, Objective B.			
Objective C. To foster the visual and performing arts.			
(1) Encourage and support programs and activities for the visual and performing arts.			X
(2) Encourage creative expression and access to the arts by all segments of the population.			X
(3) Provide permanent art in appropriate City public buildings and places.			X
Discussion: The Proposed Action will not affect visual or performing arts.			

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
Objective D. To provide a wide range of recreational facilities and services that are readily available to all residents of O‘ahu.			
(1) Develop and maintain community-based parks to meet the needs of the different communities on O‘ahu .			X
(2) Develop and maintain a system of regional parks and specialized recreation facilities.			X
(3) Develop and maintain urban parks, squares, and beautification areas in high density urban places.			X
(4) Encourage public and private botanic and zoological parks on O‘ahu to foster an awareness and appreciation of the natural environment.			X
(5) Encourage the State to develop and maintain a system of natural resource-based parks, such as beach, shoreline, and mountain parks.			X
(6) Provide convenient access to all beaches and inland recreation areas.			X
(7) Provide for recreation programs which serve a broad spectrum of the population.			X
(8) Encourage ocean and water-oriented recreation activities that do not adversely impact on the natural environment.			X
(9) Require all new developments to provide their residents with adequate recreation space.			X
(10) Encourage the private provision of recreation and leisure-time facilities and services.			X
(11) Encourage the after-hours, weekend, and summertime use of public schools facilities for recreation.			X
(12) Provide for safe and secure use of public parks, beaches, and recreation facilities.			X
(13) Encourage the safe use of O‘ahu 's ocean environments.			X
(14) Encourage the State and Federal governments to transfer excess and underutilized land to the City and County for public recreation use.			X
Discussion: The Proposed Action is not applicable to the City and County of Honolulu’s General Plan, in regards to Culture and Recreation, Objective D.			
XI. Government Operations and Fiscal Management			
Objective A. To promote increased efficiency, effectiveness, and responsiveness in the provision of government services by the City and County of Honolulu.			
(1) Maintain City and County government services at the level necessary to be effective.			X
(2) Promote consolidation of State and City and County functions whenever more efficient and effective delivery of government programs and services can be achieved.			X

Table 4-5: City and County of Honolulu: General Plan – Objectives and Policies	S	NS	N/A
(3) Ensure that government attitudes, actions, and services are sensitive to community needs and concerns.			X
(4) Prepare, maintain, and publicize policies and plans which are adequate to guide and coordinate City programs and regulatory responsibilities.			X
Discussion: The Proposed Action will not have an effect on the City and County of Honolulu's General Plan, in terms of Government Operations and Fiscal Management, Objective A.			
Objective B. To ensure fiscal integrity, responsibility, and efficiency by the City and County government in carrying out its responsibilities.			
(1) Provide for a balanced budget.			X
(2) Allocate fiscal resources of the City and County to efficiently implement the policies of the General Plan and Development Plans.			X
Discussion: The Proposed Action will not impact the City and County of Honolulu's General Plan, in terms of Government Operations and Fiscal Management, Objective B.			

4.2.2 Central O'ahu Sustainable Communities Plan (2002)

The project site is located within the Central O'ahu Sustainable Communities Plan area. It is one of a set of eight community plans intended to help guide public policy, investment, and decision-making over the next 25 years. Each plan addresses one of eight regions of O'ahu, responding to specific to specific conditions and community values of each region.

Table 4-6: Central O'ahu Sustainable Communities Plan	S	NS	N/A
3.1 Open Space Preservation and Development			
Mountain Areas			
(1) Public campgrounds and hiking trails should be acquired and maintained in the areas beyond the Urban Community Boundary on the slopes of both the Wai'anae Range and the Ko'olau Range.			X
(2) Public access to mountain areas, including vehicular access to trail heads and public campgrounds, should be required when new mauka developments are approved.			X
(3) At higher elevations, in the State Conservation District, the forest should be maintained. Utility corridors and other uses should avoid disturbance to areas with high concentrations of native species.			X
(4) Endangered species habitats and other important ecological zones should be identified and protected from threats such as fire, weeds, feral animals and human activity.			X
(5) Areas proposed by the State Office of State Planning in the State Land Use District Boundary Review (1992) for addition to the State Conservation District to protect the Leeward Ko'olau Watershed and the hydrologic zone of contribution to the Navy Shaft in Wahiawā should be protected from urban development; provided, however, that urban uses such as utility installations and public facilities specifically approved by the State Department of Health and the Honolulu Board of Water Supply may be permitted within the zone of contribution.			X

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
Discussion: The Proposed Action will not have an effect on mountain areas.			
Natural Gulches and Drainageways			
(1) The major natural gulches within the Urban Community Boundary, should be preserved as part of the open space system.			X
(2) Planned improvements to Central O‘ahu drainage systems should be integrated into the regional open space network by emphasizing the use of retention basins and recreational access in the design approach.			X
Discussion: The Proposed Action will not have an impact on natural gulches and drainageways.			
Shoreline Areas			
(1) Public access to the Pearl Harbor shoreline should be provided at intervals of approximately one mile, except where access is restricted by the military for security reasons.			X
(2) Nearshore wetlands and mangroves should be maintained and enhanced, where necessary, as wildlife habitats.			X
(3) At a minimum, a 60 foot setback should be provided along the shoreline, and should, where possible, be expanded to 150 feet.			X
Discussion: The Proposed Action will not impact the shoreline areas as the project site is located approximately 8 miles from the shoreline of Pearl Harbor.			
Agricultural Areas			
(1) Facilities necessary to support intensive cultivation of arable agricultural lands should be permitted.			X
(2) Facilities to support limited outdoor recreation use, such as camping, horseback riding and hiking, should be permitted in areas where agricultural use is not feasible.			X
(3) Residential use should be permitted only to the extent that it is accessory to the agricultural use. Where several dwellings are planned as part of an agricultural use, they should be sited and clustered to avoid the use of more productive agricultural lands and to reduce infrastructure costs.			X
(4) Buildings and other facilities that are accessory to an agricultural operation should be designed and located to minimize impact on nearby urban areas and roadways.	X		
Discussion: The Proposed Action will support the Central O‘ahu Sustainable Communities Plan, in regards to agricultural areas. The VAPDC is intended to strengthen agriculture in Hawai‘i. The project will serve as an integral part of implementing the State’s goal of investing in the agricultural industry for the benefit of state. It is envisioned that the VAPDC will offer a set of programs, services, and training that promote innovation and entrepreneurship within the agricultural industry. The VAPDC aims to develop students to be leaders and successful in the food sciences and agriculture industry. Specifically, the VAPDC will support postsecondary education programs aimed towards the development and marketing of value-added food products through recycling of nearby agricultural by products. The VAPDC will also market and develop products and platforms that promote the promulgation of locally grown food resources. Moreover, the facility will enhance and support the community college’s agricultural product processing curriculum, and also revitalizing a centrally located parcel in downtown Wahiawā, while fulfilling the Agribusiness Development Corporation’s larger objective to advance agriculture in Hawai‘i.			
Parks			

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
(1) A major Central O‘ahu Regional Park of approximately 270 acres is being developed at the site known as "Waiola," north of Waikele and west of Waipio. Distant views of the Waianae Range from Kamehameha Highway should be maintained in the development and siting of facilities and landscaping in this park.			X
(2) Trails leading from Central O‘ahu Regional Park to Waikele Gulch, connecting to a trail system throughout Central O‘ahu 's gulches, should be developed.			X
(3) A major new shoreline park should be established at Waipio Peninsula, giving access from Waipahu to the Pearl Harbor shoreline on the West Loch and Middle Loch.			X
(4) District parks within master-planned residential communities should include passive areas for picnicking and large, outdoor community gatherings.			X
(5) Wahiawa Botanical Garden should be retained primarily as a gulch in its natural state.			X
(6) Wahiawa Freshwater Park should be expanded to include most of the area adjacent to the Wahiawa Reservoir, limiting public access only as necessary to protect water quality and public safety.			X
Discussion: The Proposed Action will not impact parks.			
Golf Courses			
(1) Golf courses should be located and designed to optimize their function as drainage retention areas and as buffers between developments.			X
(2) In designing new golf courses, the impact of the course on existing and proposed trails, paths, and bike routes should be considered, and where necessary for these trails, paths, and bikeways, safe corridors by or through the course should be provided.			X
(3) Golf courses should be designed to provide view amenities for adjacent urban areas, including public rights-of-way.			X
(4) When screening is necessary for safety reasons, landscape treatment, setbacks and modifications to the course layout should be used rather than fencing or solid barriers.			X
Discussion: The Proposed Action does not involve golf courses.			
Wildland – Urban Fire Hazard Setbacks			
(1) As determined appropriate by the Honolulu Fire Department, residential or commercial developments which are adjacent either to preservation areas within the Urban Community Boundary or to lands within the State Conservation District may be required to provide a setback to reduce the risk of fire spreading from the "wildlands" to the developed area. Typically, such a setback would be 20 feet wide and should be landscaped with low growth, low-burn plantings.			X
Discussion: The Proposed Action will not have an effect on nearby wildlands as the project site is located in downtown Wahiawā and is situated within the State Urban District.			
Greenways and Open Space Corridors			
(1) Sufficient easement width should be provided for the major trunk lines and transmission lines for utility systems, when their alignment is not within a			X

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
road right-of-way, to permit the growth of landscaping within the easement, consistent with all applicable operations, maintenance, and safety requirements.			
(2) When existing overhead transmission lines are located within or adjacent to a road right-of-way, there should be sufficient width to permit the growth of landscaping adjacent to the transmission line, consistent with all applicable operations, maintenance, and safety requirements. The purpose of the landscaping is to divert attention from the overhead lines and, preferably, obscure views of the overhead lines from the travelway and adjacent residential areas. New transmission lines should be placed underground where possible under criteria specified in State law.			X
(3) The use of utility easements for pedestrian and bicycle routes should be permitted, consistent with all applicable operations, maintenance, and safety requirements.			X
(4) The rights-of-way for major arterials and major collector streets should be designed as landscaped parkways or greenways, complete with a landscaped median strip, landscaped sidewalk, and bikeways. Major arterials should have separate bike paths, and major collectors should have bike lanes. Suggested width for major arterials, including right-of-way and planting strips, is 120 feet wide and for major collectors is 100 feet wide.			X
(5) Where urban development abuts the H-2 Freeway, an open space/landscaped buffer of sufficient size should be provided to preserve a view of green, minimize the visual intrusiveness of the development, and reduce the noise and air quality impact of the freeway traffic on the abutting development.			X
(6) Wahiawa Botanic Garden should be linked to the Wahiawa Freshwater Park on Lake Wilson by a trail through the gulch connecting the two areas.			X
Discussion: The Proposed Action does not relate to greenways and open-space corridors.			
3.2 Regional Parks and Recreation Complexes			
Islandwide and Regional Parks			
(1) Central O‘ahu Regional Park, a major park of approximately 270 acres, is being developed at the site known as "Waiola," near Waikele and Waipio. Distant views of the Waianae Range from Kamehameha Highway should be maintained in the development and siting of park landscaping and facilities.			X
(2) Trails leading from the Central O‘ahu Regional Park to Waikele Gulch, connecting to a trail system throughout Central O‘ahu 's gulches, should be provided.			X
(3) A major new shoreline park should be established at Waipio Peninsula, giving access from Waipahu to the Pearl Harbor shoreline.			X
(4) District parks within master-planned residential communities should include passive areas for picnicking and large, outdoor community gatherings.			X
(5) Wahiawa Botanical Garden should be retained primarily as a gulch in its natural state.			X
(6) Wahiawa Freshwater Park should be expanded to include most of the area adjacent to the Wahiawa Reservoir, limiting public access only as necessary to protect water quality and public safety.			X

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
Discussion: The Proposed Action does not relate to regional parks and recreation complexes.			
Sports and Recreation Complexes			
Definition of Use Areas			
(1) Uses that attract a high number of people for events should be separated as much as possible from residential areas and wildlife habitats.			X
(2) Parking areas for sporting events should provide amenities and service facilities to accommodate "tailgate" picnics, as well as nearby picnic tables and outdoor grills.			X
Transportation Facilities			
(1) Bus loading areas and shelters and bicycle parking facilities should be located as close as possible to entry gates for special events areas.			X
(2) Bus stops should be located at all principal activity areas.			X
Views			
(1) Facilities for special events should be located and designed to be readily visible and identifiable from the principal transportation corridors that lead to them.			X
(2) The visual identity of the complex should be established through distinctive architecture, landscaping, or natural setting.			X
Landscape Treatment			
(1) The visibility of perimeter fencing, parking lots and garages and other utilitarian elements should be minimized through plantings or other appropriate visual screens along roadway frontages.			X
(2) In large parking lots, canopy trees should be used to provide shade. Special paving or pavement markings could be used to indicate pedestrian routes to destinations and differentiate sections of the parking area.			X
Natural Environment			
(1) Wetland and other wildlife habitat areas shall be retained, protected, and incorporated as passive recreational resources.			X
Siting			
(1) Island-wide and regional parks and golf courses are shown on the Open Space Map and the Public Facilities Maps in Appendix A.			X
(2) Change in the location of an island-wide park or a golf course shall require a City review and approval process which provides adequate public notice and input.			X
(3) Funding for new park facilities shall be committed according to the priority for development of the area surrounding the park location, as indicated on the Phasing Map in Appendix A.			X
(4) Regional sports and recreation complexes may be located on the Waipio Peninsula, at the Central O‘ahu Regional Park, and in areas designated for commercial, industrial, or park use, subject to a City review and approval process which provides public review and complete analysis.			X
Discussion: The Proposed Action will not have an effect on sports and recreation complexes.			

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
3.3 Community Based Parks			
Development of Community-Based Parks			
(1) The Department of Parks and Recreation should co-locate Neighborhood or Community Parks with elementary or intermediate schools and coordinate design of facilities when efficiencies in development and use of athletic, recreation, meeting, and parking facilities can be achieved.			X
(2) The Department of Parks and Recreation should coordinate the development and use of athletic facilities such as swimming pools and gymnasiums with the State Department of Education (DOE) where such an arrangement would maximize use and reduce duplication of function.			X
(3) Where feasible, the Department of Parks and Recreation should site Community and Neighborhood Parks at the center of neighborhoods, in order to maximize accessibility.			X
(4) Development master plans should provide accessible pathways from surrounding streets to facilitate pedestrian and bicycle access to all features in parks.			X
Discussion: The Proposed Action will not have an effect on community based parks.			
Access to Ravines and Mountain Trails			
(1) Where appropriate, new developments should provide a public access easement and parking area for hikers from the mauka boundary to a public mountain trail easement.			X
(2) Where appropriate, new developments should provide a means for a safe trail to major Central O‘ahu gulches which are either within or adjacent to the project area.			X
Discussion: The Proposed Action will not impact access to ravines and mountain trails.			
Siting			
(1) Conceptual locations for district parks are shown on the Open Space Map in Appendix A. These locations may be revised without needing to amend the Sustainable Communities Plan when more detailed site information and planning analysis is available.			X
(2) Community and neighborhood parks are part of the open space system, but their location is determined more by community facility design considerations than by their relationship to the regional open space network. Siting of Community and Neighborhood Parks should be reviewed and decided at the time the Project Master Plan is submitted, prior to the granting of a zone change.			X
Discussion: The Proposed Action will not have an effect on siting.			
3.4 Historic and Cultural Resources			
OR&L Historic Railway			
Method of Preservation			

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
(1) The existing railway and associated structures should be repaired or reconstructed to the extent feasible, in order to permit its use for historic and educational rides.			X
(2) Preferably, the route would extend from Aiea to Nanakuli. Currently, the Hawaiian Railway Society operates a train between Ewa Villages and Kahe Park near Nanakuli.			X
(3) The first phase of railway restoration efforts should initially focus on restoring the historic rail link between Ewa Villages and Waipahu, with a train station at Waipahu Depot and a railroad stop and turnaround at the Waipahu Cultural Garden.			X
Adaptive Reuse			
(1) Expansion and use of the railroad to promote the history and culture of the area should be encouraged.			X
(2) There should be a parallel paved shared-use path for bicycles and pedestrians along the length of the rail route, either within or adjacent to the right-of-way. The path should be provided even in those sections where the railroad itself is not operational.			X
Adjacent Uses			
(1) Design of structures and elements related to the Pearl Harbor Historic Trail should reflect the historic nature of the railway and its surroundings.			X
(2) New development should be set back a minimum of 50 feet on either side of the OR&L right-of-way, unless it is either directly related to the operation of the railroad, or reconstruction of an historic use, or use of the right-of-way for open space and bikeway purposes; or is otherwise specified in existing land use approvals.			X
(3) Landscaping should be provided along the adjacent path, with occasional rest stops with seating and other amenities.			X
(4) Railroad station platforms, maintenance and equipment buildings, kiosks and other accessory structures with an historic architectural theme, as well as parking and loading areas should be permitted in the railroad right-of-way and setback area.			X
Public Access			
(1) Public use should be encouraged by continuing and expanding the operation and run of the historic railway and by providing a parallel shared path.			X
(2) Interpretative signs along the route should explain the historic significance of the railroad and note points of interest.			X
Discussion: The Proposed Action will not impact the Central O‘ahu Sustainable Communities Plan, with respect to the OR&L Historic Railway.			
Waipahu Sugar Mill Environs			
Methods of Preservation			
(1) The sugar mill stack and boiler room should be retained as visual symbols of Waipahu's plantation town history.			X

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
(2) The historic theme of the Waipahu Cultural Garden Park should be maintained, and opportunities should be sought to establish a more direct physical and economic connection between the park and the mill.			X
(3) Economic revitalization and in-fill development should be promoted in the old commercial core along Waipahu Street and Waipahu Depot Road to maintain the historic character of this area.			X
(4) Visitors should be attracted to the area by extending the OR&L historic theme train operations to allow rides between Ko Olina Resort and the Waipahu Cultural Gardens.			X
(5) A transit linkage should be established between Waikele Center and Waipahu Town.			X
Adaptive Reuse			
(1) A variety of reuse options which are consistent with the purpose of retaining the historic plantation theme for the old town core should be allowed at the Waipahu Sugar Mill site.			X
(2) Adaptive reuse of older commercial buildings in the town core should be encouraged as a means to retain the historic building forms.			X
Urban Form			
(1) Buildings in the old commercial core should be limited to two or three floors in height in keeping with the area's historic scale and to preserve views of existing mill structures.			X
(2) Renovations to the sugar mill for adaptive reuse should minimize exterior alterations that substantially change the building profile or accessory structures that define the mill's original purpose.			X
(3) A strong pedestrian shopping orientation in the old town core should be promoted by expanding "storefront" businesses, enhancing the sidewalk areas with street trees and period fixtures, consolidating off-street parking behind buildings, and retaining on-street parking wherever possible.			X
(4) Development standards should be modified, as needed, to facilitate the retention and rehabilitation of historic structures and appropriate in-fill development.			X
Public Access			
(5) The Waipahu Cultural Garden Park should remain a public facility.			X
(6) Public access to the Waipahu Sugar Mill and other privately owned historic buildings in the Old Waipahu Town Anchor area should be encouraged.			X
Discussion: The Proposed Action will not have an impact on the Waipahu Sugar Mill.			
Native Hawaiian Cultural and Archaeological Sites			
Method of Preservation			
(1) Preservation in situ should be required only for those features for which the State Historic Preservation Officer has recommended such treatment.			X
(2) The preservation method, ranging from restoration to "as is" condition, should be determined on a site-by-site basis, in consultation with the State Historic Preservation Officer.			X

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
Adjacent Uses			
(1) Appropriate delineation of site boundaries and setbacks and restrictions for adjacent uses should be determined on a site-by-site basis in consultation with the State Historic Preservation Officer.			X
(2) Criteria for adjacent use restrictions should include sight lines that are significant to the original purpose and value of the site.			X
Public Access			
(1) The appropriateness of public access should be determined on a site-by-site basis in consultation with the State Historic Preservation Officer, appropriate Hawaiian cultural organizations and the owner of the land on which the site is located.			X
Discussion: The Proposed Action will not impact any Native Hawaiian cultural and archaeological sites.			
3.5 Waipahu Town			
Urban Design			
(1) The scale and sense of Waipahu as a small town should be preserved. Existing zoning heights and densities should be preserved throughout Waipahu Town to help maintain the small town scale.			X
(2) The visual dominance of the sugar mill, particularly the smokestack, should be maintained.			X
(3) Structures having historic, cultural, and/or visual significance should be retained and renovated as needed. Historic buildings on the mill site and in the Old Town Commercial Area should be identified. Adaptive reuse of these historic buildings should be encouraged.			X
(4) The Old Town Commercial Area should have a special image signifying its historic character and role as the cultural and business center for Waipahu. Detailed design guidelines should be established for the Old Town Commercial Area to create the desired historic plantation theme.			X
(5) The visual appearance of Farrington Highway and the linkages within and between the Old Town Commercial Area and surrounding areas should be upgraded. Farrington Highway should be landscaped with canopy trees in the median, and landscaped entry features should be created at both ends of Farrington Highway and at the intersection of Waipahu Depot Road and Farrington Highway.			X
(6) Open space areas, the shoreline, and other available natural areas should be developed for use by the public and integrated into the built environment. Open space and coastal resource areas on the Waipio Peninsula and along the Pearl Harbor shoreline should be made available for increased use by the public. Parks, open space areas, and centers of interest should be linked by landscaped roads and pedestrian/bicycle pathways.			X
Discussion: The Proposed Action is not located in the town of Waipahu.			
Old Waipahu Town			
Sugar Mill Site			

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
(1) Renovations to the sugar mill for adaptive reuse should retain the visual qualities and building character that defined the mill's original purpose.			X
Old Town Commercial Area			
(1) The compactness of the town's historic shopping area should be maintained, with new uses encouraged to in-fill between existing buildings along Waipahu Street and Waipahu Depot Road.			X
(2) The character of Waipahu Street and Waipahu Depot Road should be maintained except for adjustments to improve traffic flow and safety in order to safeguard the historically and visually significant buildings and maintain the area's pedestrian scale and orientation.			X
(3) Existing significant historic structures should be identified, maintained and restored wherever possible, and adaptive reuse encouraged where necessary to ensure their continued viability and use.			X
(4) The architectural character of new buildings should reflect the plantation era architecture of Waipahu's historic past. Basic design principles, texture, construction materials, and colors should be compatible with styles from this era.			X
(5) A strong pedestrian orientation should be encouraged and maintained through the expansion of "storefront" businesses, enhancement of the streetscape and walking environment, and consolidation of off-street parking behind buildings.			X
(6) New buildings or additions should be located close to the street, creating a traditional "street line" of facades, with buildings forming an attractive edge to the roadway.			X
(7) Storefronts should be oriented to the street and include elements such as canopies, overhangs, porches, and trellises to scale down building heights and enhance the street-level environment.			X
(8) Buildings should be limited to two or three floors in height in keeping with the area's historic scale and to preserve views of existing mill structures.			X
(9) Buildings should avoid awkward or overscaled forms, and long building forms should be broken down or offset into smaller masses of more residential proportions.			X
Discussion: The Proposed Action does not involve Old Waipahu Town.			
Community Facilities Anchor Area			
(1) Public service uses should be encouraged on large vacant areas within this district.			X
(2) Spaces between buildings should be developed and landscaped in a manner which provides the area with a unifying visual image and creates the sense of an active, people-oriented civic park.			X
Discussion: The Proposed Action is not located in the town of Waipahu.			
Commercial Anchor Area			
(1) Attractive and distinctive entry features should be established at each end of the Commercial Anchor Area.			X
(2) Landscaping along Farrington Highway and adjoining roadways should be enhanced through the increased use of street trees and the establishment of			X

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
planting schemes which help to identify and distinguish between the different commercial and industrial areas.			
(3) Mid-rise, medium-density apartment uses should be encouraged within one-quarter mile of the future town center/transit node near the intersection of Leoku and Farrington when combined with retail commercial uses on the ground level.			X
(4) The visual appearance of business development should be upgraded through building facade improvement programs and through the greater use of shade trees within parking areas and of landscape buffers between parking areas and adjoining streets.			X
Discussion: The Proposed Action is not located in the town of Waipahu.			
Residential Areas			
(1) Where possible and appropriate, small community gardens should be established in residential and apartment areas in order to increase green space and maintain a connection with the town's agricultural roots.			X
(2) Street trees should be provided in all neighborhoods in order to soften the visual impact of development and enhance the walking environment for residents.			X
(3) Mid-rise, medium density apartment buildings, including mixed-use developments, should be encouraged in areas within one-quarter mile of future town centers/transit nodes at the intersection of Leoku and Farrington and at the intersection of Waipahu Depot Road and Farrington, with the exception of the Old Town Commercial Area.			X
Discussion: The Proposed Action is not located in the town of Waipahu.			
Circulation Design Guidelines			
(1) Existing pedestrian connections to nearby residential areas from the old commercial core and to recreational and cultural facilities located around this area should be improved, and new ones developed where appropriate. All pathways should be landscaped in a manner which identifies their role as visual and functional linkages between open spaces and centers of activity. Where possible, they should be designed to accommodate safe movement for walkers, joggers and bicycle riders.			X
(2) Landscape improvements to streets and front yards in the Farrington Highway business areas should accommodate, where possible, walkways and bicycle paths which link the different business developments together and connect these areas to adjoining residential neighborhoods.			X
(3) Sidewalks, traffic signal improvements, and other measures should be developed to facilitate pedestrian circulation between mauka and makai areas of Waipahu.			X
(4) Space for a possible future transit corridor should be reserved along Farrington Highway and higher intensity uses encouraged near future transit nodes along that route.			X
Discussion: The Proposed Action is not located in the town of Waipahu.			
Open Space and Views			

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
(1) Existing and planned parks and open space areas should, wherever possible, be connected by a series of tree-lined pedestrian pathways, jogging paths and bikeways.			X
(2) Visual and physical connections between Waipahu Cultural Garden Park, the old commercial core and significant adjoining areas and roadways should be strengthened.			X
(3) Significant views should be preserved, including views of the Koolau and Waianae Mountain Ranges from along Farrington Highway, views of Pearl Harbor from Farrington Highway in the vicinity of Waipahu High School, the view of the Waipahu Sugar Mill from the Waipahu Cultural Garden, and the view of the Waianae Mountains from the Waipahu Cultural Garden.			X
(4) Mature trees should be preserved.			X
Discussion: The Proposed Action is not located in the town of Waipahu.			
3.6 Wahiawa Town			
Business District			
(1) Wahiawa's historic "identity" should be re-established within a "Town Center" located along Kamehameha Highway in the vicinity of California and Kalani Avenue.			X
(2) Existing structures that reflect the historic character of Wahiawa should be maintained and restored where possible, and adaptive reuse encouraged where necessary to ensure their continued viability and use.	X		
(3) Redevelopments should reflect an architectural theme consistent with the historic character of Wahiawa. The architectural character of new buildings and of the building renovations should be compatible with historic buildings in the area and reflect the town's plantation heritage.			X
(4) Open space and landscaping should be provided to reinforce the historic character of Wahiawa.			X
(5) Distinctive and attractively landscaped gateway features should be established at each of the Kamehameha Highway entries to the town to reinforce a "sense of arrival" along these approaches.			X
(6) New commercial uses should be encouraged to in-fill on vacant and underutilized parcels within Wahiawa's existing business district. Expansion of the district is not needed and should be avoided.	X		
(7) Repair shops, storage and similar uses which provide needed services should continue to be allowed, but should be confined to the town's existing industrial area between Palm and North Cane Street. Buffer landscaping and similar edge treatments should be provided to minimize impacts on adjoining areas.			X
(8) Building heights should generally be in keeping with Wahiawa's small town scale. However, some flexibility should be given for public buildings, such as government offices and churches, in order to allow for designs that create symbols of identity for the community.			X
(9) The location of parking areas behind commercial establishments should be encouraged in order to improve the pedestrian environment and appearance of the streetscape.			X

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
(10) The visual appearance of business developments should be upgraded through building facade improvement programs and through the greater use of shade trees within parking areas and of landscape buffers between parking areas and adjoining streets.			X
Discussion: The Proposed Action will support the objects of the business district in Waihiawā Town. The VAPDC will repurpose an existing metal warehouse and will not expand the structures footprint. The Proposed Action aims to revitalize the existing parcel in downtown Wahiawā by creating a multi-purpose facility.			
Civic Center			
(1) Expansion of existing government facilities and community services should be welcomed and encouraged. To the extent possible, these uses should be clustered within and bordering the area bounded by California Avenue, North Cane Street, Kilani Avenue and Lehua Street.			X
(2) Parking for civic center and Wahiawa General Hospital users should be expanded and consolidated within a multi-level parking garage located on Center Street.			X
(3) The Wahiawa Satellite City Hall should be relocated adjacent to the police station.			X
(4) Available setback areas and open spaces should be landscaped and developed in a manner which gives the area a unifying visual image and provides a "village green" for informal gatherings and relaxation.			X
Discussion: The Proposed Action not impact the civic center.			
Residential Areas			
(1) The intrusion of apartment buildings or other incompatible uses into existing single-family residential areas should be prevented.			X
(2) The extensive use of street trees to enhance Wahiawa's rural character and image as a "town within a forest" should be maintained and extended into all of its residential areas.			X
Discussion: The Proposed Action not impact the residential areas in Wahiawā.			
Circulation			
(1) Minor adjustments to street rights-of way, alignments and on-street parking should be made where they would improve traffic flow and safety. In general, however, new streets or major street widenings should be avoided as they are not needed and would detract from Wahiawa's rural and small town character.			X
(2) On-street parking should be provided during non-peak traffic hours to "slow-down" traffic along Kamehameha Highway. Where possible, off-street parking should be expanded in areas where the existing supply is inadequate, such as for many of the businesses along Kamehameha Highway.			X
(3) A network of bicycle paths and designated bicycle routes should be established along major traffic corridors in order to improve safety and convenience and encourage increased use of bicycles for travel within the community.			X
(4) The Wahiawa Botanic Garden should be connected to the Wahiawa Freshwater Park on Lake Wilson by way of a trail through the gulch which			X

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
connects the two facilities. In addition, jogging paths and bike trails should be developed to take advantage of the Lake Wilson shoreline.			
(5) Landscaping, sidewalk and other streetscape improvements should be made in areas lacking in greenery or with unsafe or inadequate provision for pedestrian traffic.			X
Discussion: The Proposed Action not impact circulation.			
Open Space and Views			
(1) The natural scenic character of Lake Wilson and adjoining forested areas are vital elements of Wahiawa's "town in a forest" image and should be preserved and protected from alteration or encroachment of urban uses.			X
(2) Wahiawa Freshwater Park should be expanded and improved with appropriate facilities which will encourage and accommodate greater public use without major disruption to the site's natural beauty.			X
(3) Recreational facilities in existing community parks should be upgraded and, where possible, new facilities added in order to meet current and future demands for sports activities.			X
(4) Prominent natural views in Wahiawa involve Lake Wilson and the Waianae Mountains, and, to a lesser degree, the Koʻolau Mountains. Where possible, site layouts and building orientations for new developments should maximize view opportunities of these areas.			X
(5) Significant vistas should be preserved, including the view of the upper Central O‘ahu plains toward Waialua from the end of Koa Street in Wahiawa.			X
Discussion: The Proposed Action will not have an effect on open space and views as the proposed project will repurpose an existing structure in downtown Wahiawā.			
3.7 Central O‘ahu Plantation Villages			
Method of Preservation			
(1) Existing historic plantation houses should be rehabilitated as part of an assisted housing program.			X
(2) Rental dwellings should be rehabilitated and converted for sale, giving preference to existing residents to minimize displacement and retain the sense of community.			X
(3) The historic development pattern, architectural character and street appearance should be preserved by varying conventional subdivision and other development codes, as appropriate.			X
(4) Structures that must be razed should be replaced, and other vacant areas developed with new in-fill development that respects the historic character of the original village.			X
Discussion: The Proposed Action will not affect methods of preservation for Central O‘ahu’s plantation villages.			
Adaptive Reuse			
(1) Residential areas should be rehabilitated with an emphasis on affordable home ownership opportunities for existing residents.			X

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
(2) When an historic structure is converted to a use other than its original purpose, rehabilitation should be done in a manner that does not alter its exterior appearance.			X
Discussion: The Proposed Action will not involve adaptive reuse.			
Urban Form			
(1) The current grid street pattern should be maintained in the existing villages and replicated in new in-fill development.			X
(2) The standard subdivision street hierarchy and design standards should not be used. Narrow street widths without sidewalks should be maintained in the residential portions of existing villages and established in new villages to minimize impacts on front yards and structures and retain a rural village character.			X
(3) Any new collector streets should be located in between and not within existing villages.			X
(4) Principal entry roads to and through the villages should be tree-lined boulevards. Entries should be highlighted with landscape features.			X
(5) Appropriate canopy trees should be provided along all street frontages.			X
(6) Lot sizes and dimensions for new in-fill homes in the existing villages should be similar to those of existing house lots.			X
(7) New structures on vacant lots in the existing villages should complement the exterior design of adjacent homes.			X
(8) Yards and other open spaces should be landscaped and maintained in a manner which preserves and enhances the open space appearance of the villages.			X
Discussion: The Proposed Action does not have an effect on urban form.			
Open Space/Views			
(1) Existing village greens and play fields should be preserved and maintained as places for community gatherings and recreation.			X
(2) Existing landscaping within the villages and stands of trees in bordering ravines should be preserved.			X
Discussion: The Proposed Action does not have an impact on open space and views.			
Adjacent Land Uses			
(1) Agricultural use should be maintained on adjacent lands.			X
(2) The visibility of any new structures in the vicinity should be minimized by appropriate landscape screening and building siting. If visibility is unavoidable, the new structure should be designed to respect the scale and character of the villages.			X
Discussion: The Proposed Action will not affect adjacent land uses.			
Public Access			

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
(1) Since the preservation concept is to perpetuate and revitalize a living community, public access should be the same as for other communities.			X
Discussion: The Proposed Action does not have an impact on public access.			
3.8 Existing and Planned Residential Communities			
Residential			
Density			
(1) Residential density should be 5 to 12 units per acre, typical of residential zoning districts and allowing the application of optional design standards for Clusters and Planned Unit Developments.			X
Building Height			
(1) In general, buildings should not exceed two stories, although the height may vary according to required flood elevation, slope, and roof form.			X
Site Design			
(1) The site design for small-lot developments should avoid monotonous rows of garages and driveways along neighborhood street frontages by employing features such as varied building setbacks and shared driveways.			X
Building Form			
(1) Buildings should provide visual interest and individual identity by using varied roof forms, exterior colors and finishes, building orientation, floor plans and architectural details.			X
Discussion: The Proposed Action does not impact existing and planned residential communities.			
Low Density Apartment			
Density			
(1) Low Density Apartment density should be 10 to 30 units per acre.			X
Height			
(1) In general, buildings should not exceed three stories above grade. Maximum building heights should allow for pitched roof forms.			X
Building Form			
(1) Building form, orientation, location of entries and landscape screening should be employed to maintain a sense of residential scale and provide greater privacy and individual identity for housing units.			X
Compatibility			
(1) Building scale, roof form and the quality of materials should be compatible with those of adjacent low-density residential areas.			X
Discussion: The Proposed Action does not involve low density apartments.			
Medium Density Apartment			
Location			

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
(1) Medium Density Apartment is intended to be the predominant form of housing near two transit nodes in Waipahu on the planned rapid transit corridor, either as a single use or mixed use development.			X
(2) Medium Density Apartment is also appropriate in Wahiawa near the Town Center, and in Waiawa adjacent to the Major Community Commercial Center.			X
Density			
(1) Allowable building density should accommodate 25 to 90 units per acre.			X
Height			
(1) Building heights should not exceed 60 feet.			X
(2) In Waipahu, Medium Density Apartment building heights in the transit node area centered on the Waipahu Depot Road - Farrington Highway intersection should not exceed 60 feet or the elevation of the roof ridge line of the Waipahu Sugar Mill, whichever is lower.			X
Architectural Character			
(1) The building scale, roof form and the quality of materials may reflect a more urban character.			X
Height Setbacks			
(1) Building height setbacks and landscaping should be employed to reduce the direct visibility of taller buildings from lower density residential areas and from the streetfront. Lower building elements may directly abut the streetfront.			X
Discussion: The Proposed Action does not involve medium density apartments.			
Circulation System			
Transit Routes and Facilities			
(1) The circulation plan should define the hierarchy of streets within the project and its relationship to the surrounding transportation network.			X
(2) The circulation plan should also indicate existing and proposed bus routes and specific measures to accommodate efficient transit service for as many households as possible.			X
(3) Street patterns showing the alignment of proposed transit routes should be submitted to the Department of Transportation Services at the first stage of the site development planning process.			X
(4) Potential transit routes should be identified by the developer such that at least 85% of all proposed residential housing units are within 1/4 mile of a proposed transit stop, unless localized topographic conditions make such a requirement impractical.			X
(5) All commercial development with more than 1,000 square feet and all employment sites with more than ten employees should be within 1/8th mile of a transit stop.			X
(6) All development should be within 1/2 mile of a transit stop, unless localized topographic conditions make such a requirement impractical.			X
(7) The developer should construct all necessary transit stops in accordance with DTS design standards.			X

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
(8) Proposed transit routes should have two different access points into the proposed development. The route alignment should seek to achieve optimal operational efficiency between the two access points.			X
(9) The rights-of-way along transit routes should make provisions for bus shelters, bus pull-outs, and, if applicable, park-and-ride facilities and/or future transit stations.			X
Pedestrian and Bicycle Routes and Facilities			
(1) The circulation plan should indicate any principal pedestrian and bicycle paths that are physically separated from roadways.			X
(2) Street intersections along these separated paths should have a narrow curb radius and include special signage and paving to encourage safe and convenient pedestrian and bicycle crossings.			X
(3) Interior pedestrian/bicycle routes may be provided as an alternative to paved sidewalks along local streets.			X
Landscape Treatment			
(1) Conceptual street tree plans should be indicated in the circulation plan.			X
(2) Entries to the community should be identified with special landscape treatment.			X
(3) The rights-of-way for major arterials and major collector streets should be designed as landscaped parkways, complete with a landscaped median strip, landscaped sidewalk, and bikeways. Major arterials should have separate bike paths, and major collectors should have bike lanes. Suggested width for major arterials, including right-of-way and planting strips, is 120 feet wide and for major collectors is 100 feet wide.			X
(4) Where urban development abuts the H-2 Freeway, an open space/landscaped buffer of sufficient size should be provided to preserve a view of green, minimize the visual intrusiveness of the development, and reduce the noise and air quality impact of the freeway traffic on the abutting development.			X
(5) Canopy trees should be planted to shade the sidewalk/bike path areas.			X
(6) Landscape treatment along the edges of the project should be appropriate for the natural setting and designed to provide continuity and transition from adjacent developed areas.			X
Discussion: The Proposed Action does not involve transit routes and facilities.			
Relation to Urban Land Use Map			
Architectural Character			
(1) The architectural character should respect adjacent residential uses.	X		
(2) Gable and hip-form roofs are encouraged, using breaks in the roof line to reduce the apparent scale of large roof plates.			X
(3) Residential character may also be expressed by using exterior materials and colors that are typically found in residential construction.			X
Building Siting			

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
(1) Buildings should be oriented to the pedestrian.			X
(2) Storefronts should face the street and, to the extent possible, be sited close to the sidewalk.			X
(3) Parking and service areas should be placed behind the buildings or otherwise visually screened from streets and residential areas.			X
Building Height and Density			
(1) Buildings should maintain a residential scale.			X
(2) Building height limits should allow for gable and hip-form roof elements.			X
(3) The total floor area for a lot or contiguous lots with common parking should not exceed 100,000 sq. ft.	X		
Vehicular Access			
(1) Access to the parking and loading areas should be from a collector street.			X
(2) Access to a local residential street may be permitted if it is only for emergency or secondary access and would not encourage through traffic along the local street.			X
Pedestrian and Bicycle Facilities			
(1) There should be at least one pedestrian access from the public sidewalk or other off-site pedestrian pathway to the entrances of establishments in the commercial center that does not require crossing a traffic lane or parking lot aisle or driveway.			X
(2) Bicycle racks should be designed to provide security and be visible from the street entry.			X
Visual Screening, Lighting & Signage			
(1) Parking and service areas should be screened from the street and adjacent residential lots by planting a landscape screen of trees and hedges along street frontages and property lines and planting shade trees throughout the parking lot.	X		
(2) Only low-level lighting or indirect lighting, if any, should be used in parking lots.			X
(3) All signage should be unilluminated or indirectly illuminated.			X
Discussion: The Proposed Action will support the objectives of relation to urban land use map of the Central O‘ahu Sustainable Communities Plan. The VAPDC will repurpose an existing structure that has been in existence 1981. The proposed project is not contrary to the area’s character, nor does it impact the surrounding uses. Moreover, the proposed project will involve landscaping improvements to the existing parking lot to meet current county codes.			
Community Commercial Centers			
Architectural Character			
(1) The architectural character may be varied, depending on the context.			X

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
(2) Commercial center buildings that are visible from adjacent residential areas should reflect a residential character; other facades may have a character more typical of a commercial building.			X
(3) The design should avoid disruptive contrasts between facades that are visible simultaneously from public areas.			X
Building Bulk and Massing			
(1) When the building is adjacent to a residential area or a building of historic value, there should be a transition in scale from larger building elements of the commercial center to finer elements near the adjacent use.			X
(2) Portions of buildings visible from a street should avoid blank facades by using texture, articulation, color and fenestration to create visual interest.			X
(3) Facades that are close to the public right-of-way should be composed of display windows and pedestrian entrances.			X
Building Height and Density			
(1) Building heights should generally not exceed 45 feet.			X
(2) The total floor area should not exceed 250,000 sq. ft. for a standard Community Commercial Center and 500,000 sq.ft. for a Major Community Commercial Center.			X
Pedestrian, Bicycle and Transit Facilities			
(1) Street frontage improvements for bus stops, including a bus shelter and a pull-out off a traffic lane, should be provided along all abutting streets which have bus routes.			X
(2) There should be a pedestrian pathway from the bus stop to the nearest entrance of the nearest building of the commercial center. The pathway should be clearly indicated with special paving or markings and covered to provide weather protection, if the commercial center building is not directly connected to the bus shelter.			X
(3) Bicycle racks should be designed to provide security and be visible from the street entry to the commercial center.			X
Visual Screening			
(1) The visibility of parking and service areas from the street and adjacent residential areas should be minimized through screening.			X
(2) A landscape screen, consisting of trees and hedges, should be planted along the street fronting the parking lot or garage.			X
(3) If there is a parking lot, shade trees should be planted throughout.			X
(4) If there is a parking garage close to and readily visible from a street, landscape planters should be provided along the facade of each parking level fronting the street.			X
(5) Service areas should be visually screened from public and residential areas.			X
Signage			
(1) Signage visible from residential areas should be indirectly illuminated.			X
Discussion: The Proposed Action does not involve community commercial centers.			

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
Transit Access			
(1) All commercial development with more than 1,000 square feet and all employment sites with more than ten employees should be within 1/8th mile of a transit stop.			X
Discussion: The Proposed Action does not constitute the development of a commercial center.			
3.10 Industrial Centers			
Uses			
(1) Uses allowed in Central O‘ahu industrial areas should include all those which may provide direct services within adjacent residential communities, including automobile service and repair.			X
(2) The following heavy industrial uses should not be allowed:			
a. petroleum processing,			X
b. resource extraction, and			X
c. the manufacture of chemicals and explosives.			X
(3) Retail establishments should be allowed as accessory uses only.			X
(4) Offices and business services may be allowed in a building or complex of buildings which primarily consists of industrial uses and industrial building types. No building should be primarily used for offices or business services.			X
Discussion: The Proposed Action does not constitute the development of an industrial center.			
Location			
(1) Industrial areas may be located within the master-planned communities of Waipio-Gentry, Royal Kunia and Waiawa.			X
(2) Industrial areas oriented to small businesses providing consumer services should be maintained within Wahiawa (north of Cane Street) and Waipahu, but should not front on commercial streets or major collector streets; provided that designation of use areas is subject to redefinition through Special Area Plans for those towns.			X
(3) New industrial developments should not front on streets with residences on the opposite side, and should, to the extent possible, direct industrial traffic away from residential neighborhoods.			X
Discussion: The Proposed Action does not constitute the development of an industrial center.			
Building Height			
(1) Building heights should generally not exceed 60 feet, except that taller vertical structures are acceptable when required as part of an industrial operation.			X
Discussion: The Proposed Action does not constitute the development of an industrial center.			
Landscape Treatment			

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
(1) Landscaped setbacks and street trees should be required along the edges of industrial areas abutting arterial or major collector streets.			X
(2) In small-lot industrial areas, outdoor work and storage areas for vehicles, equipment and supplies should be visually screened from the street and adjacent lots by privacy walls and buildings, with minimal reliance on landscaping.			X
(3) In large-lot industrial subdivisions, visual screening should be accomplished primarily with landscaped setbacks and street trees.			X
Discussion: The Proposed Action does not constitute the development of an industrial center.			
3.11 Mililani Technology Park			
Uses			
(1) Mililani Technology Park should be primarily intended for emerging technology-intensive industries, including but not limited to electronics and biotechnology and support services.			X
(2) Individual lots should be able to mix light industrial uses with office use, with no limitation on the allocation of floor area.			X
(3) Retail and service uses supporting activities in the business park should be limited to ten percent of the total floor area of the business park.			X
(4) The following should not be permitted in the business park:			
a. Uses that produce noise and noxious emissions;			X
b. Uses connected with agricultural production;			X
c. Large-scale retailing/wholesaling operations such as factory outlets, department stores, home improvement centers, warehouse outlets and similar commercial activities; and			X
d. Dwelling units or overnight accommodations of any kind.			X
Discussion: The Proposed Action does not involve the Mililani Technology Park.			
Building Height and Density			
(1) Building heights should generally not exceed 40 feet, except for necessary communications antennae.			X
(2) The floor area ratio and maximum building coverage permitted on lots should be appropriate to an open, landscaped campus environment.			X
Discussion: The Proposed Action will not have an impact on the Mililani Technology Park.			
3.12 Military Areas			
Schofield Barracks/Wheeler Army Airfield			
(1) Uses within the base should include residential, commercial, recreational and civic areas for the support of military personnel and their dependents and may be expanded to accommodate additional residents on base and/or augmented activities which do not significantly conflict with surrounding residential communities.			X

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
(2) The visibility of security fencing and utilitarian military facilities from off-base should be minimized through the planting of a landscape screen, consisting of trees and hedges, along highway frontages.			X
(3) Adequate buffers should be provided for residential developments immediately adjacent to the Central O‘ahu training areas to ensure that residents will not be adversely impacted by noise or other environmental impacts of the training activities.			X
Discussion: The Proposed Action will not impact Schofield Barracks or Wheeler Army Airfield.			
Pearl Harbor Naval Base			
(1) Limited public access to the shoreline waters of West Loch for recreational purposes should be expanded beyond the West Loch Shoreline Park.			X
(2) Wetlands along the West Loch and Middle Loch shorelines should be protected and enhanced.			X
(3) Agricultural uses should be continued on the Waipio Peninsula in the West Loch Naval Magazine Blast Zone.			X
Discussion: The Proposed Action does not relate to the Pearl Harbor Naval Base			
4.1 Transportation Systems			
Adequate Access and Services			
(1) Before zoning approvals are given for new residential and commercial development in Central O‘ahu , the Department of Transportation Services and State Department of Transportation should:			
a. Report if adequate transportation access and services can be provided with existing facilities and systems; and			X
b. If adequate capacity can not be provided by existing facilities, recommend conditions that should be included as part of the zone change approval in order to assure adequacy, including the timing of any necessary improvements.			X
Discussion: The Proposed Action will not affect transportation systems in relation to adequate access and services.			
Transportation System Functions			
(1) Provide adequate access between jobs, shopping, and recreation centers in Central O‘ahu .			X
(2) Provide improved access to and from adjacent areas, especially the employment centers of the Secondary Urban Center in Ewa.			X
(3) Provide adequate capacity for peak-hour commuting to work in the Primary Urban Center.			X
Discussion: The Proposed Action does not impact transportation system functions.			
Reduction in Automobile Use			
(1) Provision of circulation systems with separated pedestrian and bicycle paths and convenient routes for public transit service.			X

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
(2) Design of street systems in new development areas with layouts to facilitate bus routes and encourage pedestrian travel.			X
(3) Provision of supporting facilities and amenities for pedestrian, bicycle, and public transit use (Bicycle racks at commercial centers, bicycle storage facilities at employment centers, and bus shelters at bus stops will be encouraged).			X
(4) Preservation of existing right-of-way and establishment of setback areas sufficient to permit future development of a dedicated transit right-of-way on Farrington Highway.			X
(5) Support for medium-density and high-traffic land uses along the Farrington Highway transit corridor, especially within a quarter-mile of the transit nodes.			X
Discussion: The Proposed Action does not impact a reduction in automobile usage.			
Transportation Development Priorities			
(1) Increased use of transit			X
(2) Transportation demand management through:			
a. HOV facilities			X
b. Park-and-ride facilities			X
c. Other programs which encourage reduced use of the private automobile			X
Discussion: The Proposed Action does not affect transportation development priorities.			
4.2 Water Allocation and System Development			
Adequacy of Water Supply			
(1) Before zoning approval is given for new residential or commercial developments in Central O‘ahu , the Board of Water Supply should either indicate that adequate potable and nonpotable water is available or recommend conditions that should be included as part of the zone change approval in order to assure adequacy.			X
Discussion: The Proposed Action does not relate to the adequacy of water supply.			
Watershed Protection			
(1) Central O‘ahu watersheds are important to the recharge of the Pearl Harbor Aquifer, one of O‘ahu 's most important sources of potable water. As a result, the watershed should be protected to maintain an adequate supply of good quality water and to retain sufficient acreage to ensure infiltration into groundwater aquifers.			X
Discussion: The Proposed Action will not impact the watershed protection.			
Development and Allocation of Potable Water			
(1) The State Commission on Water Resource Management has final authority in all matters regarding administration of the State Water Code. Under that authority, the Board of Water Supply should coordinate development of potable water sources and allocation of all potable water intended for urban use on O‘ahu . State and private well development projects could then be			X

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
integrated into and made consistent with City water source development plans.			
Discussion: The Proposed Action will have no effect on the development and allocation of potable water supply.			
Use of Nonpotable Water			
(1) An adequate supply of nonpotable water should be developed for irrigation and other suitable uses in Central O‘ahu in order to conserve the supply of potable water.			X
Discussion: The Proposed Action does not affect use of nonpotable water.			
Water Reclamation			
(1) The City will reclaim wastewater effluent and distribute non-potable water, provided that customers can be found for this source of nonpotable water, and that no threat is posed to the quality of the potable water aquifer.			X
Discussion: The Proposed Action does not involve water reclamation.			
Integrated Resource Management			
(1) Management of all potable and nonpotable water sources, including ground water, stream water, storm water, and effluent reuse should be integrated through amendments to the O‘ahu Water Management Plan and future Integrated Resource Management plans. Policies in those plans will be adopted only after adequate public review and Council approval, following City development of plans and adoption of an appropriate management process.			X
Discussion: The Proposed Action does not involve integrated resource management.			
4.3 Wastewater Treatment			
(1) All wastewater produced by new developments in Central O‘ahu should be connected to a regional or municipal sewer service system.			X
(2) Where feasible, effluent should be treated and used as a source of nonpotable water for irrigation and other uses below the Underground Injection Control (UIC) line of the State Department of Health and the "No-Pass" Line of the Board of Water Supply.			X
(3) Wastewater treatment plants should generally be located in areas shown as planned for industrial use and away from residential areas shown on the Urban Land Use Map in Appendix A.			X
(4) A City review and approval process which provides adequate public notice and input should be used for any major new private wastewater treatment plant. Other system elements, such as pump stations and mains, should not require such comprehensive review and approval.			X
Discussion: The Proposed Action does not impact wastewater treatment.			
4.4 Electrical Power Development			
(1) Major system improvements -- such as development of a new power generating plant and/or major new transmission lines -- should be analyzed and approved based on island wide studies and siting evaluations. Strong			X

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
consideration should be given to placing any new transmission lines underground where possible under criteria specified in State law.			
(2) Electrical power plants should generally be located in areas shown as planned for Industrial use and away from residential areas shown on the Urban Land Use Map in Appendix A. Any proposed major new electrical power plant should be considered through a City review and approval process which provides public notification and opportunity to comment and public agency analysis of impacts and mitigations.			X
Discussion: The Proposed Action does not relate to electrical power development.			
4.5 Solid Waste Handling and Disposal			
(1) Siting and/or expansion of sanitary landfills should be analyzed and approved based on island wide studies and siting evaluations.			X
(2) Siting of landfills above the UIC line and the "No Pass" line should be approved only if recommended for approval by the Department of Health and the Board of Water Supply.			X
(3) A City review and approval process which provides adequate public notice and input, complete technical analysis of the project, and approval by the City Council, should be used for any new or major modification of private landfills, incinerators, garbage-to-energy plants, refuse convenience centers, or other major solid waste handling or disposal facility.			X
Discussion: The Proposed Action does not relate to solid waste handling and disposal.			
4.6 Drainage Systems			
(1) Drainage system design should emphasize control and minimization of non-point source pollution and the retention and/or detention of storm water on-site and in appropriate open space and wetland areas.			X
(2) 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.			X
(3) Natural and man-made vegetated drainage ways and retention basins should be the preferred solution to drainage problems wherever they could promote water recharge, help control non-point source pollutants, and provide passive recreation benefits.			X
Discussion: The Proposed Action does not relate to drainage systems.			
4.7 School Facilities			
Project Review and Approval Assessment			
(1) As new residential developments are reviewed as part of the project application review and approval process, the State Department of Education should report to the Department of Planning and Permitting whether the DOE will be able to provide adequate school facilities, either at existing schools or at new school sites so that needs from the proposed development can be met.			X
Fair Share Provisions			
(1) Developers should pay their fair share of all costs needed to provide adequate school facilities for the children living in their developments.			x

Table 4-6: Central O‘ahu Sustainable Communities Plan	S	NS	N/A
Discussion: The Proposed Action does have an impact on DOE school facilities.			
4.8 Public Safety Facilities			
(1) Adequate staffing and facilities are needed to ensure public safety. New development should be approved only if staffing and facilities will be adequate to provide fire and police protection and emergency medical services when development is completed.			X
Discussion: The Proposed Action does not relate to public safety facilities.			
4.9 Other Community Facilities			
Colleges and Hospitals			
(1) Colleges and hospitals should generally be located in urban areas near transit nodes, commercial centers, or high-density residential areas.	X		
Discussion: The Proposed Action supports the Central O‘ahu Sustainable Communities Plan, in terms of other community facilities. The VAPDC is part of the UHCC system and is located as near as 200 feet from a transit node.			
Correctional Facilities			
(2) Correctional facilities should generally be located on lands planned for industrial and agricultural use. If such a facility is proposed for lands not planned for industrial or agricultural use, a City review and approval process which provides public review, complete project analysis, and City Council approval should be used.			X
Discussion: The Proposed Action does not involve correctional facilities.			
Approval of Major Facilities			
(3) Major public, quasi-public or private facilities or utilities which provide essential community services but which could have a major adverse impact on surrounding land uses should be considered through a City review and approval process which provides public notification, review by appropriate agencies, opportunities for public comment, and approval by the City Council.			X
Discussion: The Proposed Action does not involve major facilities.			

4.2.3 City and County of Honolulu Zoning

The purpose and intent of the City and County of Honolulu Land Use Ordinance is to regulate land use in a manner that will encourage orderly development in accordance with adopted land use policies, including the O‘ahu General Plan and development plans, and to promote and protect the public health, safety, and welfare.

Discussion:

According to the City and County of Honolulu Department of Planning and Permitting (DPP), the project area lies within the B-2 Community Business District (B-2) (See Figure 4-2). On O‘ahu, the City & County of Honolulu, Department of Planning and Permitting administers zoning regulations under its Land Use Ordinance (LUO), ROH, Chapter 21. The purpose of B-2 zoning designations is to set aside areas for commercial and business activities to meet and support the economic growth of the

city. The zoning district provides for the buying and selling of goods and services, the transportation and distribution of commodities and other complementary economic activities. The intent of the B-2 community business district is to provide areas for community-wide business establishments, serving several neighborhoods and offering a wider range of uses than is permitted in the B-1 district.

The proposed project is considered to be a "Public Uses and Structure" development according to the DPP, which is permitted within any zoning district. Thus the proposed project is consistent with the City and County's LUO and will comply with the intent and use of the B-2 zoning designation.

4.3 Permits and Approvals

The following is a list of permits, approvals, and reviews that may be required prior to construction and operation of the proposed project.

Federal

- Federal Aviation Administration (FAA) Form 7460-1, "Notice of Proposed Construction or Alteration"

State of Hawai'i

Department of Land and Natural Resources
- Chapter 6E, HRS, State Historic Preservation Law

Department of Health
- National Pollutant Discharge Elimination System
- Pollution Control – Noise Permit

City and County of Honolulu
Board of Water Supply
- Cross-Connection Control Requirements
- Backflow Prevention Requirements

Department of Planning and Permitting
- Building Permit
- Grading Permit/Trenching Permit
- Sewer Connection Application

Honolulu Fire Department
- Review of Plans and Drawings

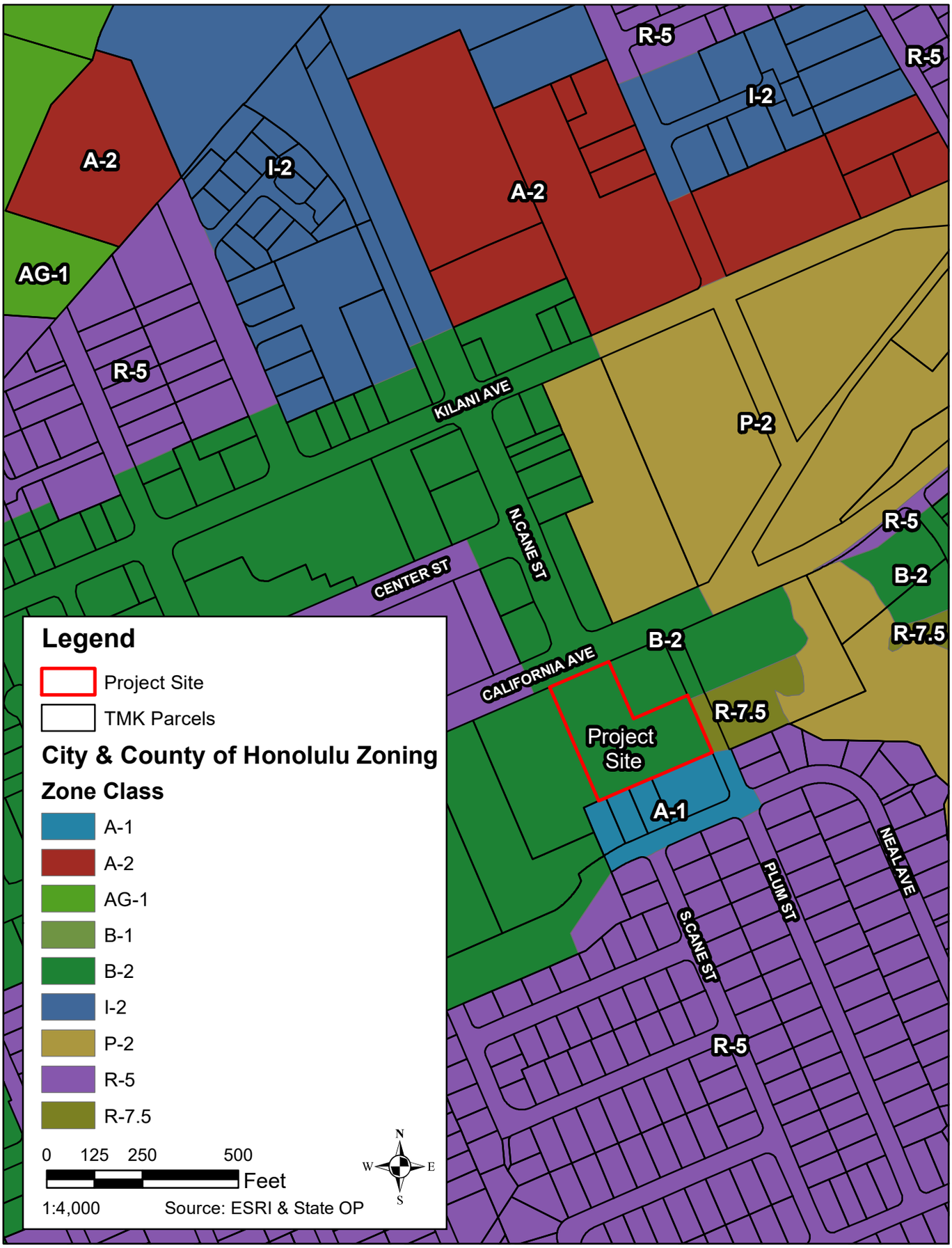

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FIGURE 4-2

City and County of Honolulu Zoning Map

Leeward Community College Value-Added Product Development Center
Wahiawā, O'ahu, Hawai'i

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5. ALTERNATIVES

Hawai‘i Administrative Rules (HAR) § 11-200-10 (1996) requires an environmental assessment to identify and consider alternative means to realize the purpose and need of the proposed action.

Alternatives eliminated from consideration include no action, and alternative design schemes.

5.1 No Action Alternative

Under the No Action Alternative, the proposed VAPDC would not be constructed and the project site would remain in its existing condition.

The no-action alternative would preclude permit approvals, as well as costs for design and construction which would otherwise be required for the proposed project. The no-action alternative would also avoid insignificant environmental impacts that would occur as a result of implementing the proposed project along with appropriate mitigation measures, as discussed in Chapter 3.

This alternative would fail to satisfy the purpose and need of the proposed action, and thus is not a feasible alternative.

5.2 Alternative Design Schemes

In the course of developing the proposed project, the design team considered several different alternative design schemes for the conversion of the existing structure into a functional Value-Added Product Development Center.

Specifically, alternative density and design configurations were considered under the scope of the proposed action, however, the proposed design scheme density was selected to serve as the basis of impact assessment.

Alternative locations were not considered because no other suitable State owned lands in the vicinity are available. Privately owned lands in the project area could accommodate the proposed project however acquisition costs would be prohibitive and counterproductive to the implementation of the proposed action.

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6. ANTICIPATED DETERMINATION OF FONSI

The proposed project involves the following improvements:

Potential impacts of the proposed improvements have been evaluated in accordance with the significance criteria of §11-200.1-13 of the Department of Health's Administrative Rules. Discussion of the project's conformance to the criteria is presented as follows:

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

No natural or cultural resources of significance were identified on the proposed project site. The project area is a previously developed site in a highly urbanized area of downtown Wahiawā. Moreover, the LRFI conducted by Honua Consultants found that there are no historic or cultural significant areas within the project site (See Appendix A). In the event of unexpected discovery of historic or archaeological resources, the SHPD will be immediately notified for appropriate response and action.

(2) Curtail the range of beneficial uses of the environment;

The proposed project will not curtail the range of beneficial uses of the environment. The City and County LUO designates the project site as B-2 and is a previously developed site.

(3) Conflict with the State's environmental policies or long-term environmental;

The proposed project does not conflict with the long-term environmental policies, goals, and guidelines of the State of Hawai'i. As presented in this EA, any potential temporary impacts associated with short-term construction-related activities will be mitigated through adherence to standard construction impact mitigation practices and applicable BMPs.

(4) Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State;

In the short term, construction expenditures will provide positive benefits to the local economy. This would include creation of some construction and construction support jobs, and the purchase of materials from local suppliers, as well as indirect benefits to local retail businesses resulting from construction activities, but not at a level that would generate any significant population expansion.

In the long-term, the proposed project will provide a platform that will facilitate the growth and development of the agricultural and food sciences industry in Hawai'i.

(5) Have a substantial adverse effect on public health;

No identifiable adverse short- or long-term impacts on public-health are anticipated to result from the construction and operation of the proposed project. Typical short-term

construction-related impacts (e.g., noise and air quality) are anticipated, however, they will be temporary in nature and will comply with State and County regulations.

(6) Involve adverse secondary impacts, such as population changes or effects on public facilities;

Substantial impacts to public facilities are not anticipated to result from the construction and operation of the proposed project. Moreover, the proposed project is not anticipated to induce population growth in the area or region. Existing public water, wastewater, drainage, and utility infrastructure have served the project site for many years, and are expected to have sufficient capacity to serve project demands. Agencies with jurisdiction over their respective infrastructure systems will be consulted as the project proceeds to assure that it can be accommodated.

(7) Involve a substantial degradation of environmental quality;

The proposed project is not anticipated to substantially degrade environmental quality. Long-term impacts to air and water quality, noise levels and natural resources will be minimal. Typical short-term construction-related impacts (e.g., noise and air quality) are anticipated, but will be temporary and will comply with State and County regulations.

(8) Be individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;

The proposed action does not have a considerable effect upon the environment. There are no commitments for further action beyond the scope presented within this EA.

(9) Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat;

No listed or protected plant species are known from the project area. Rare, threatened, or endangered fauna are not known to utilize the site for either habitat or foraging purposes.

Although there is no evidence of migratory seabirds and native waterfowl species using the project site for breeding or habitation, some are known to visit areas within the wider region. No adverse impacts resulting from the project are anticipated. However, measures to prevent adverse effects to avifauna from night lighting will include the following:

- During construction activities, all nighttime lighting will be shielded and angled downward to reduce glare and disruption of bird flight.
- Following construction, permanent light sources will be shielded and angled downward to eliminate glare that could disturb or disorient animals.

(10) Have a substantial adverse effect on air or water quality or ambient noise levels;

No long-term significant impacts to air quality, water quality, or noise levels within the project site are anticipated as a result of the construction and operation of the proposed project.

In the short- and long-term, no significant impacts on air quality are anticipated as a result of the construction and operation of the proposed project. A portion of the construction for the proposed project will involve fine grading as well as limited excavation for utility lines and fencing. Fugitive dust will be controlled, as required, by methods such as dust fences, water spraying and sprinkling of loose or exposed soil or ground surface areas. As deemed appropriate, planting of landscaping will be done as soon as possible on completed areas to also help control dust. Respective contractors will be responsible to minimize air quality impacts during the various phases of construction.

Exhaust emissions from construction vehicles are anticipated to have negligible impact on air quality in the project vicinity as the emissions would be relatively small and readily dissipated. In the long-term, some vehicular emissions related to operations at the project site are expected, however, due to the generally prevailing tradewinds, the emissions would be readily dissipated.

No short- or long-term significant impacts on surface and/or coastal waters in the project vicinity are anticipated during construction or operation of the proposed project. There are no streams or wetlands on or within close proximity to the project site. Construction of the proposed project will not involve major land disturbing activities. Applicable erosion control measures and best management practices will be implemented in order to mitigate any possible adverse effects relating to runoff. As applicable for each phase, these may include but are not be limited to: temporary sediment basins, temporary diversion berms and swales to intercept runoff, silt fences, dust fences, slope protection, stabilized construction vehicle entrance, grate inlet protection, truck wash down areas, and use of compost filter socks. Planting of landscaping also will be done as soon as possible on completed areas to help control erosion. Permanent sediment control measures will be used once construction is completed.

Coordination will be undertaken with the appropriate agencies during permitting and construction in order to ensure that the proposed project will not result in significant impacts with regard to surface and coastal waters. A National Pollutant Discharge Elimination System (NPDES) permit for storm water runoff from construction activities would be required as individual and/or cumulative soil disturbances in the project site should it exceed one acre of land area. Any discharges related to project construction or operation activities will comply with applicable State Water Quality Standards as specified in Hawai‘i Administrative Rules, Chapter 11-54 and 11-55 Water Pollution Control, Department of Health. Excavation and grading activities will be regulated by applicable provisions of the County’s grading ordinance.

In the short- and long-term, no significant impacts on air quality are anticipated as a result of the construction and operation of the proposed project. A portion of the construction for the proposed project will involve fine grading as well as limited

excavation for utility lines and fencing. Fugitive dust will be controlled, as required, by methods such as dust fences, water spraying and sprinkling of loose or exposed soil or ground surface areas. As deemed appropriate, planting of landscaping will be done as soon as possible on completed areas to also help control dust. Respective contractors will be responsible to minimize air quality impacts during the various phases of construction.

Exhaust emissions from construction vehicles are anticipated to have negligible impact on air quality in the project vicinity as the emissions would be relatively small and readily dissipated. In the long-term, some vehicular emissions related to operations at the project site are expected, however, due to the generally prevailing tradewinds, the emissions would be readily dissipated.

(11) Have a substantial adverse effect on or be 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;

No short- or long-term significant impacts are anticipated as the project site is not located within an environmentally sensitive area.

According to the FIRM, the project site is designated Zone D, an area with possible but undetermined flood hazards, as no analysis of flood hazards has been conducted. There are no base flood elevations or depths shown within this zone.

(12) Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies; or,

The proposed project will not result in significant impacts to viewplanes identified in county or state plans or studies. Moreover, the proposed project is not expected to adversely affect scenic and visual resources in the project area as the project would repurpose an existing building. The proposed project will not degrade lateral coastal views or mauka-makai views from areas in the vicinity of the project site. The vertical components of the proposed VADPC will be consistent with the visual character of the surrounding uses.

(13) Requires substantial energy consumption.

The construction and operation of the proposed project will not require a significant level of energy consumption.

7. CONSULTATION

7.1 Pre-Assessment Consultation

The following agencies and organizations were consulted during the preparation of the Draft EA. Consultation was conducted to solicit comments regarding potential concerns and requirements pursuant to refining the scope of EA documentation. Parties that formally replied during the pre-assessment period, are indicated by a "✓" below. All written comments are reproduced in Appendix D.

Federal Agencies

U.S. Army Corps of Engineers
U.S. Department of the Interior, Fish and Wildlife Service
U.S. Environmental Protection Agency

State Legislative Branch

Senator Donovan Dela Cruz
Senator Gil Riviere
Representative Amy Perruso

State Agencies

✓ Department of Accounting and General Services
✓ Department of Agriculture
Department of Business, Economic Development and Tourism
Department of Business, Economic Development and Tourism, Strategic Industries Division
Department of Business, Economic Development and Tourism, Energy Office
Department of Business, Economic Development and Tourism, Land Use Commission
Department of Business, Economic Development and Tourism, Office of Planning
Department of Defense
Department of Defense, State Civil Defense
✓ Department of Education
Department of Health
Department of Health, Environmental Quality Control
Department of Health, Environmental Management Division
Department of Health, Hazard Evaluation and Emergency Response Division
✓ Department of Health, Wastewater Branch
Department of Health, Safe Drinking Water Branch
✓ Department of Land and Natural Resources
Department of Land and Natural Resources, Office of Coastal and Conservation Lands
Department of Land and Natural Resources, Historic Preservation Division
Department of Hawaiian Home Lands
Department of Transportation
✓ Department of Transportation, Airports Division
Hawai'i State Library
Office of Hawaiian Affairs

University of Hawai‘i at Mānoa Environmental Center
University of Hawai‘i at Mānoa Hamilton Library

City Council
Councilmember Heidi Tsuneyoshi

City and County of Honolulu Agencies
✓ Board of Water Supply
Department of Community Services
✓ Department of Design and Construction
Department of Environmental Services
✓ Department of Facility Maintenance
✓ Department of Parks and Recreation
✓ Department of Planning and Permitting
Department of Transportation Services
✓ Honolulu Fire Department
✓ Honolulu Police Department
Office of the Mayor

Utility Companies
✓ Hawai‘i Gas
Hawaiian Electric Company
Hawaiian Telcom
Spectrum Hawai‘i

Other Interested Parties and Individuals
Wahiawā – Whitmore Village Neighborhood Board No. 26

8. REFERENCES

City and County of Honolulu, *General Plan, Objectives and Policies* Amended October 3, 2002.

City and County of Honolulu, Department of Planning and Permitting, *Primary Urban Center Development Plan,* June 2004.

Federal Emergency Management Agency, *Flood Insurance Rate Map Panel No. 0353G*. gis.hawaiinfip.org/

Giambelluca, T.W., and Nullet, Dennis, (2013), Influence of the trade-wind inversion on the climate of a leeward mountain slope in Hawai`i: Climate Research, v. 1, p. 207–216.

Hawaiʻi Climate Change Mitigation and Adaptation Commission. (2017). *Hawaiʻi Sea Level Rise Vulnerability and Adaptation Report*. Prepared by Tetra Tech, Inc. and the State of Hawaiʻi Department of Land and Natural Resources, Office of Conservation and Coastal Lands, under the State of Hawaiʻi Department of Land and Natural Resources Contract No: 64064.

Honolulu Board of Water Supply. (2007). *Central Oʻahu Watershed Study.* Prepared by Oceanit, Townscape, Inc., & Eugene Dashiell.

IPCC. (2014). *Summary for policymakers. In: Stocker, T.F., Qin, D., Plattner, G.K., Tignor, M., Allen, S.K., Boschung, J., Nauels, A., Xia, Y., Bex, V., Midgley, P.M., editors. Climate change 2013: the physical science basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge (UK)/New York (NY): Cambridge University Press; p. 1535. Available from https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WGIAR5_SPM_brochure_en.pdf

State of Hawaiʻi Department of Health, *Hawaiʻi Ambient Air Quality Data*, Clean Air Branch. Internet. Available at: http://health.hawaii.gov/cab/Hawaiʻi-ambient-air-quality-data/

State of Hawaiʻi Department of Health, *Hawaiʻi Administrative Rules Title 11 Department of Health Chapter 54, Water Quality Standards*, amended and compiled May 27, 2009.

State of Hawaiʻi Department of Health (2018). *Hawaiʻi Administrative Rules Title 11 Department of Health Chapter 60.1, Air Pollution Control*, amended and compiled September 16, 2003.

U.S. Census Bureau American Fact Finder, Profile of General Population and Housing Characteristics: 2010. http://factfinder2.census.gov

U.S. Census Bureau, Honolulu County – Quick Facts from the U.S. Census Bureau: http://quickfacts.census.gov/qfd/states

U.S. Fish and Wildlife Service, National Wetlands Inventory
http://www.fws.gov/wetlands/Data/Mapper.html

United States Department of Agriculture Natural Resource Conservation Service. (1972) *Soil Classification*. Internet. Available at: http://soils.usda.gov/technical/classification/

University of Hawai‘i at Hilo, Department of Geography, Atlas of Hawai‘i, Third Edition, Edited by Sonia P. Juvik and James O. Juvik, University of Hawai‘i Press, Honolulu, 1998.

Appendix A:

Archaeological Literature Review and Field Inspecition
Honua Consulting, Inc.

Archaeological Literature Review and Field Inspection for the Wahiawa Value-Added Product Development Center, Wahiawā Ahupuaʻa, Waialua District, Oʻahu Island TMK: [1] 7-4-012:016

Prepared for

WILSON OKAMOTO CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

Prepared by

Nathan J. DiVito, B.A.,
Frederick LaChance IV, B.A.
Rosanna M. R. Thurman, M.A., and
Trisha Kehaulani Watson, J.D., Ph.D.

HONUA CONSULTING
Honolulu, Hawaiʻi

June 2019

Management Summary

This Literature Review and Field Inspection (LRFI) is for the Wahiawa Value-Added Product Development Center located in Wahiawā Ahupuaʻa, Waialua District, Island of Oʻahu TMK: [1] 7-4-012:016. The property area includes 1.572 acres (68,476 square feet [sq. ft] or 6,362 square meters [sq. m]) of Commercial property and is located in downtown Wahiawā along California Avenue, at street address 1001 California Avenue, with service frontage on Plum Avenue. The property area is privately owned by Agribusiness Development Corp (State of Hawaii, Department of Agriculture).

The proposed project plans to repurpose and upgrade the existing 32,375 square-foot warehouse on the property. The warehouse was constructed in 1981 and operated as the Tamura's Wholesale Outlet. A plywood office building set on the asphalt parking lot and constructed in 1979 is present along the southern boundary of the property and will be demolished. No ground disturbing activities are planned in association with refurbishment of the warehouse and surrounding property or during demolition of the existing office building.

The purpose of the literature review and field inspection is to determine the land-use history and identify any potential artifacts or cultural deposits present on the ground surface of the property. This study is not an archaeological inventory survey (AIS), however, this report was written using standards outlined within HAR 13-276 for AIS studies and is intended to assist with historic preservation efforts for the proposed Wahiawa Value-Added Product Development Center project.

Background research on the property area indicated that it was once used by the Standard Oil Company of California. Several structures and gasoline storage tanks are shown within the property area on a 1942 Sanborn Fire Insurance map of Wahiawa. A spur of the OR&L railroad that once traveled from Waipahu to Wahiawa is also present along the western side of the property area.

The archaeological field inspection conducted for the current project included a pedestrian survey of the traversable portion of the property area. The inside of the two buildings were not surveyed during the field inspection. The majority of the property area was paved parking lot and no structural elements or artifacts were found in association with the railroad, structures, or gasoline storage tanks observed on the 1942 Sanborn Fire Insurance map of the area. No artifacts or deposits of any kind were observed in the unpaved grassy landscaped portions of the property.

Due to the lack of historic properties and lack of ground disturbances associated with the project, this study finds the project effect determination is "no historic properties affected". However, due to historic use of the property area and the historic significance of Wahiawā town it is recommended that archaeological monitoring be conducted in accordance with HAR 13-279 (Rules Governing Standards for Archaeological Monitoring Studies and Reports) for any potential, unanticipated ground disturbing activities in association with the project.

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Section 1 Introduction

1.1 Project Background

This project was completed at the request of Wilson Okamoto Corporation. Honua Consulting conducted this literature review and field inspection for the proposed Wahiawa Value-Added Product Development Center project located in Wahiawā Ahupuaʻa, Waialua District, Oʻahu Island, TMK [1] 7-4-012:016. The property area includes 1.57 acres of land (68,476 square feet [sq. ft] or 6,362 square meters [sq. m]). It is privately owned by Agribusiness Development Corp (State of Hawaii Department of Agriculture). The property is situated in the central portion of historic Wahiawā town, south and adjacent to the intersection of California Avenue and Cane Street. The property area is shown on a United States Geological Survey (USGS) map (Figure 1), an aerial photo (Figure 2), and a Tax Map Key (TMK) map (Figure 3).

The proposed project plans to repurpose and upgrade the existing 32,375 square-foot warehouse on the property. The warehouse was constructed in 1981 and operated as the Tamura's Wholesale Outlet. A plywood office building set on the asphalt parking lot and constructed in 1979 is present along the southern boundary of the property and will be demolished. No ground disturbing activities are planned in association with refurbishment of the warehouse and surrounding property or during demolition of the existing office building.

The purpose of the literature review and field inspection was to determine the land-use history of the property area and to identify any potential artifacts, architecture, or cultural deposits present on the ground surface of the property. Fieldwork for this project was performed under the archaeological permit number 19-22 issued to Honua Consulting by the State Historic Preservation Division/Department of Land and Natural Resources (SHPD/DLNR) in accordance with Hawaiʻi Administrative Rules (HAR) Chapter 13-282. This study is not an archaeological inventory survey (AIS), however, this report was written using standards outlined within HAR 13-276 for AIS studies and is intended to assist with historic preservation efforts for the proposed Wahiawa Value-Added Product Development Center.

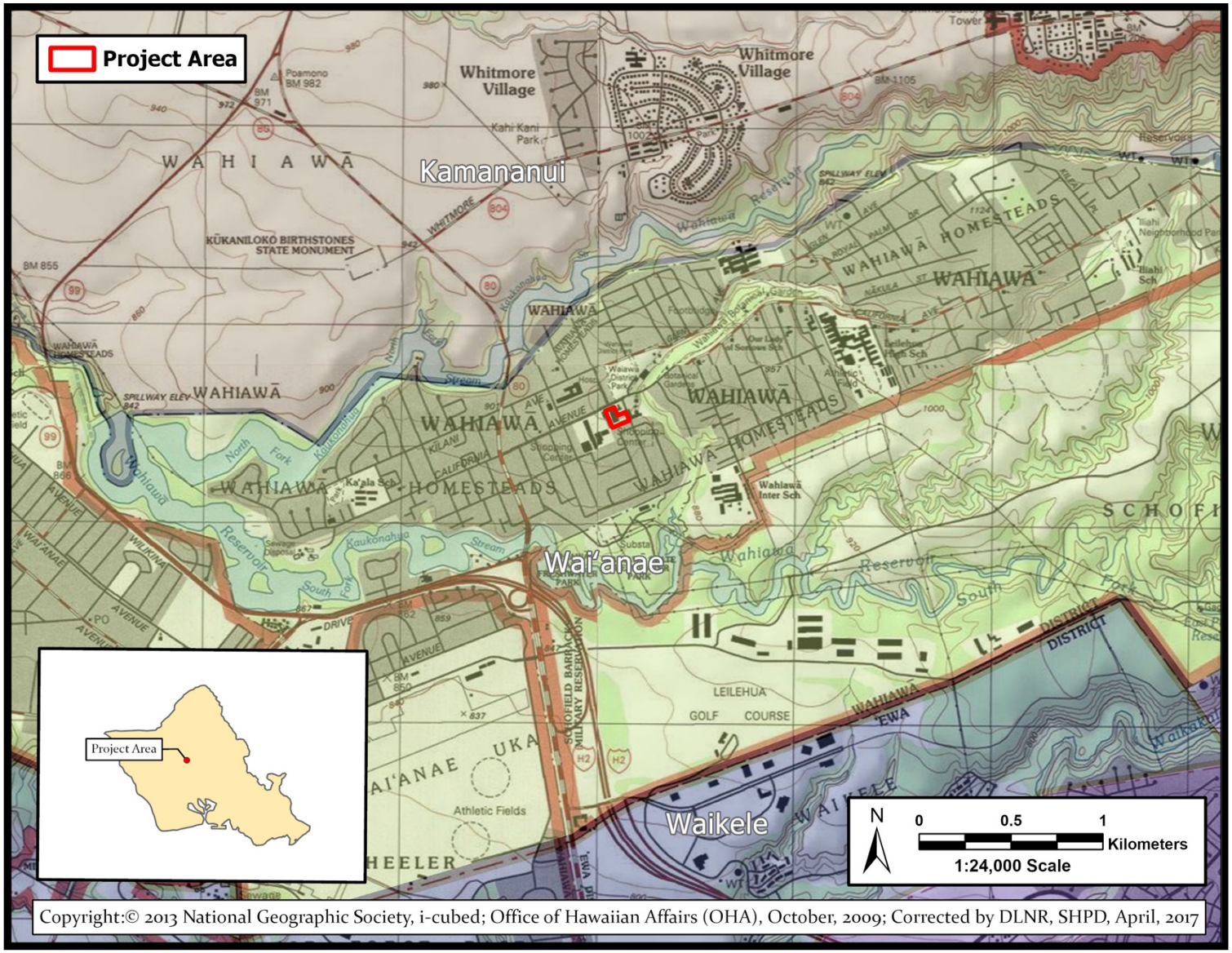


Figure 1. Portion of a 2013 Wahiawa U.S. Geological Survey (USGS) Topographic Map Showing the Property area

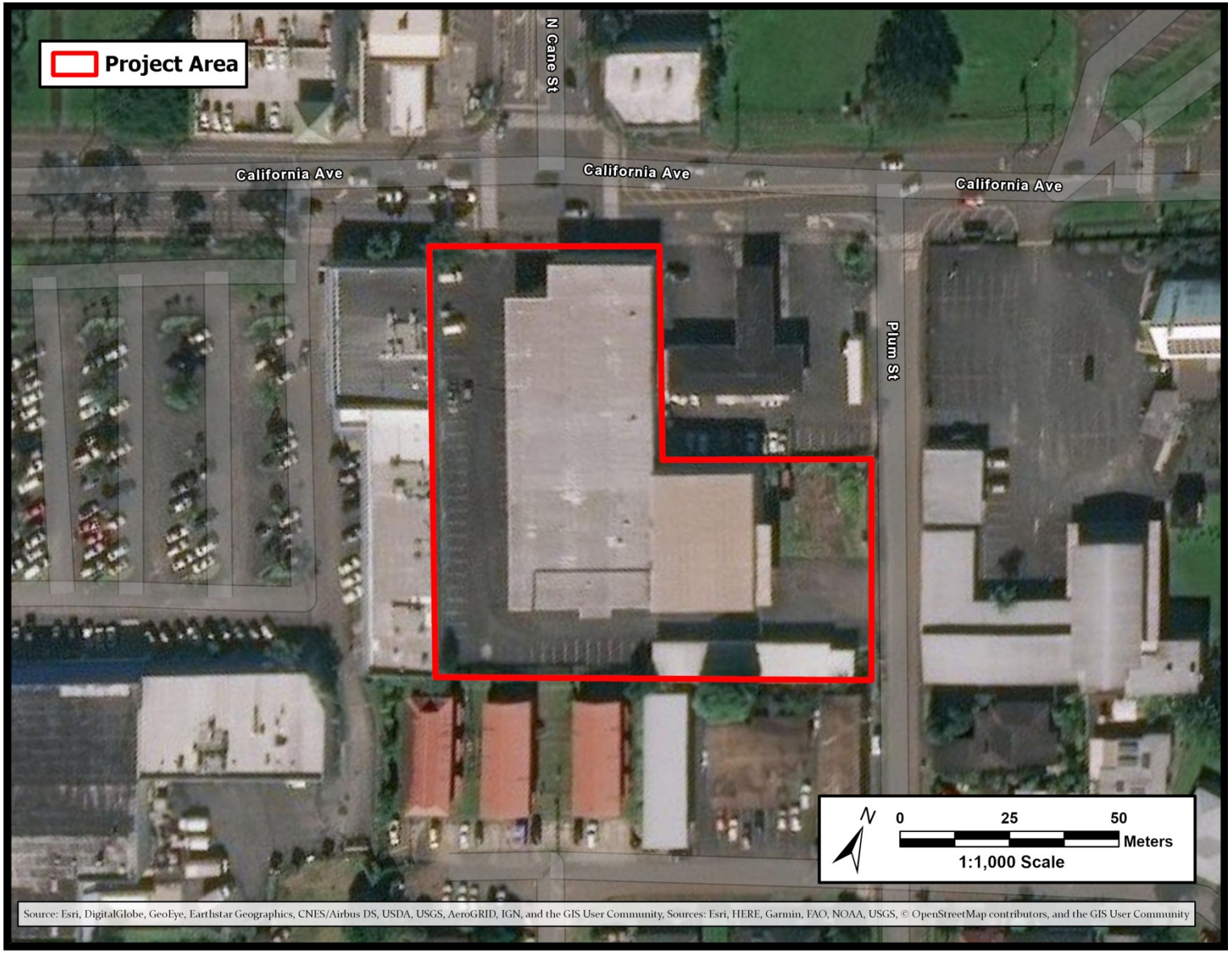


Figure 2. Aerial Photo Showing the Location of the Property area (Source:)

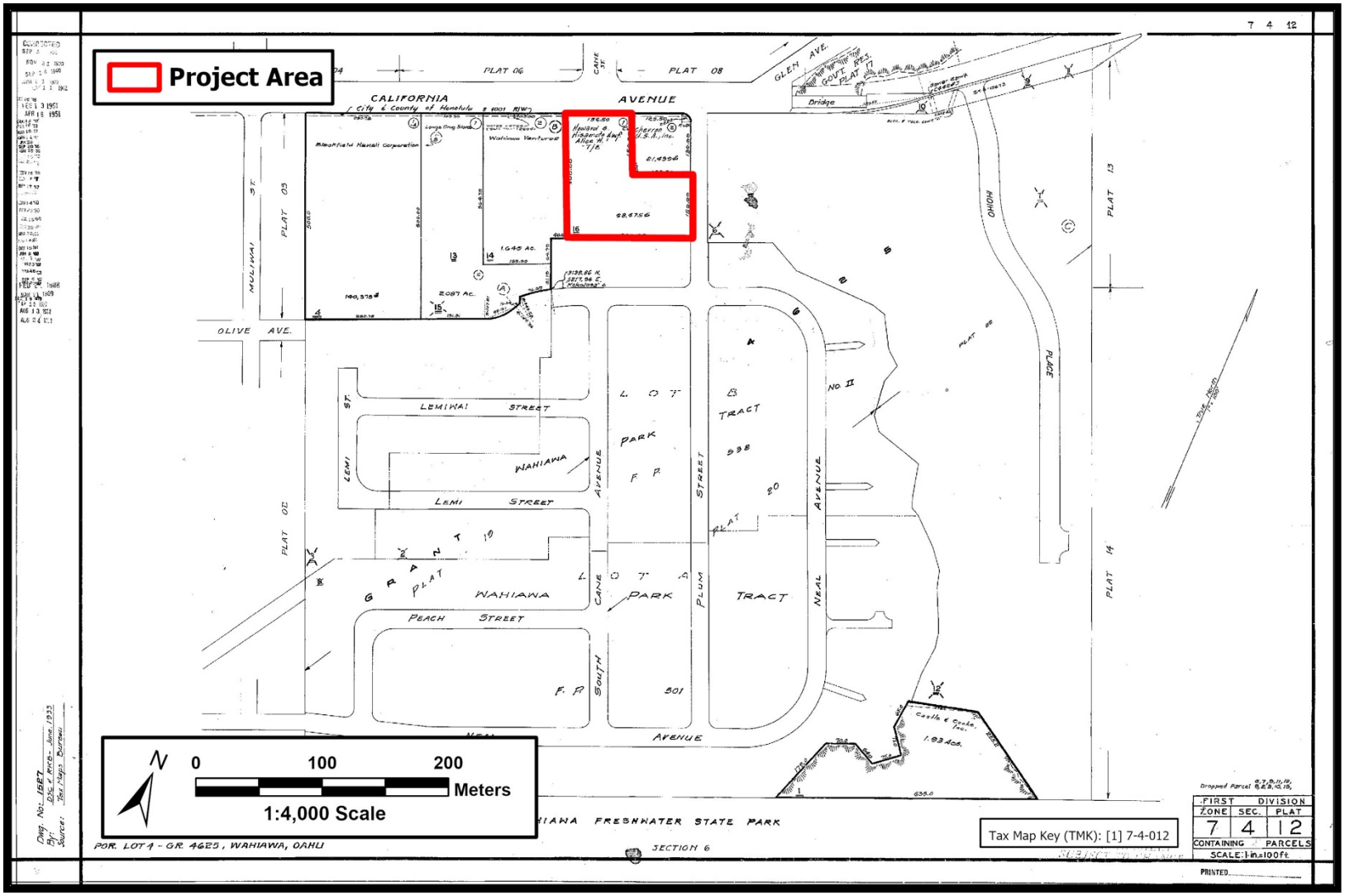


Figure 3. Tax Map Key (TMK) [1] 7-4-012 Showing the property area

1.2 Environmental Setting

1.2.1 Natural Environment

The property area is located on the central Oʻahu plateau which was formed by lava from Koʻolau volcano banking against the eroded slope of the Waiʻanae volcano (Macdonald et al. 1983:420). It is located within the traditional district (moku) of Waialua and the traditional land division (ahupuaʻa) of Wahiawā. At this location Wahiawā Ahupuaʻa is bordered by Kamananui Ahupuaʻa to the north and Waikele Ahupuaʻa to the south. Parts of Wahiawā were previously part of Waiʻanae Ahupuaʻa, but it was redrawn to be part of the Waialua Ahupuaʻa then its own district in the 19th and 20th centuries. Today it is considered part of the Waialua Ahupuaʻa, as the name Wahiawā links to the larger Waialua cultural landscape and region.

The property area is at approximately 920 ft above mean sea level and 8.5 miles (13.6 km) from the nearest coastline. It receives a mean annual rainfall of 1,184.8 mm, with wetter months November through March (Giambelluca et al. 2013). This portion of the plateau is dissected by many small streams and tributaries that flow from the Koʻolau Mountains west to the ocean. The south fork of Kaukonahua Stream runs approximately 850 meters to the south and an unnamed drainage that feeds the stream is approximately 100 meters east of the property area.

The soil within the property area consists entirely of Wahiawa silty clay (WaA) on 0 to 3 percent slopes (Foote et al. 1972) (Figure 4). The Wahiawa soil series consists of well-drained soils on uplands on the island of Oʻahu. These soils developed in residuum and old alluvium derived from basic igneous rock (Foote et al. 1972:124). They are nearly level to moderately steep and elevations range from 500 to 1,200 feet. These soils are used for sugarcane, pineapple, pasture, and homesites. The natural vegetation consists of bermudagrass (*Cynodon dactylon*), guava (*Psidium guajava*), honohono (*Commelina diffusa*), koa haole (*Leucaena leucocephala*), and lantana (*Lantana camara*).

1.2.2 Built Environment

The property area is located in a heavily developed area of downtown Wahiawā. It is bordered on its northern side by the intersection of California Avenue and Cane Street. A strip mall borders the western side and residential apartments border the southern side of the property. The service frontage for the property along Plum Street and the Reynolds Recycling Wahiawa Redemption Center are to the east. Other infrastructure in the vicinity of the property area includes commercial businesses, roadways, sidewalks, traffic lights, and street lighting.

Two modern structures are present within the property area. The first structure is a large 32,375 square foot warehouse which once operated as Tamura's Wholesale Outlet. An asphalt parking lot that covers much of the property is present on the west and south sides of the warehouse. The second structure is a set of connected plywood offices that are set on the asphalt and present along the southern boundary of the property. Ceramic masonry unit (CMU) retaining walls are present on the western and southern boundaries of the property. Utilities on the property appear to be subsurface.

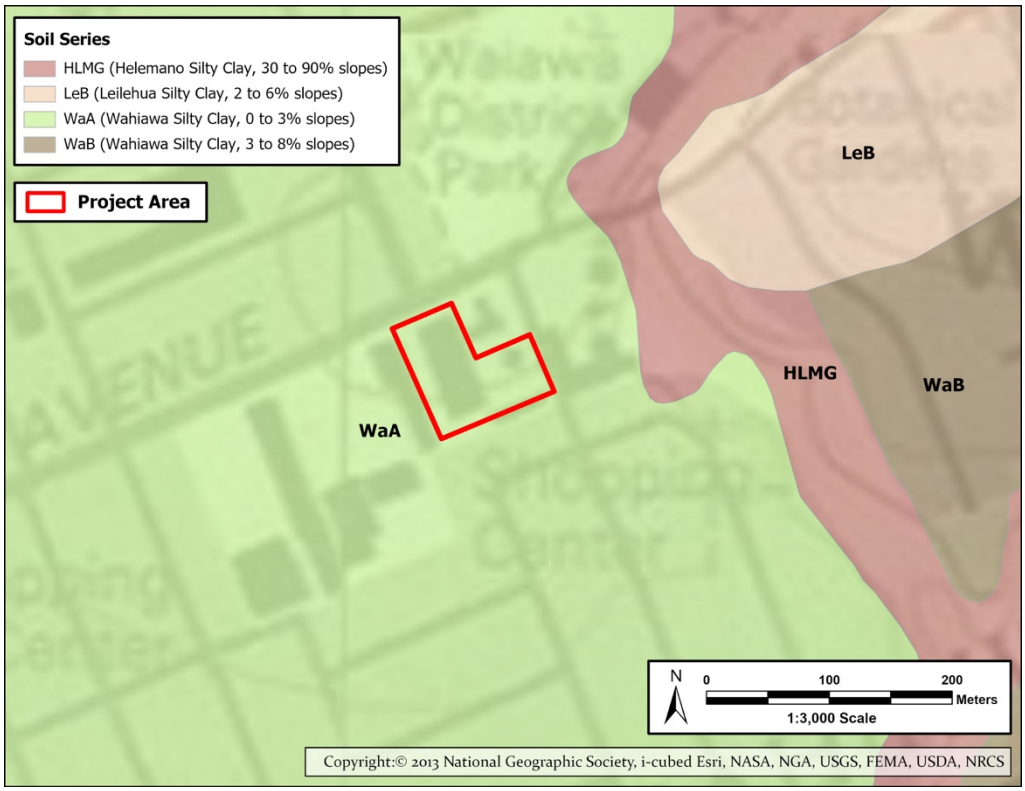


Figure 4. Portion of a 2013 USGS Topographic Map with Soil Series Overlay Showing Anticipated Soils Within the Property area and APE (Foote et al. 1972)

Section 2 Traditional and Historical Background

Background research for the literature review was conducted using materials obtained from the State Historic Preservation Division (SHPD) library in Kapolei and the Honua Consulting LLC. report library. On-line materials consulted included the Ulukau Electronic Hawaiian Database (www.ulukau.com, Soehren 2002-2010), Papakilo Database (www.papakilodatabase.com), the State Library on-line (http://www.librarieshawaii.org/ Serials/databases.html), and Waihona ʻAina Mahele database (http://www.waihona.com). Hawaiian terms and place names were translated using the on-line Hawaiian Dictionary (Nā Puke Wehewehe ʻŌlelo Hawaiʻi) (www.wehewehe.com) and Place Names of Hawaii (Pukui et al. 1974). Historic maps were obtained from the State Archives, State of Hawaiʻi Land Survey Division website (http://ags.hawaii.gov/survey/map-search/), UH-Mānoa Maps, Aerial Photographs, and GIS (MAGIS) website (http://guides.library.manoa.hawaii.edu/magis). Maps were geo-referenced for this report using ArcGIS Pro desktop. GIS is not 100% precise and historic maps were created with inherent flaws; therefore, geo-referenced maps should be understood to have some built-in inaccuracy.

2.1 Place Names and Moʻolelo

The entire property area is located within the traditional ahupuaʻa of Wahiawā. Wahiawā has a rich and interesting cultural history, and many moʻolelo and legends are associated with it. Wahiawā is translated as "place of noise" as it was said that the sound of the waves from the North Shore (in the Waialua Moku) could be heard from the area (Pukui et al. 1974). Wahiawā covers an area from the crest of the Koʻolau Mountains to the center of the plateau just west of the junction of the north and south forks of Kaukonahua Stream. Wahiawā is the name of the general area of the central plateau and the inland portion of Kamananui ahupuaʻa.

Several Hawaiian place names are known for features of the Wahiawā region and environment. Table 1 lists place names in the vicinity of the property area, a description of the locations, their English translations, and sources of information. Selected names are also discussed below.

Table 1.Listing of Place Names in the Vicinity of the Property area

Place Name	Description	Meaning	Reference
Wahiawā	Ahupuaʻa, district	Place of noise	Pukui et al. 1974
Waiʻanae Uka	Ahupuaʻa	Inland Waiʻanae	Pukui et al. 1974
Līhuʻe	Land section	Cold chill	Pukui et al. 1974
Waialua	Land division and district	Possibly two waters	Pukui et al. 1974
Waiʻanae	Land division and district	Mullet water	Pukui et al. 1974
ʻEwa	Land division and district	Crooked	Pukui et al. 1974
Waikakalaua	Land section and stream	Water rough [in] rain	Pukui et al. 1974
Pouhala	Fishpond and ahupuaʻa	Pandanus (hala) post	Pukui et al. 1974
Paʻalaʻa	Land section	Sacred firmness	Pukui et al. 1974

Helemano or Halemano	Stream, ditch, reservoir	Many snared or many going	Pukui et al. 1974
Poamoho	Stream and trail	None provided	Pukui et al. 1974
Peʻahināiʻa	Hill	Beckon [to] the fish	Pukui et al. 1974
Kemoʻo	Land division	None provided, pronounced Kīmū	Pukui et al. 1974

2.1.1 Wahiawā ("Place of Noise")

Traditionally, Wahiawā is considered part of the Waialua moku, although the boundaries in that area underwent a number of interesting geopolitical changes in the 19th and 20th centuries. Wahiawā is a traditional name, there were other place names in the area that have largely been lost.

Historical accounts identify Wahiawā as its own stand-alone district beginning in 1913, when both Wahiawā and Waiʻanae Uka would be merged and made its own district, independent of the other island moku. An account by Coulter (1935) from *A Gazetteer of the Territory of Hawaii* explains:

> No changes were made (after 1909) until 1913 and then only with respect to Oahu when a new district was created, that of Wahiawa, in which the ahupuaʻas of Wahiawa and Waiʻanae Uka were taken from Waialua to form this new and seventh district of Oahu. In 1899, a tract of some 1320 acres of Wahiawa, formerly in pasture, was subdivided into agricultural homestead lots and by 1913 quite a community had developed in this section whose aspirations for independence from Waialua district was met by the creation of a new district.
>
> In 1925, the third edition of the Revised Laws, containing all laws up to that date, was enacted. In the session laws of that year, the district of Wahiawa on Oahu was expanded on its north and south sides by taking respectively from Waialua and Ewa, large irregular tracts of land, but as very little attention was paid to the new boundaries in the operation of the law, it is unnecessary to recite the revisions description. It can be found in Act 13, Session Laws of 1925.
>
> In the special sessions of 1932… The incongruous boundaries of Wahiawa on Oahu created in 1925 were abrogated and the district restored to its boundaries of 1913, to which were added small tracts of land in Ewa and Waialua acquired by the United States and included within the Military Reservation of Schofield Barracks. (Coulter quoted in Sterling and Summers 1978:134).

According to one article, there were "healing stones" at Wahiawa Cemetery at the end of California Avenue. It was written that people would come from all over the island to visit these stones that were said to have come from an unidentified river bottom (The Honolulu Advertiser 1939: 10).

2.1.2 Līhuʻe ("The Cold Chill")

One inoa ʻāina (place name) from this area is Līhuʻe (meaning "the cold chill"), which was a traditional name and area that belonged to the Waiʻanae moku.

2.1.3 Wai‘anae Uka (“Inland Wai‘anae”)

Wahiawā sits north of a wahi pana (storied place) known as Wai‘anae Uka (inland Wai‘anae). It was believed that Wai‘anae Uka provided an important water source to the Wai‘anae Kai (oceanside Wai‘anae). It is unclear exactly why the boundary changed, but according to historical accounts, it occurred in the late 19th century.

> In reviewing the changes made in 1909 and comparing the districts with those in 1859, we find only one change in the island of Hawaii, …
>
> On Oahu, the boundaries of Honolulu district remain the same; Ewa and Waianae are separated and formed into two districts, excluding the ahupuaa of Waianae uka which is added to Waialua district… (Coulter quoted in Sterling and Summers 1978:60).

One historical account describes Waianae-Uka as follows:

> The ahupuaa ran from the crest of the Waianae Mountains sound of Mount Kaala, across the plateau area on which Schofield Barracks stands, and up to the crest of the Koolau Range. On the Waialua side, I am told, there were terrace areas watered by Kioea and Waikoloa Streams. Kalena Gulch has some terraces; I have no information about Mohiakea. On the Koolau side three large streams join to form Kalakoa Stream. The configuration of the land suggests that there must have been some terraces here. (Handy quoted in Sterling and Summers 1978:134).

2.1.4 Poamoho

Poamoho is the name of the stream that forms the northern boundary of Wahiawā. There are no traditions related to this place name.

2.1.5 Kaukonahua

Kaukonahua is the stream that marks the southeastern boundary of NCTAMS-Wahiawa. This is the north fork of the main drainage of the same name. The main stream flows 33 miles to the north shore, making it the longest waterway in the islands (Pukui et al. 1974:92). Pukui et al. (1974:92) state:

> According to one explanation the name means ‘place his testicles’ (a man’s testicles were cut off here so that he could leap). A more likely explanation is Kau-kōnāhua (place fatness).

There are no traditions related to this place name.

2.1.6 Kūkaniloko

Kūkaniloko is “one of the two famous places in the Hawaiian Islands for the birth of children of tapu chiefs” (McAllister 1933:134). Although located to the southwest of Wahiawa, the birthsite is mentioned because of its renown and significance for the central O‘ahu plateau. Nakuina (1897:90) notes that:

> It was incumbent on all women of the royal line to retire to this place when about to give birth to a child, on pain of forfeiting the rank, chiefly privileges and

> perogatives for her expected offspring should that event happen in a less sacred place...

It was said to have been established by Nanakāoko and his wife, Kahihiokalani, who gave birth to Kapawa, the first of the important ali‘i born here (Kamakau 1865 [1991:38]; Fornander 1880 [1969:II-20]; McAllister 1933:135). McAllister (1933:135) writes that “birth here added some special divine gift to the sacred palce already occupied by a tapu high-chief.” The significance of this practice was recognized even into the early historic period, when Kamehameha made efforts to have his sacred wife Keōpūolani deliver their child at Kūkaniloko (Kamakau 1865 [1991:38]).

Recent interpretations of the traditions suggest that the name Kūkaniloko applied to an area that stretched as far south as Waikakalaua and Līhu‘e, west to Kalena, and north to Helemano.

The sacred drums of Opuku and Hāwea announced the birth of an ali`i and were stored in the nearby heiau Ho‘olonopahu. By 1933, however, the heiau had been obliterated as the surrounding area was planted in pineapple (McAllister 1933:137).

Kūkaniloko was also the name of an O‘ahu chief, the daughter of Piliwale, who was the chief of ‘Ewa (Kamakau 1865 [1991:50]).

2.1.7 Helemano

Like Kūkaniloko, Helemano (alternatively Halemano) is located outside of the Wahiawa area (to the north) but its significance as a traditional locale warrants mention. The traditions of Helemano relate to cannibalism. This was “a beautiful and retired rural spot ... [lying] between two deep ravines ... its area embraces several hundred acres, verdant and picturesque, but now regarded with superstitious dread, from once having been the rendezvous of a clan of cannibals” (Jarves 1844:72) under the rule of the chief ‘Ai-kanaka (man-eater). A 19th century account (Ka Hae Hawaii 1861) recounts:

> There is a tale of a certain people who lived long ago up at Halemano in Waialua. They were known to roast and eat any person who went there as a stranger. The house site of their chief, whose name was Kalo, is pointed out and a flat, smooth stone called Kalo’s meat dish that lies there to this day. It is away up in the mountain of Halemano. The land is on a high place surrounded by deep valleys and the trail leading to it is steep. There Kalo lived with his people. There also is a heiau site ten fathoms long and seven fathoms wide. Between the heiau and house site is the imu pit where people were roasted. Below that, about 13 or 14 chains away, lies Kalo’s meat dish.

Beckwith (1940 [1970:340-342]) summarizes other versions of this story, including some that incorporate the place and person of O‘ahunui.

O‘ahunui is a place located to the south of present Wahiawā town. It was once the residence of the kings of O‘ahu, but was abandoned during the reign of the sovereign chief, O‘ahunui, who was turned to stone when he became a cannibal and ate the two sons of his brother-in-law, Lehuanui (Nakuina 1897:90). O‘ahunui is also described as a village in the story of a woman who travels the island in search of her lost tapa-beater (Ke Aloha Aina 1919).

In 1783, in battles for the control of the island, the Maui chief Kahekili defeated the forces of O‘ahu. The O‘ahu chief Kahahana and his wife and a friend escaped and hid in the mountains for

over two years (Kamakau 1867 [1961:136-137]). "They … thought it better to go up to Oahunui at Wahiawa and so they went to the forest of Halemano" (Ke Au Hou 1910).

2.1.8 Kuaʻikua

Kuaʻikua is the name of a place and stream in upper Helemano; it is also outside of the Wahiawā area. The stream is fed by a "sacred spring and only those related to the supernatural ones who made and hid it, are allowed to bathe in it" (Ke Au Hou 1910, in Sterling and Summers 1978:112). Two of the ancient chiefs of Oʻahu, Haho and Lana-ka-wai, were born at the kawa[1] of Kuaʻikua. Of the birth of Lana-ka-wai, Kamakau (1867 [1991:101]) writes:

> Lana-ka-wai … was born at the kawa of Kuaʻikua in Wahiawā, Oʻahu. There is a flat rock there where his mother, Mahuia, squatted and gave birth to him; he floated on the water and so was given the name of Lana-ka-wai.

2.2 Pre-Contact Period of Wahiawā

Along with Līhuʻe in ʻEwa in the eastern foothills of the Waiʻanae Range, Wahiawā on the western slopes of the Koʻolau Range was an area known as the home of chiefs. One of the most notable figures to be raised in Wahiawā was Māʻilikūkāhi, one of the great chiefs of Oʻahu who reigned well before the time of Kamehameha. When he was 29 years old, Māʻilikūkāhi was chosen by the chiefs, priests, and commoners to be high chief of the island, and was consecrated in a ritual that (Kamakau 1865 [1991:54], brackets original; MKP is Mary Kawena Pukui):

… pertained to high chiefs from remote times. … It was not performed for rebellious chiefs, however, nor for warrior chiefs who took the kingdom by force, but for 'chiefs of Pōkano' [chiefs of unblemished bloodlines from remote times – M.K.P.].

During this period, the place names Līhuʻe and Leilehua were still used as the names of the area. As previously noted, Līhuʻe is only now rarely used for the area, as the name is more commonly associated with the capital city of Kauaʻi County and Leilehua is only rarely used, although the name remains in use by the U.S. Military as its nearby golf course and club house. It is probable that the names of these facilities are derived from the traditional place names of the area.

2.3 Early Historic Period to Mid-1800s

There is little known about the central Oʻahu plateau in the early years of the 19th century. The earliest account was written by Sereno Bishop (1916), who in the 1830s was a young man living at ʻEwa with his missionary family. The family would often travel across the island to visit the Waialua Mission Station (Bishop 1916:45):

> 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 ti plant abounded often so high as to

[1] Pukui and Elbert (1986:139) define kawa as "leaping place, as a precipice from which a swimmer leaps into a pool."

> 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.

The "nearly naked plains" could have resulted from one or a combination of several possibilities. Ti was a Polynesian introduction, traditionally useful for its leaves and roots. Cuddihy and Stone (1990:32) note that "many of the forests in which these early introductions [including ti] predominate are probably successional after Hawaiian cultivation." If so, the extent of ti plant on the central plateau could represent the after-effect of Hawaiian agriculture in the uplands. It is also possible that "nearly naked plains" were the result of sandalwood collection.

The sandalwood trade boomed in the 1820s when chiefs were allowed to participate in the market. The fragrant sandalwood, a major export for the Chinese market, was a common forest tree in the central plateau. Kamakau (1870 [1964:207]) writes "at the completion of the fort [at Honolulu in 1816] Ka-lani-moku and all the chiefs went to work cutting sandalwood at Wahiawā, Halemano, Puʻukapu, Kanewai, and the two Koʻolaus. The largest trees were at Wahiawā, and it was hard work dragging them to the beach." As the wood became increasingly scarce, one method of collection was to set fire to the forest and trace the sandalwood by its fragrant odor (Bishop 1916:45).

In the 1840s, private property was introduced into Hawaiian society through formation of the Board of Commissioners to Quiet Land Titles and the adoption of the Great Māhele (the division of Hawaiian lands). In 1845, King Kamehameha III waived his right to full authority over the land, portioning it out for his personal use (crown lands) and then dividing the rest of his territory into land for the government, land for the aliʻi (chiefs and royalty) and konohiki (land overseers), and land for tenants or commoners (kuleana land) (Alexander 1891, Hawaii, Land Commission 1929, Moffat and Fitzpatrick 1995). The result of these divisions were approximately as follows: 23.8% (984,000 acres) of land in the islands were allocated to the king and were dubbed the crown lands, 39.2% (1,619,000 acres) were the konohiki lands to be divided among 245 chiefs, and 37% (1,523,000 acres) were declared as government lands, which were awarded to commoners who worked the land as active tenants (Van Dyke 2008:42).

Land Commission Awards (LCAs) were awarded to commoners as kuleana lands for fee ownership. Kuleana land claims required proof of residency on the land and continued land improvements. LCAs therefore record who resided on the land and how the land was used. Royal Patents were often granted on LCAs awarded from 1847-1853, which finalized the sale and legal title of the lands. Royal Patents (RP) were used until the overthrow of the Hawaiian government in 1892 and thereafter are referred to as Land Patents. Starting around 1846 Land Grants (LG) were established which made it possible to purchase property outright rather than going through the land commission process. As a result of this process, LG documentation does not commonly specify how the land had been utilized prior to its purchase. Land was also granted under two different types of ʻili (subdivision of an ahupuaʻa), ʻili ʻāina (land inheritance) and ʻili kūpono or the shortened term, ʻili kū. ʻIli kūpono was "nearly independent land held by [the] chief where the transfer of the ahupuaʻa to a new chief did not carry with it the transfer of the ʻili kupono contained within its limits" (Lyons 1903:28). Figure 5 is an 1852 map of the Wahiawa area from this time.

In 1913, the Territorial government formed the district of Wahiawā by combining this upper portion of Kamananui ahupuaʻa with Waiʻanae Uka ahupuaʻa (Coulter 1935:222). Since then, Wahiawā has also been referred to as an ahupuaʻa (e.g., Handy and Handy 1972), although there

is no record of such a land area in the *Indices of Awards Made by the Board of Commissioners to Quiet Land Titles* (1929). A 1904 map of grants in central O‘ahu (Wall 1904) identify areas of Kamananui ahupua‘a as “Wahiawa,” “Kemoo,” and “Kaheeka,” suggesting that these may be sub-units of the traditional ahupua‘a. This is also the name of the town that grew out of agricultural homesteads established in 1899. Handy and Handy (1972:465) refer to the north fork of Kaukonahua Stream as Wahiawa Stream.

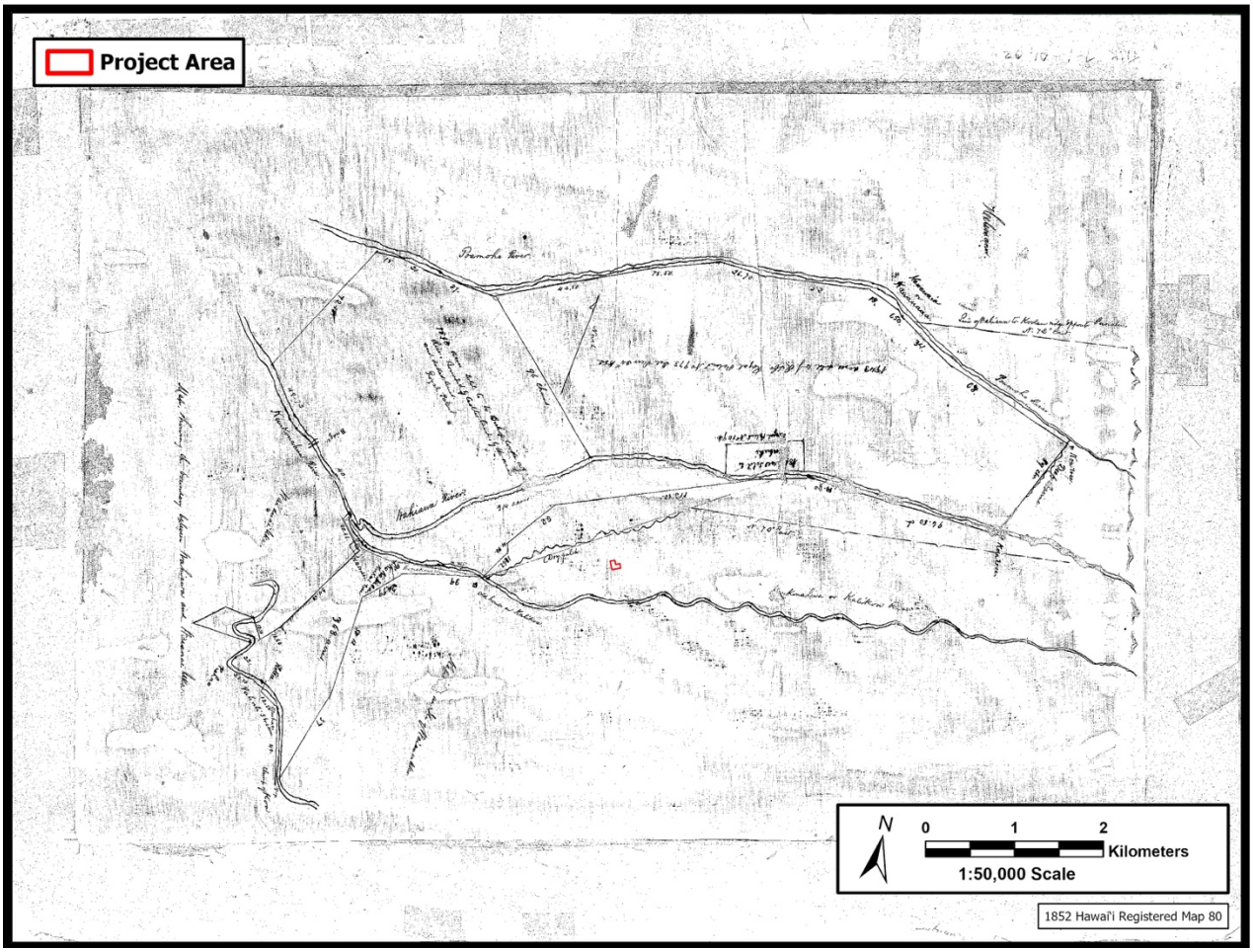


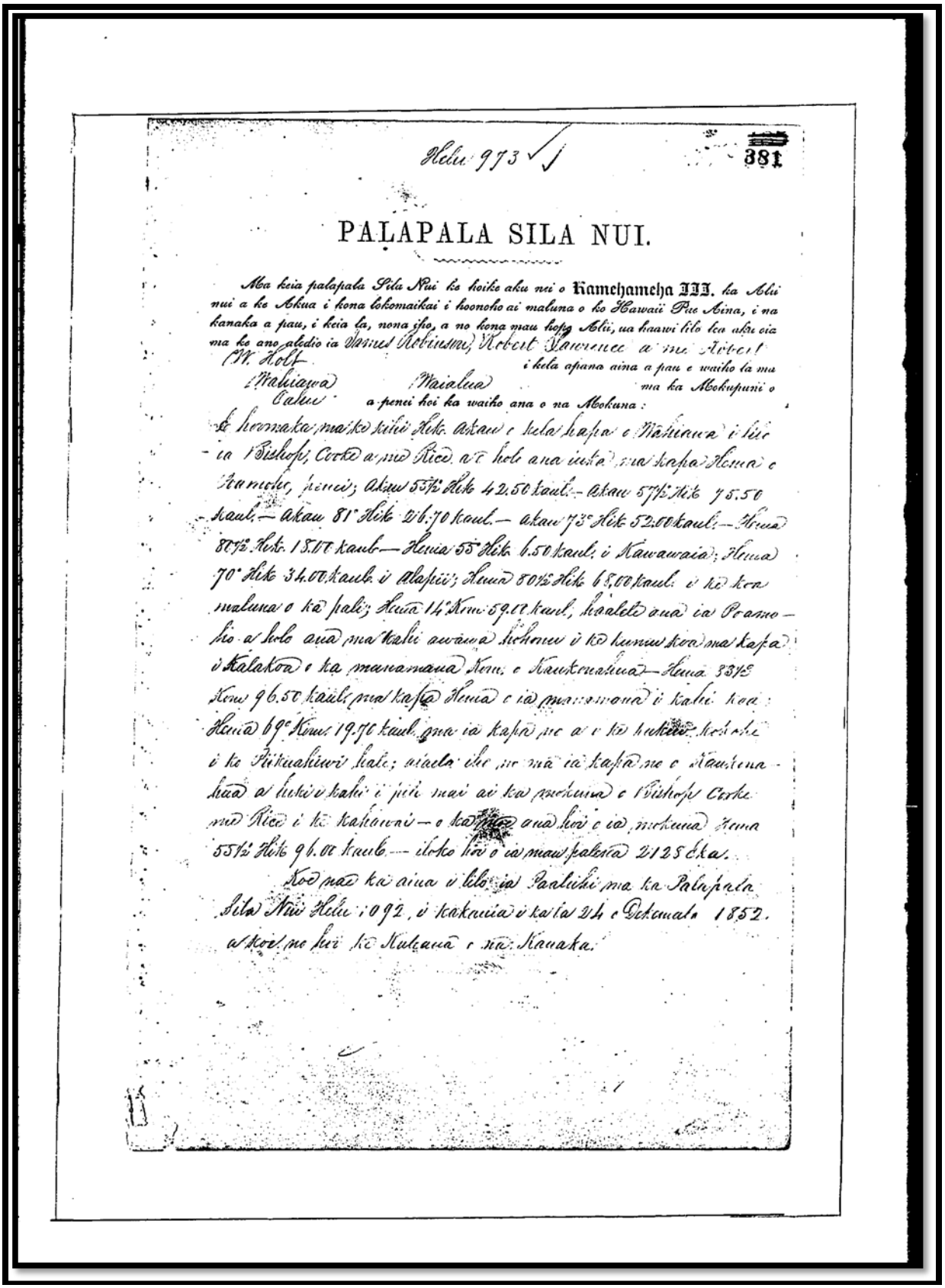
Figure 5. Map showing the property area on an 1852 map of the Wahiawa area (RM 80)

2.3.1 Royal Patent Grant 973

In the mid-19th century Māhele division of lands, Kamananui, which includes the Wahiawā area, was designated Government Land. In 1853, 2,128 acres of land in upland Kamananui, encompassing the property area, was awarded to Robinson and Company as Grant 973 (Figure 6 and Figure 7).

2.4 1890s to Present

It is well established that the U.S. military and other officials coordinated with Kingdom residents and foreigners in 1893 to “overthrow” the sovereign Kingdom of Hawaii. Many Hawaiians continue to consider this overthrow an “illegal” action and a violation of the many treaties held by the sovereign Kingdom at the time. This position is supported by the passage of



Helu 973 ✓

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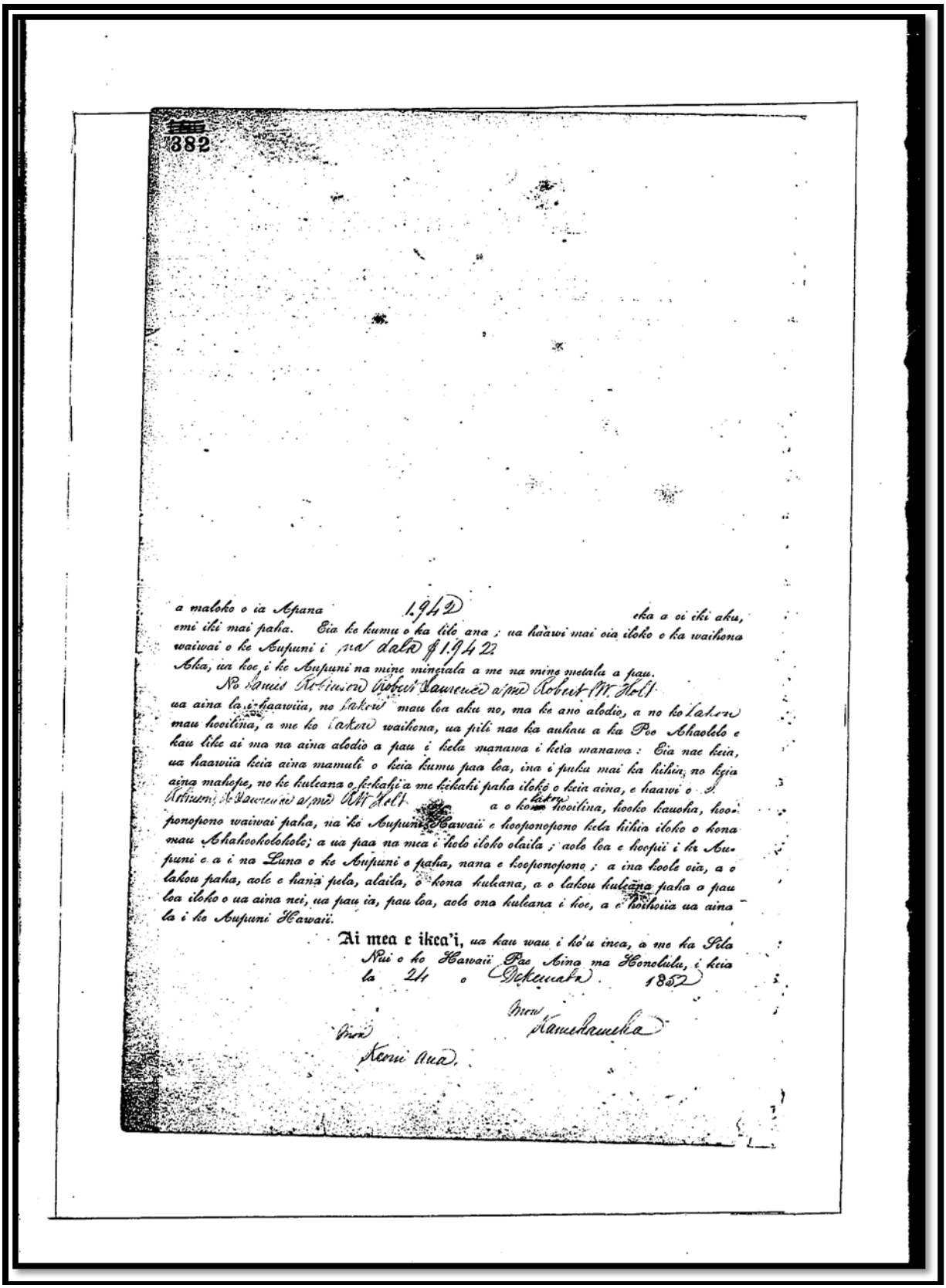
PALAPALA SILA NUI.

Aba keia palapala Sila Nui ke hoike aku nei o Kamehameha III. ke Alii nui a ke Akua i kona lokomaikai i hoonoho ai maluna o ko Hawaii Pae Aina, i na kanaka a pau, i keia la, nona iho, a no kona mau hope Alii, ua haawi lilo ka aku eia ma ke ano aledio ia James Robinson, Robert Lawrence a me Robert W. Holt i kela apana aina a pau e waiho la ma ka Mookupuni o Wahiawa Oahu a penei hoi ka waiho ana o na Mokuna: Waialua

E hoomaka ma ke kihi Hik. Akau o kela kapa o Waialua i lilo ia Bishop, Cooke a me Rice a e holo ana iuka ma kapa Hema o Kamoku, penei; Akau 53½° Hik 42.50 kaul.— Akau 57½° Hik 75.50 kaul.— Akau 81° Hik 216.70 kaul.— Akau 73° Hik 52.00 kaul.— Hema 80½° Hik. 15.00 kaul.— Hema 55° Hik. 6.50 kaul. i Kawawaia; Hema 70° Hik 34.00 kaul. i Alapii; Hema 80½° Hik 68.00 kaul. i ke kea maluna o ka pali; Hema 14° Kum 59.00 kaul, hoalelo ana ia Poamoho a holo ana ma kahi awawa kohonu i ke kumu koa ma kapa i Kalakoa o ka mamanana Kum. o Kaukonahua — Hema 33½° Kum 96.50 kaul, ma kapa Hema o ia mamanana i kahi koa; Hema 69° Kum 19.70 kaul. ma ia kapa no a i ka hukiki kokohe i ka Hikinaakiwi kale; aiaila iho no ma ia kapa no o Kaukonahua a huki i kahi i piii mai ai ka mokuna o Bishop Cooke me Rice i ke kahawai — o ka ana hoi o ia mokuna Hema 55½° Hik 96.00 kaul — iloko ho o ia mau palena 2125 Eka.

Koe nae ka aina i lilo ia Paulihi ma ka Palapala Sila Nui Helu 1092, i kakauia i ka la 24 o Dekemaba 1852. a koe no hui ke Mulaana o na Kanaka.

Figure 6. First Page of Papa Sila Nui (Royal Patent Grant No. 973 for Area Including Wahiawā



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a maloko o ia Apana 1.94 D eka a oi iki aku,
emi iki mai paha. Eia ke kumu o ka lilo ana ; ua haawi mai oia iloko o ka waihona
waiwai o ke Aupuni i na dala $1.94 22
Aka, ua koe i ke Aupuni na mine mineala a me na mine metalu a pau.
No Samuel Robinson Robert Lawrence a me Robert W. Holt
ua aina la i haawiia, no lakou mau loa aku no, ma ke ano alodio, a no ko lakou
mau hooilina, a me ko lakou waihona, ua pili nae ka auhau a ka Poo Ahaolelo e
kau like ai ma na aina alodio a pau i kela manawa i keia manawa : Eia nae keia,
ua haawiia keia aina mamuli o keia kumu paa loa, ina i puka mai ka hihia no keia
aina mahope, no ke kuleana o kekahi a me kekahi paha iloko o keia aina, e haawi o S.
Robinson, R. Lawrence a me R. W. Holt a o ko lakou hooilina, hooko kauoha, hoo-
ponopono waiwai paha, na ke Aupuni Hawaii e hooponopono kela hihia iloko o kona
mau Ahahookolokolo; a ua paa na mea i holo iloko olaila ; aole loa e hoopii i ke Au-
puni o a i na Luna o ke Aupuni o paha, nana e hooponopono ; a ina hoole oia, a o
lakou paha, aole e hana pela, alaila, o kona kuleana, a o lakou kuleana paha o pau
loa iloko o ua aina nei, ua pau ia, pau loa, aole ona kuleana i koe, a e hoihoiia ua aina
la i ke Aupuni Hawaii.

Ai mea e ikea'i, ua kau wau i ko'u inea, a me ka Pila
Nui o ko Hawaii Pae Aina ma Honolulu, i keia
la 24 o Dekemaba 1852

Mew Kamehameha

Mew Keoni Ana.

Figure 7. Second Page of Papa Sila Nui No. 973

the 1993 Apology Resolution passed by the U.S. Congress in 1993 on the 100-year anniversary of the overthrow.

The overthrow was led by a group who named themselves the "Citizen's Committee of Public Safety". They would later change their name to "The Committee of Safety." This group was also known as the "Annexation Club" in reference to their strong advocacy for the annexation of Hawaii to the United States. The members of this group included Henry E. Cooper, Theodore F. Lansing, Henry Waterhouse, Lorrin A. Thurston, Ed Suhr, F.W. McChesney, John Emmeluth, Wm. R. Castle, Wm. O. Smith, J.A. McCandless, C. Bolte, W.C. Wilder, and Andrew Brown.

After the overthrow, the individuals who orchestrated the coup d'état self-proclaimed themselves to be in charge of the government and established the "Republic of Hawaii." They then "ceded" 1.8 million acres of land set aside as Crown[2] and Government Lands[3] through the Māhele to themselves and quickly set out to sell these lands for their own gain.

The Republic of Hawaii, led by Committee of Safety member Sanford Ballard Dole, implemented a plan to sell off the Crown and Government Lands as agricultural homesteads. To achieve this, the Republic of Hawaii passed the Land Act of 1895, which resulted in the repealing of the 1865 Kingdom Law and allowed the Crown Lands to be sold. The law allowed only citizens to apply and excluded most "Orientals" from citizenship, limiting the distribution of these homestead lots to only Hawaiians and Westerns. (Act of August 14, 1895, Act 26, 1895: 49-83). 46,594 acres were removed from the ceded lands sold by the Republic between 1895 and 1898. This included the lands of Wahiawā, as the lands granted to Mark Robinson were reclaimed by the Republic and made available for agricultural homesteads. A map of these lands was drafted in 1899 and is presented as Figure 8.

2.4.1 Ranching

After the land was issued by the Hawaiian monarchy to Mark Robinson, Robinson used the land for cattle until the late 19th century.

2.4.2 Pineapple

The introduction of the pineapple occurred in the early 1800s, but this crop did not begin cultivation at commercial levels until the 1890s and early 1900s. (Hawkins 2011). A map showing the pineapple lands of the Waialua Agricultural Company has been included as Figure 9.

Byron Orlando Clark, originally from Iowa, was an official with the Republic. He advocated for agriculture in the now-vacant 1,350 acres of land in Wahiawā starting from 1898. It was Clark who lobbied for business associates from California to move to the homestead lands. By 1899, Clark has completed facilitating the issuance of government grants to the Californians and helped them settle in Wahiawā and obtain the citizenship needed for land acquisition. (Wahiawa Historical Society). The area would become known as the Wahiawa Colony Tract, an area roughly bounded by the north and south forks of Kaukonahua Stream (Nedbalek 1984:19).

[2] These were lands Kamehameha III awarded to himself in the Māhele.

[3] These were lands issued to the Kingdom in the Māhele.

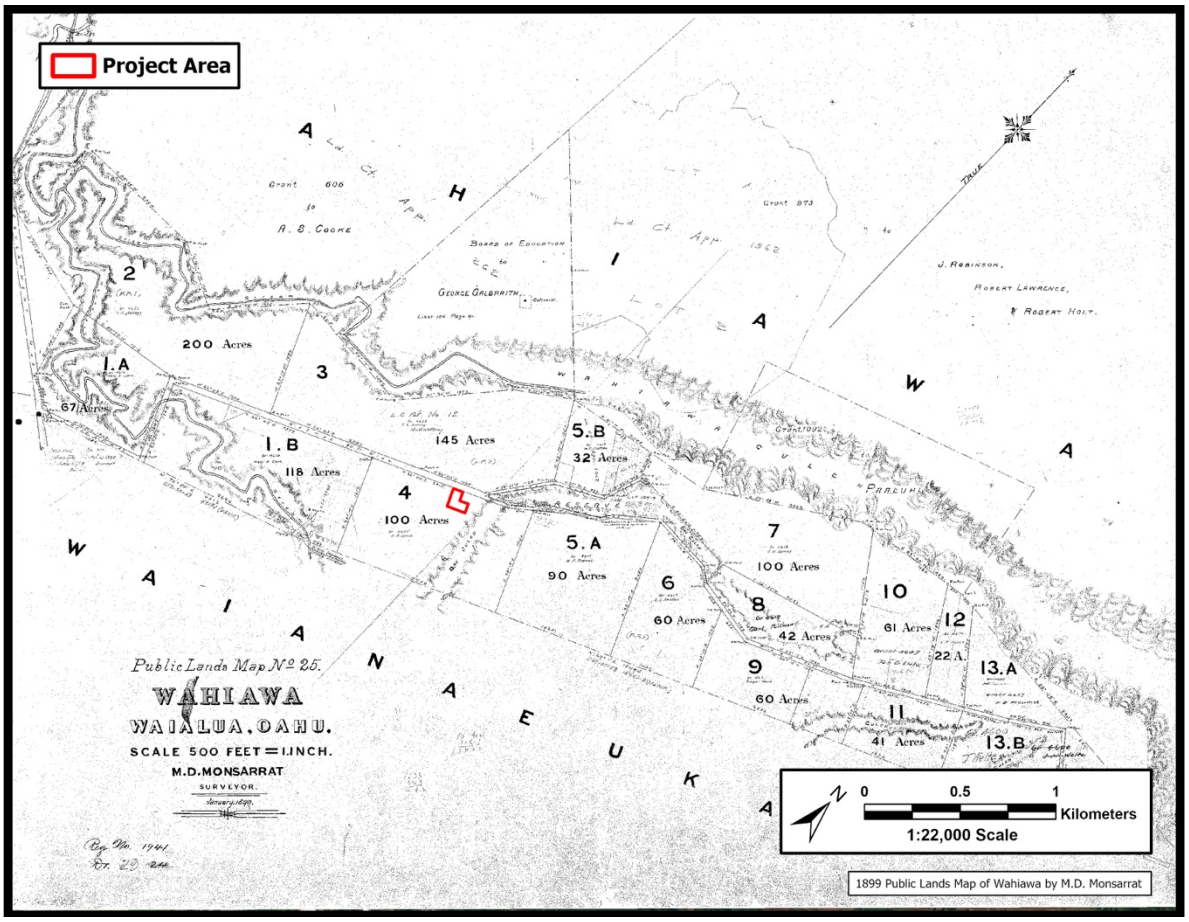


Figure 8. Map of Public Lands at Wahiawa dated 1899 showing the property area (RM 1941)

It is for these early colonialists that California Avenue is named. Figure 10 shows a historic photo of the intersection of California Avenue and Cane Street originally published in *The Honolulu Advertiser* on January 31st,1939. The intersection borders the northern side of the property area.

Clark, along with Alfred W. Eames, became planting and harvesting pineapple in 1900. Eames would quickly establish the Hawaiian Island Packing Company, which would become pineapple and agricultural giant Del Monte Fresh Produce (Hawaii), Inc., and build a cannery in Wahiawā in 1902.

Also, in 1900, James D. Dole (cousin to Sanford B. Dole), obtained approximately 60 acres of homestead lands in Wahiawā. He would quickly set to work building a plantation that included a cannery. Both would become operational by 1903. This significantly contributed to the initial success of the colony (Nedbalek 1984:25).

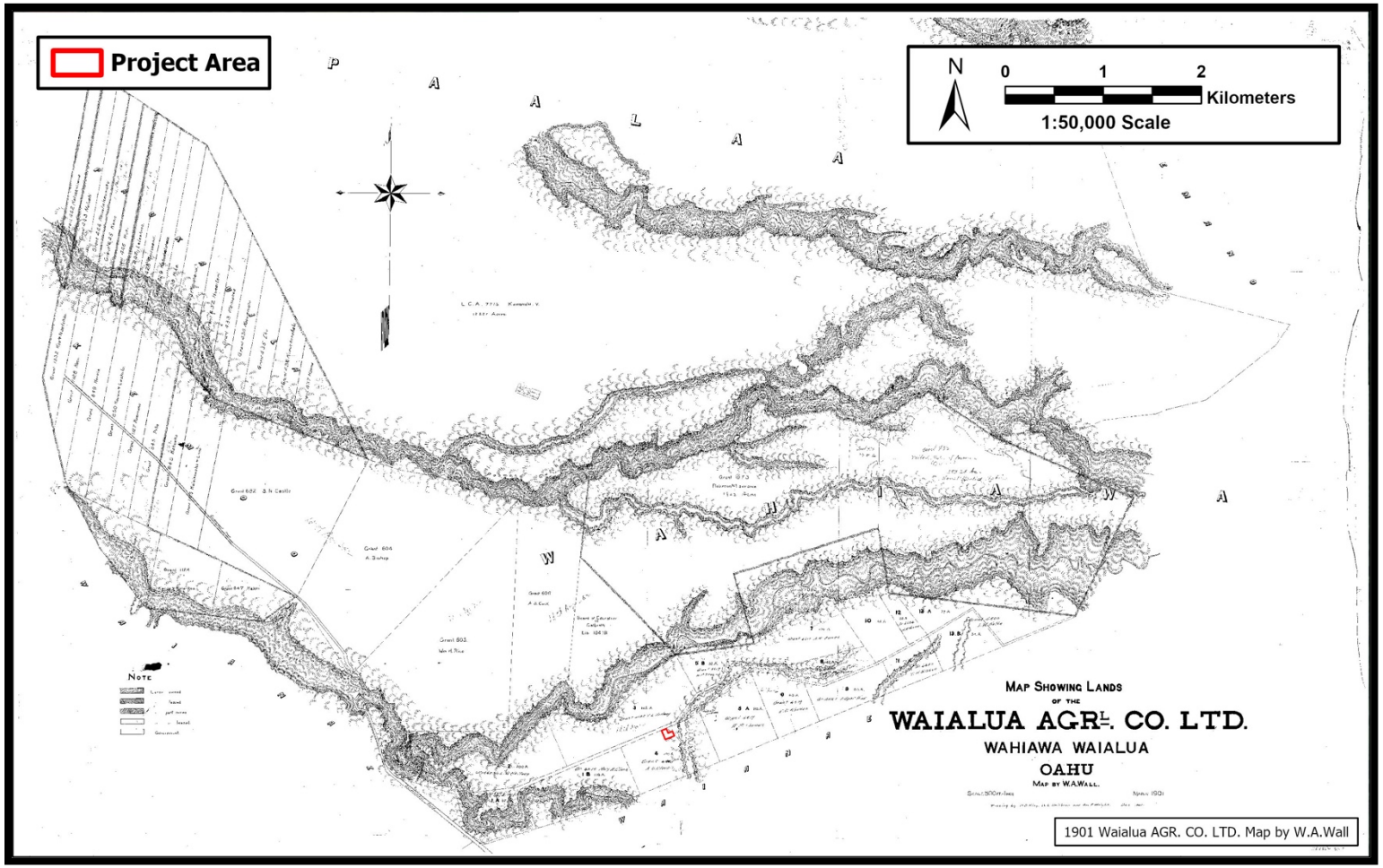


Figure 9. 1901 map showing the agricultural lands of the Waialua Agricultural Company, Ltd. showing the property area (RM 2056)

Figure 10. Historic photo of the intersection of California Avenue and Cane Street located along the northern boundary of the property area. Source: *The Honolulu Advertiser* (January 31st,1939)

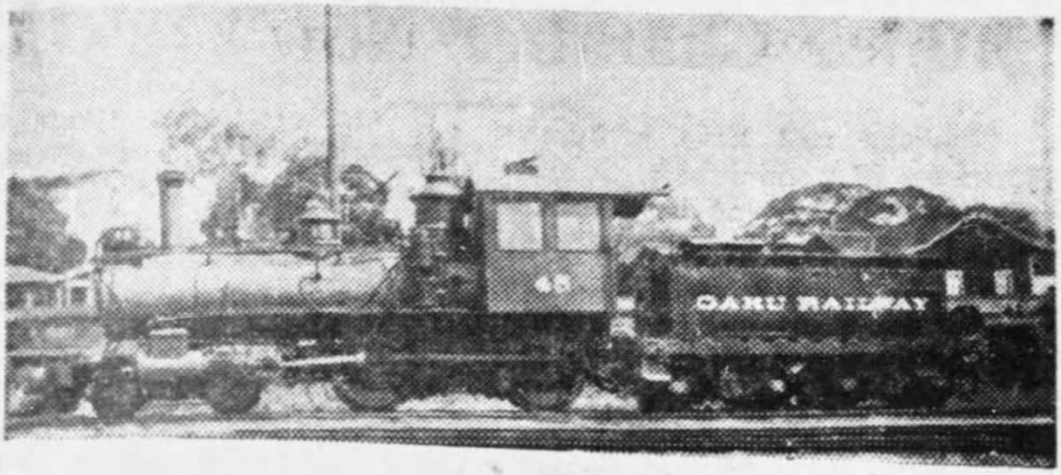
Mr. Dole himself wrote an account of those early days of the pineapple business in Wahiawā for The Honolulu Star Advertiser in 1939 (Dole 1939: 17):

> In 1901 the Hawaiian Pineapple Co. had no cannery, no pineapple machinery, no tractors, automobiles or trucks. For a plantation it had very few acres at Wahiawa, a few plants and a promised lease of 300 acres.
>
> We had a plow, harrow and three horses. We had a name, but almost no money, and for two years the manager got no salary.
>
> Readers will be surprised to know that at Christmas time in 1901 the company employed only four people. I was manager, Fred Tracy was teamster and two Chinese men worked in the fields.
>
> Our first pineapples went to Honolulu in a wagon, and Tracy and I peddled them to the Honolulu fruit stores. Our first canning was done in 1903, and that year we packed 1,893 cases. How many minutes are required to pack 1,893 cases now [in 1939]?
>
> There was no railroad in Wahiawa. The road was direct, dust, or mud. Three hours to Wahiawa; five, if we went by buggy or horseback.
>
> One thing we had – an idea; to grow a good pineapple, to can it well and to sell it to every grocery store in the United States, every day in the year.
>
> Now [1939], people everywhere want our pineapple. The money people pay for our pineapple pays for cans, sugar, boxes. More important, it gives the company money to pay the people who do the plantation and cannery work.

Another important milestone in the evolution of the central plateau was the completion in 1906 of the Oahu Rail & Land Company line from Waipahu to Wahiawā (Figure 11). This ensured reliable transport of pineapple from the Wahiawā fields to Honolulu canneries. Eventually, spur lines were extended to outlying fields and workers' camps.

The Honolulu Advertiser (1939) wrote of the importance of the railway to the pineapple industry.

> "The Oahu Railway was the savior of the Wahiawa pineapple industry in its early days," declared Harry N. Denison, kamaaina railroad man and now assistant general manager of the Oahu railway. Mr. Denison came here in 1897 and has been with the railroad more than forty years, working up from car repair man.
>
> The cannery, established in 1903, was successfully preserving the fruit, but during the long trip to Honolulu the penetration by the red dust made much of it worthless.
>
> The growers were desperate. It was a railroad or close the doors. Mr. James D. Dole, backed by the Wahiawa colonists, was very aggressive in the struggle to bring the railroad into Wahiawa. Finally in 1905 it was decided to put the railroad through. The actual construction was finished in July 1906 to the gate of Wheeler field; the bridge to Wahiawa was put in the next year.



THE RAILROAD CAME IN 1906—Coming of the railroad was the salvation of the pineapple industry in 1906. This is one of the early engines. It was numbered 45 because the president B. F. Dillingham was that age when it was put into operation. (Courtesy Oahu Railway).

Figure 11. Engine "45," one of the early engines to begin service to Wahiawā. Photo: Oahu Railway as shown and captioned in The Honolulu Advertiser (1939)

Within ten years, the homesteaders, including Clark, had grown a thriving pineapple industry with more than 250,000 cases being harvested seasonally (Pan-Pacific Union 1911:139). Thousands of acres were in production (Nedbalek 1984:25). Wahiawā has become the center of

this growing industry. Clark would lead Clark Farm Co., Ltd. Dole would lead the Hawaiian Pineapple Company, which would become Dole Food Company. W.B. Thomas, a colleague of Clark's, would establish and lead the Thomas Pineapple Co., which would later become part of Libby, McNeill & Libby when the company expanded into canning fruit. The Thomas plantation consisted of approximately 600 areas in Wahiawā.

It was written: "The best pines [pineapples] come from Wahiawa. The Consolidated Pineapple Co., a branch of the Hawaiian Development Co., maintains its canning factory in the midst of the biggest pineapple field in the world, at Wahiawa, and here the fresh fruit may be picked early every morning and canned in its own juice before night. This is the only company at Wahiawa that cans in the field." (Pan-Pacific Union 1911:139).

The plantations would bring many immigrant laborers to the area. While many were still prohibited under the 1895 Land Act from applying for homestead lands themselves, they nonetheless moved into the area, often in plantation housing, and built their lives in Wahiawā.

The OR&L railroad from Waipahu to Wahiawa mentioned above is present just to the west of the current property area. A spur of the railroad as well as structures and gasoline storage tanks associated with the Standard Oil Company of California were once present in the property area and are depicted on a 1942 Sanborn Fire Insurance map of Wahiawa (Figure 12).

2.4.3 Military

In 1909, the U.S. military began construction of Schofield Barracks to the west of Wahiawā town. Wheeler Field was developed in the 1920s as a small, two-squadron operation, and was greatly expanded in the 1930s.

Pineapple cultivation remained the dominant activity on the east side of the plateau in the early 20th century. In the 1920s, much of the area now included in military lands in Wahiawā was under pineapple cultivation; Galbraith Spur connected the OR&L line to the fields, passing close to Kaukonahua Camp. Cultivation continued until 1940, when the U.S. Navy acquired a little over 389 acres for the establishment of a radio transmitter facility (Woodbury 1946:172-173):

> Almost at the center of the island, the Contractors were ordered to build a huge new radio station. A mile or so back of the village of Wahiawa the land swelled to a level hilltop – the highest ground for several miles. Wahiawa was to be the main receiving unit for the Pacific fleet – capable of picking up messages from the farthest corner of the ocean.
>
> The radio station … was to be as a large as any in the world. A forest of wooden poles ranging in a complicated pattern over half a square mile of ground would support a grid of copper strands that could intercept signals no matter how weak from every direction. At the center all wires would be gathered together into cables and led to a vault deep underground, where the receiving instruments would be protected from any possible bombing raid.

Following the war, the facility was expanded by the addition of 304 acres to create the existing Naval Computer and Telecommunications Area Master Station, Pacific (NCTAMS PAC). In 2007, construction began on the Hawaii Regional Security Operations Center (HRSOC) at NCTAMS PAC which replaced the Kunia Regional Security Operations Center (KRSOC).

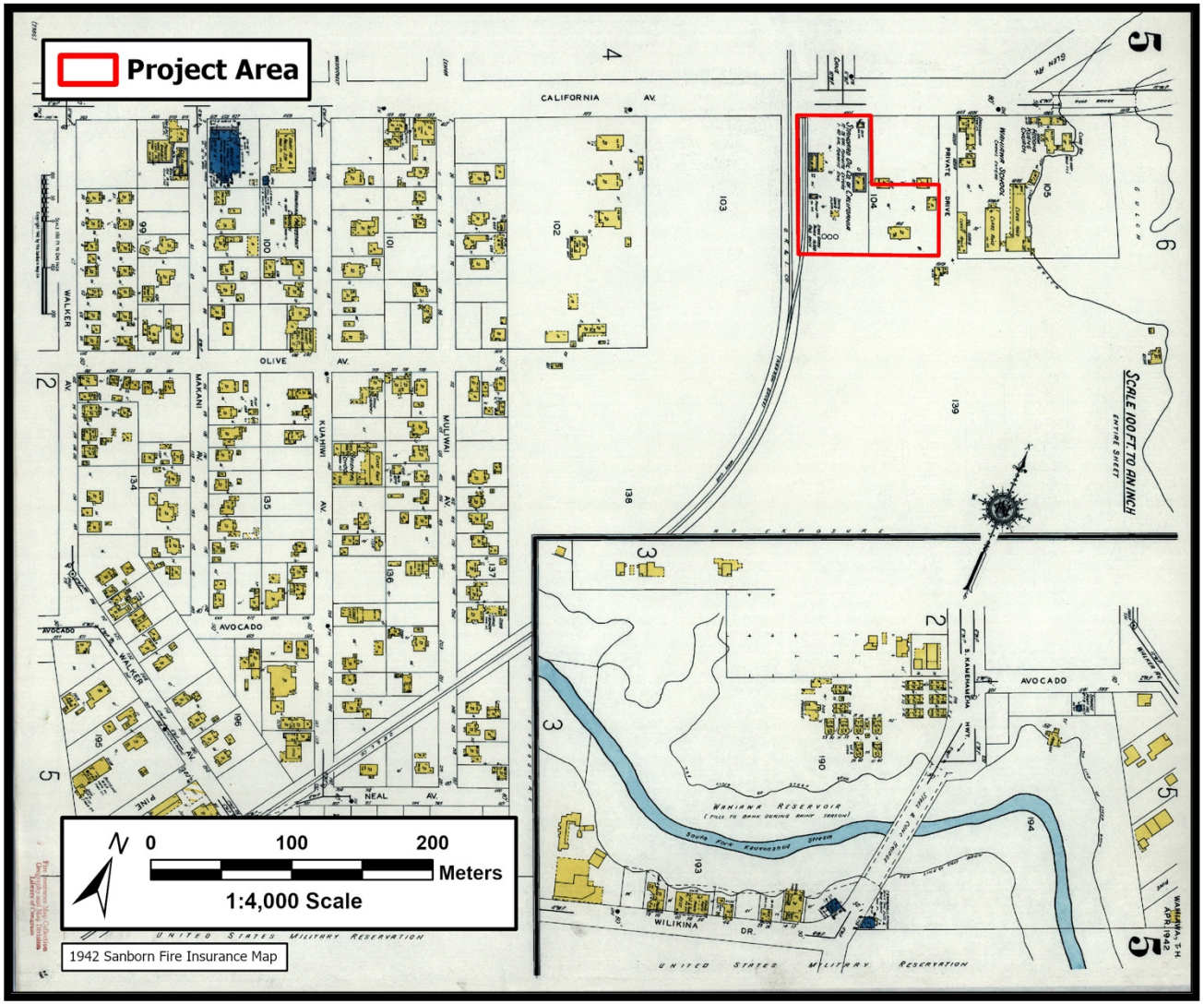


Figure 12. A 1942 Sanborn Fire Insurance Map of Wahiawā showing Standard Oil of California structures, underground gasoline tanks, and a spur of the O. R. & L Railway in the Property area

2.4.4 20th Century History

Throughout the 20th century, Wahiawā underwent a number of critical changes, but nonetheless kept its unique charm. A historical map and historical walking trail were developed to allow visitors and residents to learn about and enjoy the history of Wahiawā.[4] Sites located closest to the property area are described below. None are within or in the immediate vicinity of the property area with exception to California Avenue, which runs along the north boundary of the property area. The full interactive Wahiawa Historic Trail Map is available through ArcGIS Online at https://arcg.is/0TWaKT (Figure 13).

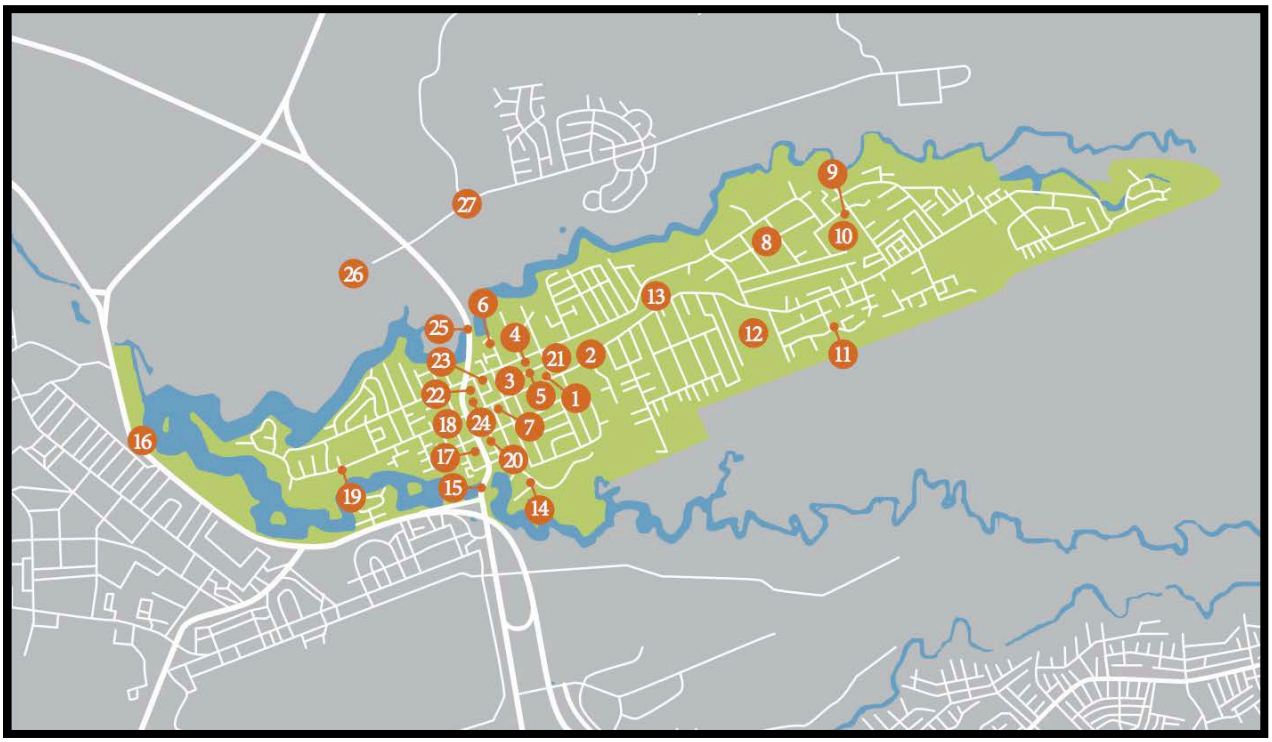


Figure 13. Wahiawā Historical Trail Map

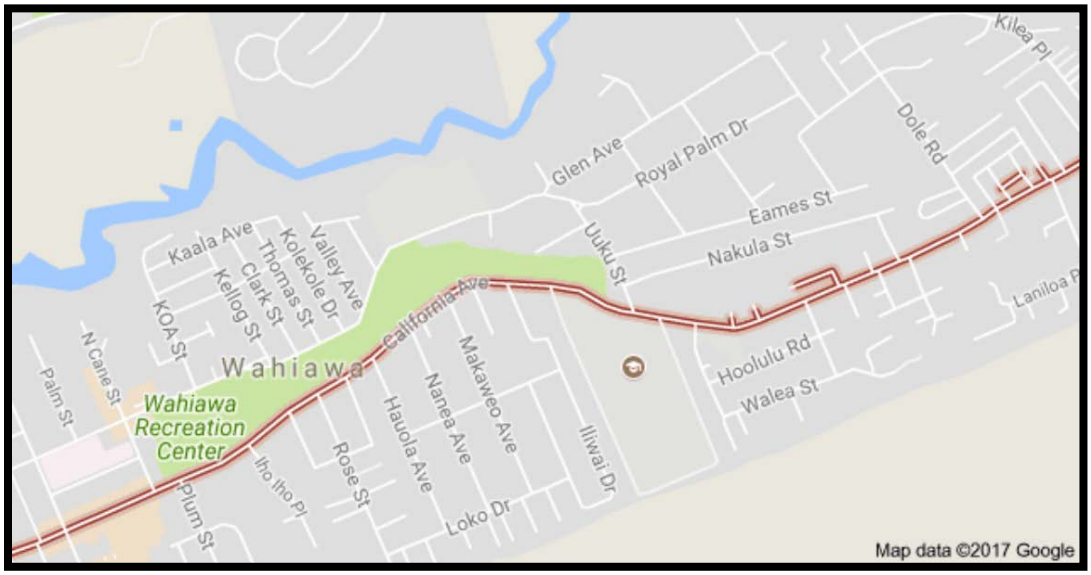
Wahiawa Train Station (Site 1 on Historical Trail Map)

"James Dole needed a more efficient way to transport his harvests to Pearl Harbor. Dole requested O'ahu Railway & Land Co. (OR&L) to create an eleven mile railroad from Waipahu to Wahiawa. The Wahiawa Settlement Association expressed their commitment by building a rail depot. The depot was later converted into a café after OR&L ended regular operations.

[4] Out of respect for the community who developed these materials, we have included them as originally presented and made available to the public.

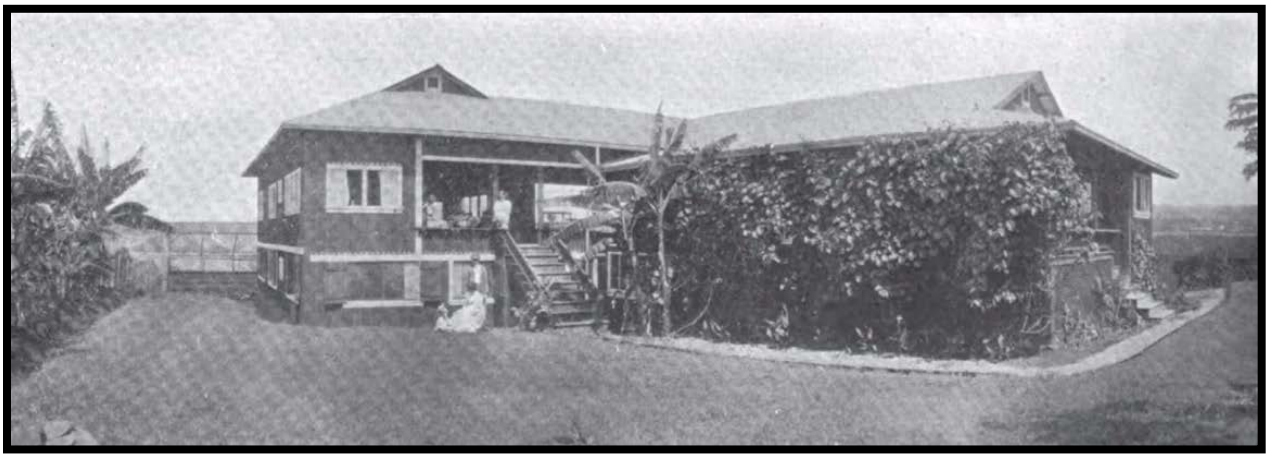
California Avenue (Site 2 on Historical Trail Map)

"The main road in Wahiawa town is named after the original thirteen settlers from California who founded the Wahiawa Settlement Association. Byron Clark led this group to Wahiawa because it was the only large tract of land that was available to purchase. In fact, Wahiawa is so old that it predates the county ordinance passed during the 1970's which required street names to be in Hawaiian."



Malu Kukui Hotel (Site 3 on Historical Trail Map)

"The Malu Kukui Hotel, originally a single family home, was built in 1908 by Japanese carpenters and converted to a 50 guest home-hotel by owners Mr. and Mrs. Henry C. Brown in 1909. Unable to turn a profit, it was put up for sale sold to Edward P. Irwin and officially reopened on April 1, 1911 as the Kukui Tree."



Wahiawa General Hospital (Site 4 on Historical Trail Map)

"Wahiawa General Hospital began as an emergency facility during World War II. The hospital grew with the pineapple boom, expanding as Wahiawa's population increased due to Wheeler Airfield and Schofield Barracks made permanent by the Wahiawa Hospital Association."

North Cane Street (Site 5 on Historical Trail Map)

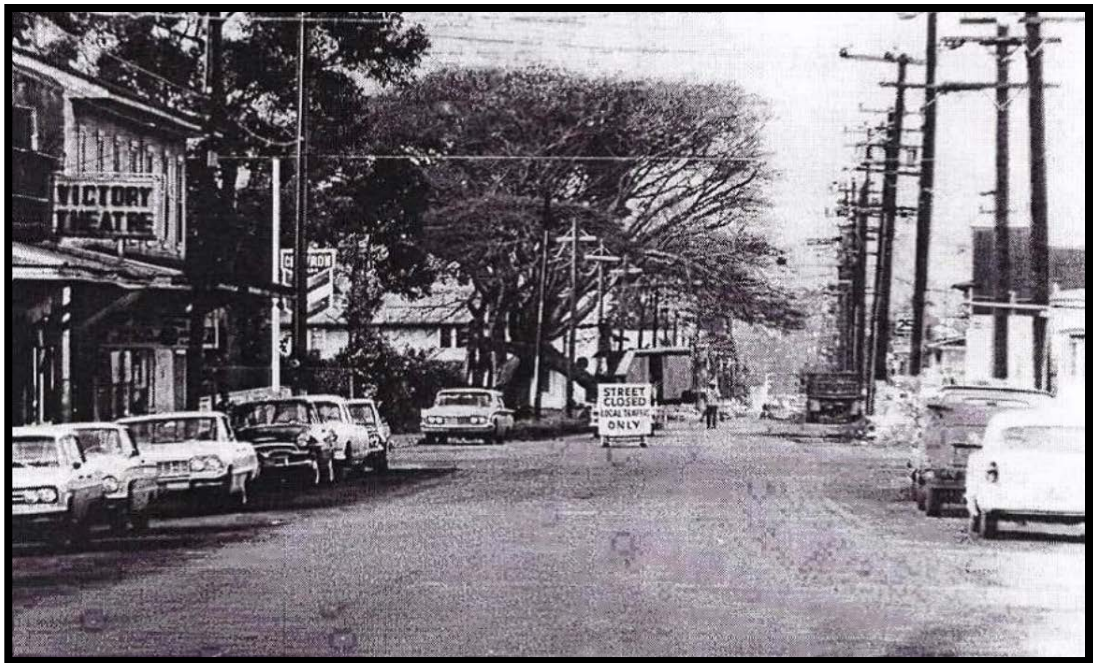
"North Cane Street became the community's business center because of its proximity to the post office, train station, and local stores. The train operated by O'ahu Railway & Land Company would come from Dillingham where Dole operated his cannery. North Cane Street is named after the sugar cane train that ran to Wahiawa."

Wahiawa Botanical Gardens (Site 13 on Historical Trail Map)

"Considered to be the "Tropical Jewel" of Oahu's botanical gardens, the Wahiawa Botanical Garden also has a past that is rooted in plantation history. The 27-acre property was originally leased by the Hawaiian Sugar Planters Association for crop experimentation and forest preservation. In 1950, the parcel was returned to the territory of Hawaii and opened as a public botanical garden in 1957."

Victory Theater (Site 21 on Historical Trail Map)

"The Victory Theater was a minor theatre chain on O'ahu that opened its first theater in Kalihi and its second theater in Wahiawa. Originally showing first run films, it later screened Japanese movies."



Section 3 Previous Archaeology

The property area was included in a single previous study, a broad reconnaissance level survey of Wahiawā town that evaluated properties for listing on the National Register of Historic Places (Stuart et al. 2014). Due to the age of the buildings on the property and in the immediate area, the property area was not located within any of the nine historic districts recommended in the report. Other than the town-wide survey, only a few archaeological studies have been conducted in Wahiawa town. The majority of the studies have been in the area surrounding the town, mostly in support of military construction and infrastructure projects. Figure 14, Figure 15, and Table 2 list previous studies and archaeological sites within approximately 7,920 ft (1.5 miles or 2.4 kilometers) of the current property area.

No traditional Hawaiian sites are known to exist within the boundaries of Wahiawā town. The most well-known traditional archaeological site of the area is the Kūkaniloko Birthstones State Monument, SIHP # 50-80-04-218 located approximately 1,500 meters to the northwest. The only other potentially prehistoric site is a rock wall, SIHP #-4571 The other traditional sites, including two recorded by McAllister (1933), that once existed in the Wahiawā area are likely to have been expunged from the landscape by use of the area for commercial agriculture, U.S. Military activities and construction, and subsequent urban development.

The historic sites and places of interest in Wahiawā town and the surrounding area are associated with the OR&L Railroad, pineapple cultivation in the area, plantation camps, the growth and development of Wahiawā town, and facilities and infrastructure built by the United States military. In the case of Wahiawā town, these are mostly places of general historic interest which are yet have SIHP numbers assigned. The lack of archaeological studies and sites in the vicinity is due in part to much of Wahiawa town being developed before historic preservation review became commonplace prior to construction activities.

3.1.1 McAllister 1933

In the early 1930's, the Bishop Museum conducted the first systematic archaeological study of the Wahiawā area as part of the island-wide survey of O‘ahu. The following are descriptions of three nearby sites documented by McAllister (1933:134-137).

Site 204

Approximate location of Oahunui, a stone whose outline is said to resemble that of Oahu, in the gulch near the division line between ‘Ewa and Waialua.

> The stone was formerly visited by the Hawaiians, for no one could say that he had been entirely around the island of Oahu, unless he had been around this stone. In the nineties it seems to have been a favorite expedition for Honoluluans to ride out to Oahunui and walk around this stone. Oahunui is also the name of one of the former chiefs of Oahu. He came under the influence of the cannibal chief (Site 2200, Lo Aikanaka, and learned to like human flesh. It is reported that he killed and ate his two nephews, the children of his older sister, who shared with him the royal power and prerogative. Lehuanui avenged the death of his children by killing Oahunui and his wife, Kilikiliula and the attendants that participated in the

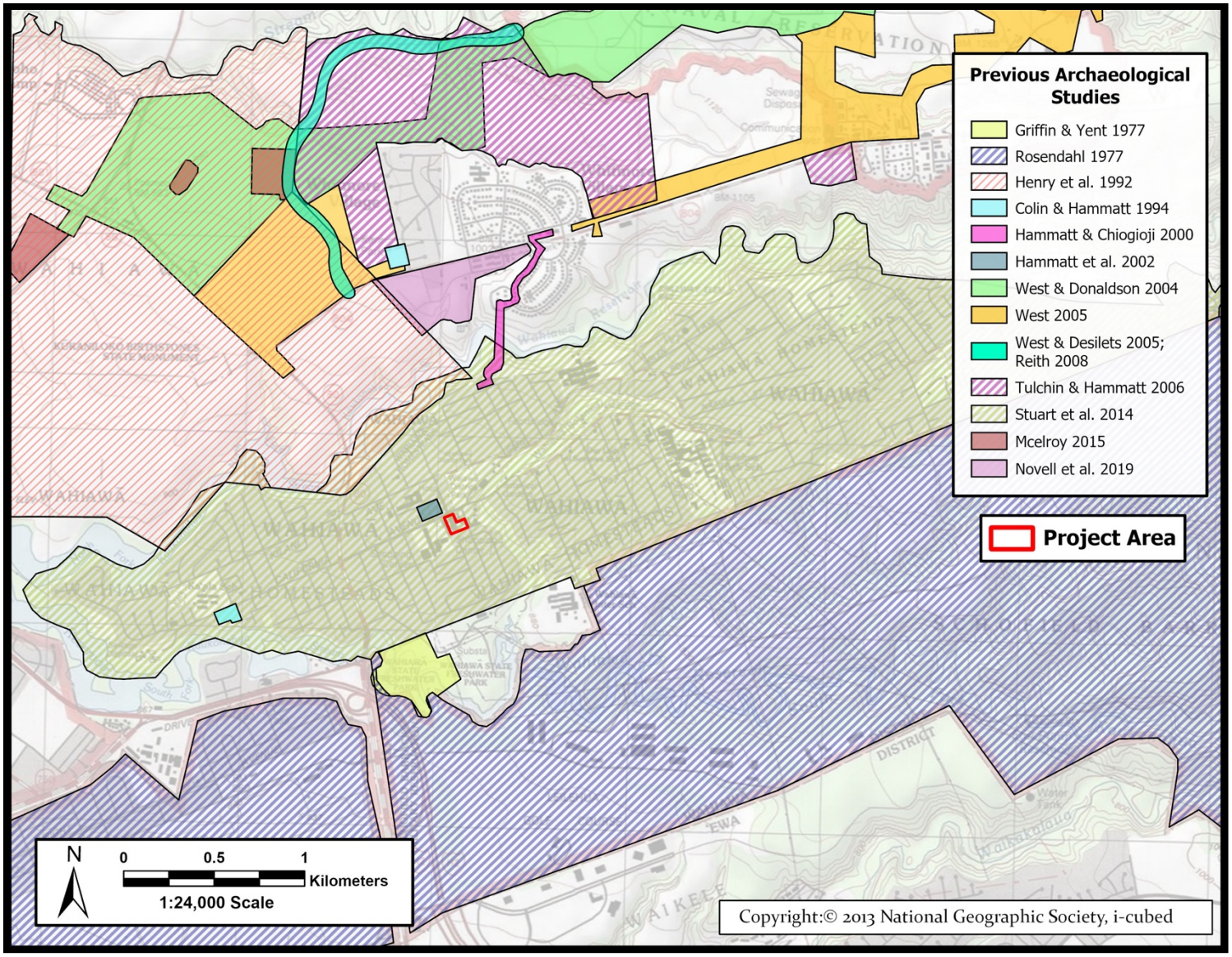


Figure 14. Portion of a 2013 USGS showing previous archaeological studies within a 1.5 mile radius of the property area

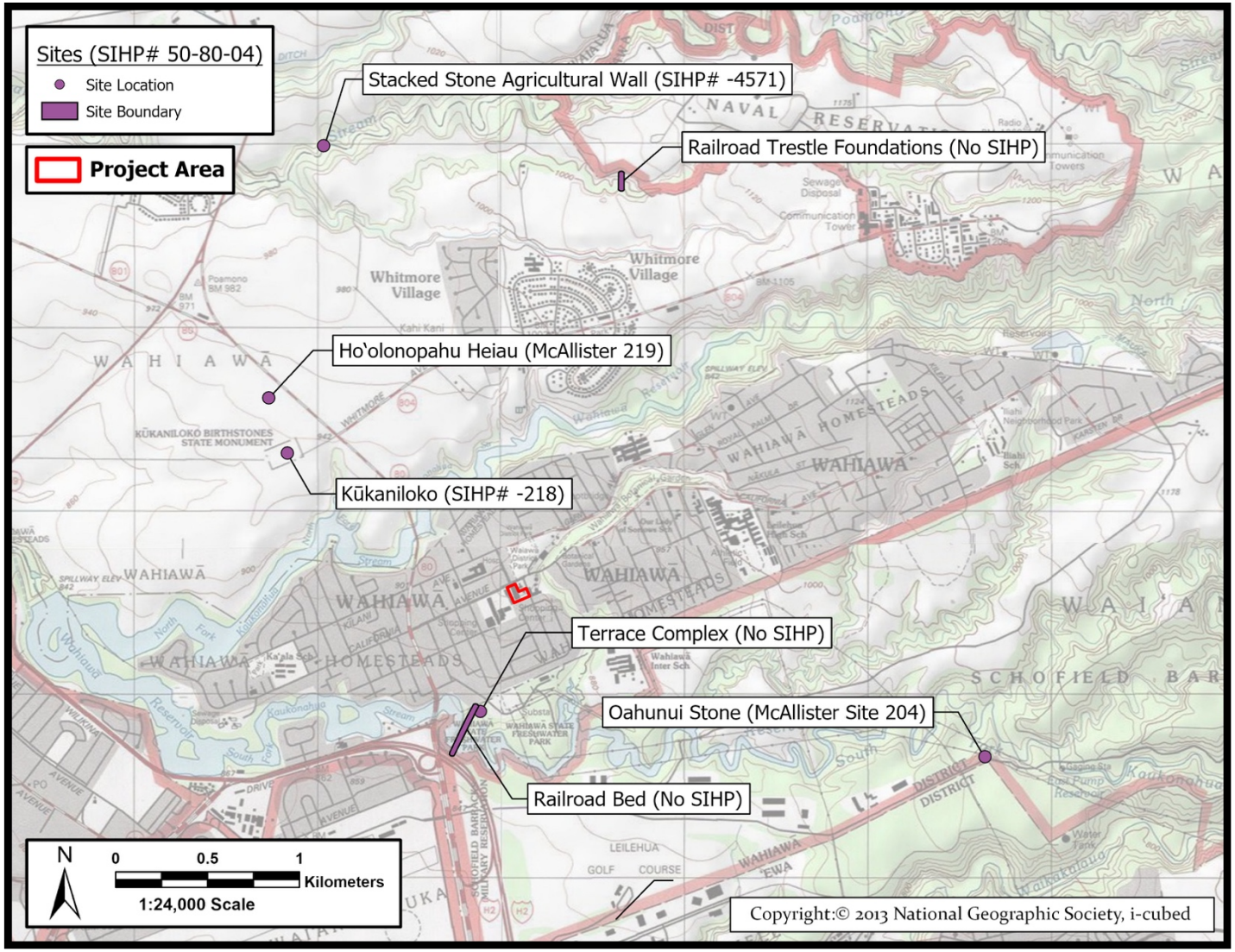


Figure 15. Portion of a 2013 USGS showing Historic Properties and recorded features of note in a 1.5 mile radius of the property area

Table 2. Table Listing Previous Archaeological Studies in the Vicinity of the Property area

Author(s)	Type of Study	Location	Findings (SIHP #50-80-10)
McAllister 1933 (not shown in Figure 14)	Island-Wide Survey	Oʻahu	Identified 3 sites in the vicinity of the property area, Site 204 (Oahunui Stone), Site 218 (Kūkaniloko), and Site 219 (Hoʻolonopahu Heiau)
Griffin and Yent 1977	Archaeological Survey	Wahiawā Fresh Water Park	Documented railway trestle with associated roadbed and a historic/historically modified terrace complex, No SIHP numbers assigned
Rosendahl 1977	Archaeological Survey	U.S. Army Facilities, Wheeler Army Airfield	No sites recorded
Henry et al. 1992	Archaeological Inventory Survey	Galbraith Trust Lands	Relocated the Kūkaniloko birthstones, SIHP -218, and recorded a stacked stone agricultural wall, SIHP #-4571
Colin and Hammatt 1994	Archaeological Inventory Survey (AA Report)	Wahiawā	No sites recorded
Hammatt and Chiogioji 2000	Archaeological Inventory Survey (AA Report)	Whitmore Village and Wahiawā, Water Line, TMK: [1] 7-1-002	No sites recorded
Hammatt et al. 2002	Archaeological and Cultural Impact Evaluation	Wahiawā Community Transit Center, TMK: [1] 7-4-006 por. 2 and por. 12	No sites recorded
West and Donaldson 2004	Archaeological Inventory Survey	NCTAMS PAC, TMK: [1] 7-1-002:007 por.	No sites recorded
West 2005	Archaeological Survey Addendum	NCTAMS PAC Project, TMK: [1] 7-1-002:007 por.	No sites recorded
West and Desilets 2005	Archaeological Survey Addendum	NCTAMS PAC, TMK: [1] 7-1-002:007 por.	No sites recorded

Author(s)	Type of Study	Location	Findings (SIHP #50-80-10)
Reith 2008	Archaeological Monitoring Report	HRSOC, New Access Road, TMK: [1] 7-1-001:005 por. and [1] 7-1-002:010 por.	No sites recorded
Stuart et al. 2014	Reconnaissance Level Survey Report	All of Wahiawā Town, Multiple TMK's	Provides NRHP eligibility recommendations for 3,283 properties, 55 properties including 9 potential historic districts were determined to be significant, ILS survey recommended for those properties
McElroy 2015	AIS (AA Report), Cultural Impact Assessment (CIA)	TMK: [1] 7-1-001:002 por. and :005 por., TMK: [1] 6-5-002:010 por.	No sites recorded, secondarily deposited historic artifacts documented at Reservoir 3
Novell et al. 2019 / ASM 2019	Historic Properties Inventory Survey, CIA	Whitmore Village Agricultural Project, TMK: [1] 7-1-002:009 and 004 por.	Recorded 20 historic structures that were recommended to be a historic district

killing and cooking of the children were turned to stone and are still to be seen (77, pp. 139-147).

Site 218

Kukaniloko, located near Wahiawa, on the Waialua side of Kaukonahua Gulch, one of the two famous places in the Hawaiian islands for the birth of children of tapu chiefs. The other is at Holoholoku, Wailua, Kauai. Due to the efforts of the late W. W. Goodale of the Waialua Plantation and the Daughters of Hawaii, this site is assured permanent protection. It is the only ancient site on Oahu that is being officially preserved.

Kukaniloko is said to have been established by Nanakaoko and his wife, Kahihiokalani, whose son, Kapawa, heads the list of the important alii born here. "This must have happened close upon the twelfth century," according to Fornander (37, vol. 6, p. 247). Kamakau, as translated by Thrum (79, 7, p. 101), gives an account of the place:

> A row of stones was laid down on the right hand and another on the left hand, and the face was to the right side. There stood thirty-six chiefs, eighteen on each side. A hill or mound was made for the back. Kukaniloko was the stone to be trusted. If anyone came in confident trust and lay properly upon the supports the

> child would be born with honor. It would be called a chief divine, a burning fire. When the child was born, it was quickly taken inside the Waihau of Hoolonopahu. There were forty-eight chiefs to whom belonged the duty of birth ceremonies of cutting the naval cord.

The common people stood at a great distance form the place of birth and the two sacred drums, Opuku and Hawea, announced the important event. Birth here added some special divine gift to the sacred place already occupied by a tapu high-chief. According to Fornander (38, Vol. 2. pp. 20,21):

> So highly were those dignities and privileges prized, even in later times, when the ancient structure and surroundings had fallen in decay, that Kamehameha I, in 1797, previous to the birth of his son and successor, Liholiho, Kamehameha II, made every arrangement to have the accouchement take place at Kukaniloko; but the illness of Queen Keopuolani frustrated the design.

Kamakau (49) gives a slightly different interpretation:

> Kukaniloko was established by Nanakaoko and Kahihiokalani his wife as a place of birth for their child Kapawa. A line of stones was placed along the right side and on the left side the face turning to the right, where sat 36 chiefs, and a hunchback on the upper side. Kukaniloko is the stone to lean against.If in entering, with confidence, and leaning against the supports place the thighs in Liloekapu he child will be born in front. That child will be termed a chief, a god, a fire, a flame.
>
> On the birth of the child it is taken immediately to the temple of Hoolonopahu, where there are 48 chiefs, who will attend to the child, and cut the naval, it is on the left side of Kukaniloko, a segetia and a half. From Kukaniloko to the west is two segatia, there the sacred drum of Hawea is sounded, a signal from the chief.
>
> The common people are on the east of the stream on the Kuaikua side, they are numerous, and three segatia away are the servants. But the chiefs born outside of the hunchback, they are chiefs, and those born in the road are chiefs outside.

Aside from Kapawa, other alii born at Kukaniloko were: Mailikukahi, whose mother was Nononui, and father was Puaa of Kahuoi, called a tapu chief of the land (49; 38, vol. 2, p. 89); Kalaimanuia, the only woman whose birth "at Kukaniloko in the year 1100, at Puahuawa," (49) is recorded. "At Hoolonopahu was the place where the navel was cut," (38, vol. 2, p. 269). Kakuhihewa, one of Oahu's greatest chiefs, was also born at Kukaniloko (38, vol. 2. p. 272). Laielohelohe immediately after her birth was taken to Kukaniloko and concealed there by her foster father, while Laieikawai, her twin sister, was concealed at Waiapuka (Site 275) (9, p. 55).

There is now little to see at Kūkaniloko. It is an enclosed area about one-half acre in size, with many large stones, some just visible, others protruding to a height of 3 to 4 feet, scattered about on a well-kept lawn. Tall trees border the site. To the old Hawaiians these stones were all named and represented ali‘i, but now the name remembered is Kahamaluihi, a flat stone near the center of the group. The old Hawaiians of today remember that in their childhood they were never allowed by their parents to approach even near the sacred birthplace, an indication of the great respect in which Kūkaniloko was held, even a century after contact with Europeans and more than a half century after the coming of the missionaries.

In connection with Kūkaniloko, "Wahiawa healing stone" may be mentioned. About fifty years ago there was in the bed of Kaukonahua Gulch a large stone, almost 6 feet long, 2 feet wide and less than 1 foot thick. It is said to have been Keanini-ula-o-ka-lani, considered as a milestone at the side of the old Hawaiian pathway. Thrum (79, 15) is not of this opinion. This stone was noticed by Mr. George Galbraith and moved to Kūkaniloko, where it remained for many years. Galbraith had placed the stone in an upright position, which made it one of the most prominent of the group. Because of its unusual shape and position, the stone became noticed and was the recipient of much attention. Offerings of all sorts were placed before the stone, and it was soon discovered that it had unusual healing power. Large crowds of people were attracted to the site and soon the other more sacred stones of Kūkaniloko were covered with the tallow from candles burnt as offering to this prominent stone; decayed food and flowers lay about the once tapu ground; and the Daughters of Hawaii, who had taken over the care of Kūkaniloko, decided that this stone, which had no connection with Kūkaniloko, should be moved. It was therefore moved to Wahiawa, where it became a Mecca for people from other islands as well as Oahu. Thousands gathered each day, either to witness the healing powers of this strange stone or to partake of its benefits. Chinese, Japanese, Filipinos, Koreans, Portuguese, and Hawaiians all were among the daily pilgrims to this shrine, worshipping in their own way. The importance of the stone has now dwindled, and only a few persons visit the place to leave flowers or other offerings.

Site 219

Hoolonopahu was a heiau which functioned in connection with Kukaniloko (see Site 218). Here were kept the sacred drums of Opuku and Hawea which announced the birth of an alii. Nothing now remains of the temple. The land is planted in pineapples.

3.1.2 Griffin and Yent 1977

In 1977, State Parks archaeologists Agnes Griffin and Martha Yent conducted a pedestrian survey for Phase 1 of the Wahiawa Fresh Water Park (Estioko-Griffin and Yent 1977). The survey documented a railroad trestle with an associated roadbed and a historic and/or historically modified terrace complex consisting of four terraces and a rock alignment. No SIHP numbers were assigned during the project. However, it was recommended that the Hawaiian Railway Society determine the significance of the railroad trestle.

3.1.3 Rosendahl 1977

In 1977, the Bishop Museum conducted an archaeological inventory and evaluation for an environmental impact statement for U.S. Army facilities in Hawai'i which included nearby Wheeler Army Airfield (Rosendahl 1977). A field check was conducted for a 67-acre portion of the facility. The entire installation area was eliminated from the survey based on airfield development and no sites were located during the project.

3.1.4 Henry et al. 1992

In 1992, Paul H. Rosendahl PhD. Inc. conducted an archaeological inventory survey of the Galbraith Trust Lands (Henry et al. 1992). The survey consisted of aerial reconnaissance by helicopter, a pedestrian survey of the area, and subsurface testing consisting of 12 shovel test probes. The survey relocated the Kūkaniloko Birthstones, SIHP #50-80-04-218, and recorded a

stacked stone agricultural wall, SIHP #50-80-04-4571. The heiau, SIHP #50-80-04-1605, previously identified along Poamoho Gulch by Saifuku (1987a) was not relocated during the project. No artifacts or cultural deposits were encountered in the shovel test probes excavated during the project. It was recommended that further effort be taken to relocate SIHP #1605 prior to any ground disturbance in Poamoho Gulch.

3.1.5 Colin and Hammatt 1994

In 1994, Cultural Surveys Hawaii (CSH) conducted an archaeological inventory survey for an exploratory well site in the Board of Water Supply yard at the west end of California Avenue (Colin and Hammatt 1994). Due to the negative results of the survey it was termed an archaeological assessment. The assessment consisted of a pedestrian survey of the property which documented no archaeological sites or deposits.

3.1.6 Hammatt and Chiogioji 2000

In 2000, CSH conducted an archaeological assessment of a 10-meter-wide water line route from Wahiawa Reservoir (Hammatt and Chiogioji 2000). The assessment consisted of a pedestrian survey of the route. Steep slopes and modern trash were observed, and no sites of any kind were recorded. The lack of sites was attributed to the rising waters of the reservoir which would have destroyed any features associated with that portion of Kaukonahua Stream.

3.1.7 Hammatt et al. 2002

In 2002, CSH conducted an archaeological and cultural impact evaluation for the Wahiawa Community Transit Center (Hammatt et al. 2002). The study consisted of background research on the property and a pedestrian survey. No sites of any kind were recorded during the project. The lack of sites was attributed to a long history of development in the parcel.

3.1.8 West and Donaldson 2004

In 2004, the Department of the Navy, Naval Facilities Engineering Command, Pacific (NAVFAC PACIFIC) conducted an archaeological survey for the Hawaii Regional Security Operations Center (HRSOC) and an associated access road located at the Naval Computer Telecommunications Area Master Station Pacific (NCTAMS PAC) (West and Donaldson 2004). The study consisted of a pedestrian survey of the area and the excavation of two 50 x 50 cm test units. No sites were recorded during the project and no archaeological resources were encountered in the subsurface excavations. Modern rubbish and abandoned cars were observed during the survey and it was determined that much of the area had been impacted by agricultural and landscaping activities.

3.1.9 West 2005

In 2005, NAVFAC PACIFIC conducted an addendum archaeological survey to the previous survey (West and Donaldson 2004) of NCTAMS PAC (West 2005). The survey consisted of a pedestrian survey for access road alternatives, the proposed relocation of Building 294, several utility corridors, and several detention basin alternatives. No sites were recorded during the survey. Once again, the lack of sites was attributed to alterations made to the landscape for agricultural and construction activities.

3.1.10 West and Desilets 2005

Later in 2005, NAVFAC PACIFIC conducted a second addendum archaeological survey to the previous surveys of NCTAMS PAC (West and Desilets 2005). The survey consisted of a pedestrian survey for a road realignment alternative. Modern refuse and push piles were observed on the southern edge and on the bottom of Poamoho Gulch. No sites of any kind were recorded during the survey.

3.1.11 Reith 2008

Between 2007 and 2008, International Archaeological Institute, Inc. (IARII) conducted archaeological monitoring associated with construction of a new access road for the Hawaii Regional Security Operations Center (HRSOC) at NCTAMS PAC. A typical profile consisting of the plow zone over a natural basal saprolitic soil was documented in the excavations. No archaeological resources of any kind were encountered during monitoring. The lack of sites was attributed in part to use of the area for pineapple cultivation.

3.1.12 Stuart et al. 2014

In 2014, URS conducted a reconnaissance level survey for Wahiawa town (Stuart et al. 2014). The study evaluated a total of 3,585 properties with NRHP eligibility recommendations for 3,283 properties. A total of 55 properties, including 9 potential historic districts, were determined to be significant and it was recommended that an inventory level survey be conducted for those properties. The current property area is not located within any of the 9 proposed historic districts.

3.1.13 McElroy et al. 2015a and McElroy et al. 2015b

In 2014, Keala Pono conducted an archaeological inventory survey and a cultural impact assessment for the construction of four reservoirs (McElroy et al. 2015a and McElroy et al. 2015b). Due to the negative results of the survey it was termed an archaeological assessment. The assessment consisted of a pedestrian survey of the four property areas and the excavation of 8 backhoe trenches. No sites were recorded during the pedestrian survey of the area and subsurface testing revealed stratigraphy consisting of a plow zone layer over a natural sterile layer. Secondarily deposited artifacts exposed from bulldozing were collected from the Reservoir 3 location and dated to the late 19th and early 20th century. Due to their secondary context, the artifacts collected were assessed as not significant and no further work was recommended.

3.1.14 Novell et al. 2019 and ASM Affiliates 2019

In 2019, ASM Affiliates conducted a historic properties inventory survey and a cultural impact assessment for the Whitmore Agricultural Project (Novell et al. 2019 and ASM Affiliates 2019). No archaeological resources were identified during the survey of the area. However, 27 buildings were documented in the property area, 20 of which were considered historic. They were collectively recorded as a historic district. The site number is unknown as the survey report was a draft and the SIHP information for the historic district was not included.

Section 4 Archaeological Field Inspection

Fieldwork for this project was conducted on September 13th and 20th, 2019 by Nathan DiVito, B.A under the supervision of Rosanna Thurman, M.A. (principal investigator). Fieldwork required approximately 3 person-hours to complete. Fieldwork for this project was performed under the archaeological permit number 19-22 issued to Honua Consulting by the SHPD/DLNR in accordance with HAR Chapter 13-282.

4.1 Methodology

The archaeological field inspection consisted of a 100% pedestrian survey of the outdoor portion of the property. The interior of the two buildings that take up much of the property were not surveyed. The pedestrian survey consisted of the traversal of several north-south and east-west trending transects across the property, spaced at approximately 10 m intervals (Figure 16). A visual inspection of the ground surface of the property was conducted. A hand-held Trimble GeoXT device was used to record survey tracks on the property. The Trimble maintained an accuracy ranging between 1 to 3 meters (3-10 feet).

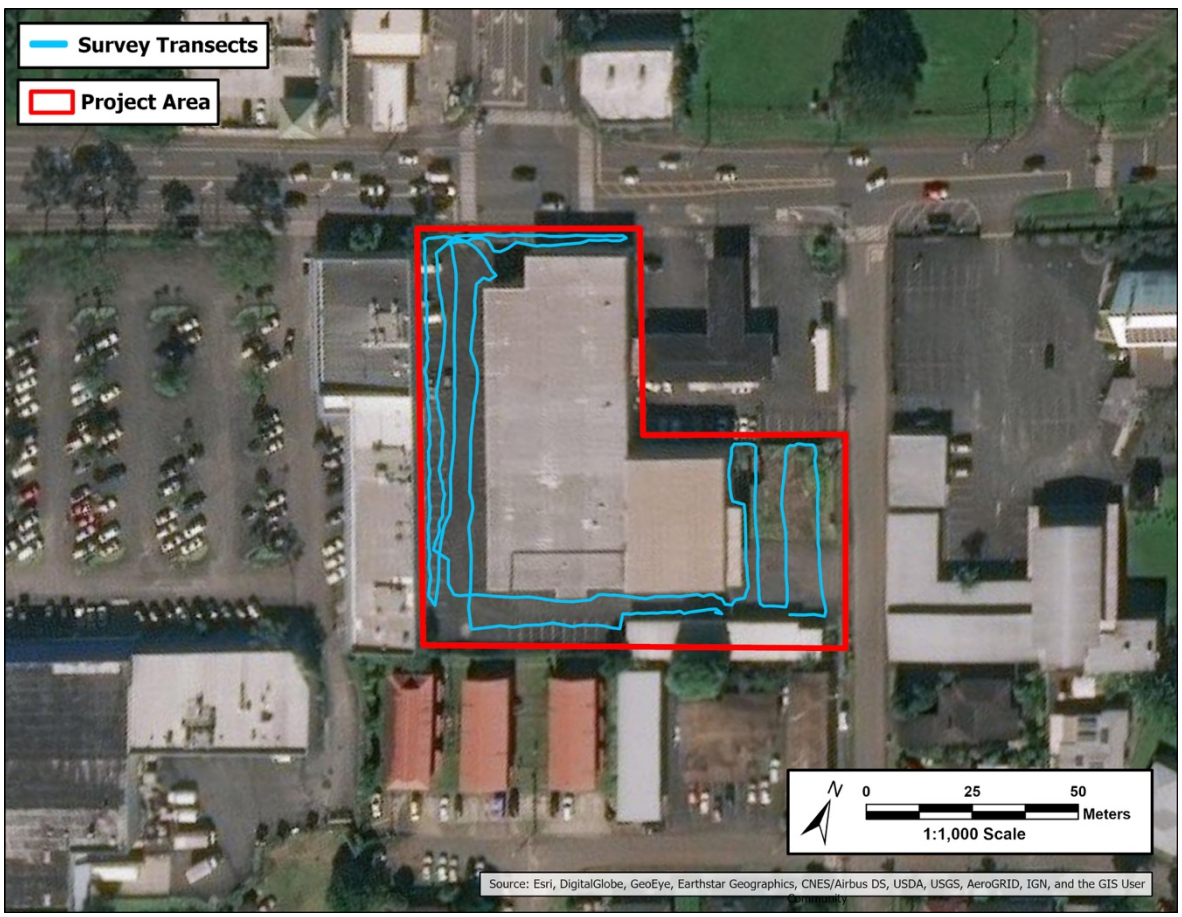


Figure 16. Aerial photo showing pedestrian survey tracks

4.2 Survey Results

The property area is located in a heavily developed area of downtown Wahiawā. It is bordered on its northern side by the intersection of California Avenue and Cane Street. A strip mall borders the western side and residential apartments border the southern side of the property. The service frontage for the property along Plum Street and the Reynolds Recycling Wahiawa Redemption Center are to the east. Other infrastructure present in the vicinity of the property area includes commercial businesses, roadways, sidewalks, traffic lights, and street lighting.

In the past, the project parcel was used by the Standard Oil Company of California. Several structures and gasoline storage tanks are shown within the property area on a 1942 Sanborn Fire Insurance map of Wahiawa (see Figure 12). A spur of the OR&L railroad that once traveled from Waipahu to Wahiawa is also shown along the western side of the property area.

Currently, two modern structures are present within the property area. The first structure is a large 32,375 square foot warehouse that once operated as Tamura's Wholesale Outlet (Figure 17). An asphalt parking lot that covers much of the property is present on the west and south sides of the warehouse (Figure 18). The second structure is a set of connected plywood offices that are set on the asphalt and present along the southern boundary of the property (Figure 19) Records show that the warehouse structure was built in 1981 and the office structure was built in 1979 and they do not meet the 45 year old age requirement for NRHP eligibility.

Figure 17. Photo of the western side of the warehouse building to be refurbished during the project, looking east

Figure 18. Photo of the western parking lot looking south, note the piled sheet metal and back of the adjacent strip mall building that makes up the western boundary of the property area

Figure 19. Photo of plywood office structure located along the southern boundary of the property, looking east

Ceramic masonry unit (CMU) retaining walls are present on the western and southern boundaries of the property. The cmu retaining wall running along the southern boundary was approximately 4-5 ft tall and the residential property and roadway to the south were substantially lower than the parking lot. This indicates that the property may have been filled for construction of the warehouse and to cover the structures, railway, and gasoline storage tanks that used to be in the area. The height of the wall on the west side could not be determined due to the strip mall running the length of the western boundary of the parcel.

The only areas of the parcel where the ground surface could be observed was a small landscaped area on the north side of the property between the warehouse and sidewalk for California Avenue, a small landscaped area east at the end of the office structure, and an approximately 400 sq meter grassy area between the loading dock for the warehouse and Plum Street (Figure 20). Modern trash and landscaped vegetation were observed on the surface in the small areas around the buildings. The vegetation of the larger grassy area consisted of several types of grasses, small unidentified weeds, and “sleepy grass” (*Mimosa pudica*). Modern rubbish was also on the surface of this area and broken up concrete chunks were observed on the surface along the fence with the Reynolds Recycling Center. A modern electrical box is present in this area along Plum Street and it is likely that the utilities on the property are all subsurface

Figure 20. Photo of the grassy area, service driveway, and loading dock of the warehouse structure located along Plum Street looking north

The majority of the property area was either paved parking lot or covered with structures. No structural elements or artifacts were found in association with the railroad, structures, and gasoline tanks observed on the 1942 Sanborn Fire Insurance map of the area. No artifacts or deposits of any kind were observed in the grassy landscaped portions of the property.

Section 5 Summary and Recommendations

This project was completed at the request of Wilson Okamoto Corporation. Honua Consulting conducted this literature review and field inspection for the proposed Wahiawa Value-Added Product Development Center. The property area measures 1.572 acres and is currently zoned as a Commercial District. The project proposes to refurbish and upgrade the existing warehouse facility and demolish the existing office structure on the property. No ground disturbance is anticipated during refurbishment of the warehouse or during demolition of the office structure.

What is known from traditional and historic accounts is that the Wahiawā area was populated in the pre-contact era and used primarily for traditional Hawaiian habitation and agricultural pursuits along the streams and gulches. The area is most well-known traditionally as the birthplace of chiefs and the Kūkaniloko Birthstones State Monument (SIHP # -218) is the only major traditional Hawaiian site present in the area. The other sites that were likely present in the area have been destroyed and obscured by commercial agriculture, U.S. Military activities and construction, and urban development. No known archaeological sites are in the immediate vicinity of the Wahiawa Value-Added Product Development Center property area.

Background research on the project parcel indicated that it was once used by the Standard Oil Company of California. Several buildings and gasoline storage tanks are shown within the property area on a 1942 Sanborn Fire Insurance map of Wahiawa. A spur of the OR&L railroad that traveled from Waipahu to Wahiawa is also present along the western side of the property area.

The archaeological field inspection conducted for the current project included a pedestrian survey of the traversable portion of the property area. The inside of the two buildings were not surveyed during the field inspection. The majority of the property area was paved parking lot and no structural elements or artifacts were found in association with the railroad, structures, and tanks observed on the 1942 Sanborn Fire Insurance map of the area. No artifacts or deposits of any kind were observed in the grassy landscaped portions of the property.

Due to the lack of historic properties and lack of ground disturbances associated with the project, this study finds the project effect determination is “no historic properties affected”. However, due to historic use of the property area and the historic significance of Wahiawa town it is recommended that archaeological monitoring be conducted in accordance with HAR 13-279 (Rules Governing Standards for Archaeological Monitoring Studies and Reports) for any unanticipated ground disturbances in association with the project.

The conducted archaeological investigation is not an archaeological inventory survey (AIS), however, this report was intended to be written using standards outlined within HAR 13-276 for AIS studies and is intended to assist with historic preservation efforts for the proposed Wahiawa Value-Added Product Development Center.

Section 6 References Cited

Alexander, William D.
1891 *A Brief History of the Hawaiian People*. American Book Company. New York, New York.

ASM Affiliates
2019 *A Cultural Impact Assessment for the Whitmore Agricultural Project TMKs: (1) 7-1-002:004 (por.) and 009) Wahiawā Ahupuaʻa, Wahiawā District, Island of Oʻahu.* ASM Affiliates, Honolulu, Hawaiʻi.

Beckwith, Martha Warren
1970 *Hawaiian Mythology*. University of Hawaii Press, Honolulu, Hawaiʻi.

Bishop, Sereno Edwards
1916 *Reminiscences of Old Hawaii*. The Advertiser Historical Series No. 1. Hawaiian Gazette Co., Ltd., Honolulu, Hawaiʻi.

Colin, Brian L. and Hallett H. Hammatt
1994 *Archaeological Assessment of the Exploratory Wells Site at Whitmore Village, Wahiawa, Oʻahu (TMK: 7-1-09:64)*. Cultural Surveys Hawaiʻi, Kailua, Hawaiʻi.

Coulter, John Wesley
1935 *A Gazetteer of the Territory of Hawaii*. University of Hawaiʻi, Honolulu, Hawaiʻi.

Cuddihy, Linda W. and Charles P. Stone
1990 *Alteration of Native Hawaiian Vegetation-Effects of Humans, Their Activities and Introductions*. Cooperative National Park Resources Studies Unit, University of Hawaiʻi at Mānoa, Honolulu, Hawaiʻi.

Dole, James D.
1939 Dole Tells Start of Pineapples. *The Honolulu Advertiser*, Tuesday, January 31, 1939. Honolulu, Hawaiʻi.

Foote, Donald E., E. L. Hill, S. Nakamura and F. Stephen
1972 *Soil Survey of the Islands of Kauaʻi, Oʻahu, Maui, Molokai and Lanai, State of Hawaii*. U.S. Department of Agriculture, U.S. Government Printing Office, Washington, D.C.

Fornander, Abraham
1880 *An Account of the Polynesian Race: Its Origins and Migrations and the Ancient History of the Hawaiian People to the Times of Kamehameha I*. Vol. II. Trubner & Co., Ludgate Hill. London, UK.

Giambelluca, T.W., Q. Chen, A.G. Frazier, J.P. Price, Y.-L. Chen, P.-S. Chu, J.K. Eischeid, and D.M. Delparte
2013 Rainfall Atlas of Hawaiʻi, Interactive Map. Geography Department, University of Hawaiʻi-Mānoa. Accessed at <http://rainfall.geography.hawaii.edu/interactivemap.html>.

Griffin, Agnes E. and Martha Yent
1977 *Results of the Archaeological Survey of Phase I of Wahiawā Fresh Water Park.* Department of Land and Natural Resources Division of State Parks. Honolulu, Hawaiʻi.

Hammatt, Hallett H. and Rodney Chiogioji

2000 *Archaeologcial Assessment of a Proposed Water Line Route Between Whitmore Village and Wahiawā, in the Mauka Portion of Kamamanui Ahupuaʻa, Wahiawā District, Island of Oʻahu (TMK: 7-1-02)*. Cultural Surveys Hawaiʻi, Kailua, Hawaiʻi.

Hammatt, Hallett H., David W. Shideler, and Melanie M. Mann
2002 *An archaeological and Cultural Impact Evaluation for the Proposed Wahiawā Community Transit Center, Wahiawā Ahupuaʻa, Wahiawā District, Island of Oʻahu (TMK: 7-4-06 por. 2 and por. 12)*. Cultural Surveys Hawaiʻi, Kailua, Hawaiʻi

Handy, E.S.C and Elizabeth Green Handy
1972 *Native Planters in Old Hawaii: Their Life, Lore, and Environment.* Bernice P. Bishop Museum Bulletin 233. Bishop Museum Press, Honolulu, Hawaiʻi.

Hawaii, Land Commission
1929 *Indices of Awards Made by the Board of Comissioners to Quiet Land Titles in the Hawaiian Islands.* Office of the Commissioner of Public Lands of the Territory of Hawaii, Honolulu, Hawaiʻi.

Hawaiʻi TMK Service
Tax Map Key [1] 7-4-012. On file at Hawaiʻi TMK Service, 222 Vineyard Street, Suite 401, Honolulu, Hawaiʻi.

Hawkins, Richard A.
2011 *A Pacific Industry: The History of Pineapple Canning in Hawaii*. I.B. Tauris, London, United Kingdom.

Henry, Jack D., Alan T. Walker, and Paul H. Rosendahl
1992 *An Archaeological Inventory Survey, Galbraith Trust Lands, Lands of Kamananui and Wahiawā, Waialua and Wahiawā Districts, Island of Oahu*. Paul H. Rosendahl PhD. Inc., Hilo, Hawaiʻi.

Jarves, James Jackson
1844 *History of the Hawaiian or Sandwich Islands: Embracing Their Antiquities, Mythology, Legends, Discovery by Europeans in the Sixteenth Century, Re-Discovery by Cook, with Their Civil, Religious, and Political History From the Earlies Traditionary Period to the Present Time.* Tappan and Dennet. Boston, Massachusetts.

Ka Hae Hawaii
1861 *Some Cannibals on Oahu in Olden Times, Halemano*. Ka Hae Hawaii. Honolulu, Hawaiʻi.

Ke Au Hou
1910 .Kaehuiki mano o Puuloa. *Ke Au Hou*, December 10, 14. Translated from Hawaiian in Hawaiian Ethnological Notes, Place Names, B.P. Bishop Museum, Honolulu, Hawaiʻi.

Ke Aloha Aina
1919 .Noted Places on the Island of Oahu. *Ke Aloha Aina*, April 4, 1919. Translated from Hawaiian in Hawaiian Ethnological Notes, Place Names, B.P. Bishop Museum, Honolulu, Hawaiʻi.

Kamakau, Samuel M.
1964 *Ruling Chiefs of Hawaii.* The Kamehameha Schools Press. Honolulu, Hawaiʻi.

1991 *Tales and Traditions of the People of Old (Nā Mocoleo a ka Poce Kahiko).* Bishop Museum Press. Honolulu, Hawai‘i.

Lyons, Curtis J.
1903 *A History of the Hawaiian Government Survey with Notes on Land Matters in Hawaii*. Hawaiian Gazette Co., Honolulu, Hawai‘i.

Macdonald, Gordon A., Agatin T. Abbott, and Frank L. Peterson
1983 *Volcanoes in the Sea: The Geology of Hawaii*. University of Hawaii Press, Honolulu, Hawai‘i.

McAllister, J.G.
1933 *Archaeology of Oahu.* Bernice P. Bishop Museum, Bulletin 104. Bishop Museum Press. Honolulu, Hawai‘i.

McElroy, Windy, Dietrix Duhaylonsod, Nathaniel Garcia, and Allison Ikeda
2015a *Archaeological Assessment of TMK: (1) 7-1-001:002 (por.) and :005 (por.), Wahiawā Ahupua‘a, Wahiawā District and TMK: (1) 6-5-002:010 (por.), Kamananui Ahupua‘a,, Waialua District, Island of O‘ahu, Hawai‘i.* Keala Pono, Kaneohe, Hawai‘i

McElroy, Windy, Dietrix Duhaylonsod, and Allison Ikeda
2015b *Cultural Impact Assessment of TMK: (1) 7-1-001:002 (por.) and :005 (por.), Wahiawā Ahupua‘a, Wahiawā District and TMK: (1) 6-5-002:010 (por.), Kamananui Ahupua‘a,, Waialua District, Island of O‘ahu, Hawai‘i.* Keala Pono, Kaneohe, Hawai‘i.

Moffat, Riley Moore and Gary L. Fitzpatrick
1995 *Surveying the Mahele: Mapping the Hawaiian Land Revolution.* Volume 2 of Palapala‘ina. Editions Limited. Honolulu, Hawai‘i.

Monsarrat, M.D
1899 Public Lands Map No. 25, Wahiawa, Waialua, Oahu. Registered Map 1941.

Nakuina, Emma M.B.
1897 The Legend of Oahunui. *Hawaiian Annual*, pg. 90-95. Honolulu, Hawai‘i.

Nedbalek, Lani
1984 *Waipahu: A Brief History*. Wonder View Press, Mililani, Hawai‘i.

Novell, Marilyn, Shannon Davis, Ryan Gross, and Robert B.Rechtman
2019 *Historic Properties Inventory Survey for the Whitmore Agricultural Project TMKs: (1) 7-1-002:004 (por.) and 009) Wahiawā Ahupua‘a, Wahiawā District, Island of O‘ahu.* ASM Affiliates, Honolulu, Hawai‘i.

Pan-Pacific Union
1911 The Romance of the Hawaiian Pineapple. *The Mid-Pacific Magazine*, Vol 1. A.H. Ford, Honolulu, Hawai‘i.

Pukui, Mary Kawena, Sameul H. Elbert and Esther T. Mookini
1974 *Place Names of Hawaii*. The University of Hawai‘i Press, Honolulu, Hawai‘i.

Rieth, Timothy
2008 *Archaeological Monitoring in Support of the Construction of a New Access Road Associated with the Hawaii Regional Security Operations Center (HRSOC), Wahiawā,*

Oʻahu, Hawaiʻi, TMK: 7-1-001:005 (Portion), 7-1-002:010 (Portion). International Archaeological Institute Inc., Honolulu, Hawaiʻi.

Rosendahl, Paul. H.
1977 *Archaeological Inventory Survey and Evaluation Report for Installation Environmental Impact Statement for U.S. Army Support Command, Hawaii (USASCH) Part 1: Report Text.* Department of Anthropology, Bishop Museum, Honolulu, Hawai'i. Prepared for Department of the Army, U.S. Army Engineer Division.

Sanborn Fire Insurance
1942 Sanborn Fire Insurance Map from Honolulu, Oahu County, Hawaii. Sanborn Map Company, April 1942, Sheet 5. Accessed at https://www.loc.gov/item/sanborn01554_001/.

Saifuku, James
1987a *Poamoho Heiau in Wahiawa, Oʻahu.* James Saifuku, Honolulu, Hawaiʻi

1987b *Poamoho Stream Sites in Waialua, Oʻahu.* James Saifuku, Honolulu, Hawaiʻi

Sterling, Elspeth P. and Catherine C. Summers
1978 *Sites of Oahu*. Bishop Museum Press, Honolulu, Hawaiʻi.

Stuart, Patience, Leesa Gratreak, and Kirk Ranzetta
2014 *Reconnaissance Level Survey Report Hawaiʻi SHPD Wahiawā Historic RLS Wahiawā, Hawaiʻi*. URS, Portland, Oregon.

Hammatt, Hallett H., David W. Shideler, and Melanie M. Mann
2006 *Archaeological Literature Review and Field Inspection for the Proposed Whitmore Village Development Project, Kamananui Ahupuaʻa, Wahiawā District, Island of Oʻahu, TMK: [1] 7-1-002:004 por., 030 por., 031, 032 por., 033.*. Cultural Surveys Hawaiʻi, Kailua, Hawaiʻi

Van Dyke, Jon M.
2008 *Who Owns the Crown Lands of Hawaiʻi*. University of Hawaiʻi Press, Honolulu, Hawaiʻi.

Wall, Walter E.
1901 Map Showing Lands of the Waialua Agricultural Co. Ltd, Wahiawa, Waialua, Oahu. Registered Map 2056.

West, Eric
2005 *Addendum to: Phase I Archaeological Survey of the Hawaii Regional Security Operations Center (HRSOC) Project Site, Naval Computer and Telecommunications Center Area Master Station (NCTAMS PAC) and Vicinity, Wahiawa, Oʻahu, Hawaiʻi, TMK: 7-1-02:7 Portion*. Department of the Navy, Naval Facilities Engineering Command Pacific, Pearl Harbor, Hawaiʻi.

West, Eric and Karen Desilets
2005 *Second Addendum to: Phase I Archaeological Survey of the Hawaii Regional Security Operations Center (HRSOC) Project Site, Naval Computer and Telecommunications Center Area Master Station (NCTAMS PAC) and Vicinity, Wahiawa, Oʻahu, Hawaiʻi, TMK: 7-1-02:7 Portion*. Department of the Navy, Naval Facilities Engineering Command Pacific, Pearl Harbor, Hawaiʻi.

West, Eric and Emily Donaldson
2004 *Phase I Archaeological Survey of the Hawaii Regional Security Operations Center (HRSOC) Project Site, Naval Computer and Telecommunications Center Area Master Station (NCTAMS PAC) and Vicinity, Wahiawa, O‘ahu, Hawai‘i, TMK: 7-1-02:7 Portion*. Department of the Navy, Naval Facilities Engineering Command Pacific, Pearl Harbor, Hawai‘i.

Woodbury, David O.
1946 *Builders for Battle: How the Pacific Naval Air Bases Were Constructed*. 1st edition, E.P Dutton, New York, New York.

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Appendix B:

Traffic Impact Report for the Leeward Community College Value-Added Product Development Center
Wilson Okamoto Corporation

Traffic Impact Report

Leeward Community College Value-Added Product Development Center

Prepared for:
Ushijima Architects, Inc.

Prepared by:
Wilson Okamoto Corporation

October 2019

TRAFFIC IMPACT REPORT

FOR THE

LEEWARD COMMUNITY COLLEGE VALUE-ADDED PRODUCT DEVELOPMENT CENTER

Prepared for:

Ushijima Architects, Inc.
2226 Young Street, Suite A
Honolulu, HI 96826

Prepared by:

Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826
WOC Ref #10467-01

October 2019

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I. INTRODUCTION

A. Purpose of Study

The purpose of this study is to identify and assess the traffic impacts resulting from implementation of the Leeward Community College (LCC) Value-Added Product Development Center. The proposed project entails repurposing an existing metal warehouse previously occupied by Tamura's Wholesale Outlet as a multi-purpose facility that will include spaces to support post-secondary education in the development and marketing of value-added food products.

B. Scope of Study

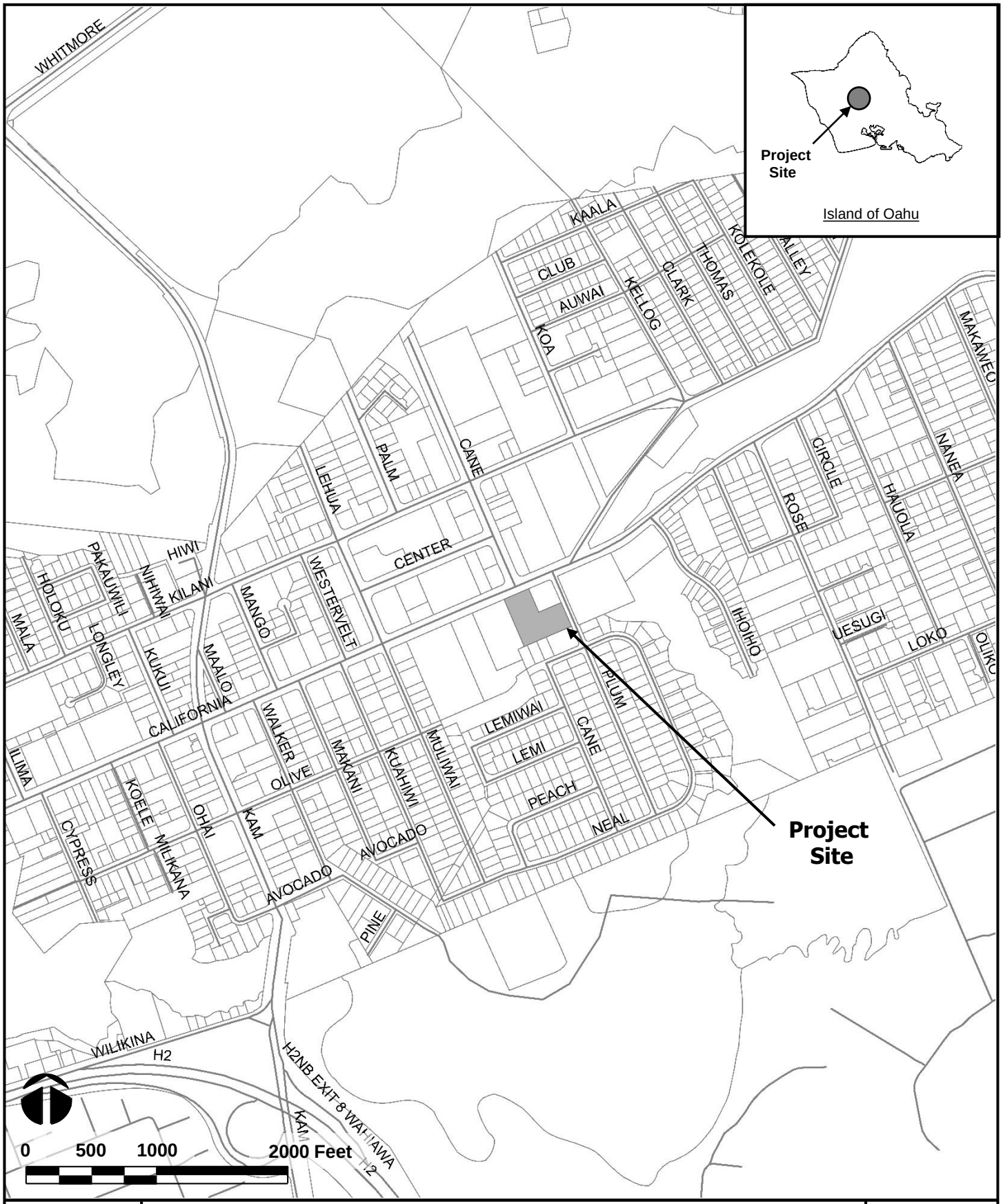
This report presents the findings and conclusions of the traffic study, the scope of which includes:

1. Description of the proposed project.
2. Evaluation of existing roadway and traffic operations in the vicinity.
3. Analysis of future roadway and traffic conditions without the proposed project.
4. Analysis and development of trip generation characteristics for the proposed project.
5. Superimposing site-generated traffic over future traffic conditions.
6. The identification and analysis of traffic impacts resulting from the proposed project.
7. Recommendations of improvements, if appropriate, that would mitigate the traffic impacts resulting from the proposed project.

II. PROJECT DESCRIPTION

A. Location

The project site is located adjacent to California Avenue on the island of Oahu (see Figure 1). The project site is bounded by California Avenue to the north, Plum Street to the east, residential uses to the south and commercial uses to the west. The project site is further identified as Tax Map Key (TMK) [1] 7-4-012:016. Access to the project site will be provided via one-way driveways off California Avenue (entry) and Plum Street (exit).



WILSON OKAMOTO CORPORATION

LEEWARD COMMUNITY COLLEGE
VALUE-ADDED PRODUCT DEVELOPMENT CENTER

LOCATION AND VICINITY MAP

FIGURE 1

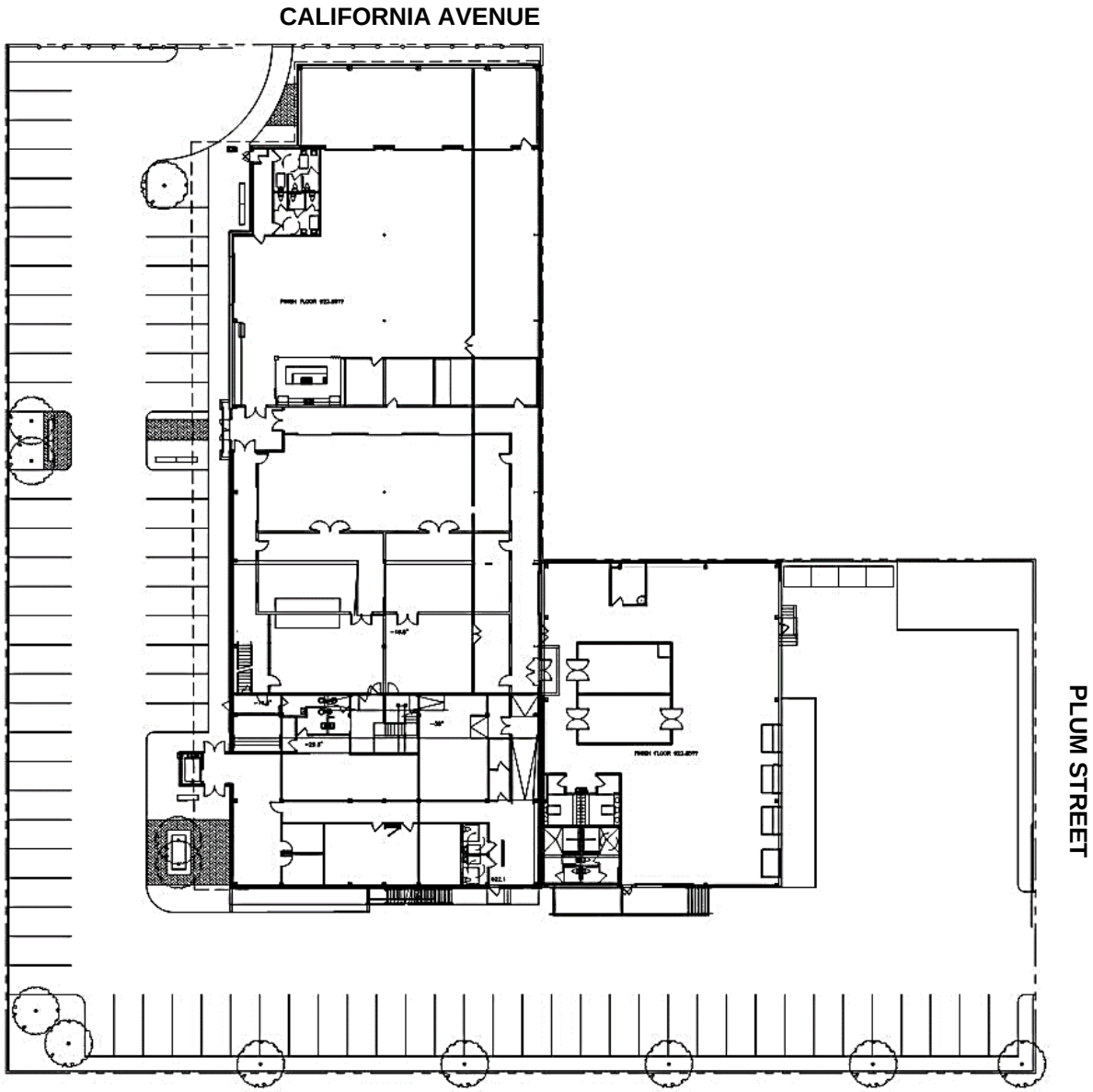
B. Project Characteristics

The existing project site is an approximately 1.5-acre parcel that formally housed Tamura's Wholesale Outlet. The proposed project entails repurposing the existing metal warehouse as the Leeward Community College Value-Added Product Development Center (hereafter referred to as the "VAPDC"), a multi-purpose building to support post-secondary education in the development and marketing of value-added food products. The facility will be used primarily by Leeward Community College (LCC) which is expected to offer programs, services, and training classes to promote innovation and entrepreneurship within the agricultural industry. Three classrooms that are able to accommodate a maximum of 12 students per classroom are planned for the facility. In addition, the proposed VAPDC is also expected to include spaces to house special community events such as farmer's markets, tasting events, and other similar activities to merchandise food products from the facility. However, these special events are expected to occur periodically during off-peak periods such as in the weekends. Access to the project site will be provided via one-way driveways off California Avenue and Plum Street with vehicles expected to enter the project site via the driveway off California Avenue and exit via the driveway off Plum Street. The project is expected to be completed by Year 2021. See Figure 2 for the proposed site plan.

III. EXISTING TRAFFIC CONDITIONS

A. Area Roadway System

In the vicinity of the project, California Avenue is generally oriented in the east-west direction and serves as one of the main access roadways through Wahiawa. West of the project site, California Avenue intersects Lehua Street and Muliwai Avenue. At this signalized intersection, the westbound and eastbound approaches of California Avenue include two lanes that serve all traffic movements. The north leg of the intersection is comprised of Lehua Street, a predominantly two-lane, two-way roadway generally oriented in the north-south direction that serves as a connector roadway between California Avenue and Kilani Avenue. At the intersection with



Source:
Ushijima Architects Inc

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LEEWARD COMMUNITY COLLEGE VALUE-ADDED PRODUCT DEVELOPMENT CENTER

PROPOSED SITE PLAN

FIGURE 2

California Avenue and Muliwai Avenue, the southbound approach of Lehua Street has a shared left-turn and through lane and an exclusive right-turn lane. The south leg of the intersection is comprised of Muliwai Avenue, a predominantly two-lane two-way roadway generally oriented in the north-south direction that provides access to the residential uses along its alignment. The Muliwai Avenue approach includes one lane that serves all traffic movements.

East of the intersection with Muliwai Avenue and Lehua Street, California Avenue intersects N. Cane Street. At this signalized intersection, the eastbound approach of California Avenue includes an exclusive left-turn lane and two through lanes while the westbound approach includes a through lane and a shared through and right-turn lane. The north leg of the intersection is comprised of N. Cane Street, a predominantly two-lane, two-way roadway generally oriented in the north-south direction that serves as a connector roadway between California Avenue and Kilani Avenue. At the intersection with California Avenue, the southbound approach of N. Cane Street includes exclusive left-turn and right-turn lanes.

Further east, California Avenue intersects Plum Street. At this unsignalized T intersection, the eastbound approach of California Avenue includes a through lane and an exclusive right turn lane while the westbound approach has one wide lane that serves left-turn and through movements. The south leg of the intersection is comprised of Plum Street, a predominantly two-lane, two-way roadway generally oriented in the north-south direction that provides access to the residential uses along its alignment. The northbound approach of Plum Street includes a stop-controlled lane that serves left-turn and right-turn traffic movements.

B. Existing Multimodal Facilities

1. Pedestrian Facilities

In the vicinity of the project site, California Avenue has sidewalks and street lighting along both sides of the roadway. Crosswalks and curb ramps are provided at the intersections of California Avenue with N. Cane Street and Lehua Street/Muliwai Avenue with pedestrian crossing facilitated through pedestrian phasing at those signalized intersections. East of the project site,

pedestrian facilities along Plum Street are limited to sidewalks along both sides of the roadway between the intersection with California Avenue and project driveway. South of the project driveway, pedestrian traffic utilizes the unimproved paved shoulder areas.

2. Bicycle Facilities

A dedicated bike lane is currently provided for westbound traffic along the north side of California Avenue between N. Cane Street and Kamehameha Highway while there are signs designating the south side of the roadway as a bike route for eastbound traffic. In addition, there is also a dedicated bike lane for southbound traffic along N. Cane Street along the west side of the roadway. It should be noted that according to the information provided in the City and County of Honolulu's Oahu Bike Plan (updated 2019), there are future plans to extend the existing bike lane along California Avenue further east to Kilea Place.

3. Transit Facilities

Transit within the project vicinity is provided by "The Bus" which is operated by the Oahu Transit Service (OTS) for the City and County of Honolulu Department of Transportation Services. Northwest of the project site is the Wahiawa Transit Center which serves 6 bus routes (Routes 52, 62, 72, 83, 88A, and PH3). In addition, there are 5 additional bus stop locations within a quarter mile radius of the project site along California Avenue.

C. Traffic Volumes and Conditions

1. General

a. Field Investigation

Field investigations were conducted in April 2019 and consisted of manual turning movement count surveys during the morning peak hours between 6:00 AM and 9:00 AM, and the afternoon peak hours between 3:00 PM and 6:00 PM at the following intersections:

- California Avenue, Lehua Street, and Muliwai Avenue
- California Avenue and N. Cane Street
- California Avenue and Plum Street

b. Capacity Analysis Methodology

The highway capacity analysis performed in this study is based upon procedures presented in the "Highway Capacity Manual", Transportation Research Board, 2010, and the "Synchro" software, developed by Trafficware. The analysis is based on the concept of Level of Service (LOS) to identify the traffic impacts associated with traffic demands during the peak periods of traffic.

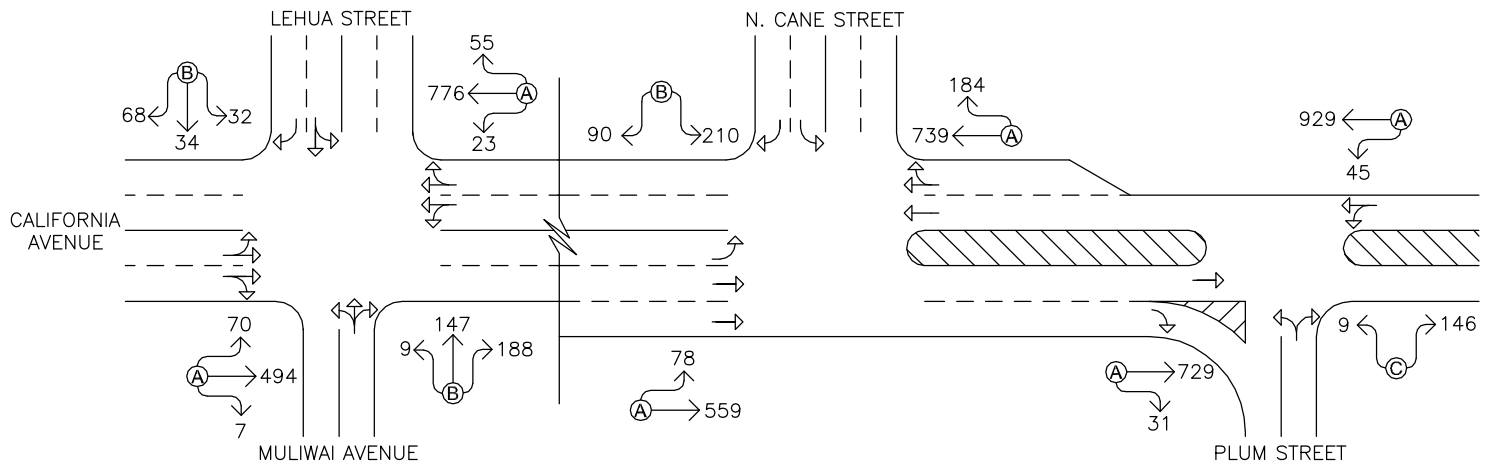
LOS is a quantitative and qualitative assessment of traffic operations. Levels of Service are defined by LOS "A" through "F"; LOS "A" representing ideal or free-flow traffic operating conditions and LOS "F" unacceptable or potentially congested traffic operating conditions.

"Volume-to-Capacity" (v/c) ratio is another measure indicating the relative traffic demand to the road carrying capacity. A v/c ratio of one (1.00) indicates that the roadway is operating at or near capacity. A v/c ratio of greater than 1.00 indicates that the traffic demand exceeds the road's carrying capacity. The LOS definitions are included in Appendix B.

2. Existing Peak Hour Traffic

a. General

Figure 3 shows the existing AM and PM peak period traffic volumes and operating conditions. The AM peak hour of traffic generally occurs between 7:15 AM and 8:15 AM. The PM peak hour of traffic generally occurs between the hours of 3:30 PM and 4:30 PM. The analysis is based on these peak hour time periods for each intersection to identify the traffic impacts resulting from the proposed project. LOS calculations are included in Appendix C.



AM PEAK PERIOD

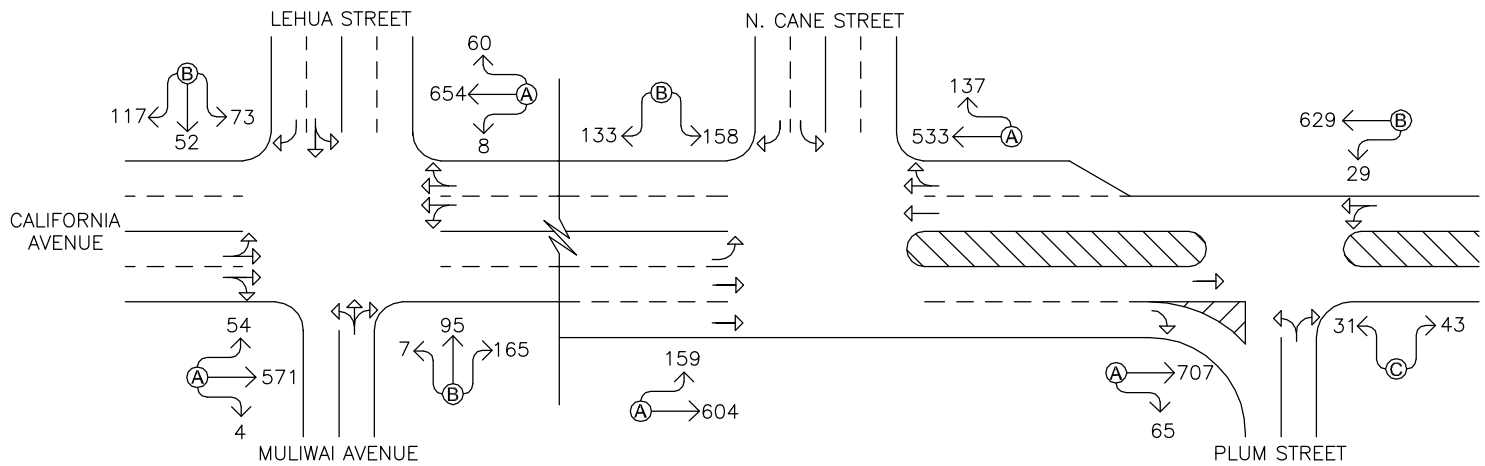
LEGEND

90 TRAFFIC MOVEMENT VOLUME (VPH)

(A) APPROACH LEVEL OF SERVICE

LANE USAGE

Date of Count: April 25, 2019



PM PEAK PERIOD

LEEWARD COMMUNITY COLLEGE VALUE-ADDED PRODUCT DEVELOPMENT CENTER

EXISTING PEAK HOURS OF TRAFFIC

FIGURE 3

b. California Avenue, Lehua Street, and Muliwai Avenue

At the intersection with Lehua Street and Muliwai Avenue, California Avenue carries 571 vehicles eastbound and 854 vehicles westbound during the AM peak period. During the PM peak period, the overall volume is less with 629 vehicles travelling eastbound and 722 vehicles travelling westbound. The eastbound and westbound approaches operate at LOS "A" during both peak periods. Traffic queues periodically formed on the California Avenue approaches of the intersection, with the most significant queuing occurring during the AM peak period. Average queue lengths of 5-7 vehicles were observed the eastbound approach while average queue lengths of 10-12 vehicles were observed on the westbound approach during this peak period. These queues were observed clearing the intersection after each traffic signal cycle change.

The Lehua Street approach of the intersection carries 134 vehicles and 242 vehicles southbound during the AM and PM peak periods, respectively. The southbound approach operates at LOS "B" during both peak periods. Traffic queues periodically formed on the Lehua Street approach of the intersection with average queue lengths of 1-3 vehicles observed during both peak periods. These queues were observed to clear the intersection after each traffic signal cycle change.

The Muliwai Avenue approach of the intersection carries 344 vehicles northbound during the AM peak period and 267 vehicles during the PM peak period. The northbound approach operates at LOS "B" during both peak periods. Traffic queues periodically formed on the Muliwai Avenue approach of the intersection with the most significant queueing occurring during the PM peak period. Average queue lengths of 4-7 vehicles were observed during that peak period. These queues were observed to clear the intersection after each traffic signal cycle change.

Crosswalks are provided across California Avenue on the east and west sides of the intersection, as well as across Lehua Street and Muliwai Avenue on the north and south sides of the intersection. During the AM peak period, 23 pedestrians and 13 pedestrians were observed crossing California Avenue on the east and west sides of the intersection, respectively, while 17 pedestrians were observed crossing Lehua Street on the north side of the intersection with 50 pedestrians observed crossing Mulawai Avenue on the south side of the intersection. During the PM peak period, 8 pedestrians and 12 pedestrians were observed crossing California Avenue on the east and west sides of the intersection, respectively, while 10 pedestrians were observed crossing Lehua Street on the north side of the intersection with 38 pedestrians observed crossing Mulawai Street on the south side of the intersection.

c. California Avenue and N. Cane Street

At the intersection with N. Cane Street, California Avenue carries 637 eastbound vehicles and 923 westbound vehicles during the AM peak period. During the PM peak period, the overall volume is less with 763 vehicles travelling eastbound and 670 vehicles travelling westbound. The eastbound and westbound approaches operate at LOS "A" during both peak periods. Traffic queues periodically formed on both approaches of California Avenue with the most significant queueing occurring during the AM peak period due to the nearby school. Average queue lengths of 12-15 vehicles were observed on the eastbound approach with average queue lengths of 7-9 vehicles observed on the westbound approach. These queues were observed to clear the intersection once the adjacent school was in session.

The N. Cane Street approach of the intersection carries 300 vehicles during the AM peak period and 291 vehicles during the PM peak period. The southbound approach operates at LOS "B" during

both peak periods. Traffic queues periodically formed at the southbound approach of N. Cane Street with average queue lengths of 5-7 vehicles observed during both peak periods. These queues were observed clearing the intersection after each traffic signal cycle change.

Crosswalks are provided across California Avenue on the east and west sides of the intersection, as well as across N. Cane Street on the north side of the intersection. During the AM peak period, 21 pedestrians were observed crossing California Avenue on the west side of the intersection, while 6 pedestrians were observed crossing N. Cane Street on the north side of the intersection. During the PM peak period, 5 pedestrians and 18 pedestrians were observed crossing California Avenue on the east and west sides of the intersection, respectively, while 9 pedestrians were observed crossing N. Cane Street on the north side of the intersection.

d. California Avenue and Plum Street

At the intersection with Plum Street, California Avenue carries 760 vehicles eastbound and 974 vehicles westbound during the AM peak period. During the PM peak period, the overall volume is less with 772 vehicles travelling eastbound and 658 vehicles travelling westbound. This approach operates at LOS "A" and LOS "B" during the AM and PM peak periods, respectively. As previously mentioned, the westbound approach includes one wide lane for left-turn and through movements. Field observation indicates that when there are left-turning vehicles from this approach, there is sufficient width for through vehicles to bypass the left-turn queues unimpeded by turning vehicles.

The Plum Street approach of the intersection carries 154 vehicles and 74 vehicles northbound during the AM and PM peak periods, respectively. The northbound approach operates at LOS "C"

during both peak periods. Traffic queues occasionally formed on the Plum Street approach of the intersection with average queue lengths of 2-3 vehicles observed during both peak periods.

A marked crosswalk is provided across Plum Street on the south side of the intersection. During the AM peak period, 25 pedestrians were observed crossing Plum Street on the south side of the intersection, while 27 pedestrians were observed crossing Plum Street during the PM peak period.

IV. PROJECTED TRAFFIC CONDITIONS

A. Site-Generated Traffic

1. Trip Generation Methodology

The proposed VAPDC is intended to support post-secondary education in the development and marketing of value-added food products and will include three classrooms that are expected to accommodate a maximum of 12 students per classroom. During a typical instructional day, a maximum of 36 students are expected to be on site with the duration of classes assumed to be longer than other community college classes since they may include lab time. In general, classes are assumed to occur between 8:00 AM and 4:00 PM. As such, during the AM peak hour, students were conservatively assumed to enter the project site with an occupancy of 1 student/vehicle and exit after the peak hour. Similarly, during the PM peak hour, students were conservatively assumed to enter the project site before the peak hour with an occupancy of 1 student/vehicle and exit during the peak hour. It should be noted that although special community events are expected to be held at the VAPDC, these events are expected to occur during off-peak periods such as evenings or weekends when traffic volumes are less. Table 1 summarizes the trip generation characteristics related to the proposed project applied to the AM and PM peak hours of traffic.

Table 1: Peak Hour Trip Generation

POST-SECONDARY EDUCATION CLASSROOM		
		PROJECTED TRIP ENDS
AM PEAK	ENTER	36
	EXIT	0
	TOTAL	36
PM PEAK	ENTER	0
	EXIT	36
	TOTAL	36

2. Trip Distribution

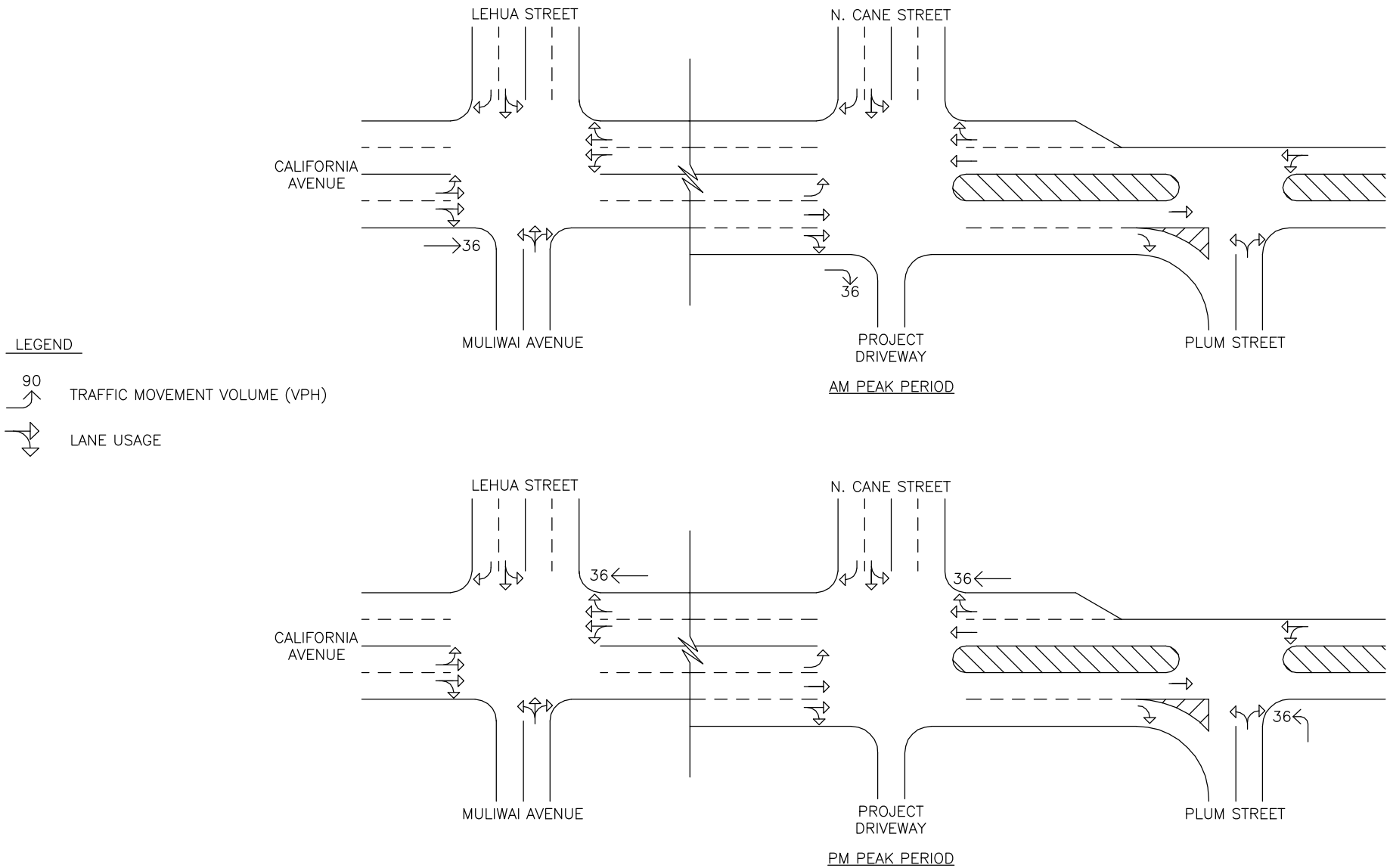
Figure 4 shows the distribution of site-generated traffic during the AM and PM peak period. Access to the project site will be provided via one-way driveways off California Avenue and Plum Street with vehicles to enter the project site via the driveway off California Avenue and exit the project site via the driveway off Plum Street. All site-generated trips were assumed to travel to/from west of the project site based upon the relative location of the major access routes to/from the project site such as the H-2 Freeway and Kamehameha Highway.

B. Through Traffic Forecasting Methodology

The travel forecast is based upon historical traffic count data obtained from the State DOT, Highways Division at survey stations in the vicinity of the project site. The historical data indicates relatively stable traffic volumes in the project vicinity. As such, an annual traffic growth rate of approximately 0.5 % was conservatively assumed along California Avenue. Using 2019 as the Base Year, a growth rate factor of 1.01 was applied to the existing through traffic demands along those roadways to achieve the projected Year 2021 traffic demands.

C. Total Traffic Volumes Without Project

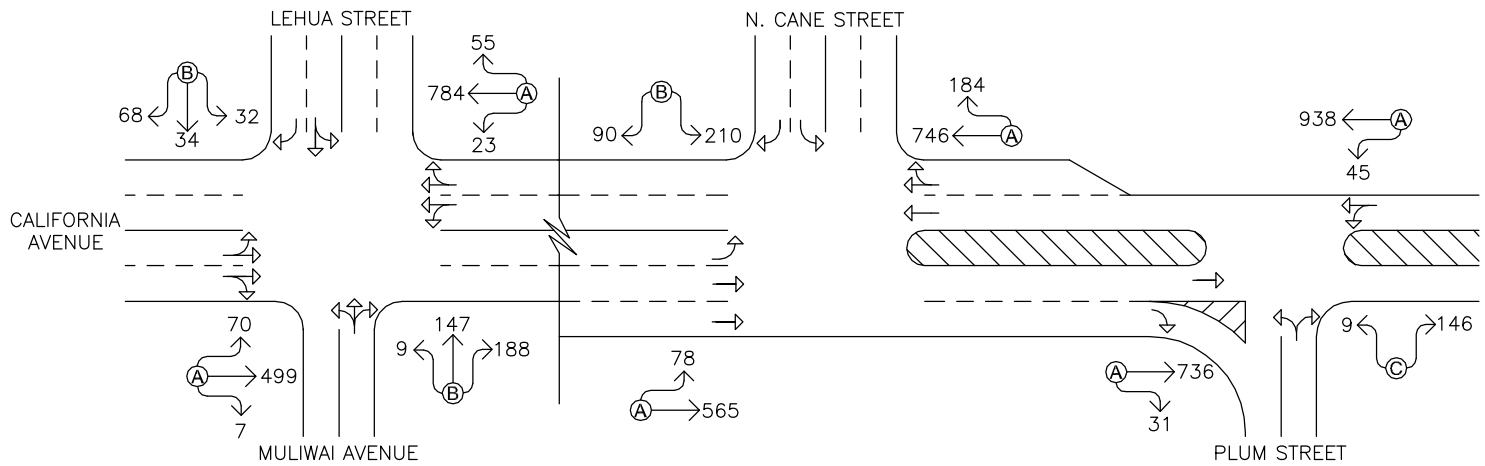
The projected Year 2021 AM and PM peak period traffic volumes and operating conditions without the addition of the proposed project is shown in Figure 5 and summarized in Table 2. The existing levels of service are provided for comparison purposes. LOS calculations are included in Appendix D.



LEEWARD COMMUNITY COLLEGE VALUE-ADDED PRODUCT DEVELOPMENT CENTER

DISTRIBUTION OF SITE-GENERATED VEHICLES AM AND PM PEAK HOURS OF TRAFFIC

FIGURE 4



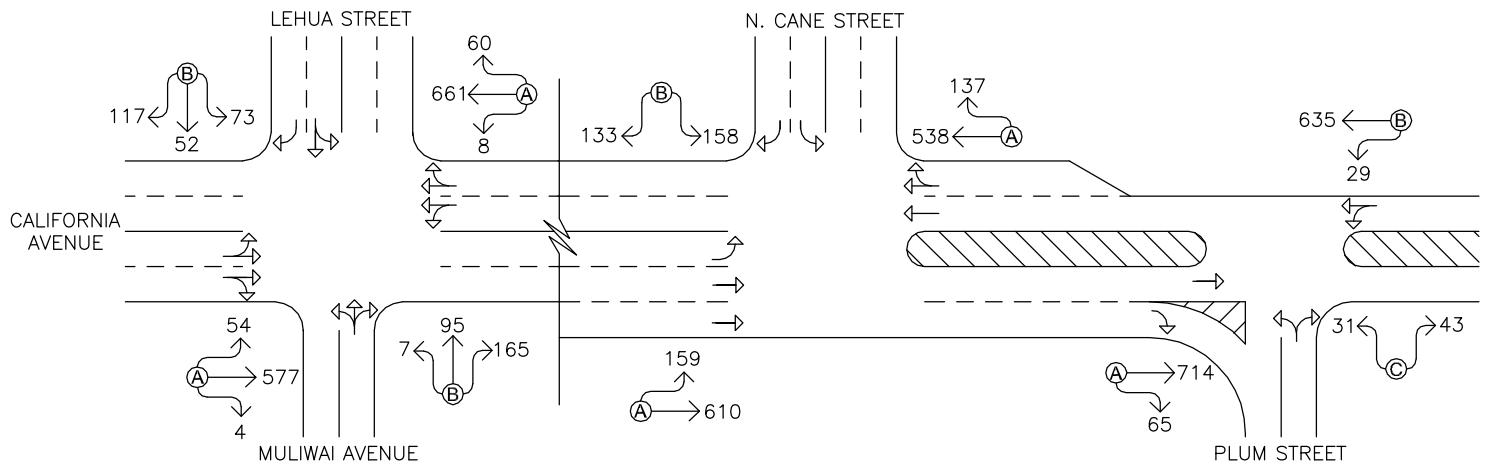
AM PEAK PERIOD

LEGEND

90 TRAFFIC MOVEMENT VOLUME (VPH)

Ⓐ APPROACH LEVEL OF SERVICE

LANE USAGE



PM PEAK PERIOD

LEEWARD COMMUNITY COLLEGE VALUE-ADDED PRODUCT DEVELOPMENT CENTER

YEAR 2021 AM AND PM PEAK HOURS OF TRAFFIC WITHOUT PROJECT

FIGURE 5

WILSON OKAMOTO CORPORATION

Table 2: Existing and Year 2021 (Without Project) LOS Traffic Operating Conditions

Intersection	Approach/ Critical Movement	AM		PM	
		Exist	Year 2021 w/out Proj	Exist	Year 2021 w/out Proj
California Ave/ Lehua St/ Muliwai Ave/	Eastbound	A	A	A	A
	Westbound	A	A	A	A
	Northbound	B	B	B	B
	Southbound	B	B	B	B
California Ave/ N. Cane St	Eastbound	A	A	A	A
	Westbound	A	A	A	A
	Southbound	B	B	B	B
California Ave/ Plum St	Westbound (LT*)	A	A	B	B
	Northbound	C	C	C	C

*LT = Left Turn

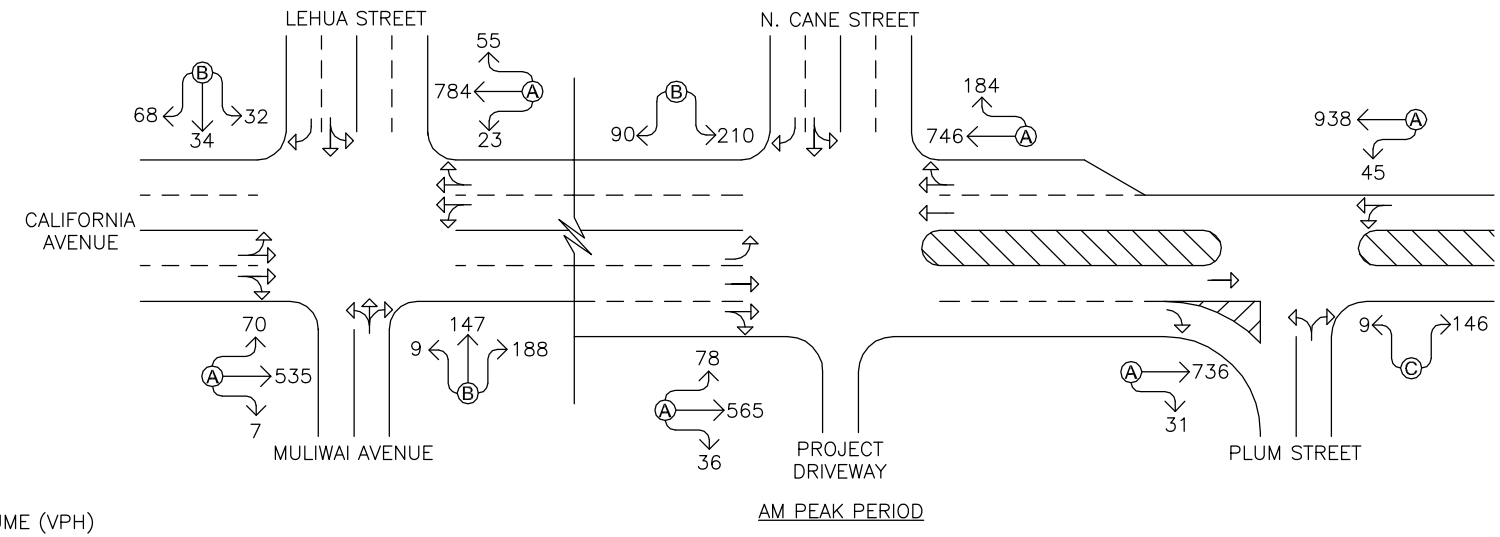
Under Year 2021 without project conditions, traffic operations are generally expected to remain similar to existing conditions. Along California Avenue, the approaches at the Lehua Street/Muliwai Avenue and N. Cane Street intersections are expected to continue operating at LOS "B" or better during the AM and PM peak periods. At the intersection with Plum Street, traffic operations are expected to continue operating at LOS "C" or better during both peak periods.

D. Total Traffic Volumes With Project

Figure 6 shows the projected Year 2021 cumulative AM and PM peak hour traffic conditions resulting from the proposed project. The cumulative volumes consist of site-generated traffic superimposed over Year 2021 projected traffic demands. The traffic impacts resulting from the proposed project are addressed in the following section.

V. TRAFFIC IMPACT ANALYSIS

The projected Year 2021 cumulative AM and PM peak hour traffic conditions resulting from the proposed project are summarized in Table 3. The projected Year 2021 (Without Project) operating conditions are provided for comparison purposes. LOS calculations are included in Appendix E.



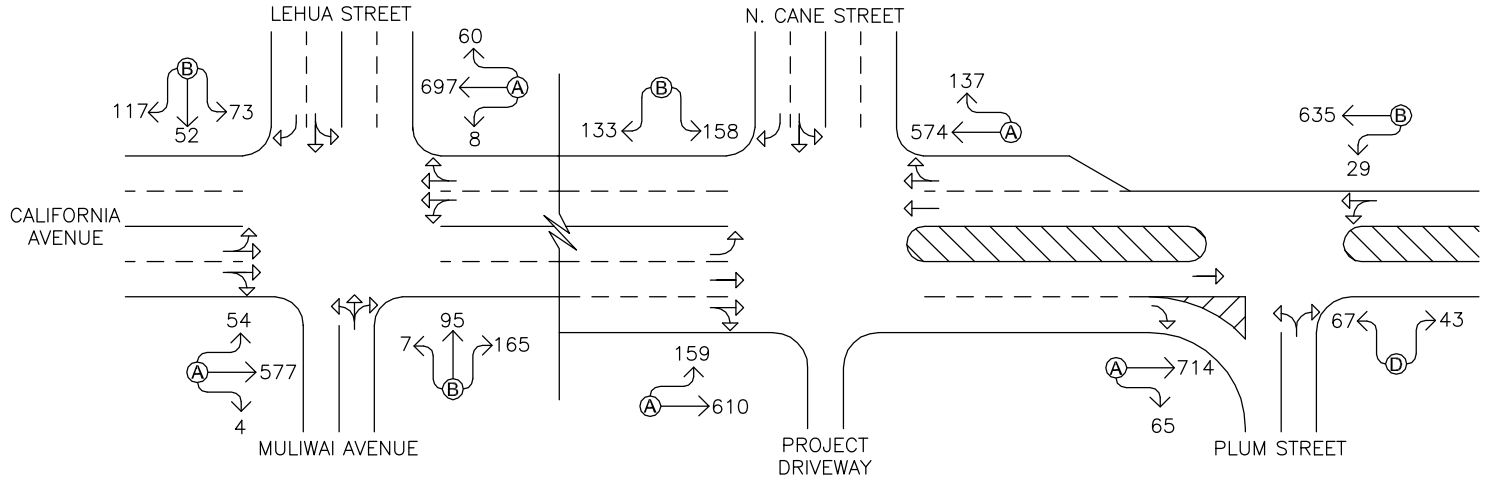
AM PEAK PERIOD

LEGEND

90 TRAFFIC MOVEMENT VOLUME (VPH)

APPROACH LEVEL OF SERVICE

LANE USAGE



PM PEAK PERIOD

LEEWARD COMMUNITY COLLEGE VALUE-ADDED PRODUCT DEVELOPMENT CENTER

YEAR 2021 AM AND PM PEAK HOURS OF TRAFFIC WITH PROJECT

FIGURE 6

Table 3: Year 2021 (Without and With Project) LOS Traffic Operating Conditions

Intersection	Approach/ Critical Movement	AM			PM		
		Exist	Year 2021		Exist	Year 2021	
			w/o Proj	w/ Proj		w/o Proj	w/ Proj
California Ave/ Lehua St / Muliwai Ave/	Eastbound	A	A	A	A	A	A
	Westbound	A	A	A	A	A	A
	Northbound	B	B	B	B	B	B
	Southbound	B	B	B	B	B	B
California Ave/ N. Cane St	Eastbound	A	A	A	A	A	A
	Westbound	A	A	A	A	A	A
	Southbound	B	B	B	B	B	B
California Ave/ Plum St	Westbound (LT*)	A	A	A	B	B	B
	Northbound	C	C	C	C	C	D

*LT = Left Turn

Under Year 2021 with project conditions, traffic operations in the vicinity of the proposed project are generally expected to remain similar to without project conditions. Along California Avenue, the approaches at the Lehua Street/Muliwai Avenue and N. Cane Street intersections are expected to continue operating at LOS "B" during better during both periods. At the intersection with Plum Street, traffic operations are expected to continue operating at LOS "C" or better during the AM peak period but the northbound approach is expected deteriorate from LOS "C" to an LOS "D" during the PM peak period. However, it should be noted that due to the proximity of the adjacent signalized intersection at N. Cane Street, there are sufficient gaps in the traffic stream for vehicles to enter California Avenue.

VI. RECOMMENDATIONS

Based on the analysis of the traffic data, the following are the recommendations of this study to be incorporated in the project design.

1. Maintain sufficient sight distance for motorists to safely enter and exit all project driveways.

2. Maintain adequate on-site loading and off-loading service areas and prohibit off-site loading operations.

3. Maintain adequate turn-around area for service, delivery, and refuse collection vehicles to maneuver on the project site to avoid vehicle-reversing maneuvers onto public roadways.

4. Maintain sufficient turning radii at all project driveways to avoid vehicle encroachments to oncoming traffic lanes.

5. Maintain one-way traffic flow through the project site with all vehicles entering via the driveway off California Avenue and exiting via the driveway off Plum Street.

6. Prohibit left-turn movements into the project driveway from the westbound approach of California Avenue given the alignment of the project driveway with the intersection and the proximity of the opposing left-turning vehicles from the eastbound approach.

7. Modify the intersection of California Avenue and N. Cane Street with the project driveway including modifications to the traffic signal system and signage to accommodate the one-way traffic flow into the project driveway.

8. Coordinate with vendors accessing the site to inform them of the allowed vehicle size and delivery routes to/from the project site.

9. Prepare a Traffic Management Plan (TMP) to identify strategies to minimize the impact of the special events and other off-peak activities associated with the LCC Value-Added Product Development Center on the surrounding roadways.

VII. CONCLUSION

The proposed project entails the redevelopment of an existing metal warehouse previously occupied by Tamura's Wholesale Outlet as the Leeward Community College Value-Added Product Development Center. The new multi-purpose facility will include classroom spaces to provide training programs, classes, and workshops in the development and marketing of value-added food products. In addition, the new facility is also expected to include spaces to hold special community events such as farmer's markets, tasting events, and other similar activities during the weekends or other off-peak periods. The new facility is expected to be completed by Year 2021. With the implementation of the aforementioned recommendations, traffic operations are generally expected to remain similar to without project conditions. However, the preparation of a Traffic Management Plan is recommended to identify strategies that will minimize the impact of the special events and other off-peak

activities associated with the Leeward Community College Value-Added Product Development Center.

APPENDIX A

EXISTING TRAFFIC COUNT DATA

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu HI, 96826

Counted by:GH, RM
Counters:D4-3889, D4-3888
Weather:CLEAR

File Name : CAL MUL WEEKDAY AM
Site Code : 00000001
Start Date : 4/25/2019
Page No : 1

Groups Printed- Unshifted

	Lehua Street Southbound					California Avenue Westbound					Muliwai Street Northbound					California Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:00 AM	1	2	12	0	15	23	176	7	0	206	1	4	7	1	13	3	44	1	0	48	282
06:15 AM	3	2	12	2	19	19	149	5	0	173	0	6	9	1	16	12	34	0	2	48	256
06:30 AM	2	5	20	2	29	13	189	10	2	214	1	9	16	4	30	14	61	0	5	80	353
06:45 AM	10	11	13	0	34	5	152	7	3	167	3	23	28	5	59	15	88	2	2	107	367
Total	16	20	57	4	97	60	666	29	5	760	5	42	60	11	118	44	227	3	9	283	1258
07:00 AM	2	4	14	6	26	6	177	11	2	196	1	20	26	5	52	9	114	0	1	124	398
07:15 AM	7	5	17	9	38	2	176	9	1	188	0	40	47	5	92	13	141	1	9	164	482
07:30 AM	9	6	11	2	28	3	212	15	4	234	2	41	43	9	95	15	106	3	1	125	482
07:45 AM	6	16	24	4	50	4	208	15	17	244	4	41	50	28	123	25	134	3	1	163	580
Total	24	31	66	21	142	15	773	50	24	862	7	142	166	47	362	62	495	7	12	576	1942
08:00 AM	10	7	16	2	35	14	180	16	1	211	3	25	48	8	84	17	113	0	2	132	462
08:15 AM	6	5	17	1	29	5	151	8	2	166	1	14	26	13	54	14	89	1	1	105	354
08:30 AM	11	8	14	5	38	2	142	11	0	155	0	17	18	7	42	12	69	1	2	84	319
08:45 AM	12	5	16	6	39	6	129	8	6	149	1	12	7	6	26	10	79	0	5	94	308
Total	39	25	63	14	141	27	602	43	9	681	5	68	99	34	206	53	350	2	10	415	1443
Grand Total	79	76	186	39	380	102	2041	122	38	2303	17	252	325	92	686	159	1072	12	31	1274	4643
Apprch %	20.8	20	48.9	10.3		4.4	88.6	5.3	1.7		2.5	36.7	47.4	13.4		12.5	84.1	0.9	2.4		
Total %	1.7	1.6	4	0.8	8.2	2.2	44	2.6	0.8	49.6	0.4	5.4	7	2	14.8	3.4	23.1	0.3	0.7	27.4	

	Lehua Street Southbound				California Avenue Westbound				Muliwai Street Northbound				California Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	7	5	17	29	2	176	9	187	0	40	47	87	13	141	1	155	458
07:30 AM	9	6	11	26	3	212	15	230	2	41	43	86	15	106	3	124	466
07:45 AM	6	16	24	46	4	208	15	227	4	41	50	95	25	134	3	162	530
08:00 AM	10	7	16	33	14	180	16	210	3	25	48	76	17	113	0	130	449
Total Volume	32	34	68	134	23	776	55	854	9	147	188	344	70	494	7	571	1903
% App. Total	23.9	25.4	50.7		2.7	90.9	6.4		2.6	42.7	54.7		12.3	86.5	1.2		
PHF	.800	.531	.708	.728	.411	.915	.859	.928	.563	.896	.940	.905	.700	.876	.583	.881	.898

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu HI, 96826

Counted by:AN, GH
Counters:D4-3889, D4-3888
Weather:CLEAR

File Name : CAL MUL WEEKDAY PM
Site Code : 00000001
Start Date : 4/25/2019
Page No : 1

Groups Printed- Unshifted

	Lehua Street Southbound					California Avenue Westbound					Muliwai Street Northbound					California Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	15	15	30	10	70	3	187	16	0	206	1	40	37	21	99	16	144	1	2	163	538
03:15 PM	17	14	22	6	59	1	154	22	6	183	2	36	40	10	88	19	146	3	2	170	500
03:30 PM	17	15	40	3	75	1	155	19	5	180	3	28	52	7	90	22	157	2	1	182	527
03:45 PM	25	14	29	5	73	2	173	17	1	193	1	23	31	6	61	13	134	1	1	149	476
Total	74	58	121	24	277	7	669	74	12	762	7	127	160	44	338	70	581	7	6	664	2041
04:00 PM	15	14	36	2	67	2	167	15	2	186	2	25	30	12	69	7	139	1	4	151	473
04:15 PM	16	9	12	0	37	3	159	9	0	171	1	19	52	13	85	12	141	0	6	159	452
04:30 PM	21	11	24	9	65	5	143	17	8	173	1	21	28	6	56	11	126	0	4	141	435
04:45 PM	12	12	18	4	46	3	126	18	5	152	3	21	47	8	79	6	128	2	3	139	416
Total	64	46	90	15	215	13	595	59	15	682	7	86	157	39	289	36	534	3	17	590	1776
05:00 PM	20	13	24	3	60	2	132	10	2	146	1	10	38	7	56	10	127	3	2	142	404
05:15 PM	6	6	16	1	29	3	115	12	2	132	1	15	40	10	66	13	157	2	2	174	401
05:30 PM	14	5	21	0	40	4	145	11	0	160	0	11	40	4	55	8	166	1	0	175	430
05:45 PM	17	6	8	3	34	5	140	15	1	161	1	13	33	3	50	9	159	4	4	176	421
Total	57	30	69	7	163	14	532	48	5	599	3	49	151	24	227	40	609	10	8	667	1656
Grand Total	195	134	280	46	655	34	1796	181	32	2043	17	262	468	107	854	146	1724	20	31	1921	5473
Apprch %	29.8	20.5	42.7	7		1.7	87.9	8.9	1.6		2	30.7	54.8	12.5		7.6	89.7	1	1.6		
Total %	3.6	2.4	5.1	0.8	12	0.6	32.8	3.3	0.6	37.3	0.3	4.8	8.6	2	15.6	2.7	31.5	0.4	0.6	35.1	

	Lehua Street Southbound				California Avenue Westbound				Muliwai Street Northbound				California Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	15	15	30	60	3	187	16	206	1	40	37	78	16	144	1	161	505
03:15 PM	17	14	22	53	1	154	22	177	2	36	40	78	19	146	3	168	476
03:30 PM	17	15	40	72	1	155	19	175	3	28	52	83	22	157	2	181	511
03:45 PM	25	14	29	68	2	173	17	192	1	23	31	55	13	134	1	148	463
Total Volume	74	58	121	253	7	669	74	750	7	127	160	294	70	581	7	658	1955
% App. Total	29.2	22.9	47.8		0.9	89.2	9.9		2.4	43.2	54.4		10.6	88.3	1.1		
PHF	.740	.967	.756	.878	.583	.894	.841	.910	.583	.794	.769	.886	.795	.925	.583	.909	.956

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu HI, 96826

Counted by:DB, CKM
Counters:D4-5677, D4-5675
Weather:CLEAR

File Name : CAL CAN WEEKDAY AM
Site Code : 00000002
Start Date : 4/25/2019
Page No : 1

Groups Printed- Unshifted

	N Cane Street Southbound				California Avenue Westbound				California Avenue Eastbound				
Start Time	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
06:00 AM	9	22	0	31	160	15	0	175	11	45	2	58	264
06:15 AM	9	19	2	30	134	28	1	163	6	34	3	43	236
06:30 AM	24	19	3	46	172	29	1	202	8	58	6	72	320
06:45 AM	31	12	1	44	140	22	0	162	7	104	3	114	320
Total	73	72	6	151	606	94	2	702	32	241	14	287	1140
07:00 AM	27	14	0	41	165	23	0	188	8	131	5	144	373
07:15 AM	55	15	1	71	186	46	0	232	14	147	4	165	468
07:30 AM	53	17	2	72	178	46	0	224	14	150	9	173	469
07:45 AM	61	34	1	96	197	56	0	253	27	127	5	159	508
Total	196	80	4	280	726	171	0	897	63	555	23	641	1818
08:00 AM	41	24	2	67	165	36	0	201	23	135	3	161	429
08:15 AM	21	20	5	46	136	21	1	158	23	95	4	122	326
08:30 AM	14	31	0	45	96	22	0	118	20	60	5	85	248
08:45 AM	19	18	2	39	106	15	2	123	21	63	2	86	248
Total	95	93	9	197	503	94	3	600	87	353	14	454	1251
Grand Total	364	245	19	628	1835	359	5	2199	182	1149	51	1382	4209
Apprch %	58	39	3		83.4	16.3	0.2		13.2	83.1	3.7		
Total %	8.6	5.8	0.5	14.9	43.6	8.5	0.1	52.2	4.3	27.3	1.2	32.8	

	N Cane Street Southbound			California Avenue Westbound			California Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	55	15	70	186	46	232	14	147	161	463
07:30 AM	53	17	70	178	46	224	14	150	164	458
07:45 AM	61	34	95	197	56	253	27	127	154	502
08:00 AM	41	24	65	165	36	201	23	135	158	424
Total Volume	210	90	300	726	184	910	78	559	637	1847
% App. Total	70	30		79.8	20.2		12.2	87.8		
PHF	.861	.662	.789	.921	.821	.899	.722	.932	.971	.920

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu HI, 96826

Counted by:DY, BE
Counters:D4-5677, D4-5675
Weather: CLEAR

File Name : CAL CAN WEEKDAY PM
Site Code : 00000002
Start Date : 4/25/2019
Page No : 1

Groups Printed- Unshifted

	N Cane Street Southbound					California Avenue Westbound					California Avenue Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	42	0	37	4	83	0	152	31	4	187	39	146	0	8	193	463
03:15 PM	33	0	36	9	78	0	101	29	6	136	28	138	1	0	167	381
03:30 PM	38	0	31	0	69	0	142	44	0	186	46	177	0	2	225	480
03:45 PM	38	0	35	6	79	0	133	27	3	163	40	133	0	5	178	420
Total	151	0	139	19	309	0	528	131	13	672	153	594	1	15	763	1744
04:00 PM	56	0	35	2	93	0	134	34	2	170	30	139	0	4	173	436
04:15 PM	26	0	32	1	59	0	124	32	0	156	43	155	0	7	205	420
04:30 PM	34	0	36	2	72	0	114	26	0	140	29	150	0	4	183	395
04:45 PM	34	0	25	8	67	0	91	14	11	116	34	152	0	3	189	372
Total	150	0	128	13	291	0	463	106	13	582	136	596	0	18	750	1623
05:00 PM	41	0	36	3	80	0	111	19	0	130	30	154	0	7	191	401
05:15 PM	49	0	24	0	73	0	82	23	0	105	26	157	0	2	185	363
05:30 PM	38	0	25	2	65	0	127	27	4	158	54	158	0	4	216	439
05:45 PM	48	0	13	6	67	0	106	31	0	137	19	152	0	7	178	382
Total	176	0	98	11	285	0	426	100	4	530	129	621	0	20	770	1585
Grand Total	477	0	365	43	885	0	1417	337	30	1784	418	1811	1	53	2283	4952
Apprch %	53.9	0	41.2	4.9		0	79.4	18.9	1.7		18.3	79.3	0	2.3		
Total %	9.6	0	7.4	0.9	17.9	0	28.6	6.8	0.6	36	8.4	36.6	0	1.1	46.1	

	N Cane Street Southbound				California Avenue Westbound				California Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:30 PM													
03:30 PM	38	0	31	69	0	142	44	186	46	177	0	223	478
03:45 PM	38	0	35	73	0	133	27	160	40	133	0	173	406
04:00 PM	56	0	35	91	0	134	34	168	30	139	0	169	428
04:15 PM	26	0	32	58	0	124	32	156	43	155	0	198	412
Total Volume	158	0	133	291	0	533	137	670	159	604	0	763	1724
% App. Total	54.3	0	45.7		0	79.6	20.4		20.8	79.2	0		
PHF	.705	.000	.950	.799	.000	.938	.778	.901	.864	.853	.000	.855	.902

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu HI, 96826

Counted by:JT
Counters:TU-0653
Weather:CLEAR

File Name : CAL PLU WEEKDAY AM
Site Code : 00000003
Start Date : 4/25/2019
Page No : 1

Groups Printed- Unshifted

	California Avenue Westbound			Plum Street Northbound				California Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	Peds	App. Total	Thru	Right	App. Total	Int. Total
06:00 AM	1	184	185	1	0	3	4	53	0	53	242
06:15 AM	7	171	178	3	3	3	9	43	1	44	231
06:30 AM	2	199	201	5	6	3	14	79	2	81	296
06:45 AM	4	171	175	0	12	9	21	127	4	131	327
Total	14	725	739	9	21	18	48	302	7	309	1096
07:00 AM	11	200	211	1	11	3	15	152	3	155	381
07:15 AM	6	237	243	2	39	5	46	192	5	197	486
07:30 AM	10	234	244	3	46	8	57	189	11	200	501
07:45 AM	19	259	278	3	37	9	49	176	10	186	513
Total	46	930	976	9	133	25	167	709	29	738	1881
08:00 AM	10	219	229	1	24	3	28	172	5	177	434
08:15 AM	13	169	182	3	8	5	16	108	8	116	314
08:30 AM	4	130	134	3	4	5	12	70	3	73	219
08:45 AM	1	133	134	6	4	4	14	71	9	80	228
Total	28	651	679	13	40	17	70	421	25	446	1195
Grand Total	88	2306	2394	31	194	60	285	1432	61	1493	4172
Apprch %	3.7	96.3		10.9	68.1	21.1		95.9	4.1		
Total %	2.1	55.3	57.4	0.7	4.7	1.4	6.8	34.3	1.5	35.8	

	California Avenue Westbound			Plum Street Northbound			California Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	6	237	243	2	39	41	192	5	197	481
07:30 AM	10	234	244	3	46	49	189	11	200	493
07:45 AM	19	259	278	3	37	40	176	10	186	504
08:00 AM	10	219	229	1	24	25	172	5	177	431
Total Volume	45	949	994	9	146	155	729	31	760	1909
% App. Total	4.5	95.5		5.8	94.2		95.9	4.1		
PHF	.592	.916	.894	.750	.793	.791	.949	.705	.950	.947

Wilson Okamoto Corporation

1907 S. Beretania Street, Suite 400
Honolulu HI, 96826

Counted by:JT, CKM
Counters:TU-0653, TU-2050
Weather:CLEAR

File Name : CAL PLU WEEKDAY PM
Site Code : 00000003
Start Date : 4/25/2019
Page No : 1

Groups Printed- Unshifted

	California Avenue Westbound			Plum Street Northbound				California Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	Peds	App. Total	Thru	Right	App. Total	Int. Total
03:00 PM	13	169	182	6	22	18	46	177	15	192	420
03:15 PM	5	113	118	2	14	6	22	154	11	165	305
03:30 PM	13	145	158	7	6	5	18	212	11	223	399
03:45 PM	5	129	134	8	14	10	32	152	18	170	336
Total	36	556	592	23	56	39	118	695	55	750	1460
04:00 PM	6	142	148	9	11	3	23	168	18	186	357
04:15 PM	5	141	146	3	12	9	24	175	18	193	363
04:30 PM	3	115	118	5	10	5	20	160	17	177	315
04:45 PM	5	87	92	9	18	5	32	163	15	178	302
Total	19	485	504	26	51	22	99	666	68	734	1337
05:00 PM	5	119	124	7	9	4	20	175	14	189	333
05:15 PM	3	103	106	3	10	8	21	187	8	195	322
05:30 PM	9	161	170	8	9	6	23	201	13	214	407
05:45 PM	6	142	148	5	10	5	20	178	17	195	363
Total	23	525	548	23	38	23	84	741	52	793	1425
Grand Total	78	1566	1644	72	145	84	301	2102	175	2277	4222
Apprch %	4.7	95.3		23.9	48.2	27.9		92.3	7.7		
Total %	1.8	37.1	38.9	1.7	3.4	2	7.1	49.8	4.1	53.9	

	California Avenue Westbound			Plum Street Northbound			California Avenue Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:30 PM										
03:30 PM	13	145	158	7	6	13	212	11	223	394
03:45 PM	5	129	134	8	14	22	152	18	170	326
04:00 PM	6	142	148	9	11	20	168	18	186	354
04:15 PM	5	141	146	3	12	15	175	18	193	354
Total Volume	29	557	586	27	43	70	707	65	772	1428
% App. Total	4.9	95.1		38.6	61.4		91.6	8.4		
PHF	.558	.960	.927	.750	.768	.795	.834	.903	.865	.906

APPENDIX B

LEVEL OF SERVICE DEFINITIONS

LEVEL OF SERVICE DEFINITIONS

LEVEL-OF-SERVICE CRITERIA FOR AUTOMOBILES AT SIGNALIZED INTERSECTIONS

LOS A describes operations with a control delay of 10s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B describes operations with control delay between 10 and 20s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

LOS C describes operations with control delay between 20 and 35s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D describes operations with control delay between 35 and 55s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E describes operations with control delay between 55 and 80s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F describes operations with control delay exceeding 80s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most Cycles fail to clear the queue.

A lane group can incur a delay less than 80s/veh when the volume-to-capacity ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favorable, or both. As a result, both the delay and volume-to-capacity ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicated that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80s/veh represents failure from a delay perspective).

“Highway Capacity Manual,” Transportation Research Board, 2010.

LEVEL OF SERVICE DEFINITIONS

LEVEL-OF-SERVICE (LOS) CRITERIA FOR AUTOMOBILES AT A TWO-WAY STOP CONTROLLED (TWSC) INTERSECTIONS

LOS for a TWSC intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns by using criteria shown below. Major-street through vehicles are assumed to experience zero delay. LOS F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay.

The following lists the LOS criteria for a TWSC intersection:

LOS A describes operations with a control delay of 10s/veh or less and a volume-to-capacity ratio no greater than 1.0.

LOS B describes operations with a control delay between 10s/veh and 15s/veh and a volume-to-capacity ratio no greater than 1.0.

LOS C describes operations with a control delay between 15s/veh and 25s/veh and a volume-to-capacity ratio no greater than 1.0.

LOS D describes operations with a control delay between 25s/veh and 35s/veh and a volume-to-capacity ratio no greater than 1.0.

LOS E describes operations with a control delay between 35s/veh and 50s/veh and a volume-to-capacity ratio no greater than 1.0.

LOS F describes operations with a control exceeding 50s/veh and a volume-to-capacity ratio no greater than 1.0 or when the volume-to-capacity ratio exceeds 1.0, regardless of the measurement of the control delay.

"Highway Capacity Manual," Transportation Research Board, 2010.

APPENDIX C

CAPACITY ANALYSIS CALCULATIONS
EXISTING PEAK HOUR TRAFFIC ANALYSIS

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	78	559	739	184	210	90
Future Volume (veh/h)	78	559	739	184	210	90
Number	5	2	6	16	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	85	608	803	200	228	98
Adj No. of Lanes	1	2	2	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	391	1909	1513	377	343	306
Arrive On Green	0.54	0.54	0.54	0.54	0.19	0.19
Sat Flow, veh/h	559	3632	2899	699	1774	1583
Grp Volume(v), veh/h	85	608	506	497	228	98
Grp Sat Flow(s),veh/h/ln	559	1770	1770	1735	1774	1583
Q Serve(g_s), s	4.3	3.6	6.9	6.9	4.5	2.0
Cycle Q Clear(g_c), s	11.2	3.6	6.9	6.9	4.5	2.0
Prop In Lane	1.00			0.40	1.00	1.00
Lane Grp Cap(c), veh/h	391	1909	954	936	343	306
V/C Ratio(X)	0.22	0.32	0.53	0.53	0.66	0.32
Avail Cap(c_a), veh/h	1180	6907	3453	3385	1755	1566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.2	4.8	5.6	5.6	14.0	13.0
Incr Delay (d2), s/veh	0.3	0.1	0.5	0.5	2.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.7	3.4	3.3	2.4	0.9
LnGrp Delay(d),s/veh	9.5	4.9	6.0	6.0	16.2	13.6
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h		693	1003		326	
Approach Delay, s/veh		5.4	6.0		15.4	
Approach LOS		A	A		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		25.2				25.2		12.2
Change Period (Y+Rc), s		5.0				5.0		5.0
Max Green Setting (Gmax), s		73.0				73.0		37.0
Max Q Clear Time (g_c+I1), s		13.2				8.9		6.5
Green Ext Time (p_c), s		6.6				9.3		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	7.3
HCM 2010 LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	159	604	533	137	158	133
Future Volume (veh/h)	159	604	533	137	158	133
Number	5	2	6	16	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	177	671	592	152	176	148
Adj No. of Lanes	1	2	2	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	513	2024	1593	408	294	262
Arrive On Green	0.57	0.57	0.57	0.57	0.17	0.17
Sat Flow, veh/h	711	3632	2879	714	1774	1583
Grp Volume(v), veh/h	177	671	375	369	176	148
Grp Sat Flow(s),veh/h/ln	711	1770	1770	1730	1774	1583
Q Serve(g_s), s	6.9	3.8	4.4	4.4	3.5	3.3
Cycle Q Clear(g_c), s	11.3	3.8	4.4	4.4	3.5	3.3
Prop In Lane	1.00			0.41	1.00	1.00
Lane Grp Cap(c), veh/h	513	2024	1012	989	294	262
V/C Ratio(X)	0.34	0.33	0.37	0.37	0.60	0.56
Avail Cap(c_a), veh/h	1563	7243	3622	3541	1490	1329
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.5	4.3	4.4	4.4	14.7	14.6
Incr Delay (d2), s/veh	0.4	0.1	0.2	0.2	2.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.9	2.1	2.1	1.9	1.5
LnGrp Delay(d),s/veh	7.9	4.4	4.7	4.7	16.7	16.5
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h		848	744		324	
Approach Delay, s/veh		5.1	4.7		16.6	
Approach LOS		A	A		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		26.8				26.8		11.3
Change Period (Y+Rc), s		5.0				5.0		5.0
Max Green Setting (Gmax), s		78.0				78.0		32.0
Max Q Clear Time (g_c+I1), s		13.3				6.4		5.5
Green Ext Time (p_c), s		8.1				6.0		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	6.9
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	494	7	23	776	55	9	147	188	32	34	68
Future Volume (veh/h)	70	494	7	23	776	55	9	147	188	32	34	68
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.98		0.95	0.98		0.98	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	78	549	8	26	862	61	10	163	209	36	38	76
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	1237	19	97	1532	107	81	232	287	275	254	486
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	189	2579	39	39	3194	223	15	741	914	523	810	1549
Grp Volume(v), veh/h	289	0	346	499	0	450	382	0	0	74	0	76
Grp Sat Flow(s),veh/h/ln	1122	0	1686	1815	0	1641	1670	0	0	1333	0	1549
Q Serve(g_s), s	1.4	0.0	6.5	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	1.7
Cycle Q Clear(g_c), s	10.9	0.0	6.5	9.2	0.0	9.5	9.8	0.0	0.0	1.4	0.0	1.7
Prop In Lane	0.27		0.02	0.05		0.14	0.03		0.55	0.49		1.00
Lane Grp Cap(c), veh/h	632	0	808	948	0	787	600	0	0	529	0	486
V/C Ratio(X)	0.46	0.00	0.43	0.53	0.00	0.57	0.64	0.00	0.00	0.14	0.00	0.16
Avail Cap(c_a), veh/h	1166	0	1569	1738	0	1528	1280	0	0	1066	0	1121
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.0	0.0	8.2	8.9	0.0	9.0	14.7	0.0	0.0	11.9	0.0	12.0
Incr Delay (d2), s/veh	0.5	0.0	0.4	0.5	0.0	0.7	1.1	0.0	0.0	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	3.1	4.8	0.0	4.4	4.6	0.0	0.0	0.7	0.0	0.7
LnGrp Delay(d),s/veh	8.5	0.0	8.6	9.4	0.0	9.7	15.9	0.0	0.0	12.0	0.0	12.1
LnGrp LOS	A		A	A		A	B			B		B
Approach Vol, veh/h		635			949			382			150	
Approach Delay, s/veh		8.6			9.5			15.9			12.1	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		28.2		20.2		28.2		20.2
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		45.0		35.0		45.0		35.0
Max Q Clear Time (g_c+I1), s		12.9		11.8		11.5		3.7
Green Ext Time (p_c), s		5.4		2.7		7.9		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	571	4	8	654	60	7	95	165	73	52	117
Future Volume (veh/h)	54	571	4	8	654	60	7	95	165	73	52	117
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.96	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	59	621	4	9	711	65	8	103	179	79	57	127
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	1480	9	98	1500	136	98	171	283	346	213	432
Arrive On Green	0.47	0.47	0.47	0.47	0.47	0.47	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	145	3138	20	10	3180	288	16	618	1023	733	772	1563
Grp Volume(v), veh/h	340	0	344	417	0	368	290	0	0	136	0	127
Grp Sat Flow(s),veh/h/ln	1612	0	1691	1849	0	1630	1657	0	0	1506	0	1563
Q Serve(g_s), s	0.0	0.0	5.4	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	2.5
Cycle Q Clear(g_c), s	4.7	0.0	5.4	6.1	0.0	6.1	6.1	0.0	0.0	2.4	0.0	2.5
Prop In Lane	0.17		0.01	0.02		0.18	0.03		0.62	0.58		1.00
Lane Grp Cap(c), veh/h	867	0	797	964	0	769	551	0	0	560	0	432
V/C Ratio(X)	0.39	0.00	0.43	0.43	0.00	0.48	0.53	0.00	0.00	0.24	0.00	0.29
Avail Cap(c_a), veh/h	1782	0	1876	2119	0	1809	1588	0	0	1391	0	1419
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.8	0.0	7.0	7.1	0.0	7.1	12.6	0.0	0.0	11.2	0.0	11.3
Incr Delay (d2), s/veh	0.3	0.0	0.4	0.3	0.0	0.5	0.8	0.0	0.0	0.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	2.6	3.1	0.0	2.8	2.9	0.0	0.0	1.2	0.0	1.1
LnGrp Delay(d),s/veh	7.1	0.0	7.3	7.4	0.0	7.6	13.4	0.0	0.0	11.4	0.0	11.7
LnGrp LOS	A		A	A		A	B			B		B
Approach Vol, veh/h		684			785			290			263	
Approach Delay, s/veh		7.2			7.5			13.4			11.6	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		23.7		16.0		23.7		16.0
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		44.0		36.0		44.0		36.0
Max Q Clear Time (g_c+I1), s		7.4		8.1		8.1		4.5
Green Ext Time (p_c), s		5.6		2.1		6.2		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	8.8
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	729	31	45	929	9	146
Future Vol, veh/h	729	31	45	929	9	146
Conflicting Peds, #/hr	0	25	25	0	25	25
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	767	33	47	978	9	154

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	825	0	1889	817
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	1097	-
Critical Hdwy	-	-	4.12	-	5.6	5.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	2.5	2.3
Pot Cap-1 Maneuver	-	-	805	-	137	617
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	395	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	786	-	113	588
Mov Cap-2 Maneuver	-	-	-	-	113	-
Stage 1	-	-	-	-	482	-
Stage 2	-	-	-	-	386	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	16.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	473	-	-	786	-
HCM Lane V/C Ratio	0.345	-	-	0.06	-
HCM Control Delay (s)	16.6	-	-	9.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.5	-	-	0.2	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	707	65	29	629	31	43
Future Vol, veh/h	707	65	29	629	31	43
Conflicting Peds, #/hr	0	27	27	0	27	27
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	777	71	32	691	34	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	875	0	1586	831
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	782	-
Critical Hdwy	-	-	4.12	-	5.6	5.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	2.5	2.3
Pot Cap-1 Maneuver	-	-	771	-	202	607
Stage 1	-	-	-	-	560	-
Stage 2	-	-	-	-	575	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	751	-	178	576
Mov Cap-2 Maneuver	-	-	-	-	178	-
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	560	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	21.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	297	-	-	751	-
HCM Lane V/C Ratio	0.274	-	-	0.042	-
HCM Control Delay (s)	21.6	-	-	10	0
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-

APPENDIX D

CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2021 PEAK HOUR TRAFFIC
ANALYSIS WITHOUT PROJECT

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	78	565	746	184	210	90
Future Volume (veh/h)	78	565	746	184	210	90
Number	5	2	6	16	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	85	614	811	200	228	98
Adj No. of Lanes	1	2	2	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	388	1917	1523	376	342	306
Arrive On Green	0.54	0.54	0.54	0.54	0.19	0.19
Sat Flow, veh/h	555	3632	2905	693	1774	1583
Grp Volume(v), veh/h	85	614	510	501	228	98
Grp Sat Flow(s),veh/h/ln	555	1770	1770	1736	1774	1583
Q Serve(g_s), s	4.4	3.6	7.0	7.0	4.5	2.0
Cycle Q Clear(g_c), s	11.4	3.6	7.0	7.0	4.5	2.0
Prop In Lane	1.00			0.40	1.00	1.00
Lane Grp Cap(c), veh/h	388	1917	958	940	342	306
V/C Ratio(X)	0.22	0.32	0.53	0.53	0.67	0.32
Avail Cap(c_a), veh/h	1163	6859	3429	3364	1743	1555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.2	4.8	5.6	5.6	14.1	13.1
Incr Delay (d2), s/veh	0.3	0.1	0.5	0.5	2.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.7	3.4	3.3	2.4	0.9
LnGrp Delay(d),s/veh	9.5	4.9	6.0	6.0	16.3	13.7
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h		699	1011		326	
Approach Delay, s/veh		5.4	6.0		15.5	
Approach LOS		A	A		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		25.4				25.4		12.3
Change Period (Y+Rc), s		5.0				5.0		5.0
Max Green Setting (Gmax), s		73.0				73.0		37.0
Max Q Clear Time (g_c+I1), s		13.4				9.0		6.5
Green Ext Time (p_c), s		6.6				9.4		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	7.3
HCM 2010 LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	159	610	538	137	158	133
Future Volume (veh/h)	159	610	538	137	158	133
Number	5	2	6	16	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.99	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	177	678	598	152	176	148
Adj No. of Lanes	1	2	2	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	511	2031	1603	406	293	262
Arrive On Green	0.57	0.57	0.57	0.57	0.17	0.17
Sat Flow, veh/h	708	3632	2886	708	1774	1583
Grp Volume(v), veh/h	177	678	378	372	176	148
Grp Sat Flow(s),veh/h/ln	708	1770	1770	1731	1774	1583
Q Serve(g_s), s	6.9	3.9	4.4	4.5	3.5	3.3
Cycle Q Clear(g_c), s	11.4	3.9	4.4	4.5	3.5	3.3
Prop In Lane	1.00			0.41	1.00	1.00
Lane Grp Cap(c), veh/h	511	2031	1016	994	293	262
V/C Ratio(X)	0.35	0.33	0.37	0.37	0.60	0.57
Avail Cap(c_a), veh/h	1544	7197	3599	3521	1480	1321
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.5	4.3	4.4	4.4	14.8	14.7
Incr Delay (d2), s/veh	0.4	0.1	0.2	0.2	2.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.9	2.2	2.1	1.9	1.6
LnGrp Delay(d),s/veh	7.9	4.4	4.7	4.7	16.8	16.6
LnGrp LOS	A	A	A	A	B	B
Approach Vol, veh/h		855	750		324	
Approach Delay, s/veh		5.1	4.7		16.7	
Approach LOS		A	A		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		27.0				27.0		11.3
Change Period (Y+Rc), s		5.0				5.0		5.0
Max Green Setting (Gmax), s		78.0				78.0		32.0
Max Q Clear Time (g_c+I1), s		13.4				6.5		5.5
Green Ext Time (p_c), s		8.2				6.1		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	6.9
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	499	7	23	784	55	9	147	188	32	34	68
Future Volume (veh/h)	70	499	7	23	784	55	9	147	188	32	34	68
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.98		0.95	0.98		0.98	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	78	554	8	26	871	61	10	163	209	36	38	76
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	1239	19	97	1537	106	81	232	286	274	253	485
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	186	2579	39	38	3197	221	15	741	914	522	808	1548
Grp Volume(v), veh/h	291	0	349	504	0	454	382	0	0	74	0	76
Grp Sat Flow(s),veh/h/ln	1118	0	1686	1815	0	1642	1670	0	0	1330	0	1548
Q Serve(g_s), s	1.4	0.0	6.6	0.0	0.0	9.6	0.0	0.0	0.0	0.0	0.0	1.7
Cycle Q Clear(g_c), s	11.0	0.0	6.6	9.3	0.0	9.6	9.8	0.0	0.0	1.4	0.0	1.7
Prop In Lane	0.27		0.02	0.05		0.13	0.03		0.55	0.49		1.00
Lane Grp Cap(c), veh/h	631	0	810	950	0	789	599	0	0	527	0	485
V/C Ratio(X)	0.46	0.00	0.43	0.53	0.00	0.58	0.64	0.00	0.00	0.14	0.00	0.16
Avail Cap(c_a), veh/h	1159	0	1564	1733	0	1523	1276	0	0	1062	0	1117
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.0	0.0	8.3	9.0	0.0	9.0	14.8	0.0	0.0	11.9	0.0	12.0
Incr Delay (d2), s/veh	0.5	0.0	0.4	0.5	0.0	0.7	1.1	0.0	0.0	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	3.1	4.9	0.0	4.4	4.6	0.0	0.0	0.7	0.0	0.8
LnGrp Delay(d),s/veh	8.5	0.0	8.6	9.4	0.0	9.7	15.9	0.0	0.0	12.0	0.0	12.2
LnGrp LOS	A		A	A		A	B			B		B
Approach Vol, veh/h		640			958			382			150	
Approach Delay, s/veh		8.6			9.6			15.9			12.1	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		28.3		20.2		28.3		20.2
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		45.0		35.0		45.0		35.0
Max Q Clear Time (g_c+I1), s		13.0		11.8		11.6		3.7
Green Ext Time (p_c), s		5.4		2.7		8.0		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	577	4	8	661	60	7	95	165	73	52	117
Future Volume (veh/h)	54	577	4	8	661	60	7	95	165	73	52	117
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.96	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	59	627	4	9	718	65	8	103	179	79	57	127
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	1484	9	97	1505	135	97	171	282	345	213	431
Arrive On Green	0.47	0.47	0.47	0.47	0.47	0.47	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	144	3139	19	10	3183	286	16	618	1023	733	771	1563
Grp Volume(v), veh/h	343	0	347	421	0	371	290	0	0	136	0	127
Grp Sat Flow(s),veh/h/ln	1612	0	1691	1849	0	1631	1657	0	0	1504	0	1563
Q Serve(g_s), s	0.0	0.0	5.4	0.0	0.0	6.2	0.0	0.0	0.0	0.0	0.0	2.5
Cycle Q Clear(g_c), s	4.7	0.0	5.4	6.1	0.0	6.2	6.1	0.0	0.0	2.4	0.0	2.5
Prop In Lane	0.17		0.01	0.02		0.18	0.03		0.62	0.58		1.00
Lane Grp Cap(c), veh/h	868	0	799	966	0	771	550	0	0	558	0	431
V/C Ratio(X)	0.39	0.00	0.43	0.44	0.00	0.48	0.53	0.00	0.00	0.24	0.00	0.29
Avail Cap(c_a), veh/h	1776	0	1870	2112	0	1804	1583	0	0	1386	0	1414
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.8	0.0	7.0	7.1	0.0	7.2	12.6	0.0	0.0	11.3	0.0	11.4
Incr Delay (d2), s/veh	0.3	0.0	0.4	0.3	0.0	0.5	0.8	0.0	0.0	0.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	2.6	3.1	0.0	2.8	2.9	0.0	0.0	1.2	0.0	1.1
LnGrp Delay(d),s/veh	7.1	0.0	7.3	7.5	0.0	7.6	13.4	0.0	0.0	11.5	0.0	11.7
LnGrp LOS	A		A	A		A	B			B		B
Approach Vol, veh/h		690			792			290			263	
Approach Delay, s/veh		7.2			7.5			13.4			11.6	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		23.8		16.0		23.8		16.0
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		44.0		36.0		44.0		36.0
Max Q Clear Time (g_c+I1), s		7.4		8.1		8.2		4.5
Green Ext Time (p_c), s		5.6		2.1		6.2		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	8.8
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	736	31	45	938	9	146
Future Vol, veh/h	736	31	45	938	9	146
Conflicting Peds, #/hr	0	25	25	0	25	25
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	775	33	47	987	9	154

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	833	0	1906	825
Stage 1	-	-	-	-	800	-
Stage 2	-	-	-	-	1106	-
Critical Hdwy	-	-	4.12	-	5.6	5.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	2.5	2.3
Pot Cap-1 Maneuver	-	-	800	-	134	612
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	390	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	781	-	111	583
Mov Cap-2 Maneuver	-	-	-	-	111	-
Stage 1	-	-	-	-	476	-
Stage 2	-	-	-	-	381	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	16.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	468	-	-	781	-
HCM Lane V/C Ratio	0.349	-	-	0.061	-
HCM Control Delay (s)	16.8	-	-	9.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.5	-	-	0.2	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	714	65	29	635	31	43
Future Vol, veh/h	714	65	29	635	31	43
Conflicting Peds, #/hr	0	27	27	0	27	27
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	785	71	32	698	34	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	883	0	1601	839
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	789	-
Critical Hdwy	-	-	4.12	-	5.6	5.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	2.5	2.3
Pot Cap-1 Maneuver	-	-	766	-	198	602
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	570	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	746	-	175	571
Mov Cap-2 Maneuver	-	-	-	-	175	-
Stage 1	-	-	-	-	503	-
Stage 2	-	-	-	-	555	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	21.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	293	-	-	746	-
HCM Lane V/C Ratio	0.278	-	-	0.043	-
HCM Control Delay (s)	21.9	-	-	10	0
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-

APPENDIX E

CAPACITY ANALYSIS CALCULATIONS
PROJECTED YEAR 2021 PEAK HOUR TRAFFIC
ANALYSIS WITH PROJECT

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	565	36	0	746	184	0	0	0	210	0	90
Future Volume (veh/h)	78	565	36	0	746	184	0	0	0	210	0	90
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900				1900	1863	1863
Adj Flow Rate, veh/h	85	614	39	0	811	200				228	0	98
Adj No. of Lanes	1	2	0	0	2	0				0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	349	1754	111	0	1460	360				437	0	380
Arrive On Green	0.52	0.52	0.52	0.00	0.52	0.52				0.25	0.00	0.25
Sat Flow, veh/h	555	3379	214	0	2905	693				1774	0	1543
Grp Volume(v), veh/h	85	321	332	0	510	501				228	0	98
Grp Sat Flow(s),veh/h/ln	555	1770	1823	0	1770	1736				1774	0	1543
Q Serve(g_s), s	5.2	4.5	4.6	0.0	8.3	8.3				4.7	0.0	2.2
Cycle Q Clear(g_c), s	13.5	4.5	4.6	0.0	8.3	8.3				4.7	0.0	2.2
Prop In Lane	1.00		0.12	0.00		0.40				1.00		1.00
Lane Grp Cap(c), veh/h	349	919	947	0	919	901				437	0	380
V/C Ratio(X)	0.24	0.35	0.35	0.00	0.56	0.56				0.52	0.00	0.26
Avail Cap(c_a), veh/h	1010	3028	3120	0	3028	2970				1539	0	1338
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	11.5	6.0	6.0	0.0	6.9	6.9				13.9	0.0	12.9
Incr Delay (d2), s/veh	0.4	0.2	0.2	0.0	0.5	0.5				1.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.2	2.3	0.0	4.1	4.0				2.4	0.0	1.0
LnGrp Delay(d),s/veh	11.9	6.3	6.2	0.0	7.5	7.5				14.9	0.0	13.3
LnGrp LOS	B	A	A		A	A				B		B
Approach Vol, veh/h		738			1011						326	
Approach Delay, s/veh		6.9			7.5						14.4	
Approach LOS		A			A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		27.2				27.2		15.5
Change Period (Y+Rc), s		5.0				5.0		5.0
Max Green Setting (Gmax), s		73.0				73.0		37.0
Max Q Clear Time (g_c+I1), s		15.5				10.3		6.7
Green Ext Time (p_c), s		6.3				9.4		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	8.3
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	610	0	0	574	137	0	0	0	158	0	133
Future Volume (veh/h)	159	610	0	0	574	137	0	0	0	158	0	133
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900				1900	1863	1863
Adj Flow Rate, veh/h	177	678	0	0	638	152				176	0	148
Adj No. of Lanes	1	2	0	0	2	0				0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	460	1991	0	0	1594	379				374	0	325
Arrive On Green	0.56	0.56	0.00	0.00	0.56	0.56				0.21	0.00	0.21
Sat Flow, veh/h	682	3632	0	0	2926	674				1774	0	1543
Grp Volume(v), veh/h	177	678	0	0	398	392				176	0	148
Grp Sat Flow(s),veh/h/ln	682	1770	0	0	1770	1737				1774	0	1543
Q Serve(g_s), s	8.7	4.6	0.0	0.0	5.6	5.6				3.8	0.0	3.7
Cycle Q Clear(g_c), s	14.4	4.6	0.0	0.0	5.6	5.6				3.8	0.0	3.7
Prop In Lane	1.00		0.00	0.00		0.39				1.00		1.00
Lane Grp Cap(c), veh/h	460	1991	0	0	996	978				374	0	325
V/C Ratio(X)	0.38	0.34	0.00	0.00	0.40	0.40				0.47	0.00	0.46
Avail Cap(c_a), veh/h	1297	6340	0	0	3170	3112				1247	0	1084
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	9.5	5.2	0.0	0.0	5.4	5.4				15.3	0.0	15.2
Incr Delay (d2), s/veh	0.5	0.1	0.0	0.0	0.3	0.3				0.9	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.2	0.0	0.0	2.7	2.7				2.0	0.0	1.7
LnGrp Delay(d),s/veh	10.0	5.3	0.0	0.0	5.7	5.7				16.2	0.0	16.2
LnGrp LOS	B	A			A	A				B		B
Approach Vol, veh/h		855			790						324	
Approach Delay, s/veh		6.3			5.7						16.2	
Approach LOS		A			A						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		29.8				29.8		14.3
Change Period (Y+Rc), s		5.0				5.0		5.0
Max Green Setting (Gmax), s		79.0				79.0		31.0
Max Q Clear Time (g_c+I1), s		16.4				7.6		5.8
Green Ext Time (p_c), s		8.3				6.5		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	7.7
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	535	7	23	784	55	9	147	188	32	34	68
Future Volume (veh/h)	70	535	7	23	784	55	9	147	188	32	34	68
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.98		0.95	0.98		0.98	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	78	594	8	26	871	61	10	163	209	36	38	76
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1272	18	96	1536	106	81	232	286	274	253	485
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	178	2646	37	38	3195	220	15	741	914	522	808	1548
Grp Volume(v), veh/h	312	0	368	504	0	454	382	0	0	74	0	76
Grp Sat Flow(s),veh/h/ln	1174	0	1686	1812	0	1642	1670	0	0	1330	0	1548
Q Serve(g_s), s	1.3	0.0	7.0	0.0	0.0	9.6	0.0	0.0	0.0	0.0	0.0	1.7
Cycle Q Clear(g_c), s	11.0	0.0	7.0	9.3	0.0	9.6	9.8	0.0	0.0	1.4	0.0	1.7
Prop In Lane	0.25		0.02	0.05		0.13	0.03		0.55	0.49		1.00
Lane Grp Cap(c), veh/h	657	0	811	949	0	789	599	0	0	527	0	485
V/C Ratio(X)	0.48	0.00	0.45	0.53	0.00	0.58	0.64	0.00	0.00	0.14	0.00	0.16
Avail Cap(c_a), veh/h	1199	0	1564	1728	0	1523	1276	0	0	1062	0	1117
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.1	0.0	8.4	9.0	0.0	9.0	14.8	0.0	0.0	11.9	0.0	12.0
Incr Delay (d2), s/veh	0.5	0.0	0.4	0.5	0.0	0.7	1.1	0.0	0.0	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	3.3	4.9	0.0	4.4	4.6	0.0	0.0	0.7	0.0	0.8
LnGrp Delay(d),s/veh	8.6	0.0	8.8	9.4	0.0	9.7	16.0	0.0	0.0	12.0	0.0	12.2
LnGrp LOS	A		A	A		A	B			B		B
Approach Vol, veh/h		680			958			382			150	
Approach Delay, s/veh		8.7			9.6			16.0			12.1	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		28.3		20.2		28.3		20.2
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		45.0		35.0		45.0		35.0
Max Q Clear Time (g_c+I1), s		13.0		11.8		11.6		3.7
Green Ext Time (p_c), s		5.8		2.7		8.0		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	577	4	8	697	60	7	95	165	73	52	117
Future Volume (veh/h)	54	577	4	8	697	60	7	95	165	73	52	117
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.96	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	59	627	4	9	758	65	8	103	179	79	57	127
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	1500	9	95	1535	131	96	169	280	340	210	428
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	143	3128	19	10	3201	272	16	618	1023	728	766	1563
Grp Volume(v), veh/h	341	0	349	442	0	390	290	0	0	136	0	127
Grp Sat Flow(s),veh/h/ln	1599	0	1691	1849	0	1634	1657	0	0	1493	0	1563
Q Serve(g_s), s	0.0	0.0	5.5	0.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0	2.6
Cycle Q Clear(g_c), s	4.7	0.0	5.5	6.6	0.0	6.6	6.2	0.0	0.0	2.5	0.0	2.6
Prop In Lane	0.17		0.01	0.02		0.17	0.03		0.62	0.58		1.00
Lane Grp Cap(c), veh/h	871	0	811	977	0	783	545	0	0	549	0	428
V/C Ratio(X)	0.39	0.00	0.43	0.45	0.00	0.50	0.53	0.00	0.00	0.25	0.00	0.30
Avail Cap(c_a), veh/h	1763	0	1878	2121	0	1815	1514	0	0	1326	0	1350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.7	0.0	6.9	7.2	0.0	7.2	12.9	0.0	0.0	11.6	0.0	11.6
Incr Delay (d2), s/veh	0.3	0.0	0.4	0.3	0.0	0.5	0.8	0.0	0.0	0.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	2.6	3.4	0.0	3.0	2.9	0.0	0.0	1.2	0.0	1.2
LnGrp Delay(d),s/veh	7.0	0.0	7.3	7.5	0.0	7.7	13.7	0.0	0.0	11.8	0.0	12.0
LnGrp LOS	A		A	A		A	B			B		B
Approach Vol, veh/h		690			832			290			263	
Approach Delay, s/veh		7.1			7.6			13.7			11.9	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		24.4		16.1		24.4		16.1
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0
Max Green Setting (Gmax), s		45.0		35.0		45.0		35.0
Max Q Clear Time (g_c+I1), s		7.5		8.2		8.6		4.6
Green Ext Time (p_c), s		5.7		2.0		6.7		1.4

Intersection Summary	
HCM 2010 Ctrl Delay	8.9
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	736	31	45	938	9	146
Future Vol, veh/h	736	31	45	938	9	146
Conflicting Peds, #/hr	0	25	25	0	25	25
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	775	33	47	987	9	154

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	833	0	1906	825
Stage 1	-	-	-	-	800	-
Stage 2	-	-	-	-	1106	-
Critical Hdwy	-	-	4.12	-	5.6	5.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	2.5	2.3
Pot Cap-1 Maneuver	-	-	800	-	134	612
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	390	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	781	-	111	583
Mov Cap-2 Maneuver	-	-	-	-	111	-
Stage 1	-	-	-	-	476	-
Stage 2	-	-	-	-	381	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	16.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	468	-	-	781	-
HCM Lane V/C Ratio	0.349	-	-	0.061	-
HCM Control Delay (s)	16.8	-	-	9.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.5	-	-	0.2	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	714	65	29	635	67	43
Future Vol, veh/h	714	65	29	635	67	43
Conflicting Peds, #/hr	0	27	27	0	27	27
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	785	71	32	698	74	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	883	0	1601	839
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	789	-
Critical Hdwy	-	-	4.12	-	5.6	5.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	2.5	2.3
Pot Cap-1 Maneuver	-	-	766	-	198	602
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	570	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	746	-	175	571
Mov Cap-2 Maneuver	-	-	-	-	175	-
Stage 1	-	-	-	-	503	-
Stage 2	-	-	-	-	555	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	34.3
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	240	-	-	746	-
HCM Lane V/C Ratio	0.504	-	-	0.043	-
HCM Control Delay (s)	34.3	-	-	10	0
HCM Lane LOS	D	-	-	B	A
HCM 95th %tile Q(veh)	2.6	-	-	0.1	-

Appendix C:

Preliminary Engineering Report Civil Infrastructure
Wilson Okamoto Corporation

DRAFT
PRELIMINARY ENGINEERING REPORT
CIVIL INFRASTRUCTURE

LEEWARD COMMUNITY COLLEGE
VALUE ADDED PRODUCT DEVELOPMENT CENTER

Wahiawa, Oahu, Hawaii
TMK: (1) 7-4-012: 016

Prepared For:

Ushijima Architects, Inc.
2226 Young Street, Suite A
Honolulu, Hawaii 96826

Prepared By:

Wilson Okamoto Corporation
Engineers and Planners
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826
WOC Job No. 10467-01

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Appendix A – Developed Site Improvement Figures

Appendix B – Sanitary Sewer System Information

Appendix C – Water Supply System Information

EXECUTIVE SUMMARY

The University of Hawaii Community Colleges (UHCC) and the State of Hawaii Department of Agriculture's (HDOA) Agribusiness Development Corporation intend to redevelop its 1.572-acre property located at 1001 California Avenue in downtown Wahiawa on the island of Oahu. The area designated for redevelopment is currently occupied by an existing metal warehouse that formerly housed Tamura's Wholesale Outlet and a paved parking lot and is identified by Tax Map Key [1] 7-4-012:016. Through redevelopment, UHCC and HDOA intends to maximize the use of the underutilized property and provide a Value Added Product Development Center (VAC) to support postsecondary education in the incubation and marketing of value-added food products through recycling of nearby agricultural waste streams.

This preliminary engineering assessment was conducted to provide a detailed evaluation of the site infrastructure and utility systems for the Wahiawa VAC redevelopment. The objective of the report is to review the existing site infrastructure improvements, determine the project requirements related to the roadway and parking facilities, site grading, storm drainage system, sanitary sewer system, and water system, and, based on the project requirements, determine required improvements, and identify possible opportunities and constraints for the VAC Redevelopment. An Environmental Assessment is being prepared to assess the proposed development and confirm if the proposed action will have a significant effect on the environment.

1. INTRODUCTION

1.1 Background

The project site is located at 1001 California Avenue and was acquired by the State of Hawaii Department of Agriculture's Agribusiness Development Corporation in 2013 (See Figure 1-1). The project site is identified by (TMK) 7-4-012:016 and occupies 1.572 acres (See Figure 1-2). The project site is occupied by an existing metal warehouse that formerly housed Tamura's Wholesale Outlet and a paved parking lot (See Figure 1-3).

1.2 Proposed Project

The University of Hawaii Community Colleges (UHCC) and the State of Hawaii Department of Agriculture's (HDOA) Agribusiness Development Corporation propose to redevelop the existing warehouse into a Value Added Product Development Center (VAC). Site improvements will include repaving and regrading the existing parking lot and loading dock area.

The VAC facility will be designed to include space for:

- A welcoming center
- A public loft
- A tasting court
- Public restrooms
- An allergen kitchen
- An event/media kitchen
- A product incubation loft
- A receiving/shipping/storage space
- Core/storage space
- An administration/testing loft

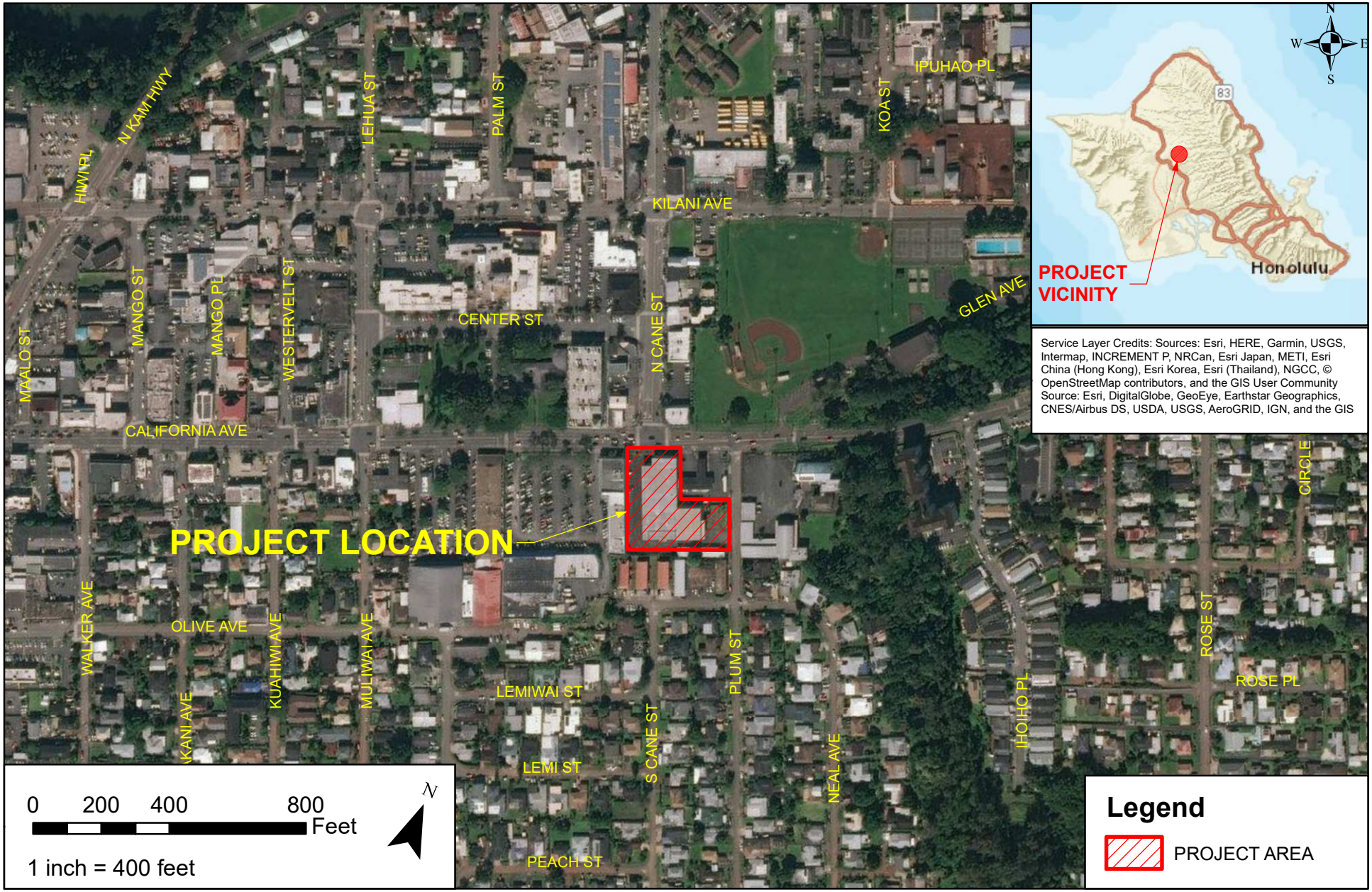
Purpose

This Preliminary Engineering Report presents an evaluation of the site infrastructure and utility systems related to the proposed redevelopment. The objective of the report is to review the existing site infrastructure improvements, evaluate the project requirements, and, based on the project requirements, determine required improvements, and identify possible opportunities and constraints for the following:

- Roadway, parking, and access
- Site grading and flood hazard
- Storm drainage system
- Sanitary sewer system
- Water supply system
- Natural gas

The assessment of the site characteristics and utilities is based on available data obtained from the City's Honolulu Land Information System (HoLIS) database, record information, as-built plans, and a combination of aerial and street level photography obtained from the Google Earth database. In addition, site visits were conducted to gather information, verify conditions, and analyze development opportunities and constraints. Further, letters were sent to appropriate City and other service agencies, with the proposed project requirements to determine capacities and the service agencies' ability to serve the redevelopment demands.

The proposed improvements are conceptual and subject to change based on further development of plans and availability of additional information.

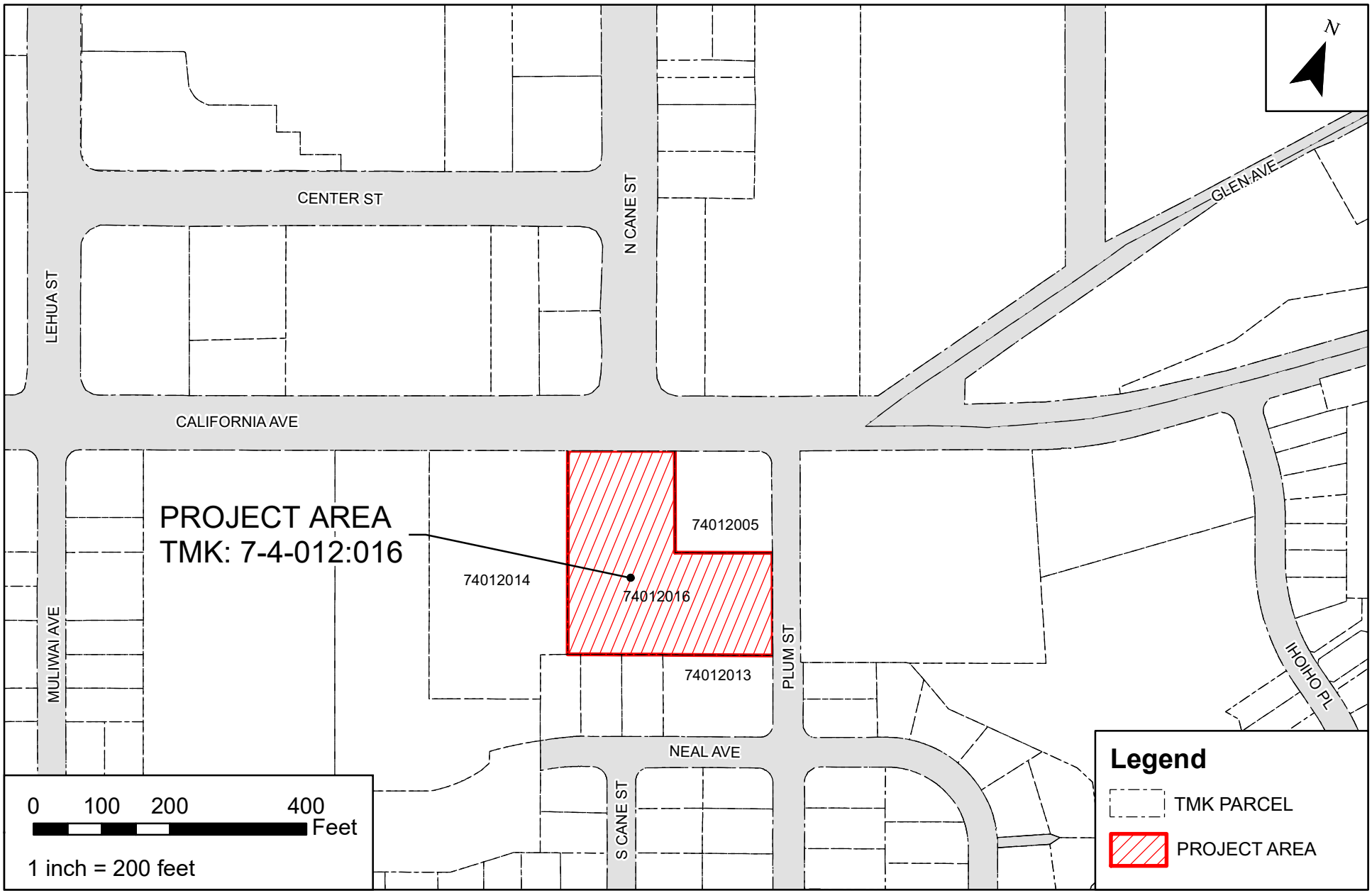


WILSON OKAMOTO CORPORATION

LCC VALUE ADDED PRODUCT DEVELOPMENT CENTER - OAHU, HAWAII

PROJECT LOCATION AND VICINITY MAP

Figure No.
1-1

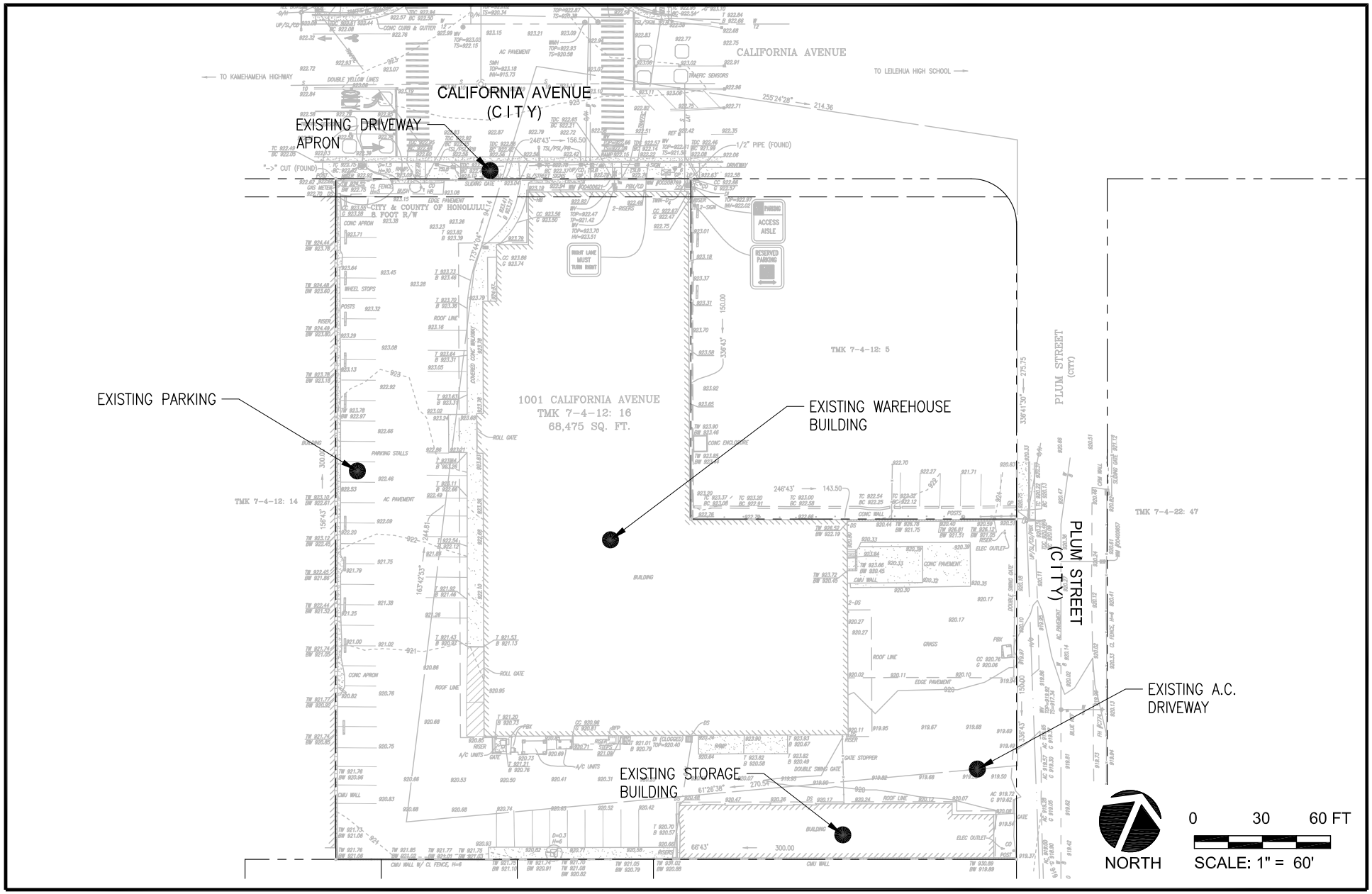


WILSON OKAMOTO CORPORATION

LCC VALUE ADDED PRODUCT DEVELOPMENT CENTER - OAHU, HAWAII

TMK MAP

Figure No.
1-2

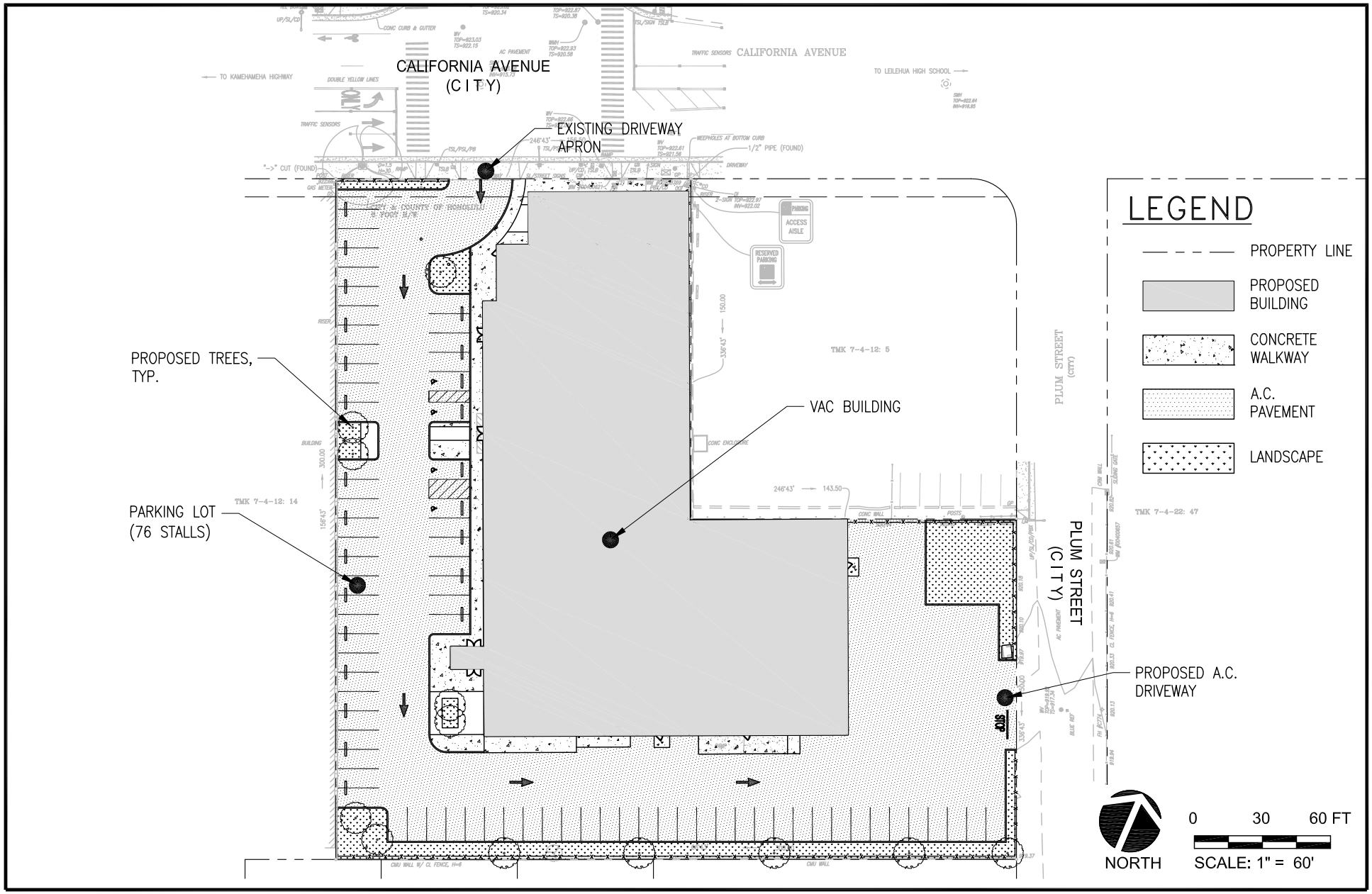


WILSON OKAMOTO CORPORATION

LCC VALUE ADDED PRODUCT DEVELOPMENT CENTER - OAHU, HAWAII

Figure No. 1-3

EXISTING SITE CONDITION



LCC VALUE ADDED PRODUCT DEVELOPMENT CENTER - OAHU, HAWAII

Figure No.
1-4

PROPOSED SITE CONDITION

WILSON OKAMOTO
CORPORATION

2. ROADWAY, PARKING, AND ACCESS

2.1 Existing Conditions

The existing warehouse is bordered by California Avenue to the North, Plum Street to the East, residential uses to the south, and commercial uses to the west. Plum Street on the east side of the property is a two-way, two-lane road and California Avenue on the north side of the property is a two-way, four-lane roadway. Both roads are owned and maintained by the City and County of Honolulu (See Figure 2-1).

Vehicular access is located on Plum Street and California Avenue both of which are gated entrances. Parking is provided to the south and west of the warehouse.

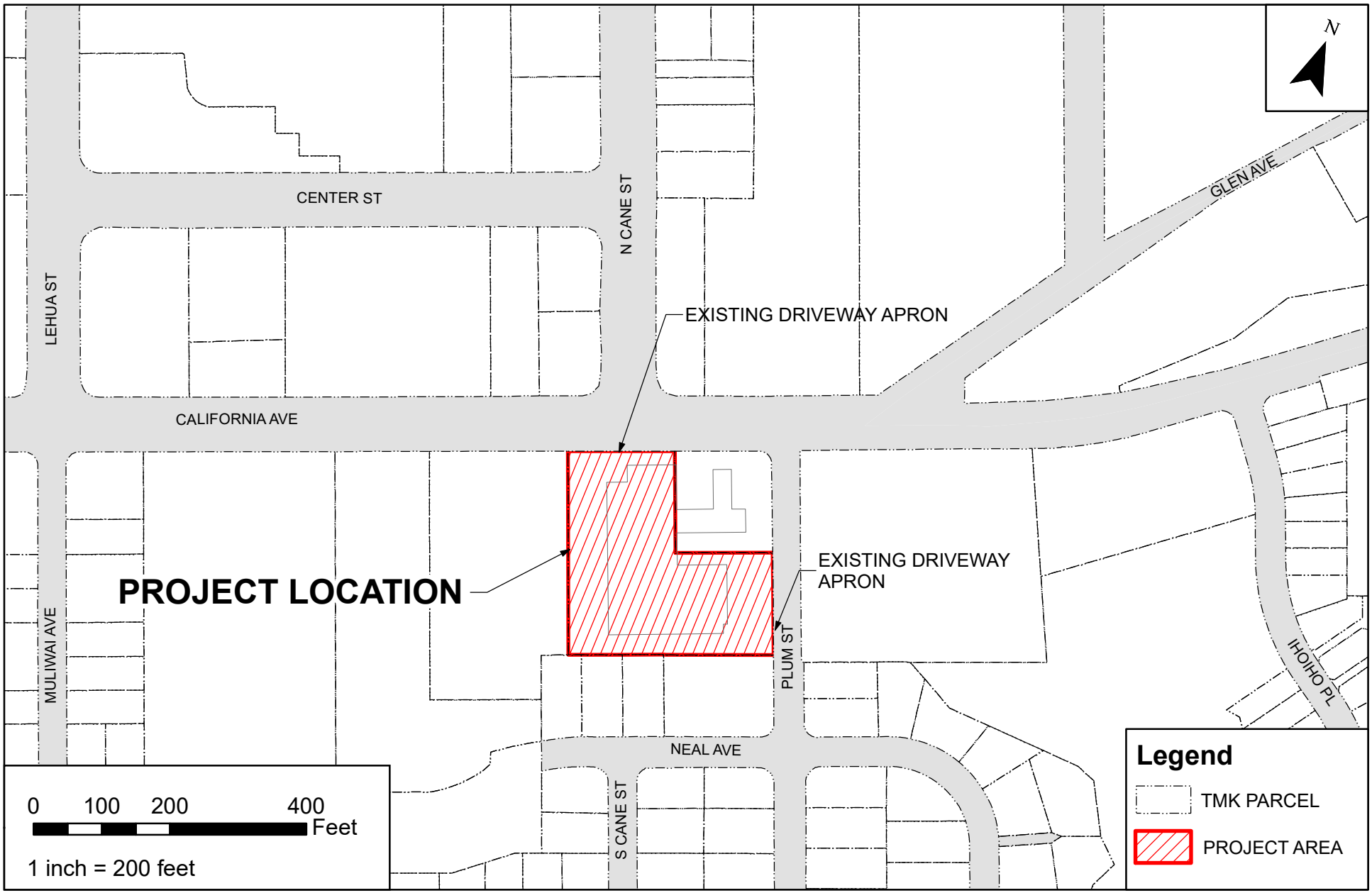
City bus routes service California Avenue. Pedestrian walkways are in-place along California Avenue and Plum Street. The pedestrian walkway exists on the west side of Plum Street and terminates at the end of the property.

2.2 Proposed Improvements

Vehicular access to the project site will be provided from California Avenue as an ingress only, while Plum Street will serve as an egress only. Pedestrian access to the project will be provided from both California Ave. and Plum St. The existing parking lot will be regraded and repaved to improve drainage.

Traffic and parking layouts for the proposed project will be designed to meet applicable State and City requirements. Geometrics and pavement structure for fire lanes and parking lots will need to be designed based on the appropriate design vehicles. Proposed pavement structures will follow the Soils Engineer's recommendations. The walkways and parking layouts, dimensions, longitudinal and cross slopes will comply with Americans with Disabilities Act (ADA) Accessibility Guidelines to the maximum extent practicable.

Evaluation of the traffic impacts associated with the proposed redevelopment are documented in the "Traffic Impact Report for the Leeward Community College Value Added Product Development Center".



WILSON OKAMOTO CORPORATION

LCC VALUE ADDED PRODUCT DEVELOPMENT CENTER - OAHU, HAWAII

EXISTING ROADWAY SYSTEM

Figure No.
2-1

3. SITE GRADING AND FLOOD HAZARD

3.1 Existing Conditions

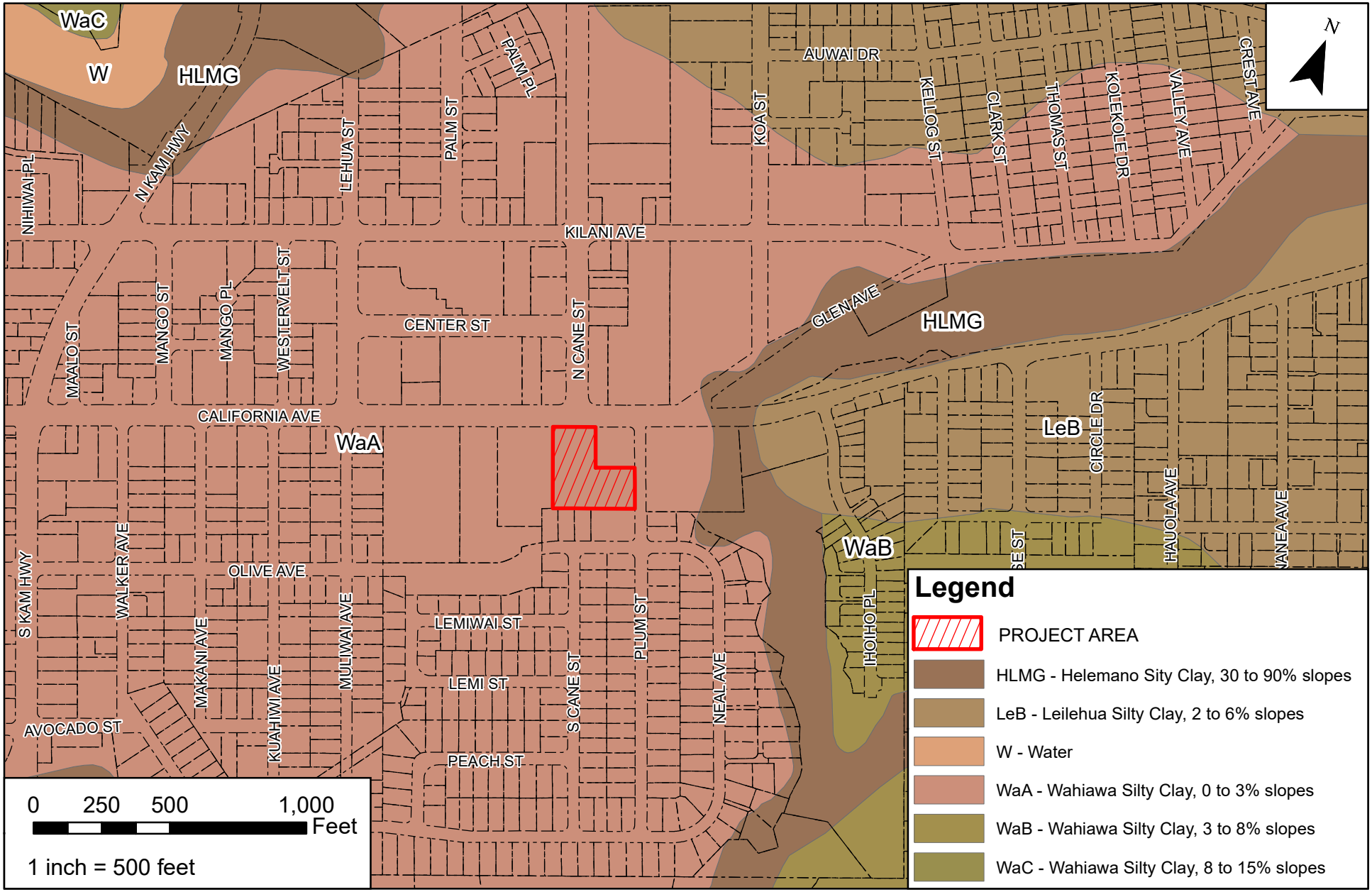
The project parcel is relatively flat which includes a building and a paved parking lot and generally slopes in the east direction towards Plum Street. Elevations within the parcel range from 924-feet mean sea level (MSL) at the back of the sidewalk along California Avenue to 919-feet MSL along the Plum Street project boundary line. Runoff onsite sheet flows across the paved parking lot to the Plum St. drainage system.

Soil series and mapping units for the island of Oahu are found in maps in the "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii" dated December 1973, prepared by the U.S. Department of Agriculture, Soil Conservation Service (currently Natural Resources Conservation Services). As shown in Figure 3-1, the underlying soil within the project site consists of Wahiawa silty clay. The soil has characteristics described below:

<u>Wahiawa Silty Clay, 0 to 3 percent slopes (WaA):</u> This soil occurs on smooth, broad interfluves. Permeability is moderately rapid. Runoff is slow, and the erosion hazard is no more than slight.

Flood hazard assessment was based on The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Community Panel No: 15003C0226F dated September 30, 2004. (See Figure 3-2). According to FEMA, the project site is located in the Zone D limits. Zone D is defined as "Undetermined flood hazard." No base flood elevations or depths are established for this zone.

The parcel is not located in the tsunami evacuation zone as established by the Oahu Civil Defense.



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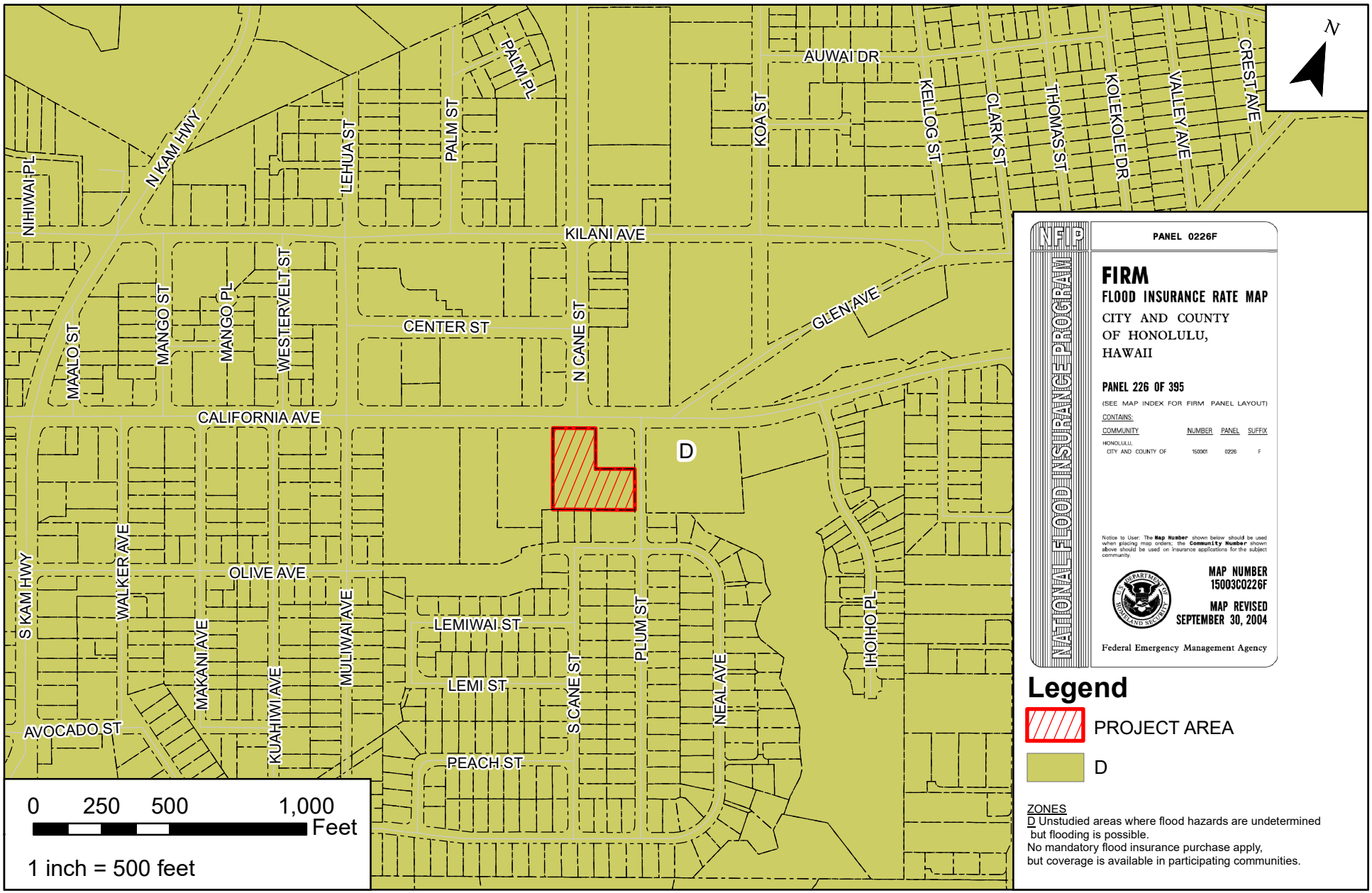
LCC VALUE ADDED PRODUCT DEVELOPMENT CENTER - OAHU, HAWAII

Figure No.

3-1

UHCC WAHIAWA - SOIL MAP



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LCC VALUE ADDED PRODUCT DEVELOPMENT CENTER - OAHU, HAWAII

FLOOD INSURANCE RATE MAP

Figure No.
3-2

3.2 Proposed Improvements

The project site will be graded to provide positive drainage for storm water runoff to flow away from the proposed building while still maintaining the existing drainage patterns. Storm water runoff in excess of existing conditions will need to be retained, reused, or disposed by percolation on site. Accessible walkway layouts, dimensions, and slopes shall comply with ADA Accessibility Guidelines.

Based on the existing site topography and the proposed conceptual layouts, grade adjustments may be required. This will be verified during the design phase.

Site grading will follow the Soils Engineer's recommendations conforming to Chapter 14, Article 15 of the Revised Ordinances of Honolulu "Grading, Grubbing and Stockpiling" as amended. All grading and construction activities will comply with the Rules Relating to Water Quality, Department of Planning and Permitting, City and County of Honolulu, amended September 17, 2018, to control soil erosion and ensure that the discharge of pollutants from the construction site will be reduced to the maximum extent practicable (MEP).

Temporary erosion control measures shall be installed prior to any demolition and/or construction activities. Recommended Structural Best Management Practices (BMPs) include silt fence, filter sock, stabilized construction ingress/egress, concrete wash-out area, and sediment control filters at drain inlets and catch basins as required.

4. STORM DRAINAGE SYSTEM

4.1 Existing Conditions

The existing on-site storm drainage system consists of a drywell located at the south end of the property and a drain inlet located at the north end which discharges to California Avenue via four 4-inch sidewalk culverts. The drywell receives flow from the south portion of the roof while the drain inlet receives flows from the north portion of the roof. Flow from the east portion of the roof and the parking lot sheet flows onto Plum Street. There is no underground drainage system in the immediate project vicinity. The underground roadway storm drain system within California Avenue is owned and maintained by the City and County of Honolulu and consist of a network of drain lines, catch basins, and manholes (See Figure 4-1).

4.2 Project Requirements

Storm runoff flow rates for the proposed improvements will be determined based on the City and County of Honolulu Department of Planning and Permitting, Storm Drainage Standards, dated August 2017. Any increase in runoff due to the proposed improvements will need to be retained on-site to ensure that the project will not have any adverse effects on downstream properties.

In addition, the proposed drainage improvements will be required to comply with the City's Rules Relating to Water Quality amended September 2018. Under these rules, projects that disturb less than one (1) acre of land and results in 5,000 sf or more of impervious surface are classified as Priority B1 projects.

Priority B1 projects are required (unless determined to be infeasible) to:

- Incorporate appropriate Low Impact Development (LID) site design strategies to the "maximum extent practicable" (MEP).
- Incorporate appropriate Source Control Best Management Practices (BMPs) to the MEP.
- Retain on-site by infiltration, evapotranspiration, or harvest/reuse as much of the water quality volume (WQV) as feasible with appropriate LID Retention Post-Construction Treatment Control BMP's.
- Biofilter any portion of the WQV that is not retained on-site with appropriate LID Biofiltration Post-Construction Treatment Control BMPs.

If it is determined to be infeasible to retain and/or biofilter the Water Quality Volume, the City rules require the project to:

- Treat (by detention, filtration, settling, or vortex separation) and discharge with appropriate Alternative Compliance Post-Construction Treatment Control BMPs, any portion of the WQV that is not retained on-site or biofiltered.

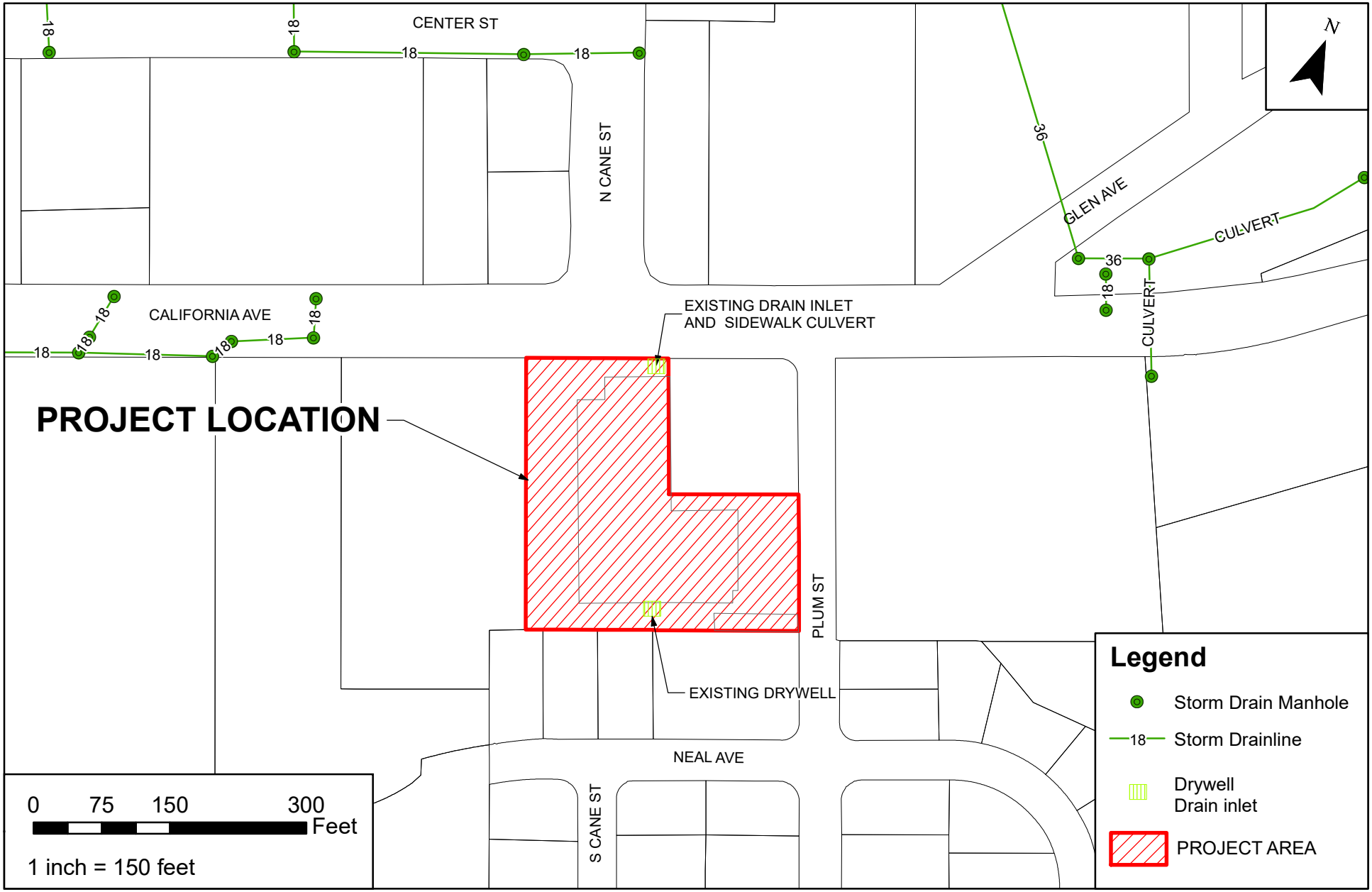
- Retain or biofilter at an offsite location, the volume of runoff from a non-tributary drainage area equivalent to the difference between the project's WQV and the amount retained on-site or biofiltered.

Appropriate BMP measures include: infiltration basins and trenches, subsurface infiltration systems, dry wells, bioretention basins, permeable pavement, green roofs, vegetated bio-filters, enhanced swales, detention basins, sand filters, vegetated swales and buffer strips.

4.3 Proposed Improvements

The existing site is currently fully developed with impervious surfaces. Therefore, it is expected that there will be no increase in storm water runoff due to the proposed improvements. Any increase in flow to the City system due to the proposed project will need to be retained, reused, or disposed of by percolation on site.

The onsite drainage improvements will be confirmed during the design phase and will maintain the existing discharge points to California Ave. and Plum Street. As required by the Storm Drainage Standards, Department of Planning and Permitting, City and County of Honolulu, dated August 2017, storm water quality measures shall be installed to treat the water quality volume. Figures A-1 in Appendix A show the proposed improvements for the redevelopment.



WILSON OKAMOTO CORPORATION

LCC VALUE ADDED PRODUCT DEVELOPMENT CENTER - OAHU, HAWAII

EXISTING STORM DRAINAGE SYSTEM

Figure No.
4-1

5. SANITARY SEWER SYSTEM

5.1 Existing Conditions

The sanitary sewer system in the project vicinity is a part of the City and County sanitary sewer system (See Figure 5-1). Record drawings indicate that there are two 6-inch sewer laterals serving the project site, one on California Avenue and one on Plum Street. A six-inch sewer line running along Plum Street provides service to the project site via a 4-inch lateral. The City's sewer system collects and transports sewage from the project site to the Honolulu City Wahiawa Wastewater Treatment Plant for treatment and disposal.

5.2 Connection to the City and County Sewer System

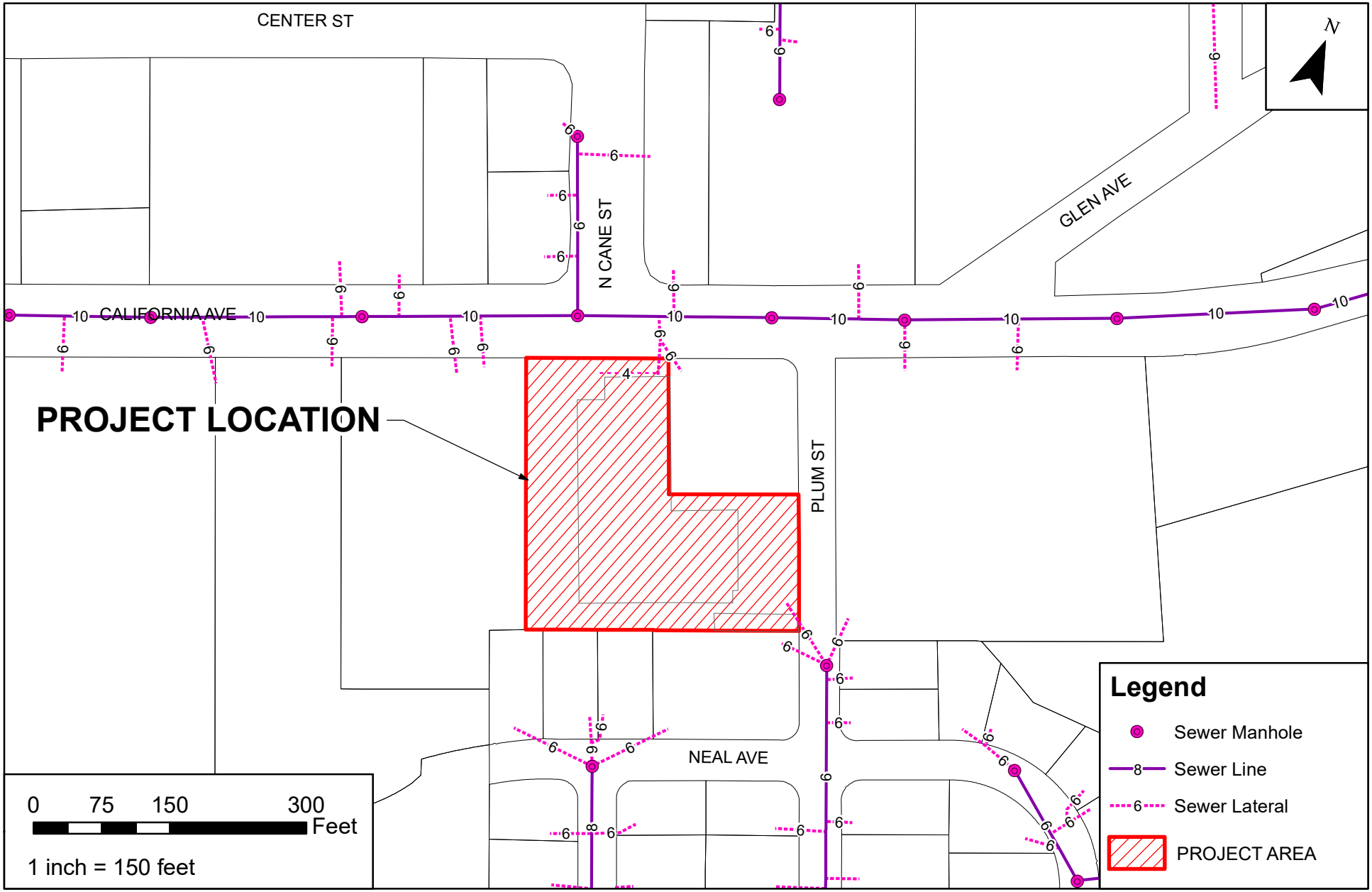
The Department of Planning and Permitting's (DPP) Wastewater Branch (WWB) reviews and approves sewer connection applications for developments which require sanitary sewer service. On September 5, 2019, a Sewer Connection Application (SCA) based on the proposed program was approved by WWB, indicating that the existing City sewer system is adequate to support the proposed project (See Appendix B).

The expiration date of the approved application is September 3, 2021. Construction plans shall be completed and approved within this 2-year period. Construction shall commence within 1-year after approval of plans.

5.3 Proposed Improvements

The proposed on-site sewer improvements will consist of new sewer lateral connections on both the northwest and southeast side of the proposed VAC building. The northwest lateral will connect to the existing 4-inch lateral that runs parallel to California Avenue. The existing 6-inch sewer lateral on Plum Street will be the lateral connection on the southeast corner.

New sewer lateral locations and sizes will be confirmed in the design phase. Trenching and backfilling of proposed sewer lines will follow CCH standards and the Soils Engineer's recommendations. Upon City approvals of the SCA(s) and construction plans, along with payment of the sewer facilities charges, the proposed system can be connected to the City sewer system.



WILSON OKAMOTO CORPORATION

LCC VALUE ADDED PRODUCT DEVELOPMENT CENTER - OAHU, HAWAII

EXISTING SANITARY SEWER SYSTEM

Figure No.
5-1

6. WATER SUPPLY SYSTEM

6.1 Existing Conditions

Water supply for domestic use and fire protection is provided to the project site and surrounding vicinity through the CCH Board of Water Supply (BWS) municipal water system (See Figure 6-1). The BWS water system in the vicinity of the project site consists of a system of distribution mains and fire hydrants. BWS record drawings and facility maps indicate an existing 12-inch water main running along California Ave. A 6-inch water line tees off of the 12-inch main line near the intersection of California Ave. and North Cane St. Water supply for domestic use and fire protection is provided to the site from the California Ave. line via a 1.5-inch domestic lateral and 6-inch fire protection lateral. BWS records show two existing water meters servicing the project site: a 1" meter (M/N 00400621) and a 6" DC meter (M/N 80159605) coming off of the 6-inch line. Running along Plum Street is an 8-inch water line and a 6-inch lateral connected to a fire hydrant.

6.2 Connection to Board of Water Supply System

On July 30, 2019, a letter was submitted to the BWS requesting information on the availability of water for the project and water pressure information for fire hydrants in the vicinity of the project site. This letter was based on programming for the proposed redevelopment and the estimated average daily water demand shown below (See Appendix C for supporting calculations).

VAC Facility - Proposed Program Information

Facility	Area	Avg. Daily Water Demand (gpd)
VAC Facility	33,220 sf	2,288

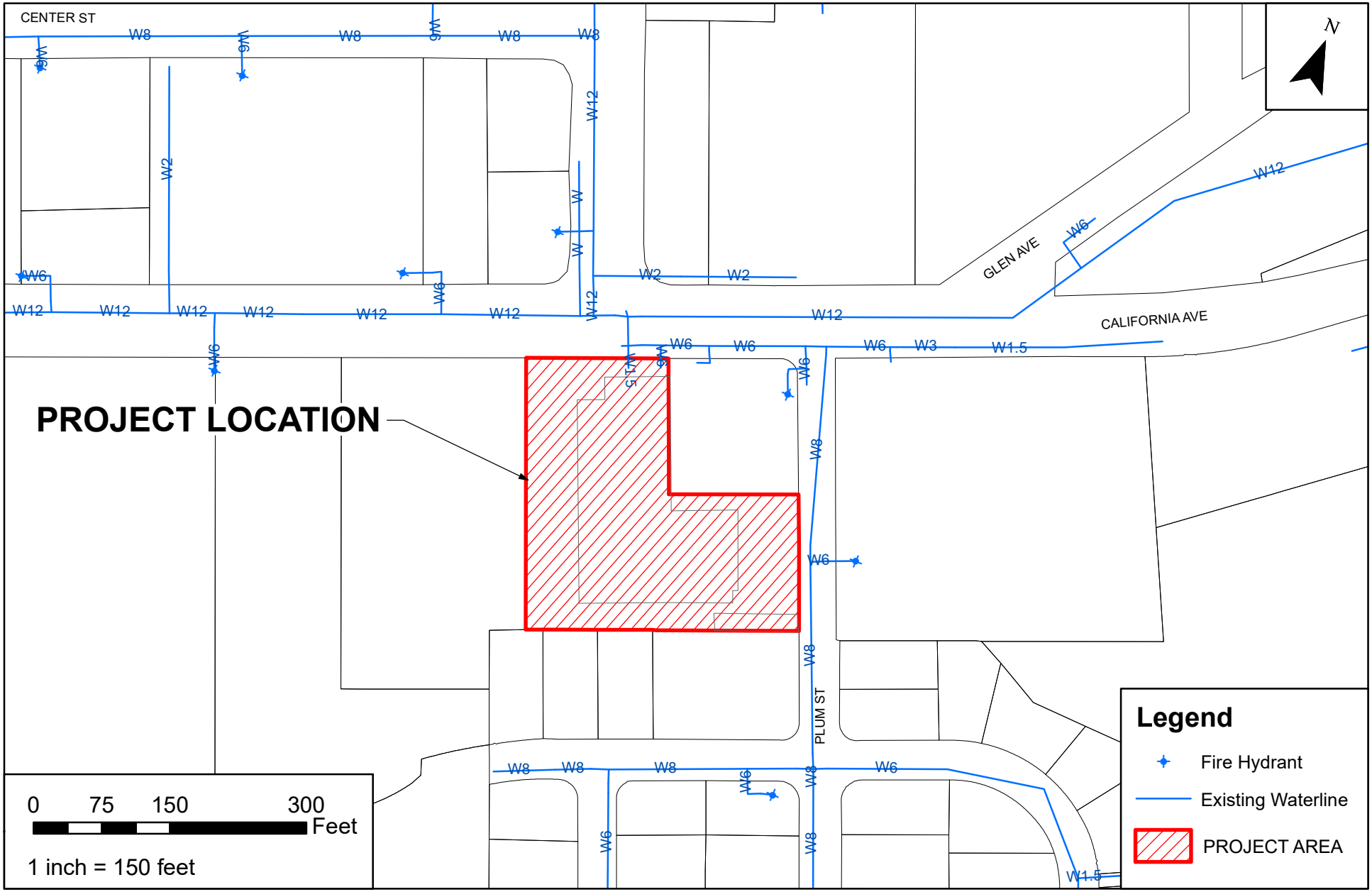
On August 20, 2019, the BWS responded stating that based on current data, the existing water system is adequate to accommodate the proposed development scenarios (See Appendix C). BWS record information indicated the water supply system has a calculated flow rate for fire hydrants on California Ave and Plum St. near the project site as 32 psi and 20 psi residual pressure at 2,000 gallons per minute for hydrant C00554 on California Ave. and C00774 on Plum St. respectively. Based on the current data from the BWS records, there is adequate water

availability and pressure. However, BWS reserves the right to change any position or information stated until final approval of the building permit application.

6.3 Proposed Improvements

On-site water system improvements will be required to accommodate the proposed redevelopment consisting of a new water lateral and meter. Proposed connection to the BWS system will be to a new 1.5-inch lateral located within California Avenue. Figure A-1 in Appendix A shows the proposed improvements for the various development scenarios.

The final line size and location will be determined during the design phase of the project. Proposed connections and improvements will be confirmed when construction drawings for the proposed project are developed and submitted to BWS for review and approval. Trenching and backfilling of proposed water lines will follow BWS standards and the Soils Engineer's recommendations.



WILSON OKAMOTO CORPORATION

LCC VALUE ADDED PRODUCT DEVELOPMENT CENTER - OAHU, HAWAII

EXISTING WATER SYSTEM

Figure No.
6-1

7. NATURAL GAS

7.1 Existing Conditions

Information provided by HG record drawings indicate that the Wahiawa project site is not served by HG.

7.2 Proposed Improvements

If the proposed redevelopment requires gas service, on-site liquefied petroleum gas tanks (LPG or propane) will need to be installed. The proposed natural gas demand load required by the project will need to be calculated by the project's mechanical engineering consultant.

8. REFERENCES

1. Flood Insurance Rate Map, City and County of Honolulu, Hawaii, Community Panel Number 15003 C0226 F," Federal Emergency Management Agency, Federal Insurance Administration, September 30, 2004.

2. "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii," United States Department of Agriculture, Soil Conservation Service, August 1972.

3. "Storm Drainage Standards", Department of Planning and Permitting, City and County of Honolulu, August 2017.

4. "Rules Relating to Water Quality of the Administrative Rules, Title 20," Department of Planning and Permitting, City and County of Honolulu, September 17, 2018.

5. "Water System Standards", Board of Water Supply, City and County of Honolulu, State of Hawaii, 2002.

6. "Wastewater System Design Standards, Volume 1 Wastewater Collection Systems," Department of Environmental Services, City and County of Honolulu, July 2017.

7. "Traffic Impact Report for the Leeward Community College Value Added Product Development Center", Wilson Okamoto Corporation, September 2019.

8. Topographic Survey Map "Product Development Center Renovation Community Colleges System" by Control Point Surveying, Inc. dated July 16, 2019.

APPENDIX A – DEVELOPED SITE IMPROVEMENT FIGURES

Figure A-1 Proposed Site Improvements

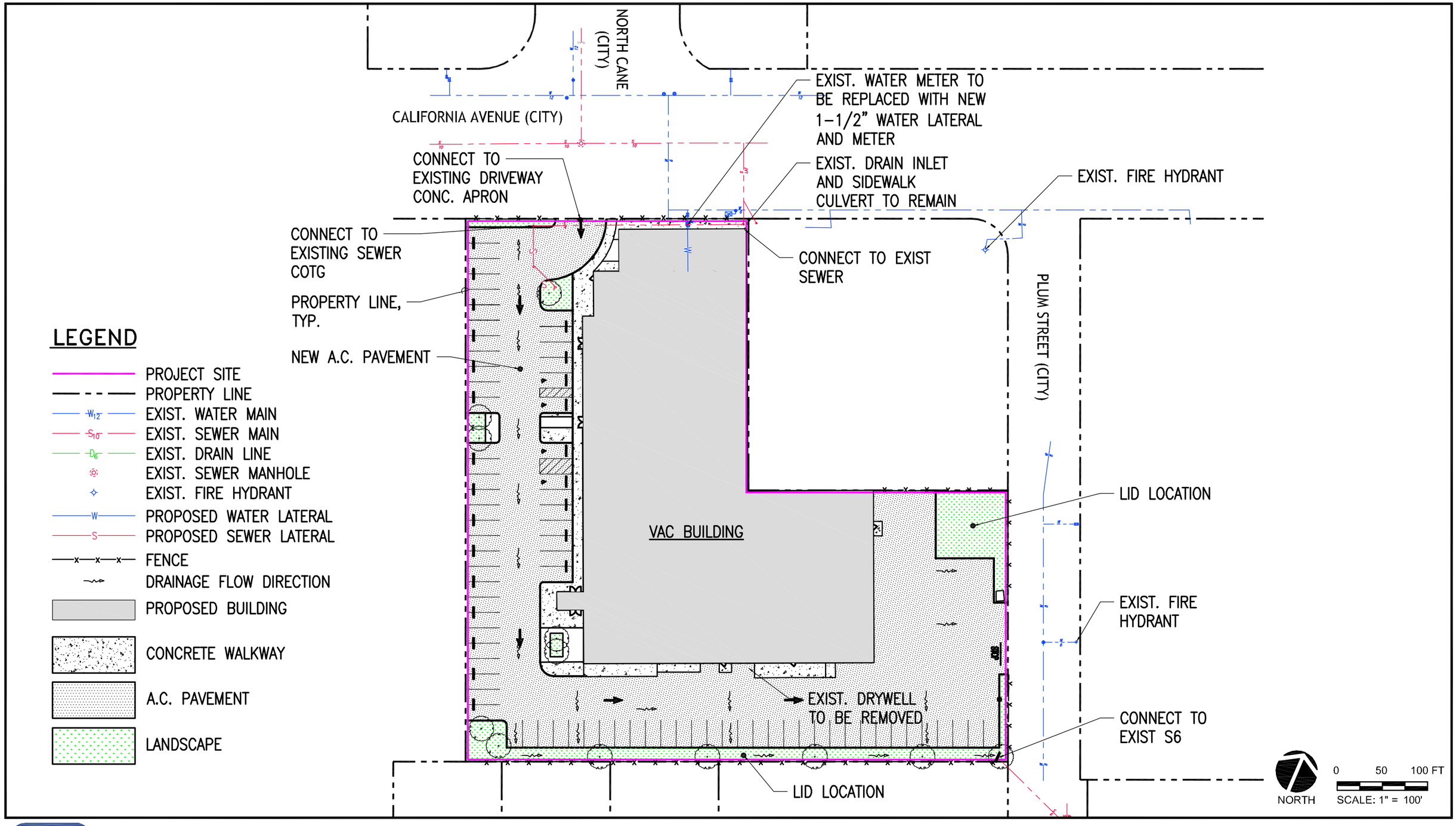


FIGURE A-1

LCC VALUE ADDED PRODUCT DEVELOPMENT CENTER - PROPOSED SITE IMPROVEMENTS

APPENDIX B – SANITARY SEWER SYSTEM INFORMATION

Sewer Connection Application submitted September 3, 2019

Approved Sewer Connection Application dated September 5, 2019

CITY AND COUNTY OF HONOLULU
DEPARTMENT OF PLANNING & PERMITTING
650 South King Street, Honolulu, Hawaii 96813

SITE DEVELOPMENT DIVISION MASTER APPLICATION FORM

All required documents and fees must accompany this application form. Please visit www.honoluludpp.org for applicable procedures and fees under the menu heading Application & Forms, Site Engineering and Subdivision Permits. Electronic submittal of permit applications and other permit-related documents constitutes agreement by the applicant or authorized representative to transact business electronically with this department, in accordance with HRS Chapter 489E.

I. PERMIT / VARIANCE / APPROVAL

Check one or more as appropriate:

PERMIT		VARIANCE	APPROVAL
☐ Grading	☑ Sewer Connection	☐ Flood Hazard Variance	☐ Subdivision, Easement Consolidation
☐ Grubbing		☐ Flood Determination	☐ Park Dedication
☐ Stockpiling		☐ Floodway Permit	☐ Lot Determination
☐ Trenching		☐ Flood Map Revision	☐ Ag. Site Development

Complete Sections I, II, III and all other sections as possible

II. LOT AND LAND USE INFORMATION

TAX MAP KEY(S): 7-4-12: 16 Lot Area: 68,475 sq.ft. ac.

Zoning District: B-2 Community Business Development Plan Designation: _____ State Land Use District: Urban

Street Address/Location of Property: 1001 California Avenue, Wahiawa, HI 96786

Present Use of Property/Building: Vacant Warehouse. Prevous location of Tamura's Wholesale Outlet

Project Name (if any): UHCC Wahiawa Value Added Product Development Center

Request/Proposal (describe the nature of the request, proposed activity or project): Sewer Connection Application for the proposed redevelopment of the Tamura's Wholesale Outlet warehouse into a Value Added Product Development Center for processing of food products.

III. APPLICANT INFORMATION

	Owner/Developer	Engineer/Architect	Contractor (or Agent for Subdivision apps only)
Name (& title)	State of Hawaii, Agribusiness Development Corporation	Wilson Okamoto Corporation	TBD
Mailing Address	235 South Beretania Street, Room 205	1907 S. Beretania St, Suite 400	
	Honolulu HI 96813	Honolulu HI 96826	
	City State Zip	City State Zip	City State Zip
Phone Number(s)		(808)946-2277	
Email Address		gkuwaye@wilsonokamoto.com	

APPLICANT: Glenn R. Kuwaye (Print NAME of applicant) — Director of Civil Engineering (Print TITLE of applicant) — Signature of applicant

IV. FOR GRADING/GRUBBING/STOCKPILING INFORMATION ONLY

Estimated Dates: Start: _____ Completion: _____ Borrow Material: _____

Area of work (sf or acres): _____ Borrow Site: _____

Disturbed area (sf or acres): _____ Disposal Material: _____

Estimated Quantity (cy): Cut: _____ Fill: _____ Disposal Site: _____

V. DESIGNATED ESCP COORDINATOR OR CWPPP

Complete the **Authorization Letter to Designate ESCP coordinator and/or CWPPP**

ESCP: Erosion and Sediment Control Plan; CWPPP: Certified Water Pollution Plan Preparer

AUTHORIZATION CLEARANCE

This statement of authorization is used in reference to the information provided for in sections I, II and III above.

I/We, _____ (Print NAME and TITLE of person **giving authority**), hereby authorize _____ (Print NAME of person **receiving authority**) to act in my/our behalf in obtaining/closing the Grading/Grubbing/Stockpiling/Trenching permit for the project.

Signature of Owner/Developer giving authority **Date**

FOR DIVISION USE ONLY:

Grading Permit No.: _____ Application No.: _____

Trenching Permit No.: _____ Date of Application: _____

Received By: _____

SEE REVERSE FOR APPLICATIONS FOR TRENCHING AND SEWER CONNECTION

rev. 05/2018

SITE DEVELOPMENT DIVISION MASTER APPLICATION FORM

(REVERSE SIDE)

VI. FOR TRENCHING INFORMATION ONLY

Work to be performed for: _____ Work to be done: ☐ Service Connection ☐ Repair ☐ Borings

Estimated Dates: Start: _____ Completion: _____ Other: _____

Estimated Value of work: $ _____ Dimensions: _____ ft/in (length) _____ ft/in (width) _____ ft/in (depth)

n the City right-of-way

AGENCY CLEARANCES	SIGNATURE	DATE	ADDRESS	PHONE NO.
DPP, Wastewater Branch			650 So. King St., FMB, 1st Flr.	768-8210
DTS, Traffic Signal			650 So. King St., FMB, 2nd Flr.	768-8388
DDC, Street Lightning			650 So. King St., FMB, 9th Flr.	768-8431
BWS, Customer Care			630 So. Beretania St., 1st Flr.	748-5460
Hawaiian Electric, Construction Installation			820 Ward Avenue, 4th Flr.	543-5654
Hawaiian Telcom, Excavation			1177 Bishop St.,Security Entrance Adams Lane	546-7746
Gasco., Inc., Maps & Records			515 Kamakee St., 1st Flr.	594-5575
Oceanic Cablevision, Engineering & Constr			200 Akamainui St.	625-8443
DFM, Division of Road Maintenance (if trenching 250 lineal feet or more)			99-999 Iwaena Street, #214	484-7695

DPP: Dept. of Planning and Permitting DTS: Dept. of Transportation Services DDC: Dept. of Design and Construction BWS: Board of Water Supply DFM: Dept. of Facility Maintenance

Note to agencies providing clearances: Signature on this form may be reproduced (scanned and emailed) and submitted electronically for permiting purposes in accordance with HRS Chapter 489E. Original wet Signatures may be retained by the applicant(s).

Note to the applicants receiving clearances: The utilities listed above may not represent all underground utilities located within City rights-of-ways, nor do their utility clearances relieve the permittee from complying with all other applicable codes, rules, regulations, and/or permit procedures including, but not limited to, additional clearances and requirements for other utilities (i.e. irrigation, data transmission, etc.) located within City rights-of-ways. Pursuant to ROH 1990, Section 14-17.6, the permittee shall indemnify and save harmless the city for any injuries or damages to any person or property received or sustained by any person as a consequence of any act or acts of the permitee on work done under the trenching permit.

VII. FOR SEWER CONNECTION INFORMATION ONLY

To receive a response via e-mail,provide email address below and check box here: ☑

☐ Residential: No. of Proposed Units _____ (Provide breakdown below)

_____ Studios _____ 1 Bedroom _____ 2 Bedrooms _____ 3 Bedrooms _____ 4 Bedrooms _____ Other

☑ Non-Residential: (See attached sewer table for required category and quantity and provide any additional information in the remarks)

CATEGORY(IES)	QUANTITY(IES)	NEW WATER METER SIZE(S)
Food Processing Facility	20,140 sf	TBD
Mezzanine/Office Space	5,300 sf	
Public Loft / Tasting Court	7,780 sf	

Date of Connection: 2021 (approximate)

Connection Work Desired: ☑ Use Existing Lateral ☐ Other

Dimensions: _____ ft. (length) _____ in. (size) _____ ft. (depth)

Existing Structures/Dwellings on Property: (Provide breakdown below)

TYPE (i.e. Single Family)	QUANTITY(IES)	REMAIN	DEMOLISH
Warehouse	27,920 sf	0 sf	27,920 sf
Storage Building	3,215 sf	0 sf	3,215 sf

Remarks: (Provide any additional information on the lines provided) *To receive a response via e-mail,provide email address below and check box here:* ☑

Project proposes to renovate the existing warehouse building into a Value-Added Product Development Center (VAC) to support postsecondary education in the incubation and marketing of value-added food products. The new educational facility would serve as a multi-purpose facility for activities including, but not limited to, festivals, farmer's markets or other similar market activities/tasting events for food products produced at the facility. The existing sewer connection to California Avenue will be maintained. Please email any questions/correspondence to gkuwaye@wilsonokamoto.com.

FOR DIVISION USE ONLY:

Date of Application: _____ Received By: _____ Application No.: _____

rev. 05/2018

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET * HONOLULU, HAWAII 96813
Phone: (808) 768-8209 * Fax: (808) 768-4210

SEWER CONNECTION APPLICATION

APPLICATION NO.: **2019/SCA-1292** STATUS: **Approved**
DATE RECEIVED: **09/03/2019** IWDP APP. NO.:
PROJECT NAME: **2019/SCA-1292 UHCC Wahiawa Value Added Product Development Center**

LOCATION:

Zone	Section	Plat	Parcel
7	4	012	016

1001 CALIFORNIA AVE Wahiawa 96 **68,475** Sq. Ft.

SPECIFIC LOCATION: **1001 CALIFORNIA AVE Wahiawa 96786**

APPLICANT: **Kuwaye, Glenn R.**
(Wilson Okamoto Corporation)
1907 South Beretania Street, #400
Honolulu, HI 96826

DEVELOPMENT TYPE: **Office Building** SEWER CONNECTION WORK DESIRED:

OTHER USES: **Food Processing**
Public Loft
Tasting Court

NON-RESIDENTIAL AREA: **33,220.00** s.f. APPROXIMATE DATE OF CONNECTION: **01/01/2020**

PROPOSED UNITS	EXISTING UNITS	UNITS TO BE DEMOLISHED
No. of New Units: **0**	No. of Existing Units: **0**	No. of Units to be Demolished: **0**
Studios:	Studios:	Studios:
1-Bedroom:	1-Bedroom:	1-Bedroom:
2-Bedroom:	2-Bedroom:	2-Bedroom:
3-Bedroom:	3-Bedroom:	3-Bedroom:
4-Bedroom:	4-Bedroom:	4-Bedroom:
5-Bedroom:	5-Bedroom:	5-Bedroom:
6-Bedroom:	6-Bedroom:	6-Bedroom:

REMARKS **An Industrial Waste Dischage Permint (IWDP) may be required.**

APPROVAL DATE: **09/05/2019**

EXPIRATION DATE: **09/03/2021**

Valid 2-years after approval date. Construction plans shall be completed and approved within this 2-year period. Construction shall commence within 1-year after approval of plans.
** Applicable WSFC shall be collected at the prevailing rate in accordance with ROH 1990, Chapter 14, Sections 14-10.3, 14-10.4, 14-10.5 and Appendix 14-D.*

REVIEWED BY: ***Jon Coloma***

Site Development Division, **Wastewater Branch**

ExternalID: **075729950-001** JobId: **75729950**

APPENDIX C – WATER SUPPLY SYSTEM INFORMATION

Table C-1 Proposed Average Daily Water Demand Calculations

Availability of Water Request Letter submitted July 29, 2019

Availability of Water Response Letter dated August 20, 2019

RFP - UHCC Value Added Product Development Center
Proposed Water Design Flow Calculations

Type of Use	Zoning Designation	Average Daily Demand
Office	Commercial Only	3,000 gpd/acre

Table C-1: Proposed Average Daily Water Demand Calculations

Facility	Zoning Designation	Area (square feet)	Average Daily Demand (gallons per day per unit)	Average Daily Flow (gallons per day)
VAC Building	Commercial Only	33220 sf	3,000 gpd/acre	2,288
			Total	**2,288**

The proposed total Average Daily Water flow for the LCC Value Added Product Development Center is approximately 2,288 gallons per day.

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
July 29, 2019

City and County of Honolulu
Board of Water Supply
Customer Care Division
630 South Beretania Street
Honolulu, HI 96813

Attention: Mr. Robert Chun

Subject: UHCC Wahiawa Value Added Product Development Center

Dear Mr. Chun:

Wilson Okamoto Corporation is the civil engineering consultant for the University of Hawaii Community Colleges (UHCC) which proposes to redevelop an existing warehouse building located at 1001 California Avenue to a new Value Added Product Development Center (VAC). This VAC building will include a food processing area, office space, and multipurpose public area. The project site is identified by Tax Map Key(s): 7-4-012:016 (See attached TMK). The project site is approximately 1.572 acres and is surrounded by mixed commercial and residential uses.

At this time we would like to get your assistance in determining the adequacy of the existing BWS storage and water distribution system in the vicinity of the project site to support the proposed project. Descriptions of the projected average daily water demand are as follows:

Developed Program – VAC Building

Facility	Zoning Designation	Area	Gal/day/unit	Avg. Daily Demand (gpd)
VAC Building	Commercial Only	33,220 sf	3,000 gpd/acre	2,288 gpd
			Total:	2,288 gpd

In addition to your review of the existing water system adequacy, we would like to obtain pressure and flow information for the existing fire hydrants located in the vicinity of the project site.

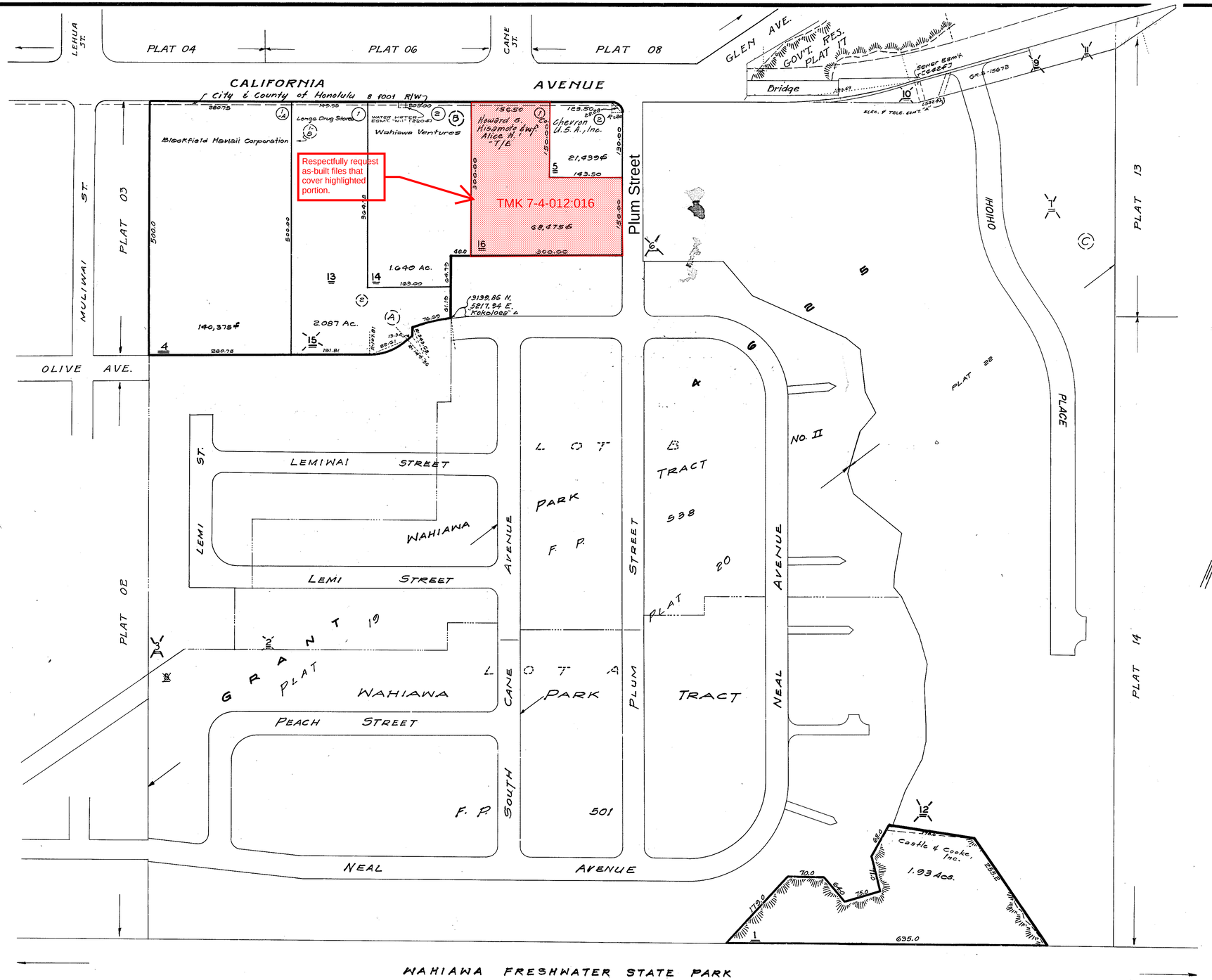
Please call 946-2277 should you have any questions or require additional information.

Sincerely,

Joshua Inaba
Civil Engineer

Enclosures: TMK map

CORRECTED
SEP 5 1939
NOV 22 1939
SEP 16 1940
APR 13 1942
OCT 11 1942
DEC 16 '48
FEB 13 1951
APR 18 1951
DEC 19 '52
FEB 18 '53
MAR 19 '53
APR 14 '53
JUN 26 '53
SEP 28 '53
NOV 23 '53
JAN 21 '54
NOV 16 '55
MAY 17 '57
JAN 14 '60
FEB 25 '60
JUL 15 '60
FEB 28 '61
MAR 22 '61
MAY 1 '61
DEC 19 '61
JAN 8 '62
AUG 25 '63
SEP 6 '63
FEB 27 '68
MAR 21 1969
SEP 26 1969
AUG 13 1974
AUG 24 1974



Dwg. No: 1527
By: DJC & RKB - June, 1933
Source: Tax Maps Bureau

POR. LOT 4 - GR. 4625, WAHIAWA, OAHU

SECTION 6

ADVANCE SHEET SUBJECT TO CHANGE

Dropped Parcel 8,7,9,11,12, 8,2,3,10,15,

FIRST DIVISION		
ZONE	SEC.	PLAT
7	4	12

CONTAINING PARCELS

SCALE: 1-in.=100 ft.

PRINTED

BOARD OF WATER SUPPLY

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

KIRK CALDWELL, MAYOR

BRYAN P. ANDAYA, Chair
KAPUA SPROAT, Vice Chair
KAY C. MATSUI
RAY C. SOON
MAX J. SWORD

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

August 20, 2019

RECEIVED
AUG 21 2019
WILSON OKAMOTO CORPORATION

Mr. Joshua Inaba
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Inaba:

Subject: Your Letter Dated July 29, 2019 Regarding Availability of Water for University of Hawaii Community Colleges Wahiawa Value Added Product Development Center off California Avenue – Tax Map Key: 7-4-012: 016

Thank you for your letter regarding the proposed value added product center.

The existing water system is adequate to accommodate the proposed food processing, office, and multipurpose public area development. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply (BWS) 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.

Water conservation measures are recommended for all proposed developments. These measures include utilization of nonpotable water for irrigation using rain catchment, drought tolerant plants, xeriscape landscaping, efficient irrigation systems, such as a drip system and moisture sensors, and the use of Water Sense labeled ultra-low flow water fixtures and toilets.

The proposed project is subject to BWS Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

The BWS has suspended fire flow tests on fire hydrants as a water conservation measure. However, you may use the following calculated flow data for Fire Hydrant No. C00554 and C00774:

Fire Hydrant Number	Location	Static Pressure (psi)	Residual Pressure (psi)	Flow (gpm)
C00554	California Ave.	66	32	2,000
C00774	Plum St.	70	20	2,000

The data is based on the existing water system, and the static pressure represents the theoretical pressure at the point of calculation with the reservoir full and no demands on the water system. The static pressure is not indicative of the actual pressure in the field. Therefore, in order to determine the flows that are available to the site, you will have to determine the actual field pressure by taking on-site pressure readings at various times of the day and correlating that field data with the above hydraulic design data.

The map showing the location of the fire hydrants is attached.

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

Attachment

74006019
N CANE ST
C00683
C00554
CALIFORNIA AVE
74012005
C00774
PLUMS ST
74012016
WAHIAWA 1075
74012014
CP0063
74020113
74020114

Appendix D:

Pre-Assessment Consultation Comment Letters and Responses

BOARD OF WATER SUPPLY

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

KIRK CALDWELL, MAYOR

BRYAN P. ANDAYA, Chair
KAPUA SPROAT, Vice Chair
KAY C. MATSUI
RAY C. SOON
MAX J. SWORD

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

September 12, 2019

RECEIVED
SEP 13 2019
WILSON OKAMOTO CORPORATION

Mr. Keola Cheng
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Cheng:

Subject: Your Letter Dated August 12, 2019 Requesting Comments on the Environmental Assessment Pre-Consultation for University of Hawaii Community Colleges Wahiawa Value Added Product Development Center off California Avenue – Tax Map Key: 7-4-012: 016

Thank you for the opportunity to comment on the proposed agricultural education facility.

The existing water system is adequate to accommodate the proposed jointly managed University of Hawaii Community Colleges and State of Hawaii Department of Agriculture Agribusiness Development Corporation development. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply (BWS) 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.

Water conservation measures are required for all proposed developments. These measures include utilization of nonpotable water for irrigation using rain catchment, drought tolerant plants, xeriscape landscaping, efficient irrigation systems, such as a drip system and moisture sensors, and the use of Water Sense labeled ultra-low flow water fixtures and toilets.

The proposed development will be required to meet BWS cross-connection control and backflow prevention requirements.

The construction drawings should be submitted for our review, and the construction schedule should be coordinated to minimize impact to the water system.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

If you have any questions, please contact Robert Chun, Project Review Branch of our Water Resources Division at 748-5443.

Very truly yours,

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
November 8, 2019

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

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Wahiawā Product Development Center
Tax Map Keys TMK [1] 7-4-012:016
Honolulu, Oʻahu, Hawaiʻi

Dear Mr. Lau:

Thank you for your letter dated September 12, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation.

The scope of your comments is acknowledged and will be incorporated into the EA process moving forward. Per your request, a consultation meeting will be coordinated with your office once the proposed project alignment is determined and additional details are available.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng,
Project Manager

cc: Joleen Miranda-Pesquira, Ushijima Architects
Denise Yoshimori-Yamamoto, UHCC

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
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

RECEIVED
SEP 06 2019
WILSON OKAMOTO CORPORATION

September 4, 2019

Wilson Okamoto Corporation
ATTN: Keola Chang
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Chang,

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for UHCC Wahiawa Value Added Product Development Center
TMK: [1] 7-4-012:016 Wahiawa, Oahu, Hawaii

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 contact me at 768-8480.

Sincerely,

Robert J. Kroning, P.E.
Director

RJK:ms(782939)

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
November 8, 2019

Mr. Robert J. Kroning P.E.
Director
City and County of Honolulu
Department of Design and Construction
650 South King Street, 11th Floor
Honolulu, HI 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Wahiawā Product Development Center
Tax Map Keys TMK [1] 7-4-012:016
Honolulu, O‘ahu, Hawai‘i

Dear Mr. Kroning:

Thank you for your letter dated September 4, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation.

The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng,
Project Manager

cc: Joleen Miranda-Pesquira, Ushijima Architects
Denise Yoshimori-Yamamoto, UHCC

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 19-485

August 30, 2019

Mr. Keola Cheng, Associate Director
Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
SEP 06 2019
WILSON OKAMOTO CORPORATION

Dear Mr. Cheng:

Subject: Environmental Assessment, Pre-Assessment Consultation,
UHCC Wahiawa Value Added Product Development Center
Tax Map Keys: (1) 7-4-012:016, Wahiawa

Thank you for the opportunity to review and comment on the subject project.

Our comments are as follow:

- There is a City right-of-way that runs through TMK: 7-4-012:016, we are kindly requesting for a variance to be submitted prior to the start of work.
- Once construction phase commence, install approved Best Management Practices fronting all drainage facilities on Plum Street and California Avenue.
- During construction and upon completion of the project; any damages/deficiencies to along the sidewalks and/or roadways on California Avenue and Plum Street shall be repaired to City standards and accepted by the City at no cost to the City and County of Honolulu.

If you have any questions, please call Mr. Kyle Oyasato of the Division of Road Maintenance at 768-3697.

Sincerely,

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

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
November 8, 2019

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

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Wahiawā Product Development Center
Tax Map Keys TMK [1] 7-4-012:016
Honolulu, Oʻahu, Hawaiʻi

Dear Mr. Sasamura:

Thank you for your letter dated August 30, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation.

The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng,
Project Manager

cc: Joleen Miranda-Pesquira, Ushijima Architects
Denise Yoshimori-Yamamoto, UHCC

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

KIRK CALDWELL
MAYOR

KATHY K. SOKUGAWA
ACTING DIRECTOR

TIMOTHY F. T. HIU
DEPUTY DIRECTOR

EUGENE H. TAKAHASHI
DEPUTY DIRECTOR

2019/ELOG-1600(ay)
1753813

September 19, 2019

Mr. Keola Cheng
Associate Director - Planning
Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
SEP 20 2019
WILSON OKAMOTO CORPORATION

Dear Mr. Cheng:

SUBJECT: Environmental Pre-Assessment Consultation
UHCC Wahiawa Value Added Product Development Center
Tax Map Key 7-4-012: 016, Wahiawa, Hawaii

This is in response to your letter received by the Department of Planning and Permitting (DPP) on August 13, 2019, regarding preparation of a Draft Environmental Assessment (DEA) for the proposed University of Hawaii Community Colleges (UHCC) Wahiawa Value Added Product Development Center.

We have the following comments:

1. The DEA should include a discussion on how the proposed project addresses the policies and guidelines of the Oahu General Plan (GP) and the Central Oahu Sustainable Communities Plan (CO SCP). Note that an update to the CO SCP is pending at City Council as Bill 41 (2019), CD1. Please check on the status of the bill prior to publication of the DEA. The bill may be viewed at honolulu.gov/council and by clicking on the "Look up Bills" link.

2. The DEA should address if and how the proposed project will comply with the following Land Use Ordinance (LUO) provisions applicable to the project site:

   - The subject site is zoned B-2 Community Business District. Development must comply with the B-2 District development standards and the 60-foot height limit.

- The use of the site and facility by the UHCC and the Department of Agriculture (DOA) is permitted as a "Public Use and Structure" provided the activities are conducted by, or structures are owned or managed by the State agencies to fulfill a governmental function, activity or service for public benefit and in accordance with public policy.

- As a "Public Use and Structure," development standards may be modified through a zoning waiver.

- Uses that are not under the administrative responsibility of the UHCC or DOA must comply with the B-2 District development standards. Permitted uses in the B-2 District are listed in Table 21-3 of the LUO.

3. A Sewer Connection Application will be required for the proposed project.

4. The DEA should indicate if the proposed project is located within the 3.2-foot sea level rise exposure area (SLR-XA) or its proximity to the SLR-XA, which can be viewed online at http://www.pacioos.hawaii.edu/shoreline/slr-hawaii/. It should discuss potential impacts from sea level rise and climate change, if any, or if any steps to minimize risks have been determined, as applicable.

5. The DEA should include a list of all required city, state, and federal approvals for the proposed project.

Should you have further questions, please contact Andrew Yamaguchi at 768-8044 or Lin Wong at 768-8018.

Very truly yours,

Dina L.T. Wong
Acting Chief
Planning Division

AY:tc

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
November 8, 2019

Mrs. Dina L.T Wong
Acting Chief
City and County of Honolulu
Department of Planning and Permitting
Planning Division
650 South King Street, 7th Floor
Honolulu, HI 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Wahiawā Product Development Center
Tax Map Keys TMK [1] 7-4-012:016
Honolulu, O‘ahu, Hawai‘i

Dear Mrs. Wong:

Thank you for your letter dated September 19, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation.

The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng,
Project Manager

cc: Joleen Miranda-Pesquira, Ushijima Architects
Denise Yoshimori-Yamamoto, UHCC

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

RECEIVED
SEP 09 2019
WILSON OKAMOTO CORPORATION

September 5, 2019

Mr. Keola Cheng, Associate Director
Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Cheng:

Subject: Preassessment Consultation for Environmental Assessment
University of Hawaii Community Colleges
Wahiawa Value Added Product Development Center
Wahiawa, Hawaii 96786
Tax Map Keys: 7-4-012: 016

In response to your letter dated August 12, 2019, regarding the abovementioned subject, the Honolulu Fire Department (HFD) reviewed the submitted information and requires that the following be complied with:

1. Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet (46 meters) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; 2012 Edition, Sections 18.2.3.2.2 and 18.2.3.2.2.1.)

   A fire department access road shall extend to within 50 feet (15 meters) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1; 2012 Edition, Section 18.2.3.2.1.)

2. A water supply approved by the county, capable of supplying the required fire flow for fire protection shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter

constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet (45,720 millimeters) from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1; 2012 Edition, Section 18.3.1, as amended.)

3. The unobstructed width and unobstructed vertical clearance of a fire apparatus access road shall meet county requirements. (NFPA 1; 2012 Edition, Sections 18.2.3.4.1.1 and 18.2.3.4.1.2, as amended.)

4. Submit civil drawings to the HFD for review and approval.

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

Sincerely,

SOCRATES D. BRATAKOS
Assistant Chief

SDB/TC:gl

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
November 8, 2019

Mr. Socrates D. Bratakos
Assistant Chief
City and County of Honolulu
Fire Department
636 South Street
Honolulu, HI 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Wahiawā Product Development Center
Tax Map Keys TMK [1] 7-4-012:016
Honolulu, Oʻahu, Hawaiʻi

Dear Mr. Bratakos:

Thank you for your letter dated September 5, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation.

The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng,
Project Manager

cc: Joleen Miranda-Pesquira, Ushijima Architects
Denise Yoshimori-Yamamoto, UHCC

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

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

KIRK CALDWELL
MAYOR

SUSAN BALLARD
CHIEF

JOHN D. McCARTHY
JONATHON GREMS
DEPUTY CHIEFS

OUR REFERENCE GO-DK

August 30, 2019

Mr. Keola Cheng
Associate Director
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
SEP 06 2019
WILSON OKAMOTO CORPORATION

Dear Mr. Cheng:

This is in response to your letter of August 12, 2019, requesting comments on a Pre-Assessment Consultation, Draft Environmental Assessment, for the proposed University of Hawaii Community Colleges Wahiawa Value Added Product Development Center project.

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

If there are any questions, please call Major Gregory Osbun of District 2 (Wahiawa) at 723-8703.

Thank you for the opportunity to review this project.

Sincerely,

ALLAN T. NAGATA
Assistant Chief
Support Services Bureau

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
November 8, 2019

Mr. Allan T. Nagata
Assistant Chief
Support Services Bureau
City and County of Honolulu
Police Department
801 South Beretania Street
Honolulu, HI 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Wahiawā Product Development Center
Tax Map Keys TMK [1] 7-4-012:016
Honolulu, O‘ahu, Hawai‘i

Dear Mr. Nagata:

Thank you for your letter dated August 30, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation.

The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng,
Project Manager

cc: Joleen Miranda-Pesquira, Ushijima Architects
Denise Yoshimori-Yamamoto, UHCC

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

TP8/19-783142R

September 23, 2019

Mr. Keola Cheng, Associate Director
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
OCT 03 2019
WILSON OKAMOTO CORPORATION

Dear Mr. Cheng:

SUBJECT: Environmental Assessment Pre-Assessment Consultation for UHCC Wahiawa Value Added Product Development Center
TMK: 1-7-4-012: 016, Wahiawa, Oahu, Hawaii

This is in response to your letter dated August 12, 2019 requesting our review and comments on the subject project. We have the following comments on the proposed project and the following issues need to be addressed:

1. **Transportation Impact Assessment (TIA).**

   a. A multi-modal TIA should be completed. The TIA should calculate and examine the vehicle, pedestrian, bicycle, and public transit stress and comfort levels at the nearby intersections and project access driveways with corresponding improvements to mitigate these impacts by applying Complete Streets principles.

   b. Use person and vehicle trip rates from the Institute of Traffic Engineer's Trip Generation Manual and assign these trips to the transportation system. This will require analysis of crossing treatments using National Cooperative Highway Research Program 562 methodology for pedestrian measures.

   c. The calculated and observational Level of Service (LOS) should be provided.

   d. Define performance measures for use in the study:

i. V/C ratio targets that are >1 for 1st and/or 2nd highest peak hours;
ii. Identify where vehicle LOS will not be used;
iii. Pedestrian LOS/PEQI;
iv. Bicycle Level of Traffic Stress;
v. Transit Capacity and Quality of Service

2. **Pedestrian and Bicycle Facilities.** A pedestrian and bicycle graphic plan for the facility should be provided that includes internal pedestrian sidewalks and bicycle facilities for the property and how they connect to the external streets and bus stops.

3. **Wayfinding.** Provide specific wayfinding strategies and signage design for bicycle, pedestrian, and transit wayfinding throughout the development. See Section 6.6.3 of the Honolulu Complete Streets Design Manual on Bicycle Wayfinding, and Section 8.4 on Transit Wayfinding.

4. **Traffic Management Plan (TMP).** A TMP should be prepared for this project that is jointly reviewed and accepted by the Department of Transportation Services (DTS) and the Department of Planning and Permitting. The TMP shall include the following:

   a. A discussion of the traffic impacts that the project may have on any surrounding City and State roadways and facilities, including short-term impacts during construction and long-term impacts after construction with corresponding measures to mitigate these impacts by applying Complete Streets principles.

   b. Traffic Demand Management strategies to minimize the amount of vehicular trips to the site.

   c. 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.

   d. Inform residents, employees and visitors of the City's vanpool and car share programs to promote alternate modes of transportation. Provide reserved parking for carpool and vanpool vehicles on-site. For more information, go to www.enterprisecarshare.com and www.enterprisecarshare.com.

5. **Bicycle Parking.** Short and long-term bicycle parking should be provided whenever new floor area, new dwelling unit or a new parking structure is proposed and located as close as possible to the entrances to the principal uses.

6. **Bicycle Corrals.** The Draft Environmental Assessment shall illustrate publicly accessible, ground-level, short-term high-capacity bicycle parking facilities, as outlined in the Complete Streets Design Manual (page 161-162).

7. **Electric Vehicle Parking.** Places of public accommodation with at least 100 parking spaces available for use by the general public shall have at least one parking space exclusively for electric vehicles and equipped with an electric vehicle charging system located anywhere in the parking structure, as per HRS §291-71.

8. **Bikeshare Expansion.** Contact Bikeshare Hawaii for possible expansion of bikeshare facilities to this area. If Bikeshare expansion is agreed upon for the area, please include bikeshare stations.

9. **Public Transit Service Area.** This project is in an existing public transit service area. To ensure that the project development does not affect public transit services (bus operations, bus routes, bus stops and para-transit operations); submit project plans to DTS - Public Transit Division (PTD) for review and approval. Contact DTS-PTD at 768-8396, 768-8370, 768-8374 or TheBusStop@honolulu.gov.

10. **Driveway Design.** All access driveways to the project site should be designed with the highest pedestrian and bicycle safety measures and constructed to current City standards. Provide a graphic plan of how bicycles and pedestrians will be accommodated at intersections and driveways.

11. **TheHandi-Van Loading and Unloading.** The project should be designed to accommodate TheHandi-Van para-transit vehicles on-site, which require a minimum 31-foot turning radius, a 10-foot, 6-inch height clearance, and the ability to exit the area without reversing.

12. **Priority Guidelines on Sustainability.** In order to address priority guidelines on sustainability through HRS § 226-108, the project should consider certification by a sustainable neighborhood rating system, including but not limited to nationally recognized rating systems such as Leadership in Energy and Environmental Design for Neighborhood

Development (LEED-ND), Green Enterprise Communities, Ecodistricts, or another comparable State-approved, nationally recognized, and consensus-based guideline, standard, or system.

The DTS supports certification such as LEED for Building Design and Construction and/or LEED-ND as it reduces impacts including but not limited to: a) minimizing the environmental harms associated with parking facilities, including automobile dependence, land consumption, and rainwater runoff, b) reducing pollution by promoting alternatives to conventionally fueled automobiles, c) increasing access to quality transit, d) reducing Vehicle Miles Traveled through the integration of bicycle facilities and e) compact, walkable development that encourages a density and diversity of surrounding uses.

13. **Best Management Practice (BMP) Controls.** BMP controls should be included at the construction site to prevent trailing of dirt and debris on the public roadways.

14. **Neighborhood Impacts.** 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.

15. **Disability and Communication Access Board (DCAB).** Project plans (interior and exterior layouts, vehicular and pedestrian circulation, sidewalks, parking and pedestrian pathways, vehicular ingress/egress, etc.) should be reviewed and approved by DCAB to ensure full compliance with the Americans with Disabilities Act requirements.

Thank you for the opportunity to review this matter. Should you have any questions, please contact Virginia Sosh of my staff at 768-5461.

Very truly yours,

Wes Frysztacki
Director

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
November 8, 2019

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

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Wahiawā Product Development Center
Tax Map Keys TMK [1] 7-4-012:016
Honolulu, O‘ahu, Hawai‘i

Dear Mr. Frysztacki:

Thank you for your letter dated September 23, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation.

The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng,
Project Manager

cc: Joleen Miranda-Pesquira, Ushijima Architects
Denise Yoshimori-Yamamoto, UHCC

DAVID Y. IGE
GOVERNOR

CURT T. OTAGURO
COMPTROLLER

AUDREY HIDANO
DEPUTY COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)19.182

AUG 28 2019

RECEIVED
AUG 30 2019
WILSON OKAMOTO CORPORATION

Mr. Keola Cheng, Associate Director - Planning
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Cheng:

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for UHCC Wahiawa Value Added Product Development Center
TMK: (1)7-4-012:016
Wahiawa, Oahu, Hawaii

Thank you for the opportunity to provide comments for the subject project. We have no comments to offer at this time, as the subject project does not appear to directly impact any Department of Accounting and General Services' managed facilities. However, we do intend to monitor this project as it develops, given our Wahiawa Civic Center's proximity to the project site.

If you have any questions or require further information, please call Dennis Chen of our Public Works Division at 586-0491.

Sincerely,

Audrey Hidano

for CURT T. OTAGURO
Comptroller

c: Ms. Denise Yoshimori-Yamamoto, University of Hawaii Community Colleges
Ms. Joleen Miranda-Pesquira, Ushijima Architects, Inc.

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
November 8, 2019

Mr. Curt T. Otaguro
Comptroller
State of Hawai‘i
Department of Accounting and General Services
1132 Bishop Street, Suite 1410
Honolulu, HI 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Wahiawā Product Development Center
Tax Map Keys TMK [1] 7-4-012:016
Honolulu, O‘ahu, Hawai‘i

Dear Mr.Otaguro:

Thank you for your letter dated August 28, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation.

We acknowledge that the Department of Accounting and General Services does not have any comments at this time.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng,
Project Manager

cc: Joleen Miranda-Pesquira, Ushijima Architects
Denise Yoshimori-Yamamoto, UHCC

DAVID Y. IGE
GOVERNOR

DR. CHRISTINA M. KISHIMOTO
SUPERINTENDENT

STATE OF HAWAI`I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI`I 96804

OFFICE OF FACILITIES AND OPERATIONS

RECEIVED
SEP 09 2019
WILSON OKAMOTO CORPORATION

September 4, 2019

Mr. Keola Cheng
Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826

Re: Environmental Assessment Pre-Consultation for UHCC Wahiawa Value Added Product Development Center, Tax Map Key, 7-4-012:016, Wahiawa, Oahu, Hawaii.

Dear Mr. Cheng:

The Hawaii State Department of Education (HIDOE) has the following comments for the proposed Wahiawa Value Added Product Development Center (Project) utilizing an existing warehouse space on approximately 1.572 acres of land located at Wahiawa, Island of Oahu, TMK 7-4-012:016.

The proposed Project will not impact HIDOE schools and facilities.

Thank you for the opportunity to comment. Should you have question, please contact Robyn Loudermilk, School Lands and Facilities Specialist of the Facilities Development Branch, Planning Section, at 784-5093 or via email at robyn.loudermilk@k12.hi.us.

Respectfully,

Kenneth G. Masden II
Public Works Manager
Planning Section

KGM:rll

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
November 8, 2019

Mr. Kenneth G. Masden II
Public Works Manager
State of Hawai‘i
Department of Education
1390 Miller St.
Honolulu, HI 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Wahiawā Product Development Center
Tax Map Keys TMK [1] 7-4-012:016
Honolulu, O‘ahu, Hawai‘i

Dear Mr. Masden:

Thank you for your letter dated September 4, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation.

We acknowledge that the Department of Education, does not have any comments at this time.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng,
Project Manager

cc: Joleen Miranda-Pesquira, Ushijima Architects
Denise Yoshimori-Yamamoto, UHCC

DAVID Y. IGE
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

LUD – 1 7 4 012 016 Env Asmnt
Wahiawa Prod Dev Center-ID4780

September 4, 2019

Mr. Keola Cheng
Associate Director - Planning
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
SEP 11 2019
WILSON OKAMOTO CORPORATION

Dear Mr. Cheng:

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for UHCC Wahiawa Value Added Product Development Center
1001 California Avenue, Wahiawa, Oahu 96786 TMK (1) 7-4-012: 016

Thank you for allowing us the opportunity to provide comments on the above subject project in which we have the following comments to offer.

The subject project is located in the critical wastewater disposal area as determined by the Oahu Wastewater Advisory Committee. Domestic wastewater treatment and disposal was not addressed in the document. However, it is our understanding that a sewer lateral connection to the City and County of Honolulu's (CCH's) sewer system is available for the subject property. Therefore, the CCH, Department of Environmental Services should be contacted to obtain sewer connection approval for the proposed project, as the installation and use of any individual wastewater system, such as septic tank system will not be allowed per Hawaii Administrative Rules, Chapter 11-62, section 11-62-06(b) "Wastewater Systems."

Should you have any questions, please contact Mr. Mark Tomomitsu of my staff at 586-4294.

Sincerely,

SINA PRUDER, P.E., CHIEF
Wastewater Branch

LM/MST:lmj

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
November 8, 2019

Mr. Sina Pruder, P.E.
Division Chief
State of Hawaii
Department of Health- Water Branch
650 South King Street, 11th Floor
Honolulu, HI 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Wahiawā Product Development Center
Tax Map Keys TMK [1] 7-4-012:016
Honolulu, Oʻahu, Hawaiʻi

Dear Mrs. Pruder:

Thank you for your letter dated September 4, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation.

We acknowledge that the projected is located in the critical water disposal area. To insure a more accurate Draft EA will address the projects impact on Domestic Wastewater Treatment and Disposal. The scope of your comments will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng,
Project Manager

cc: Joleen Miranda-Pesquira, Ushijima Architects
Denise Yoshimori-Yamamoto, UHCC

DAVID Y. IGE
GOVERNOR

JADE T. BUTAY
DIRECTOR

Deputy Directors
LYNN A.S. ARAKI-REGAN
DEREK J. CHOW
ROSS M. HIGASHI
EDWIN H. SNIFFEN

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION
400 RODGERS BOULEVARD, SUITE 700
HONOLULU, HAWAII 96819-1880

IN REPLY REFER TO:
AIR-EP
19.0092

August 28, 2019

Mr. Keola Cheng
Associate Director
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
AUG 30 2019
WILSON OKAMOTO CORPORATION

Dear Mr. Cheng:

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for UHCC Wahiawa Value Added Product Development Center

Thank you for the early consultation on the subject EA. The Department of Transportation, Airports Division, has no comments at this time.

If there are any questions, please contact Mr. Herman Tuiolosega, Head Planner, at (808) 838-8810.

Sincerely,

ROSS M. HIGASHI
Deputy Director - Airports

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
November 8, 2019

Mr. Ross M. Higashi
Deputy Director- Airports
State of Hawai‘i
Department of Transportation
Airport Division
400 Rodgers Blvd, Suite 700
Honolulu, HI 96819-1880

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Wahiawā Product Development Center
Tax Map Keys TMK [1] 7-4-012:016
Honolulu, O‘ahu, Hawai‘i

Dear Mr. Higashi:

Thank you for your letter dated August 28, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation.

We acknowledge that the Department of Transportation- Airport Division, does not have any comments at this time.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng,
Project Manager

cc: Joleen Miranda-Pesquira, Ushijima Architects
Denise Yoshimori-Yamamoto, UHCC

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

August 21, 2019

RECEIVED
AUG 27 2019
WILSON OKAMOTO CORPORATION

Mr. Keola Cheng, Associate Director
Wilson Okamoto Corporation
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Cheng:

SUBJECT: Environmental Assessment Pre-Assessment Consultation
UHCC Wahiawa Value Added Product Development Center
Tax Map Keys (1) 7-4-012:016
Wahiawa, Oahu, Hawaii

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 John Reid, Planner at 768-3017.

Sincerely,

Michele K. Nekota
Director

MKN:jr
(783230)

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
November 8, 2019

Mrs. Michele K. Nekota
Director
State of Hawai‘i
Department of Parks & Recreation
1000 Uluohia Street, Suite 309
Kapolei, HI 96707

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Wahiawā Product Development Center
Tax Map Keys TMK [1] 7-4-012:016
Honolulu, O‘ahu, Hawai‘i

Dear Mrs. Nekota:

Thank you for your letter dated August 21, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation.

We acknowledge that the Department of Parks and Recreation does not have any comments at this time.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng,
Project Manager

cc: Joleen Miranda-Pesquira, Ushijima Architects
Denise Yoshimori-Yamamoto, UHCC

HAWAI'I GAS
THE CLEAN ENERGY COMPANY

September 11, 2019

Mr. Keola Cheng
Associate Director
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Cheng:

Subject: Environmental Assessment Pre-Assessment Consultation for UHCC Wahiawa Value Added Product Development Center Plan Review and Comment

In response to your letter dated August 12, 2019, it has been determined that the project area is currently clear of utility gas facilities.

Thank you for the opportunity to review the project plans. Should there be any questions, or if additional information is desired, please feel free to contact Talon Choy at (808) 594-5549.

Sincerely,

Hawaii Gas

Keith K. Yamamoto
Manager, Engineering

KKY:krs

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
November 8, 2019

Mr. Keith K. Yamamoto
Manager, Engineering
Hawaii Gas
P.O. Box 3000
Honolulu, HI 96802-3000

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Wahiawā Product Development Center
Tax Map Keys TMK [1] 7-4-012:016
Honolulu, Oʻahu, Hawaiʻi

Dear Mr. Yamamoto:

Thank you for your letter dated September 11, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation.

The scope of your comments is acknowledged and will be incorporated into the EA process moving forward.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng,
Project Manager

cc: Joleen Miranda-Pesquira, Ushijima Architects
Denise Yoshimori-Yamamoto, UHCC

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

LD 1496

September 11, 2019

Keola Cheng, Associate Director
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Via email: KCheng@wilsonokamoto.com

Dear Mr. Cheng:

SUBJECT: **Environmental Assessment (EA) Pre-Assessment Consultation for UHCC Wahiawā Value Added Product Development Center** at Wahiawā, Island of Oahu; TMK.: (1) 7-4-012:016

Thank you for the opportunity to review and comment on the above subject matter. The Land Division of the Department of Land and Natural Resources (DLNR) distributed a copy of your request dated 08/12/2019 to DLNR's Divisions for their review and comment.

Attached are responses from DLNR's a) Engineering Division and b) Land Division—Oahu District. Should you have any questions, please feel free to contact Barbara Lee at (808) 587-0453 or by email at barbara.j.lee@hawaii.gov. Thank you.

Sincerely,

for Russell Y. Tsuji
Land Administrator

Attachments
cc: Central Files

CO 79184

LO 1496

RECEIVED

2019 AUG 13 AM 10: 17

DEPT. OF LAND
& NATURAL RESOURCES
STATE OF HAWAII

RECEIVED
LAND DIVISION

2019 AUG 15 AM 11: 03

DEPT. OF LAND &
NATURAL RESOURCES
STATE OF HAWAII

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
August 12, 2019

Ms. Suzanne Case
State of Hawaii
Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, HI 96813

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for
UHCC Wahiawā Value Added Product Development Center
Tax Map Keys (TMK): [1] 7-4-012:016
Wahiawā, O'ahu, Hawai'i

Dear Ms. Case:

On behalf of the University of Hawai'i Community Colleges, Wilson Okamoto Corporation is currently preparing a Draft Environmental Assessment (EA) for the proposed UHCC Wahiawā Value Added Product Development Center. The proposed project involves the use of State lands and funds and is therefore subject to the environmental documentation requirements prescribed under Chapter 343, Hawai'i Revised Statutes (HRS).

As part of the EA pre-assessment consultation process, we are soliciting comments you may have on the proposed project. A summary of the proposed project and associated figures are enclosed, for your review. Please submit your written comments addressed to:

Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawai'i 96826
Attention: Keola Cheng, Associate Director

We would appreciate your written comments by September 11, 2019. Comments may also be faxed to our office at (808) 946-2253, with a subject line of "UHCC Wahiawā Value Added Product Development Center".

Should you have any questions or require additional information regarding this request, please call Mr. Keola Cheng or myself at 946-2277. Thank you for your consideration in this matter.

Sincerely,

Keola Cheng

Keola Cheng, Associate Director - Planning

Enclosures

cc: Denise Yoshimori-Yamamoto, University of Hawai'i Community Colleges
Joleen Miranda-Pesquira, Ushijima Architects, Inc.

The Wahiawā Product Development Center
Wahiawā, O'ahu, Hawai'i
Project Summary

The University of Hawai'i Community Colleges is proposing to construct the Wahiawā Product Development Center (WPDC) located at 1001 California Avenue in downtown Wahiawā (See Figure 1). The goal of the project is to repurpose an existing metal warehouse that formerly housed Tamura's Wholesale Outlet. The warehouse was acquired by the State of Hawai'i Department of Agriculture's (DOA) Agribusiness Development Corporation in 2013 to advance agriculture in Hawai'i. The WPDC would be jointly managed by the University of Hawai'i Community Colleges and the State of Hawai'i Department of Agriculture's Agribusiness Development Corporation.

PROJECT SITE

The proposed project site is located in downtown Wahiawā on the island of O'ahu. The proposed project will repurpose an existing metal warehouse as the WPDC. The WPDC will cover approximately 32,375 square feet and is further identified by Tax Map Key (TMK) [1] 7-4-012:016 (See Figure 2).

The project site is a 1.572-acre parcel identified by TMK [1] 7-4-012:016, which was acquired by the DOA's Agribusiness Development Corporation in 2013. The project site is occupied by an existing metal warehouse that formerly housed Tamura's Wholesale Outlet and a paved parking lot. The project site is located at the corner of California Avenue and Plum Street.

The area surrounding the project site is characterized by a residential neighborhoods to the south. To the east, across Plum Street, is Ho'āla School and the Wahiawā Hongwanji Mission. Adjacent to the subject parcel to the northeast is Wahiawa Auto Repair and Maintenance. North of the project site is Fred Wright Park. To the northwest of project site is a 76 gas station and the Wahiawa Transit Center & Park and Ride. Adjacent to the west is a shopping center which includes Long's Drug Store, Supercuts, GNC, various restaurants, and other enterprises (See Figure 3).

PURPOSE AND NEED

The goal of the project is to repurpose the existing warehouse as the WPDC that will be jointly managed by the University of Hawai'i Community Colleges and the DOA's Agribusiness Development Corporation. The warehouse was acquired in 2013 by the Agribusiness Development Corporation to advance agriculture in Hawai'i.

The WPDC will advance agriculture by teaching value-added agriculture and entrepreneurship. Value-added agriculture generally focuses on production or manufacturing processes, marketing, or services that increase the value of primary agricultural commodities.

The WPDC will offer a set of programs, services, and training that promote innovation and entrepreneurship within the agricultural industry. The WPDC will provide students access to land, capital, credit, and opportunities to learn and develop skills in agribusiness. Specifically, the WPDC will support postsecondary education programs aimed towards the development and marketing of value-added food products through recycling of nearby agricultural byproducts.

The WPDC will also market and develop products and platforms that promote the promulgation of locally grown food resources. The WPDC aims to develop students to be leaders and successful in the food sciences industry and food systems development.

In general the objectives of the WPDC are:

- Support postsecondary education in the incubation and marketing of value-added food products;
- Offer and inspire work and a learning environment capable of attracting students to pursue careers in the food sciences;
- Support the community college's agricultural product processing curriculum, while fulfilling the Agribusiness Development Corporation's larger objective to advance agriculture in Hawai'i;
- Contribute to the Hawai'i Agricultural Industry by increasing the opportunity to grow and produce more foods to generate new sources of revenue for producers;
- Encourage agribusiness through food-related product development. Build the capacity for local residents to develop entrepreneurial skills and create successful small businesses;
- Provide community access to small business resources and develop a network of public and private partnerships that contributes to the success of small businesses; and
- The WPDC becomes the premier education and consulting resource for aspiring and current entrepreneurs.

PROJECT DESCRIPTION

The existing metal warehouse is to be repurposed as the WPDC. The new facility would serve as a multi-purpose facility for activities including, but not limited to, festivals, farmer's markets or other similar market activities, tasting events, merchandising for food products from the facility, etc. The main user of the WPDC will be Leeward Community College (LCC). Their educational programming will include:

- An entrepreneurship program that will introduce skills vital to start and sustain a food-product based business;
- Integration of curriculum with existing Career and Technical Education (CTE) courses in the areas of agriculture, business, culinary, and industrial integrated technology (manufacturing); and
- Short-term trainings and workshops that target aspiring or existing small business owners. Topics can include but are not limited to the areas of human resources, business development, food safety, process analysis, sales and marketing.

When in not in use by LCC, the food production facilities will be open to the public or small businesses. The design and innovation of the WPDC facility will help to build interconnected performance among innovation, commerce, public awareness, and education. The WPDC facility will be designed to include space for:

- A welcoming center
- A public loft
- A tasting court
- Public restrooms
- An allergen kitchen
- An event/media kitchen
- A product incubation loft
- A receiving/shipping/storage space
- Core/storage space
- An administration/testing loft

The WDPC production processes proposed include but not limited to: baked goods, juicing, fermentation/pickling, food grade cosmetics, and packaging. Additional processes proposed are: chocolate, charcuterie, confections, and ice cream.

ENVIRONMENTAL ASSESSMENT

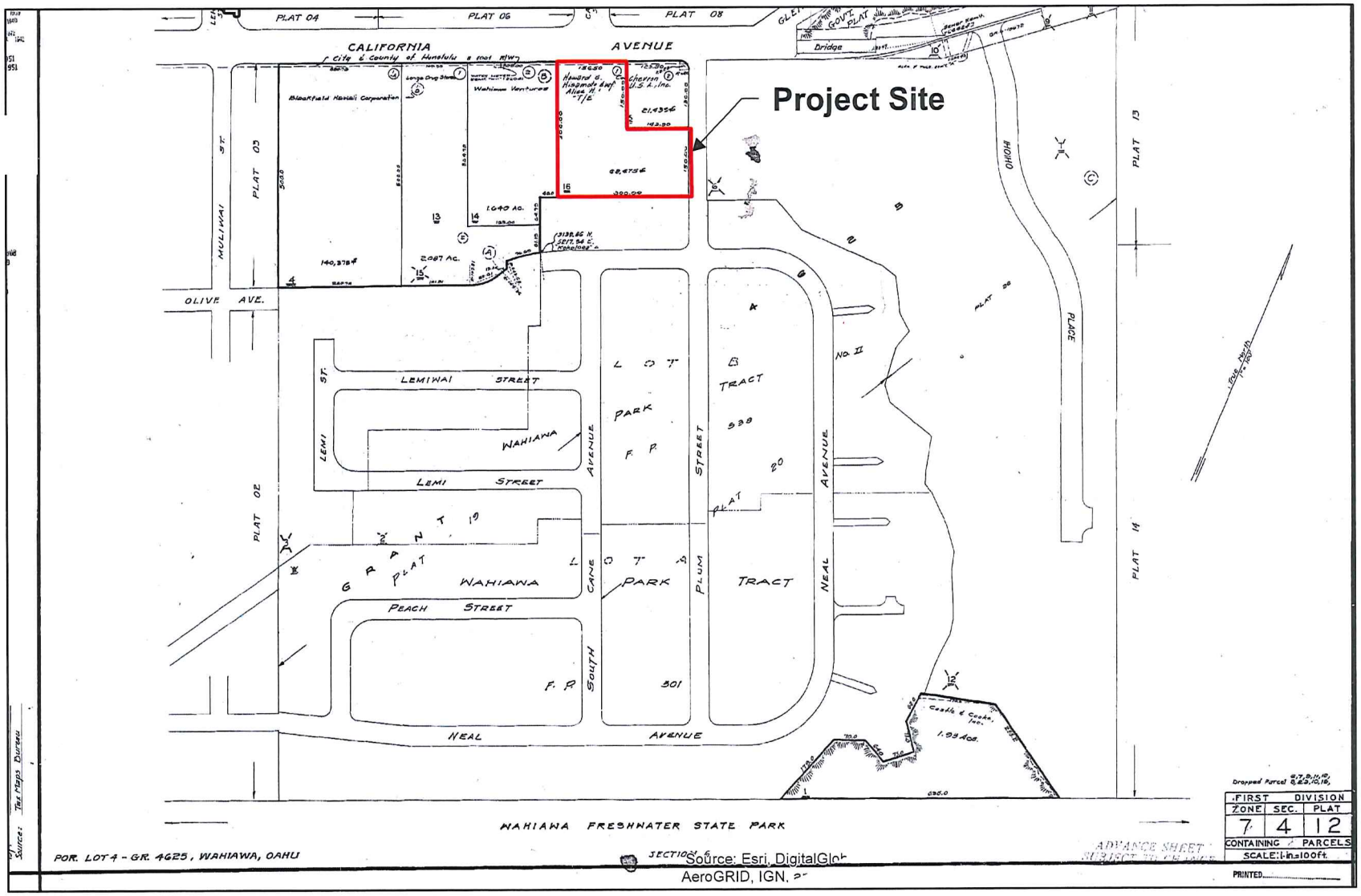
Although it is acknowledged that the proposed action could potentially qualify as exempt from requirements to prepare an Environmental Assessment (EA) pursuant to Section 11-200-8(a) of the Hawai'i Administrative Rules (HAR), the University of Hawai'i has requested that an EA be prepared as a good faith gesture to the community. The trigger for the preparation of an Environmental Assessment (EA) pursuant to Chapter 343, Hawai'i Revised Statutes (HRS) and Title 11, Chapter 200, HAR, will be identified as the use of State lands and funds. The EA will be prepared in support of an "agency action", and DOA is assuming the role of the proposing agency responsible for preparing and processing the EA, based on an anticipated Finding of No Significant Impact (FONSI) for the proposed project.

WILSON OKAMOTO CORPORATION

FIGURE 1

Project Location Map

UHCC Wahiawā Value Added Product Development Center
Wahiawā, O'ahu, Hawai'i



Source: Esri, DigitalGlobe, AeroGRID, IGN, ...

Figure 2

TMK Map

UHCC Wahiawā Value Added Product Development Center
Wahiawā, O'ahu, Hawai'i

WILSON OKAMOTO CORPORATION

FIGURE 3

Surrounding Uses Map

UHCC Wahiawā Value Added Product Development Center
Wahiawā, O'ahu, Hawai'i

LD 1575

DAVID Y. IGE
GOVERNOR OF HAWAII

RECEIVED
LAND DIVISION
2019 AUG 27 AM 10: 31
DEPT. OF LAND & NATURAL RESOURCES
STATE 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

August 19, 2019

LD 1496

MEMORANDUM

'19 AUG 20 AM 10:41 ENGINEERING

FROM

TO: **DLNR Agencies:**
___Div. of Aquatic Resources
___Div. of Boating & Ocean Recreation
_X_Engineering Division
_X_Div. of Forestry & Wildlife
___Div. of State Parks
_X_Commission on Water Resource Management
___Office of Conservation & Coastal Lands
_X_Land Division – Oahu District
_X_Historic Preservation

TO

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: **Environmental Assessment (EA) Pre-Assessment Consultation for UHCC Wahiawā Value Added Product Development Center**
LOCATION: Wahiawā, Island of Oahu; TMK.: (1) 7-4-012:016
APPLICANT: Wilson Okamoto Corporation on behalf of the University of Hawaii Community Colleges

Transmitted for your review and comment is information on the above-referenced project. Attached please find the letter of request with a summary of the proposed project for your review.

Please submit any comments by **September 09, 2019.** 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 Barbara Lee at 587-0453 or at barbara.j.lee@hawaii.gov. Thank you.

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed: _____
Print Name: Carty S. Chang, Chief Engineer
Date: 8/29/19

Attachments
Cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/Russell Y. Tsuji
Ref: Environmental Assessment (EA) Pre-Assessment Consultation for UHCC Wahiawa Value Added Product Development Center
Location: Wahiawa, Island of Oahu
TMK(s): (1) 7-4-012:016
Applicant: Wilson Okamoto Corporation on behalf of the University of Hawaii Community Colleges

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). State projects are required to comply with 44CFR regulations as stipulated in Section 60.12. 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) 241-4896.

The applicant should include water demands and infrastructure required to meet project needs. Please note that the projects within State lands requiring water service from their local Department/Board of Water Supply system will be required to pay a resource development charge, in addition to Water Facilities Charges for transmission and daily storage.

The applicant is required to provide water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update projections.

Signed: _____
CARTY S. CHANG, CHIEF ENGINEER

Date: 8/23/19

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

August 19, 2019

LD 1496

MEMORANDUM

TO: **DLNR Agencies:**
__Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
X Engineering Division
X Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
__Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

FROM: for Russell Y. Tsuji, Land Administrator
SUBJECT: **Environmental Assessment (EA) Pre-Assessment Consultation for UHCC Wahiawā Value Added Product Development Center**
LOCATION: Wahiawā, Island of Oahu; TMK.: (1) 7-4-012:016
APPLICANT: Wilson Okamoto Corporation on behalf of the University of Hawaii Community Colleges

Transmitted for your review and comment is information on the above-referenced project. Attached please find the letter of request with a summary of the proposed project for your review.

Please submit any comments by **September 09, 2019.** 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 Barbara Lee at 587-0453 or at barbara.j.lee@hawaii.gov. Thank you.

( ) We have no objections.
(X) We have no comments.
( ) Comments are attached.

Signed: Patti E. Miyashiro
Print Name: Patti E. Miyashiro
Date: August ~~21,~~ 2019

Attachments
Cc: Central Files

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
November 8, 2019

Mr. Russell Y. Tsuji
Land Administrator
State of Hawai‘i
Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Wahiawā Product Development Center
Tax Map Keys TMK [1] 7-4-012:016
Honolulu, O‘ahu, Hawai‘i

Dear Mr.Tsuji:

Thank you for your letter dated September 11, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation.

The subject project falls within Flood Zone as designated on FEMA’s Flood Insurance Rate Maps and will comply with 44CFR regulations as stipulated in Section 60.12 of the National Flood Insurance Program. The Draft EA will also include a discussion about the water demands and infrastructure to meet the project needs.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng,
Project Manager

cc: Joleen Miranda-Pesquira, Ushijima Architects
Denise Yoshimori-Yamamoto, UHCC

DAVID Y. IGE
Governor

JOSH GREEN
Lt. Governor

PHYLLIS SHIMABUKURO-GEISER
Chairperson, Board of Agriculture

MORRIS M. ATTA
Deputy to the Chairperson

State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 South King Street
Honolulu, Hawaii 96814-2512
Phone: (808) 973-9600 FAX: (808) 973-9613

September 12, 2019

Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Attention: Mr. Keola Cheng, Associate Director

Dear Mr. Cheng:

Subject: Environmental Assessment (EA) Pre-Assessment Consultation for University of Hawaii Community Colleges (UHCC) – Wahiawa Value Added Product Development Center
TMK: 7-4-12: 15 Wahiawa, Oahu
Area: 32,375 square feet

The Department of Agriculture has reviewed the project summary and offers the following comments.

The Wahiawa Product Development Center (WPDC) is to redevelop an existing warehouse in Wahiawa into a facility offering post-secondary education programs supporting the "...development and marketing of value-added food products through recycling of nearby agricultural byproducts" as well as business-accessible food production facilities. The facility will be co-managed by the UHCC and the Agribusiness Development Corporation. The primary user of the facility will be Leeward Community College who is to develop and offer an entrepreneurship program to be integrated with existing Career and Technical Education courses. Separate training and workshops for existing and aspiring small business owners will be offered along with access to the facility's food production features.

The functions of the WPDC conceptually appear to align well with the Whitmore Community Food Hub Complex and its "Research and Innovation Hub" and the tenant food production and processing facilities as described in the Final Environmental Assessment for the Whitmore project (link below) and both of which are to be included as part of the first phase of development.

http://oeqc2.doh.hawaii.gov/EA_EIS_Library/2019-05-23-OA-FEA-Whitmore-Community-Food-Hub-Complex.pdf
We recommend the EA explain whether this integration would benefit both the student instruction and business training components of the WPDC and the integrated post-harvest functions of the Food Hub.

We recommend the EA explain how the WPDC will provide students access to land, capital, and credit. (Project Summary, top of page 2).

We note that among the features of the WPDC are "an allergen kitchen" and a "core/storage space". Are the features meant to be "an allergen-free kitchen" and a "cold storage space"? We also note there is no classroom-type space for students and business training.

We would also advise meeting with agricultural organizations like the Hawaii Farm Bureau Federation, the Hawaii Farmers Union United, and agricultural training organizations like MA'O Organic Farms and GoFarm Hawaii to get their input on the proposed project and gauge potential interest by their Oahu agricultural business members or interns interested in agriculture, respectively.

Finally, on the third page of the Project Summary, the Department of Agriculture should not be the proposing agency responsible for preparing and processing the Environmental Assessment.

Should you have any questions, please contact Earl Yamamoto at 973-9466 or by email at earl.j.yamamoto@hawaii.gov.

Sincerely,

Phyllis Shimabukuro-Geiser
Chairperson, Board of Agriculture

c: Agribusiness Development Corporation

WILSON OKAMOTO
CORPORATION
INNOVATORS • PLANNERS • ENGINEERS

10467-01
November 8, 2019

Mrs. Phyllis Shimabukuro-Geiser
Chairperson, Board of Agriculture
State of Hawaii
Department of Agriculture
1428 South King Street,
Honolulu, HI 96814-2512

Subject: Environmental Assessment (EA) Pre-Assessment Consultation
Wahiawā Product Development Center
Tax Map Keys TMK [1] 7-4-012:016
Honolulu, Oʻahu, Hawaiʻi

Dear Mrs. Shimabukuro-Geiser:

Thank you for your letter dated September 4, 2019 regarding the subject Environmental Assessment (EA) Pre-Assessment Consultation.

The scope of your comments is acknowledged and will be incorporated into the EA process moving forward. We will address and make changes to the third page of the Project Summary to correct the agency responsible for preparing and processing the Environmental Assessment.

Your letter, along with this response, will be reproduced and included in the forthcoming Draft EA.

We appreciate your participation in the EA Pre-Assessment Consultation review process.

Sincerely,

Keola Cheng,
Project Manager

cc: Joleen Miranda-Pesquira, Ushijima Architects
Denise Yoshimori-Yamamoto, UHCC

Leeward Community College
Value-Added Product Development Center

Draft Environmental Assessment

Wilson Okamoto Corporation

Engineers & Planners
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826